

ŠTUDIJNÉ ZVESTI

ARCHEOLOGICKÉHO ÚSTAVU
SLOVENSKEJ AKADEMIE VIED

SUPPLEMENTUM 3

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RAITARIVS LXX

Proceedings in Honour of Ján Rajtár

Miroslava Daňová – Katarína Hladíková – Branislav Kovár
(editors)

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ON THE LIFE ANNIVERSARY OF JÁN RAJTÁR

Ján Rajtár is regarded as one of the leading figures in Slovak Roman Period archaeology. Throughout his long career at the Institute of Archaeology of the Slovak Academy of Sciences, he has made fundamental and foundational contributions to the systematic research of several key sites – most notably Iža, which has been his lifelong scholarly passion.



Foto T. Štolcová.



Foto T. Štolcová.

EDUCATION

Archaeology captured his interest from a young age, initially through his fascination with Egyptology. Between 1973 and 1978, he studied archaeology at the Faculty of Arts of Comenius University in Bratislava, where his potential was soon recognized by Mária Novotná and Bohuslav Novotný, who helped shape his academic trajectory. Under the supervision of Prof. Mária Novotná, he prepared his master's thesis "Juhorské stepné vplyvy v Karpatskej kotline na začiatku doby bronzovej" ("South-Russian Steppe Influences in the Carpathian Basin at the Beginning of the Bronze Age").

As a student, he was known for his communicative nature and ability to explain complex issues clearly – earning him the nickname "Ferdíš Blahuta" among classmates. He studied in a strong "cohort" that included Gertrúda Březinová (born Bahelková), Zdeněk Farkaš, Klára Führyov, Lýdia Gačková, Ivan Cheben, Ján Chovanec, Pavol Jurečko, Ľubomíra Kaminská, Ivan Kuzma, Klára Kuzmová (born Buranská), Jozef Labuda, Alžbeta Maárová, Vanja Radeva, Danica Stašíková-Štukovská, Vladimír Turčan, Peter Štefanec and Mária Zacsková. The group was led by Prof. Tatiana Štefanovičová, with Ján Rajtár playing an active supporting role.

During fieldwork in Veľká Lomnica (Burchbrich site) under the supervision of Prof. Bohuslav Novotný, he met his future wife and lifelong companion, Zuzana Stegmann-Rajtárová. In 1982, after completing his rigorous examination at Comenius University, he was awarded the title PhDr. In 1998, his doctoral dissertation, "The Crisis of Roman-Germanic Relations in the Middle Danube Region in the 2nd Century", supervised by Titus Kolník, earned him the degree of Candidate of Sciences (CSc.) (Kuzmová 2019, 377).

A major milestone in his academic career was his Alexander von Humboldt Foundation fellowship, which allowed him to work at the Ludwig-Maximilians-Universität in Munich and the Römisch-Germanische Kommission des DAI in Frankfurt (1989–1991). This experience brought him valuable international contacts and positioned him among Europe's leading specialists in frontier archaeology.

ACADEMIC JOURNEY AT THE INSTITUTE OF ARCHAEOLOGY OF THE SLOVAK ACADEMY OF SCIENCES

After completing his studies in 1978, Ján Rajtár began working at the Institute of Archaeology of the Slovak Academy of Sciences in Nitra. Together with his colleague Klára Kuzmová, he was appointed as a young research fellow to carry out excavations at Iža within the framework of “Operation Danube”, which was linked to the construction of the Gabčíkovo–Nagymaros Waterworks System (Kuzmová 2019, 377). Under the expert supervision of Titus Kolník, his lifelong scientific journey began, closely associated with the Roman military fort at Iža. This research continues to this day, with Ján Rajtár remaining one of its key participants.

In collaboration with Ivan Kuzma, he also participated in aerial prospection of the surrounding area and other parts of southwestern Slovakia, through which several temporary Roman camps were identified (Hanzelyová/Kuzma/Rajtár 1996). The discovery of these camps sparked his enduring interest in studying the extent of Roman military presence north of the Danube. Over time, he initiated investigations of additional temporary camps and developed international collaborations with numerous leading institutions and scholars abroad.

During his employment at the Institute of Archaeology of the SAS, he held various positions, ranging from specialist to researcher at various levels. From 1992 to 2000, he served as head of the Department of Early History and Collaborating Natural-Scientific Disciplines and was a member and later chairman of the Scientific Council of the Institute of Archaeology (2006–2011).



Foto T. Štolcová.

INTERNATIONAL AND PROFESSIONAL ENGAGEMENT

Ján Rajtár has been a regular participant in both national and international conferences, where his contributions have significantly advanced the study of the Roman Period. His colleagues particularly value his active participation in discussions, which often bring new perspectives, fundamental corrections, and inspiring ideas. He has co-organized numerous scientific conferences and symposia within the Slovak Academy of Sciences, the Institute of Archaeology of the SAS, and various international projects, including the Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum, Roman Military Equipment Conference, Limes Congress, and UISPP World Congress. As a member of organizational and program committees of several major European events, he also contributed to the preparation of field excursions and site presentations.

In Slovakia, he organized and coordinated professional and academic events – symposia, conferences, congresses, excursions, and exhibitions – in cooperation with museums and institutions in Komárno, Iža, Levice, Liptovský Mikuláš, and Bratislava (Slovak National Museum – Archaeological Museum).



Foto T. Štolcová.

He also co-organized several exhibitions, both in Slovakia and abroad (in Germany, Italy, and the Czech Republic) and contributed to the public presentation of the results of archaeological research at the Roman fort in Iža. He has served in numerous professional and academic bodies, including member of the VEGA Commissions for Historical and Social Sciences, editorial boards of *Slovenská archeológia*, *Študijné zvesti AÚ SAV* and *Pamiatky a múzeá*, as well as a corresponding member of the German Archaeological Institute and the Carnuntum Jahrbuch Scientific Council (*Kuzmová 2019*, 378–379).



Foto P. Dragonidesová.

GUIDING AND INSPIRING THE NEXT GENERATION OF ARCHAEOLOGISTS

He has been continuously dedicated to educating new generations of archaeologists, serving as a supervisor, consultant, and reviewer of bachelor's, master's (STU, Faculty of Arts, Trnava University; Faculty of Arts, Constantine the Philosopher University in Nitra), and doctoral theses (Institute of Archaeology of the SAS). Additionally, he lectured as an external lecturer at the Department of Archaeology, Faculty of Arts, Comenius University in Bratislava, from 2000 to 2001 and again in 2025. An important part of his teaching activities is the co-organization of the Summer Schools of Archaeology in Iža, in cooperation with the Department of Classical Archaeology in Trnava, through which he actively contributes to developing students' practical field experience and passes his expertise on to the younger generation.

LIMES ROMANUS AND JÁN RAJTÁR

Ján Rajtár is a leading expert on the archaeology of the Roman limes in Slovakia, known for his extensive knowledge and dedication to the field. He has worked to explain the importance of protecting and presenting Slovakia's cultural heritage. The Slovak public is familiar with him from various TV documentaries, radio broadcasts, and numerous press articles.

Due to his expertise and dedication to safeguarding Slovakia's cultural heritage, J. Rajtár played a crucial role in preparing the nomination of the Slovak section of the Limes Romanus for UNESCO World Cultural Heritage status. This effort was successfully completed in 2021, when the German-Austrian-Slovak section was added to the UNESCO World Cultural Heritage List under the title "Frontiers of the Roman Empire – Danube Limes (Western Part)".

UNDERWATER TEAM

The jubilarian expressed his interest in innovative methods and his commitment to conducting daring scientific explorations in 1978 when he dived in the Danube River near the Roman military camp in Iža, alongside divers from Komárno. This experience made him one of the first diving archaeologists in Slovakia. However, the conditions and technical equipment available at the time were inadequate for such research in the Danube. His enduring passion for solving scientific challenges, combined with a supportive approach toward younger colleagues, brought Ján Rajtár back to the same location 40 years later as part of a newly formed Slovak team of underwater archaeologists. In 2022, this team successfully identified previously unknown pillars of a Roman bridge in the Danube riverbed near the Roman camp in Iža. Their achievement earned them the Discovery of the Year award from both the Slovak Academy of Sciences (SAS) and the Slovak Monuments Board.

BEYOND SCHOLARSHIP

Ján Rajtár is distinguished by his ambition, diligence, and deep enthusiasm for the archaeology of the Roman period. Equally remarkable are his generosity, patience, and willingness to share his experience with younger colleagues and students, whom he has guided with genuine care and encouragement. Those who have worked with him value his openness, communicative nature, and sense of humour, as well as his ability to inspire teamwork and mutual respect. His calm authority and personal integrity have made him not only a respected scholar but also a trusted mentor and friend.

He often likes to say, "The years are short!" – and his life's work stands as the best proof that he has made the most of them.

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Small Finds



ZOOMORPHIC BRONZE HANDLE OF A JUG FROM SLEPČANY¹

Peter Bisták – Erik Hrnčiarik – Zuzana Machatová

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Keywords: Southwest Slovakia, Roman Period, Bronze vessel, handle, Eggers 125 type

Abstract: The topic of the article was the analysis of a random find of a zoomorphic bronze handle from Slepčany (Zlaté Moravce dist.). The handle originally belonged to a jar of the Eggers 125 type. This kind of vessel appears in the Barbaric since the middle of the 1st century AD together with a bowl with a horizontal handle as a pair. It was used to wash hands before eating and is a sign of the Romanization of the non-Roman population north of the empire's border. The handle was analysed via non-destructive methods, which, together with stylistic analysis, helped to identify its place of manufacture. Recent grooves on its surface and additional negative inspection of the site point revealed the fact that the find got to this place only secondarily.

INTRODUCTION

In mid-October 2016, Szymon Nowak, a resident of the village of Slepčany (Zlaté Moravce dist.), noticed a strange decorated metal object with an animal head in the topsoil while walking in a field east of the village. He took the object home and after several days of searching for information, also with the help of his acquaintance, came to the conclusion that it was an archaeological find from the Roman period and reported it to the Regional Monuments Board Nitra.² Subsequently, on November 3rd, 2016, the find³ was handed over to an employee of the Regional Monuments Board Nitra, who, together with the invited employees of the Institute of Archaeology of the Slovak Academy of Sciences in Nitra (J. Rajtár, L. Kováčsová and Š. Hritz), inspected the plowed field in the location of “Horné diely” on the eastern bank of the creek “Drevenica” (Fig. 1). The approximate location of the find was examined with a metal detector within a 50 m radius, but no other metal finds were found. Within a radius of approximately 200 m, a surface collection was carried out, during which 4 small fragments of coarse-grained dark greysherds were found, which might be dated back (only tentatively) to the prehistoric period (Bisták 2016). The find is today deposited at the Monuments Board of the Slovak Republic, Bratislava.



Fig. 1. Place of discovery on the topographic map (Source ÚGKK SR, added by P. Bisták).

DESCRIPTION OF THE FIND

(Fig. 2)

The T-shaped bronze zoomorphic handle comes from an Eggers 125-type kettle. Its body is ace-rounded, it has the shape of the letter D in a lenticular section). It is decorated with a plastic rib on the surface, which gradually

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² We express our gratitude to Marek Lintner, a graduate from the Department of Classical Archeology at the Faculty of Arts and Humanities, the Trnava University, for mediating the notification of the find and the subsequent communication with the Regional Monuments Board Nitra.

³ Together with the bronze handle, S. Nowak also passed a small fragment of a decorated modern pewter rivet, which he had found at the same location.

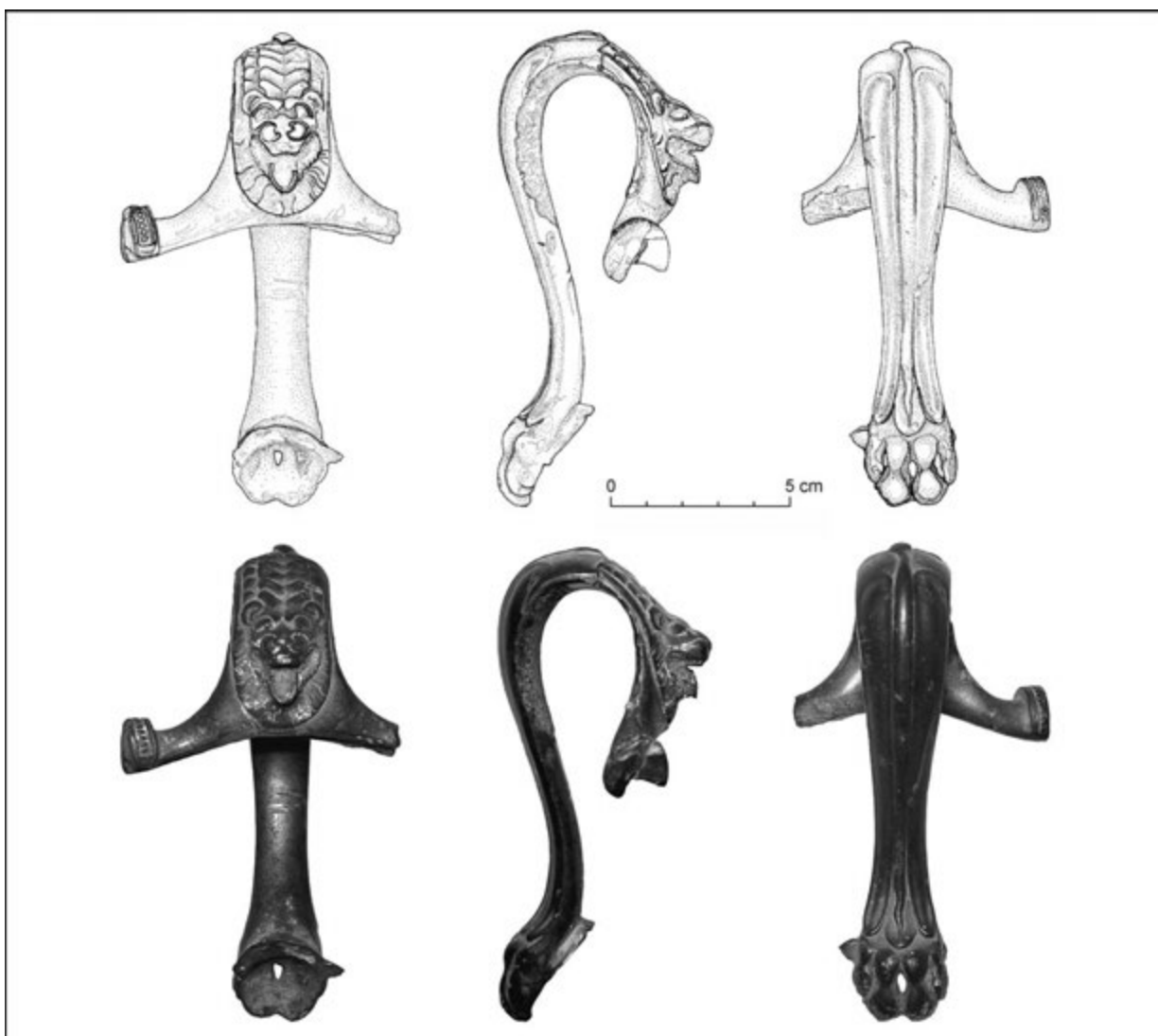


Fig. 2. Zoomorphic handle from Slepčany (drawing M. Zubajová).

transits in the lower part into the shape of a left paw, consisting of four links on a disc forming the terminal on its lower end. The disc had already been damaged in the past. It probably happened when the handle was separated from the body of the vessel. In the upper part, the plastic rib ends with a ball-shaped protrusion. The upper part of the handle is decorated with a sculpted lion's head with an open mouth, tongue out, wide eyes, ears and divided mane. The handle is finished by two arms at the point of connection to the mouth of the vessel, the left arm is fully preserved and finished by a plastic ring decorated with ribbing, the right arm is broken in about two-thirds. Probably, like the disc, one arm was broken when the handle was separated from the body of the vessel. The surface of the handle is covered with a green patina. Some engraved ornaments were filled with a white crystalline substance. There are numerous traces of modern (recent) damage on the handle, which probably arose during the agricultural cultivation of the land in which the handle was located.

Metric data: length: 134 mm, max. thickness: 14 mm, min. thickness: 10 mm, max. width: 25 mm, min. width: 15 mm, trapeze width: 72 mm, trapeze thickness: 10 mm, weight: 315.1 g (*Harušiak 2017, 5*).

INTERPRETATION AND DATING OF THE FIND

The discovered handle was made by casting. It was originally soldered to a bronze jug. It is a kind of trefoil mug jug, with an extended handle, a low bulbous body and a flat bottom (Type Eggers 125).

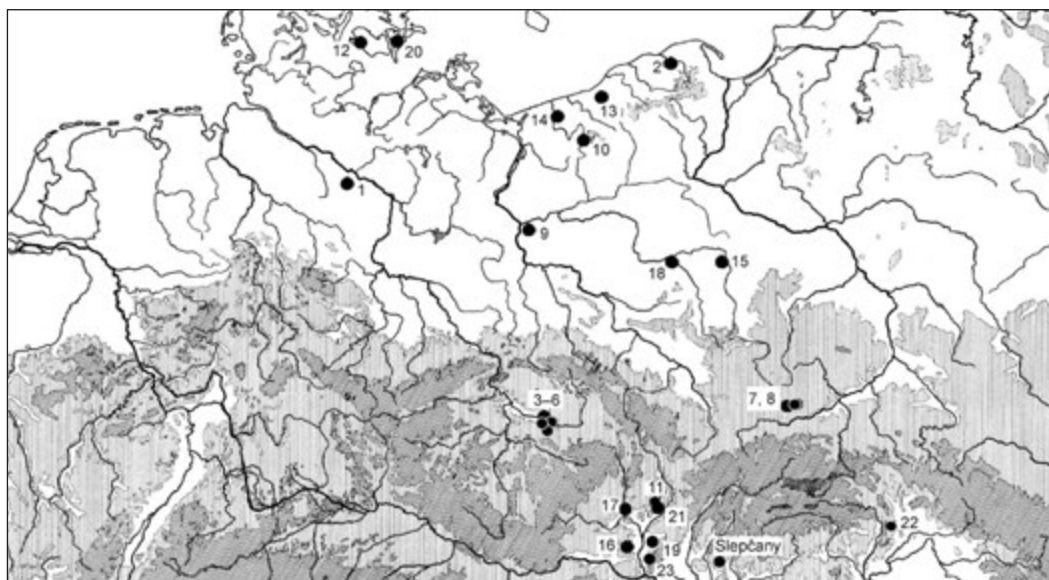


Fig. 3. Finds of jugs with trefoil mouths in the Central Danube Barbarian Region. 1 – Billerbeck, Lüchow-Dannenberg dist. (D); 2 – Czarnówko, Łębork dist. (PL); 3 – Dobřichov-Pičhora, Kolín dist. (CZ); 4 – Dobřichov-Pičhora, Kolín dist. (CZ); 5 – Dobřichov-Pičhora, Kolín dist. (CZ); 6 – Dobřichov-Pičhora, Kolín dist. (CZ); 7 – Giebułtów, Kraków dist. (PL); 8 – Giebułtów, Kraków dist. (PL); 9 – Górzycy (Göritz-Dommühlen), Slubice dist. (PL); 10 – Gronowo (Groß-Grünow), Drawsko Pomorskie dist. (PL); 11 – Havřice, Uherský Brod dist. (CZ); 12 – Hoby, Gloeslunde Parish, Lollands Sønder dist., Maribo county (DK); 13 – Kretomino, Koszalin dist. (PL); 14 – Lubieszewo (Lübsow), Gryfice dist. (PL); 15 – Łęg Piekarski, Turek dist. (PL); 16 – Mistelbach, Mistelbach dist. (A); 17 – Mušov, Brno dist. (CZ); 18 – Prusinów, Jarocin dist. (PL); 19 – Sekule, Senica dist. (SK); 20 – Stangerup, Maglebrände parish, Falsters Nørre dist., Maribo county (DK); 21 – Staré Město, Uherské Hradiště dist. (CZ); 22 – Zemplín, Trebišov dist. (SK); 23 – Zohor, Malacky dist. (SK; after *Kasprzak 2017*, Abb. 5; edited by E. Hrnčiarik).

This vessel shape, also referred to as oinochoe, is already documented in the Greek binding art of the Early Geometric period (*Boardmann 1998*, fig. 7). At the same time, it is generally believed that these ceramic vessels already imitated more expensive metal models. The black surface was supposed to evoke corroded (worn) silver. However, it can be assumed that there were also other metal (gold or bronze) versions that have not been preserved, or possibly are proven only in fragments. A vessel of this shape was also popular with the Etruscans and other ancient civilizations. Probably thanks to its decorative and functional shape, the shape has not changed much and was used until the modern age.

In most cases, the body of the vessel has a smooth surface, decorated only with thin, horizontal grooves in the upper part. However, there are also more luxurious jugs that have embossed or plastically decorated mouths. However, the decoration of these jugs is concentrated on their handles. It is a plastic decoration, which is sometimes supplemented with engraving. In the lower part, they are attached to the body of the container using an attachment, which is usually plastically decorated. Most often we come across figural decoration dominated by female heads, depictions of a small cupid or just his head. Dionysus masks, plant tendrils (most often coming from grape-vines) and sometimes lion's paws also appear here. The body of the handle itself is usually profiled, decorated with plastic protrusions (mostly ribbed), and sometimes supplemented with engraved ornaments. In the upper part of the handle, in a place where it bends towards the container, there is usually a plastic (rarely engraved) decoration depicting the protome of a lion with a tongue out and an exuberant mane. The handle from Slepčany belongs to forms where lower part is decorated with a left paw.

Their distribution was mapped by H. Sedlmayer in her work *Die römischen Bronzegefäße in Noricum* (Sedlmayer 1999b, Anm. 209). The closest parallel to the analyzed find from Barbarian territory comes from cremation grave G at the cemetery in Sekule (SW Slovakia), where it was found, among other things, with a bowl with a horizontal handle (*Rajtár 2021*, 137–139). Another handle comes from the burial ground in Mistelbach and differs from our find only by minor decorative surface modifications (*Friesinger 1976*, 19–21).

In the Middle Danube Barbarian territory, there are fragments of jug handles E 125 from Mušov, Staré Město-Uherské Hradiště, Dobřichov-Pičhora or from Havřice (*Jílek 2012*, 55), however, the lower part of the handle has not been preserved in these specimens, and therefore cannot be considered as clear parallels. From the territory of Slovakia, a fragment of a jug with a lion protome was also preserved in the glow grave 77 at the cemetery in Zemplín (*Budinský-Krička/Lamiová-Schmiedlová 1990*, 253–255) or in grave 6/2010 in Zohor (*Elschek 2013*, Abb. 3). On the

other hand, finds of similar jars from the territory of Roman provinces, for example from Vienna (*Sedlmayer 1999a*, 16, 17), Carnuntum (*Partsch 1987*, 248), or Brigetium (*Nuber 1972*, 216). Jugs with trefoil mouths can rarely be found in various places in Central European Barbaric (*Kasprzak 2017*, Abb. 5). More prominent presence (Fig. 3) can be observed especially along the so-called Amber Road, closer to the borders of the Roman Empire (especially west of the Malé Karpaty/Little Carpathians).

Jugs with trefoil mouths were used for pouring liquid. In the case of the investigated type, there is no completely unified opinion on its use. The very context of the find is important for the interpretation. H. U. Nuber has already pointed out that it is found in graves in pairs together with a bowl with a horizontal handle. The same author supposes that they were used to wash the hands, most often before eating or before a religious ceremony (*Nuber 1972*, 45). This custom was practiced not only in the Roman Empire, but was also adopted by the Barbarian tribes, while it is considered to be one of the signs of their Romanization (*Kunow 1983*, 81). On the other hand, however, J. Schuster thinks that it might not always been like that. Arguing that jugs, but also bowls with horizontal handles also appear independently, and thus we cannot speak of „the importation of their functions into Barbaric“ (*Schuster 2016*, 99). In the case of the handle from Slepčany, we do not know the context of its burial in the ground. However, this is a kind of handle that can be included in Nuber's typology as Type E – Millingen, which is always documented in the Middle Danube Barbaric in a pair with a bowl with a horizontal handle. It also applies to all the above-mentioned parallels from graves in Mistelbach, Sekule or Zemplín. We could also assume, in his case, despite J. Schuster's claim, that it comes from a set for washing hands before eating.

Since the handle from Slepčany is an accidental find, it is necessary to rely only on published parallels when dating it. H. U. Nuber places the first occurrence of Eggers 125 type jugs in the Claudian period (*Nuber 1972*, 53, 54), but its use is also sought in earlier decades, i. e. around the middle of the 1st century AD (*Jílek 2012*, 56; *Kunow 1983*, 24). The youngest comes from the 3rd century AD. In the case of the burial site in Sekule, the handle was dated to the second half of the 2nd century on the basis of the accompanying grave inventory (*Hüssen/Rajtár/Voss 2017*, 116, Abb. 5). In the case of the find from Mistelbach, dating to level B1-B2 is supposed (*Kunow 1983*, 139).

MATERIAL ANALYSIS OF THE HANDLE AND THE QUESTION OF ITS ORIGIN

The handle from Slepčany (Fig. 4) was investigated by non-invasive (XRF, Raman spectroscopy) and invasive (SEM-EDS) methods (Fig. 5), which was carried out by the Department of Conservation Science of the Monuments Board of the Slovak Republic, Bratislava (*Machatová/Drotovánová 2024*).

XRF analysis with a portable device X-MET8000, Oxford instruments on five points of the surface showed the presence of elements typical for a bronze alloy (copper and tin), with a minor proportion of silicon, lead, phosphorus, iron, aluminum, arsenic and traces of silver (Table 1). However, the presence of aluminum, silicon and iron can also be related to the presence of surface deposits and inorganic incrustations. The find is characteristic of lead bronze and is in good agreement with the reference literature (*Bingjie et al. 2018*, 724–728; *Boccaccini et al. 2023*). The normalization of the data (Table 2), may result in an overestimation of the absolute lead (Pb) content, however, according to *P. Craddock* and *A. Giunilia-Mair (1988)*, the excessive amount of lead above 2% may be connected to cheaper production.

The results of the XRF analysis are in good correlation with the results of the SEM-EDS analysis of the powder taken from a recent fissure (sample no. 1), probably created by a plow damage. SEM-EDS analysis with JEOL JSM-6060LA scanning electron microscope with EX-23000BU energy-dispersive spectrometric analyze confirmed that the sample contains copper (Cu), tin (Sn) and lead (Pb). Furthermore,



Fig. 4. Localization of non-invasive Raman measurements of white incrustation (A), green patina (B) and localization of extraction of sample for SEM-EDS analysis of pure alloy (recent surface damage – C) and black patina (D).

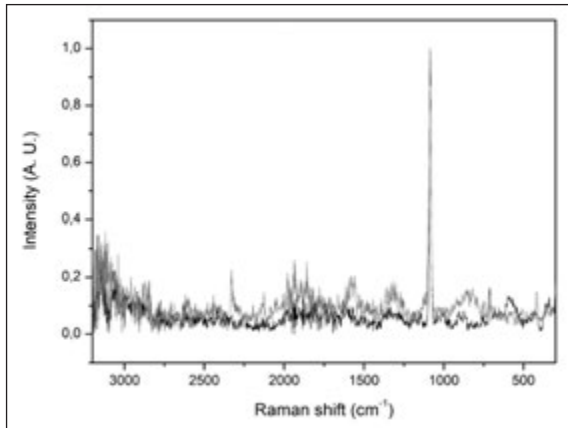


Fig. 5. Raman spectra white incrustation (black line, point A, Fig. 4) and green patina (gray line, point B, Fig. 4).

the presence of carbon and oxygen and admixture of iron and silicon was detected in the sample. Copper is represented by 71.31–88.81%, tin by 7.6–15.5% and lead by 2.02–13.60% (Table 2).

SEM-EDS analysis of the powder sample of the black patina (sample no. 3) showed a practically identical absolute representation of the elements as the alloy (Cu, Sn, Pb, Fe, Si, P, Cl), but it differs in the proportions of the elements. The surface layer contains a significantly higher proportion of tin (Sn:Cu ratio ~ 2:1). This observation is in good correlation with the reference literature (Cockrell 2009, 85–90). The sample also contains small alloy fragments. The available instrumentation does not allow a closer study of the zonation of the patina on the surface of the work.

Two surfaces on the back of the handle, which were connected to the edge and body of the jug, were analyzed

Table 1. Elemental composition determined by measurement from the surface of the object based on XRF analysis.

Elemental composition (%)										
Measurement	1	σ	2	σ	3	σ	4	σ	5	σ
Cu	58.91	0.092	50.57	0.114	55.02	0.093	56.09	0.092	58.91	0.092
Sn	22.09	0.08	16.3	0.09	19.99	0.08	22.37	0.083	22.09	0.08
Si	6.99	0.045	19.91	0.097	9.89	0.054	8.83	0.066	6.99	0.045
Pb	4.45	0.31	3.88	0.345	5.49	0.332	5.26	0.338	4.45	0.31
P	2.44	0.017	1.4	0.021	2.58	0.018	0	0	2.44	0.017
Fe	1.64	0.021	3.06	0.038	2.06	0.025	2.16	0.025	1.64	0.021
Al	1.39	0.077	3.74	0.125	2.68	0.083	2.88	0.082	1.39	0.077
As	1.34	0.071	0.85	0.078	1.3	0.075	1.53	0.076	1.34	0.071
Ag	0.07	0.009	0.07	0.013	0.07	0.009	0.09	0.009	0.07	0.009

Table 2. The ratio of the main components of the alloy, neglecting minor and trace elements, based on SEM-EDS analysis.

Element	Cu	Sn	Pb
Measurement 1	77.95	14.76	7.28
Measurement 2	83.21	12.05	4.74
Measurement 3	84.22	12.01	3.77
Measurement 4	88.81	7.6	3.6
Measurement 5	85.62	10.38	3.99
Measurement 6	82.01	10.72	7.28
Measurement 7	78.27	15.43	6.29
Measurement 8	71.31	17.96	10.73
Measurement 9	83.69	12.61	3.7
Measurement 10	83.59	8.88	7.53
Measurement 11	71.85	11.67	16.48
Measurement 12	76.88	9.52	13.6
Measurement 13	80.2	15.5	4.3
Measurement 14	84.62	12.37	3.01
Measurement 15	82.82	11.31	5.87
Measurement 16	84.57	11.15	4.28
Measurement 17	87.73	10.25	2.02

separately. SEM-EDS analysis of the white crystalline substance (sample no. 2) from the distal part mainly contains calcium carbonate (CaCO_3), fragments of the handle alloy (Cu, Sn, Pb), a minor amount of silicon (Si) and phosphorus (P), but rarely are also represented aggregates containing lead and tin. These aggregates could indicate the presence of lead-tin solder. However, the ratio of both elements is relatively constant in the available sample. Raman spectroscopy (Raman spectrometer BRAVO, Bruker) confirmed the presence of calcium carbonate in the form of calcite. SEM-EDS analysis of the green-colored patina (sample no. 4) from the point of connection with the edge of the jug confirmed the presence of calcium carbonate and also demonstrated the presence of a siliceous deposit containing copper, tin and lead, probably in the form of fragments of the original, or in the form of migrated soluble salts (mainly Cu and Pb). Raman spectroscopy demonstrated the presence of distinct bands of calcite (CaCO_3) and copper carbonates, probably including malachite ($\text{Cu}_2(\text{OH})_2\text{CO}_3$), which is in good correlation with the reference literature (Boccaccini et al. 2023; Ciupiński et al. 2010, 4926–4949; Privitera et al. 2021).

The results of the material analyses indicated the presence of copper in the range from 71.31 to 88.81%. In comparison with the results of similar analyses on bronze finds from southern Italy (especially around Pompeii; Gorecki *et al.* 2017, 201, 202, Abb. 11), or other implemented on Pompeian finds stored in the collection of Chancellor K. W. N. L. Metternich in Kynžvart (West Bohemia; Jílek *et al.* 2022, 129) its representation is significantly lower. Such results prove that the handle from Slepčany was not made in Italy, but somewhere in the provinces. Such workrooms, unlike in Italy, use less copper and more lead in the production of bronze vessels. This does not change the fact that also in the vicinity of Pompeii, for practical reasons, a different percentage of lead was used for handles, cast legs, and various decorations (Jílek *et al.* 2022, tab. 4), but its representation is not as high as in the case of the find from Slovakia. Trefoil jugs together with bowls with a horizontal handle Nuber Type E – Millingen were thus produced in several production centres of the Roman Empire. In the case of the find from Slepčany, its Gallic origin can be assumed on the basis of stylistic analysis.

CONCLUSION

Numerous recent grooves on the surface of the handle were first created in connection with tillage. Based on the results of the inspection of the find site (without the detection of other accompanying finds from the Roman period), it is likely that this rare find got here only secondarily. Two possibilities come into consideration.

The first is it was transferred by means of agricultural activity from other localities in the vicinity. A settlement from the Roman period was recorded in 2005 approx. 300 m south of the discovery site, for example, or it is also recorded in the cadastres of the nearby villages of Malé Chyndice or Beladice-Malé Chrástany (Gabulová 2015, appendix 1). Unfortunately, the sites are only recorded thanks to systematic surface prospecting and have not been investigated so far. In the case of found shards, they are only fragments of ceramics which can only be tentatively dated back to the Roman period.⁴ There are even several Roman marching camps in nearby town Vráble (Hüssen/Ölvecký/Rajtár 2016, 101–105). Considering the state of preservation of the handle, but also the fact that it was broken off from the jar, it is possible that it did not come from the settlement but from an unknown burial ground. Namely, in a housing estate, a non-functioning piece of bronze weighing more than 315 grams would not have gone unnoticed and would certainly have been melted down and secondarily used for the production of something else.

However, the handle could have entered the ground much later than at the time of its use. In the vicinity of Slepčany there are several manor houses (e.g. Ambrózy-Migazzi manor house, known as the Mlyňany Arboretum), whose owners had often imported various „antique artefacts“ from their travels. Among these could also be a very decorative, zoomorphic handle, which could have been stolen from the mansion, or could have been stolen during looting after World War II or at the time of nationalization after it. The thief was then able to throw it away as worthless near Slepčany.

A bronze, zoomorphic handle from Slepčany is among the unique finds originating from the Roman period in our territory. Unfortunately, due to the circumstances of its discovery, it is not possible to reconstruct its function in a barbarian environment (neither primary nor secondary). However, it is an excellent example of Roman provincial artistic craft in our territory.

Translated by Dalia Šaškovičová

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Bronzové zoomorfné držadlo kanvice zo Slepčian

Peter Bisták – Erik Hrnčiarik – Zuzana Machatová

Súhrn

Témou predloženého článku bola analýza náhodného nálezu zoomorfného, bronzového držadla zo Slepčian (okres Zlaté Moravce). Predmet našiel obyvateľ obce Slepčany, ktorý ho následne odovzdal pracovníkovi KPÚ Nitra. Na mieste nálezú sa uskutočnila obhliadka zoraného poľa, počas ktorej sa nepodarilo nájsť žiadne ďalšie kovové nálezy, iba niekoľko pravdepodobne pravekých atypických črepov. Bronzové zoomorfné držadlo v tvare písmena T pochádza z kanvice typu Eggers 125. Krčahy s trojlístkovým ústím slúžili na nalievanie tekutiny. Tento typ nádoby sa v barbariku vyskytoval od polovice 1. stor. po Kr. a objavuje sa spolu s miskou s horizontálnym držadlom ako pár. Používali sa na umývanie rúk pred jedlom, prípadne pri náboženských obradoch. Ich výskyt mimo hraníc Rímskej ríše sa považuje za znak romanizácie nerímskeho obyvateľstva. Držadlo bolo podrobené analýzam pomocou nedeštruktívnych metód, ktoré spolu so štýlovou analýzou napomohli k určeniu jeho miesta výroby. Recentné ryhy na jeho povrchu a dodatočná negatívna obhliadka miesta náleziska poukazujú na fakt, že nález sa dostal na toto miesto až sekundárne. A to buď tu bol prenesený prostredníctvom poľnohospodárskej činnosti z inej lokality v okolí. Prípadne sa do zeme mohol dostať oveľa neskôr, ako v čase jeho využitia. Mohol byť odcudzený počas rabovania po druhej svetovej vojne, či v čase znárodňovania po nej. Zloď ho následne mohol ako bezcenný vyhodit' neďaleko Slepčian.

Obr. 1. Miesto nálezú na topografickej mape (zdroj: ÚGKK SR, doplnil P. Bisták).

Obr. 2. Zoomorfná rukoväť zo Slepčian (kresba M. Zubajová).

Obr. 3. Nálezy kanvic s trojcípym ústím v stredodunajskom barbariku. 1 – Billerbeck, okr. Lűchow-Dannenberg (D); 2 – Czarnówko, okr. Łębork (PL); 3 – Dobřichov-Piřhora, okr. Kolín (CZ); 4 – Dobřichov-Piřhora, okr. Kolín (CZ); 5 – Dobřichov-Piřhora, okr. Kolín (CZ); 6 – Dobřichov-Piřhora, okr. Kolín (CZ); 7 – Giebułtów, okr. Kraków (PL); 8 – Giebułtów, okr. Kraków (PL); 9 – Górzycy (Göritz-Domműhlen), okr. Slubice (PL); 10 – Gronowo (Groß-Grűnow), okr. Drawsko Pomorskie (PL); 11 – Havřice, okr. Uherský Brod (CZ); 12 – Hoby, obec Gloeslunde, okr. Lollands Sønder, kraj Maribo (DK); 13 – Kretomino, okr. Koszalin (PL); 14 – Lubieszewo (Lűbsow), okr. Gryfice (PL); 15 – Łęg Piekarski, okr. Turek (PL); 16 – Mistelbach, okr. Mistelbach (A); 17 – Mušov, okr. Brno (CZ); 18 – Prusinów, okr. Jarocin (PL); 19 – Sekule, okr. Senica (SK); 20 – Stangerup, obec Maglebraede, okr. Falsters Nørre, kraj Maribo (DK); 21 – Staré Město, okr. Uherské Hradiště (CZ); 22 – Zemplín, okr. Trebišov (SK); 23 – Zohor, okr. Malacky (SK); podľa *Kasprzak 2017*, Abb. 5; doplnil E. Hrnčiarik).

Obr. 4. Lokalizácia neinvazívnych Ramanových meraní bielej inkrustácie (A), zelenej patiny (B) a lokalizácia odberu vzorky na SEM-EDS analýzu čistej zliatiny (nedávne poškodenie povrchu, C) a čiernej patiny (D).

Obr. 5. Ramanove spektrá bielej inkrustácie (čierna čiara, bod A, obr. 4) a zelenej patiny (sivá čiara, bod B, obr. 4).

Tabela 1. Prvkové zloženie určené meraním z povrchu predmetu na základe XRF analýzy.

Tabela 2. Pomer hlavných zložiek zliatiny, pri zanedbaní vedľajších a stopových prvkov, na základe SEM-EDS analýzy.

Mgr. Peter Bisták, PhD.
Pamiatkový úrad SR
Cesta na Červený most 6
SK – 814 06 Bratislava
peter.bistak@pamiatky.gov.sk
<https://orcid.org/0009-0008-4888-3902>

doc. Dr. Phil. Erik Hrnčiarik
Trnavská univerzita v Trnave
Filozofická fakulta
Katedra klasickej archeológie
Hornopotočná 23
SK – 918 43 Trnava
erik.hrnčiarik@truni.sk
<https://orcid.org/0000-0003-3095-4561>

Mgr. art. Zuzana Machatová, PhD.
Vysoká škola výtvarných umení v Bratislave
Katedra reštaurovania
Drotárska 44
SK – 811 02 Bratislava
machatova@vsvu.sk
<https://orcid.org/0009-0004-7859-4504>

MYSTERIUM INSOLUTUM

Fragments of Roman Dodecahedrons from Hurbanovo and Chotín¹

Petra Dragonidesová

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Keywords: Southwestern Slovakia, Barbaricum, Roman Period, dodecahedron, mystery

Abstract: Curiosity and fascination with mysteries have captivated humanity for eternity. These enigmatic phenomena, encompassing intangible events and tangible artefacts, have fueled our imagination and driven us to seek explanations across diverse disciplines, ranging from science and logic to mythology and the supernatural. One such enduring enigma is the Roman dodecahedron, a twelve-sided object discovered across the Roman Empire. This object's purpose and meaning remain shrouded in obscurity, with no known written references from antiquity. This study delves into this enduring mystery by exploring existing theories and explanations surrounding the dodecahedron's function. Our focus centers on three recently discovered dodecahedron fragments found in southwestern Slovakia. These fragments hold particular significance due to their unique context. Unlike the majority of known dodecahedrons, typically unearthed within Roman territory, these fragments were discovered in Chotín and Hurbanovo (SK), located outside the Empire's borders, within the territory of Germanic settlements. This unique context presents a compelling opportunity to re-evaluate existing theories and explore new avenues for understanding the dodecahedron's purpose and its potential connection to the environment of Germanic tribes.

HISTORICAL BACKGROUND OF RESEARCH

In 1739, the inaugural discovery of a Roman dodecahedron occurred in Aston, Great Britain. According to a report presented by Mr. North to the members of the Society of Antiquaries in London, the unearthed object was described as “*a piece of mixed metal consisting of twelve sides, with an equal number of perforations within them*” (SAL/02/003/117). For nearly three centuries, the enigmatic Roman dodecahedron has captivated the attention of scholars and enthusiasts alike. Over 200 individuals, encompassing both professional historians and dedicated amateurs, have endeavoured to unravel the mystery surrounding its function and intended use. This enduring fascination highlights the object's unique allure and the ongoing quest to understand its role within the Roman world (Guggenberger 2013, 56). The most famous of these was Léopold Hugo – the nephew of Victor Hugo – who can be considered as the pioneer of research in the topic of dodecahedrons (Grüll 2016, 148). The famous French archaeologist and historian Julien de Saint-Venant was the first to write a monograph on this object (1907). Among mathematicians, this mystery was considered worthy of investigation by Moritz Cantor (1829–1920), Ferdinand von Lindemann (1852–1939; Guggenberger 2013, 56) and Benno Artmann (1993; 1996). Despite their association with the Roman Empire, the distribution of dodecahedron finds presents a curious geographical anomaly. While over a hundred examples have been unearthed across Europe, none have been definitively identified within the territories of present-day Italy, Africa, or the former Eastern Roman provinces (Fig. 1). The northernmost piece was found along Hadrian's Wall, and the westernmost object turned up at Fishguard, Wales (Grüll 2016, 148). One of the newer fragments from the dodecahedron, which comes from the village of Deonica, Serbia, is the southeasternmost example (Vujović 2021, 37–40). This conspicuous absence within the core areas of the Roman Empire raises questions about its production and distribution patterns. Dodecahedrons discovered within the western regions of the former Roman Empire are typically dated, based on archaeological context, to the 2nd to 4th centuries AD. However, the majority of these artefacts were acquired through the antiquities market, lacking documented information about their original find circumstances. Consequently, the specific contexts of their discovery remain unknown. Material analysis reveals that these dodecahedrons are primarily composed of copper alloy,

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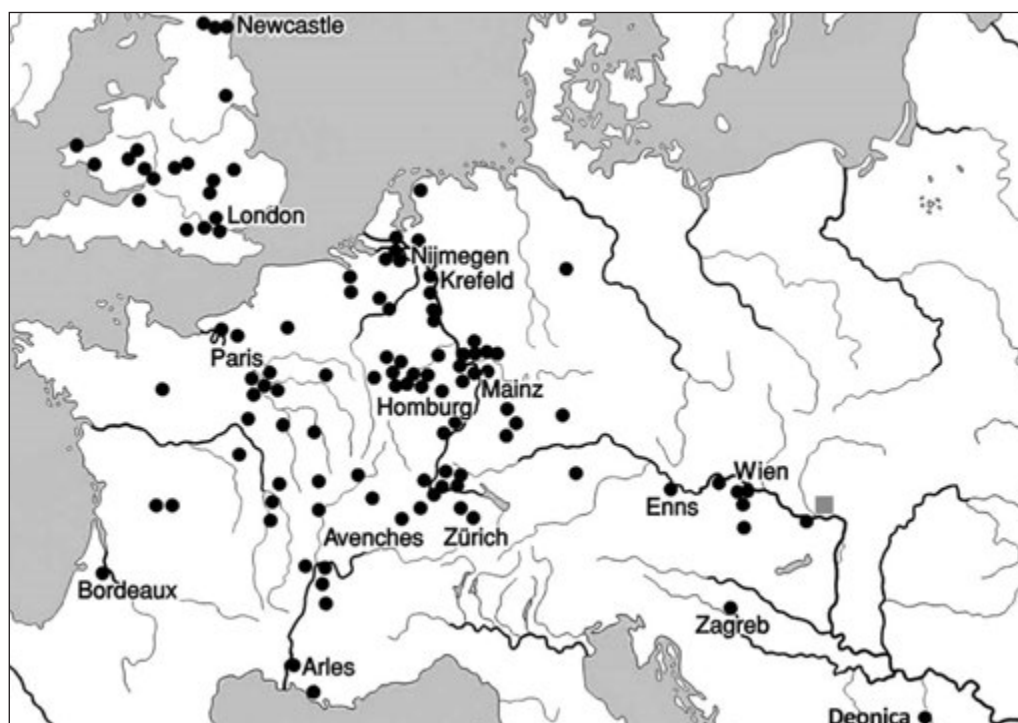


Fig. 1. Distribution map of Roman dodecahedra. Sites Chotín and Hurbanovo are highlighted with gray square (after *Grüll 2016*, 149, edited by P. Dragonidesová).

with bronze being the most commonly identified material (*Grüll 2016*, 148). It must be stressed that most of the finds come from the former north-western Roman provinces centred in Gaul, areas heavily influenced by Celtic traditions (*Guggenberger 2013*, 58). Based on this, some scholars see its significance in the cult sphere as a symbol of the mistletoe (*Nouwen 1993*, 64).

Despite the widespread presence of dodecahedrons, the discovery context remains unknown for the majority of them. Even when contextual information exists, it often fails to shed light on their specific use. These objects have been found in diverse locations, including military camps, public baths, temples, theatres, tombs, wells, and even within a coin hoard (*Grüll 2016*, 151; *Nouwen 1993*, 15). Three riverbed finds found near Nijmegen, Trier, and Zürich potentially suggest a votive purpose (*Grüll 2016*, 151). B. A. Greiner mentions two exemplars coming from Barbaricum (*Greiner 1996*, 14).² Unfortunately, only a limited number of these artefacts have been unearthed through controlled archaeological excavations. One such example is a richly furnished 4th century female grave No. 3040 discovered at the Krefeld-Gellep burial site in Germany (*Pirling/Siepen 2000*, Taf. 153). A dodecahedron was found in proximity to a bone object resembling a handle, but its poor preservation prevented its complete removal and analysis (*Grüll 2016*, 152, 153).

Beyond the Krefeld-Gellep discovery, archaeological excavations have yielded additional insights. At the Noviodunum site in France, a dodecahedron was unearthed within a small building with a cellar, dating to the late 2nd to early 3rd century based on associated coins and pottery (*Grüll 2016*, 153; *Guillier et al. 2008*, fig. 11). Most recently, ongoing research at the Norton Disney site in Britain uncovered another dodecahedron within a structure interpreted as a waste pit. This pit contained various materials, including roofing fragments, pottery sherds, and animal teeth, alongside the dodecahedron (*Brundle 2024*).

DESCRIPTION AND USE OF DODECAHEDRONS IN THE ROMAN WORLD

The Roman dodecahedron exhibits a distinct geometrical form characterized by the following features (Fig. 2). It has twelve pentagonal faces which form the entirety of the object's external surface. The object has thirty edges

² In the list of sites on pages 26–36 of his article, only Hartwerd, located in the present-day Netherlands, is mentioned.



Fig. 2. Roman dodecahedron found at Brigetio, nowadays Szöny (after Kolník 1979, obr. 59).

which are of equal length, contributing to the object's symmetrical construction. Dodecahedrons possess twenty vertices. Each vertex features a raised, spherical projection, adding a decorative element. Each pentagonal face incorporates a circular hole in its center, with diameters varying from 0.6 cm to 4 cm. The object is hollow, lacking internal compartments. The outer surface is smooth, excluding the raised projections on the vertices. In contrast, the inner surface remains rough and unfinished. Dodecahedrons exhibit a range in size, with diameters spanning from 4–11 cm (excluding the projections). Their weight typically falls between 35 and 580 g, with a single documented outlier weighing 1,000 g (Grüll 2016, 148–149). The majority of Roman dodecahedrons exhibit decorative features on their pentagonal faces. These decorations primarily consist of one or more engraved concentric circles surrounding the central hole, hallmarking and parallel lines to the edges of the faces. It is noteworthy that no examples of dodecahedrons

have been identified with any inscriptions, such as letters, numerals, or other markings (Grüll 2016, 150; Guggenberger 2013, 56). However, there are also specimens without any decoration (Nouwen 1993, 12). The fabrication of a Roman dodecahedron necessitates a high degree of technical proficiency, particularly in the realms of geometry and metalworking. Researchers concur that the most likely production method employed a lost-wax casting process, followed by additional shaping techniques such as lathe work or other methods (Nouwen 1993, 17).

In nature, we can find the shape of a natural twelve-sided wall when examining minerals. The mineral pyrite crystallizes into this form (Guggenberger 2013, 57). While the name “dodecahedron” originates from the Greek words “dōdeka” (twelve) and “hédra” (face of a geometrical solid), potentially implying a connection to fire through the Greek word “pyr”, this association appears unfounded. The historical use of “pyrite” for foundations in the Stone and Bronze Ages does not translate to a similar function for dodecahedrons. Therefore, attributing a fire-related purpose to dodecahedrons based solely on this etymological link is unconvincing. Researchers continue to explore various hypotheses regarding the object's function, with candlestick holders being one of many possibilities, but not necessarily supported by the aforementioned connection (Artmann 1993, 52). This theory was supported by researchers in the past because of traces of wax found in one of the examples (Hill 1994, 292). However, it seems illogical to create such an elaborate shape as a candlestick holder, and we can discard this theory. Weiss (1975, 221–224) in addition to his theory on its potential use as a measuring device, posits a thematically similar hypothesis. He endeavors to elucidate the function of the dodecahedron in conjunction with a medieval candlestick holder, contending that the dodecahedron provides an ideal fit for the candlestick holder. However, we must reject this theory due to the apparent incongruity of combining objects from distinct historical periods.

An alternative theory regarding the wax found within the dodecahedron proposes its use as a die, marked with specific symbols on the wax filling. However, the feasibility of this theory is challenged by the uneven weight distribution within the object. Due to the differing sizes of the openings on their faces, the dodecahedra exhibit a tendency to rest on the side with the smallest opening radius (Greiner 1996, 17).

Despite the widespread presence of Roman dodecahedrons, their intended use remains an enigma. No concrete evidence, such as iconographic or written mentions, has been unearthed from antiquity to shed light on their functionality (Grüll 2016, 151). However, the dodecahedron's geometric form has a documented history within the realm of mathematics. Its appearance dates back to around 480 BC, with mention by Hippasus of Metapontum, a student of Pythagoras (Artmann 1993, 53). Dodecahedron held profound symbolic significance for the Pythagoreans and Platonists. Within their philosophical frameworks, it represented the universe itself. While the four other regular polyhedrons were associated with the four elements (tetrahedron – fire, octahedron – air, icosahedron – water, hexahedron – earth), the dodecahedron served as an all-encompassing symbol representing the universe (Guggenberger 2013, 57, 58). In one of his dialogues, Plato mentions the geometrical shape of dodecahedron: “And seeing that there still remained one other compound figure, the fifth, God used it up for the Universe in his decoration thereof” Pl. Tim. 55c (Lamb 1926).

Modern scholars have proposed nearly fifty diverse theories regarding the dodecahedron's purpose. Notably, the notion of its use as a weapon has been largely dismissed (Guggenberger 2013, 59). Among the more prevalent hypotheses are:



Fig. 3. Twelve-sided beads crafted from gold wire and granules, from Hepu necropolis (after *Zhaoming 2014*, fig. 9).

1. **Measuring instrument:** The dodecahedron's precise geometry potentially lends itself to applications such as rangefinding or astronomical measurements (*Nouwen 1993*, 68; *Sparavigna 2012a*).
2. **Decorative object:** Its unique form and potential decorations might have served a purely aesthetic purpose as an elaborate household item (*Grüll 2016*, 150).
3. **Religious or symbolic object:** Some speculate it may have held religious significance as a cult object or symbolic representation (*Nouwen 1993*, 64–69).
4. **Toy:** The object's shape and size might have facilitated play activities, potentially resembling nowadays a cup-and-ball game (*Grüll 2016*, 150; *Nouwen 1993*, 63). One theory proposes throwing and catching the dodecahedron with a stick, with points awarded for catching it through the smaller hole. The external protrusions, in this scenario, could have served as protective elements (*Nouwen 1993*, 61).

Some researchers have proposed the dodecahedron's use as a scepter pommel (*Nouwen 1993*, 60).

The inconsistent size variations observed in both the dodecahedrons and their central openings render them unsuitable for precise measurements, a key function of a yardstick (*Grüll 2016*, 151; *Nouwen 1993*, 72). Additionally, the absence of any numerical markings or graduations undermines this hypothesis.

However, an intriguing discovery from Geneva in 1982 offers a potential link to celestial studies. This lead dodecahedron, dated to the 4th century, features engravings of the twelve zodiac signs. Considering both the material and decorations, scholars have suggested a possible association with astronomy or astrology (*Nouwen 1993*, 68).

The dodecahedron shape was also known in the Etruscan environment. An example, crafted from soapstone and dated to around the 6th century BC, was discovered at Monte Loffa (*Nouwen 1993*, 14). This dodecahedron might have been used as a die in a game. Each of its faces is decorated with roughly hemispherical carvings, lines or markings (*Sparavigna 2012b*, fig. 2).

The dodecahedron's form extends beyond the Roman world. In southern China, near the city of Hepu, a vast necropolis dating to the Han Dynasty (206 BC–220 AD) through the Southern Dynasties (220–589) has yielded over 1 000 excavated tombs, with estimates suggesting over 10,000 remain (*Zhaoming 2014*, 1229). Believed to be the maritime branch of the Silk Road's home port based on imported finds, these tombs contain twelve-sided beads crafted from gold wire and granules (Fig. 3). Similar finds have been unearthed on the east coast of India, Vietnam, Thailand, and Burma (*Zhaoming 2014*, 1236). This raises intriguing questions: could these dodecahedral ornaments have reached the Roman world through trade, later being imitated as a symbol of far-flung cultural or economic contacts? Alternatively, if not a Roman invention, perhaps these objects were produced and utilized differently by Roman citizens, imbued with diverse meanings and functions.

EXEMPLARS FROM THE SLOVAK AREA

Three fragments, likely originating from two separate dodecahedrons, have been discovered in southwestern Slovakia, all crafted from a copper alloy (Fig. 4). The larger fragment was unearthed during surface exploration near the village of Chotín, specifically in the "Pri ošipárni" area. Chotín has been at center of archaeological

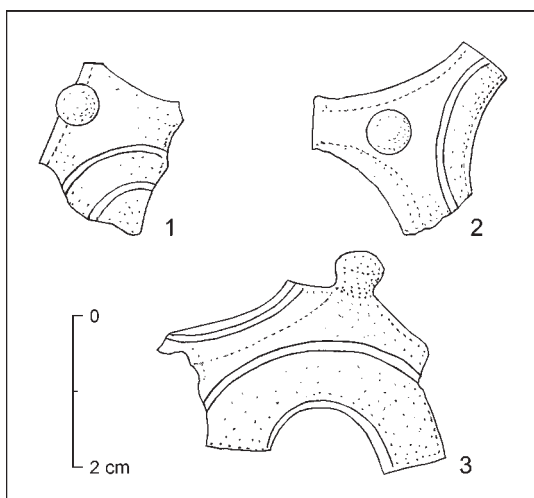


Fig. 4. Drawings of dodecahedra fragments. 1, 2 – Hurbanovo; 2 – Chotín (drawing by J. Marettová, edited by P. Dragonidesová).

focus since the 1950s, with ten archaeological sites documented within its boundaries (Chotín I to X) spanning the prehistoric to medieval periods (*Rajtár/Kolníková/Kuzmová 2017, 173; Ratimorská 1979, 36, 45, 46*). Since the 1990s, systematic surface surveys have been conducted in Chotín, yielding significant evidence of intensive settlement activity, particularly during the Roman Period (*Ratimorská/Žundálek 1992, 101, fig. 63: 9, 11, 12*). These surveys have identified a portion of a Germanic settlement containing multiple residential and economic structures within a relatively extensive area (*Rajtár/Kolníková/Kuzmová 2017, 173*).

Intensive settlement activity has been documented in Chotín, with aerial surveys revealing that the settlement encompassed an area of approximately 5 km² (*Blažová/Kuzma/Rajtár 2000, 38*). Its origins date back to the late 1st century BC at the latest, followed by a significant expansion during the 2nd century. Evidence suggests that the local Germanic population maintained close ties with the nearby Roman world during this Period. This is supported

by the presence of artefacts like glass fragments, Roman-provincial pottery, and Terra sigillata. This interaction was likely influenced by the settlement's strategic location, situated only 6 km from the Roman border on the Danube River, where the Roman fort of Iža stood within the vicinity of Brigetio (*Rajtár/Kolníková/Kuzmová 2017, 174*). Further evidence indicates that the Germanic settlement persisted in Chotín throughout the 3rd and 4th centuries, with numerous 4th century coins being unearthed (*Rajtár/Kolníková/Kuzmová 2017, 176, 180, 184*). These findings, alongside other artefacts, suggest that the settlement remained inhabited even during the early 5th century, a period marked by significant population migrations (*Rajtár/Kolníková/Kuzmová 2017, 184*).

Similar to Chotín, the present-day town of Hurbanovo, situated in close proximity, also boasts a dense settlement history spanning from the prehistoric period to the Middle Ages. The first indications of extensive settlement activity in Hurbanovo came to light in 1988 during gas pipeline relocation trench inspections and a subsequent survey in 1991. Subsequent systematic collections at the site unearthed a substantial amount of artifacts, primarily dating to the Roman Period. These finds encompass a significant number of Roman coins and fibulas, alongside ceramic materials like Germanic and Roman provincial pottery, and fragments of Terra sigillata (*Rajtár 2004, 145*). Mirroring the approach in Chotín, the Hurbanovo site also underwent aerial surveys (*Hanzelyová/Kuzma/Rajtár 1995, 55*). The earliest evidence of settlement at the site is demarcated by a coin minted during the reign of Emperor Nero in 65 AD. The latest datable artefacts suggest the abandonment of this settlement occurred during the early 5th century AD (*Rajtár 2008, 168*).

Description of finds

Finds from Hurbanovo (Fig. 4: 1, 2): Two small slightly deformed fragments, likely originating from the same dodecahedron, were unearthed in 2002 during surface exploration. Both fragments represent sections where three flat faces of the dodecahedron converged. Each fragment features a single raised, spherical protrusion at its apex. Traces of decoration, consisting of multiple concentric circles, are visible on the better-preserved sections of the faces.

Fragment from Chotín (Fig. 4: 3): A third dodecahedron fragment represents a corner section where three flat faces met. A raised, spherical protrusion is preserved on the outer aspect of the corner. The fragment exhibits slight deformation. The best-preserved face reveals a portion of the original circular hole, bordered by a single engraved line near its edge. The hole's estimated diameter is approximately 1.4 cm.

The closest geographically similar artefact of this type (Fig. 2) originates from the vicinity of present-day Szőny-Brigetio, Hungary. This dodecahedron, with a maximum diameter of 7.2 cm, is interpreted by T. Kolník as a "mysterious magical-cult or measuring object". It is currently housed in the Danube Region Museum in Komárno, Slovakia (*Kolník 1979, 109, obr. 59*).

THE SIGNIFICANCE OF DODECAHEDRONS IN BARBARICUM

The function and meaning of dodecahedrons in societies beyond the Roman world remains challenging to decipher. While the exact purpose of these objects within the Roman sphere remains unknown, evidence suggests that barbarian communities utilized them differently. This hypothesis is supported by the state of preservation of the dodecahedron fragments discussed in this paper. The broken and fragmented nature of these finds suggests intentional modification for secondary use as raw material. This practice finds parallels in discoveries like the Zohor settlement at the Piesky site, where fragmented bronze objects prepared for melting and repurposing were unearthed (Elschek 2002, 245, 246).

Due to their relative scarcity, the dodecahedron fragments likely reached barbarian hands through one of two potential routes:

- Raiding Expeditions: Germanic tribes may have acquired these items during raids on a Roman military camp in Iža or legionary camp in Brigetio and its surroundings, e.g. *canabae legionis* or *vicus*.
- Post-Destruction Recovery: Alternatively, the barbarians living in nowadays areas of Chotín and Hurbanovo might have retrieved the objects from the Roman fort at Iža following its destruction in 179 AD (Daňová 2021, 25). This hypothesis suggests they scavenged the site for valuable or usable items, potentially including the dodecahedron. Consequently, we may anticipate the presence of a metalworking area within the settlements located in Chotín or Hurbanovo. Such an area might resemble the metalworking workshops previously identified in the Barbaricum of the Middle Danube Region. For instance, we may mention the workshops discovered in Stupava (Turčan 1985, 114), Cífer-Pác (Cheben/Ruttkay 1995, 68) and Pasohlávky (Tejral 2006, 134–141, 164; 2015, 68).³ In all these cases, a common prerequisite for the establishment of a metalworking workshop appears to be the accessibility of bronze raw material from Roman military or civilian settlements. It is further speculated that the fragments of dodecahedron from Chotín and Hurbanovo might have reached the Iža camp from the nearby Brigetio military camp, mirroring the origin of another dodecahedron example currently housed in the Danube Region Museum, Komárno (Kolník 1979, 109).

CONCLUSIONS

The dodecahedron, a complex geometric object with twelve faces, has intrigued scholars and historical enthusiasts for centuries, particularly in its appearance within the Roman world. The precise purpose and significance of Roman dodecahedrons remain shrouded in mystery. Despite a lack of specific written references and missing definitive evidence of their function, scholars have proposed various possibilities. Some hypothesize a practical application, suggesting its use as a measuring tool (Sparavigna 2012a), a gaming device (Grüll 2016, 150) or even a religious object (Nouwen 1993, 64–69). Others posit a more symbolic role, potentially associated with astronomy or astrology (Hill 1994, 292). The presence of dodecahedrons in diverse contexts, including military camps, hoards and even tombs, further complicates the task of identifying a single, unifying purpose.

It is conceivable that a single dodecahedron might have served multiple purposes depending on the context. For instance, research suggests that a dodecahedron discovered in a female grave at Krefeld-Gellep may have been used as a scepter imbued with protective powers (Grüll 2016, 155). Researchers further propose a potential connection to astrology or divination based on the twelve holes, potentially representing celestial bodies (Sun, Moon, planets, stars). Without signs, marks and characters they cannot be unambiguously identified with them (Grüll 2016, 155; Hill 1994, 292). Alternatively, T. Grill suggests its use as an amulet, albeit acknowledging the impracticality of wearing such a complex object (Grüll 2016, 155). While the limited number of known dodecahedrons suggests exclusivity, readily available materials likely prevented them from being exceptionally rare (Guggenberger 2013, 60). However, we can assume that their costly production process indicates they were not considered common items.

These intriguing finds from Hurbanovo and Chotín highlight the complexity of interpreting Roman artefacts within Germanic contexts. Further investigation and analysis, alongside comparisons with dodecahedron discoveries from other locations, are crucial for understanding their potential use and significance. By incorporating archaeological context, historical knowledge of Germanic societies, and detailed analyses of the fragments themselves, researchers can strive towards a more comprehensive understanding of these captivating artefacts and the interactions between the Roman and Germanic worlds.

³ For additional information on workshops and artifacts related to metalworking in this region, read Bazovský 2009, 433–438.

The Roman dodecahedron compels us to acknowledge the limitations of our knowledge while simultaneously inspiring continued exploration. It is important to acknowledge that none of these mentioned theories have been conclusively proven, and the true purpose of the dodecahedron remains an ongoing subject of scholarly investigation.

Translated by author

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Mysterium Insolutum

Fragmenty rímskych dodekaedrov z Hurbanova a Chotína

Petra Dragonidesová

Súhrn

Fascinácia neznámym a snaha o objasnenie záhadných fenoménov sú neoddeliteľnou súčasťou ľudskej histórie. Zvedavosť a túžba po poznaní podnecujú človeka k hľadaniu odpovedí na nevysvetliteľné otázky v rozličných sférach, siahajúcich od rôznych vedných disciplín až po mytológiu a náboženstvo. Jednou z týchto dodnes nevysvetliteľných záhad je rímsky dodekahedron, objekt s dvanástimi stenami zhotovený predovšetkým zo zliatiny medi, ktorého nálezy sú známe z rozsiahleho územia Rímskej ríše. Napriek množstvu teórií a dodnes objavených exemplárov, ktorých počet neustále stúpa, zostáva jeho primárna funkcia a význam stále zahalený tajomstvom, bez vysvetlenia zo starovekých písomných či ikonografických prameňov. Príspevok zahŕňa aktuálne najdôležitejšie teórie a možné vysvetlenia týkajúce sa funkcie dvanáststena. Hlavným cieľom štúdie je predstavenie troch fragmentov z jedného alebo viacerých dodekahedronov objavených v priestore barbarika, v okolí významných germánskych sídlisk lokalizovaných v dnešnom Chotíne a Hurbanove na juhozápade Slovenska. Vďaka jedinečnému nálezovému kontextu majú tieto fragmenty osobitný význam. Na rozdiel od väčšiny známych dvanáststenov, ktoré boli objavené na území Rímskej ríše, musíme uvažovať o tom ako, kedy a prečo sa tieto fragmenty do prostredia mimo hraníc Impéria dostali. Nové nálezy zlomkov dodekahedronov poskytujú príležitosť na zhrnutie a posúdenie existujúcich hypotéz a formulovanie nových teórií napomáhajúcich k pochopeniu účelu dvanáststena. Unikátny nálezový kontext taktiež poskytuje možnosť hľadať odpoveď na význam ich výskytu v prostredí germánskych kmeňov.

Obr. 1. Mapa rozšírenia rímskych dodekahedronov. Lokality Chotín a Hurbanovo sú vyznačené sivým štvorčekom (zdroj *Grüll 2016*, 149, úprava P. Dragonidesová).

Obr. 2. Rímsky dvanáststen nájdený v Brigetiu, dnes Szöny (zdroj *Kolník 1979*, obr. 59).

Obr. 3. Koráliky v tvare dvanáststenov vyrobené zo zlatého drôtu a granuliiek z Hepu necropolis (zdroj *Zhaoming 2014*, fig. 9).

Obr. 4. Nákreby fragmentov dodekahedronov. 1, 2 – Hurbanovo; 3 – Chotín (kresba J. Marettová, úprava P. Dragonidesová).

Mgr. Petra Dragonidesová, PhD.
Archeologický ústav AV ČR, Brno, v. v. i.
Čechyňská 363/19
CZ – 602 00 Brno
dragonidesova@arub.cz
dragonidesovapetra@gmail.com
<https://orcid.org/0000-0002-6131-5167>

TWO ROMAN BELLS (*TINTINNABULA*) FROM BRATISLAVA CASTLE

Katarína Harmadyová – Juraj Kucharík – Branislav Resutík

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Abstract: The paper presents two bronze Roman bells from the interior of the so-called Roman building II from the late La Tène period at Bratislava Castle. A large cylindrical bell with an oval base and an angular handle with five edges was discovered in the southwest corner of the building, and a small hemispherical bell with a massive loop handle was found near the entrance to the building. We analysed the bells based on typology, dimensions, chronology, finding context, material composition, and their possible function. Interdisciplinary research included the use of X-ray and XRF analysis. Presented are analogies from outside the Mediterranean region, dating from the 1st century BC to the 4th century AD. The earliest analogical cylindrical and hemispherical bells come from the Augustan military camps. The bells from Bratislava, dating to the second half of the 1st century BC, represent Roman imports on the acropolis of the oppidum and are among the oldest existing in the region north of the Alps. Their purpose was probably utilitarian (signalling).

INTRODUCTION

Two bells were discovered during archaeological excavations in the Bratislava Castle's North Terrace (Fig. 1).¹ The two finds, which are the subject of this paper, are from the interior of the so-called Roman building II (Fig. 2).² In 2009, a large bell (No. 1) was discovered in the southwest corner of the building; in 2014, a fragment of a small bell (No. 2) was found in the same building, near the entrance. The items are classified as Roman imports. Metal bells are known from various sites in our territory, dating back to Roman times.³ The archaeological context of the Roman Building II (Resutík 2014, 153–166) dates the two presented bells to the time before the Roman period, specifically to the late La Tène period, the end of the existence of the Bratislava oppidum.

DESCRIPTION OF THE BELLS

Bell No. 1 (BH 00041), Bratislava Castle, North Terrace, area III/Sector 7, Roman Building II, trench P4/2009, SJ 5591⁴, 22. 9. 2009.

Dimensions: height 20.3 cm, base diameter 11.4 × 6.7 cm, casing thickness 0.1–0.2 cm, handle width 6 cm, handle height 4.6 cm, handle base diameter 3.8 cm, handle thickness 0.6 cm, weight 756.58 g.

The large bronze bell has a cylindrical body, is slightly compressed in the waist, has an oval base, and has an angular handle with five edges (Fig. 3). There is a circular depression on the upper, shortest edge of the handle. The bell is cast, with the walls moulded after casting. The surface of the handle bears traces of file work (Fig. 3: 4). The bronze handle is massive, attached to the casing of the bell with a circular base (Fig. 3: 5). It is likely the inside featured a clapper (missing here), attached on an iron eyelet (Fig. 3: 3). The bell has plain undecorated walls, with one side of the casing cracked (Fig. 3: 6).

¹ The bells are deposited at the Slovak National Museum – Museum of History.

² The archaeological research at the Roman building II was led by B. Resutík of the Bratislava Municipal Monument Preservation Institute (MÚOP).

³ For example, Bratislava-Rusovce; Bratislava-Jarovce; Bratislava-Židovská street; Vištuk; Komárno; Streda nad Bodrogom (summarised by Pomberger/Mühlhans/Saunderson 2022c); Iža (Rajtár 2020, 272, cat. 171), Veľký Cetín-Jakubské A (Cheben/Ruttkayová/Ruttkay 1994, 196; Kvetánová 2008, 33); Šamudovce (Gačková 1991, 159); Lazisko-Zvon, Mošovce and others (Credits to K. Pieta, Institute of Archeology of the Slovak Academy of Sciences).

⁴ The bell was discovered just above the surface of the floor of the Roman building II, where there was a sandy-clay layer with an admixture of ash and charcoal, representing the destruction of the Roman building II. The layer contained late La Tène pottery and fragments of amphorae (Resutík/Teslíková 2012, 76).



Fig. 1. Bratislava Castle. Bells from the Roman building II. 1 – Bell No. 1; 2 – Bell No. 2 (photo S. Okkel, drawings L. Kováčik).



Fig. 2. Bratislava Castle. Situation of the Roman Building II and bell finds (graphic by S. Gabura, modified after *Haberland/Horanský 2014*; data source OpenStreetMap).



Fig. 3. Bell No. 1. 1 – front side; 2 – back side; 3 – bell X-ray; 4 – traces of file work; 5 – detail of the handle circular base; 6 – bell crack. Not to scale.

Bell No. 2 (BH 00187), fragment, Bratislava Castle, North Terrace, area III/Sector 7, Roman building II, trench R5/2009, SJ 5591⁵, 22. 5. 2014.

Dimensions: preserved height 4.2 cm, preserved width 4.3 cm, handle diameter 2 cm, handle aperture diameter 1 cm, casing thickness 0.5–0.7 cm, weight 70.82 g.

The fragment of the upper casing of the hemispherical bronze bell has a massive loop handle, while the clapper is missing (Fig. 1: 2). The bronze bell and the handle are cast. The casing of the bell has no decoration.

TYPOLOGY

Several scholars have researched the subject matter of bells in the Roman period. The fundamental typological works include the study by *L. Ohlenroth* (1925), which was based on findings from Swabia and Bavaria, and the typology of bells from “European Barbaric” by *W. Nowakowski* (1988). Nowakowski’s typology was expanded and supplemented by *Ch. Flügel* (1993, 99, 100) and *D. Božič* (2005, 315–317). Their works were subsequently built upon by *J. Jilek* (2008).

L. Ohlenroth divided bells into five groups: A – High, in the middle slight diminished shape, round-oval base; B – Four-sided bell with rectangular or quadrangular base; C – Hemispherical shape with circular base and hexagonal loop; D – Hemispherical shape, circular base and round loop; E – Shape of church bells and circular base.

W. Nowakowski divides bells according to the body shape into four types: A – Cylindrical; B – Pyramidal with rectangular base; C – Conical; D – Hemispherical. Based on the findings from Central Europe, the latest typology of bells has been elaborated by *B. M. Pomberger* (2016, 2018). She distinguished between eight types of bronze bells and two types of iron bells, with four groups of bases, nine types of handles, and four types of clappers. Other works on bells, in which the authors attempted classifications, were based on findings at specific archaeological sites, such as Enns-Lauriacum (*Kneifel* 1988), Kempten-Cambodunum (*Flügel* 1993), etc.

The cylindrical bell (No. 1) from Bratislava Castle can be classified as type A (according to *Nowakowski* 1988; *Ohlenroth* 1925), which includes tall cylindrical shapes, slightly compressed in the waist, with a circular-oval base and a massive angular handle. According to *B. M. Pomberger* (2016, 2018), the bell belongs to type 2, to which she assigns tulip-shaped forms with domed top and oval bases. The bell had an angular handle (type 4) and plain walls void of decoration (*Pomberger* 2018, 12).

The second bell from Bratislava (No. 2) has only been preserved in a fragment, so we state its typology assignment as probable. The small bell can be classified as type D (*Nowakowski* 1988, 80; *Ohlenroth* 1925, 153), hemispherical shape⁶ with a circular base and a loop handle, or according to *B. M. Pomberger*, as type 5, variant A (*Pomberger* 2016, 153), where she assigns hemispherical-shaped bells with a circular base and a loop handle with a wide aperture.

Cylindrical Bell Sizes

(Fig. 4)

W. Nowakowski states the sizes of Roman cylindrical bells (type A) from 7 to 10 cm (1988, 75). *B. M. Pomberger* gives the general sizes of Roman bells from 1.5 cm to 30 cm (2018, 1). The cylindrical bells from the Haltern camp (10 pieces) were between 6 and 9.3 cm tall, with the most common height being around 6.5 cm (*Müller* 2002, 194, 195). Four cylindrical bells from the Augsburg-Oberhausen camp were 5.8 to 9.1 cm tall (*Hübener* 1973, 41, Taf. 9). A cylindrical bell 9 cm tall was also found at another early Roman camp at Aislingen on the Danube, Germany (*Ulbert* 1959, Taf. 21). Identical bells (9 pcs) from Kempten-Cambodunum were from 6.6 cm to 10.2 cm tall (*Flügel* 1993, 101, Taf. 33). A cylindrical bell 6.9 cm tall from Magdalensberg also dates back to the time between the 1st century BC and the 1st century AD (*Deimel* 1987, 325, Taf. 86:6). A 17.4 cm tall cylindrical bell, very similar to the Bratislava specimen, is exhibited in the Antiquarium di Boscoreale Museum, Italy.⁷ Two cylindrical bells with heights of 13.8 and 14.4 cm were found at a younger depot in Havor,

⁵ Layer 5591 was dark brown with significant content of charcoal (*Horňák et al.* 2014).

⁶ Given the fragmentary nature of the find, the originally cone shaped body of the bell cannot be ruled out either (cf. *Nowakowski* 1988, 79, Abb. 6: 7).

⁷ Credits for valued consultation to M. L. Vitale, Pompeii Archaeological Park.

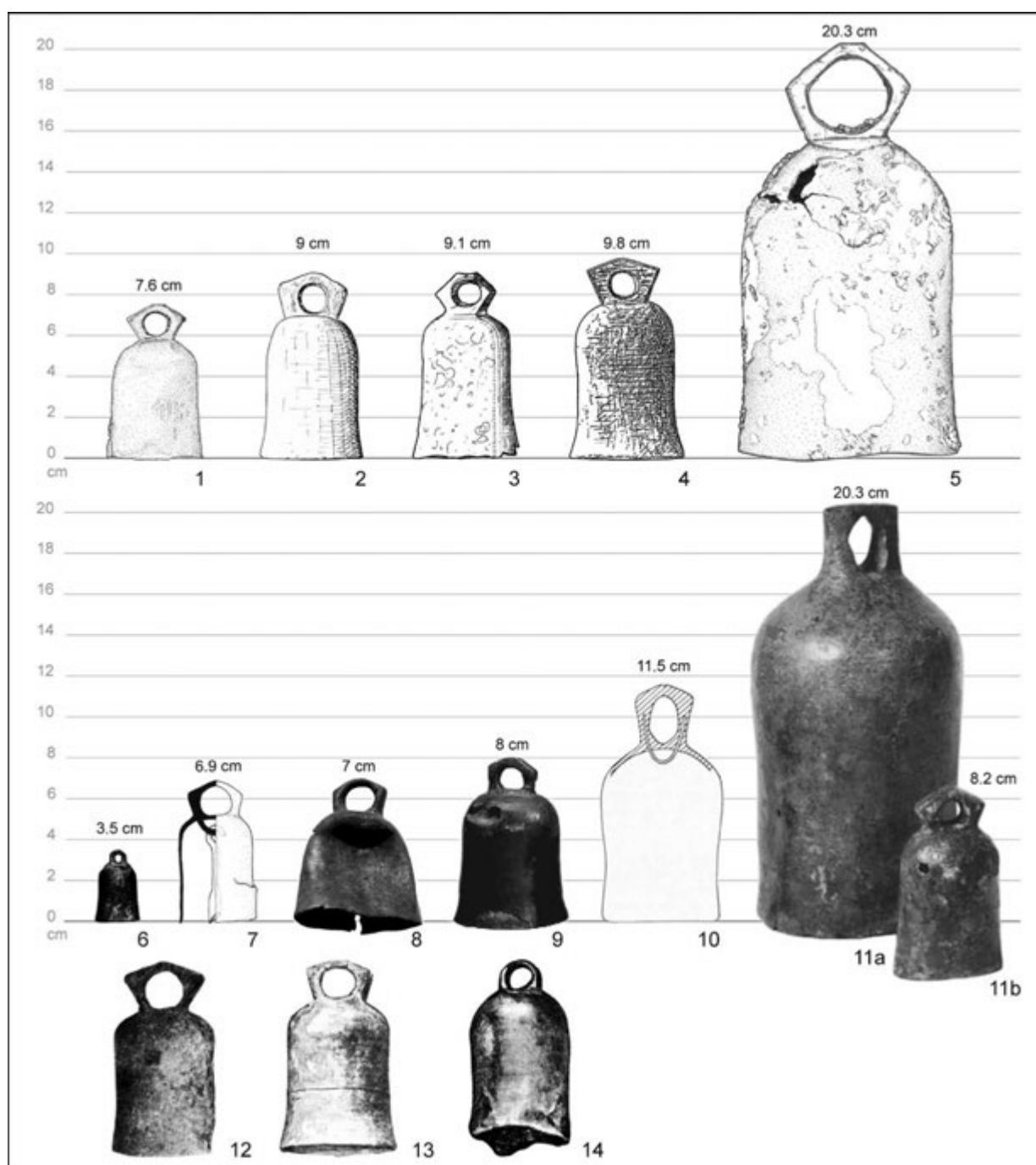


Fig. 4. Cylindrical bronze Roman bells (selection). 1 – Haltern (Müller 2002); 2 – Aislingen (Ulbert 1959); 3 – Augsburg-Oberhausen (Hübener 1973); 4 – Kempten (Flügel 1993); 5 – Bratislava; 6 – Mt. Beuvray (De Fontenay 1880); 7 – Magdalensberg (Deimel 1987); 8 – Uherský Brod (Jílek 2008); 9 – Brigetio (Ratimorská/Minaroviech 2009); 10 – Havor (Nowakowski 1994); 11 – Augst (Furger/Schneider 1993); 12 – Matételke; 13 – Mojtyny, 14 – Starzykowo Małe (12–14 Nowakowski 1988, not to scale). Graphic by S. Gabura.

Sweden (Nowakowski 1994, 138, 139). Roman cylindrical bells deposited in the British Museum are 13.5 to 17.7 cm tall.⁸

Exceptionally large, though pyramid-shaped (!) bells were found in Slovenia's Gora – 18 and 20.5 cm tall, and Ulake – 22.3 cm tall (Božič 2005, 315, 318). A 20.3 cm tall bell with a rectangular base was found in Kalkriese, Germany (Rost/Wilbers-Rost 2010, 122, fig. 5). An 18 cm tall bell of type A comes from the site

⁸ https://www.britishmuseum.org/collection/search?keyword=Roman&keyword=bell&object=bell&view=grid&sort=object_name__asc&page=1#page-top [26. 2. 2024]

of Labin-Albona, Istria, Croatia (Božić 2005, 319). A cylindrical bell of up to 20.3 cm in height, though with a rectangular handle, was found at the site of Augst-Augusta Rauricorum, while a smaller cylindrical bell with a angular handle from the same site was only 8.2 cm tall (Furger/Schneider 1993, 164, 165, Abb. 8). With its height of 20.3 cm, the bronze cylindrical bell with an oval base and an angular handle from Bratislava Castle is one of the tallest of its type outside the Mediterranean region.

Materials

Bells are struck by idiophones, which are resounded by striking the clapper against the inner side of the bell's casing. Metal bells in the Roman period were cast from copper alloys or wrought from iron sheets. B. M. Pomberger (2018, 1) gives a ratio of bronze to iron bells of up to 83% : 17% in the finds from Central Europe. Bronze bells produce more of a melodic sound than iron bells, which have a tinny sound. Bells with an oval base give two notes, which are distinct, unlike circular bells that only sound with one tone (Pomberger 2018, 16). The sound of the bell is determined by the physical properties of the metals or their alloys (and also by the bell's shape and size). Loudness is more correlated to the shape than the alloy (Mühlhans/Pomberger 2023, 164).

We analysed the Bratislava bells by the XRF method using a Niton XL3 device with a beam diameter of 3 mm.⁹ They were made of (No. 1) lead bronze and (No. 2) tin bronze with lead admixture (Table 1). An X-ray¹⁰ of the cylindrical bell No. 1 proved an oval iron loop from which the clapper was suspended (Fig. 3: 3). No decoration, writing, or markings were confirmed on the bells.

The analysis of 12 bronze bells from the Haltern camp showed a content of 18.59 to 23.35% tin and 1.47 to 10.2% lead in the hemispherical bells and a content of 5.47 to 9.31% tin and 3.45 to 22.15% lead in the cylindrical bells.¹¹ Two later-Roman bells from Havor showed the following content: 86.7% Cu; 9% Sn; 2.5% Pb and 80.2% Cu; 9.3% Sn and 10.2% Pb (Emsheimer 1988 according to Pomberger et al. 2022a, 134). The analysed cylindrical and hemispherical bells from the Szombathely Museum, Hungary, dated approximately from the 2nd to the 4th centuries, were 4.6 to 16% Sn and 0.3 to 14.2% Pb (Pomberger et al. 2021, tab. 3). The collections of

Table 1. XRF data of metal measurements.

Bell	Nature of Sample	Cu	Sn	Pb	Ag	Fe
1a (handle)	Surface measurement after corrosion removal	83.601	7.88	8.048	–	0.112
1b (casing)	Mechanically chipped from the body	84.259	5.917	9.822	–	–
2	Drilled from the body	81.912	10.959	6.655	0.284	0.072

the Slovak National Museum – Museum of Archaeology preserve one cylindrical bell (7.45 cm tall) from the vicinity of Komárno;¹² its material analysis showed a content of 73.45% Cu, 4.59% Sn, and a high percentage of Pb of 19.42% (Pomberger/Mühlhans/Saunderson 2022c, 362, tab. 1).

Tin gives the bell good sound properties. In the Middle Ages, the recommended ratio of copper to tin was 4 : 1, or 78% : 22%. To save on tin, the bellfounders usually added lead or zinc to the alloy (Flodr 1983, 61–63). It was the ratio of metals in the alloy that could potentially be one of the indicators of how a given bell was used.

As the bells from Bratislava Castle are damaged or in fragments. The large bell No. 1 has a cracked casing and a missing clapper. From the remains of corrosion on the inside of the loop and analogies, we believe that the bell had an iron clapper. When attempted with an iron rod, it gave a tinny sound; this, however, was primarily due to the cracked casing.

FUNCTION

It is questionable whether the bells found on the acropolis of the Bratislava oppidum can be automatically attributed the same meaning and function as they had back in the Roman environment. It is also questionable whether

⁹ Credits to B. Ritterová and R. Čambal, Slovak National Museum – Museum of Archaeology for cooperation.

¹⁰ The X-ray images were taken at the Monuments Board of the Slovak Republic, Bratislava. Credits to the staff of the Department of Conservation Science, L. Drotovánová, L. Vrbíková and P. Farkaš.

¹¹ M. Müller pointed out the higher occurrence of silver (0.2–0.3%) in bells with a higher tin content (Müller 2002, 124).

¹² The more detailed finding context of the bell (AP 13 772) is unknown (Kraskovská 1986, 114, fig. 1: 4).

they had also been used in the places where they were found or whether they were a source of raw materials, etc. In Roman times, bells had a variety of uses. They were found in military and civilian environments, secular and sacral spaces, houses, streets, roadsides, temples, workshops, waste pits, ditches, depots, graves, etc.

Cylindrical bells were also referred to as “horse bells”, especially according to the findings from the Augustan military camps (Nowakowski 1994, 138). They are considered part of the military horse harness in the Haltern camp, where, together with the phallic and crescent-shaped pendants, they had decorative and apotropaic functions (Müller 2002, 53).

This connection could also be proved by the later finds of graves with horses in Mátételke, Hungary, and Mojtyń, Poland (Fig. 4: 12, 13), or a warrior's grave at the burial site of Hortobagy, Hungary, from the second half of the 3rd century (Nowakowski 1988, 115; 1994, 138), where a hemispherical bell (Fig. 5: 1), analogical to the one in Bratislava, was possibly used as a bridle decoration.

In addition to horses, bells are associated with draft animals (oxen, mules, donkeys, etc.), sheep, goats, and even pigs and dogs. They were used to identify the movement of animals or entire herds and to safeguard them from predators. This was why bells are also found in fields, pastures, and roadsides as lost, therefore unstratified finds. Some researchers believe cattle bells were made predominantly of iron (Nowakowski 1988, 83). In addition to archaeological findings, several written sources confirm the wearing of bells on animals (summarised by Pomberger *et al.* 2022a, 177). Regarding the sizes of bells, what must be considered is also the significantly lower height of the cattle in the La Tène and Roman periods compared to today. For example, an archaeozoological analysis of skeletal remains from Liptovská Mara showed that cattle grew to a height of only 102–113 cm at the withers in this period (Chrószcz/Janeczek/Miklíková 2010, 225). On the other hand, a 20.3 cm tall bronze bell from the Kalkriese site was found next to a mule skeleton, which testifies to the use of large bells for this purpose as well (Rost/Wilbers-Rost 2010, 122, fig. 5).

Findings of bells in houses, workshops, warehouses, temples, and gardens may also be related to watchdogs that wore them around their necks, as evidenced by written sources and depictions on stone monuments (Pomberger *et al.* 2022a, 149, 158). At the Quedlinburg-Bokshornschanze burial site in Germany, a bell was found on the skeleton of a dog in Grave 40 (Nowakowski 1988, 94).¹³ In 2021, a lavish child's grave was discovered in central France with a puppy wearing a little bell hanging on its collar. The grave is dated back to the first half of the 1st century.¹⁴

Small bells were also used as part of costumes, decoration (Nowakowski 1988, 100, 101), or jewellery – in necklaces, bracelets, earrings, pendants/amulets, etc. (Pomberger *et al.* 2022a, 153).

Bells also served practical purposes, such as announcing events (timetables for specific duties, e.g. in military camps), alarms, wars, and fires. They were also used by guards of city walls and camps who carried them along (Furger/Schneider 1993, 169; Pomberger *et al.* 2022a, 157).

Bells were widely used in civilian life. They were used to announce the opening and closing of public baths, markets, and the like (Furger/Schneider 1993, 169). Also, bells used to be placed in the narrow gaps of street intersections to warn of opaque spaces (Kybalová/Lunga/Vácha 2005, 13). Bells' findings in the sea point to their signalling and warning function. The bells from the site of Labin in Istria, Croatia, and the sea off Agde in southwestern France likely served as signal bells on ships (Božič 2005, 319).

Larger bells could have been used for these “public” purposes (Božič 2005, 315; Furger/Schneider 1993, 169). The reason for the less frequent occurrence of large “signal” bells may have been their costly production or replacement by gongs, cymbals, or horns in military settings (Furger/Schneider 1993, 170). According to some scholars, the low number of tall bells can also be explained by the fact that those were easier to find and use secondarily (Furger/Schneider 1993, 167). In general, the problem of defining the function of large bells persists (Pomberger/Mühlhans/Mehofer 2022b, 380).

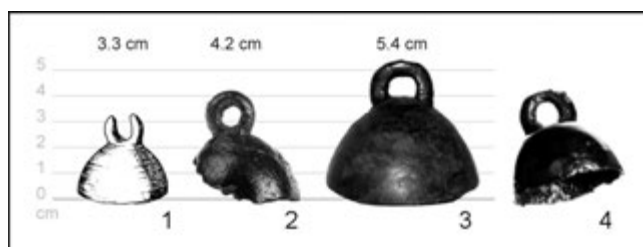


Fig. 5. Hemispherical bronze Roman bells. 1 – Hortobagy (Nowakowski 1988); 2 – Bratislava; 3 – Savaria (Pomberger *et al.* 2021); 4 – Fréjus (Lattard/Schmitt 2023, not to scale). Graphic by S. Gabura.

¹³ The burial site was used from Roman times until the Middle Ages, but the grave is dated to the Roman period without more precise dating (Nowakowski 1988, 94).

¹⁴ <https://archivio.greenreport.it/news/scienze-e-ricerca/il-bambino-e-il-cucciolo-di-cane-col-campanellino-che-dormono-in-sieme-da-2000-anni/> [20. 1. 2021]

Smaller bells were placed at entrances to buildings, on doors and windows, in courtyards, corridors, etc. Due to their sizes and structure, they could be easily moved. The bell was activated by opening the door, sliding a curtain, etc. Thus, the bell/wind chime placed like this does not make a sound randomly (by wind) but purposefully. In this case, its function can also be explained in utilitarian terms – safeguarding a space by signalling the presence of a person entering the space (*Dierichs 1999, 145; Parker 2018, 62–66; Pomberger et al. 2022a, 148*).

A specific kind of signalling function of bells was their use in fishing. Placed on fishing nets, they signalled that fish were caught (*Pomberger et al. 2022a, 156*).

The individual functions of bells, such as protective (apotropaic), cult, or decorative functions, cannot always be separated. As long as the chimes (*tintinnabula*) were hanged in the wind, their sound was produced randomly. Such a sound could serve to ward off evil forces and prevent them from acting against the bell's owner or the building in which it rang. The bells could thus protect houses, shops, kitchens, etc. (*Pomberger et al. 2022a, 151*). *Tintinnabulum*, or set of smaller bells hanging on a chain, produced various tones when ringing. Theoretically, the bell alone could also be used as a wind chime (*Pomberger et al. 2022a, 148*).

In addition, smaller hemispherical bells (*tintinnabula*) could be used as amulets and are also found in graves, often children's graves (*Eckardt/Williams 2018, 193; Simpson 2007, 114–119; Wardle 1981, 354–356*). They were used during cult ceremonies, e.g. in worshipping oriental deities (*Božič 2005, 315; Fugner/Schneider 1993, 168*), ceremonies, feasts, festivities, and also as musical instruments (*Pomberger et al. 2022a, 177*). Bells served as decoration for sacrificial animals but also as offerings to various deities (*Furger/Schneider 1993, 168*).

A cylindrical bell was discovered in the northeast corner of the temple at Magdalensberg, Austria (*Deimel 1987, 325*). From the Roman sanctuary of Jupiter Dolichenus in Brigetio, Hungary, there are known six pieces of “cult” cylindrical bells (Fig. 4: 9), no more than 7 and 8 cm tall, dating back to the beginning of the 3rd century (*Jenő 1998, 99; Ratimorská/Minaroviech 2009, 13, fig. 20*). This type of bells possibly had a magical role even outside Italy, where these too were found in graves – such as in the children's grave No. 17 in Veľký Cetín, Slovakia (*Cheben/Ruttkayová/Ruttkay 1994, 224, fig. 23: 6; Kvetánová 2008, 23*), at the site of Fréjus, Saint-Lambert, France (Fig. 5: 4; *Lattard/Schmitt 2023, 235*), in the marshes of the site of Starzykowo Małe, Poland, and the depot from Havor, Sweden (Fig. 4: 10, 14; *Nowakowski 1994, 138, 139*). Also, a cylindrical bell with an angular handle was part of a religious depot from the area of Mont Beuvray, France (Fig. 4: 6; *Barral/Luginbühl/Nouvel 2012, 175; De Fontenay 1880, 7*).

DATING OF BELLS

Most bells analogical to the Bratislava finds are tentatively dated to the Roman Imperial Period. These are often the finds without the finding context.¹⁵ Although W. Nowakowski tried to classify the individual types chronologically, he only arrived at a broader dating or conclusion that the individual types of bells were used throughout the period of the Roman Imperial Period or as back as the final stage of the Roman Republic (*Nowakowski 1988, 75; 1994, 134*). A narrower chronological delimitation was attempted by D. Božič, who considers pyramidal bells with a polygonal or square base to be of later origin. On the other hand, he classified bells with cylindrical or hemispherical bodies and oval or circular bases as earlier forms (*Božič 2005, 316, 317*). Nevertheless, cylindrical bells with angular handles were among the most typical Roman bells, as they were found throughout the Roman Imperial Period, as evidenced by numerous finds (*Nowakowski 1994, 138*). The earliest analogical cylindrical and hemispherical bells north of the Alps come from the Augustan military camps at Augsburg-Oberhausen (*Hübener 1973, 40, 41, Taf. 9*), Haltern (*Müller 2002, 53, Taf. 56–62*), Oberaden, and Kops Plateau (Nijmegen) dating to before the turn of the centuries, and also from the somewhat later castle in Aislingen (*Ulbert 1959, Taf. 21: 16*). In a broader context, the Magdalensberg bell is dated from the 1st century BC to the 1st century AD (*Deimel 1987, 325, Taf. 86: 6*).

A cylindrical bell with an angular handle also comes from a depot, probably dating back to the last quarter of the 2nd century¹⁶, from the location of Grandes-Tailles à La Comelle, France (*De Fontenay 1880, 7, pl. IV: 13*).

¹⁵ E.g.: <https://www.uibk.ac.at/archaeologien/forschung/arbeitsgemeinschaften/musikarchaeologie/glocken/buntmetall/roemisch/gegossene-glocken-roemisch-14.html> [26. 2. 2024]; https://www.britishmuseum.org/collection/search?keyword=Roman&keyword=bell&object=bell&view=grid&sort=object_name__asc&page=1#page-top [26. 2. 2024]

¹⁶ The bell was found along with bronze sculptures of deities and other religious objects. However, this is an older find with no further context. The depot was unearthed by a worker while quarrying stone in 1878, and two years later, the set was published by

A small, 7cm tall cylindrical bell from Uherský Brod, the Czech Republic, also comes from the second half of the 2nd century (Fig. 4: 8; *Jílek 2008*, 145). Another fragment of a cylindrical bell comes from Blatnice pod Svatým Antonínkem I. The bell is without further chronological classification (*Zeman 2017*, 154). More numerous and significantly younger analogies of cylindrical bells from the late Roman Period are known from sites such as Kladovo (Serbia), the burial site of Mátételke (Hungary), the Tazovo settlement (Ukraine), a grave with a horse from Mojtyny and the marshes in Starzykowo Małe (Poland), as well as from the depot in Havor, Sweden (*Nowakowski 1988*, 75, 98, 100, 103, 106; *1994*, 138, 139).

An analogous smaller hemispherical bell, very similar to the Bratislava find (No. 2), comes from Galia, from a child's grave at the site of Fréjus (Fig. 5: 4). However, the local burials are dated quite broadly, from the end of the 1st century BC to the beginning of the 2nd century AD (*Lattard/Schmitt 2023*, 222–235, fig. 7: D). Hemispherical bells were generally less abundant than pyramidal and cone-shaped *tintinnabula* (*Nowakowski 1988*, 80).

The bells from Bratislava Castle were found above the floor of Roman Building II, in the layer that represents the destruction of Roman Building II. The layer contained late La Tène pottery, fragments of amphorae and a lot of charcoal. Based on the unambiguous finding context, both bells can be dated to the second half of the 1st century BC or the final stage of the settlement of the Bratislava oppidum.

CONCLUSION

Considering the finding context of the two bronze bells at Bratislava Castle (interior of the house, storage area), their utility function can be assumed. The signalling function of the smaller hemispherical bell is indicated by its location near the entrance to the building (from the interior side) and by the proportion of tin in the alloy, providing a more distinctive sound. Even though no more components of a possible wind chime have been found (a chain, suspension mechanism, other bells, etc.), it can be characterised by the established term *tintinnabulum*. Whether the house owner attributed an apotropaic function to the bell cannot be judged.

The interpretation of the function of the large bell is more problematic. Considering the diverse and abundant inventory of the Roman building II with numerous Roman imports not yet comprehensively processed, it cannot be positively said whether the bell was part of the household or a stored piece of goods meant as a trade commodity. Even though various raw materials have been found in the construction of Roman building II, such as brass ingot, lead ingot, gold foils, amber, the so-called Egyptian blue, etc. (*Resutík 2014*), we do not assume the damaged bell was raw material intended for further processing. Moreover, given the size of bell No. 1, we assume notification or signalling purposes. The large cylindrical bell is unparalleled in the (Central) European late La Tène environment; it is even one of the largest of its kind in the area north of the Alps when it comes to the Roman period alone. Due to the finding context, the presented bells can be considered the oldest metal bells in nowadays Slovakia and its wider surroundings. At the same time, they represent other notable imports in Bratislava oppidum.

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Dva rímske zvony (*tintinnabula*) z Bratislavského hradu

Katarína Harmadyová – Juraj Kucharík – Branislav Resutík

Súhrn

Predmetom príspevku sú dva kovové zvony z výskumu v priestore severnej terasy na Bratislavskom hrade. Nachádzali sa na podlahe v interiéri tzv. stavby Rím II. V kontexte nálezov z Bratislavy sa v príspevku zaoberáme typológiou, materiálovým zložením, funkciou a chronológiou rímskych zvonov, pochádzajúcich z oblasti mimo Stredomoria. Väčší bratislavský zvon (č. 1) klasifikujeme ako cylindrický zvon s kruhovo-oválnou základňou a masívnym päťuholníkovým uchom. Fragment menšieho zvončeka (č. 2) patrí k zvonom polguľovitého tvaru s okrúhľou základňou a okrúhlym uškom. Analýza XRF ukázala, že boli zhotovené (č. 1) z olovnateho bronzu a (č. 2) z cínového bronzu s prímiesou olova (tabela 1).

Je otázne, či môžeme zvonom nájdeným na akropole bratislavského oppida pripisovať rovnaký význam a funkciu, akú plnili v rímskom prostredí. Všeobecne sa zvony nachádzajú vo vojenskom i civilnom prostredí, v svetských i sakrálnych priestoroch, v domoch, na uliciach, pri cestách, v chrámoch, dielnach, odpadových jamách, priekopách, depotoch, hroboch a pod. Cylindrické zvony možno označiť aj ako tzv. „konské zvony“, najmä podľa nálezov z augustovských vojenských táborov severne od Álp. V tábore v Haltern sa považujú jednoznačne za súčasť vojenského konského postroja, kde spolu s falickými a lunicovými záveskami plnili dekoratívnu a apotropajnú funkciu. Okrem koní sa zvony a zvončeky dávajú do súvislosti s ťažnými zvieratami, ovcami, kozami, dokonca ošpanými a psami. Slúžili na identifikáciu pohybu zvierat a ich ochranu pred predátormi.

Zvony mali tiež signalizačnú funkciu, oznamovalo sa nimi otváranie a zatváranie verejných kúpeľov, trhov a pod. Menšie polguľovité zvončeky (*tintinnabula*) mohli slúžiť aj ako amulety a vyskytujú sa taktiež v hroboch, často detských. Využívali sa počas kultových obradov, napr. pri uctievaní orientálnych božstiev, pri ceremóniách, hostinách, slávnostiach a tiež ako hudobné nástroje. Vzhľadom na nálezové okolnosti zvonov na Bratislavskom hrade (interiér domu, skladový priestor), možno predpokladať skôr ich utilitárnu funkciu. Či boli zvony súčasťou domácnosti, alebo išlo o uskladnený obchodný tovar nemožno posúdiť. Veľký (20,3 cm) cylindrický zvon nemá zatiaľ v (stredo)európskom neskorolátenskom prostredí obdobu a aj v rámci rímskeho obdobia patrí k najväčším zvonom svojho druhu v oblasti severne od Álp. Na signalizačnú funkciu menšieho polguľovitého zvončeka poukazuje miesto jeho nálezu v blízkosti vstupu do stavby (z interiérovej strany), ako aj podiel cínu v zliatine, zabezpečujúci výraznejší zvuk. Aj keď sa nenašli ďalšie súčasti prípadnej zvonkohry, môžeme ho charakterizovať zaužívaným termínom *tintinnabulum*.

Väčšina analogických zvonov k bratislavským nálezom je datovaná iba rámcovo do doby rímskeho cisárstva. Často ide o nálezy bez nálezového kontextu. Najstaršie analogické cylindrické a polguľovité zvony severne od Álp pochádzajú z augustovských vojenských táborov v Augsburg-Oberhausen, v Haltern, Oberaden a Kops Plateau (Nijmegen) z obdobia pred prelomom letopočtov. Do širšieho rámca sú datované zvony napr. z Magdalensbergu, Fréjus a i. Zvony z Bratislavského hradu sa našli nad podlahou stavby Rím II, v deštručnej vrstve, ktorá obsahovala tiež neskorolátensku keramiku a fragmenty amfor. Obidva bratislavské zvony môžeme na základe jednoznačnej nálezovej situácie datovať do druhej polovice 1. storočia pred. Kr., resp. do záverečnej fázy osídlenia bratislavského oppida. Nálezy považujeme za najstaršie kovové rímske zvony na území Slovenska, ale aj v širšom okolí.

Obr. 1. Bratislavský hrad. Zvony zo stavby Rím II. 1 – zvon č. 1; 2 – zvon č. 2 (foto S. Okkel, kresba L. Kováčik).

Obr. 2. Bratislavský hrad. Poloha stavby Rím II a nálezov zvonov (grafika S. Gabura, upravené podľa *Haberland/Horanský 2014*; zdroj OpenStreetMap).

Obr. 3. Zvon č. 1. 1 – predná strana; 2 – zadná strana; 3 – RTG snímka zvonu; 4 – stopy opracovania pilníkom; 5 – detail kruhovej základne uška; 5 – prasklina zvona. Bez mierky.

Obr. 4. Cylindrické bronzové rímske zvony (výber). 1 – Haltern (*Müller 2002*); 2 – Aislingen (*Ulbert 1959*); 3 – Augsburg-Oberhausen (*Hübener 1973*); 4 – Kempten (*Flügel 1993*); 5 – Bratislava; 6 – Mt. Beuvray (*De Fontenay 1880*); 7 – Magdalensberg (*Deimel 1987*); 8 – Uherský Brod (*Jílek 2008*); 9 – Brigetio (*Ratimorská/Minaroviech 2009*); 10 – Havor (*Nowakowski 1994*); 11 – Augst (*Furger/Schneider 1993*); 12 – Matételke; 13 – Mojtyny, 14 – Starzykowo Małe (12–14 *Nowakowski 1988*, bez mierky). Grafika S. Gabura.

Obr. 5. Polguľovité bronzové rímske zvony. 1 – Hortobagy (*Nowakowski 1988*); 2 – Bratislava; 3 – Savaria (*Pomberger et al. 2021*); 4 – Fréjus (*Lattard/Schmitt 2023*, bez mierky). Grafika S. Gabura.

Tabela 1. Výsledky merania XRF.

Mgr. Katarína Harmadyová, Ph.D.
Slovenské národné múzeum
Vajanského nábrežie 2
P. O. BOX 13
SK – 810 06 Bratislava
katarina.harmadyova@snm.sk
<https://orcid.org/0009-0006-3002-4822>

Mgr. Bc. Juraj Kucharík, Ph.D.
Slovenské národné múzeum
Vajanského nábrežie 2
P. O. BOX 13
SK – 810 06 Bratislava
juraj.kucharik@snm.sk
<https://orcid.org/0000-0001-5327-0045>

Mgr. Branislav Resutík
Mestský ústav ochrany pamiatok Bratislava
Uršulínska 9
SK – 811 01 Bratislava
resutik@gmail.com

UNLOCKING ANCIENT CRAFTSMANSHIP

The Pear-shaped Pendant or Decorative Pin from the Gbely-Kojatín (Slovakia) Roman Period Burial Ground¹

Katarína Hladíková – Barbara Ritterová – Marek Hladík – Erika Makarová –
Peter Bisták

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Keywords: Gbely-Kojatín, Barbaricum, Roman Period, pear-shaped pendant, SEM-EDS, 3D digital microscopy, filigree, electrum

Abstract: Pear-shaped pendants/pins and their occurrence in Barbaricum during the Roman Period represent an interesting phenomenon that has received minimal attention in terms of research on the technology of their production. Fragments of a pear-shaped pendant/pin from the burial ground at Gbely-Kojatín (2nd–4th century) were analysed using non-invasive imaging techniques such as pXRF and EDS, as well as 3D digital microscopy, to identify their chemical composition and the technological manufacturing processes. The results indicate the use of electrum as the material for their production and also reveal specific technological steps involved in their manufacturing process, indicating a high level of craftsmanship.

INTRODUCTION

A systematic detector prospection of the Gbely-Kojatín cremation burial ground, dated to the Roman Period (Hladík/Hladíková/Červík 2023), discovered two fragments of a pear-shaped pendant/pin (?) among the metal finds. The burial ground where the fragments were found is tentatively dated, based on partially processed finds, to the 2nd extending into the 4th century. Pear-shaped pendants/pins are artefacts associated with a higher social status in the Roman Period and are most often found in women's graves, indicating their association with the female gender. They were mostly made of precious metals such as gold or silver, or they could be gilded silver (Dragonidesová 2022, with further references). There is also evidence that they were made of electrum (Natuniewicz-Sekuła 2017, 190; Walenta 2009, 216). Finds of pear-shaped pendants have been documented across the broader region of the Barbaricum. They are found in higher concentrations in the region of the southwestern coast of the Baltic Sea and in Scandinavia (Müller 1956, 109–112; Schmidt 2001, 140–142; Schuster 2018, 160–163). A. von Müller (1956; 1957) documented their distribution primarily in Denmark and Bronholm, extending to north-western Germany, the northern part of the central German region, and Poland. The occurrence of pear-shaped pendants from the Roman Period in Slovakia was recently studied by P. Dragonidesová (2022, with further references; Rajtár 2013), who identified a total of six sites with pendants or their fragments. She summarised and updated their occurrence in archaeological contexts, typological classification and dating, her typological classification primarily drawing on the works of A. von Müller (1956; 1957). These sites were supplemented by an unpublished find from Tvrdosovce (Bazovský, *in press*), Rankovce (Gašaj/Rákoš 2015) and the fragments of a pendant/pin from the Gbely-Kojatín burial ground discussed in this article.

The pear-shaped pendants were typically made of two parts forged from sheet metal to achieve their distinctive pear shape, from which they derived their name. Their surface was decorated with braided filigree wires, granulation, or other decorative techniques. The use of fine filigree as a jewellery technique, combined with precious metals, shows the high level of craftsmanship and the high value of the artefact as the fine filigree requires very specific skills and know-how (Liu *et al.* 2022). The tradition of using filigree as a decorative

¹ Archaeological surveys and fieldwork were funded by the Ministry of Culture of the Slovak Republic under a project “Prioritný projekt (08T 0103), Dokumentačná a informačná činnosť, Pamiatkové výskumy Pamiatkového úradu SR” in 2020–2022. This work was supported by the Slovak Research and Development Agency under the Contract No. APVV-23-0299 as well by RVO: 68081758 – Czech Academy of Sciences, Institute of Archaeology, Brno.



Fig. 1. Location of the Gbely-Kojatín burial grounds in the cadastre of the town of Gbely. Legend: 1 – burial ground from the Roman Period; 2 – early medieval burial mounds; 3 – watercourses.

technique dates back to the 3rd millennium BC in Mesopotamia (Duczko 1985, 15). Filigree, as a modern term, encompasses various techniques including wire and tube production, drawing, twisting, beaded, and notched wire manufacture (Schwarcz/Varga 2010, 210). Filigree and granulation techniques were extensively used in jewellery across the Middle East, Egypt, and ancient Greece and Rome, with their production reaching its peak in Etruria (Duczko 1985, 15; Liu *et al.* 2022; Natuniewicz-Sekuła 2017, 190). Filigree became a prominent decorative element among Hellenistic jewellery craftsmen in the 4th century BC. They were primarily based in the Black Sea region and in southern Italy. From there, both their products and know-how spread to Scandinavia, which has a significant concentration of finds, as well as to the region of Poland (Duczko 1985, 15; Müller 1956; Nylén 1968). The pear-shaped pendants and miniature amphorae from the 1st and early 2nd centuries found in the northern Black Sea region exhibit striking similarities in shape (Droberjar 2011, 27).

ARCHAEOLOGICAL CONTEXT

The cremation burial ground from the Roman Period is located on the northern edge of the river terrace of the Morava River, approximately 165 m above sea level. It is located in the cadastre of the town of Gbely, at the confluence of the streams Gbelský and Unínský (Fig. 1; 2). The river terrace in this area gently slopes

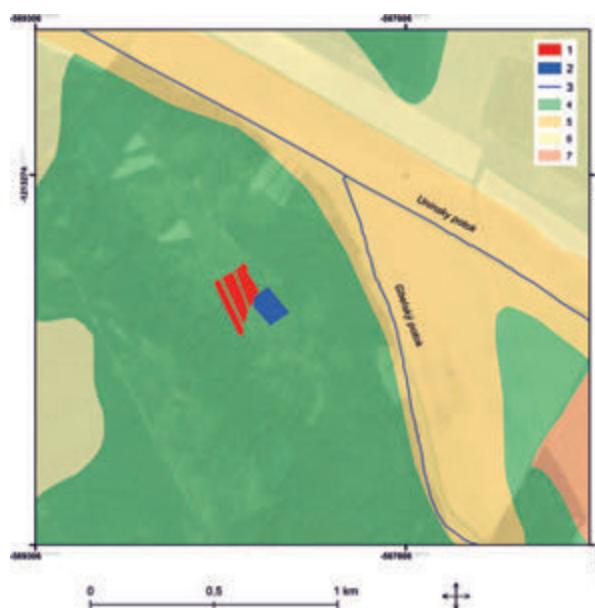


Fig. 2. Location of the Gbely-Kojatín burial grounds on the edge of the river terrace of the River Morava, at the confluence of the streams Unínský and Gbelský. Legend: 1 – burial ground from the Roman period; 2 – early medieval barrow; 3 – watercourses; 4 – aeolian sediments: fine-grained wind-blown sands (non-calcareous, calcareous); 5 – fluvial sediments: lithofacies undivided floodplain clays, or sandy to gravelly clays of valley floodplains and the floodplains of mountain streams; 6 – fluvial sediments: sandy gravels and gravels of lower middle terraces; 7 – proluvial sediments: clayey to sandy-clayey gravels to residual gravels with rock fragments in medium alluvial cones.

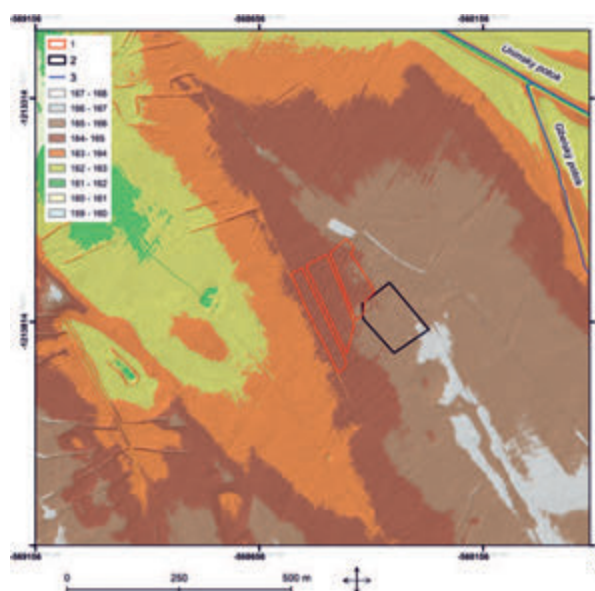


Fig. 3. Hypsometric map of the surroundings of the Gbely-Kojatín burial ground (source of LLS data: ÚGKK SR). Legend: 1 – burial ground from the Roman period; 2 – early medieval burial mounds; 3 – watercourses.



Fig. 4. Aerial view of Roman Period burial ground in 2021, after tree felling and subsequent tree planting (photo by M. Vlach). Delimitation of excavated polygons 1–3.

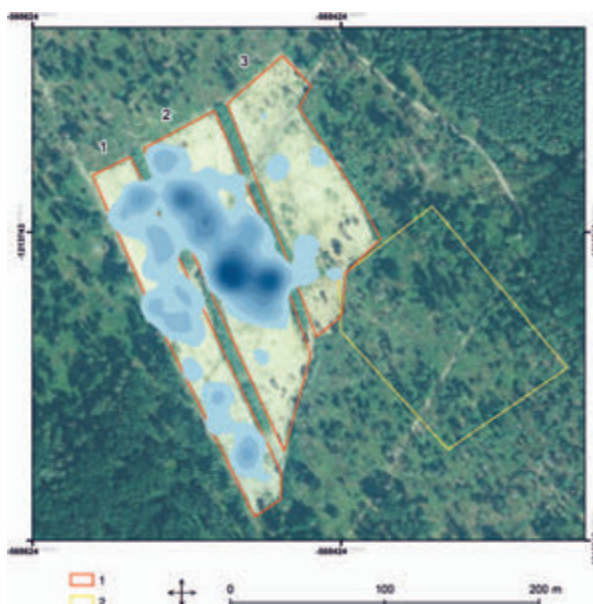


Fig. 5. Results of detector prospecting – interpolated surface density of metal artefacts at the Roman period burial ground site. Legend: 1 – site of the burial ground from the Roman period; 2 – site of early medieval burial mounds.

downwards towards the west. The burial ground lies on a slight elevation (Fig. 3). The burial ground is in the immediate vicinity (western edge) of an early medieval mound site (*Hladík/Hladíková/Červík* 2023). Currently, the area is covered by a managed pine forest. The cremation burial ground from the Roman Period was significantly disturbed by forestry activities in 2020 (Fig. 4). As part of the research strategy, the first step involved surface prospecting of the burial ground, conducted by the Monuments Board of the Slovak Republic in collaboration with the Institute of Archaeology of the Academy of Sciences of the Czech Republic in Brno and the Department of Archaeology at the Faculty of Arts at Comenius University in Bratislava. In 2021, a systematic surface survey using the collection method in section lines (*Kuna et al.* 2004, 327) was conducted across the entire area of the Roman Period burial ground. It was followed by a magnetometric survey (*Felcanová* 2021) and a systematic detector survey, conducted in cooperation with OZ Hradiská and Archeo Moravia, z. s., which surveyed the entire burial ground and the surroundings of the early medieval mounds (covering 2.4 hectares; Fig. 5).

The prospecting revealed the extent of destruction of the burial ground by forestry activities. The prospecting located *in situ* graves, which were examined by probes in 2021 and 2022 (Fig. 6). Despite the significant disturbance of the burial ground, the concentration of these finds indicates the approximate layout of the graves and the distribution of various types of artefacts at the burial ground. Fragments of a pendant/pin were found in Area 2 (Fig. 6) in two locations, two meters apart. Technological analysis (see below) showed that these fragments made up a single item originally deposited in one of the graves.

The primary objective of the article is to present and evaluate a new find of a pear-shaped pendant/pin? in the context of material composition analysis, technological procedures, and traceological/use-wear traces.

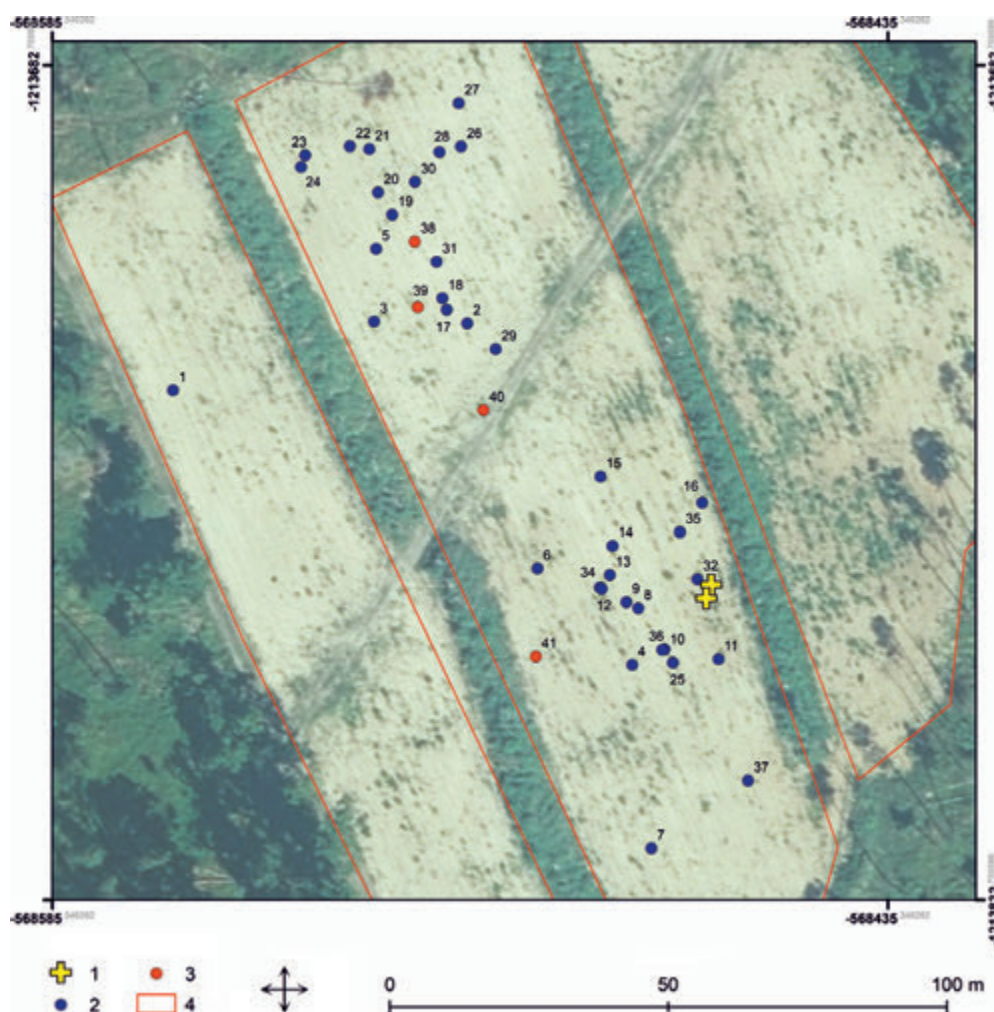


Fig. 6. General plan of the burial ground with the location where the pendant was found. Legend: 1 – pendant; 2 – graves examined in 2021; 3 – graves examined in 2022; 4 – excavated polygons.

DESCRIPTION OF THE ARTEFACT

Fragment No. 1 (Fig. 7): a damaged fragment, probably of the upper hemispherical part made of forged sheet metal shell, with a filigree braided wire/braid fixed to the surface. The decoration consists of preserved 28 rows of filigree braided thin wires of different widths. The worked edge marking the end of this part of the pendant is clearly visible from the inside. The top of the fragment features a distinct rim that marks the end of the artefact. Molten parts of the fragment suggest that it was placed in a pyre.

Dimensions: height 10 mm; width 14 mm

Sheet thickness: 92.95–163.33 μm

Weight: 0.79 g

Fragment No. 2 (Fig. 8): a damaged fragment that made up a single artefact with Fragment No. 1. Fragment No. 2 was made of a forged metal shell with filigree decoration identical to Fragment No. 1. The back of the sheet is not visible due to the deformation of the object. The edges of the sheet are deformed by heat. There is an unidentifiable black residue on both sides of the fragment.

Dimensions: height 10 mm; width 8 mm

Weight: 0.4 g

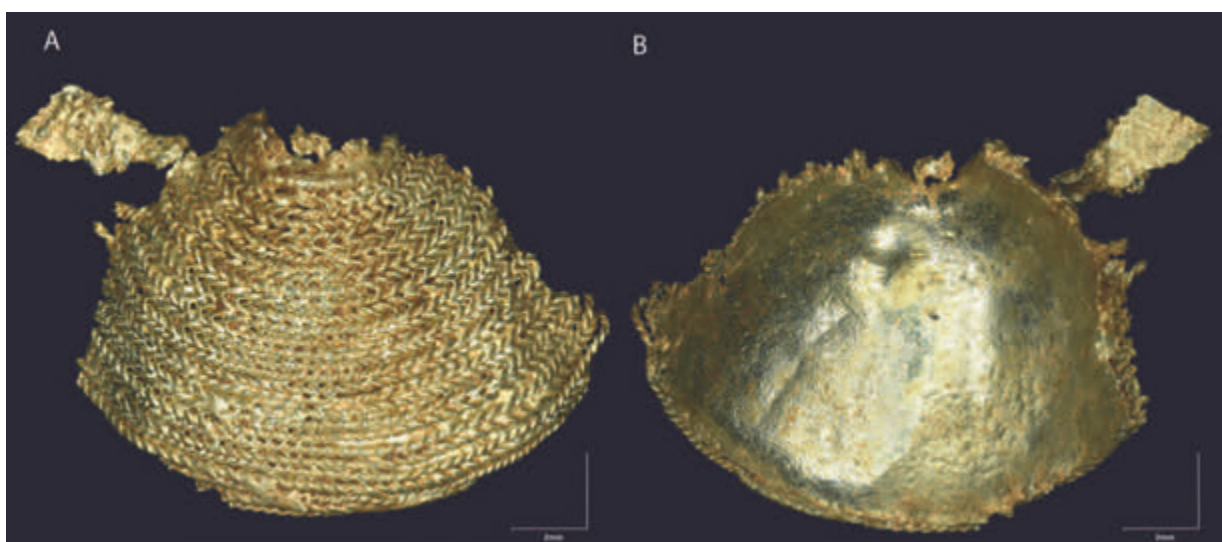


Fig. 7. Fragment No. 1 of pear-shaped pendant/pin. A – frontal view; B – back view.

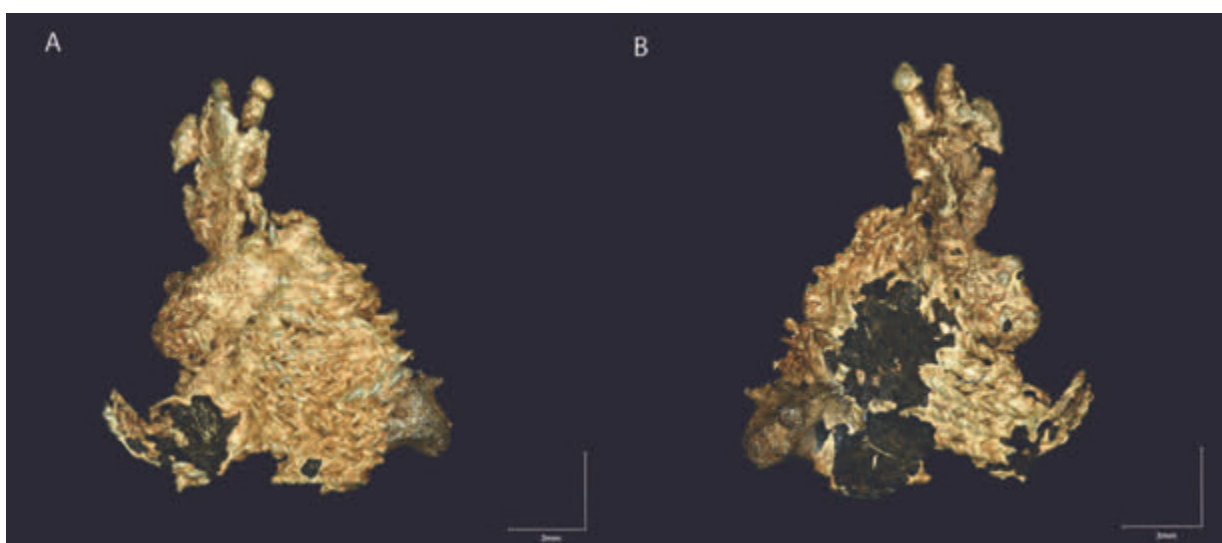


Fig. 8. Fragment No. 2 of pear-shaped pendant/pin. A – frontal view; B – back view.

TYPOLOGICAL AND CHRONOLOGICAL CLASSIFICATION

Given the hemispherical shape of the larger fragment, we assume it represents the upper part of a pear-shaped pendant/pin (?), classified as type III according to *A. von Müller* (1956). If the item was a pin (*Andersson* 1993, 12), it may be classified as subgroup VIIa according to *B. Beckmann* (1966). A type III pendant and a subgroup VIIa pin head consist of two parts: the upper hemispherical part, often formed by braided filigree wires fixed to a sheet metal base, and the lower, more conical part, which, however, has not been preserved in this case. They were made of different types of material: gold, silver, and electrum. Type III pendants started to appear in the second third of the 1st century (*Müller* 1956, 98, 99). Finds of pear-shaped pendants in Slovakia come mainly from burial grounds. Most graves with pear-shaped pendants are dated to the B2/C1 phase (*Dragonidesová* 2022; *Rajtár* 2013, 140). Macroscopic observation suggests that they were made of gold or silver, although this requires verification. Most finds from surface prospection and graves at the Gbely-Kojatín burial ground are preliminarily dated to the 2nd–4th centuries. As a result, this pendant/pin? may originate from a grave dated to the B2/C1-C1a phase, an assumption that can no longer be verified.

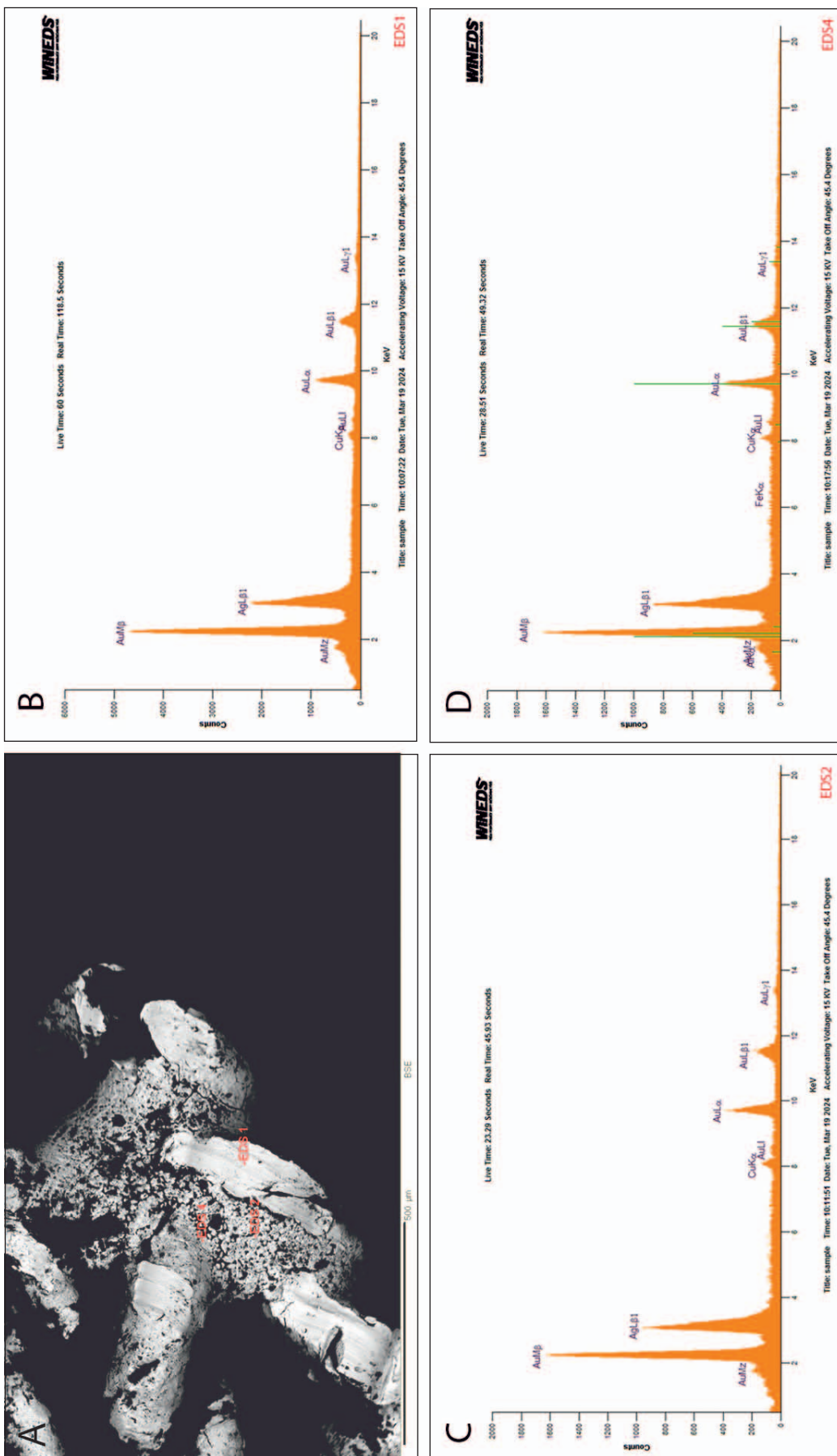


Fig. 9. Fragment No. 1. BSE image and EDS spectra. A – BSE image of twisted wires; B – EDS1; C – 0150 EDS2; D – EDS4.

Table 1. Elemental composition of fragments based on the pXRF surface analysis.

Index	Mode	Duration	Units	Fragment	Sample	Note	Sb	Sn	Ag	Bi	Pb	Se	Au	Cu	Fe	Mn
1	General Metals	31.26	%	no. 1	back side	before cleaning	–	0.686	45.748	0.138	–	–	49.862	2.767	0.567	–
2	General Metals	32.01	%	no. 1	front side	before cleaning	0.096	0.651	43.947	0.16	–	–	50.434	1.976	2.077	0.305
3	General Metals	30.38	%	no. 2	side with black colored area	before cleaning	–	2.231	42.478	0.162	0.137	–	52.197	1.259	1.284	–
4	General Metals	30.21	%	no. 2	side without black colored area	before cleaning	0.097	0.418	43.459	0.132	–	–	51.256	1.418	2.202	0.378
5	General Metals	30.51	%	no. 1	back side	after cleaning	–	–	46.816	0.203	–	0.772	48.558	2.632	0.626	–
6	General Metals	30.95	%	no. 1	front side	after cleaning	0.2	0.685	50.06	0.219	–	0.321	45.508	1.946	0.355	–
7	General Metals	30.69	%	no. 2	side with black colored area	after cleaning	0.098	0.421	40.725	0.135	0.114	–	56.503	1.206	0.411	–
8	General Metals	30.66	%	no. 2	side without black colored area	after cleaning	0.092	1.932	45.022	0.117	–	–	49.906	1.625	0.801	0.172

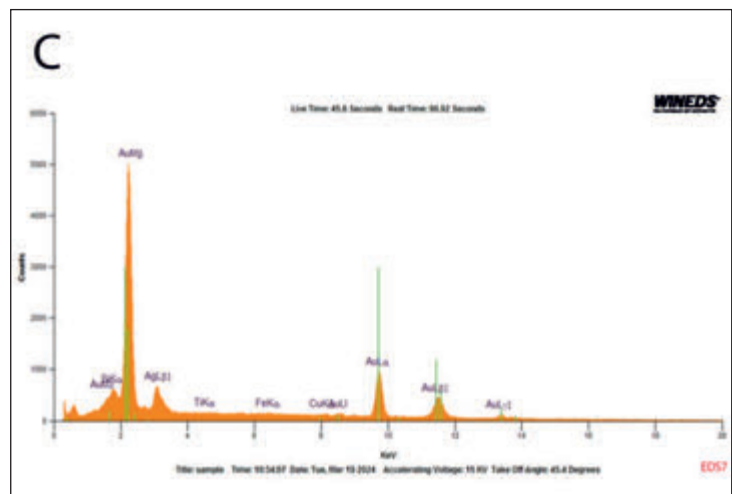
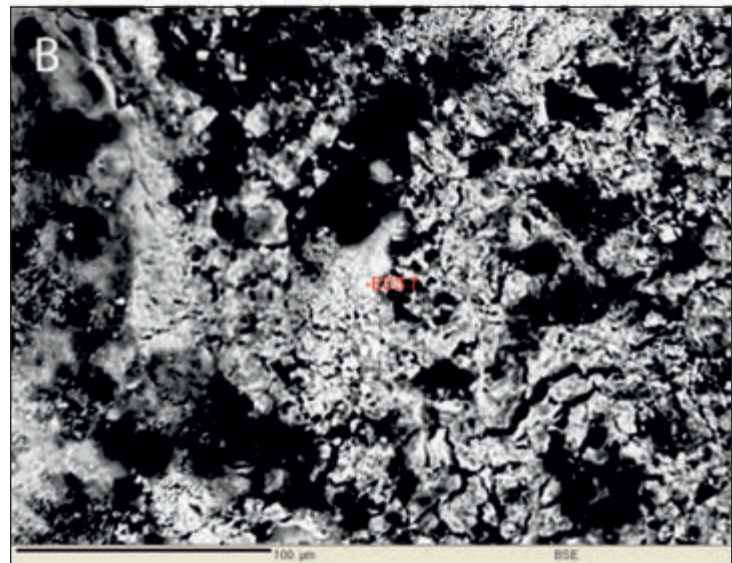
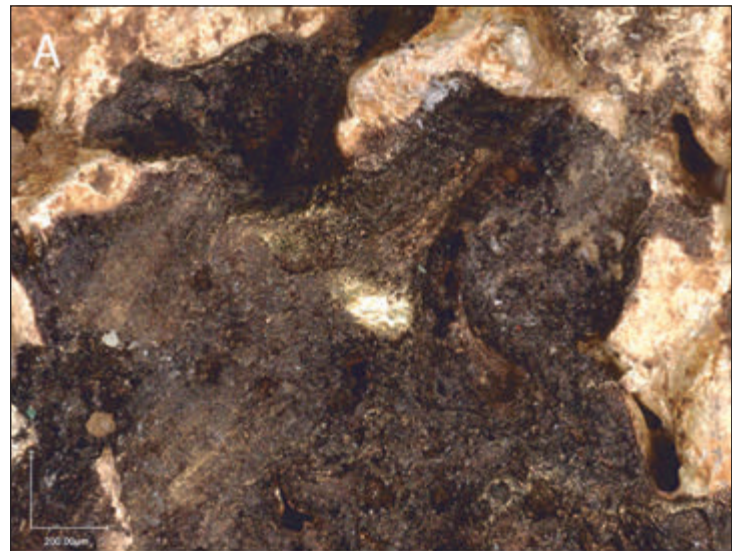


Fig. 10. Fragment No. 2. Black coloured area. A – digital image; B – BSE image; C – EDS spectra.

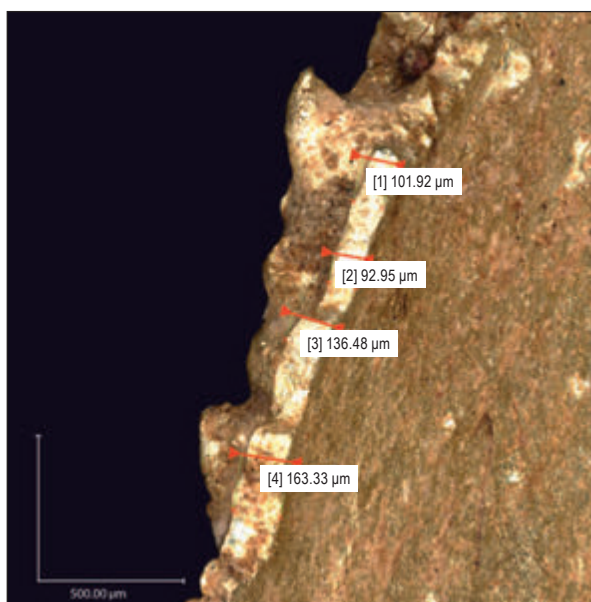


Fig. 11. Fragment No. 1. Digital measurement of the thickness of metal sheet – edge of the metal sheet.

Material and Methods

The elemental composition was identified by portable X-ray fluorescence (pXRF) analysis using a NITON XL3t GOLDD+ handheld X-ray analyser (Thermo Fisher Scientific, Niton, USA). The measurement was carried out on the surface of both fragments from their outer and inner sides. The duration of each measurement was 30–32 seconds. The measured values were expressed as a percentage and only took into account metal elements.

To more accurately determine the elemental composition of the parts of fragments, an energy dispersive spectroscopy (EDS) was conducted using a CAMECA SX 100 electron microanalyser with PeakSight control software in the MS Windows environment. The advantage of EDS analysis is its ability to identify most elements of the periodic table, from boron to uranium, down to ppm concentrations, while the composition measurement takes place at a selected point with a size of only a few microns. The measurement points were selected to provide maximum information about the craftworking of the fragments. The EDS analysis was supplemented with image outputs of the elements present in the analysed section, displayed as backscattered electron (BSE) images. The image is expressed by the contrast of the materials based on their average atomic number, i.e. the higher the atomic number of the element, or the heavier the element, the brighter the contrast.

Visual examination of both fragments was conducted using a VHX-7000 3D digital microscope

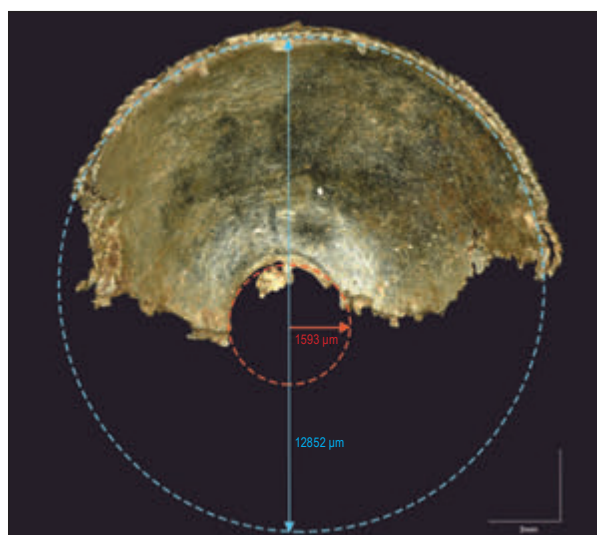


Fig. 12. Fragment No. 1. Digital measurement of the top and bottom edges and digital reconstruction of the original perimeter of the fragment's base.

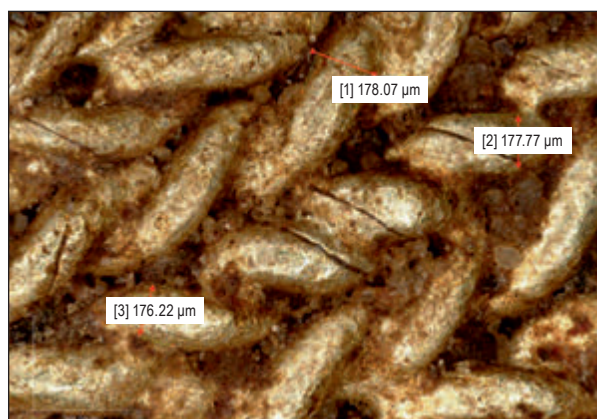


Fig. 13. Fragment No. 1. Digital measurement of the wire thickness – identification of s. c. seamline, sheet metal strip twisting.

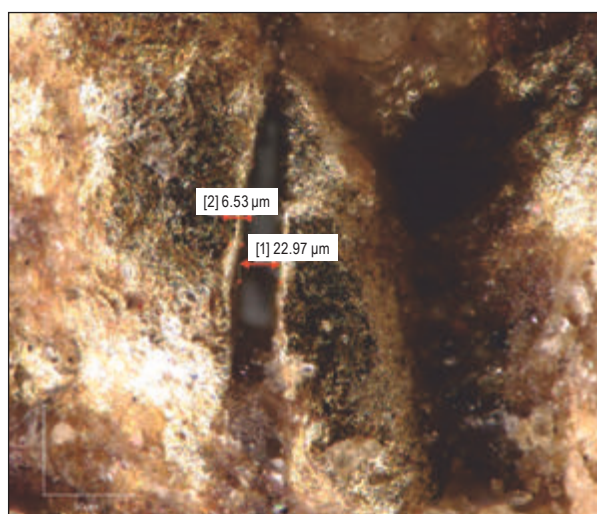


Fig. 14. Fragment No. 1. Digital measurement of the wire of twisted sheet metal strip – width of the seamline and thickness of sheet metal strip.

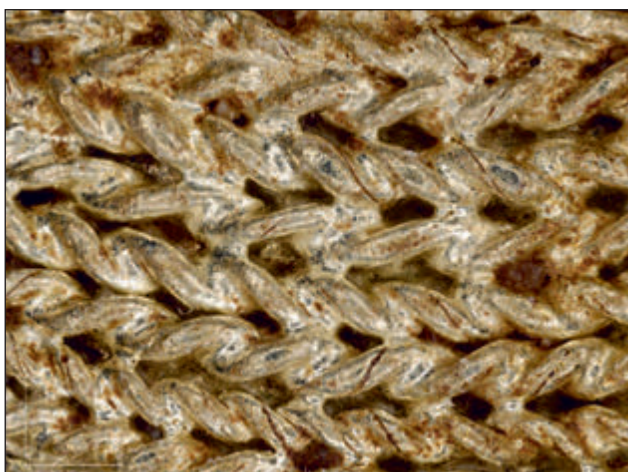


Fig. 15. Fragment No. 1. Digital image of braid pattern of twisted wires.

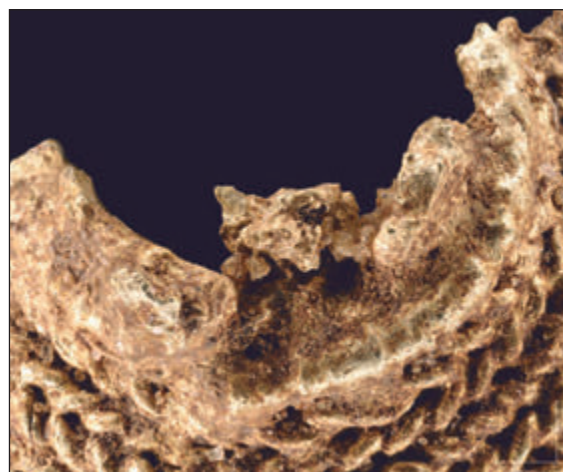


Fig. 16. Fragment No. 1. Digital image of damaged beaded wire on the top.

with VH-Z20R and VH-Z100UR objectives (Keyence). The objects were observed under visible light using zoom ranging from 50× to 1000×. Due to the shiny metal material of the objects, circular lighting combined with an adapter featuring a polarizing filter was necessary to eliminate reflections from their surfaces. The variable lighting adapter highlighted the profile of the objects and their minor surface irregularities, such as mechanical damage, traces of working or surface deposits. In addition to using standard lighting, the object profiles were also observed under an optical shadow effect in a monochromatic scale. This technique enhances surface readability by creating an image composed of several images of objects taken from different angles of side lighting. To facilitate the interpretation of height differences in the object profiles, this mode was supplemented with a display using the basic colour scale. The results of the observation were digitally recorded by sequential imaging. The outputs of the sequential imaging were supplemented with a graphic record of 2D measurement of multiple points on the objects and 3D measurement of the outline of their surface.

Crafting Process of the Artefact

The crafting of pear-shaped pendants or pins (heads) involves the application of fine filigree and other elements, such as granulation, on a sheet metal base. This technique is demanding and we illustrate the process using a find from Gbely-Kojatin.

As mentioned above, the artefact was preserved in two fragments. These fragments consist of a base sheet formed by forging, with filigree wires applied to the outer surface. The results of both pXRF and EDS analyses showed that the sheet metal and filigree wires were made of the same material: electrum, an alloy of gold and silver with admixtures of other metals, especially copper (Fig. 9; Table 1). The EDS analysis of Fragment No. 2 identified a section with a different composition, primarily gold, in the area with black residue (Fig. 10).

Optical microscopy measurements allowed for an approximate determination of the sheet thickness, which ranges between 92.95 and 163.33 µm (Fig. 11). The sheet was forged into a hemispherical shape. The estimated diameter of the base of the hemispherical part is 12.9 mm (Fig. 12). An opening is forged from inside the upper part of the dome, with the original diameter estimated at approximately 3.2 mm (Fig. 12).

The wires were made of thin sheet metal strips, which were rolled and then likely refined to the desired thickness using two drawplates or wire-drawing dies. The wires, as measured from the viewing side, have a width of approximately 177 µm (Fig. 13). The original thickness of the sheet from which the wires were made is unknown, as the technique used precludes retrospective identification after it has been thinned to the required thickness. Only the visible edge was measured, reaching approximately up to 10 µm (average across multiple measurements of visible edges). The method of rolling the sheet metal strip is inferred from the seamlines identified using an optical microscope (opening: 22.97 µm, Fig. 14). The wires were twisted in two ways: clockwise and counterclockwise. They were placed horizontally on the base next to each other, forming a distinctive braid pattern (Fig. 15). This suggests that each row of braided filigree wires was laid separately,

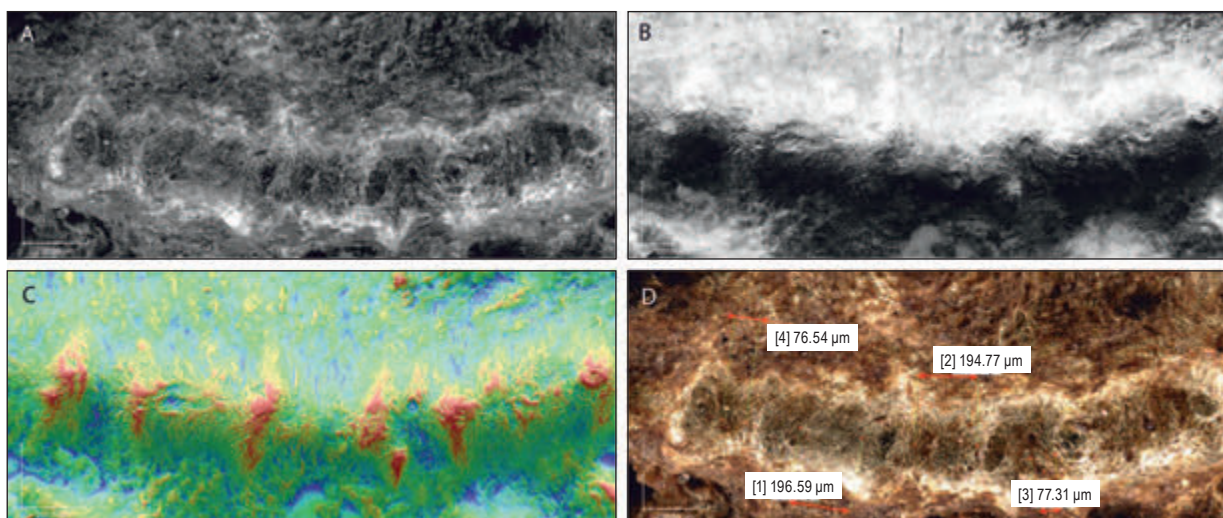


Fig. 17. Fragment No. 1. Visualisation of beaded wire. A – BW image; B – Shadow Effect image; C – Colour Map image; D – identification of bead pattern.

rather than in a spiral. The filigree braided wires were fixed to the sheet metal base. It is unclear whether an organic adhesive was used to fix filigree wires, as it degrades at high temperatures (Schwarcz/Varga 2010, 212, 213). It is assumed that flux was used to fix the filigree to the surface of the sheet (Tănase 2021, 158), though this could not be confirmed using the applied analytical methods. The shell structure was formed by joining two parts. The top of the upper part had a hem made of beaded wire (Fig. 16). The beaded wire is significantly damaged and was identified by optical microscopy visualisation (Fig. 17). As the nature of the fragments prevented the exact measurement of the dimensions of the beaded wire, approximate measurements were made from the viewing side. The beads are approximately 103 µm long and 246 µm wide. The area without beads is 164 µm wide. The spacing between beads follows a pattern with alternating widths of 76–195–195 µm (Fig. 17). The assumed radius of the circle formed by the beaded wire was 2052.37 µm (Fig. 18).

The artefact could have been fragmented by intensive forestry activities, although initial damage likely occurred during the cremation process. Cremation temperatures at funeral pyres ranged between 800–900 °C, potentially exceeding 1000 °C (Mays 2021, 312). Analyses of burned human bones (FTIR, histotaphonomic analysis, etc.) at the Gbely-Kojatín burial ground showed that the bones were fully calcined (above ca. 700 °C; Hladíková *et al.*, *in press*). The high temperature acting on the air in a closed hollow space could have fractured the artefact (Ottenwelter *et al.* 2020). Finds of pear-shaped pendants from Očkov and Sekule exhibit traces of heat damage, which shows that they were also placed on funeral pyres (Dragonidesová 2022, 347).

Further research and reconstruction of the crafting process require analyses of a larger number of pear-shaped pendants.

DISCUSSION

Pear-shaped pendants or their fragments from Slovakia have been found at multiple sites across the Záhorie region (Sekule, Zohor, Gbely-Kojatín), in the Lower Váh region (Abrahám, Očkov, Sládkovičovo, Tvrdošovce), Žitný ostrov region (Hamuliakovo), and in the Hron region (Želiezovce) and from the area of eastern

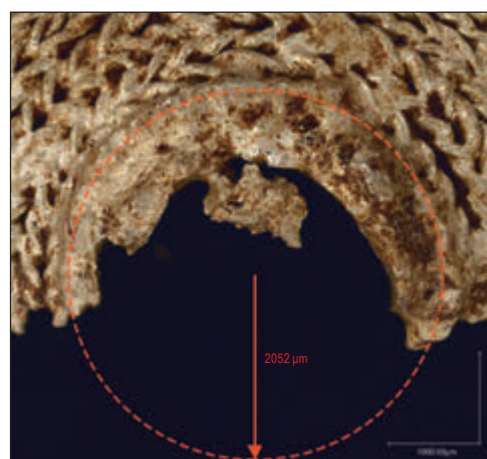


Fig. 18. Fragment No. 1. Digital measurement of beaded wire and digital reconstruction of the original perimeter of the beaded wire.

Slovakia – Rankovce (burial ground), which already belongs to the East Germanic cultural area.² According to the current state of research, they were most frequently documented in the Záhorie region at burial grounds along the Amber Road. However, verifiable hypotheses about their origin or distribution cannot be proposed due to their low count and the state of their research. Pendants from Slovak sites are predominantly dated to the B2/C1 phase, which is likely due to their influx during the Marcomannic Wars from the Przeworsk culture area mediating the cultural influence of the Wielbark culture area – *barbari superiores* (Andrzejowski 2001, 70; Droberjar 2015; Droberjar/Motyková 2023; Godłowski 1984). The hypothesis proposing a migration of larger population groups from the Przeworsk culture area along the Amber Road and other routes is supported primarily by the nearly identical material content of graves at burial grounds in the Záhorie region (e.g. Sekule – Iván/Ölvecký/Rajtár 2019; Rajtár 2013, 149).

Pear-shaped pendants/pins are reported in the literature to be made of gold or silver (for a summary, see Dragonidesová 2022; Rajtár 2013). However, the determination of the material composition of Slovak finds relies solely on macroscopic observation which requires future verification, as shown by the find at Gbely-Kojatín. In addition to the pendant/pin found from Gbely-Kojatín, *electrum* has been identified as the material used for pear-shaped pendants found at Wielbark culture burial grounds, in particular at the sites Wekllice in grave No. 544 (Au : Ag – 39.84% : 51.21%) and Leśno in grave: No. 33 (Au : Ag – ca. 50.22% : 35.26%; Natuniewicz-Sekuła 2017, 190; Walenta 2009, 216). The use of electrum was also identified in the crafting of a spherical pendant analysed using pXRF, originating from the Polish site (Wekllice, site 7, grave No. 26B; Natuniewicz-Sekuła 2017, 190).

Electrum is an alloy that in antiquity was extracted from ore veins and river or riverside deposits, and it could be further refined (Keyser/Clark 2001, 105, 106). Ancient written accounts, such as those by *Pliny the Elder*, mention the production of electrum by adding silver to gold (*Naturalis Historia* 33, 23, 799). Based on the gold-silver ratio of the artefacts from the Gbely-Kojatín, Wekllice and Leśno burial grounds, it is assumed that this electrum was likely supplemented with refined silver rather than occurring naturally (note: natural electrum typically has less than 30% silver). Additionally, artefacts from the Gbely-Kojatín and Wekllice sites contain copper levels exceeding 1%, indicating the presence of added copper in the alloy (Keyser/Clark 2001, 105, 106). The chemical composition indicates the use of a refined electrum alloy.

Imports from the Roman Empire are considered the primary sources of gold and silver during the Roman Period Barbaricum (Andersson 1997; Rajtár 2013, 128; Siegmund 1998, 308). However, whether the product was made in the Barbaricum from these sources or imported as a finished product remains an open question. Theories of local origin were challenged by K. Andersson (1997) based on an analysis of the filigree wire crafting. The filigree wires from the later period when the crafting of filigree and granulation was fully established in Scandinavia indicate a different crafting process for filigree wires on pendants compared to that in the Early Roman Period, which does not suggest continuity of this older tradition (Duczko 1985, 15). The crafting of filigree in Scandinavia started to appear in the Late Pre-Roman Iron Age and especially in the Early Roman Iron Age (Duczko 1985, 15; Müller 1956). However, the crafting process shows links to the crafting tradition in the Hellenistic world, suggesting a transmission of techniques to northern Europe. The morphological similarity of pear-shaped pendants and miniature amphorae of the 1st and early 2nd centuries from this region, and other types of pendants (Droberjar 2011, 27) also indicates links with the northern Black Sea region in the Roman Period.

K. Andersson (1997) explains the spread of the craft by direct contact between Nordic craftsmen and non-local goldsmiths who transferred this know-how and skills to them. A. von Müller (1956, 99) does not propose a single crafting centre from which products were distributed. To identify potential workshops or jewellers, it is essential to conduct a detailed analysis of the crafting process of these products on a broader scale, which could contribute to the development of a theory about the origins or influences of crafting techniques from other milieus (Andersson 1997). Based on the spatial concentration of this type of finds in the Scandinavian region, some researchers suggest that the artefacts were crafted there before spreading to the Wielbark culture region (Woźniak 2016, 209), which could be linked to the migration from Nordic territories, as shown by genetic studies (Stolarek et al. 2023). In Slovakia, pendants are most likely related to the Przeworsk cultural influence (Rajtár 2013, 140).

² Zohor (Elschek 2014), Abrahám (Kolník 1980), Očkov (Rajtár 2013), Sekule (Iván/Ölvecký/Rajtár 2019), Tvrdošovce (Bazovský, in press), Hamuliakovo (Rajtár 2013), Želiezovce (Rajtár 2013), Rankovce (Gašaj/Rákoš 2015) and Gbely-Kojatín.

CONCLUSION AND PERSPECTIVES

The above findings about the crafting process suggest that pear-shaped pendants/pins are mature masterpieces. They indicate the work of artists-craftsmen with a perfect mastery in this high craft. Unfortunately, they remain invisible to us as we lack any information about them (Voss 2012). The high value, underscored by the precise jewellery technique and the use of precious metal – in this case, an alloy of gold and silver known as electrum – indicates the wearer's high social status and correlates with hypotheses discussed in the literature regarding gifts associated with marriage politics (Meller/Schwarz 2018, 114, 115). Microscopic and chemical analyses documented that the pendant/pin was crafted from fine filigree made of electrum with artificial rather than natural origin. The exact origin is very difficult to determine using only non-destructive methods.

While this type of jewellery is linked to a specific social context, its function may be broad across cultural, social, and ritual settings. Pendants/pins made of precious metals had a decorative and probably an apotropaic purpose, as well as reflecting prestige. At first glance, they indicated an affiliation with a higher social status, linked to the identity of their wearers, but also their “different” origin (part of the identity reflected by this pendant). The wearers of the pendants were most likely not members of the local community. They may have entered this community through practices like exogamy, such as through marriage politics aimed at forming alliances. Despite the hypothesis suggesting a direct link between the pendants and the origins of their wearers, it is also possible that these artefacts reached the Morava River region through supra-regional trade contacts. The finds of pendants/pins suggest a supra-regional distribution of goods across extensive trade and social networks. Their presence in the region would indicate the spread of fashion trends. Another mechanism resulting in the presence of pendants in the Central Europe region may have been the bestowing of diplomatic gifts, aimed at improving social relations and alliances in the Barbaricum (Patalan 2017, 330; Rajtár 2013, 149).

Given that these artefacts primarily originate from graves, it is essential to consider that survivors may have sought to emphasise a partial identity by placing such artefacts in the grave. This partial identity primarily reflected the wearer's origin or social status in the community. The pendant might have been part of a ritual garment, indicating a special function in the community. The presence of these artefacts provides evidence of a ritual “language” that, through the repeated use of specific grave goods, shows recurring social, economic, and religious relationships in the social context (community). Ritual language enabled the burial rite to clearly convey the status of the wearer of the artefact in the community as the artefact may have had specific functions known to all members during the wearer's life. For example, it may have played a role in specific rites of passage related to changes in status in the community. The pear-shaped pendant was, therefore, not only an important visual identification item for community members but also transformed in meaning and function through ritual language into a burial ritual – the final rite of passage – after the wearer's death.

The aim of the research, whose results are presented in this text, was primarily to go beyond typological and chronological analyses. Using non-destructive survey methods, we focused on describing the basic techniques used in crafting the artefact. In the future, it would be advisable to verify the assumed crafting process through experimental crafting in collaboration with jewellery specialists, which would, among other things, provide data on time consumption. Research on pendants/pins should not only focus on non-destructive analytical methods but also include an analysis of their chemical composition and a detailed study of their crafting process.

In terms of interpretation, the analyses carried out so far show that the pendant/pin did not serve solely a decorative function. It was a potent social artefact that played an important role in rituals during the life of the wearers, indicating status and reinforcing social ties and alliances. At the same time, the artefact was an identity marker in the community. Its significance is underscored by its multifunctionality and deep cultural resonance.

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Tajomstvá dávneho remesla

Hruškovitý závesok alebo ihlica z pohrebiska doby rímskej v Gbeloch-Kojatíne (Slovensko)

Katarína Hladíková – Barbara Ritterová – Marek Hladík –
Erika Makarová – Peter Bisták

Súhrn

Článok sa zaoberá hruškovitým záveskom/ihlicou? (obr. 7; 8), ktorý bol objavený pri výskume žiarového pohrebiska z doby rímskej (2.–4. storočie) na lokalite Gbely-Kojatín (JZ Slovensko; obr. 1–3). Hruškovité závesky sa nachádzajú prevažne v ženských hrobách a sú spájané s vyšším sociálnym statusom. Takzvané hruškovité závesky sa obvykle vyrábali z drahých kovov, ako je zlato, striebro alebo elektrón, a sú významným dokladom remeselníckej zručnosti v tomto období. Článok sa zameriava na technologické analýzy dvoch fragmentov hruškovitého závesku pomocou nedeštruktívnych metód, ako je prenosná röntgenová fluorescencia (pXRF), energo-disperzná spektroskopia (EDS) a 3D digitálna mikroskopia.

Analýzy doložili, že oba fragmenty závesku boli vyhotovené z elektrónu – zliatiny zlata a striebra s prídavkom medi (obr. 9; 10; tabeľa 1). Prostredníctvom 3D mikroskopie (obr. 11–18) sa podarilo identifikovať spôsob výroby spletených jemných filigránových drôtikov, ktoré boli pripevnené na tenký kovový plech závesku. Drôtičky boli vyrobené z tenkých kovových pásov, ktoré boli stáčané a spletané, čím vznikali jedinečné vzory. Tento proces bol a stále je veľmi technicky náročný.

Hruškovité závesky sa vyskytujú v širšom priestore barbarika s koncentráciou najmä v oblasti Baltského mora a Škandinávie a ich rozšírenie siaha až do strednej Európy. Na Slovensku sa nachádzajú na pohrebiskách pozdĺž Jantárovej cesty, ale aj v širšom priestore juhozápadného Slovenska, čo naznačuje, že tieto šperky mohli byť súčasťou obchodných a kultúrnych výmen. Hypotézy o ich pôvode sa rôznia – niektorí odborníci sa domnievajú, že sa mohli vyrábať priamo v severnej Európe, zatiaľ čo iní pripúšťajú možnosť, že šperky boli importované z Rímskej ríše alebo helénskeho sveta. Ich výrobná technika má totiž jasné väzby na filigránové tradície starovekého Stredomoria a helenistického sveta, čo by mohlo naznačovať prenos remeselníckych zručností z týchto oblastí do severnej Európy. Článok okrajovo otvára aj diskusiu o sociálnom a rituálnom význame týchto záveskov. Okrem dekoratívnej funkcie mohli mať aj apotropajný charakter, a slúžili ako vizuálny prejav vyššieho sociálneho statusu. Ich prítomnosť v hrobách môže naznačovať rituálnu symboliku a ich nositelia nemuseli byť vždy súčasťou lokálnej komunity – závesky mohli byť súčasťou svadobných politík alebo aliancií, prostredníctvom ktorých sa formovali spoločenské a obchodné väzby medzi rôznymi skupinami. Navyše, tieto artefakty mohli byť tiež diplomatickými darmi, ktoré slúžili na posilnenie vzťahov medzi rímskym svetom, resp. inou oblasťou a barbarikom.

Ďalší výskum hruškovitých záveskov prostredníctvom detailnej analýzy chemického zloženia a identifikovania jednotlivých krokov výrobného procesu by mohlo prispieť k lepšiemu pochopeniu nielen technologických aspektov, ale aj širšieho kultúrneho a spoločenského kontextu týchto šperkov. Výskum by mal zahŕňať aj využitie experimentov na overenie predpokladaných výrobných postupov. Na záver možno konštatovať, že hruškovitý závesok (ihlica?) zo žiarového pohrebiska Gbely-Kojatín predstavuje nielen technicky majstrovsky zvládnutý produkt, ale aj dôležitý kultúrny a spoločenský symbol. Ich prítomnosť na lokalitách doby rímskej naznačuje nielen široké obchodné a spoločenské siete, ale aj hlboký rituálny význam, ktorý tieto artefakty zohrávali počas života ich nositeľov.

Obr. 1. Lokalizácia pohrebísk Gbely-Kojatín v rámci katastra mesta Gbely. Legenda: 1 – pohrebisko z doby rímskej; 2 – včasnostredoveký mohylník; 3 – vodné toky.

Obr. 2. Lokalizácia pohrebísk Gbely-Kojatín na okraji riečnej terasy rieky Morava, pri sútoku Unínskeho a Gbelského potoka. Legenda: 1 – pohrebisko z doby rímskej; 2 – včasnostredoveký mohylník; 3 – vodné toky; 4 – eolické sedimenty: jemnozrnné naviate piesky (nevápnité, vápnité); 5 – fluvialné sedimenty: litofaciálne nečlenené nivné hliny, alebo piesčité až štrkovité hliny dolinných nív a nív horských potokov; 6 – fluvialné sedimenty: piesčité štrky a štrky nižších stredných terás; 7 – proluvialné sedimenty: hlinité až piesčito-hlinité štrky až reziduálne štrky s úlomkami hornín v stredných náplavových kuzeľoch.

Obr. 3. Hypsometrická mapa okolia pohrebiska Gbely-Kojatín (zdroj LLS dát ÚGKK SR). Legenda: 1 – pohrebisko z doby rímskej; 2 – včasnostredoveký mohylník; 3 – vodné toky.

Obr. 4. Letecký záber na plochu pohrebiska v roku 2021, po výrube a následnej výsadbe stromov (foto M. Vlach). Vyznačenie skúmaných polygónov 1–3.

Obr. 5. Výsledky detektorovej prospekcie – interpolovaný povrch hustoty kovových artefaktov v priestore pohrebiska z doby rímskej a včasnostredovekého mohylníka. Legenda: 1 – areál pohrebiska z doby rímskej; 2 – areál včasnostredovekého mohylníka.

- Obr. 6. Celkový plán pohrebiska s vyznačením miesta nálezu závesku. Legenda: 1 – závesok; 2 – hroby preskúmané v roku 2021; 3 – hroby preskúmané v roku 2022; 4 – skúmaná plocha pohrebiska.
- Obr. 7. Fragment č. 1 hruškovitého závesku/ihlice. A – predný pohľad; B – zadný pohľad.
- Obr. 8. Fragment č. 2 hruškovitého závesku/ihlice. A – predný pohľad; B – zadný pohľad.
- Obr. 9. Fragment č. 1. BSE snímka a EDS spektrá. A – BSE snímka stočených drôťkov; B – EDS1; C – EDS2; D – EDS4.
- Obr. 10. Fragment č. 2. Úsek čiernej farebnosti. A – digitálna snímka; B – BSE snímka; C – EDS spektrum.
- Obr. 11. Fragment č. 1. Digitálne meranie hrúbky plechu – hrana plechu.
- Obr. 12. Fragment č. 1. Digitálne meranie vrchnej a spodnej hrany a digitálna rekonštrukcia pôvodného obvodu základne fragmentu.
- Obr. 13. Fragment č. 1. Digitálne meranie hrúbky drôťkov – identifikovanie spojov, stáčanie plechového pásika.
- Obr. 14. Fragment č. 1. Digitálne meranie drôtu zo stočeného plechového pásika – rozmedzie spoja a hrúbka plechového pásika.
- Obr. 15. Fragment č. 1. Digitálna snímka vrkočovitého vzoru zo stočených spletených drôťkov.
- Obr. 16. Fragment č. 1. Digitálna snímka poškodeného lemu z perlovca na hornej časti.
- Obr. 17. Fragment č. 1. Vizualizácia perlovcového drôtu. A – čiernobiela snímka; B – snímka v Shadow Effect režime; C – snímka v režime Color Map; d – identifikácia vzorca rozstupov v perlovci.
- Obr. 18. Fragment č. 1. Digitálne meranie perlovca a digitálna rekonštrukcia pôvodného obvodu perlovca.

Tabela 1. Prvkové zloženie fragmentov na základe pXRF povrchovej analýzy.

Mgr. Katarína Hladíková, PhD.
SNM – Archeologické múzeum
Žižkova 12
SK – 810 06 Bratislava
katarina.hladikova@snm.sk
<https://orcid.org/0000-0002-9689-7419>

Mgr. Art Barbara Ritterová
SNM – Archeologické múzeum
Žižkova 12
SK – 810 06 Bratislava
barbararitterova@gmail.com
<https://orcid.org/0009-0006-8871-9766>

Mgr. Marek Hladík, PhD.
Archeologický ústav AV ČR, Brno, v. v. i.
Výzkumná základna Mikulčice-Trapíkov
CZ – 696 19 Mikulčice 736
hladik@arub.cz
<https://orcid.org/0000-0002-0724-9867>

Mgr. Erika Makarová, Ph.D.
Pamiatkový úrad SR
Cesta na Červený most 6
SK – 814 06 Bratislava
erika.makarova@gmail.com
<https://orcid.org/0000-0002-3150-7301>

Mgr. Peter Bisták, PhD.
Pamiatkový úrad SR
Cesta na Červený most 6
SK – 814 06 Bratislava
peter.bistak@pamiatky.gov.sk
<https://orcid.org/0009-0008-4888-3902>

DISCOVERY OF A FRAGMENT OF A LATE ANTIQUE *MISSORIUM*(?) IN THE CADASTRE OF THE VILLAGE OF PUTIM, DISTR. PÍSEK, SOUTH BOHEMIA

Jaroslav Jiřík – Tomáš Hiltcher

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Keywords: South Bohemia, Putim, Late Antique silver, emperor Constantius II, Kerch, *missorium*, hack-silver, economic function, symbolic function, *damnatio memoriae*

Abstract: The fragment of the silver sheet, discovered in Putim, South Bohemia, represents probably a part of the Late Antique liturgical dish, *missorium*. This is supported especially by the fragment of the central relief depicting the part of the face of the emperor with a diadem and the high purity of the silver alloy. Among the known preserved examples of these Late Roman prestige vessels the *missorium* of Kerch with a depiction of emperor Constantius II represents potentially the best parallel. In this article the economic and symbolic aspects of this fragment of a very rare and highly prestigious object will be explored.

INTRODUCTION

The territory of South Bohemia is not rich in discoveries of precious metals, dated to Late Antiquity. Therefore, any new discovery provides very important insight into the material culture of the inhabitants of that time. The find of the fragment of a silver *missorium* in Putim, South Bohemia, Czech Republic, represents, however a unique discovery in the context of finds from all over Bohemia. Decoration of the fragment, which is most likely a portrait of the emperor, opens several of important questions about the origin of the item and how it reached the final place of the discovery.

CIRCUMSTANCES OF DISCOVERY

In August 2020 Karel Podhorský handed over to Prácheňské muzeum v Písku a find of the fragment of the silver sheet, which he found several months earlier in the southern vicinity of the world-known village Putim, district Písek, South Bohemia.¹ The site was already known for various finds, dated within Late Roman and Migration Periods. These findings will be focused separately within the planned study.

Object description

A rectangular fragment of silver sheet with dimensions of 34 × 12 × 1 mm with a torsal fragment of the figural decoration (Fig. 1). Weight 4.84 g. A preserved part of the face, an eye, an eyebrow, a part of the nose, and hair divided into two horizontal parts by a diadem consisting of a stylized trio of arches (two smaller on the side, one larger – probably central). The decoration was probably achieved by a combination of two discharge techniques; on the one hand, plastic punching of larger surfaces (e.g. tiara and probably also the nose) and further punched out details using punches of various shapes (segments, semi-circles, circles, points) on the details of the face, hairstyle and tiara (Fig. 2–4). Possible traces of gilding or niello are not clear. The fragment was cut from the artefact with metal scissors in two narrow longitudinal parallel and two narrower transverse linear cuts (Fig. 5).

¹ Those who enjoy literary fiction will easily find the wider context of the location in the following work: Hašek 1922.



Fig. 1. Putim, fragment of a silver liturgical vessel (photo T. Droppa).

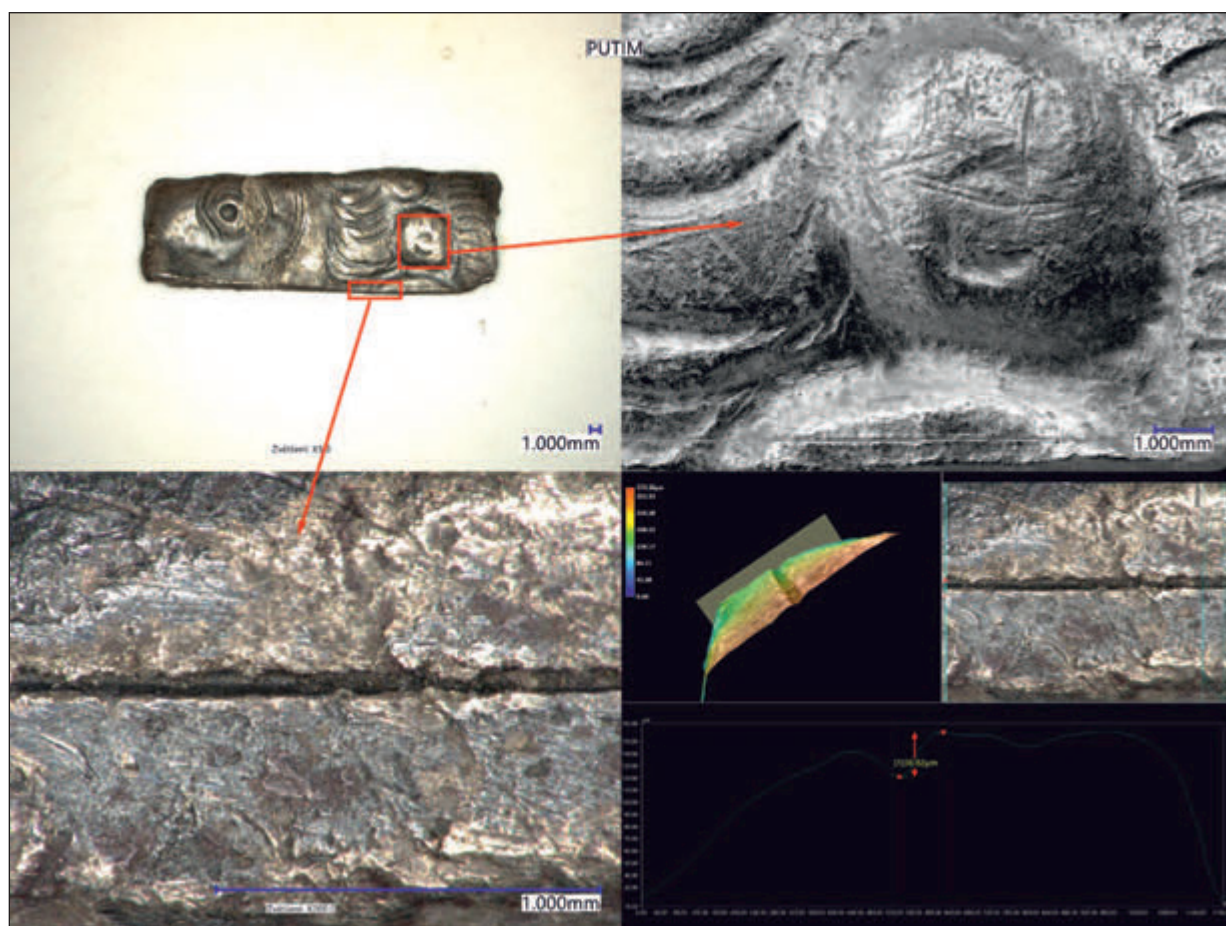


Fig. 2. Area map documented with digital microscopy using VHX-7000 series (www.keyence.eu/cscz/).

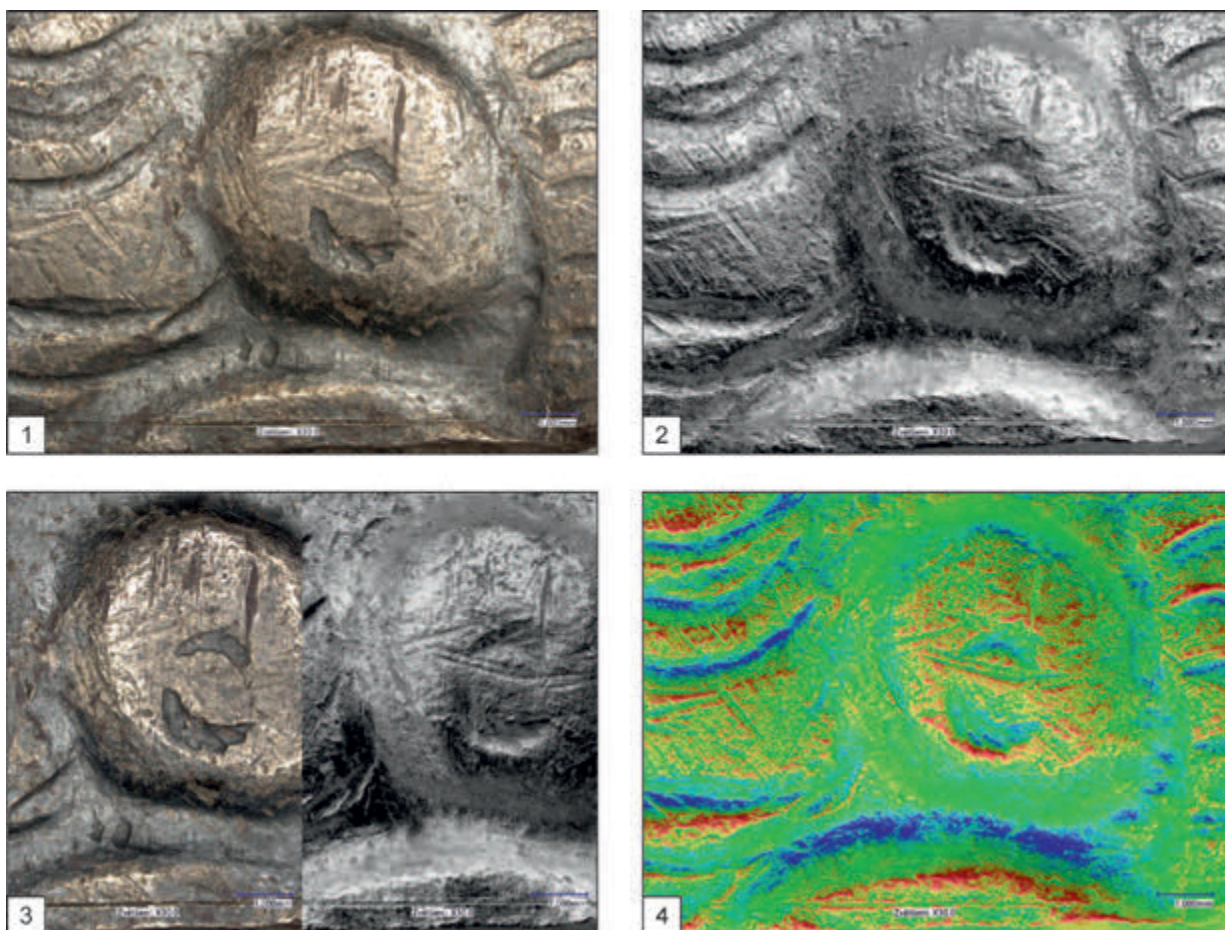


Fig. 3. Digital microscopy using VHX-7000 series (www.keyence.eu/cscz/). 1 – detail of the diadem; 2 – traceology of the detail of the surface; 3 – comparison of the methods of display; 4 – displaying the above detail in false colours.

INTERPRETATION

It is most likely that this described fragment represents a Late Antique silver liturgical dish or bowl, the so-called *missorium*. Similar vessels, although decoration not always represents the portrait of the emperor, are known from several deposits, for example the large dish at Mildenhall in England (*Painter 1977*, 35–40, here scientific examination; *Painter 1997*, 97, fig. 1) or Kaiseraugst in southern Germany (*Guggisberg 2003*, 111–170).

However, the figural rendering, i.e. the torso of the face with a diadem, refers us to examples of ancient liturgical vessels, on which the Roman emperor was depicted. Of these, the most famous is the *missorium* of the emperor Theodosius (now Madrid) from the end of the 4th century AD, the *missorium* probably of the emperor Valentinian II from the vicinity of Geneva (*Depeyrot 2009*, 439, 440; *Guggisberg 2003*, 73–75, Abb. 179; *Leader-Newby 2004*, 36–38) and *missorium* of the emperor Constantius II (2nd half of the 4th century) from Kerch (Fig. 6; *ibid.*, 178, Abb. 49–54). One of the problems, which can be however, solved only with difficulties, is the identification of the concrete ruler in the case of the Putim fragment. In the case of above mentioned *missorium* of the emperor Theodosius, the positive identification of the emperor was enabled by the fact that portrait is preserved in its entirety, and furthermore the rich iconography, including the statues of the Late Antique rulers offers good comparable material (*Meischner 2000*, 248, 249, fig. 30–34). The determination is also complicated by the fact that a diademed portrait of the emperor appears on Roman coins from the time of Constantine I until the fall of the Western Roman Empire (*RIC 8–10*). The stylized diadem, in reality made up of a gold corps, decorated with gems and pearl pendants, which divides the hairstyle into two halves, and the further discharge of the details clearly shows that the find from Putim was, however closer to Constantius' *missorium* from Kerch. This specimen,

with a diameter of 24.9 cm, was published by *L. Matzulewitsch* in 1929 and was obtained as one of the grave goods from the rich tombs in Kerch, Crimea (*Guggisberg 2003*, 166, fig. 178). The Kerch *missorium* is further richly decorated in the form of gilding and niello. The application of these decorative techniques is not documented or preserved in the case of the small fragment from Putim. However, this decoration is not, as evidenced by a specimen from the vicinity of Geneva, completely conditional. Furthermore, the plasticity of the figure, on the other hand, makes the find from Putim technically closer to Theodosio's *missorium*, using similar production tools (*Rovira et al. 2000*, 133, 147–149; fig. 13, 20–23).

A large *missorium* with a theme of Agamemnon was published from Avignon in France (*Depeyrot 2009*, 386). Well-known are also the discoveries of the silver vessels in the British Isles. The 1942 discovered silver hoard, together with large dish with a depiction of Oceanos, and the Bacchic scene from Mildenhall, Suffolk County should be noted (*Painter 1977*). Another large silver dish, originating from a hoard of Roman silver vessels from the 4th century, was found in 1942 in Mildenhall, Suffolk. Fourteen vessels together with thirteen spoons made up an exceptional table service. At first glance, the tray impresses with its rich, extremely elaborate decoration with a Bacchic theme. Along with the find from Scotland's Traprain Law, where a hoard of fragments of 110 silver vessels and other objects dating back to the early 5th century, and the Hoxne depot in Suffolk were discovered, the Mildenhall Hoard is one of the most important in the British Isles. Its importance is close to the famous silver finds from Kaiseraugst, Carthage or Esquiline. The Mildenhall hoard was found outside of its original settlement context and was most likely part of the furnishings of a prosperous villa that belonged to important landowners on whose land the colony settled. The pagan scenes on the large dish, as well as the supposed method of its use, may be to some extent a guide in the search for an answer to the question of why the Mildenhall treasure, which is not alone in this region, was deposited. The large dish has a diameter of

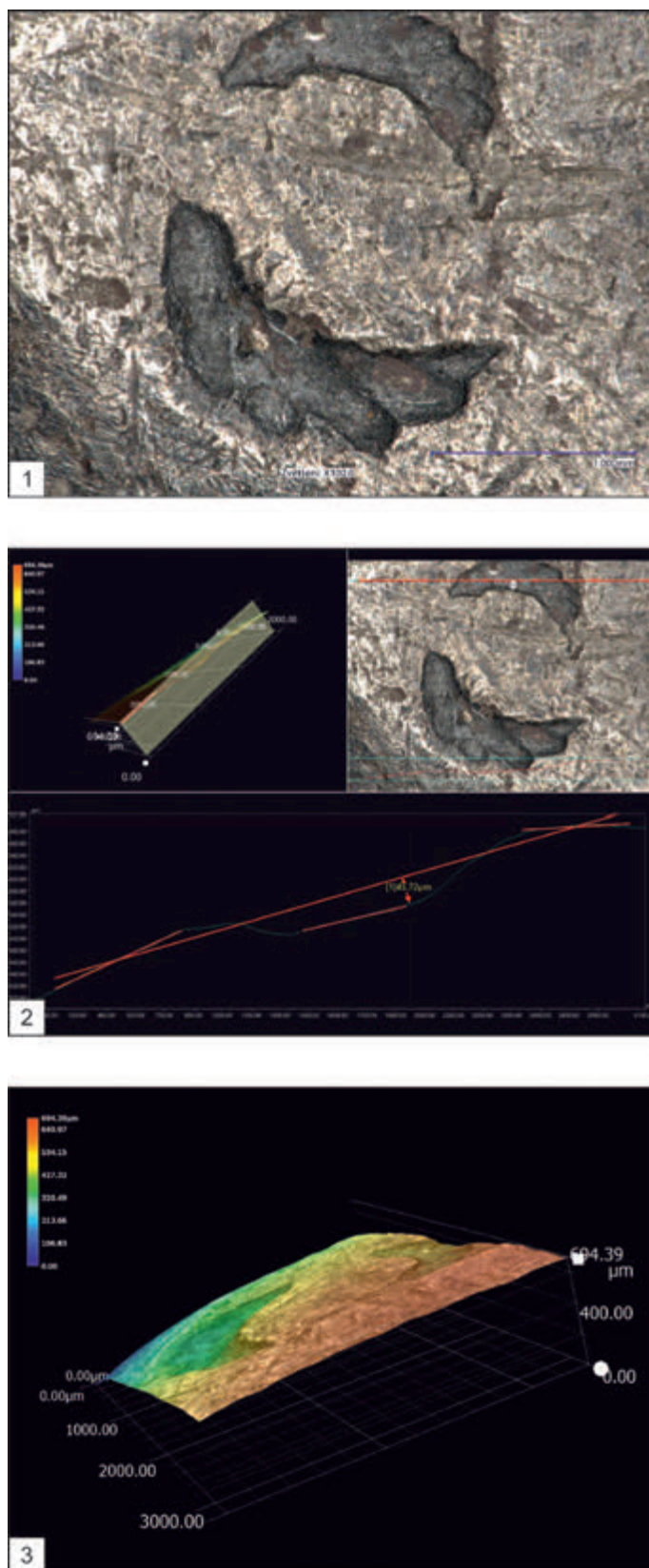


Fig. 4. Digital microscopy using VHX-7000 series (www.keyence.eu/cscz/). 1 – detail of the punched decoration of the gem from the emperors' diadem; 2 – “elevation chart”; 3 – “elevation chart” (side view).

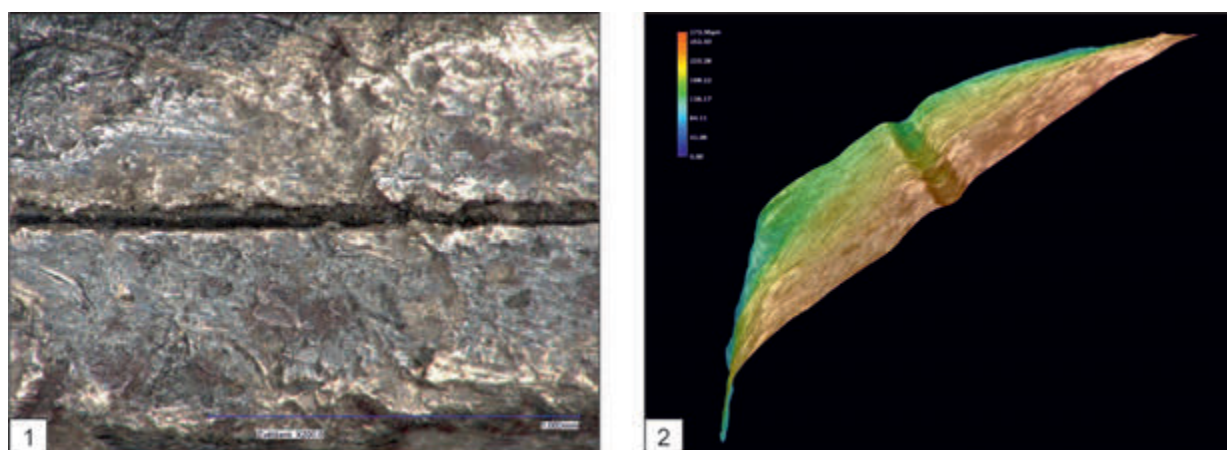


Fig. 5. Digital microscopy using VHX-7000 series (www.keyence.eu/cscz/). 1 – detail of the scissors marks; 2 – “elevation chart” (side view).



Fig. 6. Front and back side (with eyelet for hanging) of *missorium* from Kerch, Ukraine (courtesy: The State Hermitage Museum, St. Petersburg, after Guggisberg 2003).

605 mm, its weight is 8.256 g. The hoard entered the collections of the British Museum in 1945 (Painter 1977; 1997). For the examples from the Central Europe see for example G. Depeyrot (2009, 180–189).

Similarly, we can date the fragment of Putim to the second half of the 4th century, or the first half of the 5th century. In the territory of South Bohemia, this is a completely unique find, which proves the “travel” of these liturgical vessels, or rather their parts in the form of fractional silver from the imperial soil to our territory as well. If we search for the cultural connections of that period, by dating, this specimen is related with the settlement of the so-called Přešovice group.

Composition

For the silver alloy of the fragment of the silver vessel from Putim is characteristic a high purity (Table 1).

The high standards of the silver alloy are characteristic also for other examples of the silver vessels of the Late Roman group. In the case of vessels from Kaiseraugst, the silver content fluctuates between 97.5% and

Table 1. Measured spectra of the silver fragment (EDXRF analysis M. Kmošek, ElvaX spectrometer made by Elvatech company).

Spectrum	Cu	Zn	Ag	Bi	Pb	Fe	Au	Co	Ni
Ag fragment	0.7	0.05	98.5	0.1	0.20	0.05	0.30	0.03	0.02

98.6% (*Lang/Hughes/Oddy 1984, 375*). Similar values are published also in the case of *missorium* of Emperor Theodosius in Madrid, and other related vessels (*Rovira et al. 2000, 149*, compare also tab. 1 on page 150). Use of high-quality silver material for the producing of the liturgical vessels was confirmed in the cross-cultural context among the Late Romans and Sassanians (*Hughes/Hall 1979, 321–344*).

Fragmentation

The very fact that in our case it is a small fragment of an originally magnificent silver vessel is interesting. This reflects the fact that the object lost its original function during the Late Antiquity and, regardless of its former aesthetic aspects, became a mere source of precious metal. However, this is not a completely unique example, cut-up *missorium* (including one specimen with the image of the emperor) are known from the treasure from Gross Budungen in Thuringia (Fig. 7), which is dated based on the coins of the usurper Constantine III at the beginning of the 5th century. The mentioned hoard, however, contains the fragments of the more examples of the silver vessels (*Grünhagen 1954, pl. 2–6*). Another destroyed *missorium* is known from the hoard in Rülzheim, Rhineland-Pfalz. The assemblage is dated by the items within the 1st half of the 5th century (*Himmelmann/Petrovsky 2018, 7,8, fig. 5; 6*). Also, in the case of the silver treasure, 23 kg of battered, crushed and chopped up artifacts, mainly silver vessels, from Traprain Law in Scotland indicate that economic necessities can be attributed for the fragmentation of large ornate objects. According to the authors, the hacking was a “deliberate Roman police” to create bullion out of the valued vessels, used originally as elite tableware, at times of economic crisis (*Hunter/Kaufmann-Heinimann/Painter 2022, 215–242*).

The thesauri of the hack-silver are, however, a common feature, known from various parts of the Barbaricum. In Hostentorp, Denmark was discovered another example of a hoard containing fragments of jewellery and other silver artifacts and vessels. According to the presence of the fragments decorated in the 1st Salin style it is possible to date the assemblage within the 6th century AD (*Grünhagen 1954, pl. 15*).

In a settlement at Klein Köris, (Dahme-Spreewald district, Germany), is the best proof of a jewellery workshop from this period. Located within a semi-sunken hut, this workshop was identified by metal imported objects and scrap. The identification of the workshop was made possible by more than 2,040 pieces of mostly small portable finds, including fragments of metal vessels and glass shards, indicating the application of a polychrome decorative style. 7% of non-ferrous metals and 80–85% of bronze were found in the workshop in addition to dismantled artefacts intended for recycling (*Gustavs 1998, 218–228*). The tools of a jeweller were also found in a craftsman’s depot in the forested part of the Weinviertel in lower Austria in the 4th and 5th centuries (*Szameit 1997, 235–239*).

The find of the fragmentary preserved silver Silberschale from Tépe (Kom. Hajdu-Bihar, Hungary), together with other silver sheet fragments clearly shows that *thesauri* of the precious metals was practiced further during the Avar-Period (*Wamser 2004, 242, 243*).

SYMBOLIC SIGNIFICANCE OF THE FRAGMENTING OF THE DISH?

Portraits of the emperors were everyday part of the live of the Roman society and were used especially for power and political purposes (in connection with a destructive act see esp. *Gregory 2015, 88–98*). Altering or destruction of the representation of the emperor usually took place, when the “bad” emperor was overthrown or assassinated. E. R. Varner in his comprehensive study brings the overlook of the altered (damaged) portraits of the emperors since the times of Caligula to the rulers of the 4th century AD. Post-mortem punishment *damnatio memoriae* of the picture of the emperor was practiced “... when a tyrant is destroyed, his portraits and statues are also deposed”, as describes St. Jerome. The author describes the *damnatio* as cancellation of the bad identity of the emperor and his posthumous reputation as one of the fundamental aims in the imperial



Fig. 7. A cut silver *missorium* depicting the emperor from the Gross Bodungen hoard (after Grünhagen 1954).

period (Varner 2001, 45–47; 2004, 2). We meet for example the pursuing of the *damnatio* from the side of the new emperor against his predecessor (Varner 2004, 214). In the Roman world was a common physical interaction (such as “regular” like ritual decoration or washing, or irregular such as sexual and violent contact) with the gods through the cult of their statues (Weddle 2010, 182–185; for worshiping of the emperor see p. 21). Therefore, *per analogiam* the physical altering of the portrait of the emperor represents a manifestation which is physically addressing the ruler himself. According to M. Stachura, the hostility towards the Roman community may also be pointed by terms designating the individuals held to be in opposition: *barbarus* (barbarian), *tyrannus* (tyrant), *latro* (robber), *haereticus* (heretic) or *paganus* (pagan). As heretics were viewed also the followers of Arius and the Nestorians (Stachura 2018, 117–142). If our association of the fragment of *missorium* from Putim with the emperor Constantius II is correct, it should be noted that although he banned pagan sacrifices, he promoted Arianism. For that reason, he was later reckoned as a heretic who arbitrarily imposed his will on the church and become one of the best-known target of the followers of the Nicene Credo, for example Julian the Apostate (Jones 1964, 118; Stachura 2018, 34). Furthermore, insultation is part of the Late Roman legal system (Codex Theodosianus), which refers to the several subcategories of such an act (Stachura 2018, 79).

Insultatio Imperatori was intentional hostile aggression, which was addressed to the emperor especially by the Barbarian rulers, which is for example the case of Hunnic ruler Attila (Meier 2015, 635). In the same way, Constantius II was insulted from the site of the Persian king Hormisdas (Kelly 2003, 600, 601). In a similar way altering of the coin portrait using counterstamps or even erasure can be considered (Göbl 1978, 145, Taf. 32 – here esp. cat. no. 398, 399). In the northern Barbaricum is the earliest event, connected to the destruction of the portrait of the emperor a destruction of several equestrian statues in life size, probably depicting the emperor Augustus, in the area of the unsuccessfully founded Roman city of Waldgirmes (Lahn-Dill-Kreis, Hessen). The destruction of these statues is attributed to two possible events, either in the aftermath of the Battle of the Teutoburg Forest in AD 9 or in the context of the uprising of legionnaires and veterans on the Rhine in AD 14 when Tiberius ascended the throne (Rasbach 2014, 16–20).

Destructions of the statues is among the symbols of the Migration Period and the raid of king of Vandals, Genseric, on Rome in AD 455, and according to this event John Dryden gave the common term – vandalism – to the act of the destruction of the art in 1694. However, it is necessary to add that this act has its own endemic Roman variant.

SIGNIFICANCE OF THE WEIGHT OF THE ARTIFACT?

The weight of 4.84 g of the part of the silver dish is probably more or less coincidental result of the fragmenting of the original object. However, it is noteworthy that the weight of the object more or less corresponds to the measurement units used at the time, which are reflected, for example, in the weight of late antique coins: the weight of gold *solidi* was 1/72 of a Roman pound (i.e. 4.55 g), in silver it corresponded the weight of the *miliarensis* coinage (silver coins were not so important in practical circulation). The weight of 1/144 of a Roman pound should also correspond to the so-called *exagia solidi* (Alföldi 2001, 134–141, 338). The fragmenting of the silver dish to the pieces with the weight “moving around” the weight of the gold *solidus* can be possibly seen as a kind of the intention. Codex Theodosianus (XIII, 2, 1) states the ratio between gold and silver as 1 : 14.4; i.e. 1 *solidus* corresponds to 1/14.4 pound of silver (= the number of 12 *miliarensia*), when buying silver. In the reverse transfer, 15 *miliarensia* or 30 *siliquae* would have to be paid for one *solidus* (Hahn 1989, 15–17). Our fragment could be theoretically part of such semi-monetary exchange system, which means that 15 such shards of the vessel potentially roughly corresponded to one *solidus*.

CONCLUSIONS

The find of the fragment of the silver dish from Putim in Bohemia can be hardly considered as a deposit. Rather it is an isolated find which is probably more or less connected to the recycling of the precious metals. We can draw a theoretical concept that the weight of the artifact “around” one *solidus* can be a signal of the import of the fragment in this form via network of the exchange of the hack silver and other goods. Therefore, the direct fragmenting of the silver dish in Putim can be disputed. The importation of the silver fragment(s?) to South Bohemia can be seen perhaps as a result of the Barbarian looting on the soil of the provinces, especially in AD 402 (for example: Jiřík/Pinar Gil 2019, 426–452), but not necessarily. The reasons for the fragmenting of the dish can be seen in the economic sphere, as a source of precious metal, perhaps connected to the workshop of a jeweller. But the act of the fragmenting itself could had another reason, which can be rather described in the symbolic terms of *Insultatio Imperatori* or *damnatio memoriae*. The symbolic and economic reasons are not in this case in the contradiction, the loss of the original function of the prestige dish within the elite *niveau* allowed the new economic function of the silver material. Finally, it cannot be excluded that the original dish with the portrait of the emperor came into the hands of the Barbarians already destroyed and fragmented.

Language Correction by Gregor Jiřík

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Nález fragmentu neskoroantického *missoria*(?) v katastri obce Putim, okres Písek, Jižné Čechy

Jaroslav Jiřík – Tomáš Hiltcher

Súhrn

Fragment strieborného plechu, objavený v juhočeskej Putimi, predstavuje pravdepodobne časť neskoroantického liturgického misy – *missoria*. Potvrďuje to najmä úlomok centrálného reliéfu zobrazujúci časť tváre cisára s diadémom a vysoká čistota striebornej zliatiny. Spomedzi známych zachovaných príkladov týchto neskororímskych prestížnych nádob predstavuje najlepšiu paralelu *missorium* z Kerču s vyobrazením cisára Konštantína II. V tomto príspevku sme sa venovali pohľadu na ekonomické a symbolické aspekty tohto fragmentu, ktorý predstavuje príklad mimoriadne vzácneho a vysoko prestížneho predmetu.

Obr. 1. Putim, fragment striebornej liturgickej nádoby. Foto T. Droppa.

Obr. 2. Mapa oblasti zdokumentovaná digitálnym mikroskopom série VHX-7000 (www.keyence.eu/cscz/).

Obr. 3. Snímky z digitálneho mikroskopu série VHX-7000 (www.keyence.eu/cscz/). 1 – detail diadému; 2 – traseológia detailu povrchu; 3 – porovnanie metód zobrazovania; 4 – zobrazenie detailu vo falošných farbách.

Obr. 4. Snímky z digitálneho mikroskopu série VHX-7000 (www.keyence.eu/cscz/). 1 – detail dierovanej výzdoby drahokamu z cisárskeho diadému; 2 – „výškový graf“; 3 – „výškový graf“ (bočný pohľad).

Obr. 5. Snímky z digitálneho mikroskopu série VHX-7000 (www.keyence.eu/cscz/). 1 – detail strihacích značiek; 2 – „výškový graf“ (bočný pohľad).

Obr. 6. Predná a zadná strana (s očkom na zavesenie) *missoria* z Kerču, Ukrajina (zdroj: The State Hermitage Museum, Petrohrad, podľa Guggisberg 2003).

Obr. 7. Strieborné *missorium* s vyrezávaným vyobrazením cisára z pokladu v Gross Bodungen (Grünhagen 1954).

Tabela 1. Merané spektrá strieborného fragmentu (EDXRF analýza M. Kmošek, spektrometer ElvaX vyrobený spoločnosťou Elvatech).

doc. Mgr. Jaroslav Jiřík, Ph.D.
Prácheňské muzeum
Velké náměstí 114
CZ – 397 24 Písek
jirik@prachenskemuzeum.cz
<https://orcid.org/0000-0003-2987-1670>

Ing. Tomáš Hiltcher
Prácheňské muzeum
Velké náměstí 114
CZ – 397 24 Písek
hiltcher@prachenskemuzeum.cz
<https://orcid.org/0009-0005-7276-9307>

THE ENIGMATIC BRONZE STATUETTE FROM HLOHOVEC

Jupiter Dolichenus, Mars, or Roman Soldier?¹

Ivana Kvetánová

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Abstract: Currently deposited in the Hlohovec Homeland Museum (Slovakia), a male bronze statuette in the form of a Roman soldier was somehow automatically assigned to the Jupiter Dolichenus – the Roman god with Syrian roots. However, after years, it's time to reevaluate the identification of the statuette with this Roman-Syrian god. From the whole territory of present-day Slovakia, there is only one known bronze statuette considered to represent Jupiter Dolichenus. Unfortunately, only a fragment of full cast bronze figure with silver and copper incrustation has been preserved. The better interpretation of the statue is impossible as only a torso of the original work survived, lacking any specific attributes.

CONTEXT OF A DISCOVERY²

The bronze statuette was reportedly found in 1949 during construction works on the Komenského street in the town of Hlohovec (southwestern Slovakia, the southern part of Považie region; Fig. 1).³

Circumstances of a discovery are not entirely clear. This unique find became the property of the local Homeland Collectors Club.⁴ After the demise of the club in the 1960s, the statuette of Jupiter Dolichenus became part of the exposition at the Hlohovec Heritage Museum (Inv. No. 1-1).

Doubts about a discovery context are rising from the fact that the sculpture was found without accompanying artefacts and there is no record of archaeological context. Till 1930s, the building site had been divided by a ditch, which was filled up with soil during the Second World War (1939–1945). It is therefore perfectly possible that the statuette may have been brought here together with filled soil. Further confusion is result of the fact that the statuette may have come from the rich collections of the Erdődy noble family, kept in the Hlohovec castle. Numerous Roman antiquities owned by the Erdődy family were briefly mentioned by baron Alois Mednyanský, who visited the Hlohovec castle in 1822. In his travel book “The picturesque travel

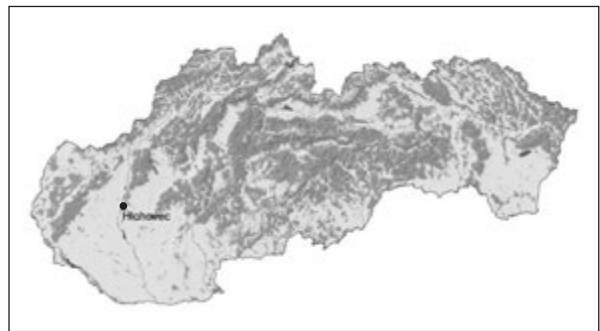


Fig. 1. Place of discovery – Hlohovec, Slovakia (author T. Lieskovský).

¹ My thanks for collaboration are for Mgr. J. Urminský and Mgr. P. Novosedlík (Hlohovec Heritage Museum), Ing. P. Višňovský (CONSULTING & CONTROL OF WELDING, s. r. o., Žilina), Dr. Barbara Niemeyer, Dr. Annemarie Kaufmann-Heinimann, † PhDr. T. Kolník, DrSc., † prof. PhDr. K. Kuzmová, CSc. This article is published thanks to the support from Andrew Mellon East-Central European Research Fellowship (American Academy in Rome). Version of the article for wide public was published in the journal *Pamiatky a múzeá* 2/2007 (Kvetánová/Višňovský 2007, 29–32). The partial results of this research were published in September 2023 (Jílek et al. 2024, 1–24).

² In the collections of the Archaeological Museum of the Slovak National Museum in Bratislava there is a bronze votive hand dedicated to Jupiter Dolichenus. However, it comes from Marcel's collection, which was founded at the turn of the 19th century and in the first half of the 20th century. The exact provenance of the artefact remains unknown (Kvetánová 2003, 133–142).

³ T. Kolník mentioned as possible place of the discovery unknown site on Middle or Lower Považie region (Kolník 1979, 53, 107; 1981, 85; 1984, 27, 28). M. Dušek mentioned as the year of the discovery year 1958 (Dušek 1961, 59–82).

⁴ Founder's son Mr. Davidek handed over the statuette to Ľudovít Chmelár, collector and member of Homeland Collectors Club.



Fig. 2. Jupiter Dolichenus (?). A bronze sculpture from Hlohovec Heritage Museum (photo and drawing Hlohovec Heritage Museum).

down the River Váh (Malebná cesta dolu Váhom)“ he wrote: “... *pressed by a short time usually available, a visitor must rather run through the collection, not having time to take a better look at numerous Roman antiquities and natural curiosities.*” (Mednyanský 1981, 130). At the end of the First and Second World War, unprotected residences of aristocracy became easy targets for looting. This was the fate of Hlohovec castle at the end of the Second World War. Under these circumstances, a small statue could be easily stolen.

It is still open question how and when the statue came to Slovakia. Even here we have to resort only to suppositions and hypotheses. Is it possible that the statuette once decorated one of the shrines to Jupiter Dolichenus in neighbouring Roman provinces? After all, we have written evidence that the temple of Jupiter Dolichenus with “portico and decoration” used to exist on the territory of Slovakia, in a Roman settlement called Gerulata, what is nowadays Rusovce suburb of Bratislava.⁵ Archaeologically, its existence is not proven conclusively by now. Even more, nearby capital of Roman province Pannonia Superior, Carnuntum was also an important centre of the Dolichenian cult (Collar 2011, 237, 240).

Under consideration is whether the statuette reached territory of Slovakia during the Roman age, or at a later period. T. Kolník gives examples of numerous finds of Roman objects from the Lower Považie region and neighbouring Trnava region (Krakovany-Stráže, Očkov, Cífer – all three sites not that far from Hlohovec, an alleged site of the discovery). The Germanic princely social class had a clear interest of to acquire fashionable Roman products, what points to an alternative, that the sculpture may have reached the Lower Považie region already in the Roman age, as a trade item or as a booty. Another option is, it did reach Hlohovec far more later on, as an antiquarian object suitable for a representative collection worth of a noble family such as Erdődy. Combinations and alternatives are endless. It's impossible to determine which one is correct.

Description of the statuette

The statuette depicts a young man clad in decorated Roman muscle cuirass (Fig. 2). Male figure is depicted standing, with a slight contrapposto and ponderation, with the left leg stretched forward and the right leg directed backwards. The legs are broken off down from the knees. Alike, the arms are not completely preserved (length: 11 cm, weight: 336 g).

The man is wearing breastplate armour in the form of muscle cuirass with a short tunic and helmet with either a facial mask or alternatively with cheek-pieces or visor (*bucculae*) covering the greater part of his face. Eyes in particular stand out from the face, the pupils are made up of dots and it cannot be ruled out that these were filled in with other material, now lost. Below the sculpted nose is a mouth with a subtle smile.

The rich decoration of the helmet, muscle cuirass and tunic were provided by plating in silver and copper, enhanced with engraving. Copper plating was used to distinguish the hem on the face part of the helmet, the rim of the cuirass, and the bottom hem of the tunic.

Below the waist of the muscle cuirass is located surface plated with copper in form of the trefoil-shaped cup. Remaining part of the cuirass was plated with silver. Simple lines are creating ornament in the shape of vineyard tendrils. On the back side of the statue is neither silver incrustation nor engraved decoration.

On the back side, in the waist area, there is a protrusion in the middle of which there is a hole with a cut thread (diameter 0.6 cm, height of the hole 0.9 cm). On the back of the bronze sculpture there is another smaller circular hole, which probably had no function and is either related to imperfect casting or to later damage.

USE OF THE STATUETTE

Particular attention should be given to small projection located at the waist area on the back of the statuette. In the middle of the projection is a thread, so it can be concluded that the statuette was part of a larger artefact. Front side is manufactured and ornamented more precisely. Clearly, the object was intended for a front view. Under consideration was an option, that the projection was later addition. X-ray images have shown that the protrusion is authentic, moulded together with a statue (Fig. 3). Only the opening with the thread was most probably added later. The image also clearly shows secondary damage to the upper threads, probably caused by inserting improper screw

⁵ The existence of the shrine is assumed by votive inscription (Hošek 1984, 42–47, No. 15, 133–140; Hörig/Schwertheim 1987, 154, No. 234; Kolník et al. 1993, 224).

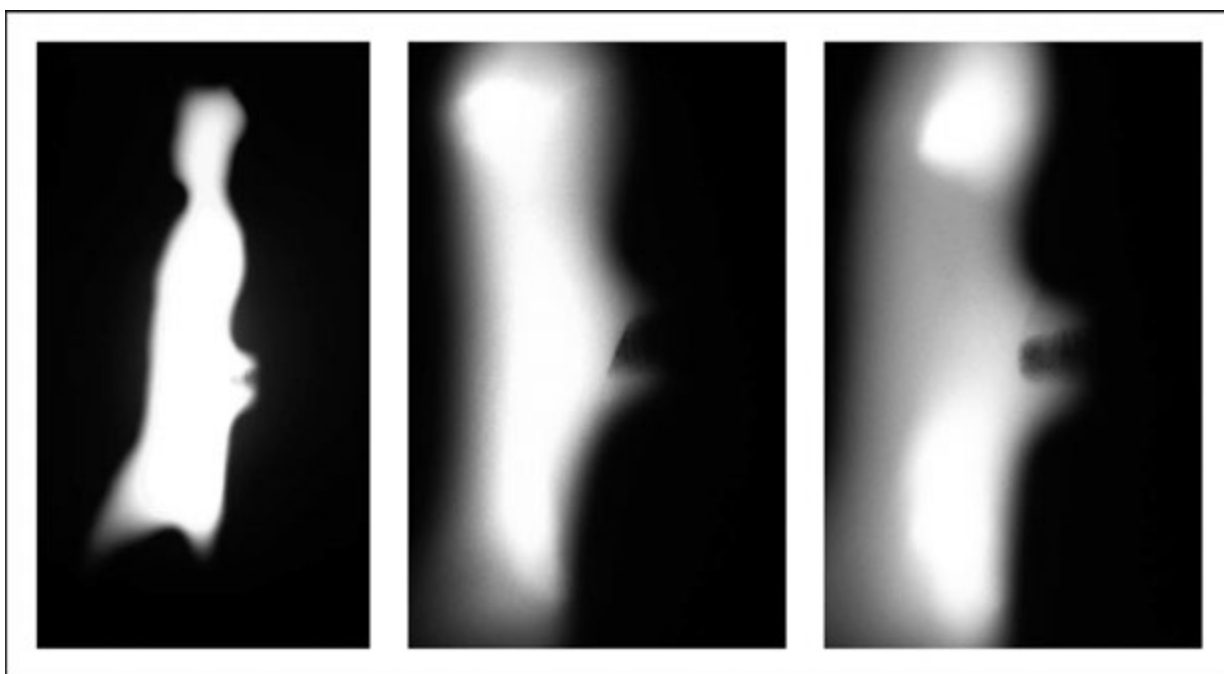


Fig. 3. Radiographs of the bronze statue (author P. Višňovský).

made of harder metal.⁶ Protrusion may have been used for attaching the statue to another object. It remains uncertain whether the thread is original or a subsequent addition by a new owner. Based on our understanding of screw and thread production in classical times, it is highly likely that they represent subsequent additions, possibly from the 20th century. The invention of the screw (bolt) is placed in the ancient world. Supposedly invented by Archytas of Tarentum (428–350 BC) around 400 BC, the screws in the Roman period were used rarely, particularly in medical instruments (e.g. *speculum*). In late antiquity, especially in the fourth century, screws and bolts were used on jewellery (e.g. “Crossbow fibulae/Zwiebelknopffibel”). Usually, it was a high-quality work made of more expensive metal. It should be noted that artisans during the classical period lacked the capability to produce classical nuts and bolts using lathes. Instead, they formed the grooves inside the nut by winding wire multiple times around the internal part, typically using the same material as the entire object (Fig. 4; *Böhme-Schönberger 1997*, 88, 89; *Deppert-Lippitz et al. 1995*).

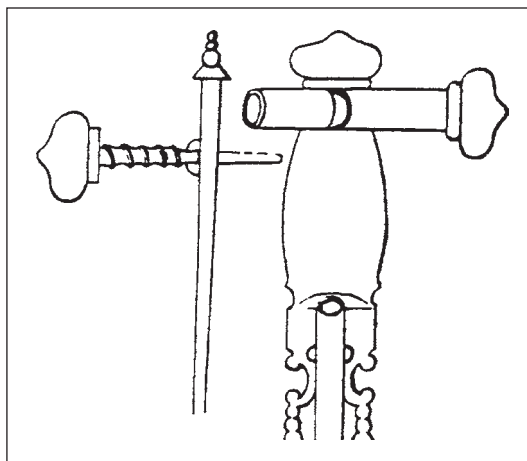


Fig. 4. Thread a screw in antiquity – used in Crossbow fibulae (*Deppert-Lippitz et al. 1995*, 39, fig. 20).

Similar protrusions could be found on back sides of figural bronze statues (Fig. 5) on Roman wagons: carts, chariots (*Jobst/Humer 1993*, 203–211; *Schleiermacher 1996*, 205–295). Example of this type is statuette from Kieferfelden in Bavaria.⁷ Decorative statuette depicts Hercules with a connecting protrusion on his back. Use of such richly decorated statues is very rare in this context. Roman wagons were more frequently adorned with simple works. Apart from Kieferfelden wagon, there is also the reconstruction of the wagon from

⁶ Protrusion (h. = 1.6 cm, w. = 1.3 cm, l. = 0.5 cm, opening with tread – $\varnothing$ 0.6 cm, l. = 0.9 cm) X-ray image was made using technical X-ray in cooperation with Ing. Pavel Višňovský (CONSULTING & CONTROL OF WELDING, s. r. o., Žilina) on 15th April 2002.

⁷ The function of the whole connecting part was at the end of a wooden pole at the bottom of the wagon, fixing ropes or belts that carried upper part of the wagon (cab). The cab was never directly attached to the bottom of the wagon to provide a better suspension and guarantee more comfortable travelling (*Garbsch 1986*, 57, fig. 42, 60, 61, No. 42).

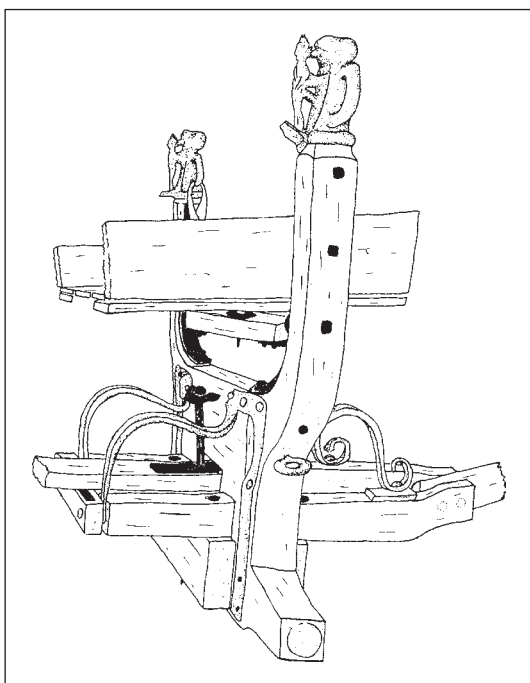


Fig. 5. Bronze statues as decoration of Roman wagons (reconstruction of the wagon from Intercisa – Dunaújváros, Hungary).

Intercisa (Dunaújváros, Hungary) with statues of Bacchanalia motifs (Visy 1977, fig. 23). Roman wagons were usually decorated by the statues of deities useful to travellers. Most often one can find the patron of travellers and traders Mercury, less often Mars, Hercules, or figures of soldiers, who could with their arms and strength provide at least symbolic protection to wanderers (Garbsch 1986, 50). Unlike the previously known bronze sculptures decorating Roman chariots, the sculpture from Hlohovec far surpasses them in the material used (silver inlay) as well as in the delicacy of its workmanship.

Bronze statues were extensively used in ancient Rome, serving not only as components in domestic sanctuaries (lararia) but also as decorative elements on furniture, doors, wagons, and chariots. Consequently, their inspiration likely extended beyond the realm of Roman gods.

JUPITER DOLICHENUS, MARS, ROMAN SOLDIER AND OTHER POSSIBILITIES OF INTERPRETATION

The cult of Jupiter Dolichenus (Iuppiter Dolichenus) has its origins in ancient Syria, in the ancient settlement of Doliché, nowadays Dülük, suburb of large city of Gaziantep in southeastern Turkey (Speidel 1980, 6; Wagner 1982, 133–166). In the Roman Empire, the cult began to spread during the early second century. The god of military nature gained favour among the Roman soldiers, who were most responsible for the spread of his cult. In addition to the legions, the merchants also had their share in the expansion. The cohorts made up of Syrian (Comagenian) soldiers, originally formed to protect the Euphrates border, were also the instigators of worship in the ranks of the army. The cult was also encountered by members of the Xth Roman Legion, which took part in the military campaigns in the east during the reigns of Hadrian (117–138) and Lucius Verus (161–169). The cult gained traction very quickly, especially on the Danubian and Rhine frontiers. It was the capital of Pannonia Superior, Carnuntum, that became one of the earliest and most significant centres of veneration of the god of Doliché in this area (Collar 2011, 237, 240; Jobst 1992, 21, Cat. No. 19).

The biggest growth was recorded at the end of the 2nd and in the first half of 3rd century, during reign of the Severan dynasty (193–235 AD). The end of the Severan dynasty marked the end of the popularity for the cult.

From the mid-3rd century onward, the number of monuments associated with the cult of Jupiter Dolichenus experienced a significant decline. Consequently, the worship of Jupiter Dolichenus was relatively short-lived. Several factors likely contributed to this decline. Firstly, the conquest and destruction of the cult's centre, the city of Doliché, around 253 or 256 AD, played a role. Additionally, the invasion of Syria and Cilicia by Shapur I of the Sasanian dynasty, ruler of the New Persian Empire, marked the end of the cult. Other potential factors include political and military crises, a plague during the mid-3rd century, and finally the rapid spread of Christianity, which posed competition to various religious cults (Collar 2011, 244).

From the Roman viewpoint, Jupiter Dolichenus held the esteemed roles of eternal preserver, protector, and guardian of order in the empire. By merging the Roman deity Jupiter (the King of Gods) with his Asian counterpart Baal, a potent fusion of Eastern and Western traditions emerged. The cult of Jupiter Dolichenus carried significant public and political significance, yet individuals also approached the god with their personal supplications (Merlat 1960; Speidel 1980; Tóth 1973).

Jupiter Dolichenus is most often shown standing on the back of a bull. Excellent examples are statuettes from the Mauer an der Url: Roman Locus Felicis, Noricum (Fleischer 1967, 34–38, tab. 10–15, 18, 19), nowadays 5 km from town of Amstetten in Lower Austria (Fig. 6) or silver application from Carnuntum (Hörig/Schwertheim 1987, 153, 154, tab. XLV: 233; Humer/Kremer 2011, 154, No. 18). There are some examples of god's statues without a bull. The bull was either not preserved or not portrayed at all. Dignified and stern expression of the god is attained by bearded face. His head is usually covered by a Phrygian cap

or tiara. It's rare to find Jupiter Dolichenus pictured with helmet. Usually, the helmet is an attribute of Mars. In some cases, Jupiter's head cover is decorated with a wreath.

A double-headed axe (*labrys* or *bipennis*) and a bunch of thunderbolts can be considered almost essential attributes of the god. Far rarer is a sword or a spear. More often found on stone sculptures, a sword was attached with a baldric belt worn over the shoulder (*balteus*) or using horizontal decorative belt around the waist (*cingulum*). Most of selected examples of his clothing are consisting of a tunic, over which was clad decorated or undecorated cuirass, sometimes complemented by military cloak (*paludamentum*). Foot gear is consisting of sandals or high-shoes – boots. Less common are greaves protecting lower part of legs. Jupiter Dolichenus is not always depicted in clothes. His naked figure is presented by the number of bronze plates or triangles. Jupiter Dolichenus is sometimes portrayed in a company of other divine beings. Perhaps the most frequent companion and partner was for him goddess Juno Regina-Dolichena. Study of close parallels showed that Jupiter Dolichenus is more often displayed with a Phrygian cap than with a helmet. A characteristic feature is bearded face of the god (*LIMC VIII/1*, 471–478; *LIMC VIII/2*, 312–315).

One example is the bronze appliqué from the middle of the 3rd century, discovered in 2009 right in the centre of the cult, in the sanctuary of Dülük Baba Tepesi (*Winter 2011*, 7, 12, tab. 8: 2). Implementation of armour decoration is pointing towards the relationship of sculpture with two bronze statues of Jupiter Dolichenus from Germany – from Berlin-Lichtenberg (Fig. 7; *CRFB*, D1, 1994, 102, tab. 19; *Neugebauer 1921*, 120, 121, fig. 63; *Viemeisel 1978*, 62) and Cologne (Fig. 8; *Hörig/Schwertheim 1987*, tab. CXX: 548; *Thomas 1995*, 604–608, fig. 33–38). They both have an engraved decoration supplemented by inlays with other precious metals, mainly with silver. With statuette from the Hlohovec Heritage Museum they have in common not only the shape of a body, overall attitude and clothing, but unfortunately also the uncertainty and lack of reliable archaeological context. Unlike statue from the Hlohovec Heritage Museum, both statuettes from Germany have a bearded face.



Fig. 6. Bronze statue of Jupiter from Mauer an der Url, Austria (*Fleischer 1967*, tab. 10: 18).

MARS

Looking at the statuette of Jupiter Dolichenus one could approach interpretation differently. The military attire depicted in the statuette bears resemblance to Mars, the Roman god associated with both war and agriculture. Mars has broad range of representations (*LIMC II/1*, 505–507). He is easily identifiable thanks to the typical Corinthian helmet. He can be naked or clad in Roman armour, wearing military clothing. He is portrayed usually with the beard, but often without it. The attributes of the god of war are spear (*hasta*), sword, shield (*LIMC II/1*, 516–522) or *patera* (*Bartus 1995*, 131–135). The animals connected with Mars were she-wolf and woodpecker. During the Augustan period, Mars held the highest honor, and alongside Venus, he was revered as a protector of the Roman people. The unique prominence of Mars can be traced back to legend: he was believed to be the father of Rome's legendary founders, Romulus and Remus (*LIMC II/1*, 505–507). Examples of statues with helmet and muscle cuirass resembling the one from Hlohovec Heritage Museum



Fig. 7. Bronze statue of Jupiter Dolichenus from Berlin-Lichtenberg, Germany (CRFB, D1, 1994, 102, tab. 19).



Fig. 8. Jupiter Dolichenus from Cologne, Germany (Thomas 1995, 604, fig. 33).

are those from Rijksmuseum G. M. Kam at Nijmegen (Zadoks-Josephus Jitta/Peters/Witteveen 1973, 44 ee.), Speyer (Menzel 1960, 3, No. 4, tab. 5: 4), or two statues of Mars most likely from Carnuntum (Fleischer 1967, 52, No. 40, tab. 28: 40; Humer/Kremer 2011, 153, No. 10). Also, a bronze statue of Mars from the Romano-Germanic Museum in Cologne or Mars Ultor de Quevaucamps from Museum in Bruxelles (Faider-Feytmans 1979, tab. 4–5, fig. 6)⁸ must be mentioned, as they depict Mars in his youth, without beard (Ritter 1994, 399, fig. 167–169). The splendid decoration of the statuette closely resembles that of Mars from Butovo, Bulgaria (Fig. 9), but it is depicting the god with beard, unlike the statuette from Hlohovec (Ogdenova-Marinova 1975, 78, 79, No. 73).

Among the bronze statuettes of Mars we register at least four types of depictions or forms and their variants (typology according to LIMC II/1, 516–522). The bronze sculpture from Hlohovec could be assigned to type C (“Censorenfries”), which became common in the late Republican period. Mars is depicted standing and without a beard. His head is protected by a Corinthian helmet, his body by muscular armour and his legs by shin guards. In his raised hand he holds a spear in the other hand a sword or shield, which he sometimes leans on (LIMC II/1, 520). Unfortunately, the position of the hands of the Hlohovec statue do not indicate that he was holding a spear. However, the richness of the armour decoration of the bronze statue from Hlohovec is

⁸ Bruxelles, Musées royaux d’Art et d’Histoire. Inv. B 119.

more reminiscent of the depiction of Mars the Avenger – Mars Ultor (type U), who usually has a beard (*LIMC II/1*, 516–519).

ROMAN SOLDIER, HERO OR EMPEROR

There are numerous bronze statues depicting soldiers from the Roman period. For example, they appear on battle scenes together with naked barbarians.⁹ There aren't many examples of this type, but they all resemble Jupiter Dolichenus from Hlohovec Heritage Museum. Examples include the bronze statuette of a soldier from the Romano-Germanic Museum in Cologne (*Franken 1996*, 37 No. 19, fig. 38–40), or a bronze statue of Mars from Rijksmuseum G. M. Kam at Nijmegen (*Zadoks-Josephus Jitta/Peters/Witteveen 1973*, 44 ee.), as well as a bronze statuette of a soldier from Enns (Fig. 10; *Fleischer 1967*, 145, No. 194, tab. 105: 194).

Very often, the motive of the Roman soldier decorates pectorals (*balteus*) used for adorning the equine chest. This is nicely illustrated by the imperial equestrian statues (*Fleischer 1967*, 145). Dated to the 2nd century, one particular *balteus* from Brescia and another from Aosta both stand out for their intricate decoration with battle scenes (*Braemer 1994*, 75, fig. 1: 76, 77; 2: 77; 3: 78, 79; 4).

An example for comparison is the numerous military sarcophagi widespread especially from the reign of Marcus Aurelius, i.e. from the second half of the 2nd century to the 3rd century. Famous sarcophagi from Portonaccio,¹⁰ the so-called Small Ludovisi sarcophagus,¹¹ the so-called Great Ludovisi sarcophagus,¹² sarcophagus from the collections of the Galleria Borghese in Rome,¹³ all depict scenes of battles between Roman soldiers and Barbarians (Fig. 11). However, the military scenes carved in marble depict soldiers in dramatic positions, in the middle of battle, unlike the bronze statue from Hlohovec, which is in a relatively calm position.

The helmet with the mask did not allow a detailed depiction of the face. Nevertheless, the expression of the statuette is reminiscent of the Caracalla portrait (198–211 AD; *Kolník 1979*, 53, 107; 1981, 85; 1984, 27, 28), or even Gallienus (253–260). Given the spatially limited depiction of the face, its direct identification with imperial portraits would have been too bold. However, it may help to facilitate to date the work.

The depiction of lavish armour, as well as the use of exclusive material, also offer the possibility of considering a heroic, mythological figure that may have appeared not as a solitary depiction but as part of a larger composition where other sculptures and decorative elements have not survived.



Fig. 9. Mars from Butovo, Bulgaria (*Ogdenova-Marinova 1975*, 78, 79, No. 73).

⁹ Bronze sculpture Museo Cristiano, Bibliotheca, Vatican, bronze pectoral from Aosta – Museo Archeologico, Aosta (*Braemer 1994*, 94, fig. 29; *Krierer 2004*, 50, 204, Cat. No. 245, tab. 12: 5).

¹⁰ Rome: Museo Nazionale Romano – Palazzo Massimo, Inv. 112327.

¹¹ Rome: Museo Nazionale Romano – Museo Altemps, Boncompagni Ludovisi Collection, Inv. 8569.

¹² Rome: Museo Altemps – Museo Nazionale Romano, Boncompagni Ludovisi Collection, Inv. 8574.

¹³ Rome: Galleria Borghese, Inv. XIX.



Fig. 10. Bronze statue of a soldier from Enns, Austria (Fleischer 1967, 145, tab. 105: 194).



Fig. 11. The so-called Great Ludovisi sarcophagus (Rome: Museo Nazionale Romano – Museo Altemps, photo I. Kvetánová).

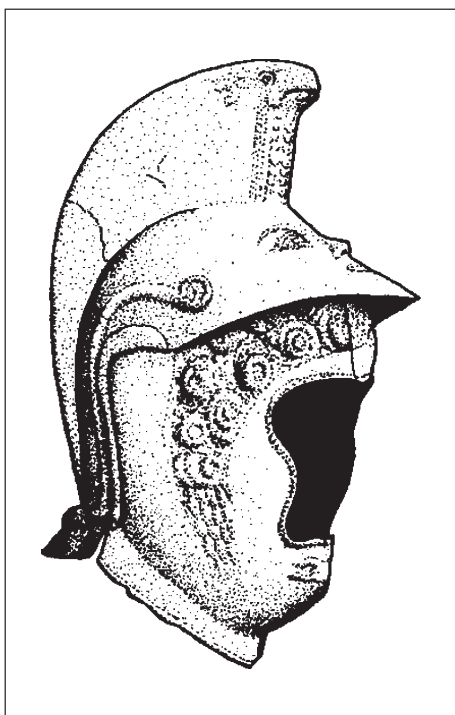


Fig. 12. Helmet type G, Hedderheim used at the turn of the 2nd and early 3rd century.

CHRONOLOGY

The type of armor depicted could offer insights into the dating of the bronze sculpture from Hlohovec. However, muscular armor has been a common feature in depictions spanning many centuries, frequently used to represent ancient gods and Roman emperors. As a result, it is not particularly useful for precise dating of the sculpture. Greater potential for analysis is presented by the type of helmet depicted.

This type of short equestrian helmet resembles the type III Hedderheim, which, according to Kohlert, was used around the turn of the 2nd and beginning of the 3rd century (Garbsch 1978, 6; Kohlert 1978, 21, 22, 27). Another possibility is the Pseudo-Corinthian cavalry helmet, which is typical of the 3rd century. Therefore, the helmet type can narrow the dating of the statue to the late 2nd or early 3rd century (Fischer 2012, 212, fig. 309, 310; 2019, 183, fig. 309, 310).

According to the newest research the Pseudo-Corinthian helmet of the Hedderheim type (Fig. 12) was popular during the period of military emperors (especially from the period of the reign of Gallienus to Constantius I Chlorus, i.e. AD 253/268 to 306). Its use is dated to the last third of the 3rd century based on the iconography of imperial portraits on coins (Fischer 2019, 182–185; Jílek et al. 2024, 216).

Large facial part of the helmet leaves very little space for the depiction of a face. According to T. Kolník, face on the statuette looks distinctly similar to portraits of Caracalla (188–217 AC),¹⁴ or Gallienus (253–268 AC;¹⁵ Kolník 1979, 53, 107; 1981, 85; 1984, 27, 28), in line with dating of the use of the Pseudo-Corinthian cavalry helmet.

Based on the typology of the helmet, it appears that the sculpture was created during the period of decline or even the disappearance of the cult of Jupiter Dolichenus.

CONCLUSION

Approaching the identification of statuette from Hlohovec, a high degree of uncertainty was brought to notice by V. Varsik, who pointed out similarity with the iconography of Mars (Varsik 1995, 351–354). First headdress of Jupiter Dolichenus, the helmet, is rather very infrequent attribute of this god. First glimpse at the statue clad in armour and helmet is evoking rather god of war – Mars. It is questionable whether the statue is indeed Jupiter Dolichenus, Mars or soldier. In the absence of attributes, neither interpretation can be confirmed nor excluded. Statue lacks one important attribute – beard. The helmet covers most of the face, only small facial part is revealed. Maybe that is why Jupiter Dolichenus from the Hlohovec Heritage Museum has such youthful appearance. For a better comparison should be noted again that the statuettes of Mars are of both types – with beard as well without it. Iconographic representations of Jupiter Dolichenus at a younger age, without beard, have been documented so far only in two cases. Both, however, are the results of later interventions. Head of Jupiter Dolichenus in marble sculptural group from Marseille was damaged and later reworked (Fig. 13; Hörig/Schwertheim 1987, 367, 368, No. 602, tab. CXXXI: 602).¹⁶ An original marble relief from Cesena was preserved only through the drawings from 15th century (Fig. 14; Hörig/Schwertheim 1987, 295, 296, No. 457, tab. CIV: 457).¹⁷ While the youthful facial expression speaks for Mars, the body posture is typical for Jupiter Dolichenus. Thanks to contrapposto and ponderation, there is an impression that it originally stood on an uneven surface requiring to maintain a balance of the body. This uneven surface could be back of a bull. Position of statue's hands indicates that he was holding a spear – a typical attribute of the god of war Mars, but also of Jupiter Dolichenus.

Shape of the body and the protrusion on the back are evoking another option. The statue may have been part of a larger sculptural group. In addition to searching for similari-



Fig. 13. Jupiter Dolichenus in marble sculptural group from Marseille, France (Hörig/Schwertheim 1987, tab. CXXXI: 602).



Fig. 14. Marble relief from Cesena, Italy (Hörig/Schwertheim 1987, tab. CIV: 457).

¹⁴ For example, portrait of Caracalla from Via Cassia in Rome. Rome: Museo Nazionale Romano – Palazzo Massimo, Inv. 125565.

¹⁵ Rome: Musei Capitolini, Inv. MC0360.

¹⁶ Stuttgart, Württembergisches Landesmuseum (Hörig/Schwertheim 1987, 367, 368, No. 602, tab. CXXXI: 602).

¹⁷ Cesena, Museo Storico (Hörig/Schwertheim 1987, 295, 296, No. 457, tab. CIV: 457).

ties in the iconography of Jupiter Dolichenus, there should be more emphasis given to the bronze figurines of the god of war Mars, and statuettes representing Roman soldiers. It is entirely possible that the statuette from Hlohovec Heritage Museum was one of them. For ordinary soldier is untypical to see such richly decorated military equipment and for deity anonymity of the face, in our case caused by helmet covering most of the face.

The expansion of the Jupiter Dolichenus cult was swift and relatively short-lived, with its popularity peaking during the Severan dynasty (193–235 AD), when it was even endorsed by the imperial court. Its definitive end came just two decades later, in the mid-3rd century.

Helmet typical for more for the 3rd century and other similar bronze statues from the same period are offering reliable dating for statuette from the Hlohovec Heritage Museum.

According to the typology of the helmet, it seems that the sculpture was created only in the 3rd century AD, i.e. in the period of the decline or even termination of the cult of Jupiter Dolichenus (Fig. 2).

Fragment of a bronze statue is one of the finest exhibits in the Hlohovec Heritage Museum. It attracts attention because of the material used and method of a decoration. It can be even considered one of the most beautiful bronze statuettes from the Roman period found in the territory of Slovakia. The main argument to answer the question, whose statue it is, provides naturally iconography. It speaks more in favour of the god of war Mars. Another possibility could be that it depicts a Roman soldier or a person without divine origin. Numerous Roman imports made their way to the territory of present-day Slovakia, which was in close proximity to the Roman Empire. It is not known whether the statue from Hlohovec can be included among them. It is still suspected that it was part of the collection of the Erdödy family located in the local castle, which could be indicated by a secondary intervention in the form of a thread on the back of the sculpture.

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Enigmatická bronzová plastika z Hlohovca

Jupiter Dolichenus, Mars, či římsky vojak

I v a n a K v e t á n o v á

Súhrn

Bronzová plastika muža s podobou rímskeho vojaka z Vlastivedného múzea v Hlohovci (Slovensko) bola dlhé roky stotožňovaná s rímsko-sýrskym bohom Jupiterom Dolichenom. Presnú interpretáciu však sťažuje skutočnosť, že z pôvodnej plastiky sa zachovalo len torzo. Zobrazuje mladého muža odedého v rímskej zbroji – muskulárnom, ornamentálne zdobenom pancieri a prilbou, bez ďalších atribútov. Pozornosť púta aj vďaka použitému materiálu a spôsobu výzdoby. Je vyrobená z plne liateho bronzu, bohatú gravírovanú výzdobu doplnili inkrustáciou striebra a medi.

Soška sa údajne našla počas stavebných prác v roku 1949 na Komenského ulici v Hlohovci. Nálezca ju venoval miestnemu zberateľskému spolku, neskôr sa dostala do zbierok Vlastivedného múzea. Nález mohol rovnako pochádzať z bohatých umeleckých zbierok rodu Erdödyovcov uložených v hlohovskom zámku, o ktorých sa zmieňuje i barón Alojz Mednyanský. Odcudzený mohol byť práve počas rabovania zámku po druhej svetovej vojne.

Pôvod kultu Jupitera Dolichena treba hľadať v Sýrii, v meste Doliché, dnešnom Dülüku v juhovýchodnom Turecku. V rámci Rímskeho impéria sa kult začal šíriť začiatkom 2. stor. Najväčší rozkvet zaznamenal na konci 2. a v prvej polovici 3. stor. za vlády dynastie Severovcov (193–235 po Kr.). S koncom vlády tejto dynastie nastal i koniec obľuby kultu. Najčastejšie býva zobrazovaný ako boh stojaci na býkovi, s bradou, frýgijskou čiapkou alebo tiarou na hlave. V rukách drží dvojité sekeru a zväzok bleskov, zriedkavejšie meč alebo kopiju. Jeho odev pozostával obvykle z tuniky, muskulárneho panciera, niekedy ho dopĺňal vojenský plášť (paludamentum). Realizácia výzdoby panciera (gravírovanie a inkrustácia) ukazuje na príbuznosť s dvomi bronzovými plastikami Jupitera Dolichenského z Nemecka – z Berlína-Lichtenbergu a z Kolína nad Rýnom. Na rozdiel od Jupiteru z Vlastivedného múzea v Hlohovci, sú obe vyobrazené s bradou.

Či soška naozaj predstavuje Jupitera Dolichena je otázne. Plastike chýbajú atribúty, charakteristické vyobrazenie brady a datovanie tiež ukazuje na vznik plastiky až po zániku kultu Jupitera Dolichena. Ikonografické stvárnenie Jupitera Dolichena v mladšom veku, bez brady sa zatiaľ podarilo zistiť len v dvoch prípadoch, žiaľ so sekundárnymi zásahmi (mramorové súsošia z Marseille a reliéf z Ceseny). Kým mladistvý výraz sa prihovára za zobrazenie Marsa, za stotožnenie sošky s Dolichenom hovorí postoj tela. Vďaka kontrastu a ponderácií vzbudzuje dojem, že stál na nerovnej ploche. Tou mohol byť chrbát býka.

Pri pohľade na plastiku sa ponúkajú ďalšie interpretácie – boh vojny Mars, rímsky vojak alebo hrdinská bytosť, prípadne cisár. Prilba, ktorú má Jupiter Dolichenus na hlave, nie je častým atribútom tohto boha. Postava vo výzbroji a prilbe viac pripomína boha vojny Marsa. Medzi bronzovými plastikami z doby rímskej sú početné vyobrazenia vojakov a bojových scén (samostatné plastiky alebo dekoratívne pektorále – balteus). Objavujú sa v bojových scénach najčastejšie spolu s nahými barbarmi (sarkofágy Portonaccio, Ludovisi). Honosnosť zobrazenej výzbroje, ako aj použitie materiálu ponúkajú i možnosť

uvažovať o héroickej, mytologickej postave, ktorá sa mohla objaviť nie ako solitérne vyobrazenie, ale ako súčasť väčšej kompozície, kde sa ostatné plastiky a výzdobné prvky nezachovali.

Prilba s maskou neumožňovala detailné vyobrazenie tváre. I napriek tomu, jej výraz pripomína portrét Caracallu (188–217 AD), prípadne Galliena (253–268 AD). Vzhľadom na priestorovo obmedzené vyobrazenie, by jej priame stotožnenie s cisárskymi portrétmi bolo priodvážne. Môže však napomôcť datovaniu jej vzniku. Podľa typológie prilby (pseudo-korintská prilba, typ Hedderheim typ), rozšírenej za vlády vojenských cisárov (najmä od čias Galliena po Constantia I Chlora, od 253/268 do 306) sa zdá, že plastika z Hlohovca vznikla až v 3. stor. po Kr. teda až v období úpadku, či dokonca zániku kultu Jupitera Dolichena. Či soška naozaj predstavuje Jupitera Dolichena je otázne. Plastike chýbajú atribúty, charakteristické vyobrazenie brady a datovanie tiež ukazuje na vznik plastiky až po zániku kultu Jova Dolichena.

Ikonografické stvárnenie Jupitera Dolichena v mladšom veku, bez brady sa zatiaľ podarilo zistiť len v dvoch prípadoch, žiaľ so sekundárnymi zásahmi (mramorové súsošia z Marseille a reliéf z Ceseny). Kým mladistvý výraz sa prihovára za zobrazenie Marsa, za stotožnenie sošky s Dolichenom hovorí postoj tela. Vďaka kontrapostu a ponderácií vzbudzuje dojem, že stál na nerovnej ploche. Tou mohol byť chrbát býka. Tvarovanie tela a výstupok na chrbte naznačujú, že plastika bola aplikovaná na neznámom podklade a mohla byť súčasťou väčšej kompozície. Podobný spojovací článok majú na chrbte figurálne bronzy na rímskych vozoch (Kieferfelden, Intercisa). Vo výstupku je navyše otvor so závitom. RTG snímok (vyhotovený použitím technického röntgenu, v spolupráci s Ing. P. Višňovským CONSULTING & amp; CONTROL OF WELDING, s. r. o., Žilina) preukázal, že výčnelok je pôvodný a odliaty bol spoločne s celou plastikou. Je otázne, či je pôvodný aj závit, alebo ho jednoducho prirobil neskorší vlastník. S výrobou závitov a šraubov sa stretávame i v antike, nemožno vylúčiť, že došlo k dodatočnému zásahu najpravdepodobnejšie až v 20. stor.

Obr. 1. Miesto nálezu – Hlohovec, Slovensko (autor T. Lieskovský).

Obr. 2. Jupiter Dolichenus (?). Bronzová socha z Vlastivedného múzea v Hlohovci (foto a kresba Vlastivedné múzeum v Hlohovci).

Obr. 3. Röntgenové snímky bronzovej sochy (autor P. Višňovský).

Obr. 4. Závit skrutky v staroveku – používaný na cibulkovitých sponách (Deppert-Lippitz et al. 1995, 39, obr. 20).

Obr. 5. Bronzové sochy ako dekorácia rímskych vozov (rekonštrukcia voza z Intercisy – Dunaújváros, Maďarsko).

Obr. 6. Bronzová socha Jupitera z Mauer an der Url, Rakúsko (Fleischer 1967, tab. 10: 18).

Obr. 7. Bronzová socha Jupitera Dolichena z Berlína-Lichtenbergu, Nemecko (CRFB, D1, 1994, 102, tab. 19).

Obr. 8. Jupiter Dolichenus z Kolína, Nemecko (Thomas 1995, 604, obr. 33).

Obr. 9. Mars z Butova, Bulharsko (Ogdenova-Marinova 1975, 78, 79, č. 73).

Obr. 10. Bronzová socha vojaka z Enns, Rakúsko (Fleischer 1967, 145, tab. 105: 194).

Obr. 11. Takzvaný Veľký Ludovisiho sarkofág (Rím: Museo Nazionale Romano – Museo Altemps, foto I. Kvetánová).

Obr. 12. Prilba typu G, Hedderheim, používaná na prelome 2. a začiatku 3. storočia.

Obr. 13. Jupiter Dolichenus v mramorovej sochárskej skupine z Marseille, Francúzsko (Hörig/Schwertheim 1987, tab. CXXXI: 602).

Obr. 14. Mramorový reliéf z Ceseny, Taliansko (Hörig/Schwertheim 1987, tab. CIV: 457).

Mgr. Ivana Kvetánová, PhD.

Vicolo dei Panieri 48

IT – 001 53 Roma

quitko@gmail.com

BUNTMETALLVERARBEITUNG IN DEN VÖLKERWANDERUNGSZEITLICHEN SIEDLUNGEN IN DER SÜDWEST- UND MITTELSLOWAKEI¹

Karol Pieta

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Keywords: Southwestern Slovakia, Central Slovakia, Migration period, lowland and hilltop settlements, non-ferrous metals, workshops, crafts.

Abstract: **Processing of Non-Ferrous Metals in Settlements from the Migration Period of Peoples in Southwestern and Central Slovakia.** This article presents evidence of non-ferrous metalworking in southwestern and central Slovakia during the Migration Period, identified in both lowland and hilltop settlements. The presence of this activity is confirmed by the remains of production waste, including slag, crucible fragments, casting moulds, lead models, tools, and unfinished or broken products, primarily brooches. The volume of production waste suggests these were small, localized workshops. Their primary focus was the secondary processing of scrap metal, mainly of Roman provincial origin. Additionally, the finds indicate that these workshops also repaired metal sheet vessels.

Die Anzahl der Fundstätten in germanischen Siedlungen der Römerzeit und Völkerwanderungszeit in der Südwest- und Mittelslowakei sowie in den angrenzenden Barbarenregionen, die Zeugnisse des Bunt- und Edelmetallhandwerks liefern, nimmt in den letzten Jahren zu. Parallel dazu nimmt auch die Zahl der Studien zur Buntmetallverarbeitung in der Barbarenzeit zu, die sich mit handwerklichen Techniken, der Verbreitung der Produkte und der Klassifizierung der archäologischen Quellen, die diesen Produktionsprozess dokumentieren, befassen (*Gustavs 1989; Könemann 2018; Leube 2009; Tejral 2015; Voß 2008; 2016*). Trotz der Zunahme der Belege für Feinschmiedearbeit im Barbaricum fehlt jedoch immer noch ein tieferes Verständnis der Organisation des Handwerks und der sozialen Stellung der Handwerker in der germanischen Gesellschaft (*Claude 1981*).

Die Funde dieser Art in der Slowakei stammen größtenteils aus dem Ende der Älteren und dem Beginn der Jüngeren Römerzeit (vgl. *Szabová 2019, 80–82; Varsik/Kolník 2021, 342–347*). Aus der Völkerwanderungszeit sind sie hingegen relativ selten. Sie wurden im Rahmen mehrerer älterer und neuerer Siedlungsforschungen im Flach- und Bergland der Südwest- und Mittelslowakei (Abb. 1) zusammengetragen. Ihre Anzahl wurde kürzlich durch neue Untersuchungen erweitert. Ein Großteil dieser Forschungen wurde von Ján Rajtár initiiert und durchgeführt. Dem Wirken dieser dominanten Persönlichkeit der slowakischen Römerzeitforschung ist dieser Beitrag gewidmet.

Die Produktionstätigkeit der Werkstätten, in denen in den Siedlungen Schmuck aus Bunt- und Edelmetallen hergestellt wurde, lässt sich anhand von Werkzeugen, aber auch von Metallrohmaterialien (Barren, Halbfertigprodukte) belegen. Des Weiteren zeugen Abfälle aus Schmiede-, Schmelz- und Gießprozessen (Metallschlacke, technische Keramik, gebrauchte Schmelztiegel, Fragmente

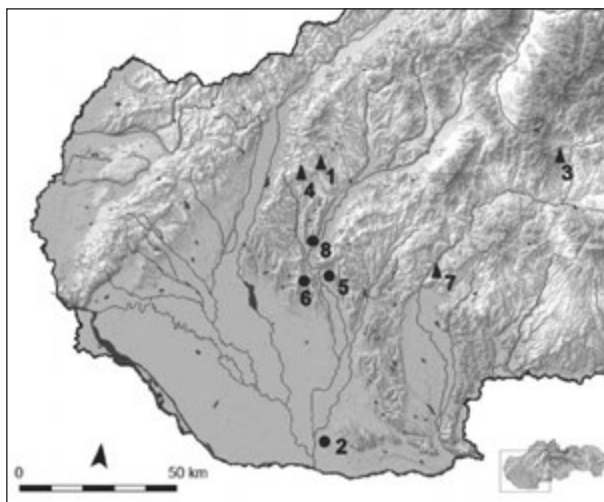


Abb. 1. Südwestslowakei und ein Teil der Mittelslowakei. Die Höhensiedlungen (Dreiecke) und flache Siedlungen (Punkte) mit Belegen der Feinschmiedenproduktion. 1 – Bojná; 2 – Chotín; 3 – Malachov (Horné Pršany); 4 – Moravany nad Váhom (Marhát); 5 – Nitra; 6 – Nitra-Párovské Háje; 7 – Rybník; 8 – Výčapy-Opatovce.

¹ Der Beitrag entstand mit Unterstützung des Förderprojekts VEGA 2/0043/22.

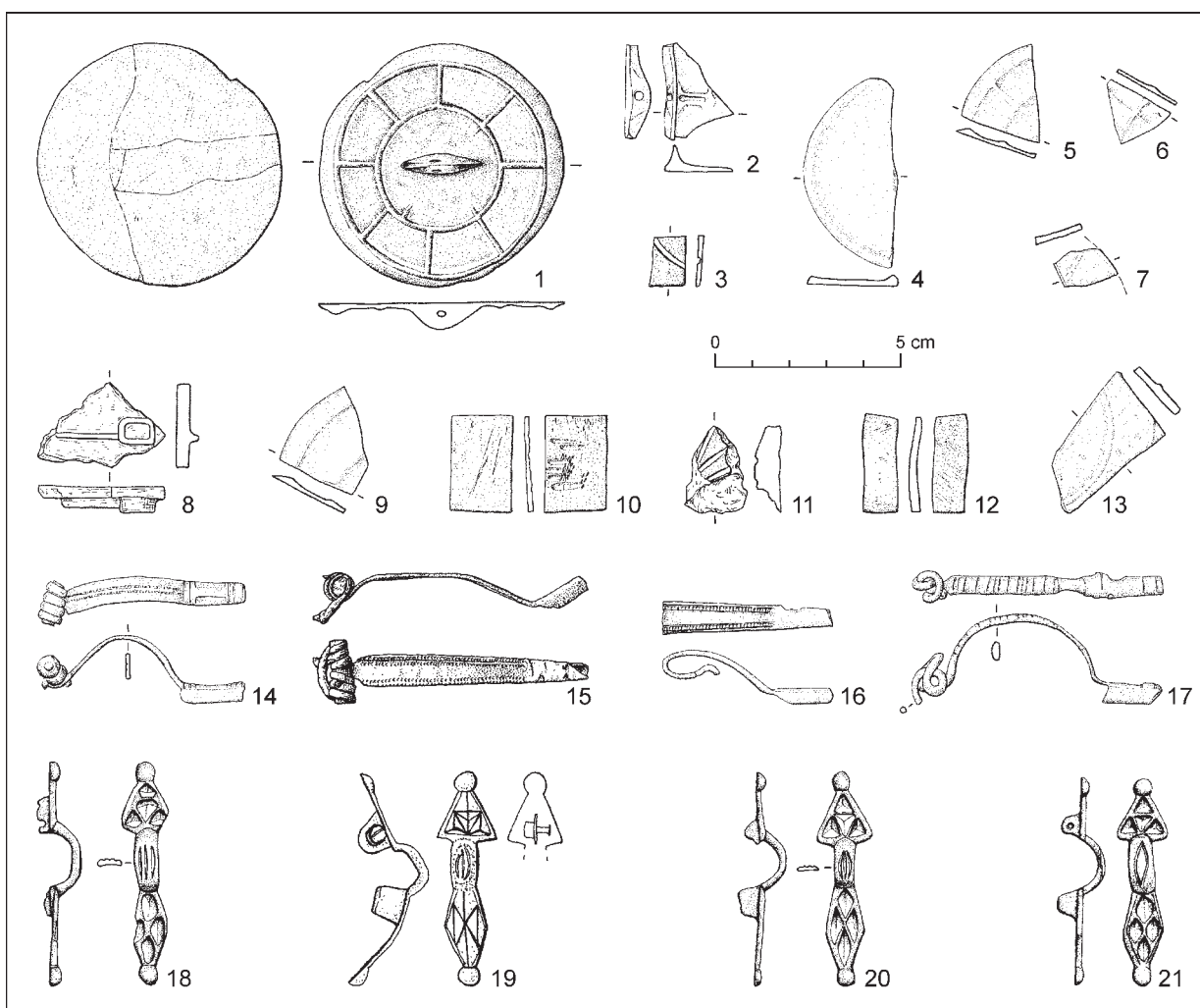


Abb. 2. Bojná, Bez. Topolčany (Bojná II-Hradisko). Spiegel- und Fibelfunde. 1–13, 16–21 – Kupferlegierung; 14, 15 Bronze und Eisen (Windungsreparatur).

von Gussformen) sowie Halb- und Fehlgüsse von der damaligen handwerklichen Tätigkeit. Die meisten Funde stammen aus Feldbegehungen oder Rettungsgrabungen, bei denen in Siedlungsschichten oder in Verfüllungen von Objekten eines einfachen Typs Produktionsspuren entdeckt wurden. Grundrisse von Werkstätten, die sich von den üblichen Wohnbauten unterschieden, oder ihre Einrichtungen (Öfen, Feuerstellen) fehlen bislang.

Der Artikel enthält mehrere Angaben zur Zusammensetzung der Metalle. Sofern nicht anders angegeben, handelt es sich um stichprobenartige Messungen mittels Röntgenfluoreszenz mit einem Niton XL3 XRF-Analysator.

BOJNÁ, BEZ. TOPOLČANY

Die von der natürlichen Lage gut geschützte Höhensiedlung Bojná II- Hradisko diente am Ende der frühromischen Kaiserzeit und wiederholt zur Zeit der Völkerwanderung als Zufluchtsort. Die dortigen Befestigungsanlagen stammen aus dem 9. bis 10. Jahrhundert und waren Teil eines Systems von frühmittelalterlichen Burgwallanlagen im Gemeindegebiet von Bojná (*Pieta 2017, 32; Pieta/Robak 2018, 330*).

Bei den Sondierungsarbeiten und geophysikalischen Messungen wurden auf der Siedlungsfläche keine Baustrukturen gefunden. Alle Funde stammen aus den Oberflächenschichten. Es handelt sich offenbar um eine eher kurzzeitige und wiederholte Nutzung des Platzes, was durch die auffallend geringe Anzahl von Keramikfragmenten unter den Funden gestützt wird. Demgegenüber zeichnet sich die Fundstelle durch eine beträchtliche Menge an Metallfunden aus dem gesamten 5. Jahrhundert aus, darunter ein Hort spätrömischer Münzen.

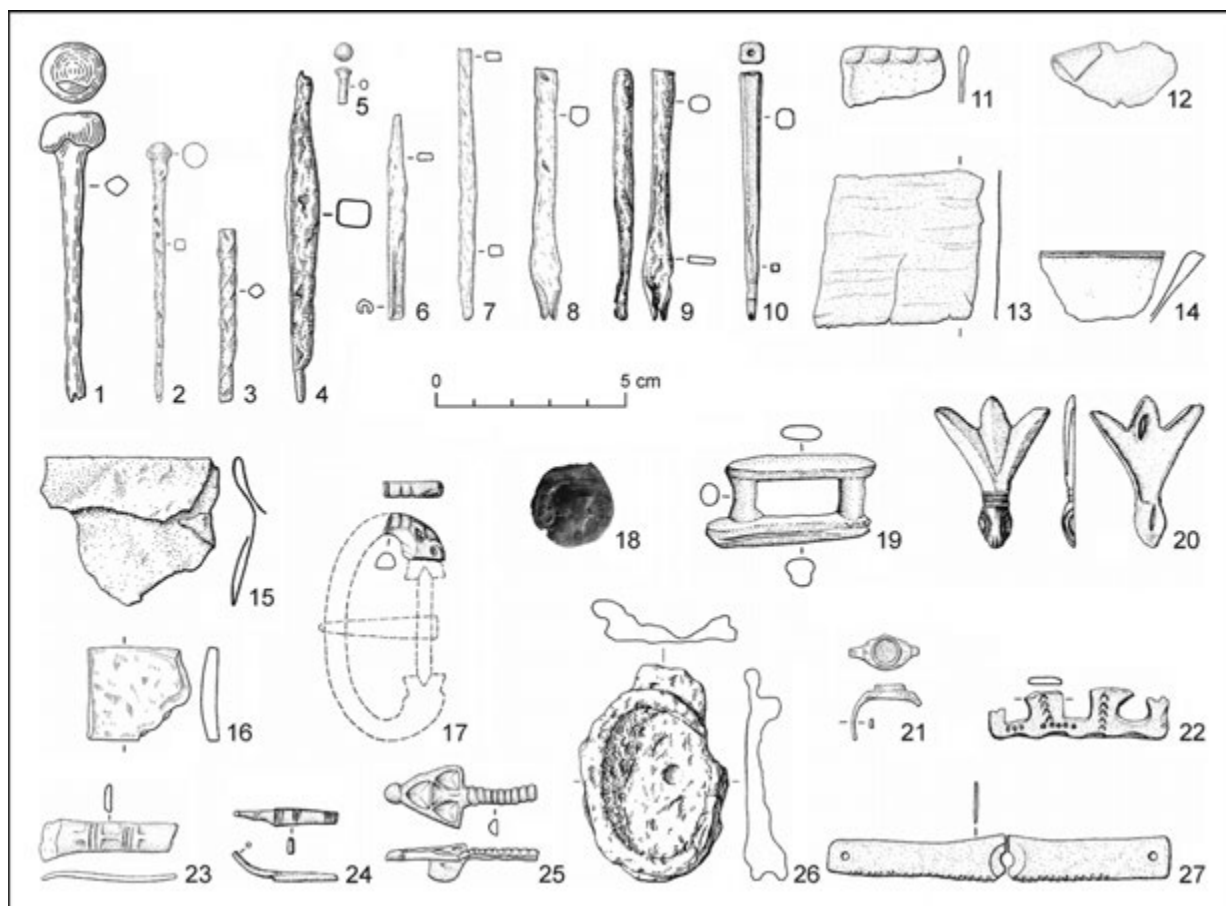


Abb. 3. Bojná, Bez. Topolčany (Bojná II-Hradisko). Kleingeräte (1, 2, 5–9), Halbfabrikate (3, 4, 10), Fragmente von Metallgefäßen (11–16), Gürtelteilen (17, 22, 27), Fibeln (23–25), Fingerring (21), gehämmerte römische Münze (18), Fehlgußbeispiele (20, 26), Bleiplombe (19). 1–9 – Eisen; 10 – Bronze, goldplattiert; 11–17, 20, 22, 23, 25, 27 – Kupferlegierung; 18, 24 – Silber; 19, 26 – Blei; 21 – Kupferlegierung und Glas.

Hervorzuheben sind die zahlreiche Metallspiegel- und andere Weißmetallfragmente, die offenbar zum Umschmelzen bestimmt waren (Abb. 2: 1–13). Der vollständig erhaltene Spiegel vom Typ Tschmi-Brigetio (Abb. 2: 1) wurde aus einer Kupferlegierung mit einem sehr hohen Zinngehalt hergestellt (Die XRF Analyse aus der Oberfläche: Cu 58,45/41,86 %, Sn 39,79/45,77 %, Pb 0,05/2,88 %). Eine solche Häufung von Spiegelfragmenten wurde auch auf anderen Höhensiedlungen beobachtet (Smolenice: *Turčan* 2021, 358, Abb. 2: 9–13).

Basierend auf den Hammerschlagspuren wurden auch hochwertige Silbermünzen aus dem 2. Jahrhundert, Spangenfragmente und andere Gegenstände als Metallrohmaterial verwendet. Es wurden zudem feine Werkzeuge entdeckt, die zum Ziselieren und zur Bearbeitung von Bunt- und Edelmetallen dienen.

Die Funde belegen, dass der Berg Hradisko während des gesamten 5. Jahrhunderts genutzt wurde. Die Überreste der Feinschmiedearbeiten lassen sich zwei Besiedlungsphasen zuordnen. In die Frühvölkerwanderungszeit der Stufe D1 fallen beschädigte oder unfertig gebliebene bronzene Bogenfibeln. Die einteilige Spange mit quer geriffeltem gewölbtem Bogen weist zahlreiche Parallelen in Skelettgräbern sowie in Flachland- und Höhensiedlungen des nördlichen Teils des mittleren Donauraums auf (*Pieta* 2020, 54, Abb. 14: 1; *Tejral* 2011, 97).

Die fragmentarischen Bronzespangen mit Tremolo Verzierung am bandförmigen Bogen (Abb. 2: 14–16) waren ursprünglich als einteilige Fibeln mit äußerer Sehne konstruiert. Nach einem Bruch der Windung wurden sie durch Hinzufügen eines eisernen Stifts und einer Ersatzwindung mit Nadel repariert. Als Rohmaterial dienten offenbar die entdeckten Fragmente von identischen Bronze- und Silberfibeln, die Hammerschlagspuren aufweisen (Abb. 3: 23, 24).

Die gegossenen, mit Kerbschnitt verzierten Fibeln des Prša-Levice-Typs (Abb. 2: 14–16) zählen zu den charakteristischen Artefakten des Horizonts der D2/D3-Stufe aus der 2. Hälfte des 5. Jahrhunderts im weiteren

mitteleuropäischen Raum. Vorkommen dieser Fibeln finden sich auch in Siebenbürgen und im Schwarzmeerraum (Gavrituchin 2013; Masek 2019, Abb. 2; Tomka 2010). Nach P. Tomkas Typologie würden die Exemplare aus Bojná aufgrund ihrer Merkmale (kleine Größe, Bogenverzierung) zu ihrer ursprünglichen „Grundserie“ gehören, die im nordwestlichen Teil des Karpatenbeckens konzentriert war (Tomka 2010, 485).

Eine größere Variante dieses Typs mit einem schmalen quergerieften Bogen wurde ebenfalls identifiziert (Abb. 3: 25; Masek 2019). Die Konzentration von Prša-Levice (Levice-Tokari)-Fibeln im nördlichen Mitteldonauraum wird durch neue, noch nicht publizierte Funde aus Siedlungen in der Süd- und Südwestslowakei weiter untermauert.

Ein deutlicher Beleg für eine lokale Produktion in Bojná ist der Fehlguss einer Zikadenfibel vom Donau-Typ (Abb. 3: 20). Die Herstellung dieser Variante in Pannonien und der Südwestslowakei wird durch die Konzentration ihrer Verbreitung gestützt, neben dem Fund aus Bojná auch durch ein weiteres Halbfabrikat aus dem Fundort Buschberg-Steinmandl (Mistelbach, Österreich: Szameit 1997, Abb. 5: 4; Tejral 2015, 313, 314, Karte 4). Auf Grund der bisherigen Datierungsanalysen dieses Fibeltyps kann davon ausgegangen werden, dass ihre Herstellung in Bojná II zeitgleich mit den Fibeln des Typs Prša-Levice in die D2/D3-Phase, also in das Ende des 5. Jahrhunderts fällt.

Der misslungene Guss eines Bleimodells einer Schnalle mit ovalem, verstärktem Rahmen (Abb. 3: 26) und eine goldplattierte Bronzespitze mit unbekanntem Verwendungszweck (Abb. 3: 10) scheinen ebenfalls in diese Zeitphase der Siedlung Bojná II zu gehören. Die Bleiplombe (Abb. 3: 19) war zweifellos Teil einer Keramikreparatur, wie sie im provinziellen Umfeld üblich war (Amrein et al. 2012, 161, 162). In unserem Fall könnte es sich jedoch um ein sekundär verwendetes Material handeln.

CHOTÍN, BEZ. KOMÁRNO

Bei Oberflächenschürfungen in der Umgebung des Dorfes wurden mehrere Fragmente von Bleimodellen von Fibeln mit Kergschnittverzierung aus der 2. Hälfte des 5. Jahrhunderts gefunden (vielen Dank an Ján Rajtár für die Informationen).

MALACHOV, BEZ. BANSKÁ BYSTRICA

Hrádok (680 m). In der Literatur wird die Fundstelle manchmal auch als Horné Pršany bezeichnet, da sich hier die Grenzen zweier Kataster treffen (Pieta 2008, 460, Abb. 3). Auf einer kleinen späteisenzeitlichen Befestigung wurde unter den Wurzeln eines umgestürzten Baumes zufällig eine Ansammlung von Funden entdeckt und untersucht, die wahrscheinlich die Überreste einer Werkstatt darstellen. Neben mehreren Werkzeugen, darunter eine Zange, fanden sich auch eine Steinplatte mit Spuren der Bronzeverschmelzung und mehrere Teile eines Metalleimers. Aufgerollte Blechstreifen mit Nieten lassen vermuten, dass hier auch Bronzegefäße hergestellt oder repariert wurden (Abb. 4). Mehrere andere völkerwanderungszeitliche Funde kamen illegal an diesem Ort zum Vorschein. Zu nennen ist zumindest ein Paar Silberfibeln mit umgeschlagenem Fuß, verziert mit Tremolo Dekor.

MORAVANY NAD VÁHOM, BEZ. PIEŠŤANY

Marhát (748 m). Auf dem bekannten Burgwall aus der Spätbronze- und Hallstattzeit wie aus dem Frühmittelalter wurden auch vereinzelte Funde aus der Spätkaiserzeit und der Völkerwanderungszeit gemacht (Jakubčinová 2008; Pieta 2017, 13, 15). Ein Halbfabrikat einer zweiteiligen Bronzefibel wurde hier ebenfalls gefunden (Abb. 5).

Die Fibel hat einen flachen dreieckigen Bügel und einen rechteckigen Kopf, der wahrscheinlich die Windung der zweiteiligen Konstruktion verdecken sollte. Die Kanten des Bügels sind ungeschliffen, ebenso wie die gesamte Unterseite der Spange mit Vorsprüngen für den Nadelhalter und die Befestigung der Schließvorrichtung unbearbeitet. Länge 36 mm.

Die Metallzusammensetzung: Cu 64,90 %, Sn 34,29 %, Pb 0,55 %. Trotz intensiver Suche konnten für die Fibel keine Parallelen gefunden werden und auch ihre zeitliche Einordnung bleibt unklar. Es handelt sich eindeutig um ein unfertiges oder ein misslungenes Stück.

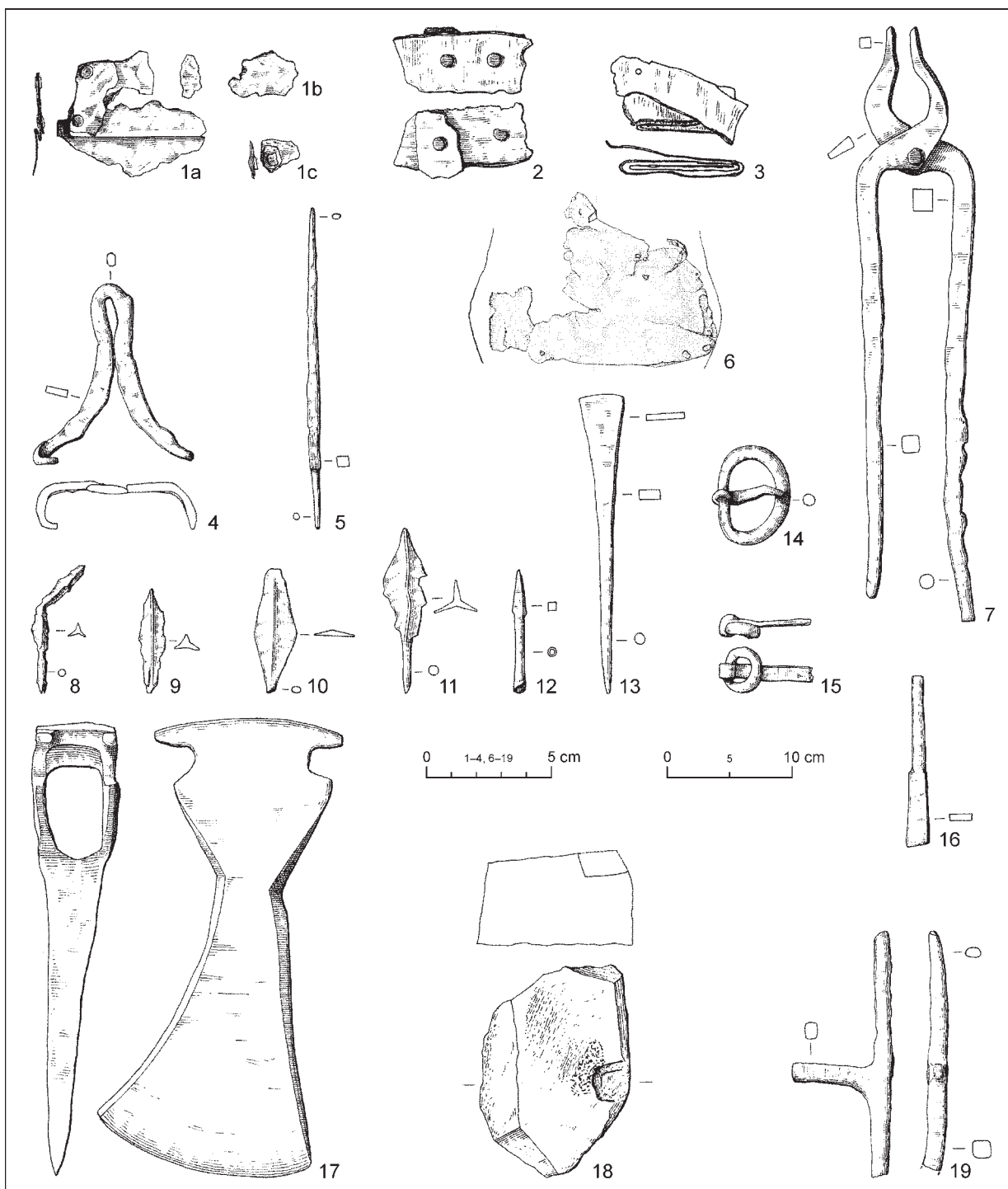


Abb. 4. Malachov (auch unter Horné Pršany), Bez. Banská Bystrica, Hrádok (680 m). Fundkomplex aus der Höhensiedlung. 1-3, 6 - Kupferlegierung; 4, 5, 7-17, 19 - Eisen; 18 - Stein und Bronze.

NITRA-CHRENOVÁ

In der germanischen Siedlung im östlichen Teil der Stadt, die beim Bau des Stadtteils Chrenová III teilweise freigelegt wurde, kamen auch einige Objekte aus der Völkerwanderung zutage. Das Grubenhaus 3/73 besaß einen rechteckigen Grundriss mit den Maßen 205 × 265 cm und Tragpfosten in den Ecken. In der Verfüllung wurden neben Keramikfragmenten auch gebogene Blechstücke aus Kupferlegierung und andere Produktionsabfälle

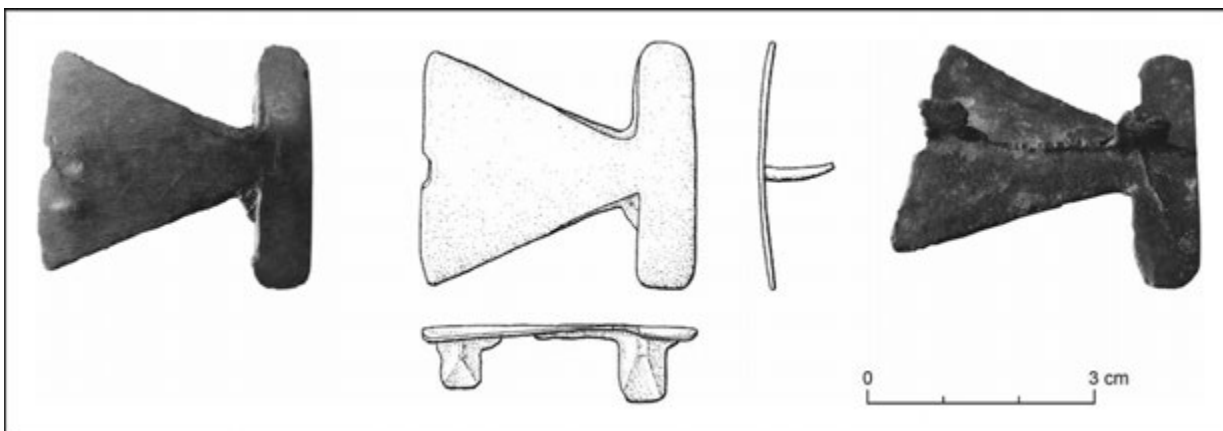


Abb. 5. Moravany nad Váhom, Bez. Piešťany, Marhát (748 m). Halbfabrikat einer Fibel. Bronze.

entdeckt. Ein antiker Bronzelöffel ergänzte das Inventar. Fragmente eines Glasgefäßes vom Typ Barshalder-Kapušany-Ghenci, eine Eisenfibel vom Typ Rathewitz sowie Keramik vom Typ Murga datieren diese Werkstatt in die 2. Hälfte des 5. Jahrhunderts (Pieta 1993, 88, Abb. 5: 11–13, 16; Tejral 2015, 345, 346).

NITRA-PÁROVSKÉ HÁJE

Am südlichen Stadtrand von Nitra, in der Gemarkung Valy-dolina des Cabajský-Beckens, wurde in den Jahren 1972–1995 über mehrere Jahre hinweg unterbrochen eine germanische Siedlung aus dem 3. bis 5. Jahrhundert entlang der einzelnen Gasleitungen untersucht. Im Zuge der archäologischen Rettungsgrabungen wurden auf einer Gesamtfläche von ca. 4000 m² mehr als 170 Objekte freigelegt und untersucht (Pieta/Ruttkay 1997, 145). Etwa 20 der freigelegten Objekte gehörten zur letzten Besiedlungsphase aus der Völkerwanderungszeit. Dabei handelte es sich fast ausschließlich um Wirtschaftsobjekte – zwei Töpferöfen und mehrere seichte Gruben. In der Verfüllung dreier Gruben wurden Abfälle aus der Buntmetallverarbeitung entdeckt. In der Grube 7/86 fand sich im Inventar das Fragment einer Gussform. In der Grube 8/1994 wurden bearbeitete Eisen- und Bronzefragmente, eine unvollendete bronzene Scheibenfibel sowie Fragmente von Gusstiegeln und einer Blasebalgdüse freigelegt (Pieta/Ruttkay 1997, 149, Abb. 10: 1, 8–11).

In diesem Beitrag liegt der Fokus auf dem Inhalt von Objekt 10/1972, welches bisher nur kurz in der Literatur erwähnt wurde (Pieta/Ruttkay 1997, 149, Abb. 11: 16). Die seichte, kesselförmige Grube, die durch den Gasrohrgraben teilweise gestört wurde, befand sich im westlichen Bereich des Siedlungsareals. In ihrer Verfüllung wurden sowohl das übliche Siedlungsfunde als auch Produktionsabfälle freigelegt.

Das Inventar (Abb. 6–8) umfasste drei Fragmente grün glasierter Reibschüsseln, von Gefäßen mit geglättetem Dekor sowie von handgeformten und scheibengedrehten Töpfen (Abb. 8). Des Weiteren fanden sich ein Gegenstand aus Blei, der Hals eines Glasgefäßes, Bruchstücke von Eisen- und Bronzegegenständen, feine Werkzeuge, Fragmente von Gusstiegeln und Gussformen (Abb. 6). Unter den Eisengegenständen überwiegen formlose Fragmente mit Bearbeitungsspuren durch Hämmern. Auch Fragmente von zerbrochenen Objekten, wie ein Teil eines Schlüssels (Abb. 6: 18), Fragmente einer Fibelnadel und einer Windung (Abb. 6: 14, 19) lassen sich erkennen. Ein weiteres Fragment gehört zu einer Ahle, einem typischen Werkzeug dieser Epoche (Abb. 6: 9; Schuster 2011). Dieses Werkzeug findet sich auch in anderen Objekten dieses Fundplatzes wieder (Pieta/Ruttkay 1997, Abb. 6: 1, 4). Zu den Werkzeugen gehören außerdem ein feiner Meißel (Abb. 6: 12) und eine Nadel (Abb. 6: 15).

Unter dem restlichen Eisenschrott dominieren Dutzende von Blechfragmenten. Es handelt sich um fein zerschnittene Stücke von 12, 17 und 30 mm breiten Blechen. Anhand der erhaltenen Löcher und Befestigungsnägel mit einer Länge von 14 mm (Abb. 6: 27–31, 33) lässt sich schließen, dass es sich um das Material von Eisenbeschlägen eines Holzkastens handelt, das zur weiteren Verwendung vorbereitet wurde.

Zusätzlich wurden 28 Fragmente von Kupferlegierungsblechen für die Weiterverarbeitung vorbereitet (Abb. 6: 1, 2, 4). Die Fragmente zeigen Bearbeitungsspuren von Scheren, Meißeln, Biegen und Erhitzen. Mindestens ein Fragment lässt sich dem Rand eines Gefäßes zuordnen. Die archeometrische Analyse von vier Fragmenten

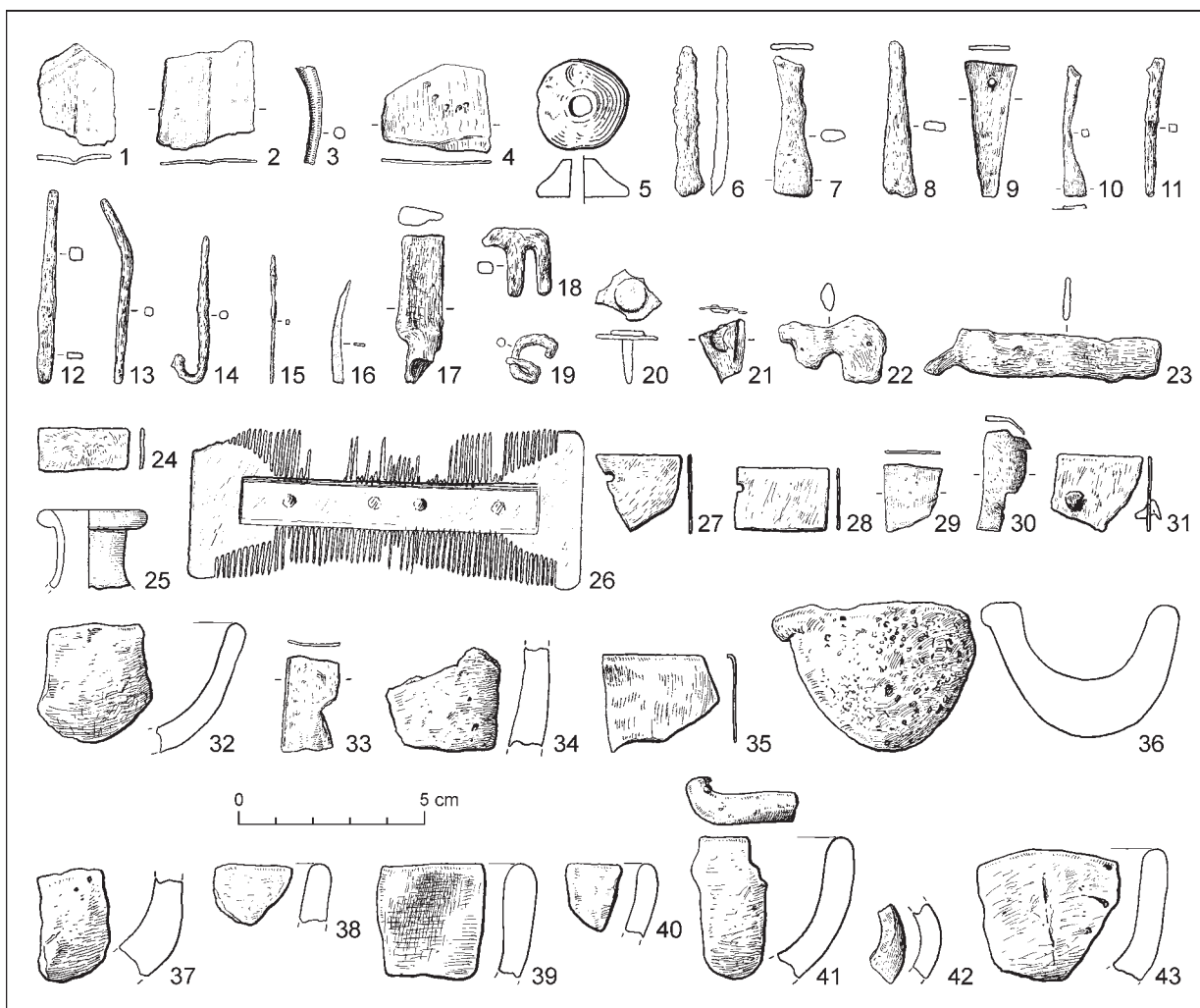


Abb. 6. Nitra-Párovské Háje. Objekt 10/72. Teilinventar 1: 1–4, 20, 21, 24 – Bronze; 5 – Blei; 6–19, 22, 23 – Eisen; 25 – Glas; 26 – Bein, Bronze (Niete). Teilinventar 2: 27–31, 33 – Eisen; 32, 34–43 – Ton, Metallreste.

aus dieser Gruppe bestätigte zudem die Vielfalt des Materials. Zwei Fragmente mit ihrer Zusammensetzung (Cu 72,01 %, Sn 4,999 %, Zn 2,85 %, Pb 19,75 % bzw. Cu 86,21 %, Sn 8,99 %, Zn 2,05 %, Pb 0,99 %; Abb. 6: 2) erinnern an römische Metallgefäße. Auch ein Blechfragment mit einer erhaltenen Niete (Abb. 6: 21) stammt wahrscheinlich von einem Kessel oder Eimer. Ein weiteres Fragment scheint aufgrund seiner Zusammensetzung (Cu 67,19 %, Sn 23,77 %, Zn 0,59 %, Pb 7,97 %) zu einem Spiegel aus Weißbronze zu gehören.

Römische Metallgeschirrtile waren das Standardwerkmaterial der germanischen Werkstätten, wie zahlreiche Materialanalysen von Kupferlegierungen mit Zink belegen (Voß 2008; 2016). Beim Schmelzvorgang wurde das Material in kleinere Stücke zerlegt, um es für die Verhüttung vorzubereiten (Leube 2009, 94, 95; Schwarcz 2013, 225, 226).

Ein Bleigegegenstand mit einem zentralen Loch, das einem Spinnwirtel ähnelt (Abb. 6: 5), hat zahlreiche Entsprechungen aus verschiedenen Zeiträumen, einschließlich des frühen Mittelalters (Haruštiak 2010, Taf. II: 8). Seine Funktion ist umstritten. Es könnte sich um einen Spinnwirtel, aber auch um ein Gewicht gehandelt haben (Macháček/Měchura 2013, 279). Ein Bleiring mit zentralem Loch wurde auch auf der Wallanlage Krivín bei Rybník gefunden (Abb. 9: 10).

Von zehn Fragmenten von schüsselförmigen Tiegeln mit Ausguss (Abb. 6: 32, 34, 36–43) wurde die Innenfläche von zwei Fragmenten analysiert. Es wurden Spuren von Kupfer (0,68 % bzw. 1,28 %) und Zink (0,83 % bzw. 0,95 %) nachgewiesen, so dass es sich zweifellos um eine Messingschmelze handelte.

Ein wichtiges Zeugnis der Produktion sind Fragmente von Tonformen (Abb. 7). Teile der Mündung des Gießkanals und mehrere Negative der dekorativen Endknöpfe sind erhalten geblieben. Es handelt sich um die

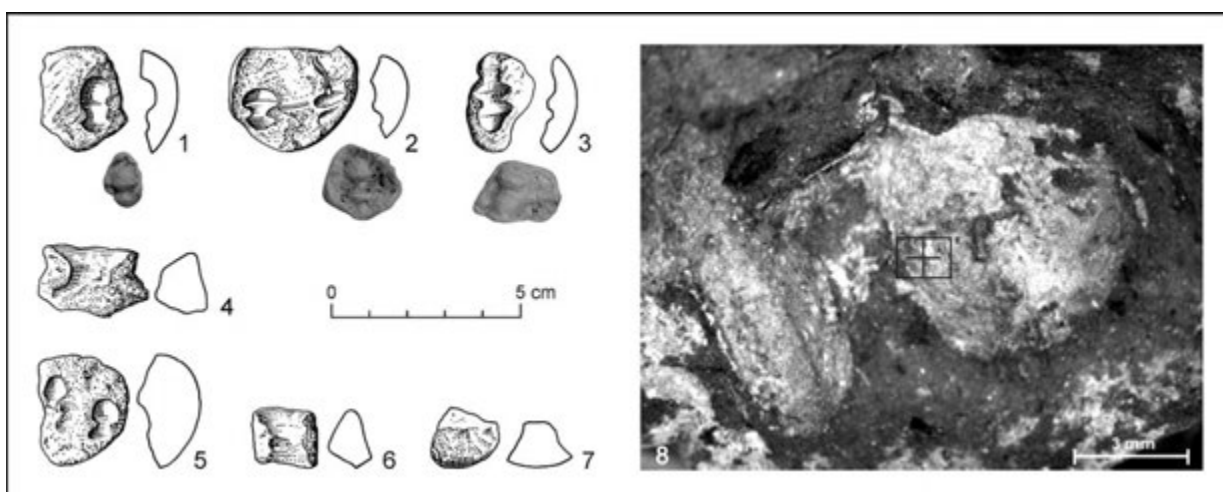


Abb. 7. Nitra-Párovské Háje. Objekt 10/72. Teilinventar 3. 1–7 – Gussformenfragmente, Ton, Metallreste; 8 – Foto des Endknopf-Negativs.

Fragmente einer oder mehreren verlorenen Formen. Solche Formen sind nur einmal verwendbar und nach dem Guss zerstört werden müssen, um das Werkstück zu entformen. Sie dienen zur Herstellung von Einzelstücken. Die verlorene Form-Technik ermöglicht die Herstellung detaillierter und komplexer Schmuckstücke, die mit anderen Gussverfahren schwer zu erreichen wären.

Die Analyse mittels Röntgenfluoreszenzspektroskopie (XRF, durchgeführt vom Earth Science Institute SAS, S. Milovská) bestätigte das Vorhandensein von Kupfer- und Zinkspuren in den Formen (Abb. 7: 8). Diese Zusammensetzung entspricht derjenigen der Metallüberreste in Schmelztiegelfragmenten desselben Objekts.

Solche Endknöpfe (Abb. 7: 1–3, 5) wurden verwendet, um die Achsen und Kopfplatten von Armbrustkonstruktionen an spätrömischen Fibeln zu beenden. Sie dienten auch als Zierelemente an silbernen Blechbogenfibeln, die in Einzelfällen ebenfalls aus Kupferlegierung gefertigt waren. Ein Beispiel hierfür sind die gegossenen Bronzefibeln aus Pécs-Basahalom, bei denen Zierknöpfe durch Nieten am halbrunden Kopf befestigt waren (Kiss 1974, 121, Taf. II: 1a).

In den Tonformen aus Nitra-Párovské Háje konnten auch die dekorativen Endstücke von bogenförmigen Blechfibeln aus Kupferlegierung gegossen werden. So entstand ein Metallmodell, das für die Herstellung von Silberstücken verwendet werden konnte. Ein solches Bronzmodell einer Zierapplikation auf Fibeln dieses Typs stammt aus einem Hortfund in Buschberg-Steinmandl (Szameit 1997, 241, Taf. 5: 6; Tejral 2015, 325, Abb. 9: 1). Die Produkte aus der Werkstatt in Nitra-Párovské Háje könnten aufgrund ihrer Größe und markanten Profilierung Teile der entwickelten Blechbogenfibeln der Székely-Variante gewesen sein. Diese Fibeln sind bereits mit frühen Kerbschnittarbeiten vergesellschaftet (Gavrituchin/Kazanski 2010, 88, 99, Abb. 4.2: 1–4; Tejral 1997, 347, Abb. 25: 16, 17).

RYBNÍK, BEZ. LEVICE

Die bekannte Erdbefestigung Krivín (316 m), eine dominante Anhöhe im weiteren Bereich der sog. Slowakischen Pforte im Grantal, wurde nach den Sammelfunden in der Spätbronzezeit, in der Hallstatt- und Latènezeit besiedelt, aber auch als Höhensiedlung in der Zeit der Völkerwanderung genutzt. Zahlreiche Funde aus der ersten und zweiten Hälfte des 5. Jahrhunderts belegen dies (Abb. 9).

Aus der jüngeren Siedlungsphase stammt ein Bleimodell, das als Vorbereitung für die Herstellung einer Kerbschnittschnalle vom Typ Domlopuszta diente (Bierbrauer 1975, 135–142; Pieta 2008, 471; Tejral 2015, 330, Abb. 21: 1). Zudem umfasst das Sammlungsmaterial aus dem Bereich des Burgwalls eine römische Münze (centenionalis) des Kaisers Crispus aus dem Jahr 326 n. Chr. sowie Bruchstücke eines Kessels (Abb. 9: 11, 12), dessen Datierung jedoch unsicher ist. Die Zusammensetzung des Metalls, das in diesem Fall überwiegend aus Kupfer besteht, lässt keine eindeutigen Rückschlüsse auf die Herkunft und Datierung dieses Metallgefäßes zu (Cu 97,77 %, Sn 0,66 %, Zn 0,31 %, Pb 1,52 % bzw. Cu 99,32 %, Sn 0 %, Zn 0,21 %, Pb 0,10 %).

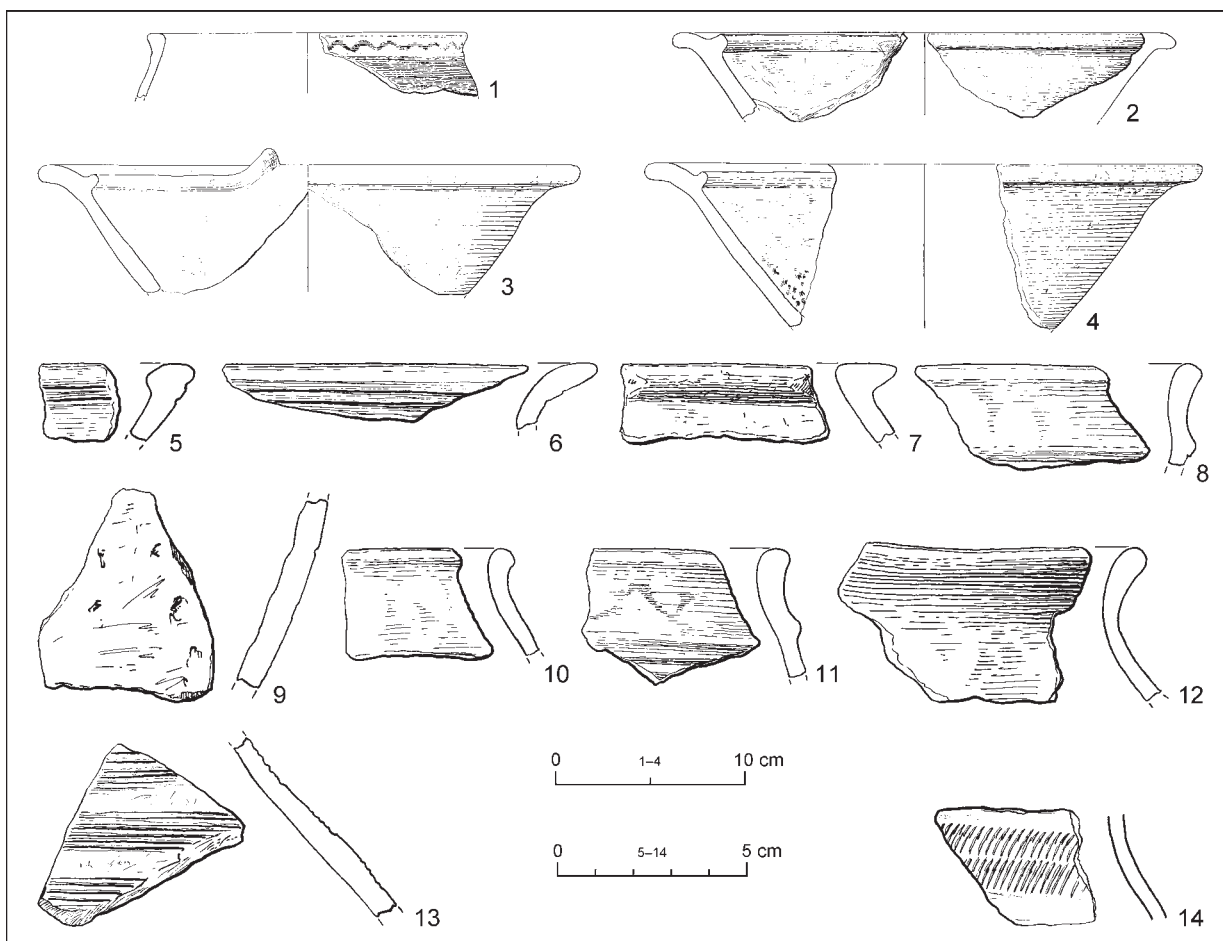


Abb. 8. Nitra-Párovské Háje. Objekt 10/72. Teilinventar 4, 5. 1 – geglättete Keramik; 2–4 – grün glasierte Keramik; 5–14 – scheibengedrehten Keramik.

VÝČAPY-OPATOVCE, BEZ. NITRA

Während der Ausgrabung einer multikulturellen Flachlandsiedlung im Jahr 1954 wurde eine isolierte Grube aus der Zeit der beginnenden Völkerwanderung untersucht. In der Keramik aus der der Grubenverfüllung (Abb. 10) überwiegen einfache handgefertigte, unverzierte Töpfe, die für die spätswebische Sachkultur charakteristisch sind. Daneben fanden sich aber auch ein scheibengedrehter Krug mit eingeglätteter Verzierung (Abb. 10: 23) und ein Fragment eines grün glasierten Gefäßes (Abb. 10: 13). Der Fund enthielt außerdem Metallschlacke, mehrere Blechfragmente (die nicht erhalten sind) und Fragmente von Gusstiegeln (*Pieta/Plachá* 1989, 80, Abb. 9; *Točík* 1962, 204, Abb. 13). An den Innenwänden eines kleinen zylindrischen Tiegels mit stark glasiger Oberfläche (Abb. 10: 8) wurden laut Analyse von L. Mihok, STU Košice, Spuren von Metall, meist Silber nachgewiesen (Ag: 0,239 %, Cu 0,012 %, Sn 0,001 %). Unter den anderen Produktionsabfällen befinden sich zwei linsenförmige Eisenschmiedeschlacken. In mehreren Fragmenten glasartiger Schlacke konnten sehr niedrige Werte von Buntmetallen (Cu 0,16 %, Pb 0,010 %, Zn 0,005 %) festgestellt werden.

DISKUSSION

Die gesammelten Funde aus dem 4–5. Jahrhundert aus der West- und Mittelslowakei, die mit der Verarbeitung von Bunt- und Edelmetallen in Zusammenhang stehen, geben nur einen lückenhaften Eindruck von der Feinschmiedearbeit in diesem Gebiet. Sie bestätigen jedoch das relativ große Ausmaß der lokalen Produktion in den größeren Flachlandsiedlungen sowie in den Siedlungen des Berglands.

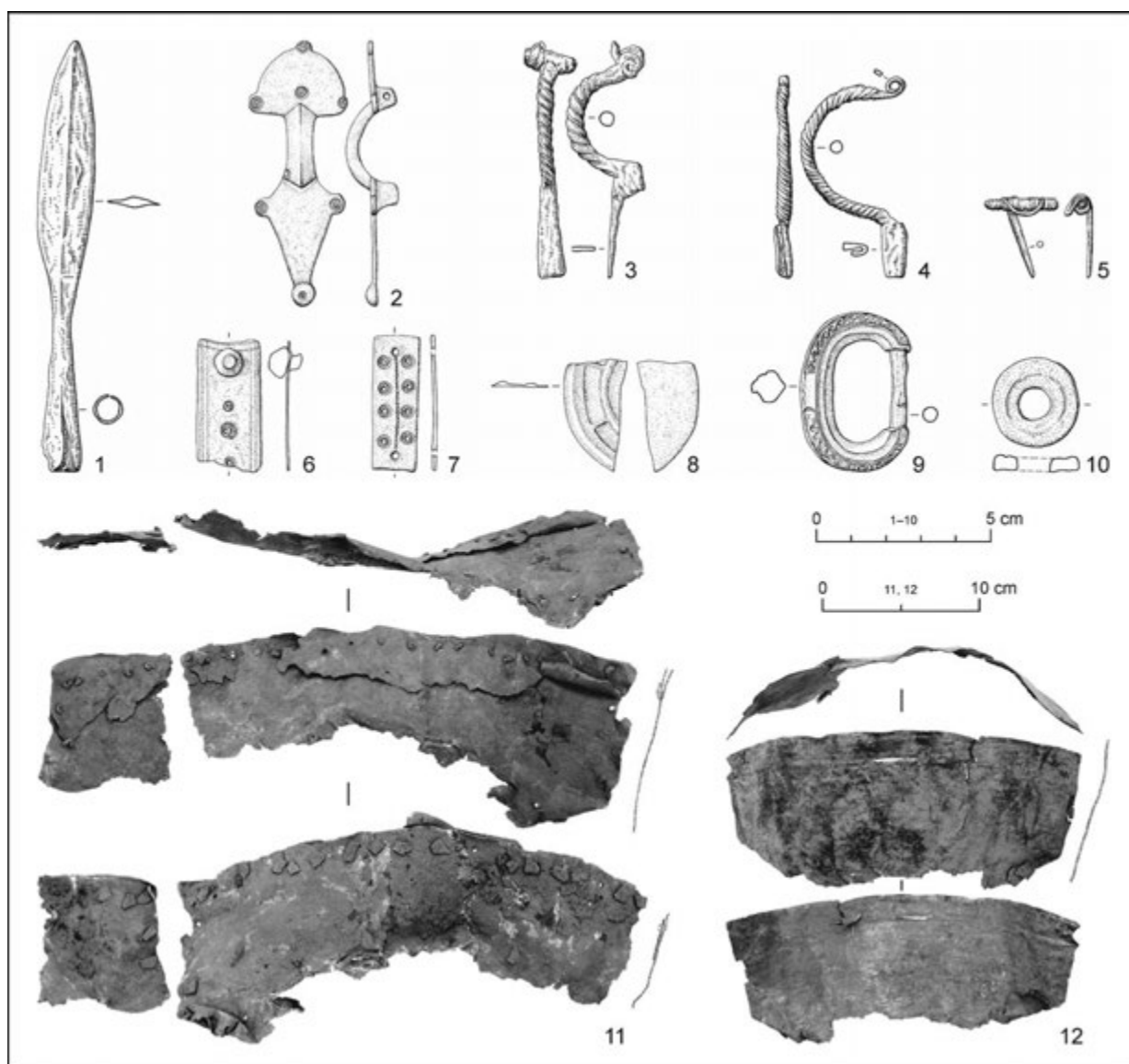


Abb. 9. Rybník, Bez. Levice. Krivín (316 m). 1–10 – Funde aus der Höhensiedlung; 11, 12 – Bruchstücke eines Kessels. 1, 3–5 – Eisen; 2, 6–8 – Bronze; 9, 10 – Blei; 11, 12 – Kupfer.

Dabei handelt es sich vor allem um die Produktionsabfälle wie Schlacke oder Fragmente gebrauchter Tiegel, Fragmente von Bleimodellen, aber auch um Rohmaterial vor allem in Form von wiederverwertetem Material und von beschädigten oder misslungenen Erzeugnissen.

Im Falle des Fundes aus Nitra-Chrenová III, wo in der Verfüllung des verschütteten Grubenhauses 3/73 Produktionsabfälle gefunden wurden, kann man mit Vorbehalt von einer Werkstatt-Fertigungsanlage sprechen. Es fehlen jedoch Spuren eines Ofens oder einer Feuerstelle/Esse in dem Bauwerk.

In Objekten in Nitra-Párovské Háje und in Výčapy-Opatovce wurden die Reste von Feinschmiedearbeiten offenbar aus der Umgebung in die Füllung der Abfallgruben eingelagert. Funde, die mit der Produktion auf der Höhensiedlung Malachov in Verbindung stehen, waren aufgrund des felsigen Untergrunds zweifelsohne Teil eines oberirdischen Gebäudes oder einer Überdachung.

Die vereinzelt Rohprodukte, unfertige Erzeugnisse oder Bleimodelle aus Bojná, Chotín oder Rybník stammen aus den Erdschichten und haben keinen weiteren Fundkontext. In Übereinstimmung mit anderen Autoren gehen wir davon aus, dass auch in dieser Zeit als Rohstoffquelle wiederverwendetes Material, meistens die Kupferlegierung mit Beimengung von Zink (Messing), direkt oder indirekt aus dem angrenzenden panonischen Gebiet stammte (Voß 2016, 141, 142).

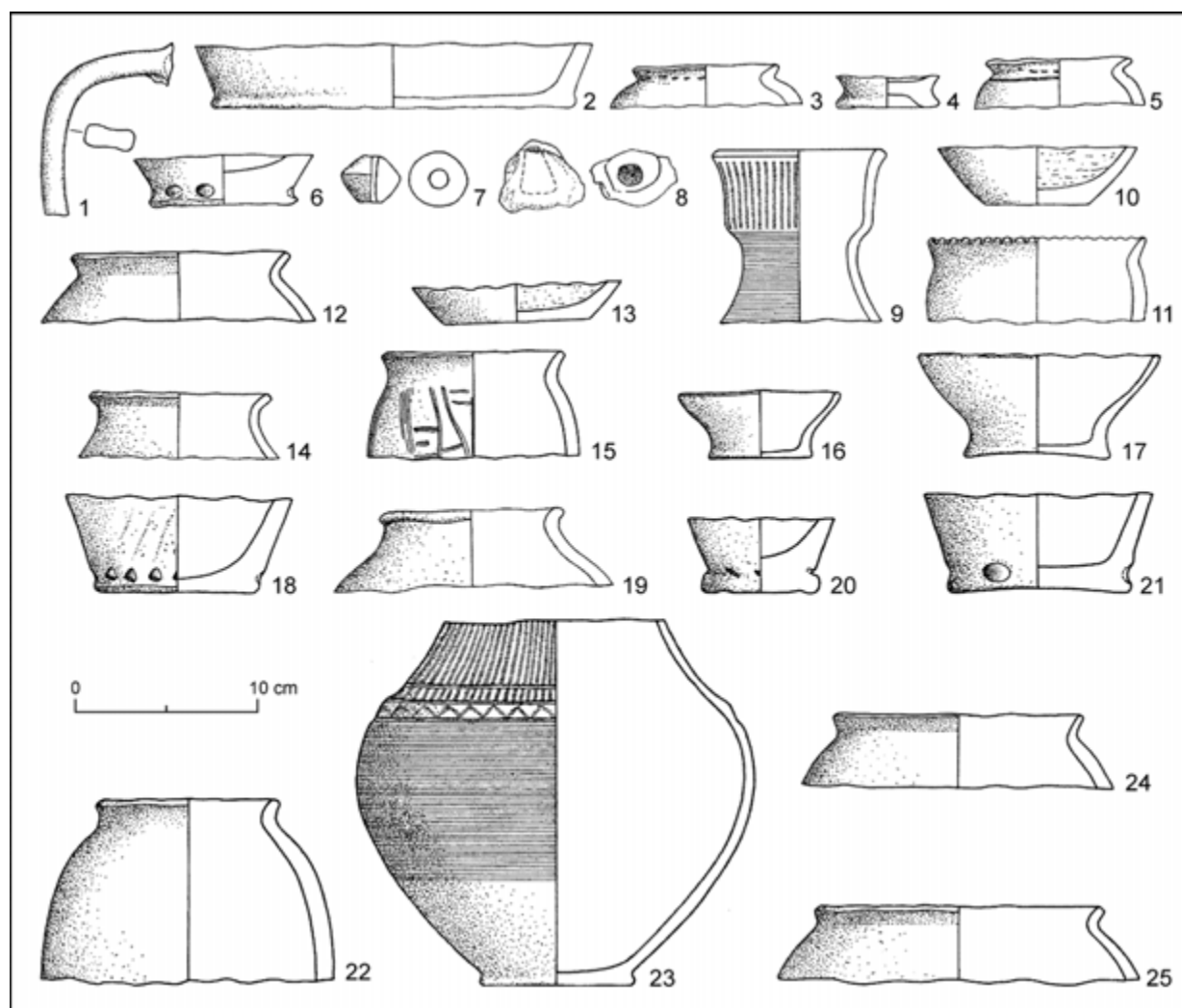


Abb. 10. Výčapy-Opatovce, Bez. Nitra. Schnitt 29/54, Grube 2. Teil des Fundinventars. 8 – Gusstiegel.

Nach den gefundenen halbfertigen und misslungenen Erzeugnissen zu urteilen, wurden an den identifizierten Produktionsstätten alltägliche Gebrauchsgegenstände, insbesondere Fibeln, hergestellt. Dies belegen die Funde aus Nitra-Párovské Háje, aber auch aus den Höhensiedlungen Bojná und Marhát (Moravany nad Váhom).

Anders sieht es hinter der nördlichen Grenze des donauländischen suebischen Siedlungsgebietes aus. In den Höhenlagen der Nordkarpatengruppe in der Nordslowakei finden wir zahlreiche Belege für die Eisenerzeugung und -verarbeitung, aber bisher keine Hinweise auf die Verarbeitung von Bunt- oder Edelmetallen. Dies mag zum Teil mit der schwierigeren Verfügbarkeit dieser Rohstoffe zusammenhängen, die aus den Gebieten der römischen Provinzen gewonnen wurden. Darauf deutet auch die häufigere Verwendung von Eisen für die Herstellung von Gegenständen hin, die in den südlicheren Gebieten hauptsächlich aus einer Kupferlegierung hergestellt wurden (Liptovský Ján: eine halbfertige Eisenfibel, Teile des Eisenkessels: *Pieta, in Druck*, Abb. 32: 2, 3).

SILBERFUNDE AUS DEN HÖHENSIEDLUNGEN

In der spätrömischen Kaiserzeit in der Völkerwanderungszeit nahm die Zahl der Funde von einheimischem Silberschmuck im Bereich der germanischen Besiedlung im Mitteldonausraum zu. Dies hängt wahrscheinlich mit der besseren Verfügbarkeit dieses Metalls aus den nahen gelegenen Provinzen zusammen, unter anderem aufgrund des verstärkten Zustroms römischer Münzen.

Artefakte aus den Horten (Dolná Súča, Kšinná, Malachov/Horné Pršany, Nemce, Selce) und Einzelfunde in Siedlungen, auch im Bergland, zeugen ebenfalls von der lokalen Verarbeitung von Silber. Dabei handelt es sich vor allem um die Fibeln, die ein charakteristischer Inhalt der Massenfunde aus der früheren Phase der Völkerwanderung im Karpatenbecken darstellen (Hardt 2017, 529, 530). Es gibt aber auch silberne Ohrringe, Schnallen und Anhänger (Pieta 2020, 54, 57). Die überwiegende Mehrheit der Silberartefakte stammt aus der gebirgigen nördlichen Zone der donausiebanischen Besiedlung, im Grenzgebiet zur Nordkarpatengruppe.

Aus den Fundstellen der Nordkarpatengruppe in der Nordslowakei gibt es dagegen keine Massenfunde von Schmuck und selbst vereinzelte Silberwaren sind selten (Vyšný Kubín, Ohrring: Pieta, in Druck, Abb. 13: 9; Spišská Belá: Fibelfragment. Pieta, in Druck, Abb. 11: 20; Neuestens: Komjatná, Svrčinová skala: Fibelfragment, axtförmiger Anhänger. Der Autor dankt M. Furman und B. Lofajová Danielová für die freundliche Bereitstellung von Informationen über den Fund). In den Höhensiedlungen werden jedoch häufig alte abgenutzte römische Denare aus dem 2. Jahrhundert gefunden, die als hochwertiges Schmuckmaterial verwendet worden sein könnten.

REPARATUR VON METALLGEFÄSSEN (?)

Vom Ende der frühromischen Kaiserzeit bis zur älteren Phase der Völkerwanderungszeit gehörten Metallgefäße aus dünnem Blech, vor allem Eimer vom Östland-Typ und Kessel, zum Inventar der germanischen Haushalte im mittleren Donauraum. Diese Gefäße wurden oft mit genieteten Flickern repariert (Bazovský 2010, 17; Droberjar 1997, 129; Klčo/Krupa 2008, 43–45; Trňáčková 1985, 281; Turčan 2018, 297). Diese Reparaturen werden oft als Beweis für die Langlebigkeit des Bronzegeschirrs in der Zeit seines begrenzten Angebots aus den Provinzen an die Barbaren betrachtet. Es ist natürlich fraglich, ob die einzelnen Stücke als ältere, gebrauchte Ware erworben wurden oder ob die Handwerker in der Lage waren, sie in lokalen Werkstätten zu reparieren.

Wie bereits erwähnt, wurden an mehreren Stellen im Untersuchungsgebiet Stücke aus Kupferblech von Eimern und Kesseln gefunden, die durch Falten oder Nieten repariert wurden. Einige von ihnen, die bei den Grabungen geborgen wurden, lassen sich relativ zuverlässig auf das Ende der Römerzeit und den Beginn der Völkerwanderung datieren. In der Höhensiedlung Detva-Kalamárka wurde ein Randfragment eines Kessels und ein Flicker mit Löchern und Nieten gefunden (Šalkovský 2009, 67, Abb. 62: 8, 13, 14). In der Höhensiedlung Malachov (Horné Pršany) wurden in den Relikten einer mutmaßlichen Werkstatt Bleche von alten Gefäßen gefunden (Abb. 4: 1–3; Pieta 2008, 460, Abb. 3). Der an mehreren Stellen reparierte und stark deformierte Teil des Gefäßes (Abb. 4: 6) lässt sich nicht sicher einem bestimmten Typus zuordnen. In seiner doppelkonischen Form gehört es wahrscheinlich zu einer sehr variablen Reihe von spätrömischen Eimern, die dem Typ Eggers 43 nahe steht (für eine Übersicht siehe Korený et al. 2021, 305). Zum Flicker wurden sowohl Nieten, die flachen Sicherungssplinten ähneln, als auch Nieten aus gewickelten Blechstreifen verwendet. Ähnliche Nieten wurden bei der Verbindung von Blechteilen in den römischen Provinzen verwendet (Drescher 1963, 42–44).

Die übrigen Streufunde dieser Art an polykulturellen Höhenlagen sind nicht zuverlässig datiert, obwohl ihre Zugehörigkeit zum Horizont der Völkerwanderung wahrscheinlich ist (Mikušovce). Bei den Blechfragmenten aus Rybník kann es sich um Reste von unbrauchbaren Metallgefäßen aus dieser Zeit handeln, sie können aber auch jünger sein.

Bislang undatiert ist auch ein schüsselförmiger Kessel, der 2014 bei Aufforstungsarbeiten in Blatnica, Bez. Martin, an einem Steilhang in der Lage Kónský dol entdeckt wurde (Abb. 11). In der Nähe befindet sich die bekannte Höhle, die zu Beginn der Völkerwanderung bewohnt war (Pieta/Hunka/Kurpel 2021, Abb. 6: 1–3, 7, 8). Der Kessel hat einen zylindrischen Körper und einen verformten, ursprünglich wahrscheinlich abgerundeten Boden. Die Mündung mit verstärktem Blech ist kelchförmig, mit einem nach oben abfallenden einfachen Rand. Das Gefäß wurde aus Kupferblech geschmiedet, das am Rand 2 mm und an der Wölbung und am Boden 1 mm stark ist. Die Schmiedespuren in den horizontalen Streifen sind auf der Außenfläche deutlich sichtbar. An der Bruchstelle der Ausbuchtung am Boden und an der Unterseite wurde der Kessel wiederholt durch Nieten von Blechflickern repariert. Dabei wurden sowohl Nieten mit rundem Durchmesser und quadratischem Kopf als auch flache doppelendige, splintartige Verbindungen verwendet.

Zum Kessel gehörte ein bogenförmiger Eisenhenkel mit rhombischem Querschnitt und spitzen Enden. Die Breite des Kessels (nach der Spannweite des Henkels) beträgt 46 cm, die (heutige) Höhe 20–22 cm. Es ist wahrscheinlich, dass das Gefäß ursprünglich höher war. Die Metallzusammensetzung (Cu 99,09 %, Zn 0,22 %, Pb 0,59 %) ist vergleichbar mit der der Fragmente des Kupferkessels aus Rybník. Auch ein Teil des Me-

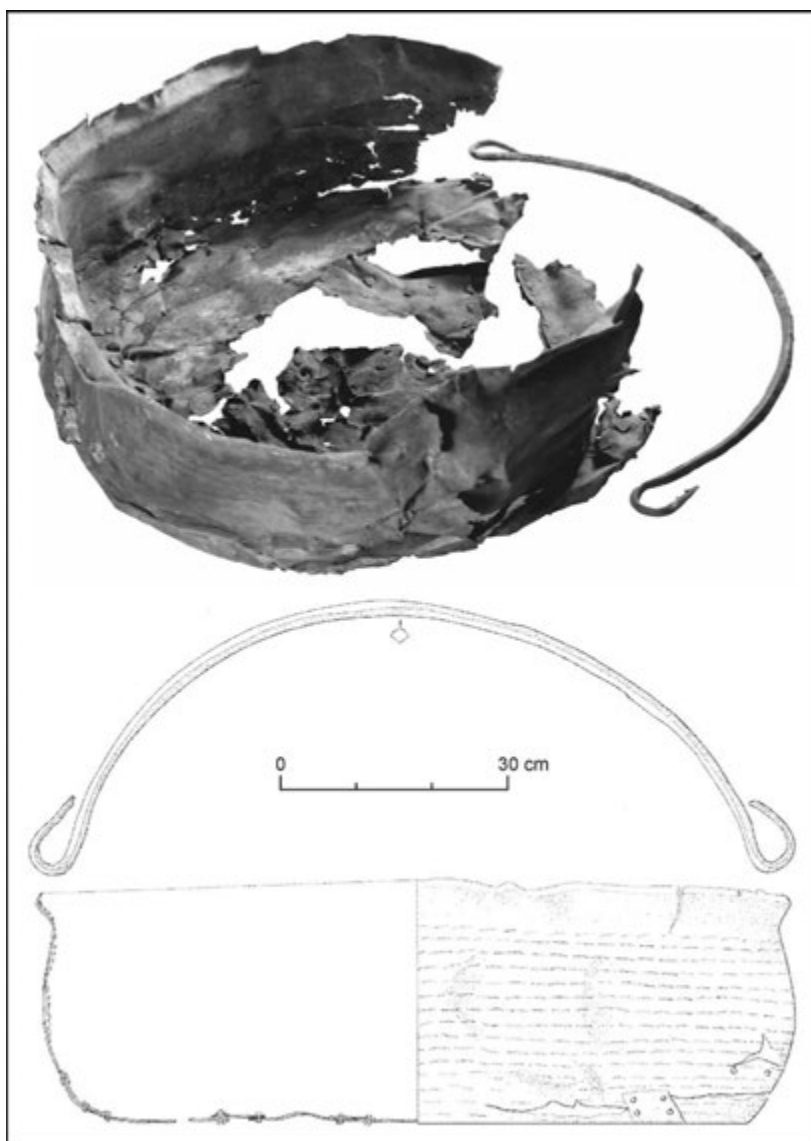


Abb. 11. Blatnica, Bez. Martin. Kupferkessel mit Eisenhenkel.

tallgefäßes aus Mikušovce, Bez. Ilava, das durch Flicken repariert wurde, bestand praktisch aus Kupfer (Cu 96,49 %, Pb 1,76 %, Zn 0,35 %, Sn 0,62 %, Ag 0,37 %).

Das Kupfergefäß mit eisernem Henkel aus Blatnica (mit offensichtlich deformiertem Boden) ähnelt einem schüsselförmigen Kessel mit geknicktem Unterteil aus dem Hort in Lety u Dobřichovic, Bez. Prag-West, der nach der neuen Interpretation als spät römisches Provinzialprodukt angesehen wird (Korený *et al.* 2021, 308, mit Verweisen). Die endgültige Datierung des Fundes von Blatnica muss jedoch abgewartet werden, bis genauere Parallelen, wenn überhaupt, vorliegen. Die Verwendung von Nieten aus Kupferblechstreifen könnte auf die spätantike Herkunft vieler der oben erwähnten reparierten Metallgefäße hinweisen. Wir wissen jedoch nicht, ob diese Technik auch in späteren Zeiten für Reparaturen verwendet wurde.

Bei Gefäßen, die in erster Linie zum Kochen bestimmt waren, wurde das Punktnieten wegen der hohen Temperatur im direkten Kontakt mit dem Feuer dem Löten vorgezogen. Ein Beispiel für die Befestigung von Flickern mit Zinn ist ein Messingimer, der im Fürstengrab aus dem späten 4. Jahrhundert

in Poprad entdeckt wurde (Lau/Pieta/Štolcová 2022, 85, Taf. 146). Aus dem ausgeraubten Inventar dieses Kammergrabes ist auch ein Stück Kupferblech mit Löchern zur Befestigung erhalten geblieben. Zusammensetzung – Cu 98,40 %, Ag 0,35 %, Sn 0,48 %, Pb 0,41 % (Lau/Pieta/Štolcová 2022, 88, Taf. 157: 407). Ein stark repariertes Stück einer Kupferkesselwand wurde auch in der Höhensiedlung von Liptovský Trnovec gefunden (Benediková/Pieta 2018, 167, Tab. V: 7).

FAZIT

Die in dieser Arbeit gesammelten Zeugnisse über die Feinschmiedearbeit sind der erste Versuch, diese Produktionstätigkeiten in den germanischen Siedlungen der Südwest- und Mittelslowakei während der Völkerwanderung zu dokumentieren. Im Vergleich zu anderen Teilen des Barbaricums handelt es sich in allen Fällen um geringere Produktionsumfänge. In Nitra scheint die handwerkliche Tätigkeit in zwei Teilen der ausgedehnten Agglomeration einer älteren, offenbar kontinuierlichen Besiedlung gefolgt zu sein und war nicht auf diese Art der Produktion beschränkt. Darauf deuten die Funde von Töpferöfen aus dem 4. bis 5. Jahrhundert hin (Březinová *et al.* 2023, 33, 34; Pieta 1993, 88; Pieta/Ruttkay 1997, 146). In der Höhensiedlung in Bojná, aber auch in Nitra

und den anderen oben erwähnten Fundorten wurde bereits zu Beginn, aber auch in der Mitte und am Ende des 5. Jahrhunderts mit Bunt- und Edelmetall gearbeitet. Es wurden vor allem gängige Typen von Fibeln hergestellt. Einigen Funden aus den Siedlungen des Hochlandes zufolge ist die Reparatur von Metallgeschirr nicht auszu-schließen. Bleimodelle gehörten zum Herstellungsprozess von Gussprodukten mit Kerbschnittdekor.

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Spracovanie farebných kovov na sídliskách zo sťahovania národov na juhozápadnom a strednom Slovensku

Karol Pieta

Súhrn

Materiály, zhromaždené v príspevku pochádzajú z viacerých starších i novších sídliskových výskumov a prieskumov na nížinách i v hornatých častiach juhozápadného a stredného Slovenska (obr. 1). Ich počet v ostatnej dobe rozšírili nové aktivity. Viaceré z nich inicioval a realizoval Ján Rajtár, dominantná osobnosť výskumu doby rímskej na Slovensku, ktorému je venovaný tento príspevok.

Prácu dielní na sídliskách dokladá prítomnosť pracovného náradia, kovovej suroviny, výrobného odpadu, ako aj polotovary a nepodarky. Najdôležitejšie súbory tohto druhu sa našli na výšinnom sídlisku Bojná II (obr. 2; 3) a na nížinných osadách Nitra-Chrenová, Nitra-Párovské Háje (obr. 6–8) a Výčapy-Opatovce (obr. 10). Na ďalších lokalitách (Chotín, Malachov/Horné Pršany, Moravany nad Váhom, Rybník) sa našli len ojedinelé stopy výrobných činností (obr. 4; 5). Fragmenty kovovej suroviny i metalografické analýzy potvrdili intenzívne využívanie kovového, najmä mosadzného odpadu, získavaného priamo či nepriamo z územia provincií.

Na refugiálnej výšinnnej polohe v Bojnovej sa v priebehu celého 5. storočia príležitostne pracovalo s farebnými i drahými kovmi (Pieta 2006, 179; 2008, 468, 471; Tejral 2015, 295–297). Jednoznačným svedectvom miestnej výroby je nepodarok cikádovej spony podunajského typu (obr. 3: 20). Do tohto časového horizontu patrí aj nevydarený odliatok oloveného modelu pracky s oválnym zosilneným rámkom (obr. 3: 26) i zlatým plechom plátovaný bronzový hrot neznámeho účelu (obr. 3: 10).

Pomerne časté sú nálezy miestneho spracovania kovov na sídliskách v Nitre-Chrenovej (Pieta 1993, 88, obr. 5: 11–13, 16; Tejral 2015, 345, 346). Článok sa podrobnejšie venuje inventáru odpadovej jamy 10/72 zo sídliska v Nitre-Párovských Hájoch (obr. 6–8; Pieta/Ruttkay 1997, 149, Abb. 11: 16). V zásype tohto objektu sa našlo množstvo zlomkov železných plechov i zlomkov predmetov a jemných nástrojov. Medzi plechmi zo zliatiny medi bolo viac mosadzných kusov a podľa analýzy sa

mosadz odlievala aj v téglikoch a v hlinených odlievacích formách z tohto súboru. Tie sa používali na zhotovenie koncových gombíkov plechových oblúkovitých spôn z tohto kovu (*Kiss 1974*, 121, tab. II: 1a) alebo mosadzných modelov na prípravu týchto dekoratívnych prvkov na strieborných sponách tohto typu (*Szameit 1997*, 241, Taf. 5: 6; *Tejral 2015*, 325, Abb. 9: 1). Striebro sa odlievalo v tégliku z Výčap-Opatoviec (obr. 10: 9).

V neskorej dobe rímskej a v dobe sťahovania národov sa na germánskom území stredného Podunajska zvýšil počet nálezov domácich výrobkov zo striebra. Pravdepodobne to súvisí s lepšou dostupnosťou tohto kovu z neďalekých provincií, okrem iného aj zásluhou zvýšeného prílivu rímskych mincí. Najčastejšie sú to strieborné spony, ktoré sú charakteristickou súčasťou relatívne častých depotov staršej fázy sťahovania národov v Karpatskej kotline (*Hardt 2017*, 529, 530). Na lokalitách severokarpatskej skupiny na severnom Slovensku a v južnom Poľsku hromadné nálezy šperkov chýbajú a zriedkavé sú, s výnimkou kniežacieho hrobu z Popradu-Matejoviec, aj ojedinelé výrobky zo striebra.

Od konca staršej doby rímskej až do začiatku sťahovania národov boli súčasťou inventára germánskych domácností v strednom Podunajsku aj nádoby z tenkého plechu, najmä vedrá ōstlanského typu a kotly, ktoré boli často opravované printovanými záplatami. Nevieme, či sa jednotlivé kusy získavali už ako staršie, používané výrobky, alebo boli domáci remeselníci schopní ich opravovať v miestnych dielňach. Kusy medených plechov z vedier a kotlíkov, upravovaných falcovaním alebo nitovaním sa našli na viacerých lokalitách v záujmovej oblasti. Viaceré z nich sú relatívne spoľahlivo datované do záveru doby rímskej a začiatku sťahovania národov. Zlomky medených plechov z Rybníka môžu byť pozostatkami nefunkčných kovových nádob z tejto doby, ale môžu byť aj mladšie (obr. 9: 11, 12).

Zatiaľ nedatovaný je aj misovitý medený kotol so železným držadlom, objavený pri zalesňovacích prácach v Blatnici, okres Martin, v polohe Kónský dol (obr. 11). Neďaleko miesta nálezu sa nachádza známa jaskyňa s osídlením z počiatku sťahovania národov (*Pieta/Hunka/Kurpel 2021*, obr. 6, 1–3, 7, 8).

Zhromaždené pozostatky šperkárskej práce na germánskych sídliskách juhozápadného a stredného Slovenska v dobe sťahovania národov v porovnaní s inými časťami barbarika dokladajú len malé objemy výroby. V Nitre i na ďalších spomenutých lokalitách sa pracovalo s farebnými i drahými kovmi už na začiatku, ale aj v strede a v závere 5. storočia. Vyrábali sa najmä bežné typy spôn. Podľa niektorých nálezov z výšinných sídlisk nevylučujeme ani lokálnu opravu plechového riadu. Olovené modely boli súčasťou výrobného procesu odlievania výrobkov s vruborezovou výzdobou.

Obr. 1. Juhozápadné a časť stredného Slovenska. Výšinné osady (trojuholníky) a nížinné osady (bodky) s dokladmi výroby farebných kovov. 1 – Bojná; 2 – Chotín; 3 – Malachov (Horné Pršany); 4 – Moravany nad Váhom (Marhát); 5 – Nitra; 6 – Nitra-Párovské Háje; 7 – Rybník; 8 – Výčapy-Opatovce.

Obr. 2. Bojná, okres Topoľčany (Bojná II-Hradisko). Nálezy zrkadiel a spôn. 1–13, 16–21 – zliatina medi; 14, 15 – bronz a železo (oprava vinutia).

Obr. 3. Bojná (Bojná II-Hradisko), okres Topoľčany. Drobné nástroje (1, 2, 5–9), polotovary (3, 4, 10), fragmenty kovových nádob (11–16), časti opaskov (17, 22, 27), spony (23–25), prsteň (21), tepaná rímska minca (18), príklady chybných odliatkov (20, 26), olovená plomba (19). 1–9 – železo; 10 – bronz a zlatý plech; 11–17, 20, 22, 23, 25, 27 – zliatina medi; 18, 24 – striebro; 19, 26 – olovo; 21 – zliatina medi a sklo.

Obr. 4. Malachov (tiež pod Horné Pršany), okres Banská Bystrica, Hrádok (680 m). Komplex nálezov z výšinnéj osady. 1–3, 6 – zliatina medi; 4, 5, 7–17, 19 – železo; 18 – kameň a bronz.

Obr. 5. Moravany nad Váhom, okres Piešťany, Marhát (748 m). Polotovary spony. Bronz.

Obr. 6. Nitra-Párovské Háje. Objekt 10/72. Inventár, časť 1: 1–4, 20, 21, 24 – bronz; 5 – olovo; 6–19, 22, 23 – železo; 25 – sklo; 26 – košť, bronz (nit). Inventár, časť 2: 27–31, 33 – železo; 32, 34–43 – hlina, zvyšky kovu.

Obr. 7. Nitra-Párovské Háje. Objekt 10/72. Inventár, časť 3: 1–7 – fragmenty odlievacích foriem, hlina, zvyšky kovu; 8 – fotografia negatívu koncového gombíka.

Obr. 8. Nitra-Párovské Háje. Objekt 10/72. Inventár, časť 4 a 5: 1 – vyhladená keramika; 2–4 – zelená glazovaná; 5–14 – keramika.

Obr. 9. Rybník, okres Levice. Krivín (316 m). 1–10 – nálezy z výšinnéj osady; 11, 12 – fragmenty kotla. 1, 3–5 – železo; 2, 6–8 – bronz; 9, 10 – olovo; 11, 12 – meď.

Obr. 10. Výčapy-Opatovce, okres Nitra. Rez 29/54, jama 2. Časť nálezového inventára. 8 – odlievací téglik.

Obr. 11. Blatnica, okres Martin. Medený kotol so železným držadlom.

PhDr. Karol Pieta, DrSc.

Archeologický ústav SAV, v. v. i.

Akademická 2

SK – 949 21 Nitra

karol.pieta@savba.sk

<https://orcid.org/0000-0002-6071-8570>

DIE SILBERLÖFFEL AUS GRÄBERN NR. I UND III VON WROCLAW-ZAKRZÓW

Judyta Rodzińska-Nowak

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Abstract: **Silver Spoons from Graves No. I and III in Wrocław-Zakrzów.** This article deals with two finds of silver spoons from two “princely” graves with a male model of equipment, discovered in Wrocław-Zakrzów (formerly Sackrau), dated to phase C2 of the younger Roman period. The spoon discovered in the grave identified as Fund I is certainly a Roman product. In the case of the specimen from the grave identified as Fund III, it can be assumed that it represents a barbarian imitation of a Roman spoon. This statement is supported primarily by the presence of an X-shaped (so-called metopic) ornamentation. This ornament should be considered foreign to the decorative traditions of the provincial Roman workshops, while it is very characteristic of the areas of Central European Barbaricum.

EINLEITUNG

In den 1880er Jahren wurden in der Sandgrube in Sackrau (Sakrau), dem heutigen Wrocław-Zakrzów, Woiwodschaft Dolnośląskie, drei reich ausgestattete Körpergräber entdeckt. Der Autor der ersten Studie über diese Funde war der Breslauer Arzt, Anthropologe und Prähistoriker Dr. W. Grempler (1887; 1888). Die Geschichte dieser Entdeckung sowie die Analyse der Ausstattung der erwähnten Gräber wurde in der Folge von zahlreichen Forschern untersucht (vgl. Godłowski 1970; Kramarkowa 1990; Kolendo 2008; Majewski 1960; Pazda 1980; Przybyła 2005; Quast 2016). Die Chronologie dieser Funde wurde als Phase C2 der jüngeren römischen Periode bestimmt (Godłowski 1970, 22 f., 106 ff; vgl. Quast 2016, 334). Unter den zahlreichen Gegenständen, die dem Inventar von „Fürstengräbern“ von Wrocław-Zakrzów angehören, verdienen zwei Exemplare von Silberlöffeln besondere Beachtung. Sie stammen aus Gräbern, die als Fund I und III bezeichnet worden sind.¹

BESCHREIBUNG DER FUNDE

Im Grab Nr. I fand sich ein Silberlöffel (Abb. 1: 1, 2), dessen Schale (Laffe) durch einen knieförmig eingebogenen Arm (Zwischenstück) verbunden ist; der Stiel, achteckig im Querschnitt, am Ende schräg abgeschnitten, ist auf vier Seiten mit längs verlaufenden Streifen eingepunzter Dreiecke. Die Löffelschale, im einen Fünftel ihrer Länge stark verjüngt, verbreitert sich schwach auf den knieförmigen Arm hin. An der Innenseite weist sie die Ritzverzierung auf – an der Kante ist das Motiv der “laufenden Wellen”, im mittleren Teil ist es ein Pflanzenornament – volutenartig verflochtene Ranken; an drei Stellen blieben die Reste von der Niellofüllung erhalten; die Löffelschale ist teilweise beschädigt. Der Löffel hat eine Länge von 17 cm, max. Breite der Schale liegt bei 4 cm. Das Fundstück ist verschollen, erhalten blieb nur noch eine Kopie davon (Böhme 1970, Fundliste I: II, 192; Eggers 1951, 109, Nr. 768; Grempler 1887, 10, Taf. V: 2; Kramarkowa 1990, 78, 140, Abb. 15; 57; Majewski 1960, 20, 78, Taf. XXX: d; XXXIII; Milošević 1970, 143, Karte, Abb. 1, Nr. 85; Karte, Abb. 5, Nr. 85; Pazda 1980, 165, Abb. 31: 13; Strong 1966, 178). Uns liegen auch keine Informationen über die Verteilung der Ausstattung in der Grabkammer; der genaue Fundzusammenhang bleibt somit unbekannt. Das Grab (Fund I) dürfte als die Bestattung eines männlichen Individuums anzusprechen sein (Werner 1980, 20 f.).²

¹ Für die Möglichkeit einer Diskussion über manche in meinem Aufsatz behandelte Fragen sowie für die freundliche Unterstützung beim Herangehen an die notwendige Literatur gilt Frau Prof. Dr. habil. Renata Madyda-Legutko, Frau Dr. habil. Katarzyna Czarnecka, wie auch Herrn Dr. habil. Jarosław Bodzek und Herrn Prof. Dr. habil. Dieter Quast mein allerbesten Dank.

² Dieses Grab wurde in der früheren Literatur für eine Frauenbestattung gehalten (Kramarkowa 1990, 161–163; Milošević 1970, 143, Karte, Abb. 1, Nr. 85; Karte, Abb. 5, Nr. 85).

Ein zweiter Silberlöffel kam im Grab Nr. III zum Vorschein. Auch in diesem Fall ist die Löffelschale durch einen knieförmig geschwungenen Arm mit dem Stiel verbunden (Abb. 1: 3). Der Stiel ist an der Übergangsstelle zur Schale stabförmig ausgeprägt; dessen Querschnitt ist an dieser Stelle viereckig. Die obere Fläche der Schale ist an den Kanten mit einem bandförmigem gezähntem Muster sowie mit einem Metopenornament mit dreieckigen Einschnitten, umrahmt von quer verlaufenden Ritzlinien versehen. Der erwähnte stabförmige Abschnitt von viereckigem Querschnitt ist auch an der Unterseite, und zwar mit längs an den Kanten erkennbaren Ritzlinien verziert. Der Stiel geht dann in einen langen kreisrunden Stab über, der spitz ausläuft. Die Löffelschale ist flach-oval, bis zum Ansatz hin schwach verjüngt. Der Löffel hat eine Länge von 12,98 cm und wiegt 14,9 g. Ebenso wie bei dem Löffel aus dem Fund I ging das Fundstück verloren, erhalten blieb nur dessen Kopie (Böhme 1970, Fundliste I: II, 192; Eggers 1951, 109, Nr. 770; Grempler 1888, 10, 11, Taf. VI: 3; Kramarkowa 1990, 113, 140, Abb. 57; Majewski 1960, 22, Taf. XXX: c; XXXIII; Milošević 1970, 143, Karte, Abb. 1, Nr. 85; Karte, Abb. 5, Nr. 85; Pazda 1980, 165, Abb. 31: 10). Der Löffel trat im südöstlichen Eckteil der Grabkammer, er ruhte dort in einer Bronzeschale neben einem Satz von Spielsteinen und einer Schere (Böhme 1970, 189; Kramarkowa 1990, Abb. 1). Das Grab (Fund III) ist ebenso wie der Fund I als männliche Bestattung zu deuten.³

Beide oben behandelte Exemplare von Silberlöffeln wurden in der einschlägigen Literatur eindeutig als römische Importstücke angesehen (Eggers 1951; Kramarkowa 1990, 141; Majewski 1960; Pazda 1980, 165). Bis vor kurzem galten sie als einzigartige Funde im Przeworsker Kulturkreis. In der letzten Zeit wurde allerdings die Entdeckung eines weiteren Fundstückes dieser Art in einem Brandkindergrab (Nr. 70) auf dem Gräberfeld dieser Kultur in Osiek, Kr. Jarocin, Großpolen, gemeldet⁴ (Pawlak 2011, 304, 305).

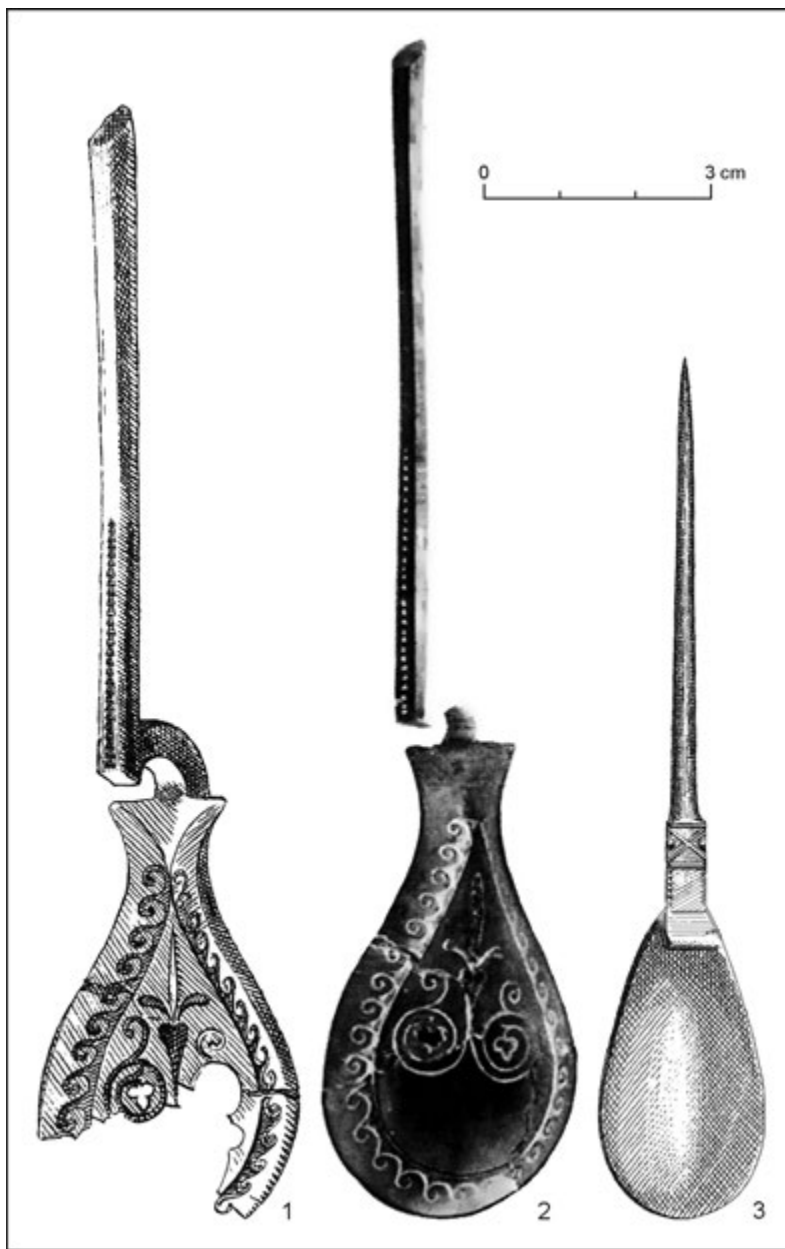


Abb. 1. Wrocław-Zakrzów, Woiwodschaft Dolnośląskie. 1, 2 – Fund I, Silber; 3 – Fund III, Silber (nach Grempler 1887; Kramarkowa 1990; Entwicklung U. Socha).

³ Ebenso wie das Grab Nr. I wurde in der früheren Literatur auch der Fund III als eine Frauenbestattung betrachtet (Böhme 1970, 178, Anm. 23; Grempler 1888, 13, 14; Kramarkowa 1990, 166; Milošević 1970, 143, Karte, Abb. 1, Nr. 85; Karte, Abb. 5, Nr. 85).

⁴ Ein Artikel über diese Entdeckung erschien in der gesamtpolnischen Zeitung „Gazeta Wyborcza“ vom 20 Februar 2009. Dort fand sich auch eine Information über die Runneninschrift, mit der der römische Silberlöffel angeblich versehen sein sollte.

RÖMISCHE LÖFFELFUNDE AUS DEM BARBARICUM

Die Silberlöffelfunde gehören im mitteleuropäischen Barbaricum zur Seltenheit. Ihre geringe Anzahl fällt im Vergleich mit den ziemlich reichhaltig vorliegenden anderen Kategorien römischer Importe (Luxustafelgeschirr, d.h. Metall- und Glasgefäße) im genannten Kulturgebiet besonders auf. Silberlöffel gehören nicht zu den gut datierenden Funden. Ihre Form ist weitgehend durch ihre Funktion bedingt. Für das provinziäl-römische Gebiet werden sie gewöhnlich in einen breiteren chronologischen Rahmen gesetzt, der z.B. zwei Jahrhunderte umfasst (*Strong 1966*). Es sei allerdings vermerkt, dass die Löffel in manchen Konstruktionsdetails und Verzierung merklich differenziert sind; manche Exemplare weisen individuelle, einmalige Züge auf.

Die älteste chronologische Stellung unter den Silberlöffelfunden aus dem mitteleuropäischen Barbaricum nehmen zwei Exemplare (*ligula* und *cochlear*) aus dem „Königsgrab“ von Mušov in Mähren ein; dieses Grab wird an den Ausgang der frühkaiserzeitlichen Stufe B2 oder Anfang der Stufe C1a der jüngeren römischen Kaiserzeit datiert (*Künzl 2002*, Teil 2, 354–356; 2002, Teil 3, Taf. 116: G3, G4; *Peška/Tejral 2002*, Teil 2, 502, 508). Die meisten Silberlöffelfunde aus dem mitteleuropäischen Barbaricum stammen dagegen aus reich, u.a. mit Importgegenständen ausgestatteten und in der Literatur als „Fürstengräber“ des Horizonts Leuna-Hassleben-Zakrzów, datiert in die Stufe C2 der jüngeren römischen Kaiserzeit, bezeichneten Gräbern. Diese Fundstücke kommen dort zusammen mit Metall- und Glasgefäßen auf, die gelegentlich auch von Nahrungsbeigaben begleitet werden (*Schmauder 2005*, 443, 444).

Außer den hier behandelten Exemplaren von Wrocław-Zakrzów sind die Silberlöffel für den erwähnten Zeitabschnitt (d.h. während der Stufe C2 der jüngeren römischen Kaiserzeit) auch in „Fürstengräbern“ des südlichen elbgermanischen Kulturkreises, d.h. in Thüringen, Pommern, der Südwestslowakei wie auch in Skandinavien belegt.

In Thüringen traten die Silberlöffel in den Inventaren von drei Bestattungen auf, die als Frauengräber gedeutet werden: Emersleben, Ldkr. Harz, Grab Nr. 2 – zwei Exemplare (*Schulz 1952*, 109 ff., Taf. 29, 30), Hassleben, Kr. Sömmerda, Grab Nr. 8 – ein Exemplar (*Böhme 1970*, 178, Abb. 5; *Schulz 1933*, 11, Taf. 7: 2), sowie in dem 1934 entdeckten Grab – ein Exemplar (*Möller 1934*, 271), ferner in einem Männergrab von Leuna, Ldkr. Merseburg-Querfurt, Nr. 3/1926 – ein Exemplar (*Böhme 1970*, Fundliste 1: II, 192; *Schulz 1953*, 28, Taf. 19: 2). Aus Pommern, aus dem Bereich der Dębczyno-Gruppe, liegt uns ein Silberlöffel, und zwar aus dem weiblichen „Fürstengrab“ von Białęcín (Balenthin), Bez. Sławno, Woiwodschaft Zachodniopomorskie vor (*Böhme 1970*, Fundliste 1: II, 192; *Hahula 1995*, 137, 142, 143, Abb. 2; 15; *Kunkel 1934*, 333, 334, Abb. 4). Ein weiteres Exemplar eines Silberlöffels⁵ fand sich im „Fürstengrab“ Nr. 1 in Ostrovany (Osztrópataka), Bez. Prešov, Ostslowakei, das mit der Wandalenbesiedlung in Verbindung gesetzt wird (*Böhme 1970*, Fundliste 1: II, 192; *Prohászka 2006*, 61, 62, Abb. 52). Zwei weitere Exemplare kamen im Grab 1 (ein Exemplar) und 2 (zwei Exemplare.) von Krakovany-Stráže, Bez. Piešťany, Südwestslowakei, im ehemaligen Quadengebiet. Gräber Nr. 1 und 2 werden entsprechend als eine Frauen- und eine Männerbestattung gedeutet (*Böhme 1970*, Fundliste 1: II, 192; *Ondrouch 1957*, Taf. 28: 1–3; 46: 6, 7). Ein fragmentarisch erhaltener Silberlöffel wurde in einem Gräberfeld der Dolkeim-Kovrovo-Kultur in Aleika III (Oblast Königsberg, Russische Föderation) entdeckt. Über den Kontext dieses Fundes sind keine weiteren Einzelheiten bekannt (*A.N. Chochlov 2010*, 73, Abb. 2; 75).

Für Skandinavien sind drei Funde (vier Exemplare) von Silberlöffeln belegt; sie stammen aus reich ausgestatteten Gräbern: auf Fünen (Dänemark), ein Exemplar trat im Inventar einer männlichen Bestattung von Haagerup, Amt Svendborg, auf (*Albrechtsen 1968*, Taf. 25: d),⁶ ein weiteres fand sich im Inventar eines Frauengrabes von Aarslev, Amt Svendborg (*Mackeprang 1940*, 95, Abb. 15). Ein Silberlöffelpaar stammt aus dem Frauengrab von Tuna bei Badelunda, Västmanland (Schweden; *Böhme 1970*, Fundliste 1: II, 192; *Lund Hansen 1987*, 224, 225; *Stenberger 1956*, 5, Abb. 6).

In denselben Zeitabschnitt (Stufe C2 – 2. H. III. Jh.), in den die oben genannten „Fürstengräber“ datieren, gehört auch das sehr reich ausgestattete Sarmatengrab „mit goldener Maske“ von Kerč, das mit dem Milieu des Bosphoranischen Reichs zusammenhängt und in seinem Inventar u.a. drei römische Silberlöffel enthielt (*Šarov 2003*, 39, Abb. 13: 3–5).

⁵ Dem Inventar dieser Bestattung sollen ursprünglich zwei Silberlöffel angehört haben (*Prohászka 2006*, 61).

⁶ Diese Bestattung wird in die Stufe C1b datiert (*Lund Hansen 1987*, 224).

Die Gräber der barbarischen Bevölkerung bargen manchmal Bronzelöffel. Ihre Inventare trugen jedoch einen anderen Charakter als die oben erwähnten „Fürstengräber“ (vgl. etwa das Männergrab von Frankfurt-Niederursel, Grab 2 – *Böhme 1970*, Fundliste 1: II, 192, dort frühere Literatur). Im mitteleuropäischen Barbaricum ist die Löffelbeigabe auch für völkerwanderungszeitliche Bestattungen bezeugt; zu erwähnen sind dabei die Frauengräber von Měcholupy, Bez. Plzeň-jih (Tschechische Republik) – ein Löffel und ein Sieblöffel (*Svoboda 1965*, Taf. 29: 7; 30: 4), Klučov, Bez. Kolín (Tschechische Republik) – ein Sieblöffel (*Svoboda 1965*, 206, 247, 351, Taf. 56: 17) und Záluží, Bez. Praha-východ (Tschechische Republik) – ein Sieblöffel (*Milojčić 1970*, 140, 142, 146; *Svoboda 1965*, 284, Taf. 90: 15).

Die Liste der römischen Löffel aus dem mitteleuropäischen Barbaricum ergänzen fragmentarisch erhaltene Siedlungsfunde der jüngeren und spätrömischen Kaiserzeit. Fragment eines Bronzeexemplars stammt aus der Siedlung von Eichenbarleben, Kr. Wolmirstedt (*CRFB, Deutschland 6*; 134, Kat. Nr. VII-16-2/1.1), ein Silberlöffelrest sowie der Rest eines nicht näher bestimmbar Buntmetallstücks kamen an der an römischen Importen reichen Siedlung von Großjena, Kr. Naumburg (*CRFB, Deutschland 6*; 206, Kat. Nr. VIII-11-5/1.59, Taf. 112: 5; Kat. Nr. VIII-11-5/1.60) zum Vorschein; ein weiteres Bronzelöffelfragment wurde an der Siedlung von Kleinjena, Kr. Naumburg (*CRFB, Deutschland 6*; 208, Kat. Nr. VIII-11-6/1. 11) gefunden. Erwähnt seien ferner der Einzelfund eines Bronzelöffels von Wulferstedt, Kr. Oschersleben (*CRFB, Deutschland 6*; Kat. Nr. VII-08-8/1.1; 60, Taf. 112: 6) sowie ein tropfenförmiger aus Silberblech ausgeschnittener Gegenstand, möglicherweise Fragment eines Löffels oder eines kosmetischen Zubehörs von der Siedlung in Herzsprung, Ldkr. Uckermark (*Schulze 2001*, 181, Abb. 4: 7).

Es gilt zu betonen, dass die Siedlungsfunde von Löffeln aus dem Gebiet des Barbaricums in Mitteldeutschland konzentriert sind, von wo uns gar fünf Exemplare von römischen Löffeln vorliegen, die zu den Inventaren von vier „Fürstengräbern“ gehörten (Emersleben, Gr. 2 – zwei Stücke; Hassleben, Grab 8; Hassleben, Grab von 1934; Leuna, Grab 3/1926). Bezeichnenderweise war im 3. Jahrhundert in diesem Gebiet eine Töpferwerkstatt von Haarhausen, Kr. Arnstadt, tätig, in der die Gefäße nach dem römischen Vorbild erzeugt wurden. Die Formen dieser Gefäße waren den römischen Sitten im Bereich der Nahrungszubereitung angepasst (*Dušek 1992*). Die angeführten Befunde legen den Schluss nahe, dass im behandelten Gebiet im Laufe des 3. Jahrhunderts gewissermaßen eine Übernahme mancher mit Nahrungszubereitung und – einnahme zusammenhängenden Verhaltensmuster erfolgte, die im Vergleich zu den anderen Teilgebieten des Barbaricums möglicherweise ein größeres Ausmaß annahm.

Beachtenswert ist ferner auch der Umstand, dass im Gebiet Skandinaviens bislang nur drei Funde von Silberlöffeln zu verzeichnen sind, während die anderen Kategorien der römischen Importe, u.a. Metall- und Glasgefäße dort besonders zahlreich vertreten sind (*Lund Hansen 1987*).

Silber- und Bronzelöffel kommen auch in den vom 6. bis zum 7. Jh. datierbaren Gräbern der germanischen Bevölkerung (*Böhme 1970*, Fundliste 1: IV, 195, 196) sowie in Schatzfunden des 5. bis 7. Jh., z.B. ostgotische Depotfunde Italiens (*Bierbrauer 1975*), vor. Die Formen von Löffeln, die in den Inventaren der fortgeschrittenen Völkerwanderungszeit und des Frühmittelalters auftraten, wurden von V. Bierbrauer in drei Typen untergliedert: Typ Desana, Sutton Hoo und Krefeld-Gellep (*Bierbrauer 1975*, 182, 183, Fundliste 6, 248–251, Taf. XIV; XV; XVI; *Schmauder 2005*, 443).

Die Grabbeigabe von silbernen, mitunter auch bronzenen Löffeln im Barbaricum wird im Zusammenhang mit der besonderen Rolle von Essen und Trinken und damit mit der Verwendung geeigneter Utensilien und Tafelgeschirrbestandteile im Bereich von Grabsitte und Totenkult im barbarischen Europa gedeutet (*Böhme 1970*, 172), wobei der Rolle dieser Gegenstände als Statussymbole, analog wie dies bei anderen Kategorien der römischen Importe, so etwa bei Silber-, Bronze- und Glasgefäßen der Fall ist, ein besonderes Augenmerk beigemessen wird (*Böhme 1970*, 189; *Prohászka 2006*, 61, 62). Bezeichnenderweise kommt ein Silberlöffel im „Fürstengrab“ manchmal zusammen mit einem Silbermesser oder einer Silberschere vor. Solche Sätze kamen z.B. in den als Fund I und III bezeichneten Gräbern von Wrocław-Zakrzów sowie im Grab 8 von Hassleben zum Vorschein. Es wurde in der früheren Literatur suggeriert, dass diese Sätze eine gewisse symbolische Bedeutung gehabt haben könnten (*Böhme 1970*, 178; *Kramarkowa 1990*, 78, 113, Abb. 57; *Pazda 1980*, 165; *Prohászka 2006*, 61, 62).

LÖFFEL IN DER RÖMISCHEN WELT

Aus unterschiedlichen Werkstoffen erzeugte Löffel waren die einzigen Utensilien, die zum Essen dienten, und wurden in der römischen Welt seit dem 1. Jh. n. Chr. allgemein benutzt. Sie waren dermaßen populär, dass selbst die weniger vermögenden Familien aus Silber gefertigte Exemplare besaßen (*Strong* 1966, 155). Aus dem provinzialrömischen Gebiet liegen uns ziemlich zahlreiche Funde dieser Art vor. Sie stammen aus Fundstellen, an denen die Siedlungsreste übrigblieben, aus antiken Städten, z.B. aus Trier (*Schwinden* 1993), wie auch aus Gräberfeldern (1970, Fundliste 1: I, 191, 192). Die Silberlöffel kommen auch in Hortfunden vor, die zwischen dem 2. und 5. Jh. datiert sind: so kamen z.B. im Hortfund von Kaiseraugst, Kt. Aargau (Schweiz) 36 Exemplare von Silberlöffeln zum Vorschein (*Baratte* 1984, Abb. 24; *Böhme* 1970, 172–200, Fundliste 2, 196, 197; *Laur-Belart* 1963; *Martin* 1984, 76, dort frühere Literatur; *Milojčić* 1970, 111–148; *Pazda* 1980, 165; *Sherlock* 1974).

In der antiken Zeit waren für die betreffenden Gegenstände zwei Bezeichnungen gebräuchlich, mit denen sowohl auf ihre morphologische als auch funktionale Differenzierung Bezug genommen wurde: *cochlear* und *ligula*. Mit *cochlear* wurde anfänglich ein kleiner Löffel mit runder Schale und langem, spitz zulaufendem Stiel von kreisrundem Querschnitt zur Verzehrerung von Muscheln (lat. *cochlear*), Schnecken und Eiern bezeichnet⁷. Mit dem Begriff *ligula* bezeichnete man dagegen ein größeres, schwereres Exemplar mit großer birnenförmiger Schale und kurzem, massivem, verziertem, oft knopfförmig abschließendem Stiel. Dieser Löffeltyp fand im Vergleich zu dem vorher behandelten eine weit breitere Anwendung (*Schmauder* 2005, 443). So war *ligula* u.a. für die Einnahme flüssiger Nahrung, wie etwa Suppen, Soßen, und der Mehlgerichte bestimmt (*Bishop* 2008, 207; *Prohászka* 2006, 61). In der Zeit zwischen dem 2. und 4. Jh. tritt ein dritter Löffeltyp in Erscheinung, der die Merkmale der beiden früheren miteinander verbindet, und der ebenfalls als *cochlear* bezeichnet wurde. Seit der Mitte des 4. Jh. wurde der Löffel mit großer Schale und schwanenhalsförmig bzw. S-förmig geschwungenem Stiel mit dem Begriff *ligula* bezeichnet (*Schmauder* 2005, 443; *Strong* 1966, 155, fig. 32: 177, 178; 36: 204–206; 40; pl. 67).

Seit dem 2. Jh. wurden die silbernen, versilberten oder bronzenen Löffel im reichrömischen Gebiet als Grabbeigabe in Brandgräber von Frauen und Männern niedergelegt, die häufig mit anderen Bestandteilen von Tafelgeschirr, z.B. mit Silbergefäßen, im Grabinventar vergesellschaftet waren (*Böhme* 1970, 172–200, Fundliste 1: I, 191, 192; *Milojčić* 1970, Fundliste, 134–146; *Schmauder* 2005, 443, 444). So kamen zahlreiche Bronzelöffel in den Brandgräbern des Gräberfeldes von Regensburg zum Vorschein (v. *Böhme* 1970, Fundliste 1: I, 192; *Schnurbein* 1977). In der spätrömischen Kaiserzeit traten die Löffel auch als Grabbeigaben von Körpergräbern auf. z.B. in Gräbern A und B von Aquincum (*Burger* 1984; *Tóth* 1991, Abb. 6; 7) oder im Männergrab mit reicher Waffenbeigabe in der Ortschaft Monceau – le Neuf (*Böhme* 1970, 173, dort frühere Literatur, Abb. 1; Fundliste 1: III, 193).

Unter den Funden von Silberlöffeln fällt eine Gruppe von Exemplaren auf, die mit Inschriften versehen sind (*Böhme* 1970, Fundliste 3, 197, 198), des gleichen auch eine Gruppe von Exemplaren mit Inschriften oder an die christliche Symbolik anknüpfenden Verzierungselementen. Die letztere gab den Anstoß zu einer Diskussion über die mögliche Benutzung der Löffel in der frühchristlichen Liturgie (*Milojčić* 1970, 112, 113, Taf. 19–21; *Pazda* 1980, 165; *Prohászka* 2006, 61; *Schmauder* 2005, 444, dort frühere Literatur). Aus „Fürstengräbern“ der jungkaiserzeitlichen Stufe C2 liegen zwei Exemplare von Silberlöffeln mit Inschriften vor: aus Białęcín – ein Exemplar mit der Inschrift ATTIV(S), aus Emmersleben ein weiteres Stück mit der Inschrift TR(A)KIS (*Böhme* 1970, Fundliste 3, 197, 198; *Milojčić* 1970, 137).

SCHLUSSFOLGERUNGEN

Die aus dem provinzialrömischen Gebiet und dem Barbaricum bekannten Silberlöffel bilden eine ziemlich differenzierte Gruppe von Quellen, und dieses sowohl hinsichtlich mancher Details ihrer Konstruktion als auch der Verzierung und der Sorgfältigkeit der Machart. Manche Exemplare finden kaum genaue Entsprechungen.

Die beiden Exemplare von Silberlöffeln aus den „Fürstengräbern“ von Zakrzów sind dem zwischen dem 2 und 4. Jahrhundert herausgebildeten Typ zuzuweisen, der die Merkmale der früher entstandenen Typen (*cochlearia* und *ligulae*) vereint und als *cochlear* bezeichnet wird (*Schmauder* 2005, 443).

⁷ In der römischen Welt bildete *cochlear* (Löffel) bildete auch ein Volumenmaß, insbesondere für die Abmessung kleinerer Mengen unterschiedlicher Substanzen, z.B. bei der Zubereitung von Arzneimitteln (*Wipszycka* 1983, 341).

Der Silberlöffel aus dem Fund I, von birnenförmiger Schale (ein typisches Merkmal für die frühen Exemplare vom Typ *ligulae*), reich verziert auf der Innenseite, hat einen ziemlich langen, geraden, schräg abgeschnittenen Stiel (typisch für *cochlearia*). Stanisław Pazda bezeichnet dieses Fundstück, ebenso wie das Exemplar aus dem Fund III, als *ligula* (1980, 165). Im Hinblick auf die Form der Löffelschale und die Art der keine zusätzliche Verzierung aufweisenden Verbindung (knieförmiger Arm) zwischen Schale und Stiel kommt das Exemplar aus dem Fund I von Wrocław-Zakrzów einem der zwei Silberlöffel, die im Grab 2 von Emmersleben auftraten (CRFB, *Deutschland* 6; 50, Kat. Nr. VII-04-5/1.10; Taf. 112: 8; Schulz 1952, 113, Taf. 30), dem Exemplar aus Grab 8 von Hassleben (Schulz 1933, 11, Taf. 7: 2; 1970, 178, Abb. 5) wie auch dem Löffel aus Grab 1 von Ostravany (Osztrópataka; Prohászka 2006, 61, Abb. 52) nahe. Es sei allerdings angedeutet, dass der Stiel bei dem Exemplar von Hassleben stark profiliert ist, während der der Löffel von Emmersleben und Ostrovany (Osztrópataka) kurz und mit einem zwiebelkopffähnlichem, ebenfalls profiliertem Knopf abgeschlossen sind.

Die nächste Parallele zu dem analysierten Silberlöffel aus dem Fund I von Zakrzów ist ein mit Gold sowie in Niellotechnik verziertes Silberexemplar aus dem in den Rhein versenkten Depot (Baggerfund) bei Hagenbach, Ldkr. Germersheim, Rheinland-Pfalz (Bernhard 1983, 54, Abb. 32: 2; Kramarkowa 1990, 140), dessen Chronologie mit den Überfällen von Alemannen auf die reichrömischen Provinzen in Verbindung (3. Jh.) gesetzt wird. Dieses Exemplar ist im Vergleich zu dem von Zakrzów etwas kleiner, hat einen mehreckigen, in kleinen Knopf auslaufenden Stiel. Der letztere weist am Schalenansatz die Inschrift: LAVRENTI auf. Das Innere der Schale trägt eine figürliche Verzierung (Schlachtszene?). Ein weiterer Silberlöffel von ähnlicher Form, diesmal unverziert, entstammt ebenfalls einem Depot, und zwar von Neupotz, Ldkr. Germersheim (Gorecki 2006, 89, Abb. 93; Künzl 1993, 218). Zwei Silberlöffel von annähernd gleicher Schalenform traten auch im Hortfund 2 von Xanten auf, (Xanten 2) Kr. Wesel, aus dem Bezirk des Matronentempels, datiert an das Jahr 260. Das Innere der Schale eines der Löffel-exemplare, von kleineren Ausmaßen (Heimberg 2006, 46, 47, Abb. 32), das im Hinblick auf kurzen, am Endstück profilierten Stiel als *ligula* bezeichnet werden kann, ist mit pflanzlichem Rankenmotiv verziert, das stilistisch an die Verzierung auf dem Exemplar aus Fund I von Zakrzów anknüpft. Ein Silberlöffel, dessen ovale Schale reich mit eingeritzten pflanzlichen und figürlichen Motiven verziert ist, stammt auch von Bajna, Komitat Komárom (Ungarn). Das Exemplar wird in das 4. Jh. datiert (Tóth 1991, Abb. 2–4).

Im Lichte der obigen Bemerkungen gilt es festzustellen, dass der Silberlöffel, der zu dem Inventar des „Fürstengrabes“ (Fund I) von Wrocław-Zakrzów gehörte, eine Form vertritt, die für die im 3. und am Anfang des 4. Jh. vorkommenden römischen Erzeugnisse dieser Art typisch sind. Aus diesem chronologischen Abschnitt liegen uns zu diesem Fundstück selbst wie auch zu dessen Verzierungsmotiven und – techniken ziemlich zahlreiche Parallelen vor.

Der Silberlöffel aus dem als Fund III bezeichneten Grab von Zakrzów stellt ein Erzeugnis dar, das dem zuvor behandelten Exemplar in vielerlei Hinsicht nachsteht. Er hat nämlich kleinere Ausmaße als das Exemplar aus Fund I, ist auch schlanker. Von den anderen römischen Löffeln, die uns aus Fürstengräbern der Stufe C2 vorliegen, unterscheidet er sich durch eine platt gehämmerte ovale Schale⁸. Diese ist durch ein knieförmig verbogenes, keine zusätzliche Verzierung aufweisendes Zwischenstück mit dem schmalen spitz zulaufendem Stiel verbunden.

Manche Ähnlichkeit in Form mit dem behandelten Exemplar von Zakrzów lässt ein Silberlöffel aus dem in die erste Hälfte des 4. Jh. datierten Grab A (Doppelbestattung von Frau und Mann) von Aquincum erkennen. Er fand sich bei dem männlichen Skelett, an dessen Oberschenkelknochen. Aus dieser Fundlage dürfte möglicherweise darauf zu schließen sein, dass der Löffel ursprünglich am Gürtel aufgehängt oder daran eingesteckt war (Burger 1984, 81–83, 89, Abb. A: 5; Kramarkowa 1990, 140, 141; Tóth 1991, Abb. 6; 7). In Proportionen, Form und allgemeiner Schlichtheit der Verzierung kommt dem betreffenden Löffel als ein Bronz-exemplar von Wulferstedt, Kr. Oschersleben nahe (CRFB, *Deutschland* 6; Kat. Nr. VII-08-8/1.1; 60, Taf. 112: 6).

Besondere Beachtung verdient allerdings die Verzierung des Stiels bei dem Löffel aus Fund III. In dessen Vorderteil, d.h. am Übergang zur Schale, nimmt der Stiel die Form eines viereckigen Stabs an. Dessen obere Seite ist mit dem auf dem Motiv des Buchstabens X basierenden Metopenornament, mit dreieckigen Einschnitten – Facettierungen, die von quer verlaufenden Ritzlinien sind, verziert. Diese Verzierung ist als fremd den Verzierungstraditionen der provinzialrömischen Werkstätte anzusehen. Auf dem Stiel mancher Silberlöffel treten gelegentlich als Verzierung quer verlaufende Einschnitte auf, doch sie trägt einen anderen

⁸ Dieser Beobachtung ließ bei Prof. Dr. habil. Dieter Quast den Zweifel aufkommen, ob der Löffel auch tatsächlich von provinzialrömischer Herkunft sei. Hiermit bin ich ihm für diese Suggestion zu bestem Dank verpflichtet.

Charakter (vgl. z.B. das Exemplar von Carnuntum – Vetters 1970, Taf. 23). Das Metopenornament ist dagegen für die Tradition des mitteleuropäischen Barbaricums sehr charakteristisch. Es tritt an Metallgegenständen auf, die in die jüngere und spätrömische Kaiserzeit sowie in die frühe Völkerwanderungszeit datiert sind und aus den Verbreitungsbereichen der Przeworsk- und der Wielbark-Kultur, dem elbgermanischen und westbaltischen Kulturkreis stammen. Besonders häufig treten die betreffenden Verzierungsmotive an Fibelfüßen und –bügeln auf (Godłowski 1977, 25, 26; 1981, Taf. XVII: 11, 13; Kaczanowski 1987, 61, Taf. XXV: 8; Schmidt/Bemmann 2008, Taf. 60: 63/2, 1, 2; 177: 122/1, 15; 220: 162/3, 2, 4), sind jedoch auch bei metallenen Gürtelteilen (Jaskanis 1996, Taf. LXI, Grab 498: 4; Madyda-Legutko 1977, Taf. VII: 12) und anderen Kategorien von Gegenständen wie etwa bei Werkzeugen oder Waffen anzutreffen (Bitner-Wróblewska 2007, pl. LVIII: 2). In dem als Fund II bezeichneten Grab von Zakrzów kam bemerkenswerterweise ein Bronzeschlüssel auf, der eben eine solche Verzierung trug (Kramarkowa 1990, 100, Abb. 39: a).

Die obigen Ausführungen lassen die Feststellung zu, dass eine eindeutige Bestimmung der Provenienz des Silberlöffels aus Fund III von Zakrzów nur schwer möglich ist. Es liegt uns dabei wohl eine in dem Milieu der Przeworsk-Kultur oder in einem anderen Kulturmilieu Mitteleuropas entstandene barbarische Nachbildung eines römischen Gegenstands vor.

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Strieborné lyžice z hrobů č. I a III z lokality Wrocław-Zakrzów

J u d y t a R o d z i ń s k a - N o w a k

Súhrn

Medzi početnými artefaktmi zahrnutými v inventároch „kniežacích“ hrobů objavených vo Wrocław-Zakrzów a datovaných do fázy C2 mladšej doby rímskej sa nachádzali dva pozoruhodné exempláre strieborných lyžíc. Pochádzajú z hrobů s mužskou výbavou, označených ako Nález (Fund) I a III (obr. 1). Oba uvedené exempláre boli v literatúre jednoznačne identifikované ako rímske importy. Tieto predmety sa dnes považujú za stratené, zachovali sa iba ich kópie. Okrem exemplárov z Wrocław-Zakrzów sú v spomínanom chronologickom úseku, t. j. vo fáze C2 mladšej doby rímskej, doložené strieborné lyžice v hrobů, označovaných ako „kniežacie“, v južnej časti Polabie, t. j. v Durínsku, v Pomoransku, na východnom a na juhozápadnom Slovensku, ako aj v Škandinávii. Takéto artefakty sa v stredoeurópskom barbariku nachádzali aj na pohrebiskách z obdobia sťahovania národů. Zoznam nálezů rímskych lyžíc z oblastí barbarskej Európy dopĺňajú fragmentárne exempláre objavené v osadách z mladšej a neskorej doby rímskej.

Zvyk umiestňovať do hrobov strieborné a niekedy aj bronzové lyžice, praktizovaný v barbarском prostredí, sa interpretuje v kontexte osobitnej funkcie jedla a nápojov, a teda aj stolového riadu, v pohrebných rituáloch a kulte mŕtvych v barbarском prostredí. Zároveň sa zdôrazňuje úloha týchto predmetov ako symbolov statusu, analogicky k iným kategóriám rímskych importov, ako sú strieborné, bronzové a sklenené nádoby. Je pozoruhodné, že strieborná lyžica sa niekedy vyskytuje v „kniežacích“ hroboch spolu so strieborným nožom a striebornými nožnicami. Takéto súbory máme doložené napríklad v hroboch označených ako Fund I a III vo Vroclave-Zakrzówe.

Strieborné lyžice, známe z provincií Rímskej ríše a z oblasti barbarica, tvoria relatívne rozmanitú skupinu nálezov, a to aj z hľadiska určitých detailov ich konštrukcie a výzdoby, ale aj z hľadiska procesu výroby. Dva exempláre lyžíc z „kniežacích“ hrobov v Zakrzówe patria k typom vyrábaným medzi 2. a 4. storočím, pričom kombinujú znaky skorších variantov (*cochlearia* a *ligulae*) a označujú sa ako *cochlear*. Lyžica z Nálezu I má hruškovitú naberačku, zdobenú v strednej časti ornamentom z kvetinových úponkov stočených do tvaru voluty. Predstavuje formu typickú pre rímske výrobky tohto typu, ktoré sa nachádzajú v 3. storočí a na začiatku 4. storočia n. l. Z uvedeného obdobia poznáme pomerne veľa analógií k tomuto exempláru, pokiaľ ide o formu, motívy a dekoratívne techniky.

Strieborná lyžica z hrobu označeného ako Fund III z Vroclavu-Zakrzówa je výrobok oveľa nižšej kvality než predchádzajúci exemplár. Od ostatných rímskych lyžíc známych z „kniežacích“ hrobov z fázy C2 sa odlišuje výnimočne plochou, kovanou, oválnou naberačkou. Za zmienku stojí najmä ornament, ktorý zdobí rukoväť danej lyžice, ktorého základ tvorí motív v tvare písmena X, tzv. metopický motív. Tento ornament môžeme považovať za cudzí element vo výzdobných tradíciách rímskych dielní v provinciách, ale je charakteristický pre stredoeurópske tradície v barbariku. Pravdepodobne ide o barbarскую imitáciu rímskeho výrobku, vyrobenú v prostredí przeworskej kultúry alebo v inom kultúrnom okruhu strednej Európy.

Obr. 1. Vroclaw-Zakrzów, vojvodstvo Dolnośląskie. 1, 2 – Fund I, striebro; 3 – Fund III, striebro (podľa Grempler 1887; Kramarkowa 1990; upravila U. Socha).

Dr. habil. Judyta Rodzińska-Nowak, assoc. Professor
Instytut Archeologii Uniwersytetu Jagiellońskiego
Ul. Gołębia 11
PL – 31-007 Kraków
judyta.rodzinska-nowak@uj.edu.pl
<https://orcid.org/0000-0003-2367-4852>

BRONZE RELIEF FITTING WITH A DEPICTION OF GOD MARS

Jaroslava Schmidtová – Ľudovít Mathédesz – Milan Sedlár – Barbara Ritterová

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Abstract: During systematic research at the site of MMB (Bratislava City Museum) Ancient Gerulata, in trench 13, within the fill of a Roman Period masonry sewer structure, we discovered a coiled bronze elongated object. Trench 13 was located in the civilian part of Gerulata, approximately 20 m from the northern corner of the 2nd, 3rd, and 4th construction phases of the castellum. The vicus (settlement) begins here, spreading northwest from the Gerulata castellum and near the “Via Carnuntina” road. In trench 13, we were looking for the continuation of the Roman masonry channel, which was previously explored by Ján Dekan and is presented in the masonry exhibition space. Klára Kuzmová dated this structure to the era of the Severan dynasty based on findings of terra sigillata. Besides continuing the channel, we uncovered a sewer connection in the northwestern part of trench 13.

The bronze object was found between the walls of the channel, but in a secondary position. Above the sewer in the stratigraphy is a massive wall, numbered 11, which partially corresponds with the late Roman square structure of the 4th construction phase. This wall has been uncovered so far over a length of approximately 30 m, showing a crack directly above the masonry sewer. We associate this crack with the wall and date it to the period of wall 11's existence, which our predecessors dated to the 3rd construction phase of Gerulata. Wall number 11 is currently defined as a protective wall guarding access to the port.

Upon cleaning the bronze fragment, we observed that on three small plates, it depicts a male figure in armor holding a spear. The male figure stands “en face” (facing forward), legs slightly apart, slim and muscular. The figure is depicted in low relief and shows strong musculature. The right arm is incomplete, along the body, while the left hand holds the spear. The head is slightly tilted toward the right shoulder, and the figure wears a helmet with a central crest. The metal fitting is covered in a dark green patina. The object is made of a copper alloy with zinc and tin, with smaller inclusions of iron, lead, and antimony. We presume it is a fragment of decorative armor fitting. The dating of ceremonial cuirasses spans a wide range, but we place this particular fitting in the mid-3rd century.

INTRODUCTION

In the 1960s, during soil excavation from a small elevation known as “Bergl” or “Várdomb”, a medieval fort and the pillars and walls of the Roman castellum Gerulata were discovered (Fig. 1 – Bergl, *Dekan 1966*, 143–149; *Kraskovská 1967*, 37–69). In addition to the camp, the research uncovered the foundations of civilian buildings and a Roman masonry sewer (*Dvořák 1975*, 133–141). These structures were restored and presented as part of Restoration I, during which supplementary archaeological research was also conducted on the site. The supplementary research and restoration were carried out by the Municipal Institute for Monument Care and Nature Protection (MSPS OP). The sewer was presented within a masonry space with a railing (*Snopko et al. 1989*, 80–87). The monument was handed over to the Bratislava City Museum, and in 1987, the Museum of Ancient Gerulata was opened.

In 2006–2007, Restoration II took place in Gerulata, funded by European ERDF funds. One of the goals of Restoration II was the conservation of the walls of the square structure, the well, the sewer, the original Roman floor, and archaeological research. During this research, trench 13 was opened, from which the presented fragment originates. However, due to time constraints and a reduced budget, the trench was not fully explored.

Research in trench 13 resumed in 2019–2020 and yielded unexpected results. We found the continuation of the sewer and discovered a connection. We uncovered a rich collection of artifacts. Therefore, in the following years, we continued the research by opening additional trenches, aiming to gather new information about the direction of both sewer structures as well as findings that would refine the dating of the objects.

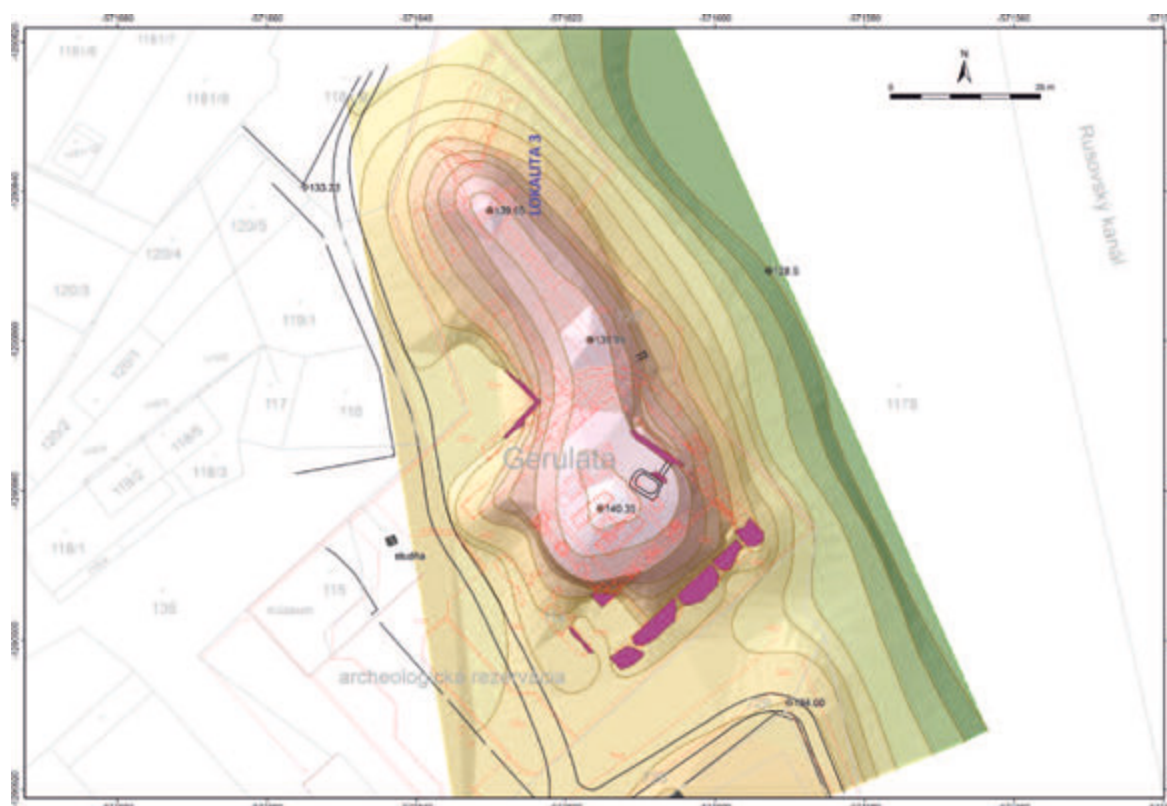


Fig. 1. Bergl hill with Site 3 (authors M. Bartík, E. Blažová, after to L. Kraskovská).

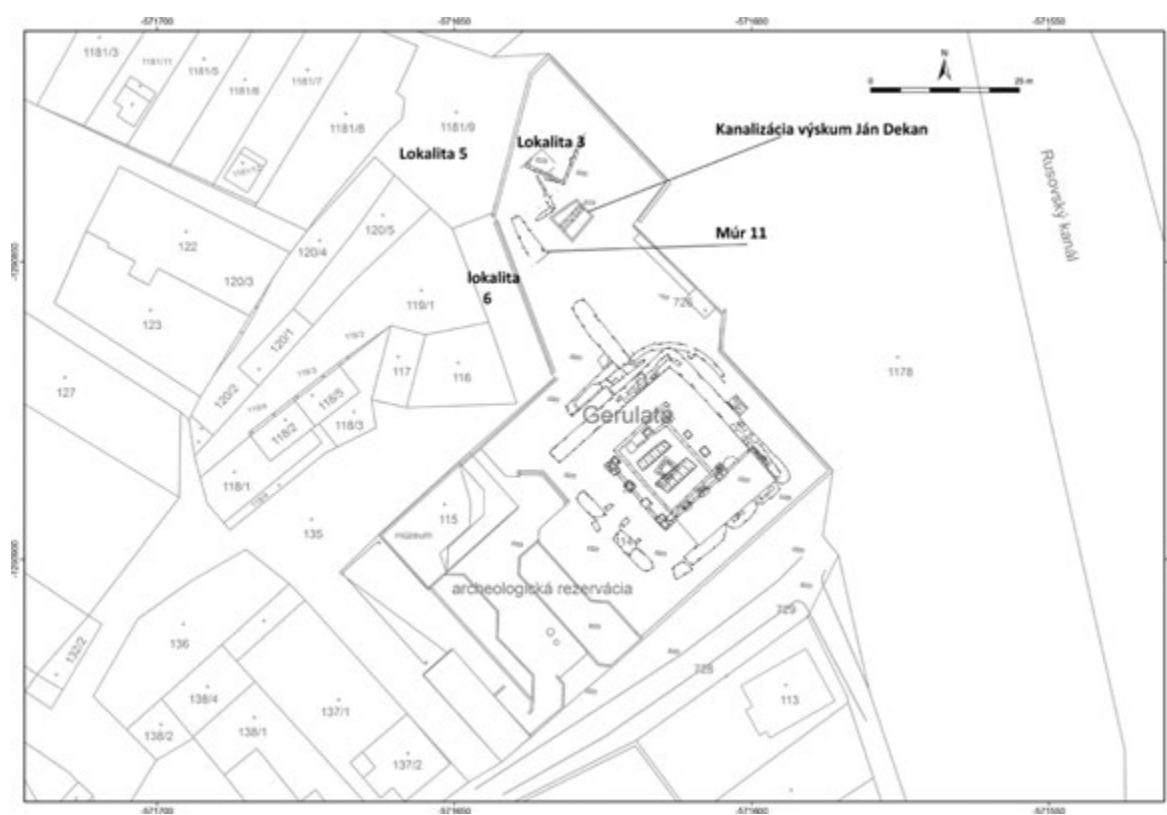


Fig. 2. MMB (Bratislava City Museum) Area. Ancient Gerulata with marked positions Bergl, sites 3, 5, 6 (author J. Schmidtová).

ARCHAEOLOGICAL SITE

Archaeological excavations northwest of the Gerulata castellum (in today's Bratislava-Rusovce district, at Maďarská and Irkutská streets) have begun uncovering a rich settlement located near the road leading to Carnuntum, the so-called *via Carnuntina* (Bazovský/Pichlerová 2015, 211–215; Pichlerová 1986, 194–197; 1990, 140, 141; Schmidtová/Jezná 2003, 19–24; Schmidtová 2006, 133–137; 2012, 263–275; Schmidtová/Jezná 2004, 5–14; Schmidtová/Mathédesz 2020, 85–102). On Irkutská Street, we uncovered an exceptional example of Roman architectural sophistication – a structure with underfloor heating and a cemetery (Schmidtová/Mathédesz 2022, 347–352; Schmidtová/Mathédesz/Jezná 2017, 87–95; Sötér 1898, 240–248;). Another remarkable find along *via Carnuntina* is a large fragment of a tegula stamped by the Cananefates cavalry, who formed the garrison in Gerulata. The tile is the only one of its kind (Schmidtová 2010, 9–17). Based on the findings from these excavations, the rich settlement on Irkutská Street, along with the National Cultural Monument (NKP) house with a hypocaust, was also inscribed on the UNESCO World Heritage List.

The Bergl site 3 (Fig. 1; 2), with trench 13, is situated in a civilian settlement outside the walls of the Gerulata castellum, approximately 20 m from the northern corner of the castellum from the 2nd, 3rd, and 4th construction phases. From an archaeological topography perspective, the explored area marks the beginning of civilian settlement along the *via Carnuntina*. The elevated area, called Bergl, had an elongated shape and covered part of the Gerulata castellum and part of the civilian settlement. The top of the hill above the civilian settlement was at an elevation of 139.65 m above sea level. Today, the terrain is at 134.30 m above sea level, with a difference of 5.35 m. On site 3, we are thus operating on Roman terrain, which in some parts is overlaid with low recent deposits from the last 50 years.



Fig. 3. Sewage system and connection at Site 3 (author P. Brunčák).

Trench 13 was placed southwest of Ján Dekan's trench (Fig. 3). It measures 2.10–2.40 × 4.8 m and has an irregular trapezoidal shape. In 2019, we identified five objects. Object 1 was a sewer body explored by Ján Dekan (Fig. 4). Object 2 was Ján Dekan's exploratory trench. Object 3 was a connection, whose junction with the sewer body has not yet been confirmed by research. Object 4 was a floor and a mortar accumulation at the southern profile of trench 13. Object 5 was an intervention above object 1, i.e., the sewer walls in sectors e and g (Fig. 4; 5).

The sewer runs in a northeast-southwest direction, with a depth of 63 to 70 cm from the top of the wall. The walls were slightly wider, the sewer was deeper, and 40 cm wide. It sloped toward a branch of the Danube, with a gradient of 7 to 10 cm over a length of 230 cm. Some mortar lining was preserved. The connection runs east-west, is 31 to 38 cm deep, and was shallower, with the trench being roughly the same width, and the walls had a lime mortar lining. In trench 13, the connection had a slope 8 cm lower over a length of 1.6 m. The connection ceased to exist earlier, as it is overlain by backfill layers of the depression above the sewer. Only the masonry walls of the sewer and connection were preserved (Fig. 5). The research identified several types of covering, such as flat brick roofs, arches, stone, even spolia (Kremer 2014, 67–78), or wood. Small, covered, and relatively long water and sewage systems are also typical for Carnuntum (Konecny et al. 2018, 4–14).

In subsequent years, we continued exploring the sewer trenches, and the sewer was examined over a total length of 10 m. Behind wall no. 11, we uncovered a semicircular “pool” with a mortar floor (Fig. 6; 7). We assume that it may have served as a water reservoir or to slow down the water



Fig. 4. Bergl, Site 3, Trench 13, Object 1. Fill above the sewerage walls. Depth at point B 100 cm, 133.31 m a. s. l. (author J. Schmidtová).



Fig. 5. Bergl, Site 3, Trench 13, sector markings (author J. Schmidtová).

flow. The connection was explored over a length of 13.5 m, and its continuation was terminated by a medieval ditch.

An exceptional find in the sewer backfill was the accumulation of animal bones on the southern side of the depression fill above the sewer (Fig. 8). We requested an archaeozoological analysis from Prof. PhDr. Noemi Beljak Pažinová, PhD., head of the Department of Archaeology at the Faculty of Arts, Constantine the Philosopher University in Nitra, and especially from her young colleague, Mgr. Katarína Šimunková, PhD. She took over and analyzed 85.5 kg of material, representing 8,321 pieces of animal bones, and produced a basic anatomical-taxonomic analysis of animals from the Roman Period in Gerulata. Her work will be published in the near future, along with other information and analyses.

To understand the stratigraphy and the relative positions of the objects, the eastern profile is the most important (Fig. 5; 9; 10). Depressions were formed above both the connection and the sewer. The depression above the connection is 80 cm wide and approximately 30 cm deep, sitting on a speckled sandy-clay loam.

More interesting is the depression above the sewer, where the fill consists of red-burnt as well as gray ash layers rich in finds. These burnt layers are in superposition above the layer with animal bones. During the cleaning of the profiles, we found red burnt layers (2') already at a depth of 20 cm from the surface. Beneath them are gray ash layers (3'). In layer 4', there was a large cluster of the aforementioned animal bones. The lower layer of the backfill, consisting of brown soil with gravel, was designated as layer 6'. It was about 20 cm deep. Below it was the fill of the sewer trench itself, designated as layer 7'.

However, interventions near wall 11 clearly show that we cannot correlate the stratigraphy of the eastern profile with the find spot. A small part of the original foundation trench of the massive wall 11 was preserved only in sector «i» in the southwest corner of trench 13. Above the sewer walls is an intervention, which we believe to be a Roman-Period exploratory trench that was used to verify the break in wall 11. The southern wall of the sewer under wall 11 was even removed (Fig. 11, near the find spot). In the backfill of this intervention, in the section 0–50 cm from wall 11, at a depth of 30 to 50 cm from the top of the sewer walls (132.21 to 132.02 m a.s.l., Fig. 11), we found a coiled bronze object. It should be emphasized that, apart from mortar, bricks, and broken stones, we found no other artefacts in the backfill of the sewer walls or connection.



Fig. 6. Semi-circular pool, continuation of the sewage system (author J. Schmidtová).

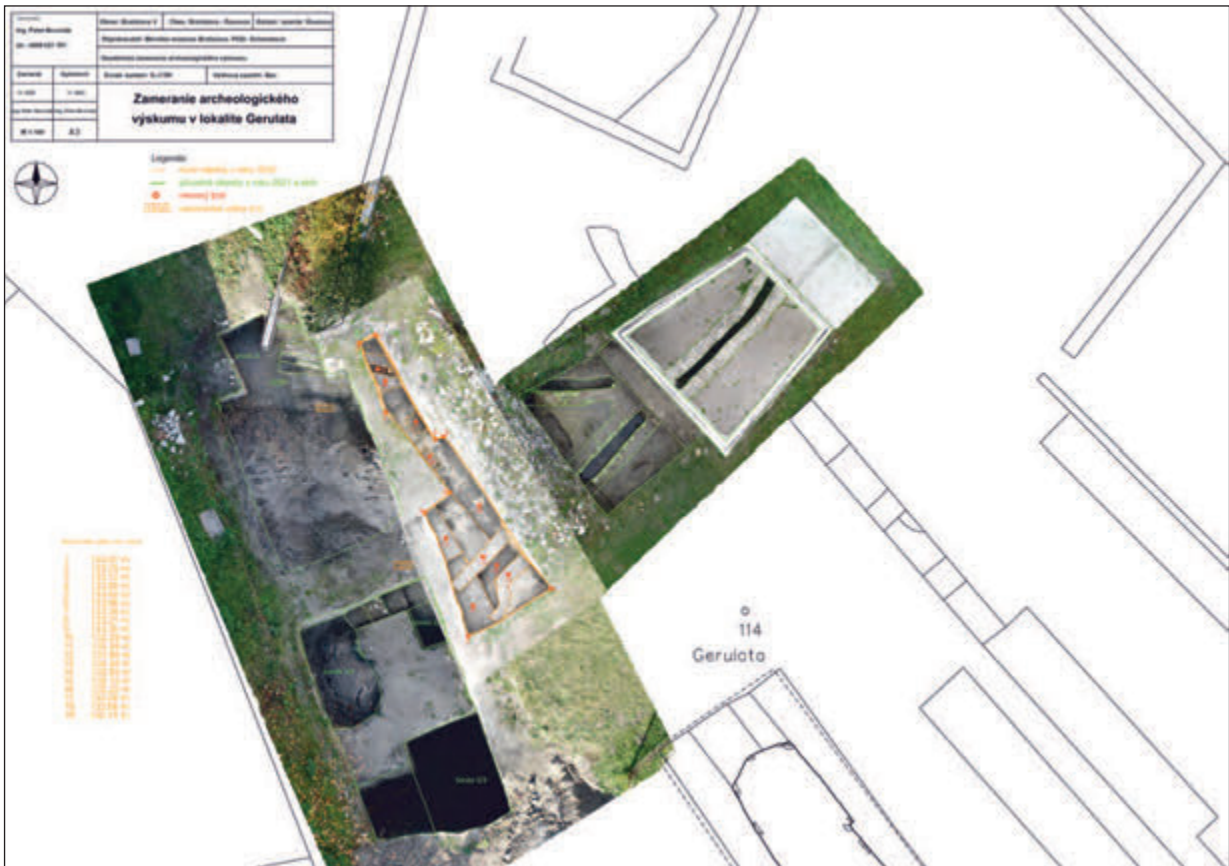


Fig. 7. Marked walls of the sewage network in Gerulata (author P. Brunčák).



Fig. 8. Animal bones in the fill of object 1. Bounded by the brown gravel layer no. 5, the left boundary of the sewage connection.

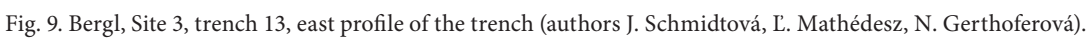




Fig. 11. Bergl, Site 3, trench 13. The find is located between the sewage walls (author J. Schmidtová).



Fig. 12. Bronze fitting, condition after discovery (author L. Mathédesz).



Fig. 13. Bronze fitting. Head with helmet and spear tip (author B. Ritterová).

The dating and abandonment horizon in Ján Dekan's research is based on the evaluation of *terra sigillata* pottery, obtained primarily from the depression fill above the masonry sewer (Dekan/Kuzmová 1996, 145–192). The latest finds belong to the Severan Period. Our finds are dated to the 1st, 2nd, and 3rd centuries. Four coins from the 4th century were found around the object – a wall discovered by Ján Dekan – and a layer of mortar on the northern profile. We assume that they ended up here during the construction of this medieval foundation wall.

MATERIALS AND METHODS OF RESTORATION OF THE FIND

The primary goal was to clean the object and determine the type of find, whether a typological identification and dating were possible, and also to determine the elemental composition of the object.

The object, initially discovered as a narrow, deformed, corroded metal strip covered with soil, underwent a meticulous restoration process to identify its nature and preserve its integrity. Below are the detailed steps and methods used in the restoration:

Condition upon discovery

The object was found as a corroded, narrow metal strip, heavily deformed and encrusted with soil (Fig. 12). When it was excavated and delivered to the restoration workshop of the MMB, it was still in a moist state, and its original form was unclear. Initially, it resembled nothing more than a lump of soil.

Initial cleaning

The item was first cleaned using demineralized water and a nylon brush. After this, it was documented. Post-cleaning, it became evident that the object was a piece of deformed metal, covered entirely with a mixture of corrosion products and calcium deposits. The presence of green corrosion indicated copper content.

Advanced cleaning techniques

The nylon brush alone proved insufficient for deeper cleaning, so more aggressive methods were employed. The calcium deposits were removed with wooden tools, and an ultrasonic scalpel, a highly effective cleaning tool with controlled local impact, was also used. However, due to the presumed fragility of the object, cleaning with an ultrasonic bath was avoided. During this phase, a previously indistinct relief began to emerge. The turning point came when, despite careful handling, the object fragmented. One of the separated pieces revealed a previously hidden part of the relief, specifically a head (Fig. 13), confirming that the object represented a figure.

Detailed unveiling of the relief

The uncovering of the relief continued slowly, using a work microscope and various wooden tools. During pauses in the process, the object was desalted by soaking in demineralized water.

Stabilization and preservation

After cleaning, the object was stabilized by immersion in a 3% benzotriazole solution in ethanol, followed by a rinse with ethanol. After drying, it was coated with a 7% solution of Paraloid B-44 in xylene to preserve it. Partial reassembly was performed. The cleaning process revealed the full relief, but due to the earlier fragmentation, it was decided not to restore the object to its original, deformed state after excavation. Doing so would obscure the revealed relief. Only a small fragment near the feet of the figure was glued back using a thick solution of Paraloid B-48 in acetone. To reinforce the bond, Japanese paper moistened with a 10% solution of Paraloid B-44 in xylene was applied to the joint after curing.

Elemental composition analysis

To determine the elemental composition of the object (reference number 2020/2/408DP), an X-ray fluorescence (XRF) analysis was conducted using a handheld NITON XL3t analyzer (Thermo Fisher Scientific, Niton, USA), mounted on a portable protective stand. Although XRF is a non-destructive method, it was necessary to define a suitable area for measurement and prepare the surface, as the patina covering the object could distort the results. Therefore, it was necessary to remove it locally to reveal the metal core. Given the object's significant historical value, the patina was removed only to a small extent on the underside of the object, specifically in an area lacking the green layer formed by copper salts, which revealed a dark red layer of copper oxidation (Fig. 14). Using a rotary tool with a nylon attachment, the copper oxide was mechanically removed, creating a 5×5 mm sample area for XRF analysis.

XRF analysis results

The analysis was conducted for 30 seconds, and the results were expressed as percentage values, focusing only on basic metal elements. Based on the measurement, the object was identified as brass enriched with tin (Cu 86.6%, Zn 6.45%, Sn 5.68%) with smaller amounts of iron (Fe 0.75%), lead (Pb 0.32%), and antimony (Sb 0.18%). This alloy produced a light yellow-brown color. The addition of tin to the brass improved its strength, malleability (both hot and cold), and corrosion resistance compared to pure brass. It remains unclear whether this specific alloy composition was intentionally chosen for these properties or whether it was the result of recycling metal materials.

This comprehensive restoration and analysis process enabled a better understanding of the object's material composition, physical properties, and cultural significance while ensuring its long-term preservation.

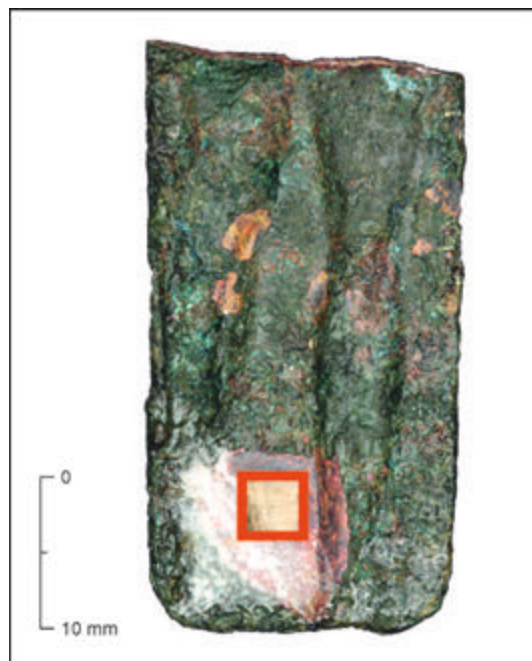


Fig. 14. Bronze fitting. Polished sample (author B. Ritterová).

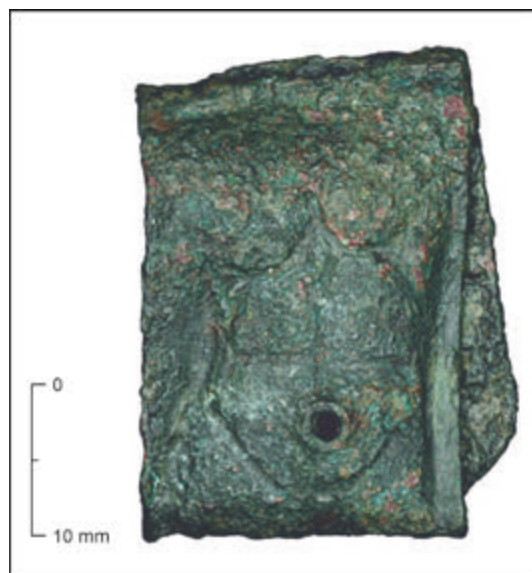


Fig. 15. Bronze fitting. Torso of a character (author B. Ritterová).



Fig. 16. Bronze fitting with the figure of Mars (author B. Ritterová).

DESCRIPTION OF THE RELIEF, ANALYSIS AND TYPOLOGY

The figure (Nr. VD 2020/2/408DP) is depicted on a narrow strip of bronze fitting, which was folded three times. The figure is presented in low relief, and the fitting is covered with a dark green patina. During cleaning, the object fragmented, and the section containing the figure's legs separated (Fig. 14). The remaining fragment shows the torso on one side (Fig. 15) and the head with a helmet and the tip of a spear on the other. The dimensions of the upper part of the fitting are a maximum width of 2.3 cm and height of 3 cm; the middle part has a maximum width of 2.2 cm and height of 3.2 cm; the lower part has a width of 2.1 cm and height of 3.9 cm. The exact size of the fitting is unknown as it is partially cut off, but its height exceeds 10 cm. The termination of the fitting can be seen above the hand holding the spear, where there is a rounded protruding line continuing above the helmet's crest. Rounded corners are also present near the figure's legs. The height of the three preserved sections combined is 10.2 cm (Fig. 16). The fitting has two holes. The hole to the left of the face measures 0.7×0.4 cm and appears to have been added later. The hole at the navel is regular, with a profiled circular termination and a diameter of 0.2 cm, possibly used for attaching the fitting to a surface.

The male figure is standing "en face" with slightly spread legs, slender yet muscular. It is presumed that the figure is naked, displaying the well-defined musculature of a male body. The head is slightly tilted toward the right shoulder, with a balanced face, eyes indicated by profiled rings, and a plastically represented nose and lips. The figure wears a helmet with a central crest and plume, with what appear to be strands of hair flowing along the face. In the upper left section, fingers can be seen gripping a spear with a leaf-shaped tip. Parts of the arms are missing, with the right arm lost below the elbow, and only the fingers of the left hand remain. The lower part of the right leg is unclear, while the left foot is more distinct, although the toes are missing.

Despite the fragmented state, the torso reveals a well-built figure with visible chest and abdominal muscles, marked by a groove. The absence of the contrapposto type of Doryphoros by Polykleitos¹ is striking. The face features coarse traits, reminiscent of depictions from the late Principate and Dominate Periods.

The relief represents the god Mars. A torso of a Mars figurine from Gerulata, which was described in a recently published work (Mathédesz/Schmidtová/Holičková 2023, 33–37), originates from this context. Mars, known as Maris in Etruscan and Mavors or Marspiter in Old Latin, is one of the oldest Italic deities and was identified with the Greek Ares in *interpretatio graeca*. The original domain of Mars is debated (Hošek 1986, 34). The Roman year initially began in March, the month dedicated to Mars, when agricultural work started, and military campaigns were launched. Another theory posits that Mars was always a war god, with his

¹ Thank you to PhDr. Jan Jílek, Ph.D., for the notification.

agricultural functions serving to prevent the devastation of fields by war. The ancient nature of Mars' cult is evidenced by his association with animals like the wolf and woodpecker and his veneration in the spear. The relic known as Mars' spear was kept in the *sacrarium* in the Regia, the royal residence on the edge of the Roman Forum. The Regia later served as the office of the *pontifex maximus*, the highest religious official. Tradition held that the spear moved, shook, or vibrated in times of war or other threats to the state. Mars' connection to the wolf is also seen in the most famous Roman myth, where a she-wolf nursed his sons, Romulus and Remus, whom Mars fathered with the mortal Rhea Silvia, daughter of King Numitor of Alba Longa.

According to Roman mythology, Mars was the son of Jupiter and Juno. After Jupiter, he was the most venerated Roman deity. Mars was worshiped *extra pomerium* – beyond the city walls. His two oldest temples, the Ara Martis in the Campus Martius and the Temple of Mars near the Capena Gate (*templum Martis extra portam Capenam*), stood outside the city, where the army gathered before campaigns (Hošek 1986, 34).

The fragmentary nature of the narrow fitting with a relief depiction of a male figure in armor holding a spear, which was folded three times and thus further damaged, complicated the evaluation of the fragment. Relief fittings were part of ceremonial breastplates, weapon guards for swords and daggers, furniture fittings, and even horse harness decoration.

This particular relief, due to its size and iconography, likely comes from the breastplate of a ceremonial cuirass. Such ceremonial cuirass was used in triumphal parades and processions. Hannsjörg Ubl mentions equestrian games where riders wore ceremonial cuirass (Ubl 1997, 59). These relief plates were divided into two, right and left, and were cut out and shaped to fit around the neck (Fig. 17; 18). The plates were further divided into three horizontal fields. In the top field, an eagle was typically depicted. The main field usually featured a deity. Ernst Künzl collected 256 fragments of ceremonial cuirass fittings, identifying 755 iconographic depictions, with Mars, Minerva, or Victoria appearing on 309 of them (Künzl 2004, 402; Borhy 2016, 60). The lower field often depicted animals such as bulls and goats, symbolizing legions.

A fragment from Brigetio, stored at the Kunsthistorisches Museum in Vienna, also depicts Mars. The fragment likely comes from the right side of a breastplate. Mars is shown wearing a pseudo-Corinthian helmet, a *lorica musculata* breastplate, and greaves on his legs. He held a spear in his right hand and leaned on a shield with his left hand (Borhy 2016, 38, 39, cat. 10, 131, 10. kép; Garbsch 1978, 77, P4, taf. 34: 4). There is also a find in the Kunsthistorisches Museum in Vienna that originates either from Carnuntum or Brigetio. Mars likely held a spear in his right hand, while holding a shield in his left hand (Borhy 2016, 67, 145, fig. 30).

Another fragment of a ceremonial cuirass depicting Mars is held in the Magyar Nemzeti Múzeum (Hungarian National Museum; Borhy 2016, 67, 82, 83, 144, fig. 28).

A corroded and damaged relief fragment from a ceremonial cuirass originates from Bertholdsheim. It depicts Mars, who likely holds a spear in his right hand and a shield in his left (Borhy 2016, 59, 144, fig. 26; Garbsch 1984, 68, pl. XXXII: 1).



Fig. 17. Soldier in ceremonial cuirass (Ubl 1997, 59).

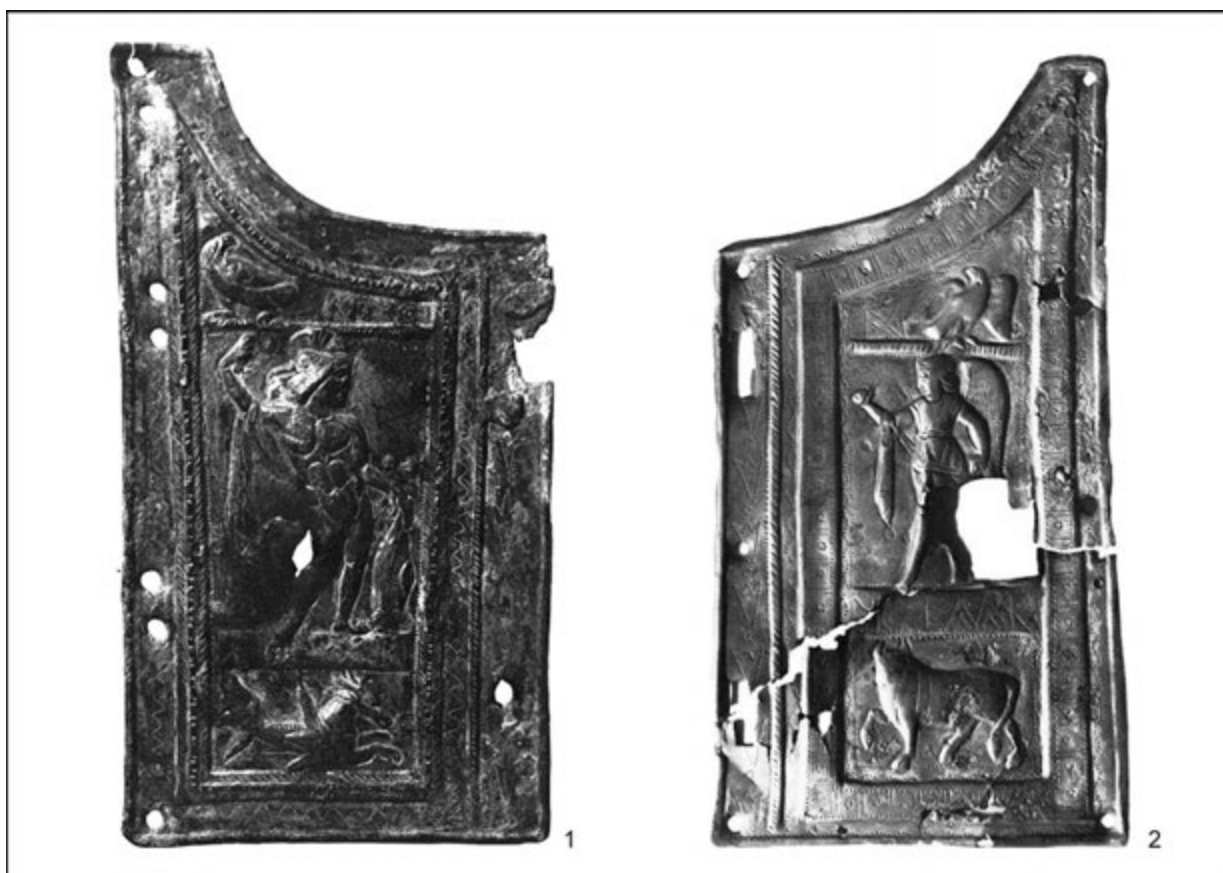


Fig. 18. Relief fittings from the ceremonial cuirass. 1 – Carnuntum or Brigetio; 2 – Orgovány (Garbsch 1978, pl. 34).

A fragment from the left side of a breastplate from the site at Orgovány shows the goddess of victory, Victoria, in the central field (Borhy 2016, 67, 144, fig. 29; Thomas 1976, 27–34). The site is located outside of Pannonia, east of the Danube in Barbaricum.

A breastplate with relief decoration and the inscription of the 10th Legion and the name BRVTI comes from Mušov. In the main pictorial field is Dioscurus, with a bull at the bottom (Borhy 2016, 67, 145, fig. 31; Komoróczy/Vlach 2019, 247–253; Tejral 1986, 398, 464, pl. II; 1986, 398, 464, pl. II).

A rectangular, polished bronze plate with a framed pictorial field from the Lauriacum camp in Enns depicts Mars standing to the left, in armor and with a helmet on his head. His left hand is raised, holding a spear, while his right-hand rests on a shield. The edges of the plate feature several small holes for attachment. The fragment was secondarily used to decorate a chest, which were very popular in the late Roman Period (Ubl 1997, 13, fig. 16, 173, cat. no. IV/H-10).

A similar use is observed in a metal fitting fragment from Brigetio, from the temple of Jupiter Dolichenus. The fragment shows the bust of Mars, looking left, wearing armor and a helmet. Like our fragment, it was cut from the original cuirass fitting. The small holes in the corners of the fragment were used to attach it to a chest, where it served as decoration (Borhy 2016, 37, cat. 8, 129, fig. 8; Garbsch 1978, 78, pl. 14; 36: 2; Láng 1925, 105, fig. 6d; 1941, 180, pl. 30: 2).

In contrast, another fragment was secondarily used on the cheek guard of a Worthing-type helmet. After the helmet was damaged, the cheek guard was repurposed to decorate a ceremonial cuirass. The find is stored in the Hungarian National Museum (Borhy 2016, 77, 78, 146, fig. 34).

CHRONOLOGY, RESULTS, AND DISCUSSION

The chronology of ceremonial cuirasses is broad. Researchers date individual finds from the late 1st–2nd century up to the first half of the 3rd century, associating them with historical events such as the conquest of provinces, military expeditions, the Marcomannic Wars, the Severan Period, raids by the Franks and Alemanni, and the construction or abandonment of camps. The deities and symbols depicted on the armor are often related to victory (*Borhy 2016, 74*).

J. Garbsch developed a theory for dating ceremonial cuirasses. He divided the finds into two groups. The first group includes armor featuring a depiction of a deity, while the second group contains armor decorated with busts. Garbsch considered the first group to be of higher artistic quality, dating it to the transition from the 1st to the 2nd century. The second group he dated to the late 2nd century (*Borhy 2016, 75; Garbsch 1978, 8*). This division, however, does not align with the breastplate from Mušov, which is dated based on finds to the period of the Marcomannic Wars between 170 and 180 AD (*Borhy 2016, 76; Tejral 1986, 464, taf. II*). According to Borhy, both types can be dated to the second half of the 2nd century. Those with a deity are typically found in legionary contexts, while bust depictions are found in auxiliary camps (*Borhy 2016, 76*).

Dating is further complicated by the fact that decorative bronze plates rarely appear in archaeological excavations. Most known fragments of relief armor fittings come from old 19th century collections, obtained through antiquities trading, with no associated discovery context (*Borhy 2016, 75*).

Based on discovered deposits (Straubing, Eining, Künzing), experts date the disappearance of similar armor to the first third or half of the 3rd century. When analyzing the Straubing deposit, they determined the time of burial to be the 3rd century but did not attempt to ascertain when the items were made (*Borhy 2016, 74*).

For dating reliefs, comparisons can be made with fittings from Pannonian chests (*Gáspár 1986*), although these also face similar dating challenges. Only a few items from the found materials come from authentic excavations, leaving very little basis for dating. The main types of chest fittings can be classified more geographically than chronologically (*Gáspár 1986, 71*). The starting point for dating assumes that fashion evolves and does not stagnate for four or five centuries. This evolution is reflected in chest fittings, as in other artistic and functional objects. Around the mid 3rd century, a broader range of chest decorations emerged, with figurative motifs becoming more common by the end of the 3rd century (*Gáspár 1986, part I, 54, 52; part II, 73, tab. XV, no. 791*). The find from Keszthely-Fenékpuszta shows three horizontal bands, two of which represent the seasons, and the third depicts a Thiasos procession (*Gáspár 1986, 212/791*). Another chest fitting from Carnuntum (*Humer/Kremer 2011, 430, cat. 1031*) portrays a Christian scene, with four fittings, two of which are decorated with figurative scenes. One band with a hunting scene arranged from left to right depicts various animals, hunters, and plants, while the other depicts individual images arranged vertically, including a Christian scene amidst pagan motifs like Hercules, Mercury, and Venus. One image shows two male figures, one of whom represents St. Peter, striking a rock with a rod to bring forth water. The other figure is a soldier from Pannonia, and the scene illustrates “Peter’s miracle of spring,” where Peter saves pagan soldiers from thirst, depicting their conversion to Christianity. The spread of Christianity in Noricum and Pannonia dates to the second half of the 3rd century.

The dating of ceremonial cuirass is not consistent. Researchers date individual finds from the 1st–2nd century up to the first half of the 3rd century. Figurative chest fittings appeared by the end of the 3rd century. Caution is needed when changing the dating of ceremonial cuirasses. None of the researchers who studied the fittings of the breastplate dated them to the end of the 3rd century. However, their creation in the mid 3rd century is possible.

Using a professional and precise approach, this deformed and encrusted fragment was cleaned and revealed with the help of nylon brushes, wooden tools, and an ultrasonic scalpel. A significant breakthrough occurred when, despite all precautions, the object fragmented. The separated part revealed a previously hidden portion of the relief, exposing a head and part of the figure. A replica of the object was created, allowing a better view of the relief.

To determine the elemental composition of object 2020/2/408DP, X-ray fluorescence (XRF) analysis was performed using a handheld NITON XL3t X-ray analyzer (Thermo Fisher Scientific, Niton, USA) on an area of approximately 5 × 5 mm (Fig. 14). The measurement was taken from the surface of the sample for 30 seconds, and the results were expressed in percentage values, focusing only on the basic metal elements. Based on the results, the object is a copper alloy with zinc and tin (Cu 86.6%, Zn 6.45%, Sn 5.68%), with minor admixtures

of iron (Fe 0.75%), lead (Pb 0.32%), and antimony (Sb 0.18%). This composition produces a light yellow-brown alloy with good strength, ductility both hot and cold, and corrosion resistance.

The narrow, coiled bronze plate, corroded and encrusted, surprised us all after conservation. The fragment is broken and incomplete, showing a male figure in low relief, standing on face, with legs slightly apart, slim and muscular. We presume the figure is nude and not in contrapposto. On the head is a helmet with a central crest and plume, with hair flowing alongside the face. In the upper left, fingers holding a spear with a leaf-shaped point are visible. The relief likely represents the god Mars.

The size and iconography of this relief resemble the bronze fittings of the chest portion of ceremonial cuirass, which was used for triumphal parades, marches, and cavalry games (Fig. 17; *Ubl* 1997, 59). The armor consisted of two relief plates cut and shaped to fit around the neck (Fig. 18). The plates were divided into three horizontal pictorial fields. The upper field often depicted an eagle, the central field typically featured a deity, and among 755 iconographic depictions, 309 fragments featured Mars, Minerva, or Victoria (*Borhy* 2016, 60; *Künzl* 2004, 402). The lower field displayed animals such as bulls and goats, symbolizing legions.

CONCLUSION

Excavation in the civilian settlement near the northern corner of the Gerulata castellum and the massive Roman wall no. 11 yielded surprising results. In trench 13, a sewer was uncovered, along with a connection leading toward it. We assume the sewer led to quality buildings in the civilian settlement, where the wealthiest inhabitants lived closest to the camp.

Both drainage ditches are stone-built, with the connection having narrower walls and shallower depth, coated with lime mortar. The deeper sewage system lasted longer, and we have yet to determine if both lines were functional simultaneously, but the connection ceased to function earlier.

We speculate that both channels were originally covered, although no traces of roofing were found. Various levels contained clusters of mortar fragments. Above the stone sewer was a depression filled with numerous finds. The fill contained some burnt layers, though only a fraction of the finds was burnt. The accumulation of animal bones lining the southern side of the depression above the sewer is also noteworthy, mixed with broken stones and Roman roof tiles. The fragment of decorative armor fitting we describe was found in secondary deposition in the fill (object 5) of the stone sewer trench near wall 11. We associate this secondary deposit with a break in wall 11. The relief depicts Mars with a helmet on his head and a spear in his left hand. The object is composed of a copper alloy with zinc and tin, with minor traces of iron, lead, and antimony. We date the creation of this fitting to the mid 3rd century.

Translated by Martina Katuščáková

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Bronzové reliéfne kovanie s vyobrazením boha Marsa

Jaroslava Schmidtová – Ľudovít Mathédesz – Milan Sedlár –
Barbara Ritterová

Súhrn

Počas systematického výskumu v areáli MMB antickej Gerulaty sme v sonde 13, v zásype murovaného kanalizačného telesa z doby rímskej našli stočený bronzový podlhovastý predmet. Sonda 13 je umiestnená v areáli MMB Antickej Gerulaty a to v civilnej časti Gerulaty, približne 20 m od severného rohu kastela 2., 3. a 4. stavebnej etapy. Začína tu vicus, ktorý sa rozprestiera severozápadne od kastela Gerulata a pri ceste „Via Carnuntina“. V sonde 13 sme hľadali pokračovanie rímskeho murovaného kanálu, ktorý preskúmal Ján Dekan a je prezentovaný v murovanom výstavnom priestore. Klára Kuzmová datovala tento objekt do obdobia vlády Severovcov na základe nálezov Terry sigillaty. Okrem pokračovania kanálu sme v severozápadnej časti sondy 13 odkryli aj prípojku kanalizácie.

Obe kanalizačné ryhy sú kamenné, prípojka má užšie múry a je plytšia, na stenách má výmaz z vápennej malty. Kanalizácia je hlbšia. Prípojka zanikla skôr a ešte sme nezistili, či boli obe línie funkčné v rovnakom období. Prípojka však zanikla skôr. Predpokladáme, že obe vetvy boli zhora uzatvorené, ale stopy po zastrešení sme nenašli. Na rôznych úrovniach sme zachytili zhľuky maltových fragmentov. Nad murovanou kanalizáciou bola depresia, v ktorej bolo mimoriadne množstvo nálezov. Výplň depresie čiastočne tvorili prepálené vrstvy, ale len zlomok nálezov bol prepálený. Zaujímavá je aj kumulácia zvieracích kostí, ktoré akoby vystielali južnú stranu depresie nad kanalizáciou. Medzi nimi sa nachádzali lomové kamene a rímska strešná krytina. Fragment ozdobného kovania panciera, ktorý popisujeme, sa našiel v sekundárnom zásahu v zásype (objekt 5) murovanej kanalizačnej ryhy pri múre 11. Vznik tohto sekundárneho zásahu spájame s cezúrou na múre 11, ktorý je v superpozícii nad kanalizáciou a ktorý je čiastočne súčasný s neskorootrickou kvadratickou stavbou 4. stavebnej etapy. Tento múr je zatiaľ odkrytý na dĺžke cca 30 m, je prasknutý a cezúra sa nachádza priamo nad murovanou kanalizáciou. Naši predchodcovia ho datujú do 3. stavebnej etapy Gerulaty, t.j. posledná tretina 3. storočia až posledná štvrtina 4. storočia. Múr č. 11 zatiaľ definujeme ako múr, chrániaci prístup do prístavu.

Úzky stočený bronzový plech, skorodovaný a zahľinený, je zlomený, neúplný. Je na ňom znázornená mužská postava v nízkom reliéfe, „en face“, nohy mierne rozkročené, štíhle, svalnaté. Predpokladáme, že postava je nahá a nestojí v kontraposte. Na hlave je prilba so stredovým hrebeňom a chocholom, spod ktorej akoby popri tvári splyvali vlasy. V ľavej hornej časti vidno prsty, ktoré držia kopiju s listovitým hrotom. Reliéf predstavuje boha Marsa. Veľkosťou a ikonografiou sa predmet približuje bronzovým kovaniám náprsnej časti slávnostného panciera. Slávnostný pancier bol určený na triumfálne prehliadky, pochody a jazdecké hry. Pancier tvorili dve reliéfne doštičky, ktoré boli vykrojené a prispôbené tvaru krku. Samotné doštičky boli rozdelené do troch horizontálnych obrázkových polí. V hornom poli bol najčastejšie zobrazený orol. V hlavnom poli bolo zvyčajne zobrazené božstvo. Spomedzi 755 ikonografických vyobrazení sa na 309 fragmentoch nachádzal Mars, Minerva alebo Viktoria. Na spodnom poli sa nachádzali zvieratá, napr. býk a kozorožec, ktorí symbolizovali légie. Vznik reliéfu kladieme do poloviny 3. storočia.

Predmet bol ošetrovaný a konzervovaný v reštaurátorských dielňach MMB. Vápenaté usadeniny boli odstraňované pomocou drevených nástrojov, použitý bol taktiež ultrazvukový skalpel. Nasledovné odkrývanie reliéfu prebiehalo pozvoľna za pomoci pracovného mikroskopu a rôznych drevených nástrojov. Počas pracovných prestojov bol predmet odsolovaný v demineralizovanej vode. Po ukončení čistenia prebehla stabilizácia ponorom do 3 % roztoku benzotriazolu v etanole a následným oplachom etanolom. Po vysušení bol predmet konzervovaný náterom 7 % roztoku paraloidu B-44 v xyléne.

Z dôvodu určenia prvkového zloženia predmetu 2020/2/408DP bola vykonaná röntgenová fluorescenčná analýza (XRF) pomocou ručného röntgenového analyzátoru NITON XL3t (Thermo Fisher Scientific, Niton, USA), ktorý bol ukotvený v prenosnom ochrannom stojane. Meranie bolo realizované na povrchu vzorky s dobou trvania 30 sekúnd. Výsledky boli vyjadrené v percentuálnych hodnotách a brali do úvahy len základné kovové prvky. Na základe výsledkov merania môžeme predmet 2020/2/408DP považovať za mosadz obohatenú o cín (Cu 86,6 %, Zn 6,45 %, Sn 5,68 %) s menšími prímiesami ako železo (Fe 0,75 %), olovo (Pb 0,32 %) a antimón (Sb 0,18 %).

Obr. 1. Kopec Bergl, poloha 3 (autori M. Bartík, E. Blažová, podľa L. Kraskovskej).

Obr. 2. Areál MMB (Múzeum mesta Bratislavy). Staroveká Gerulata s vyznačenými polohami Bergl, polohy 3, 5, 6 (autorka J. Schmidtová).

Obr. 3. Kanalizačný systém a pripojenie na polohu 3 (autor P. Brunčák).

Obr. 4. Bergl, poloha 3, priekopa 13, objekt 1. Výplň nad kanalizačnými stenami. Hĺbka v bode B 100 cm, 133,31 m n. m. (autor J. Schmidtová).

Obr. 5. Bergl, poloha 3, priekopa 13, označenie sektorov (autor J. Schmidtová).

Obr. 6. Polkruhový bazén, pokračovanie kanalizačného systému (autor J. Schmidtová).

- Obr. 7. Vynačené steny kanalizačnej siete v Gerulata (autor P. Brunčák).
Obr. 8. Kosti zvierat v zásype objektu 1. Ohraničené hnedou vrstvou štrku č. 5, ľavá hranica kanalizačného pripojenia.
Obr. 9. Bergl, lokalita 3, priekopa 13, východný profil priekopy (autori J. Schmidtová, L. Mathédesz, N. Gerthoferová).
Obr. 10. Bergl, lokalita 3, priekopa 13, východný profil priekopy (autor P. Brunčák).
Obr. 11. Bergl, lokalita 3, priekopa 13. Nález sa nachádza medzi stenami kanalizácie (autor J. Schmidtová).
Obr. 12. Bronzové kovanie, stav po náleze (autor L. Mathédesz).
Obr. 13. Bronzové kovanie. Hlava s prilbou a hrotom kopije (autor B. Ritterová).
Obr. 14. Bronzové kovanie. Leštená vzorka (autor B. Ritterová).
Obr. 15. Bronzové kovanie. Torzo postavy (autor B. Ritterová).
Obr. 16. Bronzové kovanie s postavou Marsa (autor B. Ritterová).
Obr. 17. Vojak v ceremoniálnej zbroji (*Ubl* 1997, 59).
Obr. 18. Reliéfne ozdoby z ceremoniálnej zbroje. 1 – Carnuntum alebo Brigetio; 2 – Orgovány (*Garbsch* 1978, tab. 34).

PhDr. Jaroslava Schmidtová
Múzeum mesta Bratislavy
Radničná 1
SK – 815 18 Bratislava
jaroslava.schmidtova@mmb.sk
<https://orcid.org/0009-0009-2609-8003>

Mgr. Ludovít Mathédesz
Múzeum mesta Bratislavy
Radničná 1
SK – 815 18 Bratislava
ludovit.mathedesz@mmb.sk
<https://orcid.org/0009-0000-1825-2220>

Milan Sedlár Dis.
Múzeum mesta Bratislavy
Radničná 1
SK – 815 18 Bratislava
milan.sedlar@mmb.sk
<https://orcid.org/0009-0007-0476-0276>

Mgr. Art. Barbara Ritterová
Slovenské národné múzeum – Archeologické múzeum
Žižkova 4
SK – 810 06 Bratislava
barbara.ritterova@snm.sk
<https://orcid.org/0009-0006-8871-9766>

ROMAN PERIOD FINDS DOCUMENTING WORK WITH NON-FERROUS METALS FROM STRAKOV, LITOMYŠL REGION (CZECH REPUBLIC)

David Vích

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Keywords: Czech republic, Roman Period, metalwork, non-ferrous metals, metal artefacts, depositing practices, ritual practices

Abstract: An accumulation of metal artefacts from Strakov dated predominantly to the Roman Period was gradually found using a metal detector between 2019 and 2023. The site, situated outside inhabited areas, has provided evidence of work with non-ferrous metals; moreover, it does not correspond to any archaeological components known so far. The archaeological concentration is apparently linked to a ritual practice.

INTRODUCTION

The arrival of the metal detector era is characterized by a steep growth in the source base for metallic periods of both the prehistory and the Middle Ages. This applies also to the growing number of hoards from later periods including finds from the Roman Period and the Migration Period. However, there are also archaeological contexts where the interpretation is ambiguous and does not correspond to the existing established schemes. The following lines present a survey, completed in June 2023, of an archaeological situation, very specific in many respects, in the Strakov cadastral area (Svitavy distr., Pardubice region, Czech republic).

ARCHAEOLOGICAL CONTEXT

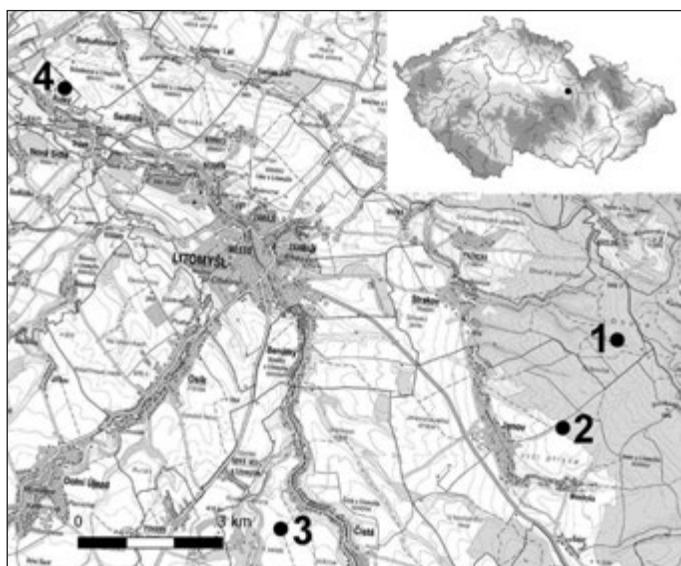


Fig. 1. Concentration of finds in Strakov and finds of bronze button-shaped spurs near Litomyšl. 1 – concentration of Roman Period finds in the Strakov cadastral area; 2 – Janov u Litomyšle, bronze button-shaped spur; 3 – Čistá u Litomyšle, bronze button-shaped spur; 4 – Řídký, bronze button-shaped spur.

Mr. Radek Smolen, a collaborator of the Vysoké Mýto Regional Museum, found copper alloy artefacts on 31 July 2019. He immediately announced the find to the Vysoké Mýto Regional Museum, and more objects were gradually found and documented in 2019–2020. The main concentration was situated in an area of 20×25 m, consisting above all of two accumulations of metal objects near the side of a modern forest track in a wooded hilly terrain west of Litomyšl. This main concentration was accompanied by solitary finds scattered in the neighbourhood (Fig. 1: 1; 2: 1). Terrain observations and the fact that the finds overlapped with the route of the modern track make it evident that earth moving related to the construction of the track had affected the archaeological contexts to a certain extent; this was confirmed by a test pit excavated later.

The first accumulation of artefacts consisted of a bracelet with folded ends and

an incomplete bridle situated under an iron sickle, along with more minor objects. The second concentration was represented by artefacts made of thick metal sheets in various degrees of fragmentation. The two concentrations were situated 2.5 m apart. More objects made of non-ferrous metals were found in the close neighbourhood; the most distant fibula was situated 35 m northwest of the two accumulations. Iron objects, even after the elimination of artefacts that are evidently later or recent, respect this archaeological image only partially; a coulter was even more than 600 m distant from the archaeological concentration (Fig. 2: 2).

A 3 × 1.5 m test pit was excavated in the artefact accumulation area on 11 March 2020 (Fig. 3). The test pit uncovered a simple stratigraphy: a 20 cm secondarily moved layer originating from the construction of the forest track lay on a 10 cm thick buried duff and dark forest humus layer that lay, in a depth of 30 cm from the present surface, on quite sterile subsoil. This means that both accumulations of objects were originally situated very shallowly in the sterile subsoil; according to the finder, the iron sickle from the first accumulation was discovered near the base of the buried humus layer. No traces of intact archaeological contexts or finds of non-metal objects related to the metal object accumulations were detected.

List of artefacts

The detected artefacts were processed primarily according to the archaeological concentrations; in the case of isolated finds, according to material. The list includes finds from the Roman Period and finds whose dating to the Roman Period cannot be ruled out.

Archaeological concentration 1

(E 0601790, N 5524300)¹

- copper alloy bracelet with eyelets and folded and wrapped ends, 98 × 95 × 10 mm (Fig. 4: 1; 5: 3);
- subtle rod-like copper alloy artefact, 16 × 9 × 7 mm (Fig. 4: 2);
- fragment of a semi-finished rectangular buckle frame, 42 × 35 × 12 mm (Fig. 4: 3; 5: 4);
- copper alloy bridle bit consisting of a bar bit; on one of its ends, a ring is threaded with a connected chain of seven links of the Vimose and Kirpehnen types; the other end is directly connected (using a ringlet) to a chain link that is loosely followed by six more links of the Vimose type; the intermediate ringlet is missing; stretched length: 830 mm; max. width: 97 mm (Fig. 4: 4; 5: 1);
- iron sickle with a perforated tang and a perpendicular prong, 287 × 37 × 20 mm (Fig. 4: 5).

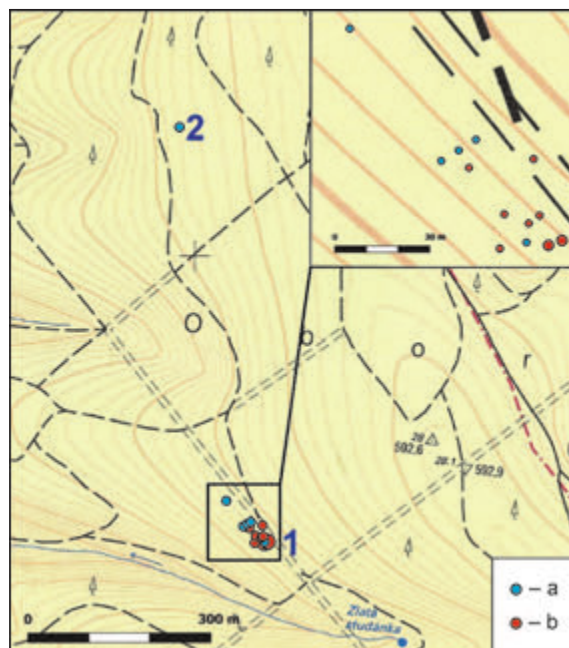


Fig. 2. Strakov. 1 – archaeological concentration of objects from ferrous and non-ferrous metals; 2 – find of an iron coulter. Legend: a – ferrous metals; b – non-ferrous metals.



Fig. 3. Strakov. Test pit from 2020 that only uncovered sterile subsoil (photo D. Vích).

¹ Coordinates stated in UTM, band 33U. The finds are the property of the Pardubice Region, deposited in the Litomyšl Regional Museum.

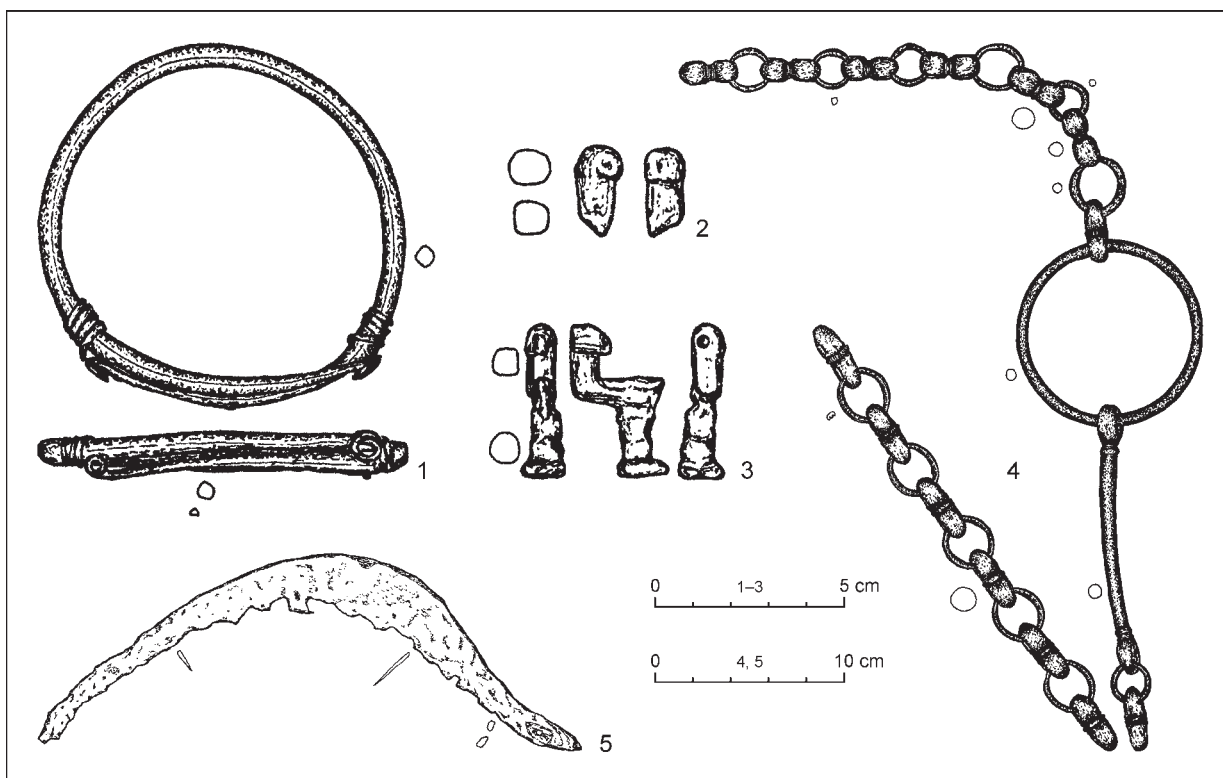


Fig. 4. Strakov. Archaeological concentration 1 (drawing H. Večeřová).

Archaeological concentration 2

(E 0601794, N 5524302)

- deformed folded copper alloy metal sheet with welded elements, 82 × 60 × 11 mm (Fig. 6: 1);
- copper alloy plate with a hinge, 76 × 37 × 10 mm (Fig. 6: 2);
- copper alloy metal sheet fragment, 40 × 18 × 1 mm (Fig. 6: 3);
- copper alloy metal sheet fragment, 42 × 20 × 1 mm (Fig. 6: 4);
- copper alloy metal sheet fragment, 44 × 24 × 3 mm (Fig. 6: 5);
- folded copper alloy metal sheet with grooves, 87 × 61 × 10 mm (Fig. 6: 6);
- folded copper alloy metal sheet fragment, 41 × 18 × 8 mm (Fig. 6: 7);
- copper alloy metal sheet fragment, 44 × 26 × 1 mm (Fig. 6: 8);
- copper alloy metal sheet band, 50 × 8 × 1 mm (Fig. 6: 9);
- copper alloy metal sheet fragment, 65 × 15 × 4 mm (Fig. 6: 10);
- copper alloy metal sheet fragment, 30 × 23 × 1 mm (Fig. 6: 11);
- copper alloy metal sheet fragment, 27 × 17 × 0.6 mm (Fig. 6: 12);
- folded thin copper alloy metal sheet fragment, 37 × 17 × 1.3 mm (Fig. 6: 13);
- copper alloy metal sheet with two projections, 49 × 34 × 8 mm (Fig. 6: 14);
- copper alloy metal sheet fragment, 63 × 37 × 1 mm (Fig. 6: 15).

Finds from the test pit area

- copper alloy metal sheet with rivet holes, 40 × 24 × 0.7 mm (Fig. 7: 1);
- small copper alloy metal sheet fragment, 16 × 14 × 1 mm (Fig. 7: 2);
- thick copper alloy metal sheet fragment, 29 × 24 × 1.5 mm (Fig. 7: 3);
- small folded copper alloy metal sheet fragment, 18 × 8 × 3 mm (Fig. 7: 4);
- copper alloy ring fragment, 58 × 7 × 8 mm (Fig. 7: 5).



Fig. 5. Strakov. Selection of the artefacts (photo J. Čáp).

Solitary copper alloy finds

- bridle chain consisting of six ringlets and seven connecting links of the Vimose type, $303 \times 33 \times 19$ mm, E 0601791, N 5524306, found directly in the modern forest track (Fig. 5: 2; 7: 12);
- half of a casting mould, $66 \times 25 \times 15$ mm, E 0601775, N 5524308, find from the humus layer (Fig. 5: 5; 7: 6);
- half of a casting mould, $73 \times 42 \times 12$ mm, E 0601775, N 5524297 (Fig. 5: 6; 7: 7);
- solitary connecting link of a Vimose type bridle, $34 \times 13 \times 12$ mm, E 0601783, N 5524306 (Fig. 7: 8);
- Roman-provincial fibula with a semicircular head-plate, $30 \times 13 \times 23$ mm, E 0601762, N 5524321, depth: 20 cm on the boundary between the subsoil and the humus layer (Fig. 7: 9);
- copper alloy chain, $552 \times 12 \times 12$ mm, E 0601786, N 5524309, depth: 30 cm near the forest track (Fig. 7: 10);
- flat plate, $109 \times 40 \times 3$ mm, E 0601783, N 5524300, find from the humus layer (Fig. 7: 11).

Solitary iron finds

- coulter, $423 \times 46 \times 45$ mm, E 0601564, N 5524956, depth: 20 cm on the boundary between the humus layer and the subsoil (Fig. 8: 4);
- sickle with a perpendicular prong, $163 \times 34 \times 38$ mm, E 0601763, N 5524330, depth: 20 cm on the boundary between the humus layer and the subsoil (Fig. 8: 1);
- forked object with a twisted shank, $175 \times 66 \times 7$ mm, E 0601753, N 5524322, depth: 12 cm including 6 cm in the subsoil (Fig. 8: 2);

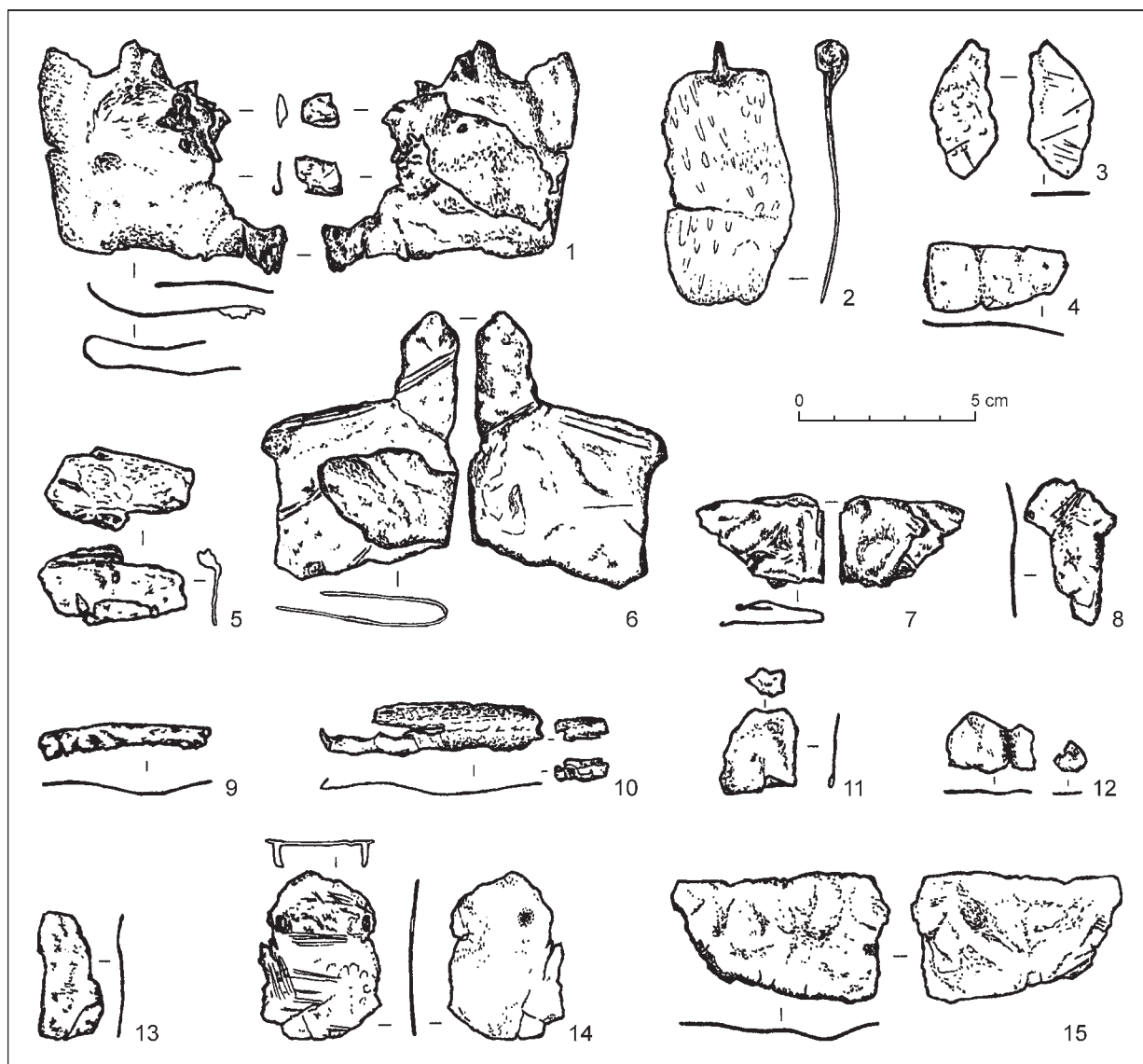


Fig. 6. Strakov. Archaeological concentration 2 (drawing H. Večeřová).

- knife with a haft prong and an indented blade, 117 × 23 × 5 mm, E 0601719, N 5524360, depth: 20 cm near the base of the humus layer (Fig. 8: 3).

EVALUATION OF THE FINDS

A very conspicuous component of the archaeological assemblage is represented by horse equipment, namely parts of a metal bridle. Based on the spatial distribution, we have altogether three finds in various levels of preservation.

The first one is a considerable torso of a whole bridle found in archaeological accumulation 1 (Fig. 4: 4; 5: 1). Several features of the artefact attract attention at first glance. First, it is the absence of one of the side rings of the bar bit, as the bridle chain is threaded directly in the bar bit eyelet. Much more important, however, is the evidence of a repair, as a ringlet interconnecting the link with the continuation of the chain is threaded to a connecting link that is attached directly to the ring. The interlinking ringlet differs from the rest in greater size and, above all, material, which is iron. The iron ringlet was evidently used as a replacement for the original copper alloy ringlet, which had apparently been rendered unusable by damage or lost. However, the copper alloy acorn-shaped connecting links and interlinking ringlets divided by this iron ringlet differ typologically. The link connecting the bar bit with the iron interlinking ringlet and all seven-connecting links of the second chain

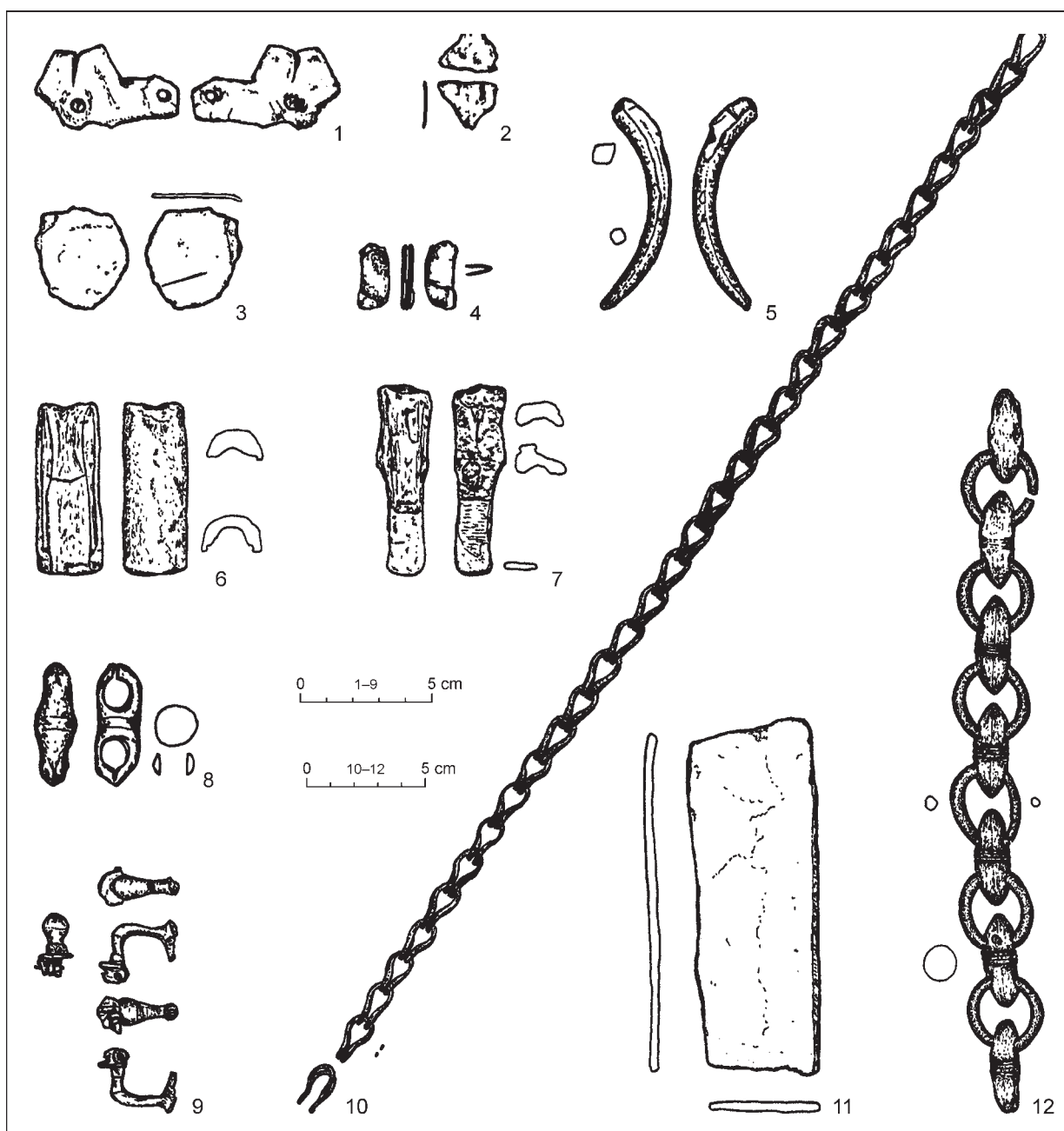


Fig. 7. Strakov. Solitary finds from non-ferrous metals (drawing H. Večeřová).

threaded directly into the bar bit eyelet are of type Z4i, profiled interlinking ringlets of type R2b (Wilbers-Rost 1994, 120, Beilage 1) comprising (especially in view of the used variant of the linking element) a bridle of the Vimose IV type (Lau 2014, 51–53). The part of the bridle beyond the iron interlinking ringlet in the direction away from the bar bit belongs to type ZA II (Lau 2014, 22, Abb. 15), simple interlinking ringlets comprising a bridle of the Kirpehnen II type. The chain found in the forest track (Fig. 5: 2; 7: 12) consists of seven connecting links of type Z4a with R2b interlinking ringlets; according to these characteristics, it is part of a bridle of the Vimose I type. The solitarily found connecting link of type Z4 (Fig. 7: 8) was also part of a Vimose type bridle; more precise categorization is prevented by the considerable corrosion of the artefact's surface (Z4i?).

Bridles of the Kirpehnen II type are dated to phase B2b and occur near the shores of the North and Baltic Sea from the Netherlands to the Baltic states; they were not registered in the Czech Republic's territory before (Lau 2014, 31–34, Abb. 25). A similar distribution area applies also to bridles of the Vimose type, but with a considerable additional concentration of finds in the middle Danube region (Bazovský et al. 2020, 262–264

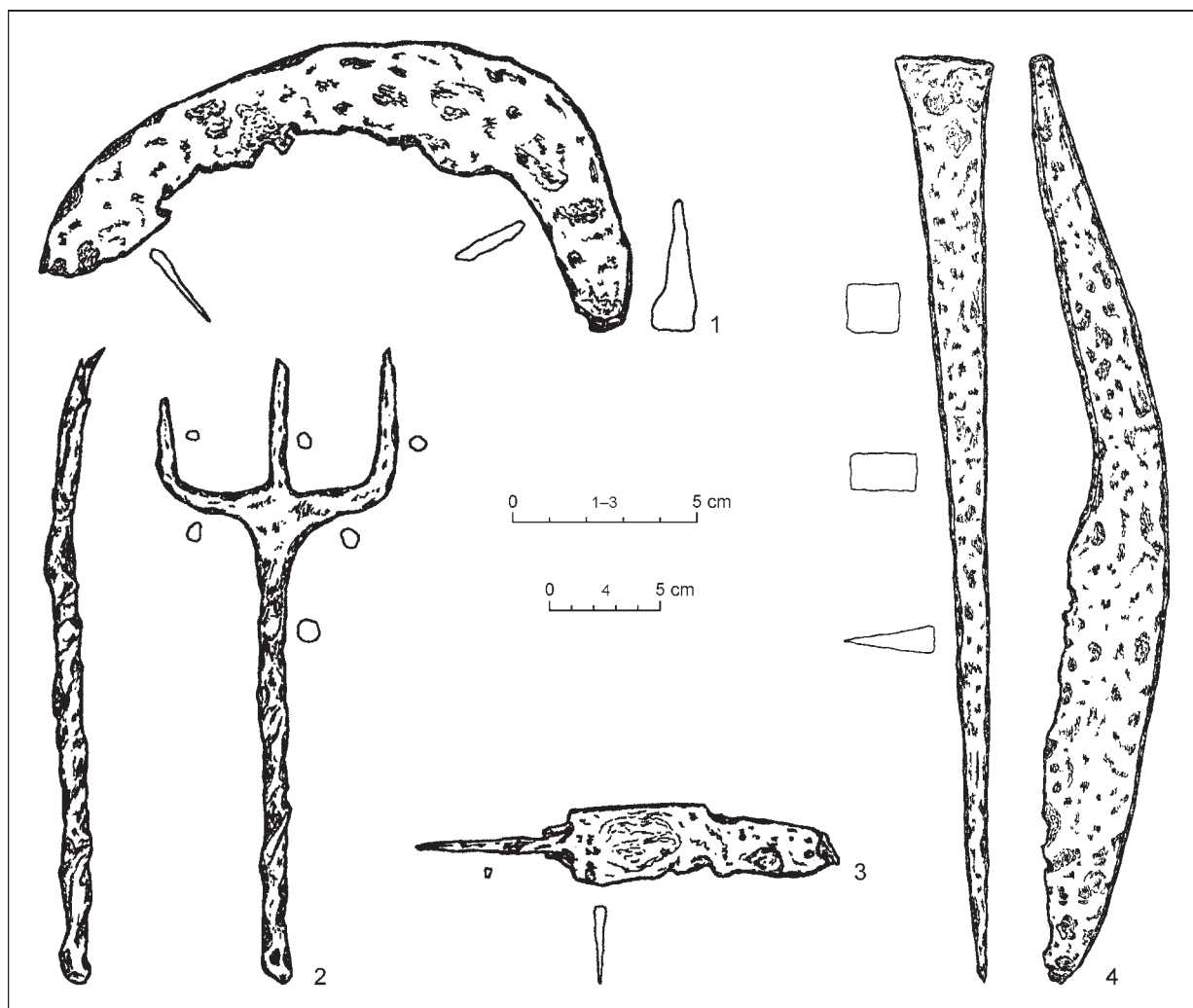


Fig. 8. Strakov. Solitary finds from iron (drawing H. Večeřová).

with more literature; Čížmář 2010, 129; Lau 2018; Tejral 2015, 437;); new finds have been registered also in Bohemia (Vích/Kmošek 2020, 99, fig. 2). Bridles of the Vimose I type (a chain consisting of seven connecting links and six interlinking ringlets) are encountered from phase B2b or C1b. Bridles of Vimose IV type only appear in phases C1a–C2 (Lau 2014, 39–53; 2018, 345, 348). The bridle bit from Strakov thus offers unique evidence of a combination of bridle bits of the Kirpehnen II and Vimose IV types. The find circumstances of metal bridles from the marshlands of northern Europe clearly indicate a ritual deposition of enemy weapons; in the Danube region, the interpretation is more ambiguous. Leaving aside individual parts discovered in the settlement milieu, the archaeological contexts of bridle parts from Zohor (Elschek/Rajtár/Varsik 2011), the bridle bits from Borinka, Slovakia archaeologies in mountain terrain, finds from rock crevices and finds with links to a water environment (most recently, summarily Bazovský *et al.* 2020, 262 with more literature) also indicate a deposition for ritual reasons.

The only fastener is represented by a Roman-provincial fibula with a semicircular head-plate (Fig. 7: 9). It can be categorized as type Jobst 13C with an undecorated head-plate; decorated types Jobst 13D or possibly 13E (Jobst 1975, 65–68) cannot be ruled out, either, in view of the broken off edges of the head-plate. These fibulae appear in the middle of the 2nd century; in the Barbaricum, they occur most often between the middle of the 2nd century and the early 3rd century, when their most intensive use is registered also in Roman provinces. They persisted deep into the Late Roman Period. Fibulae of the Jobst 13E type are documented in Noricum – Pannonia contexts only in the Late Roman Period (Jobst 1975, 65–68; Sedlmayer 1995, 45; Schmid 2010, 36, 37).

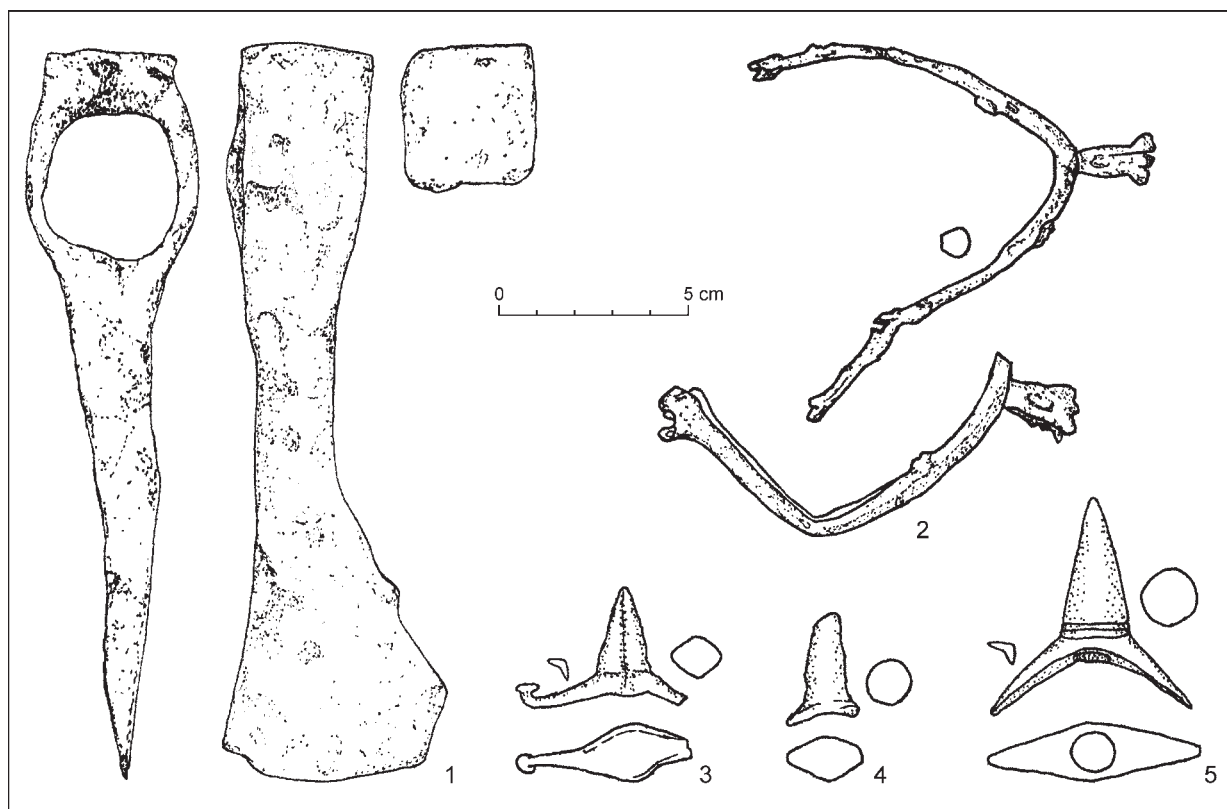


Fig. 9. 1, 2 – Strakov, medieval artefacts from the archaeological concentration and its immediate vicinity; 3–5 – bronze button-shaped spurs (3 – Janov u Litomyšle; 4 – Řídký; 5 – Čistá u Litomyšle; drawing L. Škopová).

Bracelets are encountered for both men and women in the Roman Period, but they were not a very popular or widespread form of decoration in this country's territory. The specimen from Strakov (Fig. 4: 1; 5: 3) is a bracelet with folded and wrapped ends; they were made of bronze and, rarely, of silver. Sometimes, like the present piece, they are also equipped with a circular loop. They occur from the late La Tène Period, in the Early Roman Period and, after a certain hiatus, in the Late Roman Period in the 4th century (Beckmann 1981, 10, 12; Košević 1991, 25, 26; Riha 1990, 62). The object from Strakov can be categorized, based above all on the archaeological context, to the Early Roman Period, without the possibility of a more precise chronological classification.

The neighbourhood of the archaeological concentrations has yielded also two solitary finds of halves of casting moulds. The first one is a rectangular half of a two-part casting mould with a deep negative impression for the object and a sprue (Fig. 5: 5; 7: 6). The other half of a two-part casting mould with a considerably shallower impression is intended for the production of a similar object (Fig. 5: 6; 7: 7). This, as well as the fact that the two artefacts were found in a mutual distance of 10 m, offer the assumption that they might be two halves of one mould, but as the two mould halves do not fit together and the location of the objects and the sprues do not correspond, they might not have formed one unit. Regrettably, it is impossible to specify the type of object they were intended for and, strictly speaking, they do not enable an unambiguous dating in themselves. The only thing that is evident from the negative impressions is that the objects were cylindrical in shape; as the use of a casting core cannot be ruled out, the resulting cast might have had the shape of a small tube. Finds of copper alloy casting moulds represent very rare evidence of work with non-ferrous metals. We long lacked this type of find from the Czech Republic's territory; the situation only changed with the discovery of casting moulds for Vimose type bridles from a workshop feature, apparently disturbed by ploughing, in Dyjákovice near Znojmo (Čižmář 2010). They were recently joined by a half of a casting mould for casting A 132 fibulae from Kočí, Chrudim District (Vích/Kmošek 2020) and a fragment of a casting mould from Boršov near Moravská Třebová (Vích et al. 2020). Four more recently published moulds come also from Moravia: casting moulds for a belt end of the Madyda-Legutko 2/6 type from Klenovice na Hané, for a ringlet

from Mikulov, for a barbarian A 132 knee fibula from Velké Hostěrádky (*Jagošová et al. 2021*) and a part of a casting mould for button-shaped spurs of the Ginalski E5 type from Luleč, Vyškov District (*Jílek/Kaňáková et al. 2023*).

The buckle frame fragment with a preserved casting channel (Fig. 4: 3; 5: 4) is also related to non-ferrous metal working. The rectangularly formed double buckle frame enables the categorization of the artefact as the Madyda-Legutko G group, types 15–21 (the precise classification of the unfinished and incomplete object is problematic) dating generally to section B2–C1 (*Madyda-Legutko 1986*, 48–50). Finds of direct evidence of work with non-ferrous metals are not very common, either; a buckle frame semiproduct has been recently published from Přelouč (*Jílek et al. 2022*, 189, fig. 4: 8).²

More precise determination is more complicated for the other non-ferrous metal objects. Some metal sheet fragments with visible grooves apparently come from Roman vessels. The rectangular plate with a hinge (Fig. 6: 2) and the plate with two projections (Fig. 6: 14) also indicate a Roman-provincial origin. The copper alloy chain (Fig. 7: 10, e.g. *Müller 2002*, 69, Taf. 87: 994) also has direct analogies in the Roman milieu; there, they served as lamp hangings, for example (cf. *Starac 2022*, 146).

The sickle from archaeological accumulation 1 with a perpendicular prong and a perforated tang (Fig. 4: 5) approaches type H5 (*Henning 1987*, Taf. 39) or – in terms of the method of attachment, rather than blade shape – type 3c (*Hanemann 2014*, 199, Abb. 175). These typologically advanced tools occur in profusion from the 3rd to the 6th centuries (*Henning 1987*, 90). The other solitarily discovered tool (Fig. 8: 1) represents type 1 (*Hanemann 2014*, 199, Abb. 175) or H6 (*Henning 1987*, Taf. 42), an archaic hook-shaped sickle type with an earlier tradition. The connection of the type H5 sickle with Roman Period finds at the site is given (leaving the unprofessional excavation out of account) also by the archaeological context. A link to the discovered Roman Period finds is very likely also for the other, solitarily found sickle.

The iron forked object with a twisted handle (Fig. 8: 2) can probably be categorized as a meat fork. Analogies, albeit rectangularly bent, can be found instance in Magdalensberg (*Schütz 2003*, 44, Taf. 12: H75–H77) or Mušov (*Schönfelder 2009*, 780, Abb. 6: 2). The dating of the coulter (Fig. 8: 4) remains a big unknown. It is a very rare find in the Barbaricum in the Roman Period (cf. *Beranová 1980*, 136, 137; *Kolník/Varsík/Vladár 2007*, 29; *Pieta 2002*), even though a direct analogy to the object from Strakov is known from a hoard in Dunajská Lužná (*Bazovský 2010*). From this point of view, a Roman Period dating of the coulter from Strakov is problematic but possible. No dating is possible for the knife equipped with a haft prong from an organic material (Fig. 8: 3); this type of object has a long tradition of use.

Based on the discovered features, the earliest possible dating of the Strakov assemblage is the time of the Marcomannic Wars or the period not long after them; i.e., the second half of the 2nd century or, more likely, the first half of the 3rd century.

LOCATION OF THE FIND AND ITS TESTIMONY

The location of the find is situated on a mild slope close to a terrain fault sloping towards a local watercourse that rises 280 m southeast of the location of the find. The source is called Zlatá studánka (“Golden Well”) today (Fig. 2). More springs are situated 500–1250 m north to northwest of the location of the find. The watershed between the Rivers Loučná and Třebovka, or Tichá Orlice into which Třebovka empties, runs ca. 300 m to the northeast. An immediate link to the water environment cannot be proved, but the deposition of the find in the vicinity of a source area need not have been accidental.

In the absence of fertile soils and an altitude of 560–570 m above sea level, the location virtually rules out any link to a settlement context. The nearest Roman Period settlement component is situated in the territory of the present-day town of Litomyšl at a distance of 7 km in the direct line (*Marešová 1997*; *Němcová et al. 2009*). Sporadic prehistoric finds including the Roman Period are encountered southeast of Litomyšl, more or less bound to a communications corridor connecting present-day eastern Bohemia and northwestern Moravia. The importance of the region as a connecting line is documented for various periods by relicts of vanished roads in the form of hollow ways in the area of the Javornický hřbet (“Javornický Ridge”), from where the route continued via the territory of present-day Svitavy further on to Křenov and Malá Haná, as documented again by hollow ways in favourable terrain. Therefore, we can roughly reconstruct the local landscape in the Roman

² I am grateful to J. Jílek for his valuable comments on many artefacts.

Period as a territory where settlement activities extend from the northwest along the Loučná as far as present-day Litomyšl. The communications corridor continues from there to the southeast. The location of the find in the present-day cadastral area of Strakov is thus situated ca. 5 km northeast to north from contemporary activities, but at an accessible distance in an unsettled area covered with deep forest. An immediate link to a contemporary route can be ruled out (for the time being?) as no Roman Period activities are proved further in the given direction, to the north and northeast, near the Třebovka in the Ústí nad Orlicí and Česká Třebová Districts; this territory was not colonized until the beginning of the High Middle Ages in the 13th century. The area apparently gained a certain communications importance also in the High Middle Ages, as signalled by the discovery of three high medieval horseshoes, a linchpin (unseparated), a high medieval spur (Fig. 9: 2) and perhaps also a medieval axe (Fig. 9: 1). Besides, only an isolated find of a Bronze Age spearhead has been published from the cadastral area of Semanín (Vích 2019); for the Roman Period, we only have an unpublished bronze button-shaped spur found in a ploughed area near the edge of a forest less than three kilometres south of the archaeological concentration; it is not the only find from the neighbourhood of Litomyšl (Fig. 1: 2; 9: 3).

Button-shaped Roman Period spurs in the Litomyšl region³

1. Janov u Litomyšle

A bronze button-shaped spur of the Ginalski 5a type with one shank broken off and a full prick was discovered in the topsoil using a metal detector by Radek Smolen on 20 December 2020: E 0600899, N 5522306 (Fig. 9: 3).

2. Čistá u Litomyšle

A bronze spur of the Ginalski 6 type with broken-off button-shaped ends and a hollow prick was discovered using a metal detector by Jiří Mrázek in 2019. The archaeological importance of the find was recognized later, which is why the find was not localized by GPS and its localization is only possible within a field delimited by the following points: E 0595350, N 5519469, E 0595702, N 5519851, E 0596193, N 5518597, E 0595840, N 5518492 (Fig. 9: 5).

3. Řídký

A full prick of a bronze spur, considerably damaged by the long stay in the topsoil, was discovered on 11 March 2023 during the detector prospection of the route of the planned D35 highway: E 0589713, N 5527984 (Fig. 9: 4).

The slightly arched body and the lightly edged to conical prick categorize the Janov spur as type Ginalski 5a; the spur from Čistá can be categorized as type Ginalski 6 in view of its medium-arched body and a massive conical prick; the spur torso from Řídký cannot be categorized more precisely due to the state of preservation. Spurs of the Ginalski E5 and E6 types are dated to the second half of the 2nd and the first half of the 3rd centuries (Ginalski 1991, 62, 63).

EVALUATION

Like in other places, many Roman Period sites discovered in recent years through detector prospection on the boundary between eastern Bohemia and northwestern Moravia defy (for the time being) what was until recently the common understanding of archaeological components. The sites can be described as neither settlement nor funeral, even though those are not lacking in the studied territory, either. The sites, published as well as those that are still waiting for publication for various reasons (continuing survey, conservation of the source fund) usually share the following elements: a) location close to vanished routes that manifest themselves as hollow ways undatable by existing methods; b) chronological heterogeneity of the assemblage, either within or outside the Roman Period (representation of the Bronze Age or the La Tène Period), with the predominance of artefacts

³ All three spurs are the property of the Pardubice Region; the spurs from Janov and Čistá were handed over to the Litomyšl Regional Museum, the spur from Řídký to the East Bohemia Museum in Pardubice. Our thanks for the possibility of publication go to Daniel Stolz of Archaia.

from the second half of the 2nd and early 3rd centuries; c) absence of intact archaeological contexts, which means that our reasoning can be basically based only on the testimony of metal artefacts themselves and the spatial relations among them; d) representation of artefacts related to non-ferrous metal working (fragments of objects, undatable ingots and, above all, copper alloy moulds or their parts) within the Roman period component; e) visible representation of imports from the Roman Empire, often such that were rarely or never encountered in the Barbaricum before; f) accumulation of artefacts on a small area, which makes it possible, at least in some cases and with reservations, to consider an intentional deposition, i.e., a depositing practice.

However, these markers almost never occur together at one site and in themselves, for the time being, make it more or less impossible to interpret with certainty what activities are reflected by these archaeological sources. As for the absence of intact archaeological contexts, it can be justifiably assumed based on terrain observations that they might have been present to some limited extent, but they are either unpreserved due to post-deposition processes (for understandable reasons, this is especially true of contexts detected in ploughed areas) or (probably much less often) they have escaped attention in view of the method used. Of the published assemblages, these characteristics are fulfilled above all by a collection from the cadastral area of Boršov near Moravská Třebová, where ca. 70 metal objects (predominantly) from the Roman Period were found on an area of approximately 5 × 2 m (Vích *et al.* 2020), once again in the absence of intact archaeological contexts. A detector survey of the surrounding area yielded more solitary finds of metal objects from the Roman Period including copper alloy casting moulds, accumulations of metal artefacts and evidence of intact contexts in the form of a degraded cultural layer (from a forested environment) or features with barbarian pottery transferred by ploughing from a ploughed area.⁴ Another specific context is represented by the discovery of a shield boss and two spearheads in a spatially non-accidental arrangement near Jevíčko, once again without evident intact contexts but with a positive phosphate analysis result (Vích/Jílek 2016). Only a hoard consisting of a sword blade and a ploughshare deposited to the ground near the turn of the eras and a solitary find of the edge of another, later Roman weapon have been published so far from Křenov, Svitavy District (Vích *et al.* 2018); other finds (not only) from the Roman Period are waiting for publication. The image is made complete by solitary finds from a stronghold near the hamlet of Mařín (Zadní Arnoštov and Křenov cadastral areas, Svitavy District) and from Zadní Arnoštov, “Na Žlíbcích” field. They make it possible to consider above all activities connected with the events of the Marcomannic Wars, which directly affected also the territory of the nearby present-day Jevíčko. The finds there (together with the above-mentioned finds from Křenov) mark a long-distance route connecting present-day northwestern Moravia with the Bohemian Basin (Vích *et al.* 2021).

The assemblage from Strakov fits into this framework well, including the fact that not all the aforementioned markers are present there, either. We cannot see any clear chronological disproportion between the individual finds, but the main difference is the absence of a link to the course of a route, both on the practical level, as hollow ways as remnants of vanished roads are missing altogether, and on the theoretical level, since the location of the find is outside the territory that would need to be passed through when going to other settlement chambers; the area to the east and north was completely unsettled in the Roman Period.

If we view the assemblage as a whole, we certainly cannot describe it as a find complex (on the term, see Venc 2001, 600 with more literature) or as a poly-deposit, a set of objects deposited in the ground intentionally and at the same time (Salaš 2005, 12–15 with earlier literature) because the deposition in the ground at one time cannot be proved; nor can be even a Roman Period dating, given the occurrence of medieval artefacts. Moreover, some of the artefacts (especially the coulter) were found at a considerable distance from the main accumulation. These reasons rule out also its characterization as a “scattered hoard”, which can be encountered in the Alps, when the objects are scattered in a small area. In these cases, moreover, the possibility that the assemblage came into existence in another way or that its form is the result of post-deposition processes can never be ruled out (cf. Windholz-Konrad 2018, 115–117). Of the finds from Strakov, the interpretation as a poly-deposit can only be considered for the two archaeological accumulations consisting, with the exception of the iron sickle, of objects from non-ferrous metals. The question that remains is to what extent all the artefacts were deposited under the surface level. In view of the very shallow deposition, often in the present-day humus layer, the objects might have been left free on the surface, which corresponds to discoveries elsewhere in the region (similarly e.g. an assemblage of artefacts from Boršov, Vích *et al.* 2020, 178).

⁴ The assemblage is being prepared for press. In addition to finds from the Roman Period, high medieval finds have been registered as well, with a link to a high medieval castle under which the sites are situated. Distinguishing between high medieval artefacts and Roman Period objects is not always problem-free (on medieval finds, cf. Vích 2017; 2020).

Depositing practices are discussed by extensive literature, above all for the Bronze Age. In a very simplified way, we can say that the perception of hoards has gradually shifted from the interpretation of a concealed property aimed to be picked up later (reversible deposits) to collections of objects permanently deposited for religious or social reasons (irreversible deposits); especially in northern Europe, the first case concerns above all assemblages deposited on dry land, while the latter is connected with the water environment.

For the Roman period, the issues of the interpretation of depositing practices have been somewhat on the margin of interest, at least compared to the Bronze Age; this is doubly true in the central European Barbaricum, in view of the weak representation of this source category (perhaps except coins, *Militký 2013*, 20–31). Archaeological sources have been mostly interpreted profanely in this case. On the contrary, *Richard Bradley (2017)*, who has long been dealing with the deposition practices on a broader time scope, especially in the territory of northern and northwestern Europe, regards hoards as an archaeological record of sacral practices. In a study on Roman Period hoards published in 1997, Sabine Rieckhoff compares the contents of hoards; subsequently, based on certain repeating qualification features, she also interprets them as offerings. At the same time, however, where certain qualification criteria are fulfilled, she does not rule out profane reasons for depositing practices, such as concealed valuables or material storage, in some cases. In the case of iron objects, S. Rieckhoff ascribes primary importance to farming implements and objects linked to the fireplace/hearth. She also singles out parts of wagons and horse harnesses, construction fittings, craft tools including metalworking tools, weapons and objects of a “magical character” (i.e., objects that were incomprehensible or difficult to comprehend to the Germanic population, such as writing aids). Outside iron objects, she deals with other categories such as parts of clothing or vessels.

Viewing the assemblage from Strakov through S. Rieckhoff’s prism, the farming implement find category is represented in accumulation 1 by a sickle, the only object (except for the bridle repair ringlet) made of iron, while wagons and horse harnesses are represented by a torso of a bridle of the Kirpehnen II/Vimose IV type. Other categories present include a clothing part/accessory (bracelet) and evidence of work with non-ferrous metals (fragment of a buckle semiproduct and perhaps a minor fragment of an undetermined object with the possible function of raw material). The image is somewhat different for archaeological concentration 2 where various fragments of vessels and other objects clearly indicate a raw material character of the assemblage potentially intended for recycling. In the case of solitary finds (with many of the above-mentioned objections concerning dating and the spatial context), we encounter farming implements (coulters and the other sickle), clothing part/accessory (fibula), evidence of work with non-ferrous metals (moulds and possibly the undeterminable metal fragments) and wagon/horse harness (part of a bridle of the Vimose type, separate bridle connecting link). If the interpretation and dating of the iron forked object with a twisted handle as a meat fork is correct, there is also a representative of artefacts with a link to the fire and hearth.⁵ These facts, along with the isolated character of the presented assemblage and its deposition in a watercourse source area, make it possible to consider potential links of the Strakov situation to a ritual practice; it is impossible to determine whether the acts were one-time/short term or long-term/repeated. Ritual reasons for deposition have started to be considered recently also for many Roman Period assemblages discovered in central Europe (e.g. *Jílek/Nejedlá et al. 2024*; *Jílek/Rožnovský/Jamrichová 2022*; *Kontny 2020*; *Lauermann/Lindiger 2018*; *Pieta 2020*; *Půlpánová-Reszczyńska/Půlpán/Ondráčková 2018*). To confirm the correctness of this interpretation, however, it will be necessary to prove repeating identical rules also for other archaeological contexts (“*Kategorie der Wiederholung*”, *Rieckhoff 1998*, 509). Therefore, we must wait for the publication of more assemblages, not only from the boundary of eastern Bohemia and north-western Moravia but from the broader central European space.

CONCLUSION

The archaeological situation from Strakov represents another piece of evidence of an unknown or little-known archaeological context from the Roman Period apparently reflecting a ritual practice (among other things?). These discoveries somewhat reduce the disproportion between northern and north-western Europe, where contexts with such interpretation (unlike central Europe, bound to the water environment) occur often, and central Europe, where ritual interpretations have been encountered exceptionally so far. That makes this

⁵ It is worth noting that the presented solitary spur finds are connected with rider and horse equipment, but no conclusions can be derived from this fact (for the time being?) in view of the isolated character and limited number of the finds.

category of sources extraordinarily significant, despite great interpretive difficulties. Its further research is, also due to the danger posed to the source category by illegal activities, an urgent task for the archaeology of the Roman Period.

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Nálezy z doby římské dokumentující práci s barevnými kovy ze Strakova, Litomyšlsko (Česká republika)

D a v i d V í c h

Zhrnutí

Dne 31. 7. 2019 nalezl p. Radek Smolen v k. ú. Strakov (okr. Svitavy, Pardubický kraj, Česká republika) artefakty ze slitiny mědi. Postupně docházelo v průběhu let 2019–2020 k objevování dalších předmětů. Ty se soustřeďovaly na ploše cca 40 × 25 m, hlavní koncentrace se nacházela na ploše 20 × 25 m a byla tvořena především dvěma kumulacemi kovových předmětů v blízkosti moderní lesní cesty v zalesněném kopcovitém terénu západně od Litomyšle, a dále nálezy soliterními rozptýlenými v okolí (obr. 1: 1; 2). Nálezovou koncentraci narušily terénní úpravy při stavbě moderní lesní cesty.

První kumulaci artefaktů tvořil náramek a neúplná uzda nacházející se pod železným srpem. Kumulaci doplňovaly další drobné předměty. Druhou koncentraci představovaly artefakty zhotovené ze silného plechu v různém stupni fragmentarizace. Obě koncentrace se od sebe nacházely ve vzdálenosti 2,5 m. V blízkém okolí se objevovaly další předměty z neželezných kovů. Železné předměty tento nálezový obraz respektovaly pouze částečně (obr. 2). Do prostoru kumulací artefaktů byla dne 11. 3. 2020 položena sonda o rozměrech 3 × 1,5 m (obr. 3). Nepodařilo se však zachytit žádné stopy intaktních archeologických situací ani nálezy z nekovových materiálů, sonda pouze prokázala původní velmi mělké uložení artefaktů.

Velmi nápadnou složku nálezového souboru představují části kovových uzd. V prvním případě se jedná o torzo celé uzdy objevené v nálezové kumulaci 1 (obr. 4: 4; 5: 1). Na mezičlánek uchycený na kruh je navlečen kroužek propojující článek s pokračováním řetězu. Spojující kroužek se od zbývajících odlišuje především materiálem, kterým je železo. Žaludovité mezičlánky i spojovací kroužky ze slitiny mědi oddělené tímto železným kroužkem se navíc typologicky liší. Jedna část patří uzdě typu Vimose IV s datací do úseku C1a–C2, druhá část náleží uzdě typu Kirpehn II s datací do fáze B2b. Řetěz nalezený v lesní cestě (obr. 5: 2; 7: 12) tvořil součást uzdy typu Vimose I datované do úseku B2b–C1b. Jako součást uzdy typu Vimose sloužil i soliterně nalezený mezičlánek (obr. 7: 8). Torzo udidla ze Strakova tak přináší unikátní doklad sekundární kombinace různých udidel typů Kirpehn II a Vimose IV. Spínadla reprezentuje římsko-provinciální spona s polokruhovitou záhlavní destičkou (obr. 7: 9) nezdobeného typu Jobst 13C respektive zdobených typů 13D, popř. 13E (okraj polokruhovité destičky je silně oláman). Tyto spony se objevují v polovině 2. století, na území barbarika se s nimi setkáváme nejvíce od poloviny 2. století

po počátek 3. století a přežívají hluboko do mladší doby římské. Náramek lze především na základě nálezových okolností klást do starší doby římské. Datování neumožňují dvě poloviny kadlubů (obr. 5: 5, 6; 7: 6, 7) pro odlévání blíže neurčených předmětů, jedná se však o jasné doklady práce s kovem. Totéž platí i pro torzo rámečku přezky (obr. 4: 3; 5: 4) datovatelné do stupňů B2–C1. U ostatních předmětů z neželezných kovů (obr. 4: 2; 6; 7: 1–5, 10, 11) je jejich klasifikace obtížná, alespoň část z nich má svůj původ v římsko-provinciálním prostředí, v některých případech jde o zlomky nádob.

Minimum datovacích opor nabízejí artefakty ze železa představující zemědělské nářadí (obr. 8: 1, 4), nůž (obr. 8: 3) a patrně vidlice na maso (obr. 8: 2). Pouze srp z kumulace nálezů 1 (obr. 4: 5) umožňuje rámcovou dataci do 3.–6. stol. Na základě zjištěných znaků můžeme soubor ze Strakova klást do období markomanských válek či (mnohem pravděpodobněji) nedlouho po nich., tedy do druhé poloviny 2. stol., či spíše do první poloviny 3. stol.

Místo nálezů vylučuje souvislost se sídlištním prostředím. Situováno je v blízkosti pramenů a lokálních vodotečí, ale nikoliv v jejich bezprostřední blízkosti, vazbu na vodní prostředí není možné jednoznačně prokázat, ale ani zcela pominout. Nejbližší sídelní komponenta doby římské se nachází na území dnešního města Litomyšl ve vzdálenosti 7 km vzdušnou čarou, s ojedinělými pravěkými nálezy včetně doby římské se setkáváme jihovýchodně od Litomyšle, kde se více či méně váží na komunikační koridor spojující dnešní východní Čechy se severozápadní Moravou. Vazba zkoumané lokality na komunikaci se proto zdá málo pravděpodobná, komunikační význam mělo místo snad až ve středověku (obr. 1: 2; 9: 3; neseparované podkovy a zákolník). Místo nálezů se nachází ve vzdálenosti cca 5 km severovýchodně až severně stranou od soudobých aktivit, nicméně v dostupné vzdálenosti na neosídleném území krytém hvozdem. Nejbližším nálezem z doby římské je bronzová knoflíkovitá ostruha nalezená v k. ú. Janov necelé tři kilometry od prezentované nálezové kumulace (obr. 1: 2), přičemž z Litomyšlska známe těchto ostruh více (obr. 9: 4, 5).

Nálezová situace ze Strakova rozšiřuje počet lokalit z doby římské zjišťované detektorovou prospekci, které se zatím vymykají zažitým archeologickým komponentám. Lokality tohoto druhu obvykle spojují následující prvky: a) situování v blízkosti zaniklých komunikací; b) chronologická heterogennost souboru; c) absence intaktních archeologických situací; d) zastoupení artefaktů souvisejících se zpracováním neželezných kovů; e) zřetelné zastoupení importů z prostoru římského impéria; f) kumulování artefaktů na malé ploše, u nichž lze alespoň v některých případech a s výhradami uvažovat o depozitním jednání. Tyto výše uvedené markanty ale téměř nikdy nevystupují všechny v rámci jediné lokality společně, což platí i pro prezentovanou lokalitu. Hlavní odlišností je především absence vazby na průběh zaniklé komunikace (absence úvozových cest).

Označení jako polydepozita můžeme u nálezů ze Strakova zvažovat pouze v případě obou nálezových kumulací tvořených, s jedinou výjimkou, předměty z neželezných kovů. Pro dobu římskou stála problematika interpretace depozitního jednání na okraji zájmu, přičemž archeologické prameny byly v tomto případě interpretovány profánně. Odlišně k depotům přistupuje R. Bradley (2017) a S. Rieckhoff (1998). Budeme-li se dívat na soubor ze Strakova perspektivou funkčních skupin S. Rieckhoff, máme v souboru zastoupeno zemědělské nářadí, výstroj koně, artefakt s vazbou na oheň a krb (vidlice?), součásti kroje a oděvu a doklady práce s neželeznými kovy. Tyto skutečnosti naznačují, že soubor mohl mít význam v rituální rovině, přičemž o rituálních důvodech uložení se v poslední době začíná uvažovat i v případě jiných souhorů z doby římské zjištěné na území střední Evropy. Tato zjištění snižují disporci mezi severní a severozápadní Evropou, kde se s takto interpretovanými situacemi (ovšem na rozdíl od střední Evropy vázanými na vodní prostředí) setkáváme často, a Evropou střední, kde jsme se s rituálními interpretacemi pro dobu římskou setkávali až dosud pouze výjimečně. Za daného stavu poznatků nezbývá než vyčkat publikování dalších podobných nálezů, kdy jejich vzájemné srovnání pomůže odhalit určité vnitřní zákonitosti.

Obr. 1. Koncentrace nálezů ve Strakově a nálezy bronzových knoflíkovitých ostruh v okolí Litomyšle. 1 – Strakov, koncentrace nálezů doby římské; 2 – Janov u Litomyšle, bronzová knoflíkovitá ostruha; 3 – Čistá u Litomyšle, bronzová knoflíkovitá ostruha; 4 – Řídký, bronzová knoflíkovitá ostruha.

Obr. 2. Strakov. 1 – nálezová koncentrace předmětů ze železných a neželezných kovů; 2 – nález železného kroidla. Legenda: a – železné kovy; b – neželezné kovy.

Obr. 3. Strakov. Sonda z roku 2020, která odkryla pouze sterilní podloží (foto D. Vích).

Obr. 4. Strakov. Nálezová koncentrace 1 (kresba H. Večeřová).

Obr. 5. Strakov. Výběr artefaktů (foto J. Čáp).

Obr. 6. Strakov. Nálezová koncentrace 2 (kresba H. Večeřová).

Obr. 7. Strakov. Soliterní nálezy z neželezných kovů (kresba H. Večeřová).

Obr. 8. Strakov. Soliterní nálezy ze železa (kresba H. Večeřová).

Obr. 9. 1, 2 – Strakov, středověké artefakty z nálezové koncentrace a jejího bezprostředního okolí; 3–5 – bronzové knoflíkovité ostruhy (3 – Janov u Litomyšle; 4 – Řídký; 5 – Čistá u Litomyšle; kresba L. Škopová).

PhDr. David Vích, Ph.D.

Regionální muzeum ve Vysokém Mýtě

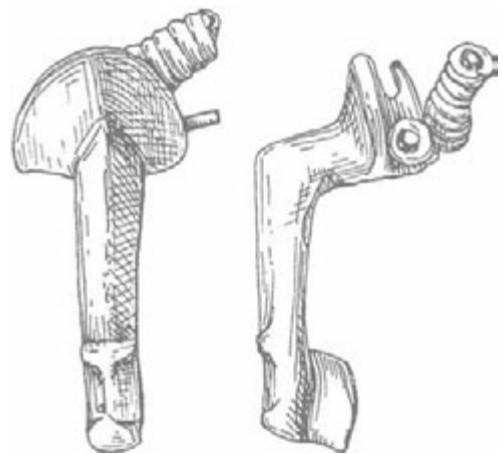
A. V. Šembery 125

CZ – 566 01 Vysoké Mýto

dвич@centrum.cz

<https://orcid.org/0000-0003-2178-8194>

Fibulae



ANNULAR FIBULAE OF THE LATE ROMAN PERIOD IN BOHEMIA¹

Zdeněk Beneš – Viktoria Čiřáková – Jiří Kmošek

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Keywords: Bohemia, Late Roman Period, annular fibulae, metallographic analysis, ED-XRF, production technology, isolated finds, monodeposits

Abstract: In this paper, the authors take an interdisciplinary approach to evaluate annular fibulae of the Late Roman period in Bohemia. The dating of these artefacts is not entirely clear and ranges from the end of the 3rd century to the end of the 4th century, with a likelihood of continued use during the 5th century. This specific type of fastener can be divided into finds of Roman-provincial origin and products of barbarian workshops. The Roman-provincial annular fibulae show typological diversity and likely originate from Pannonian workshops. The barbarian fibulae can now be divided into the classic Böckingen type and the newly identified Skorkov variant, typical for Bohemia and Central Germany. Although the two main groups differ technologically in their surface treatment (tinning on the Roman-provincial products), metallography reveals no significant differences between them. The majority of the fibulae were made of tin lead brass (CuZnSnPb) with a low concentration of zinc and indicating the recycling of brass artefacts and objects made of other copper alloys which occurred both in the Roman provinces and in Barbaricum. A contextual analysis of these fibulae produced important information. Only a small percentage of the artefacts come from graves or settlements with a heavy predominance of isolated finds at distinctive locations. To a certain extent, these could be typologised and interpreted as “sacred monodeposits”.

INTRODUCTION

When one of the authors of this paper was preparing to publish the Roman-provincial fittings of a yoke from an older assemblage (allegedly a cremation grave) from Nebovidy near Kolín, he came across a photograph of a mysterious artefact which in time proved to be an annular fibula (Ringfibel in German), an unprecedented find in Bohemia at that time (Beneš 2018). Sadly, the artefact could no longer be located at the Regional Museum in Kolín. However, thanks to information and impulses from Moravian colleague M. Popelka (Institute of Archaeological Heritage Care in Brno – ÚAPP Brno), news began to emerge of other similar finds, albeit those made by amateur metal detector hunters. The first such find from Skorkov in Central Bohemia served as motivation to search for additional similar artefacts (Beneš 2019). Gradually, thanks in large part to cooperation with amateur collaborators, it was possible to collect a total of 14 specimens from Bohemia and one specimen that came to the National Museum as a gift from Galicia back in the 19th century.² Nearly all of them were found in Czech museum collections, together with the remarkable circumstances of their find contexts.

While we still encounter the interpretation of this artefact as a belt buckle in older studies (Böhme 1972, 46; Jobst 1975, 126; Oldenstein 1977, 218), based on an in-depth study of these finds in Pannonia by I. Sellye, it would seem that these were mainly clothing fasteners (Fazekas 2008, 324; Sellye 1990, 36–47, Taf. I). In reality, annular fibulae have relatively ancient roots: they are recorded as far back as the Early Iron Age (Heynowski 1998), and their predecessors include omega fibulae, known already in the Early and Late Roman Period, both in Roman-provincial territory (Böhme 1972, 46; Jobst 1975, 124) and in Barbaricum. Their development continues even in later periods, and they therefore occur in various regions of Europe into the Middle Ages (Teegen 1998, 339–341). The following is a discussion of annular fibulae with an extension (Ringfibel mit Ansatz in German) documented thus far in Bohemia and which date to the Late Roman Period or even the beginning of the Migration Period. Typologically, we can speak of Roman-provincial and barbarian (Germanic) specimens.

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² At this point, we would like to thank the amateur collaborators, without whom this study would not have been possible: M. Blažek, M. Demartini, J. Hradecký, J. Hříb, K. Ingr, P. Nachtigal, P. Nešťák, P. Poláček, L. Rosenkranz a M. Vinklát.

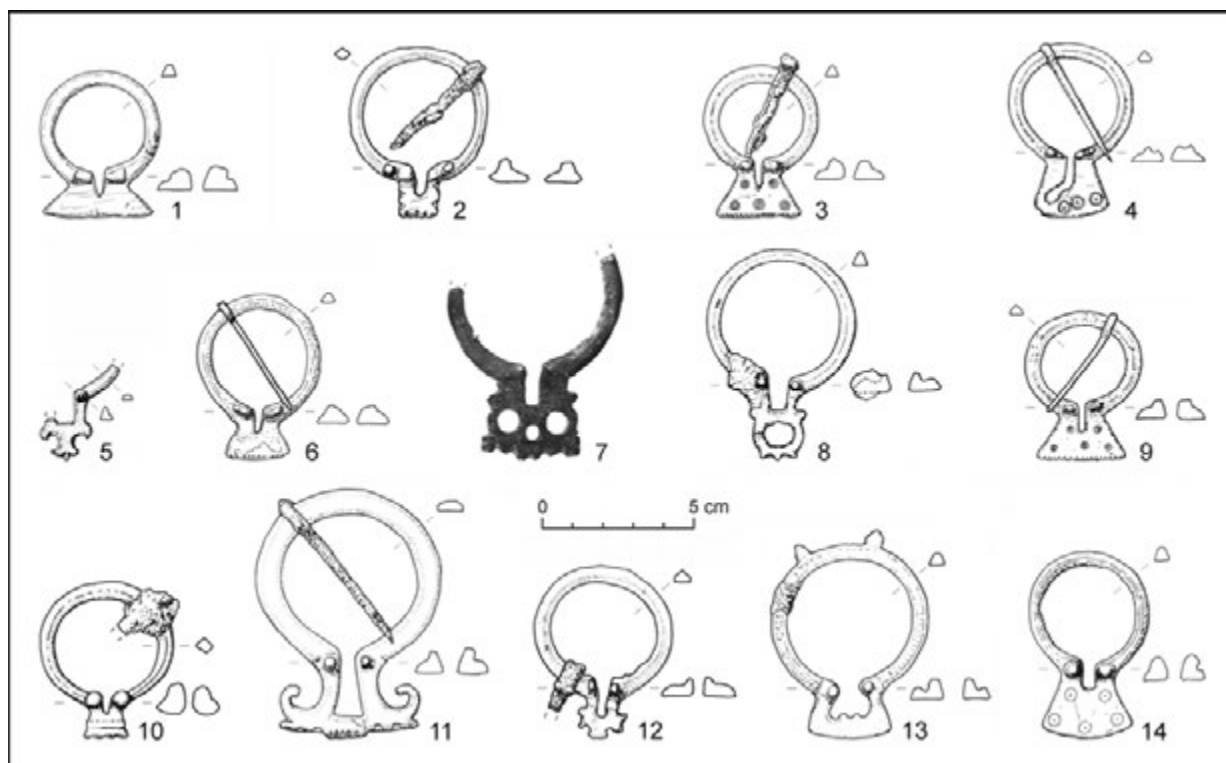


Fig. 1. Annular fibulae from the Bohemia and Ukraine. 1 – Dobřichov; 2 – Hradištko u Sadské; 3 – Hřešice; 4 – Jirkov-Červený Hrádek; 5 – Lipec; 6 – Málkov u Chomutova; 7 – Nebovidy; 8 – Pálež u Milešova; 9 – Skorkov; 10 – Úvaly u Prahy; 11 – Vroutek; 12 – Ždánice u Kouřimi; 13 – Žehuň; 14 – Balicze. Drawings by Z. Beneš.

ROMAN-PROVINCIAL ANNULAR FIBULAE WITH A PROFILED PLATE

Beginning with the study by *I. Sellye* (1990), Roman-provincial specimens of fibulae with a distinctive support plate are usually connected with the province of Pannonia (*Fazekas* 2008, 327; *Schmid* 2010, 52; 53). They are found considerably less often in neighbouring territories – we can name examples from Dacia (*Cociș* 2004, 129; 130, pl. CXI: 1568–1572), Noricum (*Jobst* 1975, 125–127, tab. 51–53), Raetia (*Pröttel* 2002, 101–103, Taf. 5: 62), the Upper Germanic-Raetian Limes (*Böhme* 1972, 46, Taf. 31: 1232–1233) and the Moesian Limes (*Petković* 2018, 86; 87). They appear in exceptional cases even further past the Rhine (*Teegen* 2013). Certain areas in Pannonia can also be distinguished where finds are concentrated – in addition to Intercisa and Brigetio, this is mainly Savaria, which, based on finds of semi-finished products, is even considered a production centre of this type of fastener (*Fazekas* 2008, 327, 328; *Merczi* 2000, 263; *Sellye* 1990, 27–32). A semi-finished annular fibula with a plate was also found in Poetovio/Ptuj in modern-day Slovenia (*Merczi* 2000, 263). All of the Roman-provincial specimens presented here (Hradištko u Sadské, Lipec, Nebovidy, Pálež u Milešova, Úvaly u Prahy, Vroutek, Ždánice u Kouřimi) can be typologically designated as the *Jobst* 35B/*Böhme* 51d/*Cociș* 27b/*Merczi* var. 3 type. A more precise typology of these fibulae comes from the aforementioned

Table 1. Summary of typological determination of annular fibulae in Bohemia.

Site	Typology
Balicze (UA)	Skorkov
Dobřichov	Böckingen
Hradištko u Sadské	Sellye I
Hřešice	Skorkov
Jirkov-Červený Hrádek	Skorkov
Lipec	Sellye IV
Málkov u Chomutova	Skorkov
Nebovidy	Sellye VII
Pálež u Milešova	Sellye VI
Skorkov	Skorkov
Úvaly u Prahy	Sellye II
Vinařice u Loun	Skorkov
Vroutek	Sellye II
Ždánice u Kouřimi	Sellye IV
Žehuň	? (Roman)

I. Sellye, according to whom it is possible to add to type I – known also as the Siscia variant after *R. Koch* (1974) – the fibula from Hradištko u Sadské (Fig. 1: 2), to type II the fibulae from Úvaly u Prahy (Fig. 1: 10) and Vroutek (Fig. 1: 11), to type IV specimens from Lipec (Fig. 1: 5) and Ždánice u Kouřimi (Fig. 1: 12), to type VI the fibula from Pálec u Milešova (Fig. 1: 8) and to type VII (Table 1) the lost find from Nebovidy (Fig. 1: 7). The fibula from Žehuň (Fig. 1: 13) deviates from I. Sellye's classification. Nevertheless, the formal spectrum of these fibulae is so broad that there is always a specimen that has not yet been found elsewhere (*Teegen* 2013, 319). Still, some specimens from Bohemia have relatively close analogies in the provinces. For example, the extraordinarily large fibula from Vroutek has very close parallels in Brigetio (*Sellye* 1990, 31, Taf. 2: 13), Vienna (*Schmid* 2010, 122, Taf. 38: 299) and Trier (*Teegen* 2013, Abb. 2). The fibula from Nebovidy has a good analogy in Styrian Dietersdorf (*Heymans* 1996, 151, Taf. 11: 37) and is also similar to a fibula from Vienna (*Schmid* 2010, 128, Taf. 43: A20).³

Roman-provincial annular fibulae with a profiled plate are generally dated to the period between the second half of the 3rd century to the course of the 4th century (*Merczi* 2000, 263, 264; *Sellye* 1990, 26, 27, 75, 76), although the simpler Sellye I/Siscia type (*Koch* 1974, 232, Taf. 1: 10, 11) could be dated more precisely in several cases to the first half of the 4th century (e.g. *Pröttel* 2002, 103). Based on their occurrence near the Limes, some scholars attribute these fibulae to the army milieu, where they were to be used to fasten military cloaks (*Cociş* 2004, 130; *Pröttel* 2002, 103, Abb. 4; *Schmid* 2010, 53), though this obviously is not the only possible interpretation (*Teegen* 2013, 323; 324), since they have also been found in the graves of women and children in several cases (*Fazekas* 2008, 329, tab. 1; *Merczi* 2000, 263). Their deposition on the right shoulder of the deceased is typical (*Fazekas* 2008, 328), but sometimes they are found in another position, e.g. in the lumbar region (e.g. grave 34 from Somogyszil, graves 79 and 81 from Intercisa), and as such they could have also served a different function, e.g. to fasten grave clothes (*Fazekas* 2008, 329).

An important grave unit with a Roman-provincial variant of an annular fibula with an extension is an inhumation burial from Slížany; the artefact comes from the old collection of I. L. Červinka. The fibula was found here at the side of the skeleton and was to have served as a clasp for some kind of leather bag (*Beneš* 2018, 111, 112; *Teegen* 2013, 324; *Trnáčková* 1961). Important chronological support for this grave is a two-part crossbow fibula with a wedge-shaped foot of the Schulze 176 type, which is typical for the 5th century and was later designated as a Slížany type by the author M. Schulze-Dörrlamm (*Schulze* 1977, 101; *Schulze-Dörrlamm* 1986, 624, 625, Abb. 34–37). A problem, however, is the similarity of these fibulae to type 177, which the same author dates back to the period between the 3rd century and the beginning of the 5th century (*Böhme* 1996, 90, 91, Abb. 2; *Schulze* 1977, 101, 102). The lone difference between the two types is the length of the winding, and if we assume that many of these two-part fibulae are only partially preserved (usually with the winding broken off), their identification cannot be entirely positive, as shown by *Droberjar et al.* (*Droberjar/Knápek/Jarůšková* 2019, 123). And yet, a fire striker from the Slížany grave corresponds fully to variants from the Migration Period (*Tejral* 1982, 154, 155). As such, it appears (regardless of the actual dating of Schulze 176 and 177 fibulae) that the annular fibula in the Slížany grave can actually be an authentic artefact from the 5th century or some kind of antique piece, similar to other fibulae of this type (*Teegen* 1998, 345).

BARBARIAN ANNULAR FIBULAE WITH A TRAPEZOIDAL PLATE

Compared to Roman-provincial types, barbarian fibulae with a trapezoidal plate logically appear much more frequently in Barbaricum. While it was previously concluded that the barbarian variants were imitations of provincial fibulae (*Zimmermann* 1972, 191), they probably underwent separate simultaneous development (*Heynowski* 1998; *Koch* 1974; *Teegen* 1998), even if a certain concurrence of development with Roman-provincial types cannot be ruled out. They are sometimes designated in the literature as the Böckingen type after an inhumation grave dated to around the year 300 discovered near a Roman castell in Baden-Württemberg (*Werner* 1938; *Zimmermann* 1972, 191).

It is clear from specimens found in Bohemia that the formal diversity of these barbarian types falls far short of the palette of Roman-provincial products. The shape of the plate is trapezoidal in proportionally different sizes. The lower edge is sometimes convex, as is the case with finds from Jirkov-Červený Hrádek

³ Another noteworthy Bohemian find of a Roman-provincial annular fibula, albeit of a slightly different type (Jobst 36C/Sellye XVII), comes from Řevničov. A separate study was devoted to this find (*Vích et al.* 2022) and in this work we will take a closer look at it only in connection with its find context.

(Fig. 1: 4) and Balicze (Fig. 1: 14) and is often decorated with simple incisions. The front side is either smooth or decorated with concentric rings (usually five, though the find from Jirkov-Červený Hrádek is an exception). The cross-section of the body of the fibula is either triangular or pentangular. Returning again to the rather unusual fibula from Jirkov-Červený Hrádek, we can observe a flange-like elongated cut-out for threading the pin. It is not clear whether this feature had functional or decorative significance. It is possible that this is merely a defect resulting from the casting of this fibula.

Today it is known that these fibulae occur from Southwestern Germany (Koch 1974) to Central Germany (Walther 1998). A somewhat different variant of these fibulae predominates on the coast of the North Sea (Koch 1974, 229; Nowothnig 1970, 136–143; Teegen 1998, 345; Zimmermann 1972). In the work of H. W. Böhme, we encounter an attempt at another typological classification differentiating the original Böckingen type characterised by longer lateral extensions of the lower plate, sometimes even with cut-out upper edges, and “similar forms” with a narrow trapezoidal plate and which are concentrated mainly in Central Germany (Böhme 1986, 488–490, Abb. 17; Walther 1998, Abb. 5). The Bohemian specimens of these fibulae mostly correspond to this Central German variant, and only the find from Dobřichov (Fig. 1: 1) with its wider plate suggests an affiliation with the original Böckingen type. In order to emphasise the concentration of fibulae with a narrow trapezoidal plate in Bohemia and Central Germany, we designate them here as the Skorkov type. We will set aside for now whether it makes sense to separate a third variant characterised by a convex lower edge of the plate, since the only known specimens are the fibulae from Jirkov-Červený Hrádek and Balicze.

These fibulae play a role in deliberations on the connection of Thuringia (especially its north-western territory) with the Main River region and Southwestern Germany from the end of the 3rd century and the 4th century, mainly concerning the movement of the Alamanni. One way that W. Walther (1998) documents this is through the expansion of Böckingen- and Skorkov-type fibulae, similar to H. Schach-Dörge (1997, 82, Abb. 64). In this concept, Bohemia plays a role as an outlying region of the Elbe-Germanic cultural sphere, extraordinarily close to the Central German tradition (already in Svoboda 1965, 29–42; most recently in Čistáková/Beneš 2024, 59, 60).

However, there is not a great deal of support for the dating of these annular rings. J. Werner dated the grave from Böckingen to around the year 300 despite the fact that it did not contain another well-datable find (Werner 1938). In Mainz, however, this fibula was found in the same context as a Constantine the Great coin (Koch 1974, 231).⁴ It is interesting that some of these fibulae were also found in Migration Period graves. Does this mean that they served as some type of antique, as is considered in the case of the Roman-provincial annular fibula from Slížany? This can be contemplated in the case of a Böckingen-type fibula from a 6th century Anglo-Saxon grave in Londesborough, England (Böhme 1986, 490, Abb. 15: 5). But if the graves are from the early phase of the Migration Period, e.g. a grave from the mid-5th century from Stößen in Saxony-Anhalt (Schmidt/Bemmann 2008, 114, Taf. 146: 113/70,7), it is reasonable to ask whether Böckingen- or Skorkov-type annular fibulae could have been used longer than originally assumed.

FIND CONTEXT

The spatial distribution of annular fibulae from Bohemia has several interesting features (Fig. 2). It is clear that finds of Roman-provincial fibulae predominate in the middle Elbe region in Bohemia. The second major area of the distribution of annular fibulae is the Ohře River region and the territory below the Ore Mountains (nearly without exception geomorphologically distinctive locations), where, in contrast, barbarian Skorkov-type fibulae predominate. This situation can be explained as follows: Roman-provincial imports apparently reached the densely settled Elbe River region more easily and in greater numbers, while, on the other hand, the north-western part of Bohemia was closer to Central Germany, where there is another large concentration of Skorkov-type fibulae (Böhme 1986, 488–490, Abb. 17; Walther 1998, Abb. 5). Of course, it is a question whether such conclusions can be reliably drawn on such a statistically insignificant assemblage.

Although two of the presented annular fibulae from Bohemia come from grave contexts, this claim is not without complications in either case. Although it is lost today, a Roman-provincial fibula with an open-work plate from Nebovidy near Kolín (Fig. 1: 7) comes from a grave uncovered in 1922 by F. Dvořák, who noted that

⁴ The earliest evidence of this fibula is typically thought to come from grave 72 at the Preetz cemetery (Schleswig-Holstein), from the zone of the necropolis belonging to phase C1b. However, the plate from this fibula has not been preserved, thus casting doubt on the relevance of this analogy (Teegen 1998, 345).



Fig. 2. Annular fibulae from Bohemia. Triangles – Romano-provincial fibulae; concentric circles – barbarian fibulae of the Böckingen type; dots – barbarian fibulae of the Skorkov type. 1 – Dobřichov; 2 – Hradištko u Sadské; 3 – Hřešice; 4 – Jirkov-Červený Hrádek; 5 – Lipec; 6 – Málkov u Chomutova; 7 – Nebovidy; 8 – Pálec u Milešova; 9 – Skorkov; 10 – Úvaly u Prahy; 11 – Vinařice u Loun; 12 – Vroutek; 13 – Žďánice u Kouřimi; 14 – Žehuň.

dating of an annular ring allegedly found here is inconsistent with the rest of the inventory, and although the author of the original publication attempted to find a suitable analogy for it from the Early Roman Period, a critical evaluation definitely rules out a dating to phase B1. The problem is that the grave unit was already described in this way by J. L. Píř (1897, Taf. 64: 25–28) and also in the accession book of the National Museum. As such, if this annular fibula was combined with the finds from Pičhora, it must have occurred at the end of the 19th century, perhaps through the mixing of finds from the later cemetery from the Třebická site, which is also near Dobřichov. For now, this is the only explanation available.

Two of the published fibulae, from Lipec (Fig. 1: 5) and Žehuň (Fig. 1: 13), verifiably come from contemporary settlement sites, even if these remain unpublished thus far. These are not finds from excavations conducted using traditional methods but by amateur collaborators using metal detectors.⁵

A Skorkov-type fibula that found its way into the collections of the National Museum back in the 19th century comes from the town of Balicze (today Podorozhne/Подорожнє) in the Lviv Region of modern-day Ukraine but must be assessed as having no context (Fig. 1: 14). The tale behind this artefact's journey to the National Museum in Prague is in and of itself extraordinary. The fibula was a gift from high-ranking Austro-Hungarian official Leopold Johann Nepomuk von Sacher-Masoch (1797–1874). He became interested in science from an early age, specifically geology and palaeontology, and he founded a private nature collection with items from western Ukraine. Particularly fruitful from a scientific perspective were his years in Prague (1848–1854), where he held the position of police commissioner. With his collections, Sacher-Masoch contributed to many scientific studies. In Prague, he worked closely with Joachim Barrande and became a member of the Lotos scientific association; he also supported the Institute of Geology and the natural science cabinet of the National Museum with material gifts (Svojtka 2009, 42, 43).⁶ The aforementioned fibula was donated at the time of his cooperation with the collection-

the 'grave contained a coarsely-worked, pot-shaped urn filled with the semi-burned bones of an adult individual with a weaker constitution. Eight highly interesting bronze grave goods, identical to artefacts found at the well-known hillfort near Stradonice, were added to the grave. F. Dvořák illustrated three of these artefacts (Dvořák 1941, 11, obr. 3), including a fragment of an annular fibulae, another a Roman-provincial yoke/horse collar fitting with a harness rein guide ring and a large flat ring (Beneš 2018, 109–111, obr. 2; 3). As the remaining inventory of the grave is unknown, there is no further support for dating or an overall interpretation. But the very presence of these three artefacts in a cremation grave in Central Bohemia is in fact highly unusual.

Another grave find is a barbarian annular fibula from grave 64 from the known Early Roman Period cemetery at Dobřichov-Pičhora (Fig. 1: 1; Droberjar 1999, 143; 144, 244, Taf. 52,64/3; 109,6). In addition to a classic undecorated terrine with an offset neck, the grave also contained iron shears and a knife with a solid handle decorated with concentric rings. Among the listed grave goods, a ceramic urn can be dated most precisely – probably to phase B1. The

⁵ For now, the lone mention of the Roman Period settlement in Žehuň is in Danielisová et al. 2018, 130, fig. 4. Based on as yet unpublished settlement finds, it can be dated from the Late Roman Period to the Migration Period.

⁶ During his time in Prague, Sacher-Masoch was also somewhat unhappily involved in the administration of the National Museum collections (see ANM, RNM, crate no. 5, inv. no. D/7/20) and became critical of the organisation of the numismatic and archaeological collections. Between 1850 and 1854, he was a member of the museum society and a number of committees of Maticе česká, which gave him an influential voice in the important work of these two organisations. His secret mission was to remove from Maticе and the museum individuals active in the revolutionary years and replace them with trusted individuals. As such, in 1850 he blocked František Palacký's *Educational Dictionary* (*Naučný slovník*) project, which was followed by Palacký's removal from the museum committee in 1852 (Prokeš 1931, 23–27).

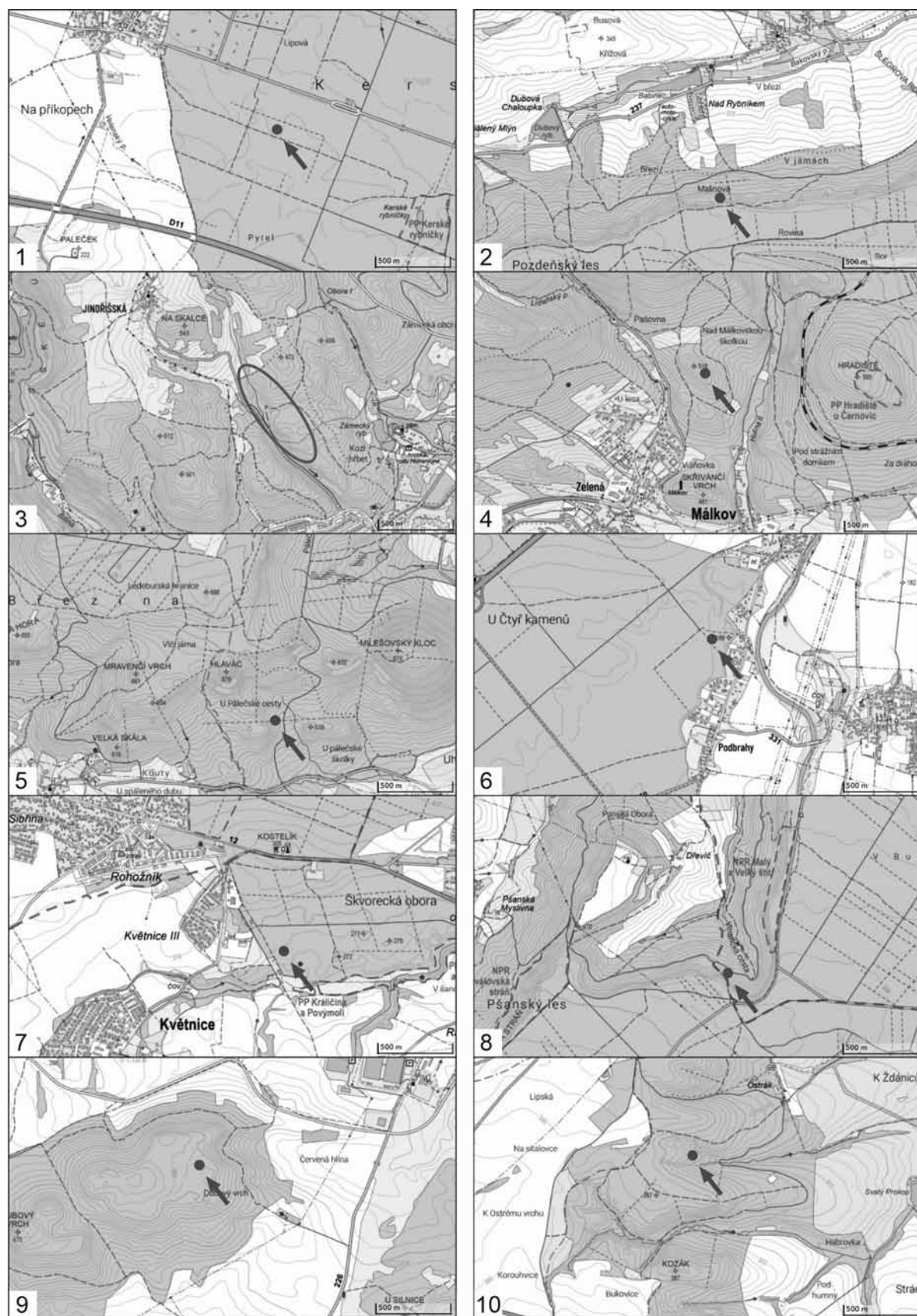


Fig. 3. Location of stray finds of annular fibulae from Bohemia. 1 – Hradištko u Sadské; 2 – Hřešice; 3 – Jirkov-Červený Hrádek; 4 – Málkov u Chomutova; 5 – Pálec u Milešova; 6 – Skorkov; 7 – Úvaly u Prahy; 8 – Vinařice u Loun; 9 – Vroutek; 10 – Ždánice u Koutví.

forming section of the National Museum in 1850. Given that this type of artefact has not yet been published from Ukraine, the fibulae from Balicze can be regarded for now as the easternmost example of this type of fastener.

All of the other fibulae presented here (a total of 10 specimens) can therefore be regarded as single finds that had probably been lost away from regular settlement sites. It would be possible to accept this conclusion, since perhaps every archaeologist is aware of the existence of finds that cannot be linked to a grave or settlement context. Many of them could clearly be artefacts that had been lost by their owners as they moved about the land. And yet, it is strange that this context is completely predominant among finds of annular fibulae from Bohemia, be they of Roman-provincial or barbarian origin. R. Koch notes that the majority of finds of these fibulae from Southwestern Germany are single finds (*Koch 1974*, 230). Finds of these fibulae outside of regular settlement or burial sites have also recently increased in Moravia (*Mikulková 2018*, 109, obr. 8: 17). The following is an attempt at a closer contextual analysis of these 10 annular fibulae from Bohemia.

Finds of annular fibulae from Bohemia can be classified in several categories based on the geomorphological position of single finds. The first is composed of finds in the flat landscape currently with forests, including Roman-provincial fibulae from Hradištko u Sadské (Fig. 3: 1) and Úvaly u Prahy (Fig. 3: 7). Today it is impossible to say whether there was some type of special natural situation at these locations in the Late Roman Period. The edges of distinctive terraces can be included in the next category. Skorkov-type fibulae from Hřešice (Fig. 3: 2) and Skorkov (Fig. 3: 6) can be classified in this group. The site at Hřešice is the distinctive southern edge above the valley of the Hřešický and Bakovský streams. The Skorkov findspot is located just a short way from the relatively distinctive edge of the Jizera River terrace. The third category is composed of a narrow valley in hilly terrain (wooded in all cases today) in the immediate vicinity of a small watercourse. Included in this category are finds of a Skorkov-type fibula from Jirkov-Červený Hrádek (Fig. 3: 3) and Roman-provincial fibulae from Pálec u Milešova (Fig. 3: 5) and Ždánice u Kouřimi (Fig. 3: 10). The final category is distinctive highland locations such as hilltops or their edges providing panoramic views. To a certain extent, this category touches on the aforementioned group of finds on prominent terraces and included Skorkov-type fibulae from Málkov u Chomutova (Fig. 3: 4) and Vinařice u Loun (Fig. 3: 8), as well as a large Roman-provincial fibula from Vrutek (Fig. 3: 9). In this context, it should be noted that the aforementioned Jobst 36C/Sellye XVII-type annular fibula found on the slope of Žalý Hill in the cadastral territory of Řevničov (*Vích et al. 2022*) falls well into our fourth category.

Although circumspection is necessary when interpreting similar finds, statistically speaking, we find the significant preponderance of finds of annular fibulae in Bohemia in prominent or otherwise unusual positions striking. The authors of the publication of the find from Řevničov advanced a cautious hypothesis on a “sacred monodeposit”, which we can now substantiate with a larger assemblage of similar finds. While it is not yet clear why Late Roman Period annular fibulae played this special role, it is clear, that the individuals “depositing” these artefacts at their later findspots – whatever their intention may have been – did not distinguish between Roman-provincial and barbarian variants. It is also questionable whether only this particular type of brooches has been treated in this way, or whether it applies to other types as well. This is a hypothesis that remains to be tested. Mass deposits consisting (not only) of brooches, accumulated over a longer period, are already known from Barbaricum, e.g. Pyrmont in Lower Saxony (*Teegen 1998*).⁷ In our case, however, we are talking about a one-time event that has not been repeated at the same location. It may correspond to the selective deposition, in which specific types of objects are deposited in only specific places. Theoretically, these objects (monodeposits) are kept apart from other kinds of objects and from specific types of contexts. According to D. R. Fontijn, this must have been in situations in which objects are not merely things, but in which they carry specific and different meanings (*Fontijn 2003*, 216).

METAL ANALYSIS AND PRODUCTION-TECHNOLOGICAL CHARACTERISTICS OF FIBULAE

Various surface treatments appeared on the presented artefacts.⁸ An elemental analysis established tinning on the fibula from Lipeč (Fig. 4: 1; Table 2). Traces of tinning are also visible in several places on the fibula from Hradištko u Sadské (Fig. 4: 2) and on the fibula from Ždánice u Kouřimi (Fig. 4: 3). Tinning enjoyed

⁷ We should mention the huge depot of the Early La Tène period from the “Giant spring” (Riesenquelle) near Duchcov in North-western Bohemia, consisting largely of brooches (*Kruta 1971*).

⁸ Images were obtained with a Keyence VHX-S600 microscope (Mechelen, Belgium) with a high depth-of-field.

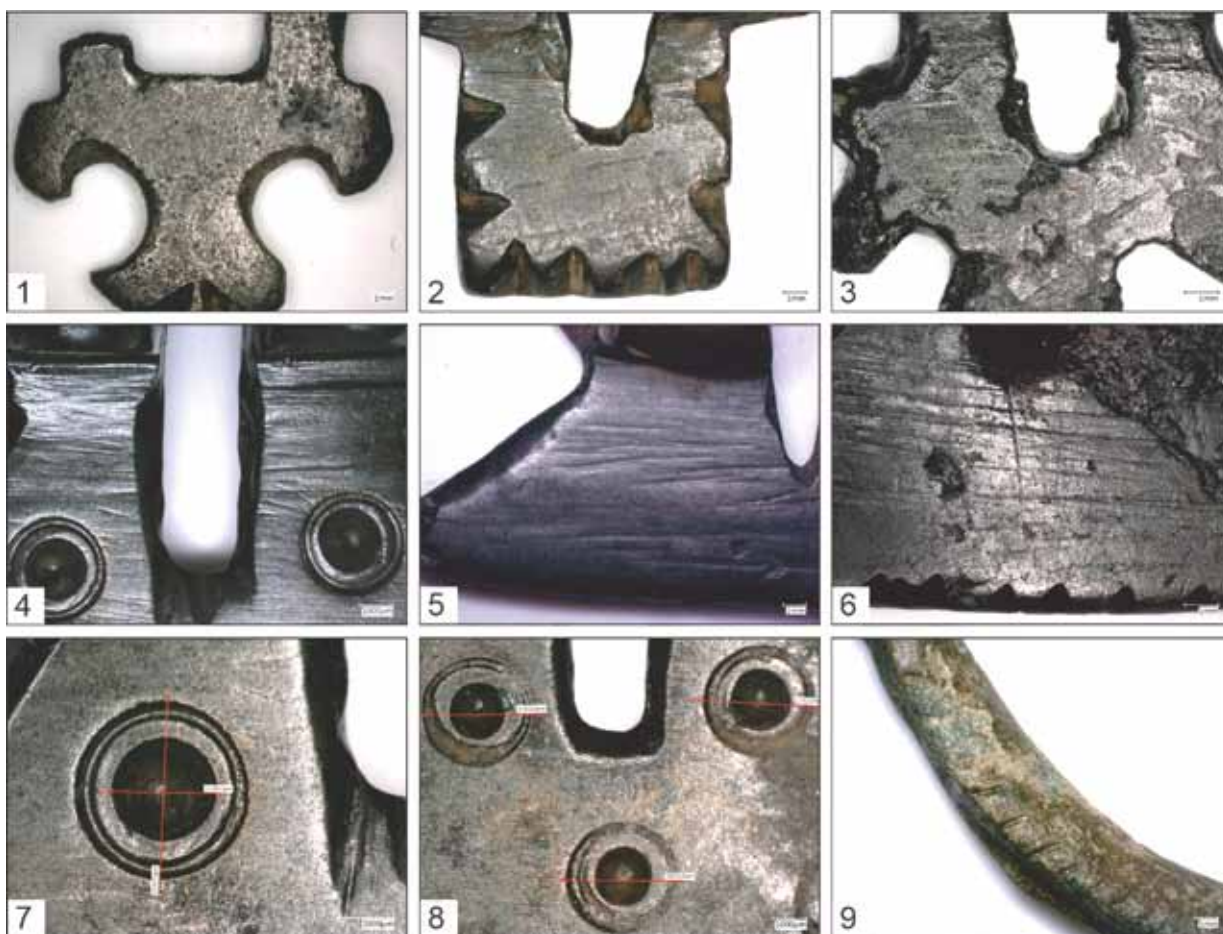


Fig. 4. Surface treatments of annular fibulae from Bohemia. 1–3 – traces of tinning; 4–6 – surface grinding; 7–9 – decorative elements. 1 – Lipec; 2 – Hradištka u Sadské; 3 – Ždánice u Kouřimi; 4 – Hřešice; 5 – Dobřichov; 6 – Málkov u Chomutova; 7 – Hřešice; 8 – Skorkov; 9 – Žehuň. Photos by V. Čistáková.

Table 2. Summary of metal composition of annular fibulae in Bohemia.

Site	Cu	Zn	Sn	Pb	Fe	Ag	Co	Ni	Sb	Bi	Alloy
Balicze (UA)	59.66	0.39	5.67	34.18	–	–	–	0.10	–	–	CuSnPb(Zn)
Dobřichov-Piřhóra	74.26	0.63	12.05	13.04	0.02	0.00	–	–	–	–	CuSnPb(Zn)
Hřešice	74.09	0.38	6.43	18.57	0.20	0.08	–	–	–	0.07	CuSnPb(Zn)
Jirkov-Červený Hrádek	74.69	2.69	7.36	14.96	0.15	0.02	–	–	–	–	CuZnSnPb
Lipec	70.36	1.16	7.54	20.10	0.84	–	–	0.00	–	–	CuZnSnPb
Lipec_surface	65.17	–	34.21	0.47	0.16	–	–	–	–	–	–
Málkov u Chomutova	69.63	–	3.73	25.89	0.04	–	–	–	–	0.05	CuSnPb
Páleč u Milešova	76.33	5.79	4.45	13.11	0.21	0.04	–	0.06	–	–	CuZnSnPb
Skorkov	73.47	6.47	6.75	13.06	0.26	–	–	–	–	–	CuZnSnPb
Úvaly u Prahy	68.50	–	9.37	21.83	0.10	–	0.01	0.19	–	–	CuSnPb
Vroutek	72.21	4.21	4.62	18.45	0.38	–	–	–	0.08	–	CuZnSnPb
Ždánice u Kouřimi	72.80	1.01	5.20	19.92	0.87	0.09	–	–	–	0.04	CuZnSnPb
Žehuň	64.42	5.15	6.13	23.95	0.29	–	–	0.06	–	–	CuZnSnPb

considerable popularity in the Roman-provincial environment and is confused with silvering relatively often in the literature (Giumlia-Mair 2005, 362), but of course the opposite is also true, and we quite frequently encounter the tinning of artefacts with a more common function. Tinning often appears on small ornaments like fibulae and on forgings, a treatment that can possibly be connected with rust-proofing and the creation of an attractive silvery appearance. Tinning also appears on bronze vessels, primarily as an anti-corrosion treatment, and on militaria such as helmets and horse harness fittings (Meeks 1986, 135).

When the tin coating was to be applied on only one side of an object, the technology of wipe tinning was employed. This technique involved heating the object to be tinned above the melting point of tin (232 °C), applying a flux (sal ammoniac/ammonium oxide or colophony rosin) and finally the application of the tin in powder or melted form. The melted tin was then wiped over the surface while still hot using a brush or cloth (Benešová 2011, 554; Voß/Hammer/Lutz 1998, 196–198, Abb. 27). The technique of hot dip tinning used in antiquity involved applying a flux to a previously prepared surface⁹ and then immersing the object in a bath of molten tin (260 °C). This technique had numerous advantages, as the applied tin layer was thicker and more even. Subsequently, the plating could also be compacted and hardened by polishing (Fütterer et al. 2018, 333). Tin itself (*stannum*) or “false” stannum (two parts brass and one part tin) was used for the plating. Written sources also make reference to alloys called *argentarium* (one part tin and one part lead) and *tertarium* (two parts lead and one part tin; Benešová 2011, 554; Giumlia-Mair 2005, 362). Finally, we can also mention the technique described by Pliny the Elder (*Naturalis Historia* 34, 162, 163) *asincostilia*, a process involving an alloy of copper with a higher share of tin (sometimes even lead), which, through repeated rapid heating to over 520 °C in a reduction atmosphere, could have caused a tin-lead layer to form on the surface (Giumlia-Mair 2005, 366; Meeks 1986, 137; Voß/Hammer/Lutz 1998, 198).

Although barbarian fibulae lack intentional tinning, other surface treatments can be observed, including grinding (Fig. 4: 4–6) followed by polishing. An interesting example of decoration on barbarian fibulae is stamping in the form of concentric circles (Fig. 4: 7, 8). Different decoration in the form of incisions is found on the Roman-provincial fibula from Žehuň (Fig. 4: 9).

A total of 12 fibulae were analysed in order to determine the composition of the alloy.¹⁰ A lead tin brass alloy was identified in seven fibulae (CuZnSnPb). The elemental composition of these artefacts is highly variable. The zinc content is in the range of 1.01–5.79% (see Table. 2), with an average Zn value of 3.78%. This group includes Roman-provincial fibulae (Pálež u Milešova, Lipec, Vroutek and Ždánice u Kouřimi) and those of barbarian provenance (Skorkov, Žehuň and Jirkov-Červený Hrádek). The share of tin is in the range of 4.45–7.54%, with an average value of 6.01%, while the share of lead is in the interval of 13.11–23.95%, with an average value of 17.65%. Three fibulae from Balicze, Dobřichov-Piřchora and Hřeřice are made from a lead tin bronze alloy with a small share of zinc (CuSnPb, Zn?). The amount of zinc was only 0.38–0.68%. The tin content of these fibulae ranges from 5.67 to 12.05%, with an average value of 8.05%, whereas the lead content is in the interval of 13.04–34.18%, with an average value of 21.93%. These quaternary alloys of copper, zinc, tin and lead can be assigned to categories 20–23 according to J. Riederer (1998). Due to the extraordinarily high concentration of lead in the fibula from Balicze (34.18%), it is possible to consider its classification in group 15 (Riederer 1999, 200, tab. 20). Two fibulae (Ůvaly u Prahy and Málkov u Chomutova) belong to the lead tin bronze alloy group, in which tin levels range from 3.73 to 9.37%, lead from 21.83 to 25.89%.

The results of the analyses show that a majority of the fibulae were made with tin lead brass (CuZnSnPb) with a low concentration of zinc, a group used heavily for both Roman-provincial products and those of barbarian origin (e.g. Riederer 1999, 200–203, Vích et al. 2020). The artefacts from the tin lead brass group with a low share of zinc are proof of the recycling of brass artefacts and objects made of other copper alloys, which occurred both in the Roman provinces and in Barbaricum (see Čiřřakova/Beneš 2024, 43–49; Voß 2016). A low concentration of zinc can be regarded as proof of recycling, as its share is heavily reduced during

⁹ It was first necessary to mechanically grind the object, after which it was soaked in an acidic environment (e.g. vinegar) for degreasing.

¹⁰ Micro-samples of metal material (10–40 mg) were taken from the fibulae by boring with an HSS bit with a TiN finish and a diameter of 1 mm. The points of sample collection were subsequently retouched with coloured modelling wax. Elemental composition analyses were conducted using energy dispersive X-ray fluorescence (ED-XRF) in a Tescan Mira3 LMU electron scanning microscope with a Bruker Quantax 200 energy dispersive analyser. The collected data were analysed using Bruker Esprit software. Conducted by J. Kmošek in the laboratories of the Department of Chemical Technology in the Faculty of Restoration at the University of Pardubice, samples were measured in high vacuum mode, an accelerating voltage of 20 kV, with the detection of backscattered electrons and a data accumulation time of 300 s.

the repeated heating of the brass in oxidising conditions (Vích *et al.* 2020, 176, 177). It is noteworthy that evidence of brass recycling is also observed in the case of artefacts of verifiable Roman-provincial origin. Of course, it is common knowledge that in the 3rd century AD there was a slow reduction in the concentration of zinc and brass down to 5–7%, which could be a reflection of economic instability in the Roman Empire, the disruption of supply chains and even the exhaustion of zinc deposits (Droberjar/Frána 2004, 444).

CONCLUSION

In the text, we have attempted to explore all of the possibilities offered by the assemblage of Roman-provincial and barbarian annular fibulae collected in Bohemia. For the reasons detailed above, the chronology of these artefacts is quite vague and not even the finds published here are of any great help in clarifying this situation. For now, the fibulae can only generally be dated to the broad span between phases C2 and C3. Barbarian specimens can even be found in graves from phase D2. However, based on Skorkov-type fibulae, we were able to document a connection between Bohemia and Central Germany, which appears especially strong in the territory below the Ore Mountains and the Ohře River region (cf. Walther 1998). In contrast, more Roman-provincial specimens appear in the middle Elbe River region. The find contexts of these fibulae (only rarely connected with burial and settlement activities) indicate the highly special function of these artefacts, and it seems as if we are on the trail of some kind of ritual behaviour, with the Roman-provincial or barbarian origin of the fibulae probably not playing a crucial role. Likewise, the composition of the alloy from which the fibulae were made cannot be positively differentiated between Roman-provincial and barbarian, since a similar phenomenon – the recycling of material – was gaining strength in this period in casting workshops on both sides.

CATALOGUE

Dobřichov-Pičhora, Kolín distr.

Whole bronze fibula with missing iron tongue. Support plate trapezoidal, undecorated. Body cross-section pentagonal. Height 48 mm, width 40 mm, body cross-section 4.8×3 mm, support plate dimensions 35.25×10 mm, weight 14.3 g. Allegedly from cremation grave 64 of the Early Roman Period graveyard (Droberjar 1999, 143, 144, 244, Taf. 52; 64: 3; 109: 6). Collection of the National Museum (Prague; inv. no. H1-53782; St. 4323). Fig. 1: 1.

Hradištko u Sadské, Nymburk distr.

Whole bronze fibula with an iron tongue. Support plate narrow, oblong, ornamented with triangular notches on the edges. Body cross-section rhomboidal. Height 56.5 mm, width 46.5 mm, body cross-section 5×4 mm, support plate dimensions 12×13 mm, preserved length of tongue 41.5 mm, weight 15.893 g. Stray find in the forest area of Kersko, GPS $50^{\circ}08'04.4''\text{N}$, $14^{\circ}54'40.8''\text{E}$, 19. 3. 2022. Collection of the National Museum (Prague; inv. no. not yet assigned). Fig. 1: 2.

Hřešice, Kladno distr.

Whole bronze fibula with an iron tongue. Support plate trapezoidal, decorated with five engraved concentric circles. Body cross-section triangular. Height 50.5 mm, width 38 mm, body cross-section 5×3 mm, support plate dimensions 28×16 mm, preserved length of tongue 37 mm, weight 16.0 g. Stray find on forested hilly terrain, GPS $50^{\circ}13'29.3''\text{N}$, $13^{\circ}55'04.4''\text{E}$, before 2015. Collection of the National Museum (Prague; inv. no. not yet assigned). Fig. 1: 3.

Jirkov-Červený Hrádek, Chomutov distr.

Whole bronze fibula with a bronze tongue. Support plate trapezoidal, decorated with three engraved concentric circles. Body cross-section triangular. Height 57.5 mm, width 41 mm, body cross-section 4.5×3 mm, support plate dimensions 24×18 mm, tongue length 46 mm, weight 14.2 g. Stray find in forested area, according to the finder “by the road between Jirkov and Jindřišská, at the edge of the Červený Hrádek nature reserve”, year 2014. Collection of the Regional Museum in Chomutov (inv. no. CV-N 11770). Fig. 1: 4.

Lípec, Kolín distr.

Fragment of bronze fibula consisting of part of the round body and support plate with cut-out tendril-like protrusions. D-shaped body cross-section. Tinned surface treatment. Preserved height 32 mm, preserved width 26 mm, body cross-section 4.5×2.5 mm, support plate dimensions 17.5×19 mm, weight 4.1 g.

Find at settlement site, GPS 50°05'31.0"N, 15°21'21.1"E, year 2014. Collection of the Regional Museum in Kolín (inv. no. not yet assigned). Fig. 1: 5.

Málkov u Chomutova, Chomutov distr.

Whole bronze fibula with a bronze tongue. Support plate trapezoidal, decorated with small notches on the lower edge. Body cross-section triangular. Height 53.75 mm, width 40 mm, body cross-section 4.5 × 3 mm, support plate dimensions 21.5 × 2.5 mm, length of the tongue 40 mm, weight 12.192 g.

Stray find on forested hill, GPS 50°27'21.5"N, 13°19'37.8"E, 28. 6. 2021. Collection of the National Museum (Prague; inv. no. not yet assigned). Fig. 1: 6.

Nebovidy, Kolín distr.

Nearly intact bronze fibula known only from old photograph only. Support plate rectangular, with three round perforations, edges decorated with notches. Dimensions measured from old photo. Preserved height 69 mm, width 58 mm, support plate dimensions 33 × 26 mm.

Allegedly from cremation grave excavated in 1922 (*Dvořák 1941*, 11). Supposedly in the collection of the Regional Museum in Kolín (not found). Fig. 1: 7.

Pálec u Milešova, Litoměřice distr.

Intact bronze fibula with traces of an iron tongue. Support plate ring-shaped, decorated with small lateral protrusions. Body cross-section triangular. The surface is tinned. Height 70 mm, width 49 mm, body cross-section 4 × 4.5 mm, plate dimensions 30 × 19 mm, weight 15.3 g.

Stray find on forested hilly terrain, GPS 50°32'02.7"N, 13°54'17.8"E, 12. 3. 2017. Collection of the Regional Museum in Ústí nad Labem (inv. no. not yet assigned, event number 14-25, bag no. 1). Fig. 1: 8.

Skorkov, Mladá Boleslav distr.

Intact bronze fibula with a bronze tongue. Support plate trapezoidal, decorated with five engraved concentric circles and small notches on the lower edge. Body cross-section triangular. Height 50.5 mm, width 38 mm, body cross-section 4.5 × 3 mm, support plate dimensions 28 × 15 mm, tongue length 39 mm, weight 14.6 g.

Stray find in forested area, at a depth of only 10 cm, GPS c. 50°13'31.4"N, 14°44'38.4"E, autumn 2016. Collection of the National Museum (Prague; inv. no. not yet assigned). Fig. 1: 9.

Úvaly u Prahy, Praha-východ distr.

Intact bronze fibula with remainder of an iron tongue. Support plate small, trapezoidal, decorated with a horizontal relief rib. Body cross-section rhomboidal. Height 52 mm, width 44 mm, body cross-section 4.5 × 5 mm, support plate dimensions 16 × 14 mm, weight 16.1 g.

Stray find in forested area, only 25 cm deep, GPS 50°4'0.118"N, 14°41'41.646"E, 5. 12. 2017. Held in the private collection of the finder. Fig. 1: 10.

Vinařice u Loun, Louny distr.

Intact bronze fibula with a bronze tongue. Support plate trapezoidal, undecorated. Body cross-section unknown, probably triangular. Dimensions unknown.

Stray find on forested hilly terrain, at a depth of only 7 cm, GPS 50°14'34.5"N, 13°50'13.1"E, 26. 12. 2015. Held in the private collection of the finder, never provided to an archaeologist for study. Fig. 5.

Vroutek, Louny distr.

Intact bronze fibula with an iron tongue. Support plate wide, with tendril-like protrusions, decorated with notches on the lower edge. D-shaped body cross-section. Height 82 mm, width 62 mm, body cross-section 8 × 3.5 mm, support plate dimensions 45.5 × 20 mm, preserved tongue length 59 mm, weight 46.78 g.

Stray find on forested hill, at a depth of only 25 cm, GPS c. 50°12'17.3"N, 13°22'30.9"E, probably in 2015. Collection of the Regional Museum in Louny (inv. no. A 11601). Fig. 1: 11.

Ždánice u Kouřimi, Kolín distr.

Intact bronze fibula with the remainder of an iron tongue. Support plate is cut-out with tendril-like protrusions. Body cross-section pentagonal. Height 56.5 mm, width 46 mm, body cross-section 5.5 × 4 mm, support plate dimensions 14 × 15.5 mm, preserved tongue length 17 mm, weight 15.098 g.

Stray find in forested area, at a depth of only 22 cm, GPS 49°58'52.32"N, 14°56'31.88"E, 25. 4. 2021. Collection of the Regional Museum in Kolín (inv. no. not yet assigned). Fig. 1: 12.



Fig. 5. The annular fibula from Vinařice u Loun, Louny distr. Photo sent by the finder.

Žehuň, Kolín distr.

Nearly intact bronze fibula with missing iron tongue. Support plate trapezoidal, with bent lower edge, perforated by expanded slit. The ring-shaped body is decorated with pointed protrusions on the outer side. Obverse edge is decorated with fine oblique incising. Body cross-section pentagonal. Height 68 mm, width 52 mm, body cross-section 4.5–5.5 × 4 mm, support plate dimensions 27 × 15 mm, weight 18.3 g.

Find at settlement site, GPS only approximately 50°08'39.2"N, 15°18'06.9"E, year 2010–2011. Collection of the National Museum (Prague; inv. no. not yet assigned). Fig. 1: 13.

Balicze, today Podorozhnje, Lviv Oblast (Ukraine)

Intact bronze fibula without marks of a tongue. Support plate trapezoidal, with bent lower edge, decorated with five engraved concentric circles. Body cross-section pentagonal. Height 61 mm, width 39.5 mm, body cross-section 4.5–5 × 4 mm, support plate dimensions 29.5 × 20 mm.

Without archaeological context. Gift of the Court Council of Leopold Johann Nepomuk Knight von Sacher. Collection of the National Museum (Prague; old collection, inv. no. H1-64962). Fig. 1: 14.

Translated by David Gaul

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Kruhové spony z pozdní době římské z Čech

Zdeněk Beneš – Viktoria Čiřťakova – Jiří Kmošek

Zhrnutí

Kruhové spony představují poměrně širokou skupinu spon, které se ve střední Evropě objevují již od doby železné a její varianty se vyvíjejí až do raného středověku. V tomto příspěvku se autoři zabývají jejich specifickou skupinou, která se objevuje v pozdní době římské a v době stěhování národů. Jde o kruhové spony s opěrnou destičkou na spodní straně, které ve střední Evropě shledáváme jak na území římských provincií – především Panonie – tak i na území tzv. barbarika. Provinciální exempláře se vyznačují rozmanitě prolamovanou a vykrajovanou destičkou, přičemž oblastí jejich nejčastějšího výskytu je Panonie, kde předpokládáme výrobní dílny. Lze je do jisté míry typologizovat pomocí práce I. Sellye (1990). Barbarské spony jsou pak opatřeny destičkou trapézovitého tvaru a obvykle jsou zdobeny rytými soustřednými kroužky. Oblast jejich výskytu se rozprostírá od Rýna na západě, Severního moře na severu a Dunaje na jihu. Východní hranice není za současného stavu výzkumu známa. Rozlišujeme zde několik variant, mezi nimiž je varianta Böckingen neobvyklejší. Datace těchto spon je obvykle hledána od konce 3. století po celé 4. století a dost možná ještě do poloviny 5. století.

Z 15 evidovaných kruhových spon s opěrnou destičkou z Čech je 8 typologicky římsko-provinciálního původu a mnohé z nich mají přímé analogie ve středodunajských provinciích, především Panonii. V Čechách se s nimi setkáváme především ve středočeském Polabí, méně často v Poohří. Barbarské varianty jsou zachyceny v 7 kusech, přičemž pouze nález z pohřebiště Dobřichov-Píchora je možné řadit mezi varianty Böckingen. Všechny ostatní mají poněkud užší opěrnou destičku a jelikož mají odpovídající analogie ve středním Německu a Pomohani, usuzujeme z toho, že jde o regionální polabskou variantu odlišující se od porýnských a severoněmeckých exemplářů. Byla tak pro ně vytvořena varianta Skorkov. V Čechách dominují v severozápadočeském regionu.

Kontext, ve kterém byly české exempláře nalezeny, bohužel nepomáhá řešit otázku jejich chronologického ukotvení. Pouze dva kusy pocházejí z hrobů (Dobřichov, Nebovidy), v obou případech jde však o nálezy sporné či nedokumentované. Dvě spony (Lípec, Žehuň) pocházejí z ornice na sídlištních lokalitách. Spona z ukrajinské lokality Balicze je starým nálezem, předaným do Národního muzea ještě v 19. století. Zbytek českých kruhových spon představují ojedinělé nálezy. Pokud se však pokusíme shrnout geomorfologii míst jejich nálezů, vyvstanou před námi čtyři situace:

1. nálezy v ploché krajině, v současné době zalesněné (Hradištko u Sadské, Úvaly u Prahy);
2. nálezy na hranách výrazných teras (Hřešice, Skorkov);
3. nálezy v úzkých údolích v kopcovité krajině, poblíž drobné vodoteče (Jirkov-Červený Hrádek, Pálec u Milešova, Ždánice u Kouřimi);
4. nálezy na výrazných výšinných polohách (Málkov u Chomutova, Vinařice u Loun, Vroutek).

Statisticky viděno je značná převaha nálezů kruhových spon v Čechách ve výrazných či jinak neobvyklých polohách zarážející a můžeme tak podpořit hypotézu o tzv. sakrálních monodepozitech. Na rozdíl od hromadných depotů, v nichž spony hrály velkou roli (např. Pyramont), mohlo jít v tomto případě o jednorázovou událost s dosud nejednoznačným vysvětlením.

Pomocí mikroskopu a ED-XRF byla na několika provinciálních sponách (Lípec, Hradištko u Sadské, Ždánice u Kouřimi) zjištěna úprava povrchu pocínováním. Barbarské varianty tuto úpravu postrádají. Dvanáct spon bylo podrobeno ED-XRF analýze prvkového složení slitin. Většina spon byla vyrobena z cíno-olovnaté mosazi (CuZnSnPb) s nízkou koncentrací zinku. Zmíněná skupina byla hojně užívaná jak pro římsko-provinciální výrobky, tak i pro předměty barbarské provenience, a je dokladem recyklace mosazných předmětů a předmětů z jiných slitin mědi, ke kterým docházelo jak na území římských provincií, tak i na území barbarika.

Obr. 1. Kruhové spony z Čech a Ukrajiny. 1 – Dobřichov; 2 – Hradištko u Sadské; 3 – Hřešice; 4 – Jirkov-Červený Hrádek; 5 – Lípec; 6 – Málkov u Chomutova; 7 – Nebovidy; 8 – Pálec u Milešova; 9 – Skorkov; 10 – Úvaly u Prahy; 11 – Vroutek; 12 – Ždánice u Kouřimi; 13 – Žehuň; 14 – Balicze. Kresby Z. Beneš.

Obr. 2. Kruhové spony z Čech. Trojúhelník – římsko-provinciální spony; soustředné kroužky – barbarské spony typu Böckingen; body – barbarské spony typu Skorkov. 1 – Dobřichov; 2 – Hradištko u Sadské; 3 – Hřešice; 4 – Jirkov-Červený Hrádek; 5 – Lípec; 6 – Málkov u Chomutova; 7 – Nebovidy; 8 – Pálec u Milešova; 9 – Skorkov; 10 – Úvaly u Prahy; 11 – Vinařice u Loun; 12 – Vroutek; 13 – Ždánice u Kouřimi; 14 – Žehuň.

Obr. 3. Poloha nálezů tzv. ojedinělých nálezů kruhových spon z Čech. 1 – Hradištko u Sadské; 2 – Hřešice; 3 – Jirkov-Červený Hrádek; 4 – Málkov u Chomutova; 5 – Pálec u Milešova; 6 – Skorkov; 7 – Úvaly u Prahy; 8 – Vinařice u Loun; 9 – Vroutek; 10 – Ždánice u Kouřimi.

Obr. 4. Povrchová úprava kruhových spon z Čech. 1–3 – stopy cínování; 4–6 – stopy pilování; 7–9 – výzdobné motivy. 1 – Lipec; 2 – Hradištko u Sadské; 3 – Ždánice u Kouřimi; 4 – Hřešice; 5 – Dobřichov; 6 – Málkov u Chomutova; 7 – Hřešice; 8 – Skorkov; 9 – Žehuň. Foto V. Čistáková.

Obr. 5. Kruhová spona z Vinařic u Loun, okr. Louny. Zasláno nálezcem.

Tabela 1. Souhrn typologického určení kruhových spon z Čech.

Tabela 2. Souhrn prvkového složení kruhových spon z Čech.

Mgr. Zdeněk Beneš
Ústav pro archeologii
Filozofická fakulta
Univerzita Karlova
Celetná 20
CZ – 110 00 Praha 1
zdenek.benes@uappsc.cz
<https://orcid.org/0000-0001-6130-7565>

Mgr. Viktoria Čistáková, Ph.D.
Národní muzeum
Katedra pravěku a starověku
Václavské náměstí 68
CZ – 110 00 Praha 1
viktoria.cistakova@nm.cz
<https://orcid.org/0000-0001-6584-6478>

Ing. Jiří Kmošek
Akademie der bildenden Künste Wien
Institut für Naturwissenschaften und Technologie in der Kunst
Schillerplatz 3
AT – 1010 Wien
kmošekj@gmail.com
<https://orcid.org/0000-0003-4950-5133>

BARBARIAN STRONGLY PROFILED BROOCHES OF TYPE ALMGREN 80, THE “VOJTENKI” VARIANT, FROM ROMANIA

Sorin Cociș – Vitalie Bârcă

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Abstract: We attempt below to analyse brooches of type Almgren 80, the Vojtenki variant, on the basis of the archaeological finds from Romania. Six bronze specimens originating from the territory of Roman Dacia (three items) and the Barbarian environment of the east-Carpathian region (three items) are discussed. The authors conclude that chronologically, the strongly profiled brooches, the Vojtenki variant from Romania frames in the chronological span comprised between the late 2nd century AD and mid 3rd century AD (phases C1a–C1b). Furthermore, the authors conclude that this brooch variant originates from the eastern area of the Przeworsk culture and that they represent a marker (beside other artefacts) of the entry and settlement of Germanic populace groups in the east-Carpathian space and the territories in the vicinity of the province of Dacia beginning with late 2nd century AD. The Vojtenki brooches from territories east of the Dnieper are, according to the authors, the most evolved and late form. The presence of these items in the forest steppes between the Dnieper and Severskij Donets indicates, beside other artefacts, the arrival and settlement in this space, starting with phase C1b, of Germanic populace groups from the area of the Upper Dniester, the Southern Bug and the neighbouring territories located to the north and north-west.

VOJTENKI BROOCH FINDINGS IN THE ROMAN WORLD AND BARBARICUM

The publishing in the academic literature of the last three decades of numerous studies addressing different versions of Barbarian strongly profiled brooches in the Roman world (Cociș 2002; 2004, 62, type 8a15b; Opreanu/Cociș 2002; Schmid 2010, 26) or the Barbaricum (Andrzejowski 2001; 2009; 2020; Dąbrowska 1995; 1998; Iván 2015; Levada 2007) provides us today the opportunity to re-examine type Almgren 80 from Roman Dacia and the Barbarian world on the territory of Romania.

The features of the type include the following: they are two-piece (the proper piece and separately, the spring); the head is widened in trumpet shape (Almgren 1923, 34); the body is decorated with flattened oblique incisions; the triangular section foot ends in a stepped massive knob; the catchplate is commonly rectangular and vertical: the spring attachment mechanism is characterised by the insertion of the chord through the support (Cociș 2002; Levada 2007). Just one intact specimen published in the academic literature is double sprung (Căpitanu 1975a, 68, fig. 11: 1; 26: 6; 1975b, 307, fig. 1: 7). Their length varies approximately between 3.2 cm and 5.4 cm. We chose to frame this brooch type as type Almgren 80, version Vojtenki¹ precisely because their above features, despite the fact that other specialists had classified these into a different type (Iván 2015, 91).

O. Almgren included discussed type in group IV, the second series (Almgren 1923, 40–42). Debates concerning exemplars in series II of group Almgren IV are resumed by I. Kovrig (Kovrig 1937, 15–17, pl. XIII: 133–136) and E. Patek (Patek 1942, 40–42, pl. XXII: 1–4), without yet a straightforward classification (owing to the small number of exemplars, respectively variants) of the brooch typologies from Pannonia. The most relevant conclusion of the two scholars was they were of Germanic origin (Kovrig 1937, 17; Patek 1942, 40–42).

Such brooches were re-discussed a few decades later by certain Polish researchers. Thus, T. Liana, in the study addressing the relative chronology of the Przeworsk culture during the early Roman period, establishes chronological sequences also with the aid of the strongly profiled Barbarian brooch type (Liana 1970, 440–444, pl. III).

¹ The introduction of the term of Vojtenki type brooches for the items discussed here belongs to M. E. Levada (Levada 2007, 243).

The issue of the late strongly profiled brooches from Poland is also resumed in detail by T. Dąbrowska (Dąbrowska 1995, 3–34; 1998, 149–156). The scholar establishes a number of three main types for the territory of her native country:

1. Type Almgren 84 and related forms (Dąbrowska 1995, 6, 7, fig. 1–2);
2. Trumpet-shaped type variant 5 (Dąbrowska 1995, 710, fig. 3);
3. Late Mazowsze (Mazovia) type, series II group IV with two subvariants, 1 and 2. The first subvariant of the late Mazowsze type, subdivided into type 1A and type 1B comprises one-piece metal exemplars (Dąbrowska 1995, 10–13, fig. 4), while the second subvariant includes two-piece examples (Dąbrowska 1995, 10–14, fig. 5).

The analysis of both local Mazowsze brooch subtypes evidences they massively diffused in the eastern region of the Przeworsk culture area (Dąbrowska 1995, 25; 1998, 153). Chronologically, they are dated to phases B2/C1–C1a (AD 150/160–210/220; Dąbrowska 1995, 24, 25; 1998, 151). The single brooch close to type Almgren 80, the Wojtenki variant is the specimen yielded by burial 158 at Zdżarow (Dąbrowska 1995, 13, fig. 5: g).

J. Andrzejowski further discusses the strongly profiled brooches in several studies that look at the eastern area of the Przeworsk culture (Andrzejowski 2001; 2009; 2020). In a recent article on the area, for the B2/C1–C1a time interval, the Polish scholar analyses two brooch groups (Andrzejowski 2020, 21–30). The first group is composed of strongly profiled brooches specific to the eastern region of the Przeworsk culture area – the Mazowsze variant and the later variant – Topornica (Andrzejowski 2009, 252–254, 259; 2020, 15, 20, fig. 6; 11; 12). The Polish scholar infers that the many recent finds of the Topornica variant in south-eastern Poland and western Ukraine represent a solid argument which proves that groups from the eastern area of the Przeworsk culture existed in this area. Topornica brooches are believed the forms out of which the local variant of strongly profiled brooches later developed – the Wojtenki type (Andrzejowski 2020, 22). Surprisingly, type A 80, the Wojtenki variant is missing from the current territory of Poland (amicable information dr. Jacek Andrzejowski). The second analysed group concerns brooches A 43 and A 129 (Andrzejowski 2020, 23–26). The author's conclusion, although still requiring many clarifications, is that part of the eastern Przeworsk culture bearers migrated southwards and eastwards, similarly to the bearers of the Wielbark culture (Andrzejowski 2020, 21, 23, 26).

WOJTENKI BROOCH FINDINGS IN EASTERN EUROPE BARBARICUM

In 2001, M. V. Lyubichev and V. V. Didyk published the brooches in group VII Almgren, series I from the area east of the Dnieper (Lyubichev/Didyk 2001–2002, 335–342), also including the Wojtenki type specimen of Kovraj (Lyubichev/Didyk 2001–2002, fig. 4: 8). The same scholars correlated A. K. Ambroz's classification with that in E. L. Gorokhovskij's doctoral thesis and examined some variants of this brooch group in the forest steppe between the Dnieper and Severskij Donets dated to the late Roman period, noting, based on their find, that a group of populaces migrated from the region of the Upper Dniester to the Dnieper – Severskij Donets forest steppe (Lyubichev/Didyk 2001–2002, 335–342).

Four years later, within a large scale study addressing Roman date brooches from territories in the upper part of rivers Vorskla and Severskij Donets, K. I. Bakumenko, G. V. Bejdin, M. N. Grigor'yants and V. V. Didyk (Bakumenko et al. 2006), also examined the specimen identified in the Wojtencki 1 settlement, which they believed a derivative of the “Monstruoso” brooch version of group Almgren VII (Bakumenko et al. 2006, 86, 87, fig. VII: 17). The same authors conclude that the Wojtenki 1 item is the most western find of brooches in the “Monstruoso” variation in the Chernyakhov antiquities' area (Bakumentko et al. 2006, 86, 87).

In 2008, M. V. Lyubichev returns to examining the distribution of brooches in group Almgren VII in the territory east of the Dnieper (Lyubichev 2008, 36–47). The study discusses a number of forty-four intact and fragmentary brooches, yet also of two half-finished items originating from twenty-three sites in the region east of the Dnieper. The analysis also extends to the Wojtenki type brooches with vertical catchplate of Kovraj and Wojtenki 1, deemed derivatives of the “Monstruoso” brooches and closer to specimens of type Almgren 212 and 220 (Lyubichev 2008, 36–39, fig. 2: 1–2).

Concluding the analysis of these brooch types, M. V. Lyubichev surmises that the emergence of group VII brooches in O. Almgren's classification in the area east of the Dnieper is related to the arrival in the region of the bearers of Demyanov-Cherepin type cultures located in the region of the Upper Dniester, which in the area east of the Dnieper are equivalent with the Boromlya horizon (Lyubichev 2008, 44), yet which do not

correspond to criteria defining Chernyakhov monuments (*Lyubichev 2008, 44*). The author further concludes that very likely, Germanic peoples also enter during phases C1b–C2 the region east of the Dnieper, beside the Boromlya horizon bearers (*Lyubichev 2008, 45*).

Still in this period is published M. E. Levada's study on the types of Barbarian brooches with two holes in the spring attachment support, the second hole being used to insert the spring chord (*Levada 2007*). The author mentions that the present additional hole in the spring support for chord insertion is also known with some brooch types from the east-German tribes area, further recording the brooch types where such design system is present and the fact it emerged during the late period of phase B2 and remained in use until phase C2, in some cases even in C3 included (*Levada 2007, 239–245*). M. E. Levada documents the diffusion of the brooch types with such design system, mentioning as well two exemplars from the province of Dacia (*Levada 2007, 243*), without yet referencing the study which discusses all brooch types with the spring attachment mechanism characterised by the chord insertion through the support from the territory of Dacia and their distribution in the Roman empire (*Cociş 2002*). While referring to the Vojtenki type brooches, the same scholar concludes that during the 2nd century AD (late phase B2) in the Eastern Europe Barbaricum, owing to the wide distribution of different brooch types with vertical and long chord, there emerged an unusual design innovation – an additional hole in the spring support, through which the chord was inserted. According to M. E. Levada, this chord attachment mechanism was used on a large scale on different brooch types in the Wielbark culture environment, however in particular with those in the Mazowsze variant of the second series of late Almgren IV brooches. The latter, once reaching phase B2/C1–C1a in the Dniester River Basin area and the upper course of the Southern Bug, transformed into type Vojtenki (*Levada 2007, 244, 245*). The use of the spring attachment mechanism characterised by the insertion of the chord through the second orifice on the support in the case of Almgren group VII a brooch could have been caused, according to the same author, either by influences arriving from the Vojtenki type brooches or subsequent to a parallel and independent process (*Levada 2007, 245*).

One last reference to the Vojtenki type brooches is found in the work addressing the history of the forest steppe between the Dnieper and the Donetsk during the 1st–5th century AD authored by M. V. Lyubichev (*Lyubichev 2019, 91*). The scholar believes that Vojtenki type brooches originate in the Mazowsze variant of the second series of group Almgren IV, with possible influences from Almgren VII group brooches in what the vertical catchplate is concerned. The second hole on the spring support is according to M. V. Lyubichev, a design innovation. Furthermore, the author agrees that during phase B2/C1–C1a the Mazowsze variant brooches reached the area of the Dniester River Basin and the upper course of the Southern Bug, where these were transformed into Vojtenki type brooches (*Lyubichev 2019, 91*).

According to M. V. Lyubichev, a series of circumstances plead in the favour of the connection of Vojtenki type brooches from the forest steppe region between the Dnieper and Donetsk with the chronological horizon of the C1b–C2 phase archaeological sites (*Lyubichev 2019, 91*), with the mention that brooches are known in the Vojtenki 1 settlement only in sector A, with features that yielded Almgren 157 brooches, Shelov D amphorae type fragments and pottery specific to site, as well as that brooches in group Almgren VII were identified only in sector A layer and area. Last but not least, M. V. Lyubicev mentions that such brooches lacked in phases C3 and C3/D1 Chernyakhov cemeteries and phase B2, B2/C1 and C1a post – Zarubinetk horizon settlements.

Exemplars of type Almgren 80 variant Vojtenki are diffused, if also taking into account the items discovered by detection, mainly in the western territories of Ukraine, in the Upper Dniester River Basin area and the upper course of Southern Bug. The academic literature of Ukraine records to date only eight brooches, of which one fragmentary *Bakumenko et al. 2004, 86; Levada 2007, 243–246, pl. 8: 3, 4, 7, 9, 10; Lyubichev 2008, 36, 38, 39, fig. 2: 1–2; 2019, 91, fig. 57/I: 1–4* and a bronze mould (Pl. I: 2–9). The latter (Pl. I: 2) was discovered by chance within the range of the place of Dunaevtsy, Dunaevets'kij district, the Khmel'nitskij region (*Levada 2007, 246, pl. 8: 6*), being the most eloquent artefact, especially in what the production area is concerned. The Dunaevtsy mould could have been used either directly to cast bronze objects (*Drescher 1978, 90*) or to cast wax or lead models (printing models; *Bayley/Butcher 2004, 28–30; Cociş 2019, 38; Drescher 1973, 48–62; Natuniewicz-Sekuła 2017, 204, 205*). Noteworthy in the case of the mould is that it was provided with two holes in the support for the making of certain items (Pl. I: 2). The half-finished brooch of Semaki (Pl. I: 3), Khmil'nitsk district, Vinnitsa region (*Levada 2007, 244, 246, pl. 8: 9*), a place located very close to the site where the mould was found, proves once more that workshops making such brooch types were in existence in the western territories of Ukraine.

In the eastern territories of Ukraine, such brooches were yielded by the settlements at Kovraj (Pl. I: 5), Khvorostovo (Pl. I: 6) and Baranovo 1 (Pl. I: 7). To these add items yielded by sector A of the Vojtenki1 settlement, where an intact specimen missing the spring and chord (Pl. I: 6) and the upper part of another brooch (Lyubichev 2019, 91, fig. 57/I: 1–4) were found.

All published items originating from Ukraine are bronze-made and have a double-holed support. The first hole was made in order to insert the spring, while the second to cross the chord. The nineinsofar published artefacts are numerically exceeded (approximately twenty-one exemplars) by those sold on the online auction site Violity, identified by detecting mainly in the western territories of Ukraine (<https://auction.violity.com>; status 06.2019). The analysis of the twenty-one identified examples brings forward also new, unknown aspects. The first note is related to the existence of a variant with a single orifice on the support, which means that the chord was passed alongside the support (Pl. IV: 2, 3). The second note is the existing silver items with the spring chord inserted through the support (Pl. IV: 5). The catchplate becomes increasingly vertical under the influence of Almgren type brooches group VII, series I. The emergence of this variant of strongly profiled brooch (derived from the Topornica variant) in western Ukraine is related to the movement of Germanic populace groups (the Przeworsk and Wielbark cultural environments; Andrzejowski 2020, 20–26) during the chronological frame of the C1a–C1b phases.

In the Middle Danube area, the discussed type is extremely rare, the single known exemplar being that of Drösing (Pl. I: 1; *Allerbauer/Jedlicka* 2000, 841, no. 534; *Iván* 2015, 91, pl. 104: 1269).

VOJTENKI BROOCH FINDINGS FROM ROMANIA

Returning to the specimens from Romania, they are discovered in both Roman Dacia (cat. no. 1–3) and the territory east of the Carpathians (cat. no. 4–6; Fig. 1). The three items from Roman Dacia have been classified as strongly profiled brooches of type 8a15b (Pl. I: 10–12; *Cociș* 2004, 62, pl. XXIII: 338, 339; cat. no. 338, 339; *Cociș/Gaiu* 2018, 55, 56 fig. 1: 4; pl. I: 4). The find context is unknown for the items at Apulum (Pl. I: 10) and Gherla (Pl. I: 11). The exemplar of Gherla, although exhibiting a more marked knob on the body, belongs to this variant on the basis of the remaining elements. The brooch of Stupini (Pl. I: 12) was yielded by a civil settlement from northern Dacia, whose beginnings are dated in the Marcomannic Wars' aftermath (*Gaiu* 2018, 65). The archaeological investigations conducted there revealed several inhabitancy levels datable to the 2nd–4th century AD (*Gaiu* 2018, 65), respectively a first habitation level that widely corresponds to phases B2b–C1 in the Central-European chronology and a level from the chronological interval of phases C3–D1 (amicable information C. Gaiu). The brooch was yielded by the earlier settlement, being accompanied in various features by other northern elements (spurs, brooches, comb; *Gaiu* 2018, 66, pl. I: 1; II: 1–3), which may be dated to this phase. Based on the item of Stupini and the new finds from the European Barbaricum area (*Levada* 2007), we date the specimens in Roman Dacia to the period comprised between AD 180/190–250/260 (phases C1a–C1b).

The three brooches were circulated in Dacia similarly to other Barbarian brooch types (*Bârcă/Cociș* 2022; 2023; *Cociș* 2002; 2004, 449, tab. 8; *Cociș/Bârcă* 2013; 2014; *Cociș/Opreanu* 1998; *Opreanu* 1998, 105–108; *Opreanu/Cociș* 2002, 232–235; *Opreanu/Cociș/Lăzărescu* 2020) or other artefact classes (*Opreanu* 1998, 108–114, *Opreanu/Cociș* 2002, 236–238) via the Germanic peoples from the area of the Przeworsk culture, who had reached the frontiers of Roman Dacia (*Godlowski* 1994; *Opreanu* 1998, 64–75).

In the Barbarian world from eastern Romania were identified, as mentioned above, still three examples (cat. no. 4–6; Fig. 1).

The first exemplar (Pl. I: 13; II: 2) comes from the settlement at Cucorăni (*Levada* 2007, 246, cat. no. 6, pl. 8: 5; *Teodor* 1975, 145, fig. 48: 2). The item was discovered in house no. 1 beside a few pottery fragments (Pl. II: 1, 3, 4; *Teodor* 1975, fig. 42: 6; 47: 1; 49: 1, 9) and two bronze objects, a file and a “piercer” (Pl. II: 5, 6; *Teodor* 1975, 144, 145, fig. 48: 7, 8). The settlement was ascribed to the Carpien culture and dated especially on the basis of the brooches² and an iron spur to the second half of the 2nd century – first half of the 3rd century AD (*Teodor* 1975, 149, 150), although the settlement's beginning may be placed, according to the archaeological materials, prior to mid 3rd century AD. The chronological framing of the Cucorăni settlement is widely supported also by the fragmentary amphorae discovered within the settlement's area and in the closed features. These belong to types

² For the analysis and framing of the brooches in the Cucorăni settlement see *Cociș/Bârcă* 2020, 140–142, 145, 153, 154, pl. 1: 1, 4; 2: 14.

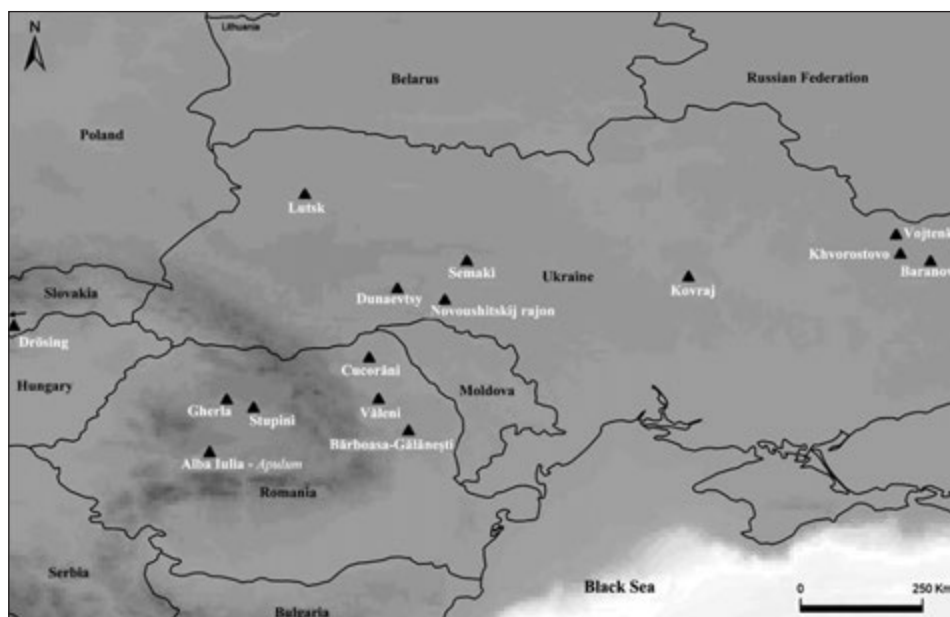


Fig. 1. Diffusion area of Vojtenki type brooches with known findspot.

Shelov C and D or Vnukov C IVC and C IVD, those of type Shelov D – Vnukov C IVD being less frequent within the settlement. Amphorae in type C in the typology drafted by D. B. Shelov (Shelov 1978, 18, fig. 6) and C IVC in that most recent of S. Yu. Vnukov (Vnukov 2003, 202; 2006, 166, 167, fig. 1: 9, 10) were dated to the 2nd century AD (Shelov 1978, 18) or the chronological interval comprised between the second quarter of the 2nd century AD and late 2nd century AD (?) (Vnukov 2003, 202; 2006, 167, fig. 10; 2016, 41, 43, 44). Within the type have been identified two subvariants, C IVC1 and C IVC2, the exemplars of the first subvariant being larger-volume and more massive, while those in subvariant C IVC2 are smaller in size and of a smaller volume (Naumenko 2017, 25, fig. 4: 4C1, 4C2; Vnukov 2016, 43, fig. 4: 3–10). The amphorae in the second subvariant (C IVC2) are later than those in subvariant C IVC1 (Naumenko 2017, 25; Vnukov 2016, 43). According to the research, the replacement of the amphorae in subvariant C IVC2 with those in variant Shelov D – Vnukov C IVD occurred sometime by the late 2nd century – early 3rd century AD (Vnukov 2016, 43) or by the boundary between the 2nd–3rd century AD (Naumenko 2017, 25). In what the Shelov D type (Shelov 1978, 18, 19, fig. 7) – Vnukov C IVD (Vnukov 2006, 166–168, fig. 1: 10; 2016, 43, 44, fig. 1: 13, 4: 11–18) amphorae are concerned, it is believed they emerge in the last quarter/late 2nd century AD and were produced until sometime the second/third quarter of the 3rd century AD (Naumenko 2017, 25, fig. 4: 4D1, 4D2; Vnukov 2006, 166–168; 2016, 43, 44).³

The second exemplar (Pl. I: 14; III: 33) comes from the cremation in lidded urn Gr. 574 in the cemetery at Văleni (Ioniță 1982, fig. 14: 3; Ioniță/Ursachi 1988, 52, 150, 175, fig. 48: 33; 73: 34; Levada 2007, 246, cat. no. 10, pl. 8: 8). A grey fabric, wheel-turned pot was used as urn (Pl. III: 37), on top of which lay a bowl made in the same technique, placed mouth downwards. In the urn were identified several charred bones, cleaned of ash, as well as many grave goods consisting of the following objects: three brooches, of which one in bronze (Pl. III: 33) and two of iron (Pl. III: 34, 35), one gilded silver earring, made in the filigree technique, its decoration being composed of conical projections and grains (Pl. III: 36), six coral beads (Pl. III: 1–3, 6, 7, 13), two dull white glass cylindrical beads (Pl. III: 9, 14), nineteen dull red glass flat beads, some deformed by fire (Pl. III: 4, 5, 8, 10–12, 16–23, 26–29, 32) and five spheroid chalcedony beads (Pl. III: 15, 24, 25, 30, 31; Ioniță/Ursachi 1988, 52, fig. 48). The biritual cemetery of Văleni is dated to the first half of the 2nd century – until mid 3rd century AD, with two unclearly defined phases. The cemetery is ascribed entirely to the Free Dacians (Ioniță/Ursachi 1988, 97). Based on the typological series incidence chart, cremation Gr. 574 is ascribed to the cemetery's second phase (Ioniță/Ursachi 1988, 76, tab. 1). This observation framed the grave (otherwise also visible via the metal items among the grave goods) to late 2nd century – first half of the 3rd century AD (Ioniță/

³ S. Yu. Vnukov believes that amphorae in this type were produced at Heraclea Pontica at least until the town was destroyed by the Goths in 264 AD, while S. A. Naumenko argues they were produced throughout the 3rd century AD.

Ursachi 1988, 77, 83), although the view that it dates to phase C2 (*Levada* 2007, 244) has been also expressed. For instance, crossbow brooches like the exemplar from the grave at Văleni⁴ (Pl. III: 35) emerged only by late 2nd century AD and early 3rd century AD, in the Przeworsk culture area and the Middle Danube area (*Cociș* 2004, 139–142; *Schulze* 1977, 168), being framed by most scholars to the 3rd century AD (*Cociș* 2004, 139–141, type 36a1, 36a2, 36b1, 36b2). Their diffusion area encompassed mainly the Barbarian world and the Danube provinces, including Dacia and its border regions (*Cociș* 2004, 139–142 with complete bibliography).

Silver filigree earrings similar to the exemplar of Văleni are found as well in burials of cemeteries from the east-Carpathian territories like those at Butnărești, Dămieneni, Gabăra, Gura Nișcovului, Oncești-Cioara, Pădureni, Poieni, Săucești or Vârteșcoiu, and the cemeteries of Locusteni, Obreja or Sopor de Câmpie on the territory of the province of Dacia (*Babeș* 1971, 36, no. 74; *Bichir* 1973, 113, pl. 175: 5–6; 176, 177, 181; *Opreanu* 1997, 119, 121, 122, pl. I: 6–8; 1998, 98, 99, 101, 102, fig. 14; *Popilian* 1980, 91, 92; *Protase* 1966, fig. 24: 7; 2002, pl. 59: 68; pl. 66: Gr. 171; *Sonoc* 2007; *Spănu* 2019, 52, 53, 167–170, pl. 5: 5–6; 6: 3–4; 15: 8–9; 22: 4; 31: 3–4; 39: 5). In fact, it must be mentioned that all earrings and almost all silver jewellery made in the filigree technique in the area east of the Carpathians were mainly yielded by cremations, the latest exceeding the first half of the 3rd century AD.

The third exemplar (Pl. I: 15; II: 8) comes from the cremation in lidded urn Gr. 5 from the cemetery of Bărboasa-Gălănești (*Căpitanu* 1975a, 68, fig. 11: 1; 26: 6; 1975b, 307, fig. 1: 7) ascribed to the Carps and dated to the 3rd century AD (*Căpitanu* 1975a, 66), although some of the grave goods evidence that the beginning of the cemetery must be placed prior to the 3rd century AD. The orange urn (Pl. II: 9) was covered with a grey dish (Pl. II: 10), both pots being wheel-thrown. Beside the bronze brooch of type Almgren 80, the Vojtenki variant (Pl. I: 15; II: 8), inside the pot was discovered a mobile oval bronze buckle provided with three rives for attachment to the belt (Pl. II: 7; *Căpitanu* 1975a, 68, fig. 2: 2; 10: 7; 11: 1, 8). The brooch in Gr. 5 at Bărboasa-Gălănești differentiates from the other five brooches of the type from the territory of Romania by an existing double iron spring and respectively the iron pin. These iron elements very clearly indicate that we are dealing with a repair of the item. The procedure of using iron to repair some brooches is well documented in both the Roman Empire (especially in the case of hinged brooches) as well as the Barbarian world.

The addition of the double spring is in fact the duplication of Barbarian bronze or silver brooches contemporary to the artefact here, originally made in this manner. It is certain that currently, there is no known intact exemplar of brooches in the Vojtenki variant with a double spring. In what the bronze buckle is concerned, we mention that identical items with that in Gr. 5 at Bărboasa-Gălănești are frequently present in the cultural environments of the territories from the north of the Black Sea and Northern Caucasus (*Abramova* 1993, 165, fig. 42: 5–6; 46: 8; 66: 18–22; *Bârcă/Symonenko* 2009, 237, 238, fig. 95: 10–14, 19; *Bezuglov/Glebov/Parusimov* 2009, 51, fig. 28: 13; *Malashev* 2000, 195, 198, 199, group I, fig. 2: P1; 3: A/2, B/4, G/2–4, D/1–2, E/1, V/4; *Trufanov* 2009, 218, 221, fig. 60: 18, 21, 24, 28; 61: 1, 8–9, 15) of the second half of the 2nd century – first half of the 3rd century AD, although they emerged prior to mid 2nd century AD (cf. *Abramova* 1993, 149, fig. 58: 16–20; *Gushchina/Zasetskaya* 1994, 45, no. 65, 54, no. 202, 54, 55, no. 212, pl. 6: 65; 21: 202; 22: 212). Chronologically, Gr. 5 at Bărboasa-Gălănești may be dated to the first half of the 3rd century AD.

From the settlements and burials in eastern Romania with brooch finds in the Vojtenki variant come also other northern origin items: brooches in Almgren group VII series I, the headknob variant (*Bârcă/Cociș* 2023; *Cociș/Bârcă* 2020) and the variant without headknob (*Ioniță/Ursachi* 1988, fig. 32: 43; *Teodor* 1975, fig. 46: 3), iron crossbow brooches (*Căpitanu* 1975a, fig. 11: 3; *Ioniță/Ursachi* 1988, fig. 21: 7; 25: 6; 34: 19; 48: 35; 51: 31; 55: 4), returned foot brooches (*Ioniță/Ursachi* 1988, fig. 45: 5; 50: 75; 55: 7), buckles (*Căpitanu* 1975a, fig. 11: 8; *Ioniță/Ursachi* 1988, 62, fig. 45: 5), spurs (*Andrzejowski* 2017, note 7, the Ostrogothic type G; *Ginalski* 1991, 68–70, pl. 15: 1–7; *Teodor* 1975, fig. 53: 7), glass vessels (*Căpitanu* 1975a, 64; *Ioniță/Ursachi* 1988, 66, graves 186 and 354), chalcedony, amber and coral beads (*Ioniță/Ursachi* 1988, 66, tip 7–9, 66), ring-shaped pendant (*Andrzejowski* 2017, 423, 427, cat. no. 13; *Teodor* 1975, 143, fig. 46: 7), barrel-shaped pendants made in the filigree technique (*Căpitanu* 1975b, 299, *Ioniță/Ursachi* 1988, 66, types 1–2, fig. 60: 3–4; *Opreanu* 1998, 102), as well as silver earrings made in the filigree technique (*Căpitanu* 1975a, 64; *Ioniță/Ursachi* 1988, 65, type 2, fig. 60: 2; *Natuniewicz-Sekuła* 2017, 189–192, 210–212, fig. 1; *Opreanu* 1998, 102). In fact, artefacts of Germanic origin are frequently present in a good part of the settlements and cemeteries in the eastern Carpathian area of the 3rd century AD. The presence of northern origin items is recorded in a significant number also in the

⁴ For the features and specificities of this brooch type see *Cociș* 2004, 139–142.

territory of the province of Dacia beginning with the Marcomannic Wars' aftermath period (*Cociş/Opreanu 1998*, 96–119; *Opreanu/Cociş 2002*; *Opreanu/Cociş/Lăzărescu 2020*).

It is certain that, in the current state of knowledge, the results of our research allow us to infer the following:

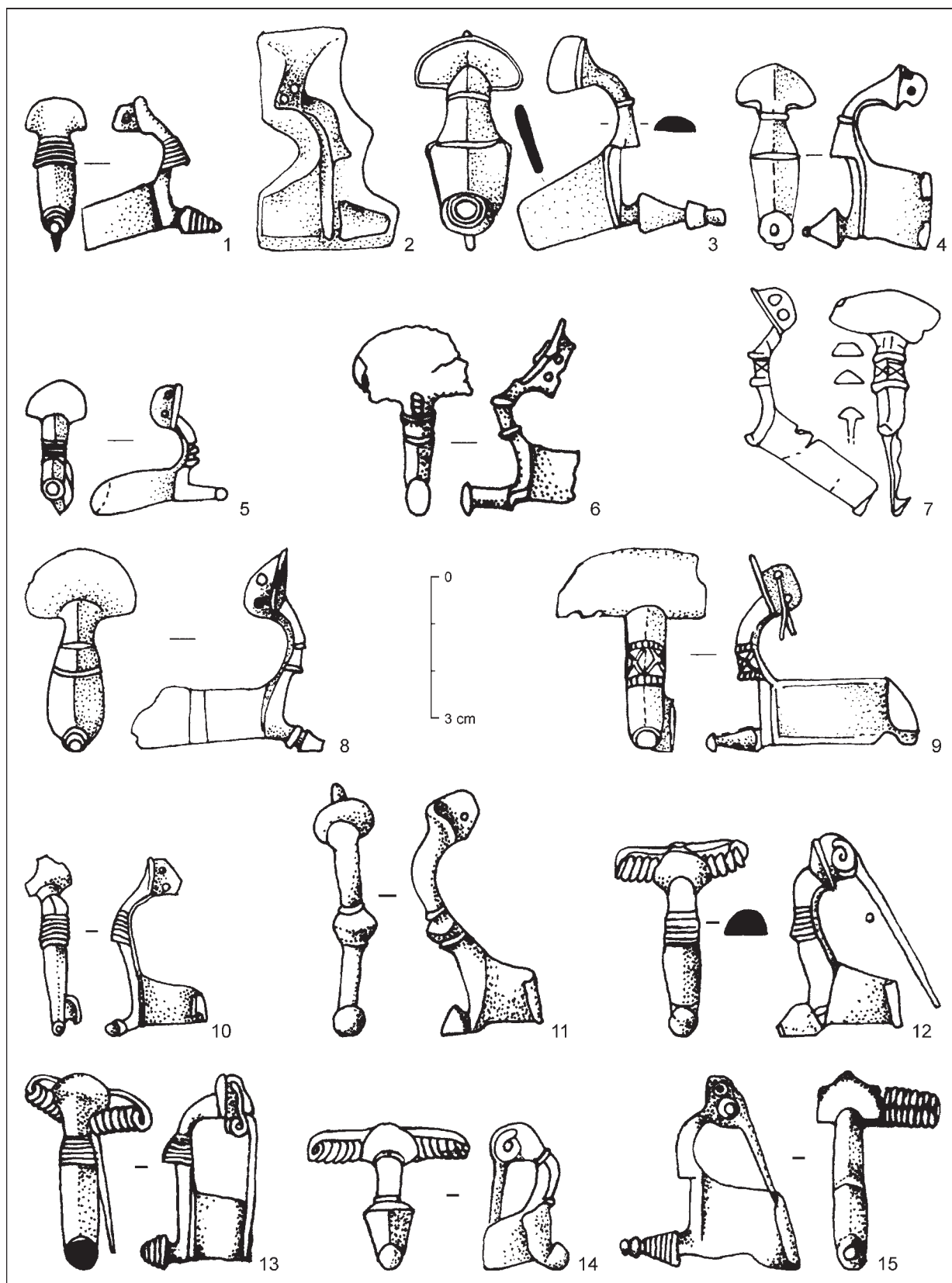
1. The diffusion area of Almgren 80, the Vojtenki variant brooches clearly clusters in the Barbarian world, mainly Germanic or in close connection with it.
2. The Dunaevtsy mould and the half-finished brooch of Semaki prove the existence of workshops making such brooches in the Barbarian environment of Germanic origin from the region in the upper sector of the Dniester and the upper course of the Southern Bug.
3. According to the finds of Almgren 80 type brooches, the Vojtenki variant, it may be cautiously concluded that this version was formed in the eastern area of the Przeworsk culture (the upper Dniester River Basin and the upper course of the Southern Bug) where we have in fact most finds of such items.⁵ From there, they diffused southwards and eastwards.
4. The brooches in this variant from the eastern-Carpathian space of Romania are, in our view, beside other artefact classes, a good indicator of the arrival and settlement in the given territory, starting with late 2nd century AD, of Germanic populace groups from the upper sector of the Dniester and its north and north-west territories.
5. The presence of brooches in the Vojtenki variant from the territory of Dacia evidence the activity of Germanic origin Barbarian artisans in the territories nearby the province, an existing extensive trade between the Romans and the Germanic populations (the Przeworsk culture bearers) by the northern border of Dacia, as well as their inhabitation in territories from the northern and north-eastern vicinity of the province once with late 2nd century AD.
6. Chronologically, the strongly profiled brooches, Vojtenki variant from Romania may be framed in the time interval comprised between late 2nd century AD and mid 3rd century AD (phases C1a–C1b).
7. Vojtenki type brooches in the territories east of the Dnieper represent the most evolved and latest form. Their presence in the forest steppe between the Dnieper and Severskij Donets represents, beside other artefact classes, a marker of the entry and settlement in this area, likely starting with phase C1b, of certain Germanic populace groups from the region of the Upper Dniester, the upper Southern Bug River course and territories located north and north-west of these.
8. Brooches in the Vojtenki variant are artefacts indicative, besides other item classes, of the existing contacts and cultural and economic interferences between different populaces, yet also very clearly evidencing the movement pathway of certain groups of Germanic peoples beginning with the last quarter of the 2nd century AD.

Translated by Gabriela Balica

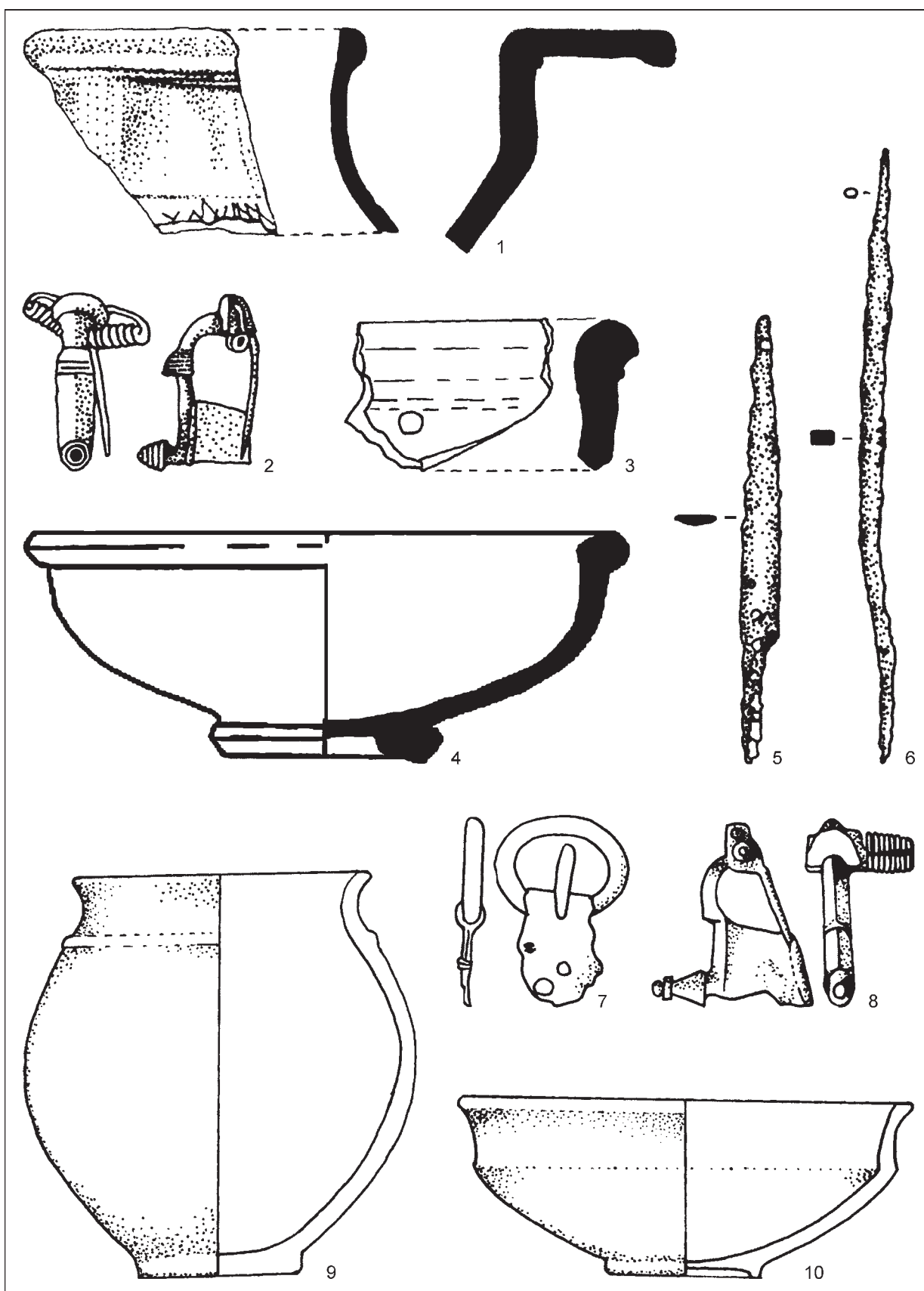
CATALOGUE

1. **Apulum (Alba-Iulia):** One specimen. Bronze. Sizes: length – 3.8 cm. Findspot: unknown.
Bibliography: Pl. I: 10; *Cociş 2002*, 77, fig. 3: 8; *2004*, 62, 63, cat. no. 339, pl. XII: 339; *Levada 2007*, pl. 8: 2; *Moga et al. 1997*, 538, cat. no. 25, pl. III: 25).
2. **Gherla:** One specimen. Bronze. Sizes: length – 5.4 cm. Findspot: unknown.
Bibliography: Pl. I: 11; *Cociş et al. 1992*, 326, cat. no. 10, pl. I: 10; *2002*, 77, fig. 3: 8; *2004*, cat. no. 338, pl. XII: 338; *Levada 2007*, pl. 8: 1.
3. **Stupini:** One specimen. Bronze. Sizes: length – 4.4 cm. Findspot: settlement. Sizes: length – 4.4 cm.
Bibliography: Pl. I: 12; *Cociş/Gaiu 2018*, 60, fig. 1: 4.
4. **Cucorăni:** One specimen. Bronze. Sizes: length – 4.2 cm. Findspot: settlement, house no. 1.
Bibliography: Pl. I: 13; *Levada 2007*, pl. 8: 5; *Teodor 1975*, 145, fig. 48: 2).
5. **Văleni:** One specimen. Bronze. Sizes: length – approximately 3.2 cm (?). Findpost: cemetery, cremation, Gr. 574.
Bibliography: Pl. I: 14; *Ioniţă 1982*, fig. 14: 3; *Ioniţă/Ursachi 1988*, 61, fig. 48: 33; 73: 34; *Levada 2007*, pl. 8: 8.
6. **Bărboasa-Gălăneşti:** One specimen. Bronze. Sizes: length – approximately 4.2 cm (?). Findspot: cemetery, cremation, Gr. 5.
Bibliography: Pl. I: 15; *Căpitanu 1975a*, 68, fig. 11: 1; 26: 6; *1975b*, 307, fig. 1: 7.

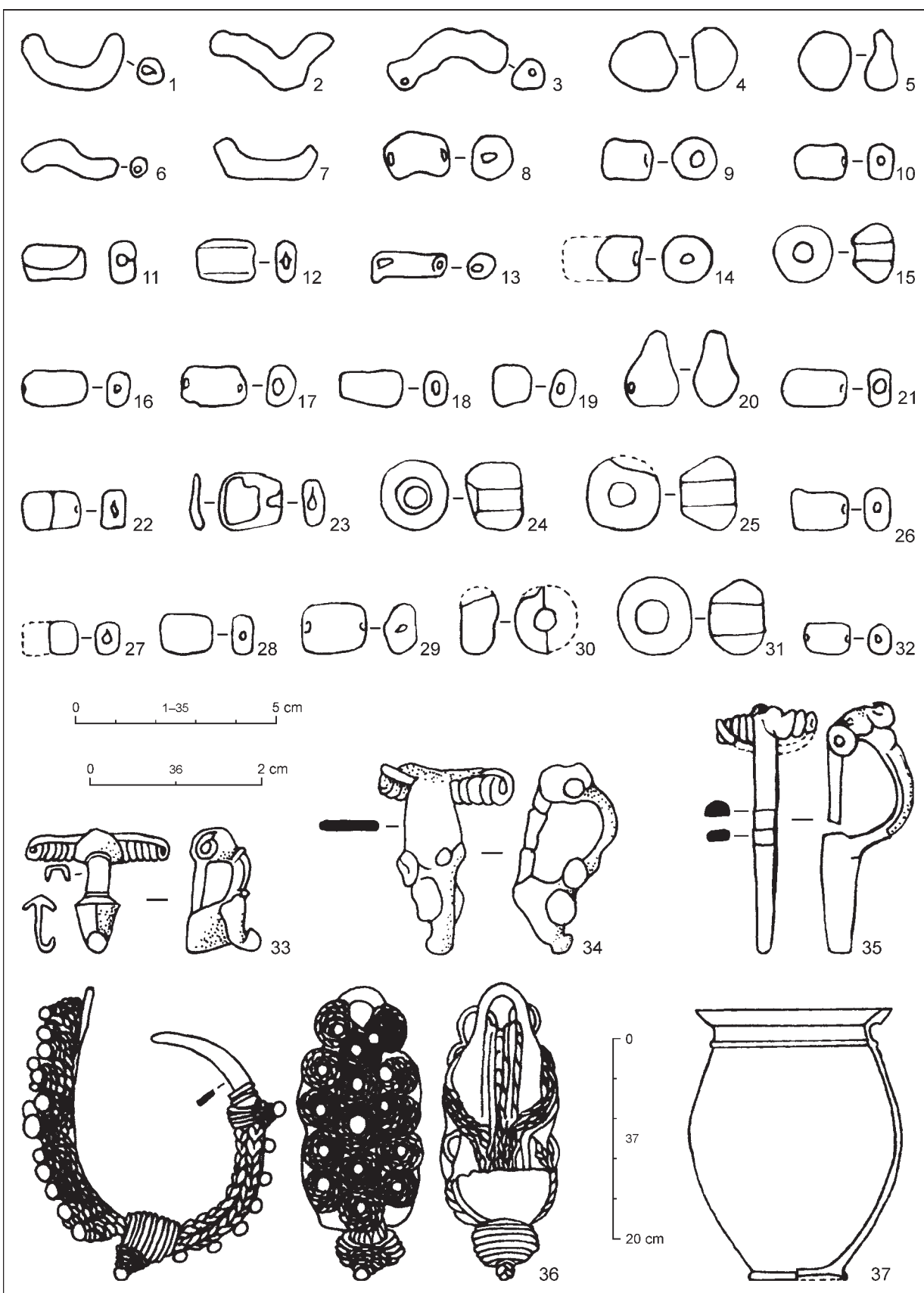
⁵ The lack of these brooches from the Sarmatae Iazyges milieu of the Pannonian Plain, where other Germanic origin artefact classes are rather numerous, including brooches, represents further evidence that this brooch variant was formed in the upper Dniester River Basin and the upper course of the Southern Bug and not in the Przeworsk area of the territories located north the region inhabited by the Sarmatae Iazyges.



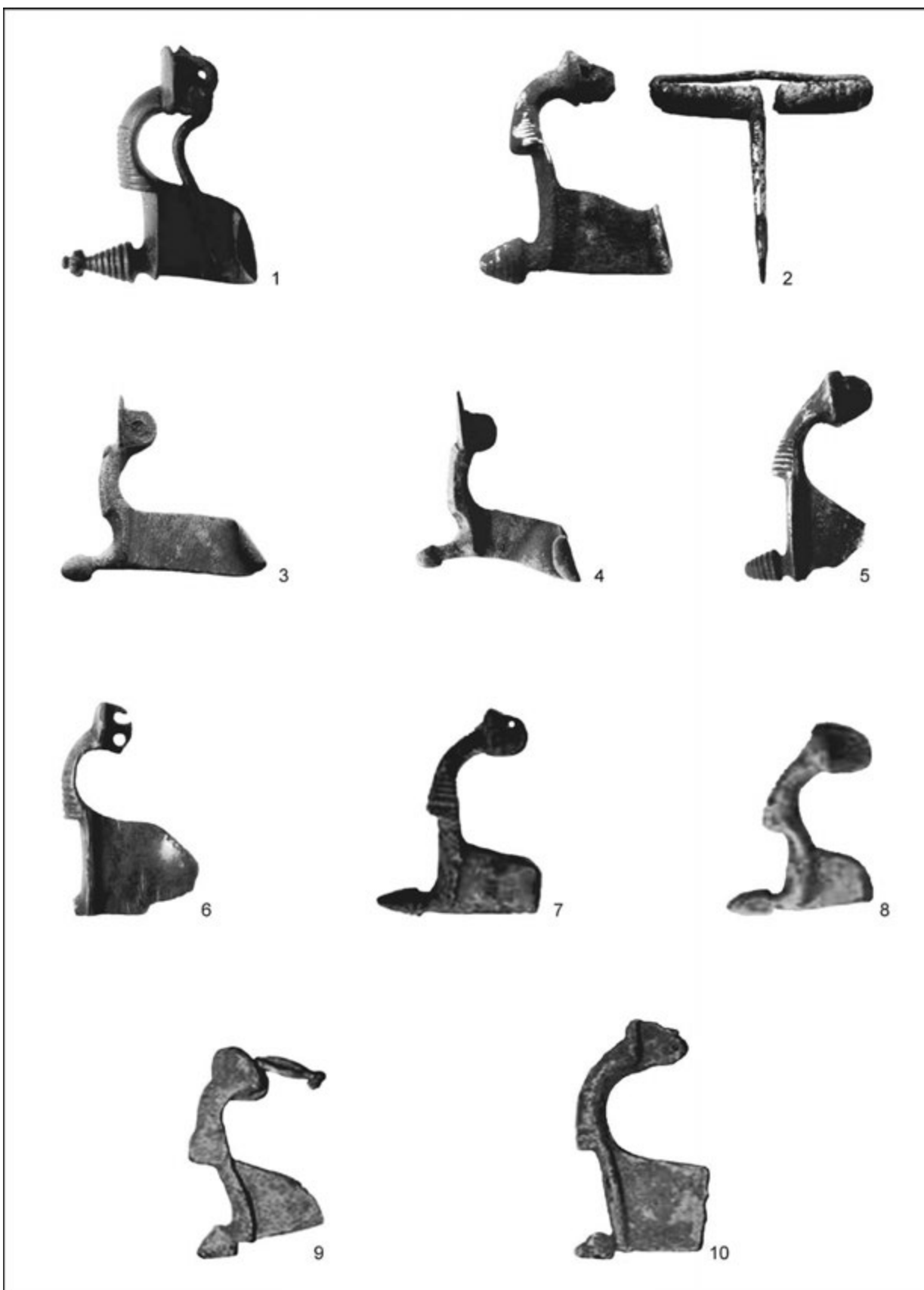
Pl. I. Vojtenki type brooches. 1 – Drösing (Austria); 2 – Dunaevtsy; 3 – Semaki; 4 – Lutsk; 5 – Kovraj; 6 – Khvorostovo; 7 – Baranovo (Mizyaki); 8 – Novoushitskij rajon; 9 – Vojtenki; 10 – Apulum (Alba-Iulia); 11 – Gherla; 12 – Stupini; 13 – Cucorăni; 14 – Văleni; 15 – Bărboasa-Gălănești (after: 1 – Iván 2015; 2–4, 8 – Levada 2007; 5 – Lyubichev 2008; 6, 7 – Lyubichev 2019; 9 – Bakumenko et al. 2006; 10, 11 – Cociș 2004; 12 – Cociș/Gaiu 2018; 13 – Teodor 1975; 14 – Ioniță/Ursachi 1988; 15 – Căpitanu 1975a).



Pl. II. 1–6 – the inventory of house no. 1 in the Cucorăni settlement (after *Teodor* 1975); 7–10 – the grave goods of burial 5 in the Bărboasa-Gălănești cemetery (after *Căpitanu* 1975a). Without scale.



Pl. III. The grave goods of burial no. 574 in the Văleni cemetery (after Ioniță/Ursachi 1988).



Pl. IV. Brooches of type Vojtenki yielded by finds identified by detectorists in western Ukraine (photo after <https://auction.violity.com/>). Without scale.

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Barbarské výrazne profilované spony typu Almgren 80, variant „Vojtenki“, z Rumunska

Sorin Cocîş – Vitalie Bârcă

Súhrn

V tejto štúdii sa venujeme analýze spony typu Almgren 80, variant Vojtenki z Rumunska, na základe archeologických nálezov. Základom našej analýzy je šesť bronzových exemplárov pochádzajúcich z územia rímskej Dácie (tri exempláre) a barbarského prostredia východokarpatskej oblasti (tri exempláre) a v širšom kontexte aj exempláre tohto typu z územia Ukrajiny. Zhodnotili sme aj názory, ktoré vyslovil rad bádateľov v súvislosti s pôvodom, datovaním a rozšírením spôn typu Vojtenki.

Exempláre z Rumunska pochádzajú zo sídlisk (Stupini, Cucorăni) a pohrebísk (Văleni, Bărboasa-Gălănești), v prípade dvoch exemplárov (Apulum, Gherla) nie je známe miesto nálezu.

Na základe nálezov spôn typu Vojtenki usudzujeme, že oblasť ich rozšírenia sa jednoznačne sústreďuje v barbarskom svete, a to najmä germánskom alebo v tesnej súvislosti s ním, ako aj to, že tento variant spôn sa zrodil vo východnej oblasti rozšírenia przerworskej kultúry (povodie horného toku Dnestra a horného toku južného Bugu), kde sa sústreďuje najviac nálezov takýchto spôn a aj predmetov, ktoré dokazujú existenciu dielní na ich výrobu.

Spony tohto variantu z východokarpatskej oblasti Rumunska sú podľa autorov, popri iných skupinách artefaktov, indikátorom príchodu a osídlenia daného územia od konca 2. storočia germánskymi skupinami obyvateľstva z horného toku Dnestra a z jeho severného a severozápadného povodia.

Prítomnosť spôn typu Vojtenki na území Dácie dokumentuje prítomnosť barbarských remeselníkov germánskeho pôvodu z okolitých území provincie, existujúci rozsiahly obchod medzi Rimanmi a germánskym obyvateľstvom pri severnej hranici Dácie, ako aj osídlenie území v severnom a severovýchodnom okolí provincie týmito barbarmi od konca 2. storočia n. l.

Z chronologického hľadiska sú silne profilované spony typu Vojtenki z Rumunska zaradené do obdobia od konca 2. storočia n. l. do polovice 3. storočia n. l. (fázy C1a–C1b).

Autori sa domnievajú, že spony typu Vojtenki z územia východne od Dnepra sú ich najrozvinutejšou a najneskoršou formou. Ich prítomnosť v lesostepi medzi Dneprom a Siverským Doncom predstavuje popri iných kategóriách artefaktov indikátor vstupu a osídlenia tejto oblasti, pravdepodobne počnúc fázou C1b, germánskymi skupinami obyvateľstva z oblasti horného toku Dnestra, horného toku južného Bugu a susedných území nachádzajúcich sa severne a severozápadne od nich.

V neposlednom rade spony typu Vojtenki sú artefaktmi, ktoré okrem iných tried predmetov svedčia o existujúcich kontaktoch a kultúrnych a hospodárskych interakciách medzi rôznymi populáciami, zároveň veľmi jasne ukazujú cestu pohybu určitých skupín germánskeho obyvateľstva od poslednej štvrtiny 2. storočia n. l.

Obr. 1. Rozšírenie spôn typu Vojtenki so známymi náleziskami.

Tab. I. Spony typu Vojtenki. 1 – Drösing (Rakúsko); 2 – Dunaevtsy; 3 – Semaki; 4 – Luts'k; 5 – Kovraj; 6 – Khvorostovo; 7 – Baranovo (Mizyaki); 8 – Novoushitskij rajon; 9 – Vojtenki; 10 – Apulum (Alba-Iulia); 11 – Gherla; 12 – Stupini; 13 – Cucorăni; 14 – Văleni; 15 – Bărboasa-Gălănești (podľa: 1 – *Iván 2015*; 2–4, 8 – *Levada 2007*; 5 – *Lyubichev 2008*; 6, 7 – *Lyubichev 2019*; 9 – *Bakumenko et al. 2006*; 10, 11 – *Cocîş 2004*; 12 – *Cocîş/Gaiu 2018*; 13 – *Teodor 1975*; 14 – *Ioniță/Ursachi 1988*; 15 – *Căpitanu 1975a*).

Tab. II. 1–6 – inventár z domu č. 1 na sídlisku Cucorăni (podľa *Teodora 1975*); 7–10 – hrobový materiál z hrobu 5 na pohrebisku Bărboasa-Gălănești (podľa *Căpitanu 1975a*). Bez mierky.

Tab. III. Hrobové príslušenstvo z hrobu č. 574 na pohrebisku vo Văleni (podľa *Ioniță/Ursachi 1988*).

Tab. IV. Spony typu Vojtenki získané z nálezov identifikovaných detektoristami na západnej Ukrajine (foto podľa <https://auction.violity.com/>). Bez mierky.

Sorin Cocîş Phd. Habil.
Institute of Archaeology and Art History
Romanian Academy Cluj Branch
Mihail Kogălniceanu Str. 12-14
RO – 400084 Cluj-Napoca
scocis@yahoo.com
<https://orcid.org/0000-0002-3175-7597>

MA et MA Vitalie Bârcă, PhD.
Institute of Archaeology and Art History
Romanian Academy Cluj Branch
Mihail Kogălniceanu Str. 12-14
RO – 400084 Cluj-Napoca
vitalie_barca@yahoo.com
<https://orcid.org/0000-0003-3078-374X>

ZUR TYPOLOGIE DER GERMANISCHEN KNIEFIBELN NÖRDLICH DER MITTLEREN DONAU¹

Eduard Droberjar – Balázs Komoróczy

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Keywords: Barbaricum, Bohemia, Moravia, Southwest Slovakia, Lower Austria, Early Roman period, Elbe Germanic people, Germanic knee-shaped fibulae

Abstract: **The Typology of Knee-shaped fibulae (Kniefibeln) in the Area North Of the Middle Danube.** This work deals with the definition of the Middle Danube group of Germanic kneeling brooches (GKF), which originated and developed in the 2nd half of the 2nd century among the Elbe Germanic tribes north of the middle Danube in the area of southern Moravia, south-west Slovakia and Lower Austria. Under the strong influence of provincial Roman (Jobst 13C), Elbe Germanic (Almgren 141–145) and Przeworsk (Almgren 132) kneebowls, a unique group of garment clasps emerged whose individual artefacts can also be traced back outside the Middle Danube. On the basis of a survey of a large number of artefacts, the authors deal with the typology, chronology, chorology, provenance and significance of the fibulae, to which little attention has been paid so far, as most of the finds come from new metal detector finds from Germanic settlements of the older Roman Imperial period, especially from southern Moravia.

EINFÜHRUNG

Als wir zusammen mit dem Jubilar Jan Rajtár auf der frühgeschichtlichen Konferenz *Archäologie der Barbaren* in Olomouc im Jahre 2012 über germanische Kniefibeln an der mittleren Donau berichteten, und anschließend im selben Jahr ein Beitrag über die Übergangstypen der Fibeln der Almgren'schen V. Gruppe (*Droberjar 2012a*) veröffentlicht wurde, war es offensichtlich, dass sich die Problematik dieser Fibeln im mittleren Donaauraum nun erst für eine tiefgreifendere Untersuchung öffnen wird. Seitdem sind nicht nur viele neue Funde hinzugekommen, sondern es hat sich vor allem ihr typologisches Spektrum erweitert, was bereits eine Neuklassifizierung auf der Basis einer neuen Bestandsaufnahme erfordert. Nicht zuletzt verfügen wir auch über mehrere Halbfabrikate und sogar Gußformen, was bedeutet, dass sich die Forschung in Richtung einer detaillierteren Lösung nicht nur von Fragen einer typologischen Chronologie, sondern auch technologischen Provenienz bewegt. Die ausführliche Materialforschung dieser germanischen Kniefibeln, die im Labor für analytische Konservierung des Archäologischen Instituts der Akademie der Wissenschaften der Tschechischen Republik in Brno/Brünn durchgeführt wurde, trägt dazu wesentlich bei (*Fouček 2024*). Gleichzeitig wollen wir einige bisher konzipierten typologischen Schemata korrigieren, d. h. das bisher vorgeschlagene BGKF-System („bronzene germanische Kniefibeln“), bzw. GKF-System („germanische Kniefibeln“)² überarbeiten.

Mónika Merczi (2011, 48, 49, Anm. 371) machte erstmals auf das Vorkommen dieser Fibeln in einem größeren Kontext aufmerksam. Sie wurden auch von *Jaroslav Tejral* (2015a, 438, Abb. 7; 2015b, 56, Abb. 13) untersucht, der sie als Mušov-Typ bezeichnet. Einige werden häufiger dem Typ Almgren 132 zugeordnet (*Andrzejowski/Maciałowicz 2017*, 215–218), was zu einer Diskussion über den Unterschied zwischen den Kniefibeln Almgren 132 und GKF³ führte. Zuletzt erregten sie im Zusammenhang mit einem Neufund aus Ryczywół Interesse (*Kuś/Rzeźnik 2022*, 266–268, Abb. 3–5).

¹ Dieser Beitrag entstand mit Unterstützung des Forschungs- und Entwicklungsfördervereins Nr. APVV-21-0257 (im Zusammenarbeit des Archäologischen Instituts der SAW, v. v. i. und der Philosophischen Fakultät der Universität Trnava) und präsentiert den theoretischen Output des Projekts Bürgerwissenschaft in der Archäologie – Nachhaltigkeit und professionelle Anwendung der Ergebnisse (2022–2024) des Programms zur Zusammenarbeit zwischen Regionen und Instituten der Akademie der Wissenschaften der Tschechischen Republik. Die Bestandsaufnahme der von zivilen Mitarbeitern des Archäologischen Instituts der Akademie der Wissenschaften der Tschechischen Republik, Brünn, erhaltenen Fibeln einschließlich ihrer Dokumentation wurde von Alina Szabová (Archäologisches Institut der Akademie der Wissenschaften der Tschechischen Republik, Brünn, v. v. i.) erstellt, dem der Dank der Autoren gebührt.

² In der Veröffentlichung *Droberjar 2012a*, in der das BGKF-System vorgestellt wurde, muss die Bezeichnung in GKF geändert werden, da diese germanischen Kniefibeln nicht immer aus Bronze sein müssen, bzw. aus verschiedenen Kupferlegierungen.

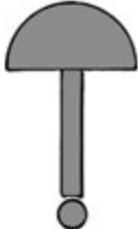
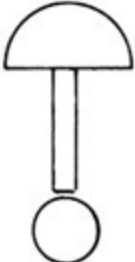
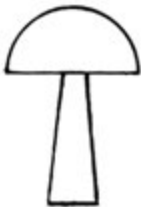
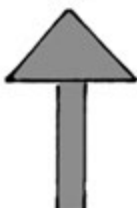
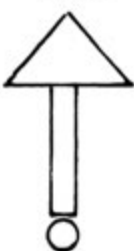
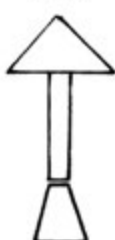
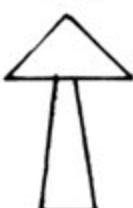
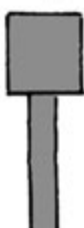
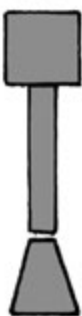
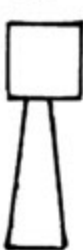
↓ 1.Kopf 2.Fuß→	A 	B 	C 	D 
A 	AA 	AB 	AC 	AD 
B 	BA 	BB 	BC 	BD 
C 	CA 	CB 	CC 	CD 
D 	DA 	DB 	DC 	DD 

Abb. 1. Typologische Klassifikation der germanischen Kniefibeln (GKF). Im Katalog aufgeführten Fibeln sind grau dargestellt.

In dieser Arbeit beschäftigen wir uns daher nicht mit den klassischen elbgermanischen Kniefibeln der Typen Almgren 138 bis Almgren 147 (z.B. Černý 2013, 67–73, 234, Karte K, Abb. 53–55; Gupte 1998; 2004; Iván 2015, 113–118, tab. 112–114; Peškař 1972, 89–91), sondern mit den Kniefibeln nördlich der mittleren Donau, die als Mitteldonauländische Gruppe der germanischen (elbgermanischen) Kniefibeln (GKF) neu definiert werden können.

In den letzten Jahren kamen verschiedene weitere Varianten der elbgermanischen Kniefibeln hinzu, z.B. die neu ausgegliederten Fibeln Almgren 142 var. Dobšice-Drösing (*Droberjar* 2023, 137, 138, Abb. 10, 11), Typ Merczi B23 Variante Černčice-Ringelsdorf mit verdicktem Knie (*Droberjar* 2024) oder Almgren 137, Łubiana FB 115 (*Mączyńska* 2011, 46–50, Abb. 19, 20), Kniefibeln des „sarmatischen“ Typus (*Mączyńska* 2011, 45, 46, Abb. 18) und eine Reihe weiterer, noch nicht näher definierter Fibeln.

MITTELDONAU LÄNDISCHE GRUPPE DER GERMANISCHEN KNIEFIBELN

Zweiggliedrige germanische Kniefibeln (GKF) mit einer Kopfplatte oder Spiralhülse, bzw. mit einem schmalen pseudozylindrischen Kopf, haben entweder einen Haken zur Befestigung der oberen Sehne oder die Sehne wird zur Befestigung der Spirale durch eine zweite Öffnung in der Platte gezogen. Sie ähneln strukturell den provinzialrömischen Kniefibeln vom Typ Jobst 13C, insbesondere durch das Vorhandensein einer verschieden geformten und unterschiedlich großen Kopfplatte und eines Hakens für die obere Sehne (*Jobst* 1975, 65, 66, Taf. 20, 21), was am deutlichsten am Typ GKF-A zu erkennen ist. Obwohl provinzialrömische Kniefibeln meist einen abgerundeten Bügel haben, finden sich seltener auch Fibeln mit rechteckig gebogenem Bügel. Die GKF ähneln auch den germanischen Kniefibeln vom Typ Almgren 132 mit einem markanten breiten, zylindrischen Kopf, die hauptsächlich im Bereich der Przeworsk-Kultur zu finden sind (*Andrzejowski/Cieśliński* 2007, Abb. 7; *Godłowski* 1977, 20, 21; 1982, 64, Abb. 4: 4).

Da die Hauptkonzentration der GKF-Fibeln nördlich des Mittellaufs der Donau liegt, bezeichnen wir sie als Mitteldonauländische Gruppe germanischer Kniefibeln. Dies tun wir, obwohl einige Varianten (insbesondere GKF-AA und GKF-AB) aus diesem Gebiet nahezu unbekannt sind. Im Gegenteil, sie kommen hauptsächlich auf dem Gebiet der Wielbark-Kultur vor.

Grundkriterien für ihre typologische Einordnung sind die Form der Kopfplatte bzw. Spiralhülse sowie die Form des Bügels und Fußes (Abb. 1). Die GKF-Kopfplatte ist manchmal markant, manchmal kann es schwierig sein, ihre Form genauer zu bestimmen, insbesondere wenn wir ausschließlich auf veröffentlichte, oft nicht sehr detaillierte Abbildungen angewiesen sind. Wir unterscheiden hierbei vier Hauptformen: die halbrunde (GKF-A), dreieckige (GKF-B), rechteckig/quadratische Form (GKF-C) und eine Variante mit einer kleinen, unauffälligen „Kopfplatte“, manchmal durch eine einfache oder gerillte Spiralhülse (GKF-D) betont.

GKF-Fibeln haben meist einen geraden Fuß, ohne Verzierung oder auch verziert (durch Gravur, plastische Rillen oder Facettierung). Ein weiteres Unterscheidungskriterium ist die Form des Bügels und die Form des Fußes, bzw. des Fußendes. Variante A verfügt über einen stabförmigen Bügel und einem kugeligen Fußknopf, Variante B über einen stabförmigen Bügel und einen Fuß, der scheibenförmig endet, Variante C hat einen stabförmigen Bügel und einen trapezförmigen Fuß und Variante D hat einen breiteren bandförmigen Bügel mit fließendem Übergang in einen gerade endenden Fuß.

Durch die Kombination der Form der Kopfplatte und der Form des Fußes (Fußendes) unterteilen wir die einzelnen Varianten. In der Bezeichnung gibt der erste Buchstabe die Form der Kopfplatte (für die Typen GKF-A, GKF-B, GKF-C, GKF-D) oder deren Absenz an. Der zweite Buchstabe kennzeichnet die Form des Fußes (A, B, C), bzw. dessen Absenz in den einzelnen Varianten oder eine andere Form des Bügels (D). Die grau gefärbten und schematisch gezeichneten Typen und Varianten (Abb. 1) sind in den Funden dokumentiert (siehe Katalog). Sollten zukünftig neue, noch unbekannte Typen oder Varianten auftauchen, kann das System nach unten (GKF-E) und nach oben (z.B. GKF-AE) erweitert werden.

Fibeln vom Typ GKF-A (Abb. 2)

Fibeln dieser Art gehören zur zweithäufigsten Mitteldonauländischen GKF-Gruppe. Wir kennen 29 Stück mit zwei Varianten (GKF-AA und GKF-AC), davon hat der Typ GKF-A ohne Varianten insgesamt 19 Stück an 19 Fundorten. Am häufigsten findet man sie ganz ohne Windungen und Nadel, manchmal auch mit Windungen oder einem Teil davon; die Fibel aus Velké Nēmčice ist vollständig erhalten (Abb. 2: 13). Sie haben eine

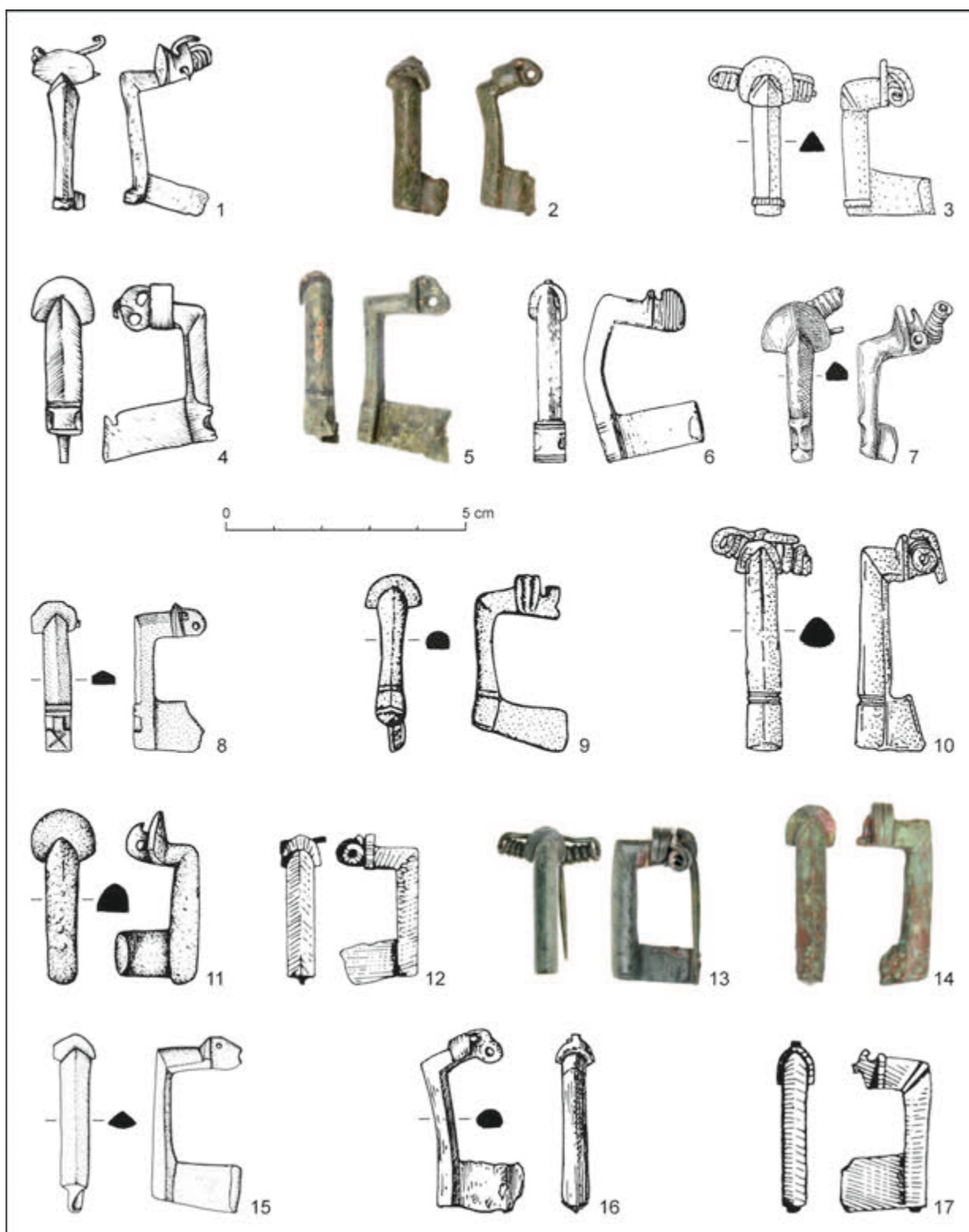


Abb. 2. Kniefibeln vom Typ GKF-A. 1 – Hrušky bei Brünn (Kat.-Nr. 46, unpubl.); 2 – Velké Němčice (Kat.-Nr. 104, unpubl.); 3 – Čataj (Kat.-Nr. 119, nach *Bazovský 2019*); 4 – Ringelsdorf (Kat.-Nr. 150, nach *Tejral 2015b*); 5 – Jaroslavice (Kat.-Nr. 49, unpubl.); 6 – Slowakei, ohne Fundort (Kat.-Nr. 132, nach *Lamiová-Schmiedlová 1961*); 7 – Dyjákovice (Kat.-Nr. 31, unpubl.); 8 – Štúrovo (Kat.-Nr. 18, nach *Iván 015*); 9 – Hevlín (Kat.-Nr. 35, nach *Hanáková 2023*); 10 – Vlčnov-Dolní Němčí (Kat.-Nr. 111, nach *Zeman 2017*); 11 – Sány (Kat.-Nr. 9, nach *Droberjar 2001a*); 12 – Drösing (Kat.-Nr. 137, nach *Stuppner 1993a*); 13 – Velké Němčice (Kat.-Nr. 106, unpubl.); 14 – Valtice (Kat.-Nr. 101, unpubl.); 15 – Mužla (Kat.-Nr. 1, nach *Iván 2015*); 16 – Valtice (Kat.-Nr. 100, nach *Komoróczy/Růžičková 2018*); 17 – Reinthal (Kat.-Nr. 149, nach *Allerbauer/Jedlicka 2001b*).

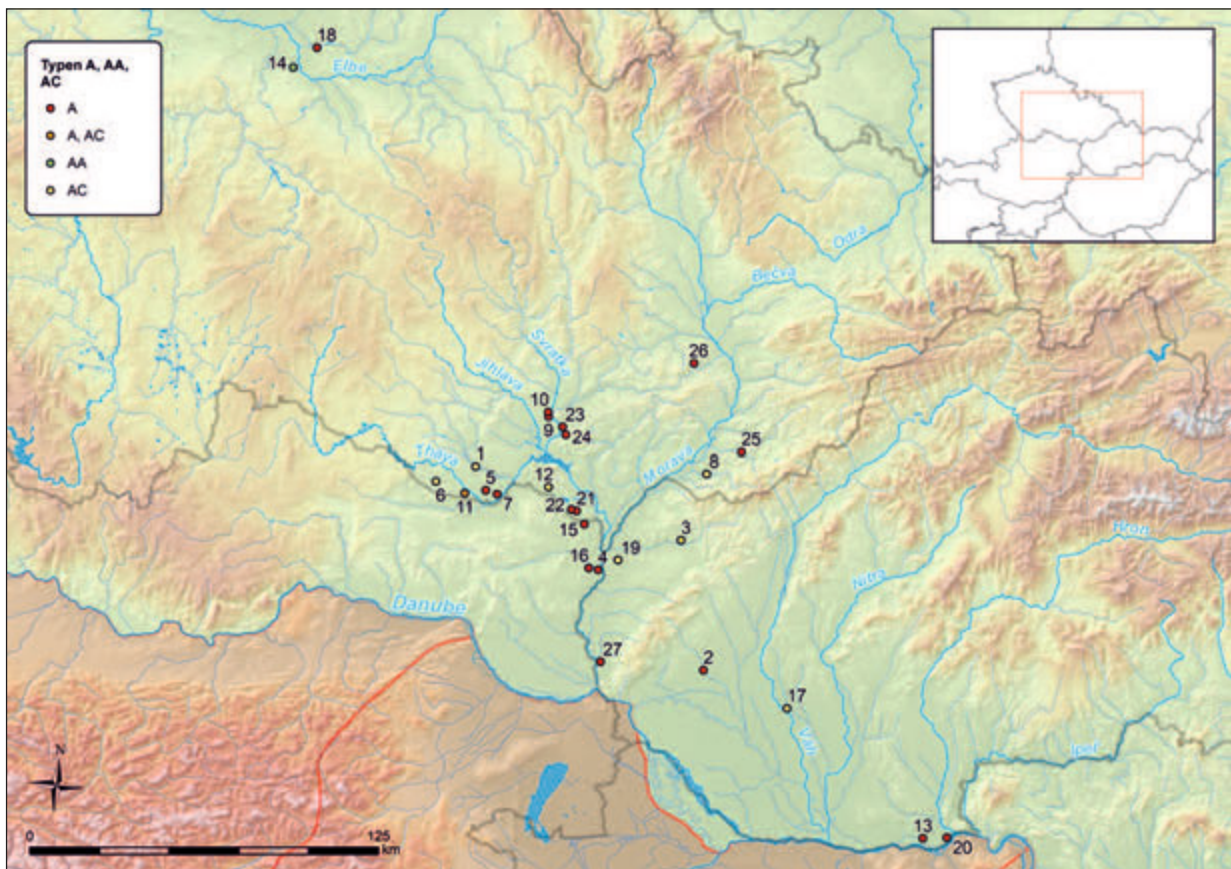


Abb. 3. Kniefibeln von Typen GKF-A, GKF-AA, GKF-AC. 1 – Božice; 2 – Čataj; 3 – Dojč; 4 – Drösing; 5 – Dyjákovice „U Josefa“; 6 – Hevlín; 7 – Dyjákovice „Za Černou strouhou“; 8 – Hroznová Lhota; 9 – Hrušky u Brna „Horalky“; 10 – Hrušky u Brny „Hrubé díly“; 11 – Jaroslavice; 12 – Mikulov; 13 – Mužla; 14 – Nová Ves; 15 – Reinthal; 16 – Ringelsdorf; 17 – Šaľa-Veča; 18 – Sány; 19 – Sekule; 20 – Stúrovo; 21 – Valtice „Brody“; 22 – Valtice „U Remízu“; 23 – Velké Němčice „Na Boudecku“; 24 – Velké Němčice; 25 – Vlčnov-Dolní Němčí; 26 – Zborovice; 27 – Zohor. Graphik: M. Vlach.

ausgeprägte halbkreisförmige Kopfplatte, und zwar eine dünne, die dominiert (13 Stück), oder einen verstärkten (6 Stück), nahezu zylindrische Kopf, bzw. ein den Fibeln A. 132 ähnliches Kopfstück. Der untere Teil der Platte ist gerade (senkrecht zum Bügel) oder schräg geschliffen. Im besten Fall war es möglich, das Unterteil der Platte auf beiden Seiten zu schleifen, manchmal auch nur auf einer. Fibeln des Typs GKF-A verfügen meist über einen Haken zur Befestigung der oberen Sehne, seltener wird die Sehne durch eine Öffnung gezogen (Abb. 2: 4, 5, 15). Der Querschnitt des Bügels hat die Form des Buchstabens D oder ist dreieckig. Die Fibeln haben den Fuß in Form eines kugeligen Fußknopfes (Abb. 1: 1, 3), oder durch Facetten verstärkt (Abb. 1: 4–8), getrennt durch Rillen (Abb. 1: 9, 10), mit einer Rille am Fußende (Abb. 1: 13) oder gerade, ohne Verzierung (Abb. 1: 2, 11, 12, 15–17). Die Fibeln erreichen eine Länge von 2,9–4,5 cm, meist 3,2–3,6 cm, bzw. 3,4 cm. Besonders verbreitet sind sie in Südmähren und Niederösterreich (hauptsächlich im mährisch-österreichischen Grenzraum), zwei Fundorte sind aus der Südwestslowakei und einer aus Mittelböhmen bekannt (Abb. 3). Bis auf einen Fundort (Zborovice, gestörte Gräber) stammen alle aus den Oberflächenschichten von Siedlungen.

Die Fibel aus Valtice (Abb. 2: 16) unterscheidet sich von den anderen dadurch, dass sie keine rechtwinklige Biegung des Knies am Bügel aufweist, sondern die Biegung in einem stumpfen Winkel verläuft (Abb. 2: 7, ähnlich der Fibel aus Dyjákovice). Damit und auch mit der verstärkten Kopfplatte ähnelt sie stark den Fibeln, die in der Wielbark-Kultur vereinzelt vorkommen und als Typ A. 132 gelten (*Kurzyńska 2015*, 67, Taf. LXVI: 4). Fibeln vom Typ GKF-A kommen auch vereinzelt in der Przeworsk-Kultur vor. Neben der eisernen Fibel aus den gestörten Gräbern in Młodzikówo (*Dymaczewski 1958*, 400, 410, Abb. 471: 23) sind zwei weitere aus Bronze. Aus Krupice, Gr. 21 (*Jaskanis 2005*, 17, Taf. X: 21: 1) gehört eine Fibel mit profiliertem kugeligen Fußknopf zur Stufe B2b. Eine ähnliche Fibel aus den gestörten Gräbern in Kryspinów weist auch einen profilierten kugeligen Fußknopf auf (*Andrzejowski/Maciłowicz 2017*, 215, Abb. 24: 2).

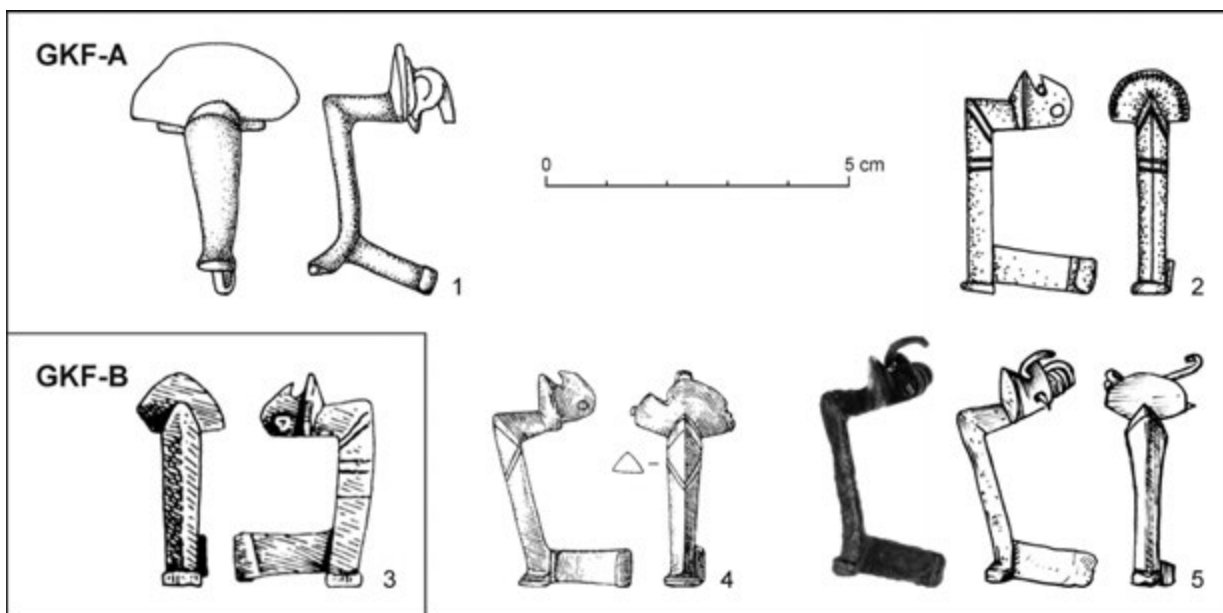


Abb. 4. Römische Kniefibeln Jobst 13C (1, 3–5) und Jobst 13D (2) oder GKF-A, B. 1 – Lauriacum (nach Jobst 1975); 2 – Brigetio (nach Merczi 2011); 3 – Bernhardsthal (Kat.-Nr. 133, nach Adler 1992); 4 – Fundstelle unbekannt (nach Peškař 1972); 5 – Hrušky bei Brünn (Kat.-Nr. 46, unpubl.).

Sehr selten können wir sie auch in der Tschernjachow-Kultur treffen. Aus dem Handwerkszentrum Komariv wurde eine Fibel vom Typ GKF-A publiziert, die zu den ältesten Funden dieses Fundorts gehört, also zur Übergangsstufe B2/C1 (Petrauskas 2014, 92, Taf. X: 2). In diesem Fall stellt sich die Frage, ob es sich um eine lokale Nachahmung römischer Kniefibeln oder um einen direkten elbgermanischen Import von der mittleren Donau in die Tschernjachow-Kultur handelt.

Eine andere Frage ist die Provenienz der Fibeln, die aus formal-typologischer Sicht dem Typ GKF-A (eventuell Typ GKF-C) zuzuordnen sind, da sie über einen rechtwinkliges Knie des Bügels verfügen. Sie sind jedoch sehr ähnlich, bzw. identisch mit Typ Jobst 13C (Abb. 4: 1, 4, 5) oder Typ Jobst 13D (Abb. 4: 2). Zwei Fibeln stammen aus den Donauprovinzen. Die Fibel aus Brigetio (Abb. 4: 2) ist mit Zickzacklinien in Form einer Wolfszahnverzierung auf der Kopfplatte verziert (Merczi 2011, 23, Nr. 150, Taf. 16: 5). Die Fibel aus Lauriacum (Abb. 4: 1) hat eine große Kopfplatte (Jobst 1975, 164, Taf. 21: 147). Zwei weitere Fibeln wurden in germanischen Siedlungen in Hrušky bei Brünn (Abb. 4: 5) und in Bernhardsthal (Abb. 4: 3) gefunden. Die fünfte analoge Fibel (Abb. 4: 4), die im Komensky-Museum in Přerov aufbewahrt wird, stammt von einem unbekannten Fundort (Peškař 1972, 62, Taf. 17: 11). Abgesehen von der Fibel aus Lauriacum weisen alle anderen das charakteristische Merkmal der Provinzialfibeln auf, nämlich den kugeligen Fußknopf. Es handelt sich vermutlich um provinzialrömische Fibeln, die unter starkem germanischen Einfluss angefertigt wurden. In einigen Fällen ist eine qualitativ sehr hochwertige germanische Nachbildung provinzialrömischer Kniefibeln nicht auszuschließen.

GKF-AA: Variante mit kugeligem Fußknopf (Abb. 5: 1, 2)

Der einzige Vertreter dieser Kniefibel-Variante im Forschungsgebiet, in dem die Elbgermanen lebten, ist ein Fund vom mittelhöhmischen Fundort Nová Ves bei Kolín (Abb. 5: 1). Sie verfügt über einen Haken zur Befestigung der Sehne und die Öffnung für die Windungsachse ist ausgebrochen. Die Fibel hat keine rechtwinklige Biegung des Knies, die Biegung erfolgt in einem stumpfen Winkel. Ähnliche Fibeln sind relativ selten. Auf dem Gebiet Polens können zwei Beispiele angeführt werden. Eine Kniefibel mit halbrunder Kopfplatte und einem kugeligen Fußknopf aus dem Wielbark-Grab Nr. 43 vom Fundort Leśno (Walenta 2009, 47, Taf. LXXXVII: 4) weist allerdings ein verdicktes Knie auf. Daher kann sie strukturell als Fibeln des Typs Almgren 137, bzw. Kovrig 104/Merczi B23/Bojović 21.9-Typ klassifiziert werden, oder als Variante Černčice-Ringelsdorf 1 (Droberjar 2024, Abb. 2: 3–5; 3). Im Frauengrab von Leśno wird sie zusammen mit zwei Fibeln A. 128 in die Stufe B2/C1 datiert. Ein näherer Fund ist eine Fibel mit profiliertem Fußende (Abb. 5: 2)

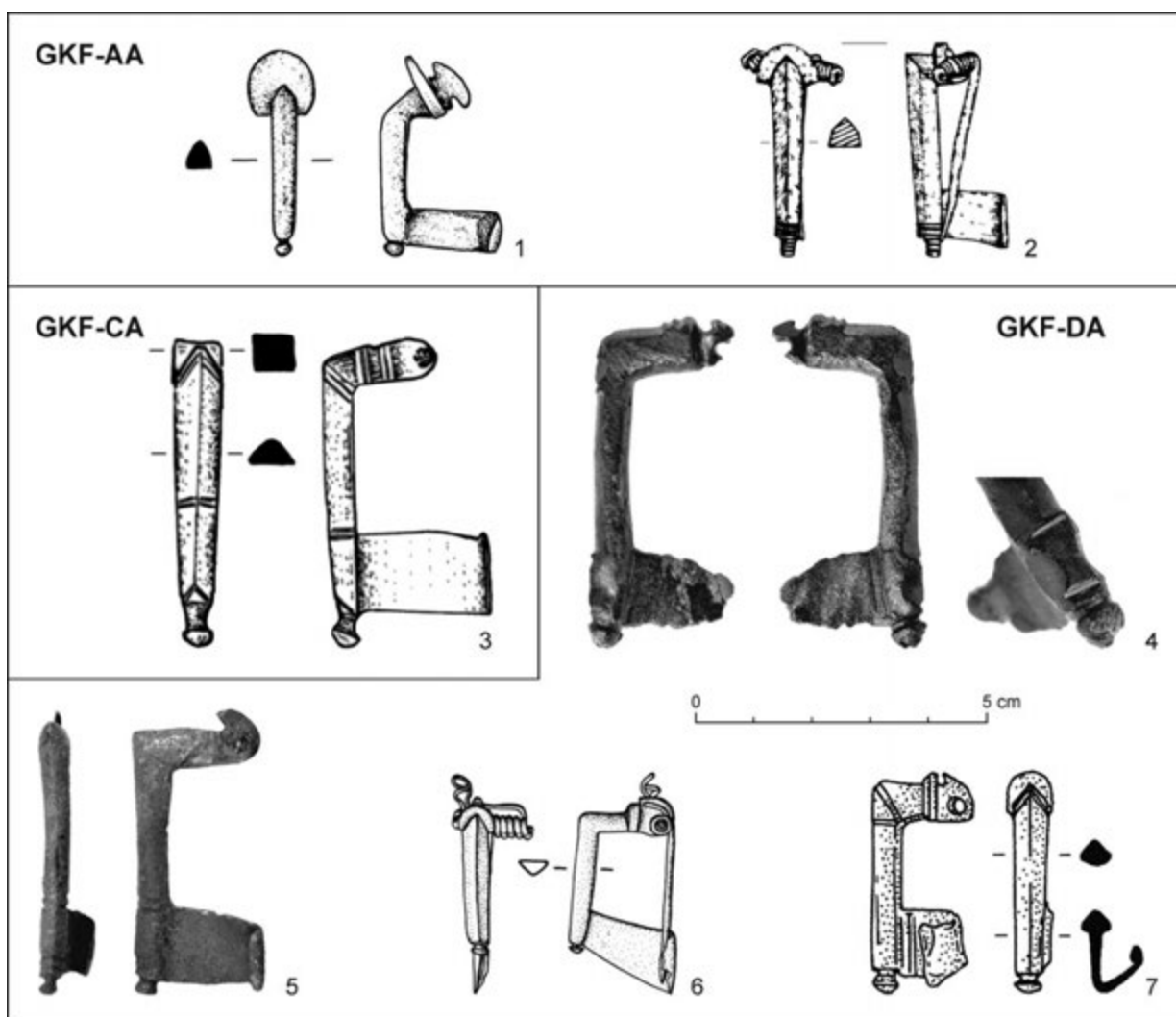


Abb. 5. Kniefibeln von Typen GKF-AA, CA, DA. 1 – Nová Ves (Kat.-Nr. 4, nach *Droberjar 2001a*); 2 – Kryspinów (nach *Andrzejowski/Maciałowicz 2017*); 3 – Nová Ves (Kat.-Nr. 7, unpubl.); 4 – Třebechovice pod Orebem (Kat.-Nr. 14, nach *Horník/Kmošek 2020*); 5 – Jaroslavice (Kat.-Nr. 57, unpubl.); 6 – Dojč (Kat.-Nr. 11, nach *Iván 2015*); 7 – Hroznová Lhota II (Kat.-Nr. 44, nach *Zeman 2017*).

vom Przeworsker Friedhof Kryspinów, Grab 62 (*Andrzejowski/Maciałowicz 2017*, 215, Abb. 24: 4; *Godłowski 1974*, 28, Abb. 4c).

GKF-AB: Variante mit scheibenförmigem Fuß (Abb. 6: 1, 2)

Diese Variante der Kniefibeln ist im elbgermanischen Kontext noch nicht vertreten. Aus formal typologischer Sicht gehören hierher die Fibeln der Wielbark-Gräberfelder von Nowy Łowicz (Abb. 6: 1, 2) und Jartypory (*Andrzejowski 2023*, 193, tab. CCCVII: 4). Nach dem erstgenannten Fundort werden die Fibeln als Typ Nowy Łowicz bezeichnet (*Cieśliński 1999*, 79, 80, Taf. V; *Cieśliński/Kasprzak 2020*, 8, 9). Diese Wielbark-Fibeln sind zusätzlich mit aus Silber gepresster, vergoldeter Folie verziert, ähnlich der Fibel aus Weklice, die jedoch einen abgerundeten, nicht geknickten Bügel aufweist (*Natuniewicz-Sekuła/Baczewski 2023*, 93, Taf. CLXVIII: 75).

GKF-AC: Variante mit trapezförmigem Fuß (Abb. 7: 1–8)

Die Kniefibeln dieser Variante stellen mit 9 Stück an 8 Fundorten eine relativ bedeutende Gruppe dar. Drei Fibeln der Fundortw Hroznová Lhota, Šafa-Veča und Sekule sind komplett (Abb. 7: 2–4) oder fast vollständig erhalten (Abb. 7: 1). Typisch für sie ist eine ausgeprägte halbkreisförmige Kopfplatte, die am Fundort Šafa-Veča zusätzlich mit ausladenden Kreisbögen verziert ist (Abb. 7: 3). Sie werden von einem Haken zur

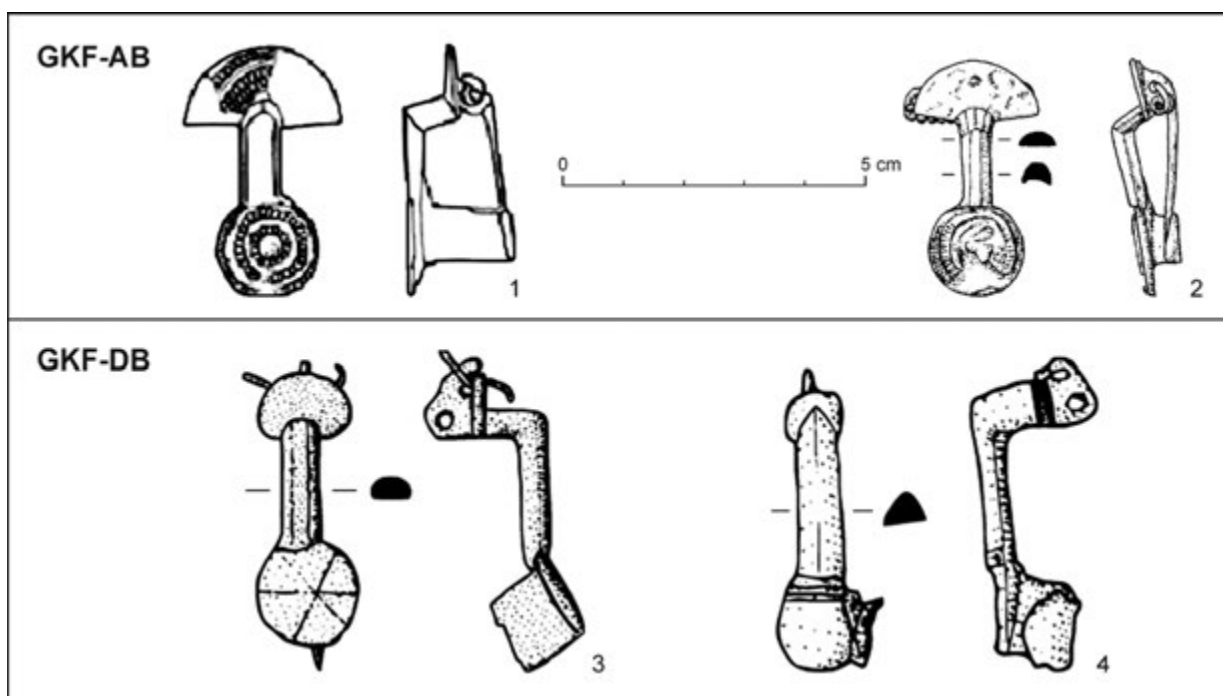


Abb. 6. Kniefibeln von Typen GKF-AB, DB. 1 – Nowy Łowicz (nach Andrzejowski 2023); 2 – Jartypory (nach Cieśliński 1999); 3 – Hevlín (Kat.-Nr. 38, nach Rožnovský 2015); 4 – Hevlín (Kat.-Nr. 39, nach Hanáková 2023).

Befestigung der oberen Sehne dominiert, bei drei Fibeln wird die Sehne durch eine Öffnung gezogen (Abb. 7: 3–5). Der Querschnitt des Bügels ist meist dreieckig. Das Hauptelement der GKF-AC-Fibeln ist ein flacher trapezförmiger Fuß, nur in einem Fall plastisch mit Mittelrille (Abb. 7: 8). Einen ähnlichen Fuß haben die Fibeln mit zylindrischem Kopf vom Machajewski-Typ 5b (Machajewski 1998, 192, Abb. 2: 26, 27) aus dem Grab Nr. 85 in Abrahám (Kolník 1980, Taf. XXVII: b1, b2). Zwei Füße von den Fundorten Dojč und Sekule sind am unteren Rand mit kurzen Kerben verziert (Abb. 7: 1, 2). Am unteren Rand des trapezförmigen Fußes aus Šaľa-Veča befinden sich ausladende Kreislöcher, die mit der Verzierungen der Kopfplatte identisch sind (Abb. 7: 3). Die Fibeln haben eine Länge von 2,5–5,8 cm, am häufigsten 2,7–3,1 cm. Wir kennen sie aus Südmähren und der Südwestslowakei, eine kommt aus Ostmähren (Abb. 3). Bis auf ein Brandgrab (Sekule) wurden alle anderen Funde in Siedlungen gemacht. Zwei Fibeln aus der Brandgräberstätte Sekule wurden den Schichten, also außerhalb der Grabeinheiten, entnommen.

Fibeln vom Typ GKF-B (Abb. 8)

Charakteristisch für die Kniefibeln vom Typ GKF-B ist eine dreieckige, teilweise weniger markante Kopfplatte oder eine gerillte Spiralhülse. Unter den elf Funden beträgt das Verhältnis beider Kopfplattentypen 6:5. Lediglich eine Fibel aus Drösing (Abb. 8: 4) ist vollständig erhalten. Diese Fibeln verfügen über einen Haken zum Befestigen der oberen Sehne und die Sehne kann auch durch eine Öffnung gezogen werden. Bei einigen Fibeln sind diese Elemente jedoch nicht erhalten geblieben oder sind beschädigt. Der Querschnitt des Bügels ist meist dreieckig. Die Füße sind auf unterschiedliche Weise verziert, und zwar in Form eines kugelförmigen Fußknopfes (Abb. 8: 1), durch profilierte Fußenden (Abb. 8: 2–5), durch Facettierung (Abb. 8: 6, 9) und Rillen (Abb. 8: 7, 8) oder schlicht ohne Verzierung (Abb. 8: 10, 11). Die Fibel von Bernhardsthal ist am Bügel mit Rillenbündeln verziert. Sie erreichen eine Länge von 2,5–3,5 cm, am häufigsten 3,0–3,1 cm. Man findet sie vor allem in Südmähren, im mährisch-österreichischen Grenzraum und im österreichischen Pomoraví, jeweils eine in der Region Vyškov und Hodonín, ein Fundort ist in Mittelböhmen (Semčice-Žerčice). Alle Fibeln bis auf eine wurden mithilfe von Metalldetektoren in germanischen Siedlungen entdeckt. Die einzige Fibel des römischen Fundorts Mušov-Burgstall könnte in die Übergangsstufe B2/C1 datiert werden; es muss jedoch berücksichtigt werden, dass es sich um einen Oberflächenfund handelt (Kat.-Nr. 70). Diese Fibel (Abb. 8: 8) ist

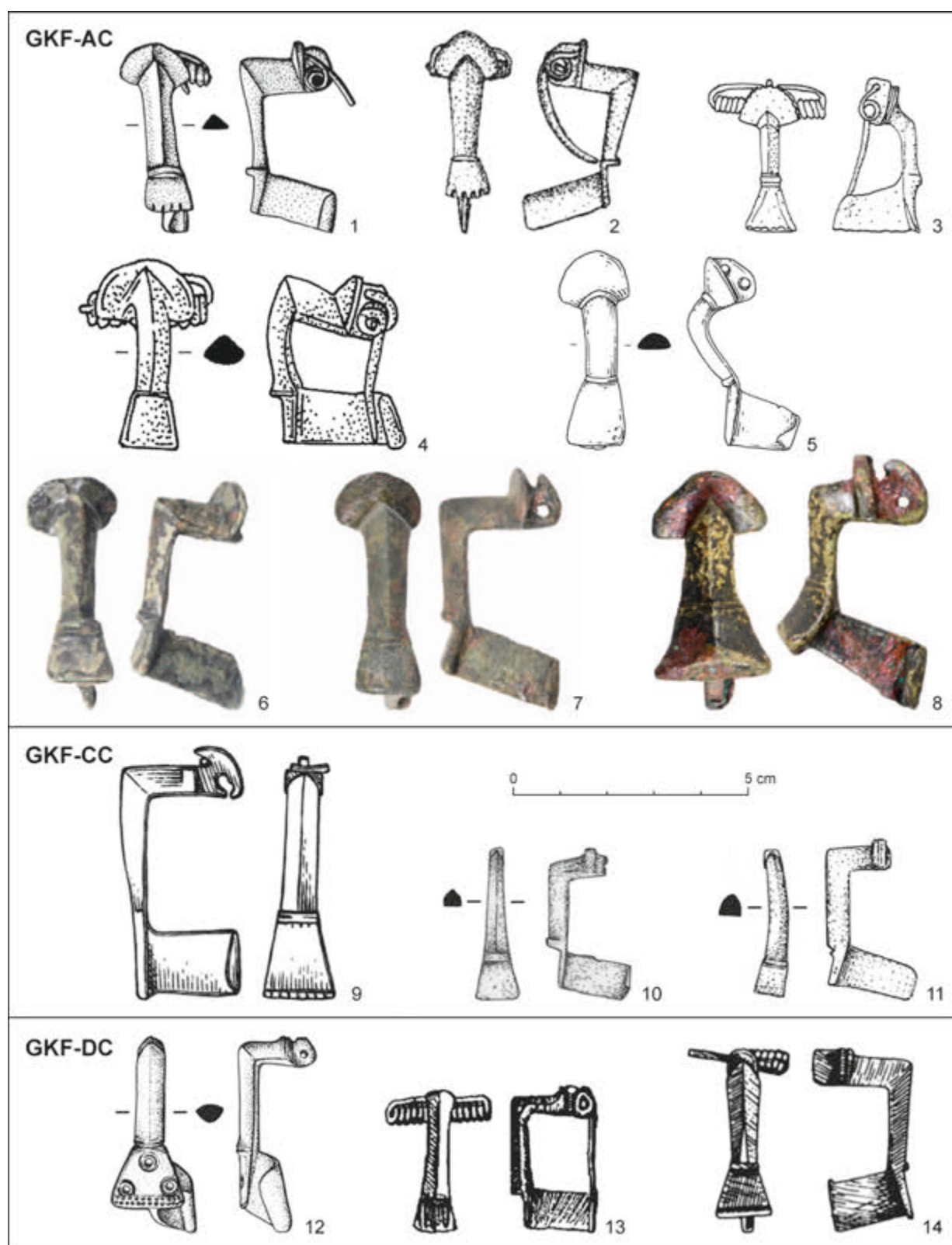


Abb. 7. Kniefibeln von Typen GKF-AC, CC, DC. 1 – Dojč (Kat.-Nr. 10, nach *Iván 2015*); 2 – Sekule (Kat.-Nr. 16, nach *Iván 2015*); 3 – Šaľa-Veča (Kat.-Nr. 17, nach *Bazovský 2005*); 4 – Hroznová Lhota II (Kat.-Nr. 43, nach *Zeman 2017*); 5 – Dyjákovice (Kat.-Nr. 3, unpubl.); 6 – Jaroslavice (Kat.-Nr. 50, unpubl.); 7 – Mikulov (Kat.-Nr. 63, unpubl.); 8 – Božice (Kat.-Nr. 4, unpubl.); 9 – Nezamyslice (Kat.-Nr. 77, nach *Čížmář et al. 2010*); 10 – Tatce (Kat.-Nr. 1, unpubl.); 11 – Všechlapy-Krchleby (Kat.-Nr. 19, nach *Droberjar/Militký 2020*); 12 – Čáry (Kat.-Nr. 118, unpubl.); 13 – Třebusice (Kat.-Nr. 15, nach *Svoboda 1948*); 14 – Bernhardsthal (Kat.-Nr. 136, nach *Adler/Nebehay 1990a*).

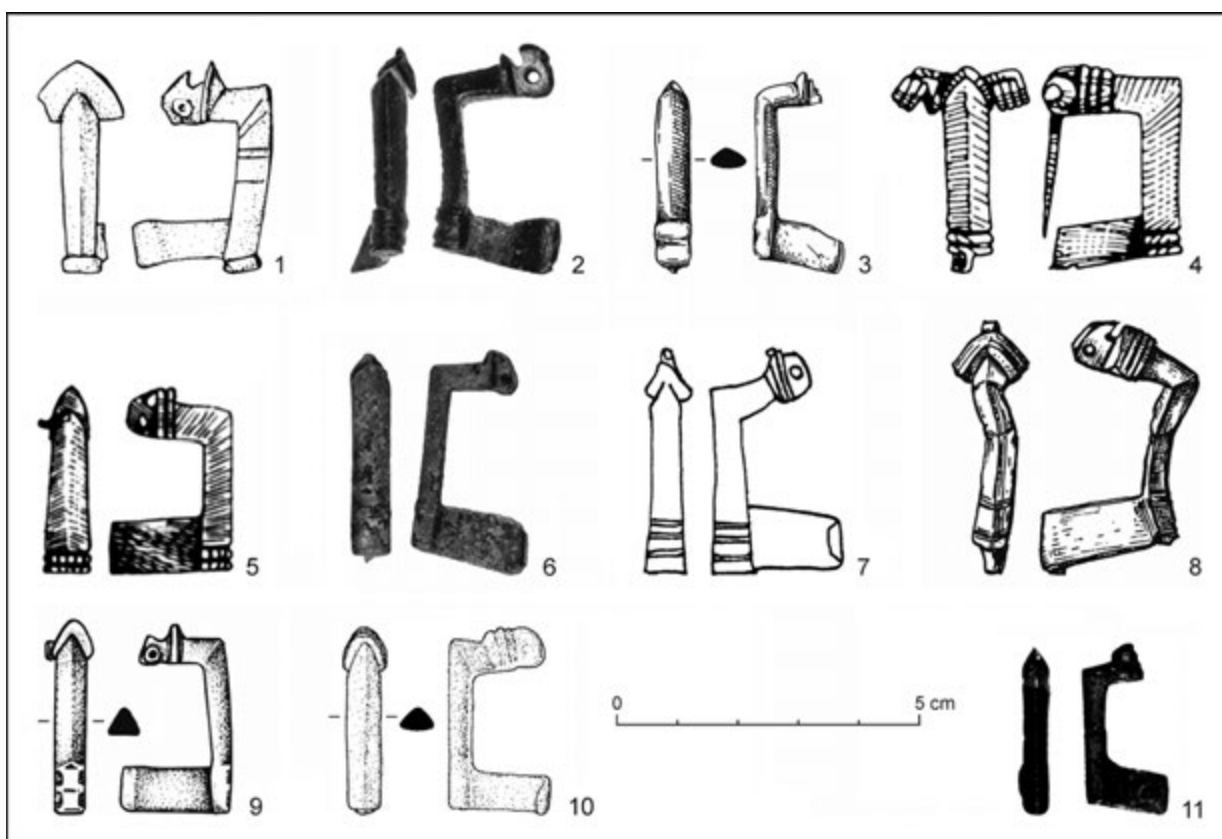


Abb. 8. Kniefibeln vom Typ GKF-B. 1 – Bernhardsthal (Kat.-Nr. 133, nach *Tejral 2015b*); 2 – Kobeřice (Kat.-Nr. 58, unpubl.); 3 – Přibice (Kat.-Nr. 86, unpubl.); 4 – Drösing (Kat.-Nr. 138, nach *Lauermann 1996*); 5 – Ringelsdorf (Kat.-Nr. 154, nach *Nebehay/Stuppner 1990a*); 6 – Hevlin (Kat.-Nr. 36, unpubl.); 7 – Petrovice (Kat.-Nr. 81, unpubl.); 8 – Mušov-Burgstall (Kat.-Nr. 70, nach *Tejral 2015a*); 9 – Semčice-Žerčice (Kat.-Nr. 10, nach *Droberjar 2001a*); 10 – Strážnice-Petrov II (Kat.-Nr. 98, nach *Zeman 2017*); 11 – Božice (Kat.-Nr. 22, nach *Jílek 2008*).

identisch mit einer Fibel aus der Wielbark-Siedlung Bakaj in der Ukraine (*Milashevskij/Teliženko/Tkač 2017*, 216, Abb. 15: 7), wobei aus der Publikation nicht die Form der Kopfplatte ersichtlich ist, ob sie dreieckig oder anders ist. Von dem seltenen Vorkommen von Fibeln des Typs GKF-B bei den Ostgermanen könnte auch ein Fund vom Przeworsk-Fundort Jarnice zeugen (*Andrzejowski/Maciałowicz 2017*, 215, Abb. 2: 3; 23: 1) der zwar im Ausmaß größer ist (D. 5 cm), aber ansonsten identisch mit dem elbgermanischen Typ. Dagegen ähnelt die Fibel aus Bernhardsthal (Abb. 8: 1) den provinzialrömischen Kniefibeln vom Typ Jobst 13C (*Jobst 1975*, 65, 66, Taf. 21: 147) und die Kopfplatte tendiert zum Kovrig Typ 95 (*Kovrig 1937*, Taf. X: 95), den wir zum Beispiel vom mittelhöhmischen Fundort Kouřim (*Droberjar 2012b*, 120, 121, Abb. 1: 1) kennen.

Fibeln vom Typ GKF-C (Abb. 9)

Einige Kniefibeln der Mitteldonauländischen Gruppe haben eine rechteckige bzw. eine quadratische Kopfplatte oder eine gerillte Spiralhülse mit quadratischer Frontform, meist klein und unauffällig. Lediglich bei den Fibeln der Fundstellen Rakvice und Jedenspeigen ist die Platte quadratisch größer (Abb. 9: 8, 12). Das Verhältnis Kopfplatte zur Rillenhülse beträgt 7:6. An den Fundorten Nová Ves, Jaroslavice und Sekule wurden drei vollständig erhaltene Fibeln gefunden (Abb. 9: 5, 10, 11). Die Fibeln verfügen über einen Haken zum Befestigen der oberen Sehne und die Sehne wird ebenfalls durch eine Öffnung gezogen. Der Querschnitt des Bügels hat die Form des Buchstabens D, ist dreieckig und einmal auch polygonal. Auch die Füße sind unterschiedlich geformt und verziert, d. h. verbreitert rechteckig mit Rillen (Abb. 9: 1), eingefasst von plastischen Rippen (Abb. 9: 2, 3), mit Facettierung (Abb. 9: 4–9), mit Rillen an den Fußenden (Abb. 9: 10, 11) oder ohne Verzierung (Abb. 9: 12). Die Länge der Fibeln liegt zwischen 2,6 und 5,6 cm, am häufigsten zwischen

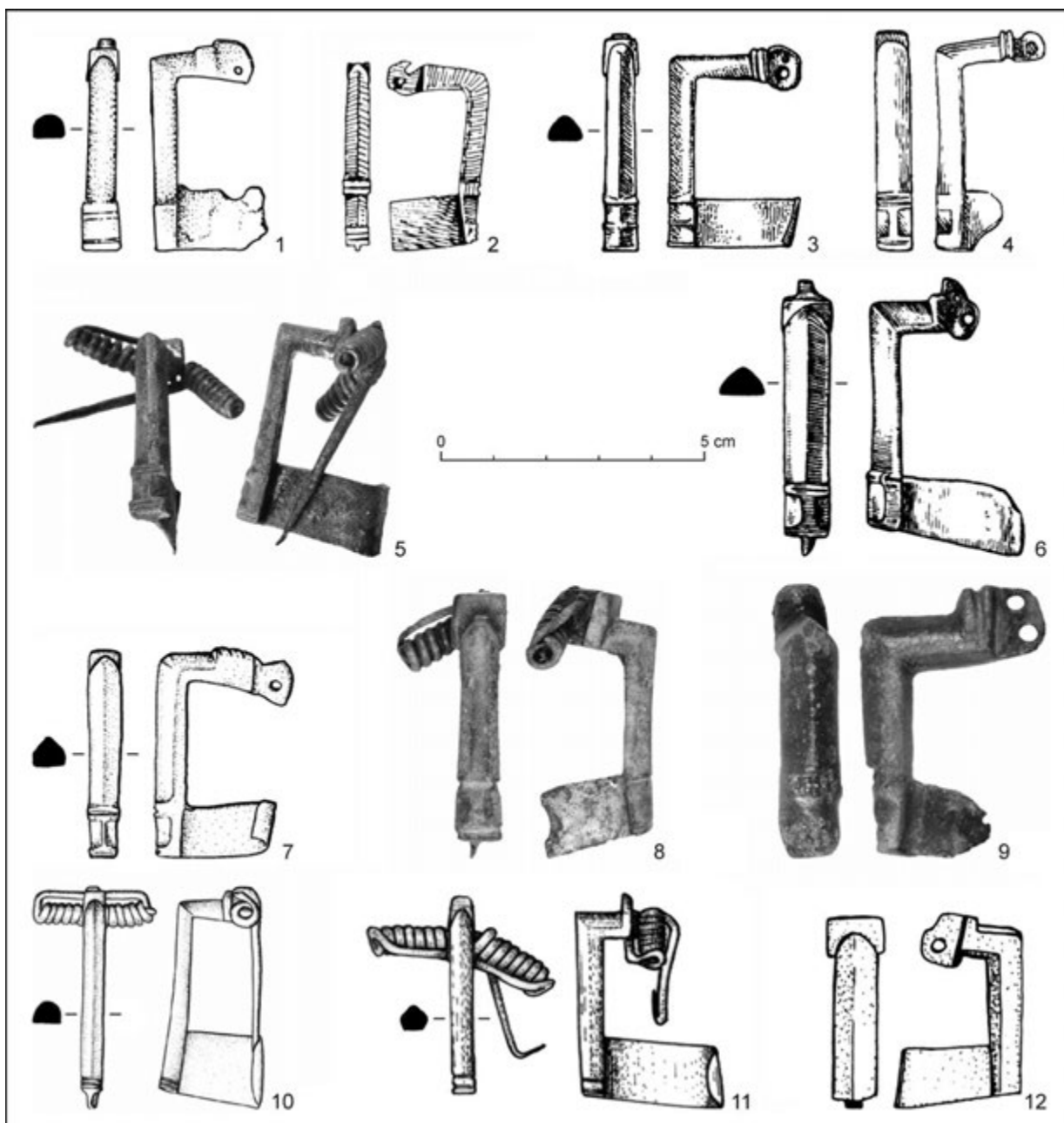


Abb. 9. Kniefibeln vom Typ GKF-C. 1 – Strachotice (Kat.-Nr. 93, unpubl.); 2 – Katzlsdorf (Kat.-Nr. 147, nach Gschwantler/Jedlicka/Schmidt 1995); 3 – Slatinice (Kat.-Nr. 91, nach Loskotová 2009); 4 – Prosiměřice (Kat.-Nr. 85, nach Čížmář 2009); 5 – Jaroslavice (Kat.-Nr. 51, unpubl.); 6 – Mähren, ohne Fundstelle (Kat.-Nr. 113, nach Peškař 1972); 7 – Cífer-Pác, Obj. 6/1993 (Kat.-Nr. 116, nach Hüssen/Rajtár 1994); 8 – Rakvice (Kat.-Nr. 90, unpubl.); 9 – Mušov-Burgstall (Kat.-Nr. 71, unpubl.); 10 – Sekule, Gr. 5b (Kat.-Nr. 14, nach Iván/Kováčková/Rajtár 2019); 11 – Nová Ves (Kat.-Nr. 5, unpubl.); 12 – Jedenspeigen (Kat.-Nr. 146, nach Tejral 2015b).

3,0 und 3,6 cm. Wir kennen diese Fibeln an dreizehn Fundorten in einer Anzahl von 15 Stück. Eine erhebliche Konzentration findet sich im südlichsten Teil Mährens im mährisch-österreichischen Grenzraum sowie im österreichischen und slowakischen Marchgebiet (Abb. 10). Gelegentlich kommen sie in Mittelmähren (Slatinice) und der Südwestslowakei (Cífer-Pác) vor, eine kommt aus Mittelböhmen (Nová Ves).

Obwohl Oberflächenfunde in Siedlungen überwiegen, wurden in zwei Fällen Fibeln vom Typ GKF-C in Objekten nachgewiesen. In einer germanischen Grubenhütte (obj. 6/1993) am Fundort Cífer-Pác (Hüssen/Rajtár 1994, 220, Abb. 9: 1) wurde eine Fibel zusammen mit römischer Militaria (ebd., Abb. 11) und mit Terra Sigillata aus Lezoux des Meisters Crucuro (Kuzmová 1997, 20, 121, Taf. 12: 4) gefunden. Demnach

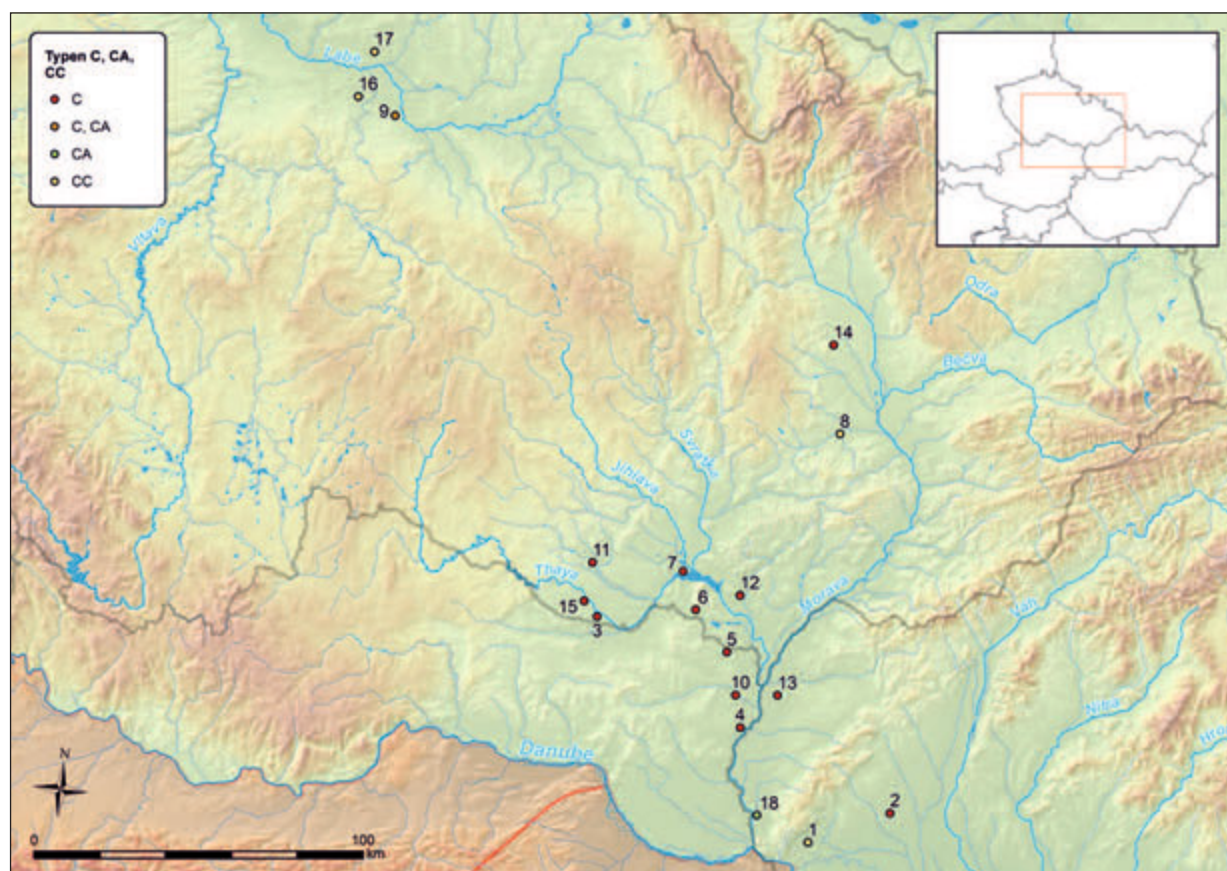


Abb. 10. Kniefibeln von Typen GKF-C, GKF-CA, GKF-CC. 1 – Bratislava-Vajnory; 2 – Cífer-Pác; 3 – Jaroslavice; 4 – Jedenspeigen; 5 – Katzlsdorf; 6 – Mikulov; 7 – Mušov-Burgstall; 8 – Nezamyslice; 9 – Nová Ves; 10 – Palterndorf; 11 – Prosiměřice; 12 – Rakvice; 13 – Sekule; 14 – Slatinice; 15 – Strachotice; 16 – Tatce; 17 – Všechny-Krchleby; 18 – Zohor. Graphik von M. Vlach.

ist das Objekt mit der Kniefibel in die Zeit der Markomannenkriege zu datieren. Die zweite Kniefibel vom Typ GKF-C – bislang eine völlig seltene aus Eisen (Abb. 9: 10) – wurde im Urnengrab Nr. 5b des Fundortes Sekule gefunden (Iván/Kováčsová/Rajtár 2019, 309, Taf. 7: 5b/1–3). In einem irdenen Behälter ruhte die Fibel zusammen mit dem Aufsatz eines Eimers vom Eggers-Typ 36. Die zitierten Autoren gehen davon aus, dass diese Fibel aus Przeworsk stammt und beziehen sich dabei auf einige ähnliche Funde, die in dieser Kultur vorkommen. Diese Meinung teilen wir nicht.

Interessant ist die Konzentration von Fibeln mit ausgeprägter quadratischer Platte in den römischen Lagern in Dakien, wo sie als Typ 5e (Cociș/Opreanu 1998, 198, 199, Taf. VII: 45–50; VIII: 51–53), bzw. als Typ 19b8 (Cociș 2004, 101, 102, Taf. LXXIX: 1208–1216) bezeichnet werden. Laut rumänischen Forschern handelt es sich wahrscheinlich um das Produkt der örtlichen Werkstatt eines barbarischen Herstellers. Sie stammen wahrscheinlich aus der Zeit vor den Markomannenkriegen und dürften nach Funden des Fundortes Porolissum bis ins 3. Jahrhundert überdauert haben.

Und nicht zuletzt stammt eine ähnliche Fibel mit verstärkter, geriffelter, quadratischer Kopfplatte aus dem Gräberfeld der Wielbark-Kultur des Fundortes Weklice (Natuniewicz-Sekuła/Baczewski 2023, 93, Taf. CLXVII: 73).

GKF-CA: Variante mit kugeligem Fußknopf (Abb. 5: 3, 4)

Diese Variante wird bisher nur durch zwei Fibeln dokumentiert. Die erste stammt aus der Siedlung Nová Ves in Mittelböhmen (Abb. 65: 3), die zweite wurde in den Oberflächenschichten des Brandgräberfeldes Zohor im Südwesten der Slowakei gefunden (Kat.-Nr. 130). Nur die zweite hat eine erhaltene Windung. Die Fibel aus Nová Ves ist am Kopf, am Anfang und am Ende des Fußes mit eingravierten Linien verziert.

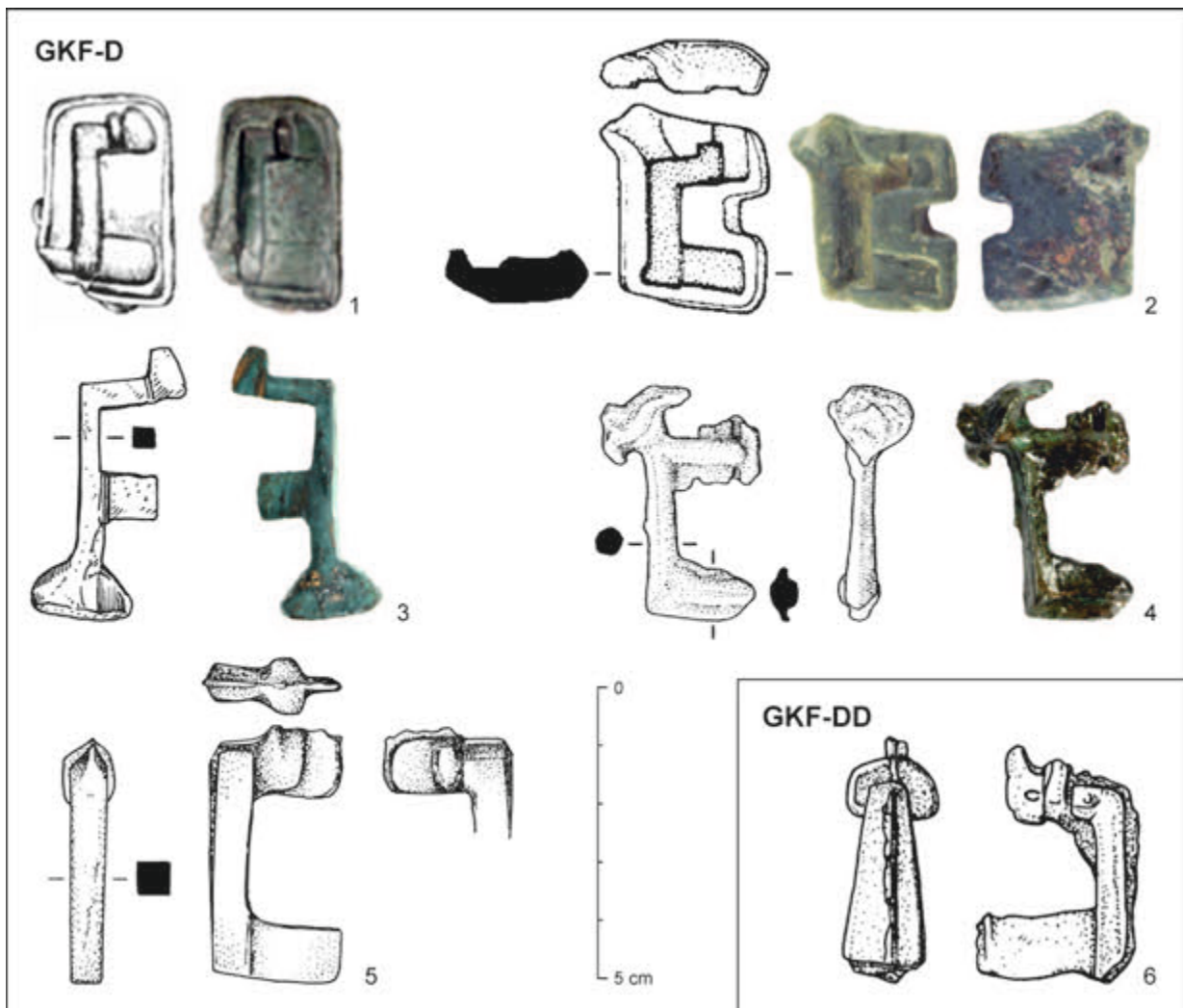


Abb. 11. Herstellungsbelege (Gussformen und Halbfabrikate) vom Typ GKF-D, DD. 1 – Velké Hostěrádky-Dambořice (Kat.-Nr. 103, nach Jagošová et al. 2021); 2 – Kočí (Kat.-Nr. 3, nach Vích/Kmošek 2020); 3 – Mušov „Na Pískách“ (Kat.-Nr. 75, unpubl.); 4 – Zohor (Kat.-Nr. 131, nach Elschek 2017); 5 – Strachotice (Kat.-Nr. 95, unpubl.); 6 – Mušov-Burgstall (Kat.-Nr. 74, nach Tejral 2015a).

GKF-CC: Variante mit trapezförmigem Fuß (Abb. 7: 9–11)

Mit vier Exemplaren sind die Fibeln mit einer kleinen quadratischen Kopfplatte und einem trapezförmigen Fuß vertreten, was auch für die Typen GKF-AC und GKF-DC charakteristisch ist. Eine davon ist vollständig erhalten und außerdem eine einzigartige aus Silber aus Bratislava-Vajnory (Kat.-Nr. 115).³ Lediglich bei einer ist ein Haken zur Befestigung der oberen Sehne erhalten (Abb. 7: 9). Die Fibel aus Vajnory verfügt über eine spezielle Befestigung der Sehne, indem sie um das Kopfstück gewickelt wird. Der Querschnitt des Bügels ist dreieckig (Abb. 7: 9), polygonal (Abb. 7: 10) oder in Form des Buchstabens D (Abb. 7: 11). Zwei Fibeln haben verzierte trapezförmige Füße, einer mit ausladenden Punkten an der Unterseite (Abb. 7: 9). Die Fibel von Vajnory ist nicht nur am Fuß, sondern auch am Bügel mit ausladenden kreisförmigen Vertiefungen (Kat.-Nr. 115) reich verziert. Die Exemplare sind zwischen 2,8 und 5,0 cm lang. Da wir die Fibeln nur aus vier Fundorten kennen, ist es nicht möglich, ihre Konzentration zu bestimmen. Wir finden sie sowohl in Mittelböhmen (Kat.-Nr. 12 und 19) und in Mittelmähren (Kat.-Nr. 77) als auch in der Südwestslowakei (Kat.-Nr. 115). Es überwiegen Oberflächenfunde in Wohnsiedlungen, in einem Objekt wurde lediglich die Fibel aus Bratislava-Vajnory gefunden.

³ Die Funden wurden von Barbora Vymazalová (Universität Trnava) im Rahmen ihrer Dissertation bearbeitet.

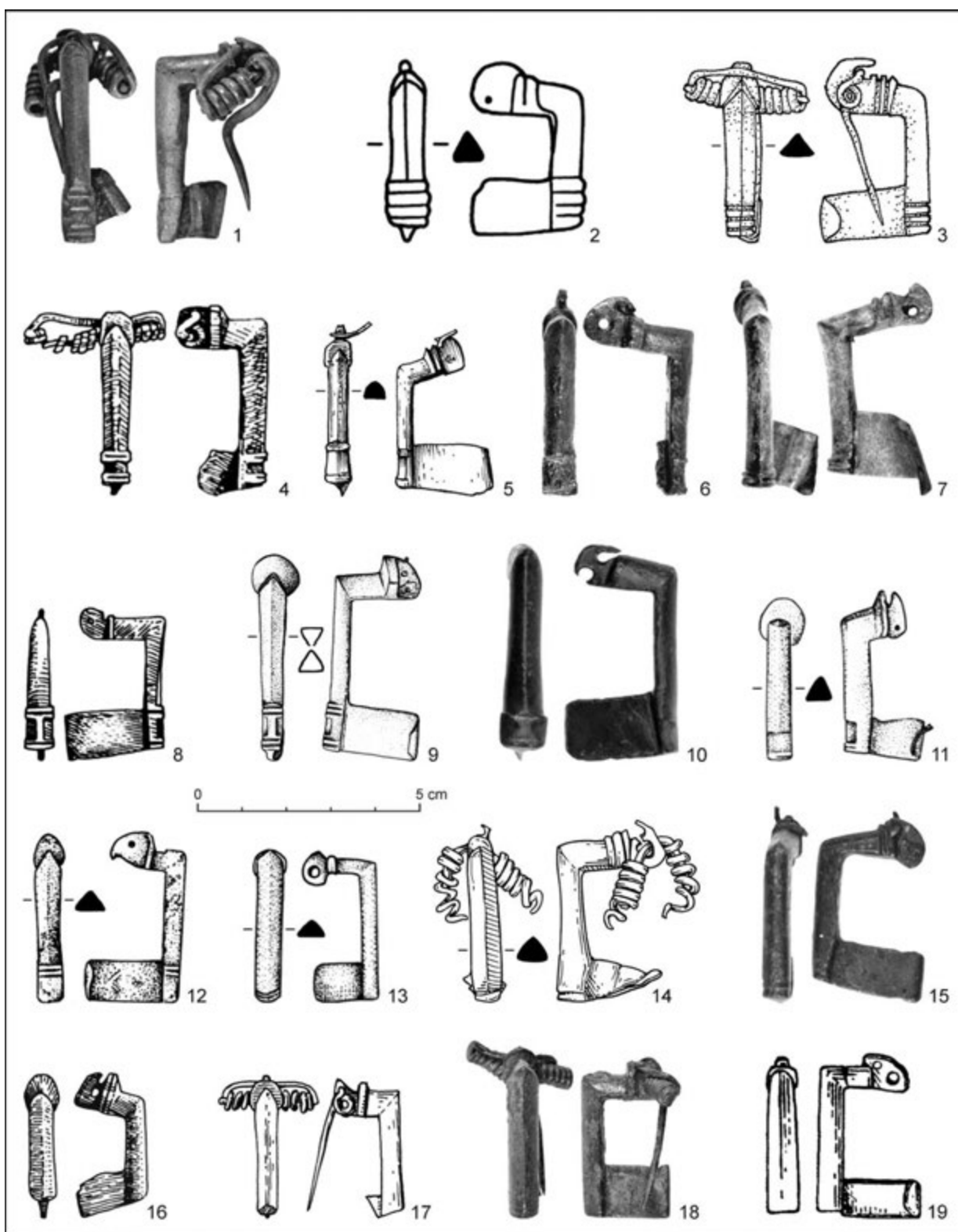


Abb. 12. Kniefibeln vom Typ GKF-D. 1 – Jaroslavice (Kat.-Nr. 54, unpubl.); 2 – Prachovice (Kat.-Nr. 8, nach Vích 2010); 3 – Blatnice pod Svatým Antonínkem I (Kat.-Nr. 1, nach Zeman 2017); 4 – Bernhardsthal (Kat.-Nr. 134, nach Adler 1992); 5 – Velké Némčice (Kat.-Nr. 108, nach Zeman 2017); 6 – Mikulov (Kat.-Nr. 68, unpubl.); 7 – Mikulov (Kat.-Nr. 67, unpubl.); 8 – Ringelsdorf (Kat.-Nr. 155, nach Nebehay/Stuppner 1990b); 9 – Čáry (Kat.-Nr. 117, nach Iván 2015); 10 – Mušov „Na Pískách“ (Kat.-Nr. 76, unpubl.); 11 – Strachotice (Kat.-Nr. 95, unpubl.); 12 – Zalužany (Kat.-Nr. 20, nach Droberjar/John/Zavřel 2017); 13 – Tatce (Kat.-Nr. 13, nach Droberjar 2001a); 14 – Hevlín (Kat.-Nr. 34, unpubl.); 15 – Měnin (Kat.-Nr. 6, unpubl.); 16 – Ringelsdorf (Kat.-Nr. 153, nach Stuppner 1991); 17 – Mušov-Burgstall (Kat.-Nr. 7, unpubl.); 18 – Prosiměřice (Kat.-Nr. 84, unpubl.); 19 – Pustiměř, Brandgrab (Kat.-Nr. 87, podle Jílek et al. 2020).

Fibeln vom Typ GKF-D (Abb. 12)

Die mit Abstand häufigste Art sind Kniefibeln, die sich durch das Vorhandensein einer weniger ausgeprägten Kopfplatte oder gerillten Spiralhülse auszeichnen. Sie wurden ursprünglich als BGKF-D und gleichzeitig als Almgren 132 bzw. Almgren 132a bezeichnet (*Droberjar 2012a*, Abb. 3: 2, 3, 11). Aus dem vorliegenden GKF-Bestand gibt es mehr als die Hälfte davon (53 %), und wenn wir ihnen die vier Varianten hinzufügen, nämlich GKF-DA, GKF-DB, GKF-DC und FKF-DD, dann nähert sich die Zahl der Hundert (61 %). Ihre hohe Zahl ist nicht nur auf die Beliebtheit zurückzuführen, sondern vor allem auf die einfachere Herstellung, wofür wir nahezu alle bekannten Dokumente von Gußformen und Halbfabrikaten haben (Abb. 11). Einige davon sind in vollständigem Zustand erhalten (Abb. 12: 1, 3, 14, 17, 18), insbesondere aus mährischen Funden. Es überwiegen Fibeln mit einer kleinen unscheinbaren, mitunter größeren Kopfplatte (im unteren Teil nie gerade geschliffen) (54 %). Fibeln mit einer gerillten Spiralhülse sind weniger vertreten (39 %) und noch weniger mit einer breiteren, einfachen Spiralhülse (7 %). Meistens verfügen sie über einen Haken zum Befestigen der oberen Sehne, selten wurde die Sehne durch eine Öffnung gezogen. Eine Sonderkonstruktion ist die an einer Fibel aus Zalužany sichtbare untere(?) Sehne (Abb. 12: 12), es sei denn, der angedeutete Haken ist eine beschädigte Öffnung für die Windungsachse und die obere Öffnung würde zum Durchziehen der Sehne dienen. Ein weiterer ungewöhnlicher Fall ist das Vorhandensein nur einer Öffnung für die Windungsachse ohne zusätzliche Öffnung oder Haken aus Dyjákovice (Kat.-Nr. 28). Der Querschnitt des Bügels dieser Fibeln hat einen dreieckigen, D-förmigen, selten rhombischen oder polygonalen Querschnitt. Die Füße sind profiliert (Abb. 12: 1–3), facettiert (Abb. 12: 4–6, 8–11), mit Rillen (Abb. 12: 12–15) oder ohne Verzierung (Abb. 12: 16–19). Fibeln wurden von kleineren bis zu größeren Formen hergestellt, d. h. von 2,5–4,4 cm, am häufigsten 3,0–3,8 cm oder 3,4–3,5 cm. Fibeln des Typs GKF-D kommen vor allem im Dreiländereck Mähren-Österreich-Slowakei vor, die meisten davon in Südmähren (Abb. 13). Eine geringere Konzentration ist in Mittelböhmen erkennbar. Eine Fibel stammt aus der pannonischen Ortschaft Schützen am Gebirge (Kat.-Nr. 158).

An einigen der 61 Fundorte wurde mehr als ein Exemplar GKF-D gefunden. Je zwei Fibeln kennen wir von den Fundorten Bernhardsthal (Kat.-Nr. 134–135), Drösing (Kat.-Nr. 139, 140), Dyjákovice (Kat.-Nr. 28, 29), Lanžhot (Kat.-Nr. 59, 60), Mušov „Na Pískách“ (Kat.-Nr. 75, 76), Rakvice (Kat.-Nr. 88, 89), Ringelsdorf (Kat.-Nr. 151, 152), Strachotice (Kat.-Nr. 94, 95), Strážnice (Kat.-Nr. 96, 97) und in Velké Chvalovice (Kat.-Nr. 16, 17). Drei Fibeln wurden in Mikulov (Kat.-Nr. 66–68) und Ringelsdorf (Kat.-Nr. 151–153) gefunden. Vier Exemplare stammen aus Hevlín (Kat.-Nr. 37, 40–42) und sogar fünf identische Fibeln stammen aus Jaroslavia (Kat.-Nr. 52–56).

Obwohl fast alle Funde aus den Oberflächenschichten germanischer Siedlungen stammen, haben vier Fibeln einen anderen Kontext. In Mušov-Burgstall wurden zwei Exemplare (Kat.-Nr. 72, 73, Abb. 12: 17) mit einem Halbfabrikat (Kat.-Nr. 74, Abb. 11: 6) gefunden. Eine weitere Fibel befand sich in einem (vermutlich weiblichen) Brandgrab in Pustiměř (Kat.-Nr. 87, Abb. 12: 19). Nach dem umfangreichen Inventar kann es in die Zeitspanne B2b–B2/C1 datiert werden (*Jílek et al. 2020*, 270, 267, 273, tab. 1).

Fibeln vom Typ GKF-D können wir vereinzelt auch in Polen finden; so befand sich z.B. im Depot des Fundortes Łubiana (*Mączyńska 2011*, 51, Taf. 8: FB 54) eine Kniefibel, die der Autor zum Typ Almgren 132 einordnet und in die Stufen B2b und B2/C1 datiert, oder auf dem Przeworsker Gräberfeld Konin, Gr. 29 (*Kostrzewski 1947*, 212, 283, Abb. 30: 3).

GKF-DA: Variante mit kugeligem Fußknopf (Abb. 5: 5–7)

Ebenso wie die Fibeln vom Typ GKF-AA und GKF-CA einen kugeligem Fußknopf haben, so ist das auch bei den Fibeln mit einer weniger ausgeprägten Kopfplatte oder einer gerillten Spiralhülse des Typs GKF-DA. Die einzige vollständig erhaltene Fibel stammt vom Fundort Dojč (Abb. 5: 6). Diese Fibeln haben stets einen Haken zur Befestigung der oberen Sehne. Bei ihnen überwiegt ein dreieckiger Querschnitt des Bügels. Zusätzlich zum kugeligen Fußknopf sind die Füße zusätzlich mit Facetten (Abb. 5: 4) und einem Rillenpaar am oberen und unteren Teil des Fußes (Abb. 5: 5) verziert. Sie erreichen eine Länge von 3,0–3,8 cm. Fibeln vom Typ GKF-DA sind aus fünf Siedlungsfundorten bekannt. Drei Fibeln wurden in Südmähren und je eine in der Südwestslowakei und Ostböhmen gefunden (Abb. 13). Eine ähnliche Kniefibel mit kugeligem Fußknopf wurde am Przeworsker Fundort Ryczywół gefunden, allerdings ist der Bügel nicht rechtwinklig gebogen, sondern stumpf (*Kuś/Rzeźnik 2022*, 265, 266, Abb. 2: 1).

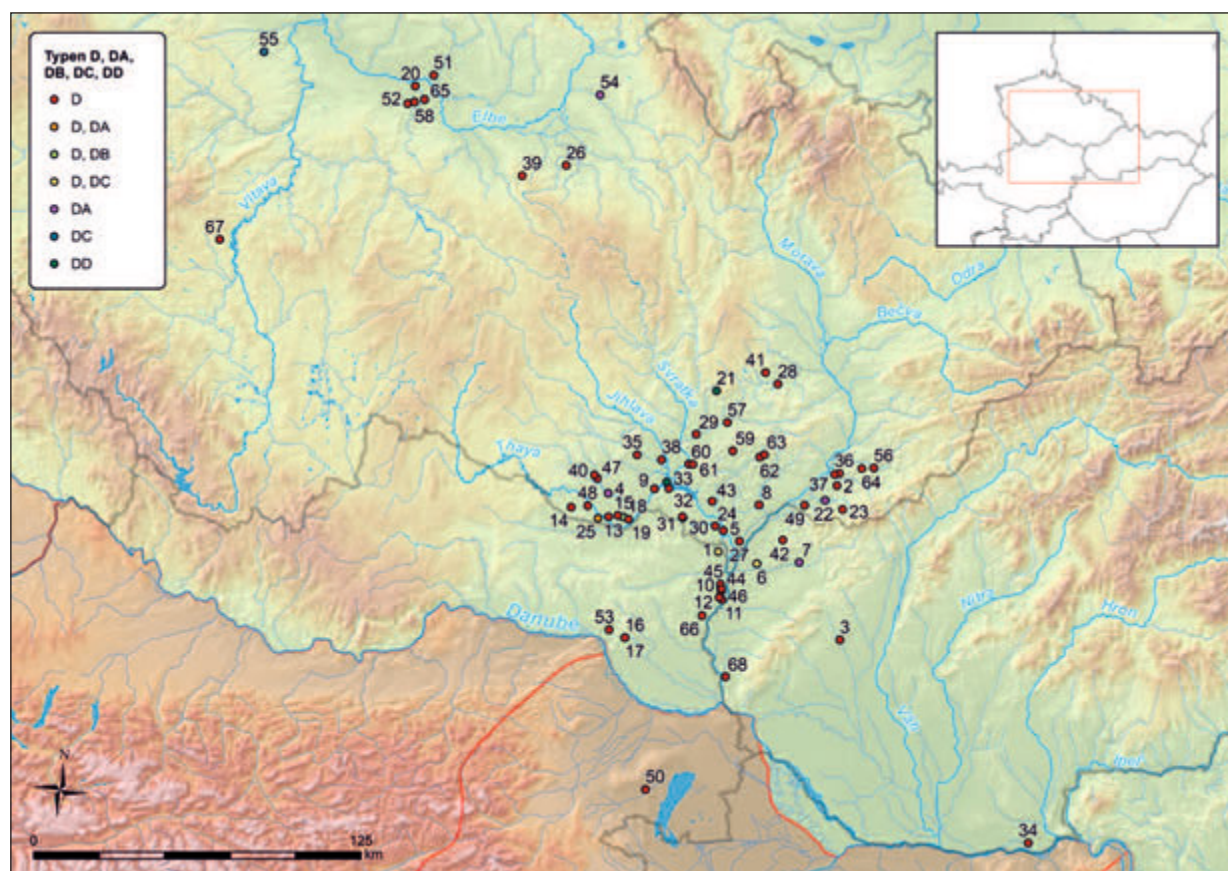


Abb. 13. Kniefibeln von Typen GKF-D, GKF-DA, GKF-DB, GKF-DC, GKF-DD. 1 – Bernhardsthal; 2 – Blatnice pod Svatým Antonínkem I; 3 – Bohdanovce nad Trnavou; 4 – Božice; 5 – Břeclav; 6 – Čáry; 7 – Dojč; 8 – Dolní Bojanovice; 9 – Drnholec; 10 – Drösing „Hutmannsdorf“; 11 – Drösing „Mühlflleck“; 12 – Drösing „Schaflbruck“; 13 – Dyjákovice „Pod Kanálem“; 14 – Dyjákovice „Před Lesem“; 15 – Dyjákovice „Za Šimlem“; 16 – Enzersfeld „Langes Enzersbrunnfeld“; 17 – Enzersfeld „Enzersbrunnfeld“; 18 – Hevlín „Na Rybníce“; 19 – Hevlín „Na Šantovsku“; 20 – Hořátev-Zvěřínec; 21 – Hostěnice; 22 – Hroznová Lhota II; 23 – Hrubá Vrbka; 24 – Charvátská Nová Ves; 25 – Jaroslavice; 26 – Kočí; 27 – Lanžhot; 28 – Medlovice; 29 – Měnín; 30 – Mikulov „Nad Valtickou silnicí“; 31 – Mikulov „U Vodárny“; 32 – Mušov „Na Pískách“; 33 – Mušov-Burgstall; 34 – Mužla; 35 – Olbramovice; 36 – Ostrožská Nová Ves I; 37 – Ostrožská Nová Ves V; 38 – Pohořelice; 39 – Prachovice; 40 – Prosiměřice; 41 – Pustiměř; 42 – Radimov; 43 – Rakvice; 44 – Ringelsdorf „Fünf Mahden/Neues Feld/Langfeld“; 45 – Ringelsdorf „Trümmer“; 46 – Ringelsdorf „Langfeld“; 47 – Stošíkovice na Louce; 48 – Strachotice; 49 – Strážnice II; 50 – Schützen am Gebirge; 51 – Šlotava; 52 – Tatce; 53 – Tresdorf; 54 – Třeběchovice pod Orebem; 55 – Třebusice; 56 – Uherský Brod II; 57 – Vážany nad Litavou; 58 – Velké Chvalovice; 59 – Velké Hostěrádky-Dambořice; 60 – Velké Němčice „Staveniště“; 61 – Velké Němčice; 62 – Věteřov I; 63 – Věteřov II; 64 – Vlčnov I; 65 – Vrbová Lhota; 66 – Waidendorf; 67 – Zalužany; 68 – Zohor. Graphik von M. Vlach.

GKF-DB: Variante mit schildförmigem Fuß (Abb. 6: 3, 4)

Diese Variante ist bisher nur durch zwei südmährische Funde vertreten, die aus Hevlín stammen. In einen Fall hat sie eine größere, im anderen Fall eine kleinere dünne Kopfplatte. An beiden Fibeln befindet sich ein Haken zur Befestigung der oberen Sehne. Der Querschnitt des Bügels ist D-förmig und dreieckig. Die Fibel mit der größeren Kopfplatte hat einen scheibenförmigen Fuß, der mit drei gekreuzten Linien verziert ist (Abb. 6: 3). Beide Fibeln erreichen dieselbe Länge von 4 cm.

GKF-DC: Variante mit trapezförmigem Fuß (Abb. 7: 12–14)

Der trapezförmige Fuß, der durch eine versetzte oder horizontale Rippe vom Bügel getrennt ist, ist das bestimmende Element der Fibeln des Typs GKF-DC. Ähnlich geformte Füße haben die Fibeln der Typen GKF-AC und GKF-CC. Eine komplett erhaltene Fibel stammt aus einem Brandgrab in Třebusice (Abb. 7: 13). Diese Fibeln zeichnen sich durch eine verstärkte oder gerillte Spiralhülse aus, hinter der ein Haken zur Befestigung der oberen Sehne ruht, oder die Sehne wird durch eine Öffnung gezogen. Die Fibeln haben einen dreieckigen

Querschnitt und ebenfalls die Form des Buchstabens D. Am Fuß der Fibel des Fundortes Čáry (Abb. 7: 12) sehen wir eine Verzierung, die aus drei konzentrischen Ringen und ausladenden kreisförmigen Vertiefungen besteht. Die Länge der Fibeln beträgt 2,8–3,8 cm. Die vier bisher bekannten Exemplare stammen aus Niederösterreich (Bernhadsthal und Enzersfeld), aus der Südwestslowakei (Čáry) und aus Mittelböhmen (Třebusice).

GKF-DD: Variante mit bandförmigem Bügel (Abb. 11: 6)

Der letzte Typ, bzw. die Variante der Mitteldonauländischen Gruppe von Kniefibeln, sind Fibeln mit breiterem bandförmigem Bügel. In der älteren Typologie wurden sie als Typ Almgren 132d bezeichnet (*Droberjar 2012a*, Abb. 3: 6). Belegt wird diese Variante durch zwei Funde, einem aus einem vermutlichen Skelettgrab aus Hostěnice (Kat.-Nr.2) in Nordwestböhmen und dem anderen als Halbfabrikat aus Mušov-Burgstall (Abb. 11: 6). Beide Fibeln mit einer Länge von 2,8 und 3,4 cm haben eine breitere Kopfplatte. An der Fibel aus Hostěnice ist ein kugeliges Fußknopf erhalten geblieben (*Svoboda 1948*, Abb. 12: 4). Im vorherigen Text haben wir auf eine Fibel mit schmalem bandförmigem Bügel vom Fundstellen Jaroslavice (Kat.-Nr. 52) hingewiesen, die dieser Variante eher nahe kommt. Aufgrund der geringen Anzahl an Fibeln dieser Art müssen wir auf weitere Funde warten.

GEOGRAPHISCHE VERBREITUNG

Unser heutiges Wissen über die Erforschung von Fibeln aus der römischen Kaiserzeit basierte lange Zeit auf Grab- oder Zufallsfunden. Erst die systematische Oberflächenerkundung, Dokumentation und Konservierung von Metallartefakten aus Siedlungsstätten – realisiert in der Region Südmähren und koordiniert vom Archäologischen Institut der Akademie der Wissenschaften der Tschechischen Republik in Brunn (grundlegende methodische Grundlagen siehe *Komoróczy/Vlach/Zelíková 2017*) – bringen neue grundlegende Erkenntnisse zur Problematik der Mitteldonauländischen Gruppe germanischer Kniefibeln (GKF). Vielleicht bewirkten gerade die Aktivitäten, die sich in den letzten Jahren zu einer systematischen Tätigkeit von bürgerlichen Mitarbeitern dieser Institution entwickelt haben (*Komoróczy 2022*), dass es in Südmähren die meisten davon gibt. An 57 Fundorten sind 93 Fibeln dokumentiert, darunter drei Halbfabrikate und eine Gußform (ein Fundort hat einen unbekannten, wahrscheinlich mährischen? Kontext). Jeweils 15 Fundorte gibt es in Niederösterreich (28 Fibeln, darunter ein pannonischer Fundort) und in Böhmen (20 Fibeln, darunter eine Gußform). Aus der Südwestslowakei stammen 12 Fundorte mit 19 Fundstücken, darunter ein Halbfabrikat. Insgesamt erfassen wir 160 GKF-Fibeln an 99 Fundstellen (plus zwei unbekannte Fundstelle und ein pannonischer Fundort). Siedlungsfunde sind deutlich dominant, sechs Fundstellen sind Grabstätten (Hostěnice, Třebusice, Pustiměř, Zborovice, Sekule, Zohor) und zwei sind römisch (Mušov-Burgstall, Schützen am Gebirge in Pannonien), wobei sie in Mušov-Burgstall in Schichten gefunden wurden, und daher ist ihre Zugehörigkeit zur römischen Siedlung nicht ganz sicher. An manchen Fundstellen gibt es mehr als nur eine Kniefibel. Werden an einem Fundort zwei Fibeln desselben Typs gefunden, handelt es sich immer um den Typ GKF-D. Wir haben bereits über das Vorhandensein mehrerer Fibeln vom Typ GKF-D (von zwei bis fünf Stück) geschrieben. Das gemeinsame Vorkommen verschiedener Arten und Varianten von GKF haben wir in einer Anzahl von zwei bis neun Stück dokumentiert.

Die größte Anzahl von Fibeln GKF der Mitteldonauländischen Gruppe befindet sich an drei südmährischen Fundstellen, nämlich Jaroslavice „Na Farské“: neun Stück (1× GKF-A, 1× GKF-AC, 1× GKF-C, 5× GKF-D, 1× GKF-DA), Hevlín „Na Šantovsku“: acht Stück (1× GKF-A, 1× GKF-B, 4× GKF-D, 2× GKF-DB) und Mikulov „Nad Valtickou silnicí“: sechs Stück (1× GKF-AC, 2× GKF-C, 3× GKF-D). Fünf Fibeln (GKF-B, GKF-C, 2× GKF-D, GKF-DD) inklusive eines Halbfabrikats stammen aus der römischen zentralen befestigten Militärbasis Mušov-Burgstall. Vier Fibeln wurden an mehreren Fundorten in Niederösterreich und eine in Mittelböhmen gefunden, nämlich Bernhadsthal „Wehrweide/Krautäcker/Aulüssen“ (1× GKF-B, 2× GKF-D, 1× GKF-DC), Drösing „Hutmannsdorf“ (1× GKF-A, 1× GKF-B, 2× GKF-D), Ringelsdorf „Fünf Mahden/Neues Feld/Langfeld“ (1× GKF-A, 3× GKF-D) und Nová Ves „V Širokých“ (1× GKF-AA, 2× GKF-C, 1× GKF-CA). Je drei Fibeln gibt es in der Siedlung in Strachotice „Za Dyjí“ (1× GKF-C, 2× GKF-D) und an den Brandgräbern Sekule (2× GKF-AC, 1× GKF-C) und Zohor (GKF-A, GKF-CA, GKF-D/Halbfabrikat). An sieben Siedlungsfunden sind zwei verschiedene Fibeln dokumentiert: Tatce (GKF-CC, GKF-D), Božice „Mokřidla“ (GKF-B, GKF-DA), Hroznová Lhota II (GKF-AC, GKF-DA), Velké Němčice (GKF-A, GKF-D),

Čáry (GKF-D, GKF-DC), Dojč (GKF-AC, GKF-DA), Enzersfeld „Langes Enzerbrunnfeld“ (GKF-D, GKF-DC). Interessant ist dabei die Feststellung, dass der Typ GKF-D bzw. seine Varianten stets einmal vertreten sind.

Polnische Forscher (*Andrzejowski/Maciałowicz 2017*) konzentrierten sich auf das Vorkommen von GKF-Fibeln außerhalb der Region der Mittleren Donau, da diese Fibeln in geringerer Zahl gerade auf dem Landesgebiet Polens, bzw. in der Przeworsk- und Wielbark-Kultur registriert sind. Auf den Gräberfeldern der Przeworsk-Kultur findet sich der Typ GKF-A an den Fundorten Młodzikowo (*Dymaczewski 1958*, 400, Abb. 471: 23), Krupice (*Jaskanis 2005*, 17, Taf. X: 21/1), Kryspinów (*Andrzejowski/Maciałowicz 2017*, 215, Abb. 24: 2) und GKF-AA ebenfalls in Kryspinów (*Godłowski 1974*, 28, Abb. 4c). In der Wielbark-Kultur sind der Typ GKF-C in Weklice (*Natuniewicz-Sekuła/Baczewski 2023*, 93, pl. CLXVII: 73) und der Typ GKF-D in Łubiana (*Mączyńska 2011*, 51, Taf. 8: FB 54) belegt. Nicht zuletzt finden wir auch in der Tschernjachow-Kultur eine identische Fibel der Mitteldonauländischen Gruppe von GKF, und zwar am Fundort Komariv (*Petrauskas 2014*, 92, Taf. X: 2). Obwohl man bei den polnischen, evtl. ukrainischen Fundstellen nicht ganz sicher die Herkunft der Fibeln vom Typ GKF nachweisen kann, so stehen einige der oben genannten Fundorte von Fibeln mit rechtwinkliger Biegung des Bügels (Knie) den elbgermanischen Funden sehr nahe.

HERKUNFT UND HERSTELLUNGSNACHWEIS

Mit der Ausweitung der Funde der neu definierten Mitteldonauländischen Gruppe germanischer Kniefibeln (GKF) hängt auch die Frage nach ihrer Provenienz zusammen. Aufgrund der Konzentration germanischer Fundorte aus den jüngeren Stadien der älteren römischen Kaiserzeit im österreichisch-mährisch-slowakischen Dreiländereck und in Böhmen besteht kein Zweifel an ihrer elbgermanischen Herkunft. Wenn wir noch die Belege der Anfertigung (Abb. 11) hinzufügen, wie z.B. zwei Gußformen,⁴ bzw. ihre Hälften, eine aus Bronze vom Fundort Kočí (Kat.-Nr. 3), die andere aus Kupfer vom Fundstelle Velké Hostěrádky-Dambořice (Kat.-Nr. 103), worin die Germanen Fibeln vom Typ GKF-D gegossen haben, dann wird das angenommene Gebiet der Anfertigung dieser Fibeln zusammen mit vier Halbfabrikaten, ebenfalls vom Typ GKF-D, bzw. GKF-DD aus Mušov (Kat.-Nr. 74, 75), Strachotice (Kat.-Nr. 94) und Zohor (Kat.-Nr. 131) noch stärker hervorgehoben. Für die lokale Produktion von GKF im südlichsten Teil Mährens spricht auch eine größere Konzentration an Funden, insbesondere in den Siedlungen Jaroslavice „Na Farské“ (9 Stück), Hevlín „Na Šantovsku“ (8 Stück) und Mikulov „Nad Valtickou silnicí“ (6 Stück).

Neue Erkenntnisse gewähren auch die neuen Funde zur Produktionstechnik. An den Gußformen und an zwei Halbfabrikaten sind Stellen zu erkennen, wo das Metall gegossen wurde. An der Gußform aus Kočí (Abb. 11: 2) und dem Halbfabrikat einer Fibel aus Zohor (Abb. 11: 4) war es im oberen Teil, bzw. an der knieartigen Biegung des Bügels. In die Gußform des Fundorts Velké Hostěrádky-Dambořice (Abb. 11: 1) und das Halbfabrikat einer Fibel des Fundortes Mušov-Burgstall (Kat.-Nr. 75) wurde dagegen aus dem unteren Teil vom Fuß gegossen. GKF-Fibeln wurden aus verschiedenen Kupferlegierungen einschließlich Messing hergestellt. Materialanalysen germanischer Kniefibeln wurden bisher kaum publiziert, auch wenn ihre Analysen noch andauern (z.B. *Fouček 2024*; *Kmošek 2019*, 57, Grafik 29). Einige Fibeln wurden aus anderen Materialien angefertigt. Zwei Fibeln sind aus Silber, und zwar aus Prosiměřice (Kat.-Nr. 85) und Bratislava-Vajnory (Kat.-Nr. 115), eine versilbert aus Radimov (Kat.-Nr. 123) und eine aus Eisen am Fundort Sekule (Kat.-Nr. 124).

ZUR CHRONOLOGIE

Für eine detaillierte Chronologie sind eine Reihe von Oberflächenfunden aus Siedlungen, die meist eine längere zeitliche Entwicklung zumindest im 2. und 3. Jahrhundert aufweisen, unzureichend. Wichtig für die Datierung der GKF sind die Grabeinheiten an den Fundstellen Pustiměř mit der GKF-D-Fibel (Kat.-Nr. 87) und Sekule, Gr. 5b mit GKF-C (Kat.-Nr. 124) und Siedlungsobjekte an den Fundorten Bratislava-Vajnory, Obj. 5 mit GKF-CC (Kat.-Nr. 115) und Cífer-Pác, Ord. 6/1993 mit GKF-C (Kat.-Nr. 116). Die an diesen Fundorten gefundenen Fibeln lassen sich auf die Übergangsstufe B2/C1 datieren. Zusätzlich zu diesen elbgermanischen Fundorten bieten auch einige Wielbark-Gräber gute Datierungsunterstützung, z.B. Lešno,

⁴ Die dritte Entdeckung einer Gußform, über die wir erst nach Abschluss dieser Arbeit Informationener hielten, ist ein Artefakt aus der Fundstelle Ochoz bei Brünn. Es wurde für die Herstellung von Fibeln des Typs GKF-D verwendet.

Gr. 43 mit der Fibel GKF-AA (Walenta 2009, 47, Taf. LXXXVII: 4) oder die Przeworsk-Gräber, z.B. Krupice, Gr. 21 mit GKF-A (Jaskanis 2005, 17, Taf. X: 21/1), Konin, Gr. 29 mit GKF-D (Kostrzewski 1947, 212, 283, Abb. 30: 3) und Kryspinów, Gr. 62 mit GKF-AA (Godłowski 1974, 28, Abb. 4c). Alle hier aufgeführten Gräber stammen aus der 2. Hälfte des 2. Jahrhunderts bzw. gehören zur Phase B2b bis zur Übergangsstufe B2/C1 (Andrzejowski/Maciałowicz 2017, 216–218). Ebenfalls gehört auch das Vorhandensein mehrerer Typen von Kniefibeln (GKF-B, GKF-C, GKF-D, GKF-DD), darunter ein Halbfabrikat in den Oberflächenschichten auf der zentralen befestigten Militärbasis Mušov-Burgstall in die Übergangsstufe B2/C1 bzw. in die Zeit der Markomannenkriege oder in die Zeit nahe dieser Kriegseignisse. Gleichzeitig sind an den oben genannten Fundorten alle Haupttypen germanischer Kniefibeln der Mitteldonauländischen Gruppe vertreten.

BEDEUTUNG UND INTERPRETATION

Aus den Teilergebnissen der Untersuchung germanischer Kniefibeln nördlich der mittleren Donau ist zu erkennen, dass erst eine große Kollektion an Funden (wir erfassen insgesamt 160 Fibeln) es ermöglichte, eine detaillierte Typologie zu erarbeiten (Abb. 1) und eine spätere Interpretation zu erwägen. Bei den zweigliedrigen Kniefibeln mit rechtwinklig gebogenem Bügel und mit Kopfplatte oder mit gerillter Spiralhülse unterscheiden wir vier Haupttypen (GKF-A, GKF-B, GKF-C und GKF-D) mit acht auftretenden Varianten (Abb. 1; 2; 5–9; 12). Diese Fibeln konzentrieren sich auf das Gebiet der mittleren Donau, d. h. auf Südmähren, die Südwestslowakei und den nördlichen Teil Niederösterreichs (Abb. 3; 10; 13; 14).⁵ Eine bedeutende Gruppe bilden auch Funde aus Mittelböhmen. Es ist also offensichtlich – und die Funde von Gußformen und Halbfabrikaten (Abb. 11) bestätigen dies, dass die GKF-Fibeln elbgermanischen Ursprungs sind. Bisher waren Forscher aufgrund der Absenz eines detaillierten Klassifizierungssystems für diese Fibeln oder der fehlenden Existenz einer ersten Rahmenklassifizierung (Droberjar 2012a) gezwungen, andere Klassifizierungsoptionen zu verwenden, die am häufigsten mit dem Typ Almgren 132 verknüpft sind (z.B. Andrzejowski/Maciałowicz 2017, 215–218), was zu einer Diskussion über den Unterschied zwischen den Kniefibeln Almgren 132 und GKF führt. Dabei haben die Kniefibeln Almgren 132⁶ ein markantes breites zylindrisches Kopfstück (Almgren 1923, 69, 70, 185, 186, Taf. VI: 132). Wie bereits oben erwähnt, können einige Funde von Kniefibeln mit Kopfplatte oder Spiralhülse aus dem Gebiet Polens als Import aus der elbgermanischen Umgebung nördlich der Mitteldonau angesehen werden. Natürlich konnte sich der Einfluss der Almgren 132-Fibeln, und zwar häufiger der eisernen, weniger der bronzenen, bei der Gestaltung von GKF zeigen. Darüber hinaus ist ihre zeitliche Verbreitung identisch mit der 2. Hälfte des 2. Jahrhunderts.

Andere Kniefibeln, vor allem bei den Ostgermanen und Balten, sind mit einem Stierkopf am Fuß verziert (Schuster 2021). Der Fund aus dem Depot am Fundort Łubiana liegt typologisch in der Nähe unserer Fibeln (Mączyńska 2011, 349, Taf. 9: F18; 106: F18; Schuster 2021, Abb. 1: 7; 4: 5). Jan Schuster (ebd.) sieht einen Zusammenhang gerade mit den GKF-Fibeln und nennt ein Beispiel von einem unbekannten Fundort, vermutlich in Mähren (Peškař 1972, Taf. 15: 2), das dem Typ GKF-C zugeordnet werden kann (Abb. 9: 6). Nach der neuen Typologie ist die Vorlage für die Fibel aus Łubiana in der Form der Kopfplatte beim Typ GKF-B zu erkennen (Abb. 8). Germanische Kniefibeln wurden zweifellos stark von provinzialrömischen Kniefibeln beeinflusst, insbesondere von den Typen Jobst 13C und Jobst 13D (Abb. 4). Selbst bei einigen Funden aus dem Barbaricum (Abb. 2: 1; 3: 1; 4: 3, 5) oder aus dem Brigetio (Abb. 4: 2) sind wir uns eines gewissen Anteils barbarischen Einflusses nicht ganz sicher. Wenn die Germanen in der Lage waren, eine größere halbkreisförmige Kopfplatte mit geraden oder schrägen Unterseiten zu gießen und fertigzustellen, dann standen sie bereits in der Nähe römischer Produkte. Schließlich könnten auch Fibeln mit einer größeren quadratischen Kopfplatte vom Typ 19b8 nach S. Cociș (2004, 101, 102, Taf. LXXIX: 1208–1216), die in römischen Lagern in Dakien gefunden wurden, ein germanisches Produkt sein. In einem Fall ist auch ein Halbfabrikat dokumentiert (Cociș 2019, 38, Taf. 85: 11; 91: 2). Diese Fibeln ähneln unserem Typ GKF-C mit dem Unterschied, dass sie eingliedrig sind und somit ein typisches Element provinzialrömischer Technik aufweisen.

Die Verflechtung provinzialrömischer und germanischer Einflüsse ist in den Kniefibeln, die wir in diesem Beitrag behandelt haben, sehr deutlich zu erkennen. Der Ursprung und die Entwicklung der GKF standen in

⁵ Der Autor der Karten ist Marek Vlach (Archäologisches Institut der Akademie der Wissenschaften der Tschechischen Republik, Brunn, v. v. i.), dem ein großer Dank gebührt.

⁶ Fibeln vom Typ Almgren 132 mit breitem zylindrischen Kopf und ihre Varianten werden an anderer Stelle besprochen.

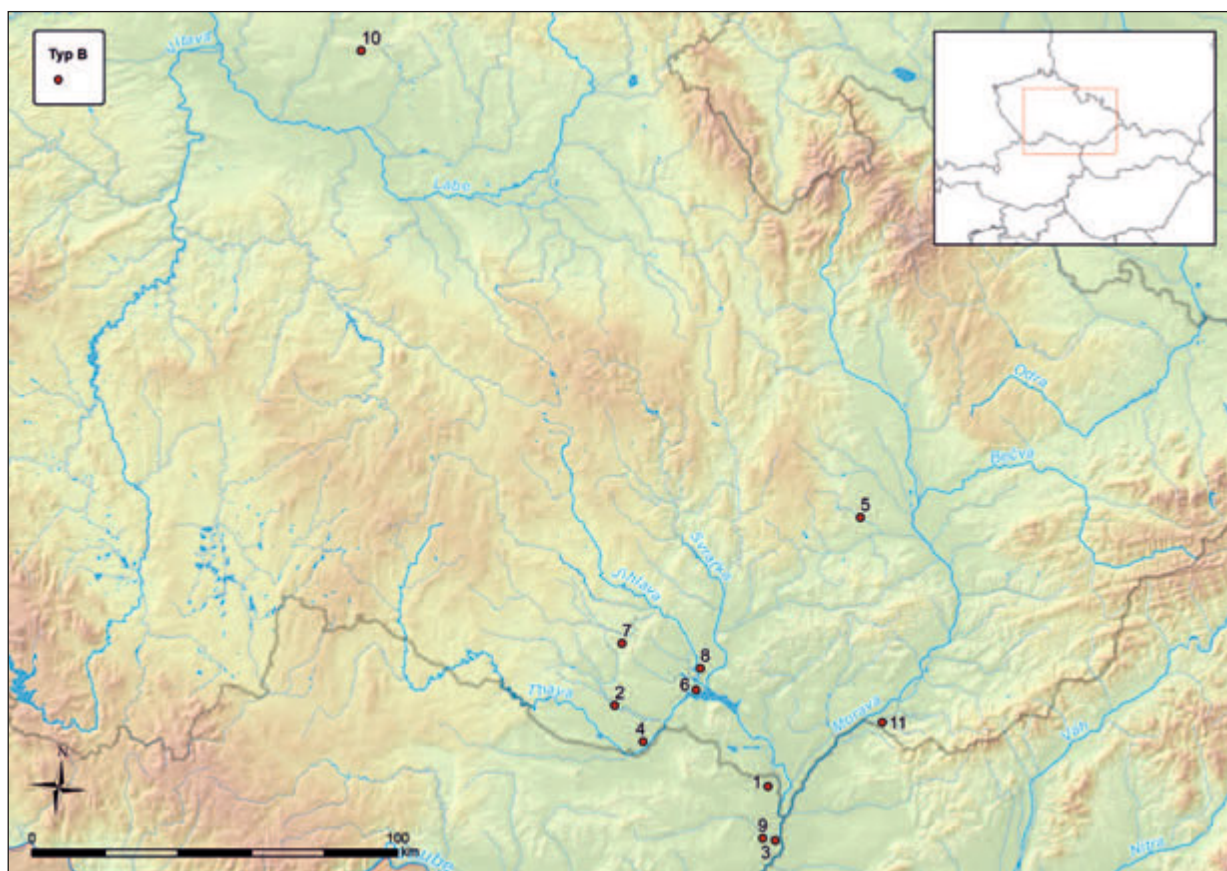


Abb. 14. Kniefibeln vom Typ GKF-B. 1 – Bernhardsthal; 2 – Božice; 3 – Drösing; 4 – Hevlín; 5 – Kobeřice u Brna; 6 – Mušov-Burgstall; 7 – Petrovice; 8 – Přibice; 9 – Ringelsdorf; 10 – Semčice-Žerčice; 11 – Strážnice-Petrov II. Graphik von M. Vlach.

engem Zusammenhang mit den stürmischen Ereignissen der Markomannenkriege und der Zeit nahe dieser Ereignisse, als die Elbgermanen, insbesondere die Markomannen und Quaden, in das Gebiet der römischen Provinzen eindrangen und von Nord nach Süd Gruppen von Ostgermanen kamen (*superiores barbari*). Neben den klassischen elbgermanischen Fibeln Almgren 141–145, dem Przeworsker Fibeln Almgren 132 und den provinzialrömischen Fibeln Jobst 13C, die den Elbgermanen bekannt waren, haben sie eine spezifische kulturelle Manifestation im entscheidenden Raum Südmähren-Westslowakei-Niederösterreich geschaffen, womit sie uns als Erbe Kleiderfibeln in Form von GKF hinterlassen haben.

KATALOG

Der mitteldonauländischen Gruppe der germanischen Kniefibeln (GKF)⁷

Böhmen

1. Hořátev-Zvěřinec, Siedlung (Bez. Nymburk): GKF-D, L. 3,5 cm (Droberjar 2012a, 237, obr. 3: 2).
2. Hostěnice, Körpergrab? (Bez. Litoměřice): GKF-DD, 2,8 cm (Svoboda 1948, 90, obr. 12: 4).
3. Kočí („Rozizna“), Siedlung (Bez. Chrudim): GKF-D, Gussform, 2,9 × 2,5 × 0,8 cm (Abb. 11: 2; Vích/Kmošek 2020, 94, 96, fig. 2: 1; 3: 1).
4. Nová Ves („V Širokých“), Siedlung (Bez. Kolín): GKF-AA, L. 3,5 cm (Abb. 5: 1; Droberjar 2012a, 240, obr. 3: 8).
5. Nová Ves („V Širokých“), Siedlung (Bez. Kolín): GKF-C, L. 2,9 cm (Abb. 9: 11; unpubl., DET., P. Jungr 2008, Nr. 233).
6. Nová Ves („V Širokých“), Siedlung (Bez. Kolín): GKF-C, L. 3,1 cm (unpubl., DET., P. Jungr 2008, Nr. 339).
7. Nová Ves („V Širokých“), Siedlung (Bez. Kolín): GKF-CA, L. 3,3 cm (Abb. 5: 3; unpubl., DET., P. Jungr 2011, Nr. 399).

⁷ Wenn kein Material angegeben ist, dann ist alles Kupferlegierung. DET.: Metalldetektorfund. AÚ: Archäologisches Institut der Akademie der Tschechischen Republik, Brunn, v. v. i.

8. Prachovice, Siedlung (Bez. Pardubice): GKF-D, L. 2,8 cm (Abb. 12: 2; *Vích 2010*, 718, obr. 3: 2; *Droberjar 2012a*, 237).
9. Sány, Siedlung (Bez. Nymburk): GKF-A, L. 3,6 cm (Abb. 2: 11; *Droberjar 2012a*, 240, obr. 3: 7).
10. Semčice-Žerčice, Siedlung (Bez. Mladá Boleslav): GKF-B, L. 3 cm (Abb. 8: 9; *Droberjar 2012a*, 241, obr. 3: 9).
11. Šlotava, Siedlung (Bez. Nymburk): GKF-D, L. 3,1 cm (*Beneš 2020*, 7, č. 4).
12. Tatce, Siedlung (Bez. Nymburk): GKF-CC, L. 3 cm (Abb. 7: 10; unpubl., DET., P. Kir 2007).
13. Tatce, Siedlung (Bez. Nymburk): GKF-D, L. 3 cm (Abb. 12: 13; *Droberjar 2012a*, 241, obr. 3: 11).
14. Třeběchovice pod Orebem („Na Babkách“), Siedlung (Bez. Hradec Králové): GKF-DA, L. 3,8 cm (Abb. 5: 4; *Horník/Kmošek 2020*, 107, 108, 110, obr. 2).
15. Třebusice, Gräberfeld (Bez. Kladno): GKF-DC, L. 2,8 cm (Abb. 7: 13; *Svoboda 1948*, 78, obr. 8: 2; tab. III: 4; *Droberjar/Motyková 2023*, 235).
16. Velké Chvalovice, Siedlung (Bez. Kolín): GKF-D, L. 2,8 cm (unpubl., DET., P. Kir 2010).
17. Velké Chvalovice, Siedlung (Bez. Kolín): GKF-D, L. 3,1 cm (unpubl., DET., P. Kir 2011).
18. Vrbová Lhota („Na Michovce“), Siedlung (Bez. Nymburk): GKF-D, L. 3,1 cm (*Čistáková/Beneš 2024*, 12, pl. 1: 1).
19. Všechlapy-Krchleby („Na Kopci“), Siedlung (Bez. Nymburk): GKF-CC, L. 2,8 cm (Abb. 7: 11; *Droberjar/Militký 2020*, 467, 476, obr. 3: 12).
20. Zalužany, Siedlung (Bez. Příbram): GKF-D, L. 3 cm (Abb. 5: 12; *Droberjar/John/Zavřel 2017*, 205, obr. 9: 11).

Mähren

21. Blatnice pod Svatým Antonínkem I, Siedlung (Bez. Hodonín): GKF-D, L. 3,6 cm (Abb. 12: 3; *Zeman 2017*, 212, Nr. 133, obr. 26: 8; tab. 7: 2; 154: 6).
22. Božice („Mokřidla“), Siedlung (Bez. Znojmo): GKF-B, L. 2,5 cm (Abb. 8: 11; *Droberjar 2012a*, 241; *Jílek 2008*, 338, obr. 5).
23. Božice („Mokřidla“), Siedlung (Bez. Znojmo): GKF-DA, L. 3 cm (*Droberjar 2012a*, 240; *Jílek 2008*, 338, obr. 4).
24. Božice („Na Ostrůvku“), Siedlung (Bez. Znojmo): GKF-AC, L. 2,7 cm (Abb. 7: 8; unpubl., AÚ Brno, DET., R. Miča 2016, Nr. 7).
25. Břeclav („Předníčtvrky“), Siedlung (Bez. Břeclav): GKF-D, L. 3,4 cm (unpubl., AÚ Brno, DET., L. Štouděk 2016, Nr. 6).
26. Dolní Bojanovice („Stupava“), Siedlung (Bez. Hodonín): GKF-D, L. 3,5 cm (unpubl., AÚ Brno, DET., J. Bábik 2020, Nr. 4; *Fouček 2024*).
27. Drnholec („Roviny“), Siedlung (Bez. Břeclav): GKF-D, L. 3,2 cm (unpubl., AÚ Brno, DET., M. Wollmuth 2014, Nr. 70).
28. Dyjákovice („Pod Kanálem“), Siedlung (Bez. Znojmo): GKF-D, L. 3,5 cm (*Droberjar 2012a*, 237; *Jílek/Klanicová 2009*, 321, obr. 3: 3; *Tejral 2015b*, 59, fig. 14: 2).
29. Dyjákovice („Pod Kanálem“), Siedlung (Bez. Znojmo): GKF-D, L. 3,4 cm (unpubl., AÚ Brno, DET., D. Vejmelka 2023, Nr. 3).
30. Dyjákovice („Před Lesem“), Siedlung (Bez. Znojmo): GKF-D, L. 3,5 cm (unpubl., AÚ Brno, DET., V. Ryšová und F. Michálek 2019, Nr. 3; *Fouček 2024*).
31. Dyjákovice („U Josefa“), Siedlung (Bez. Znojmo): GKF-A, L. Abb. 2: 7; unpubl., AÚ Brno, DET., J. Jeřábek 2014, Nr. 16).
32. Dyjákovice („Za Černou strouhou“), Siedlung (Bez. Znojmo): GKF-AC, L. 3,8 cm (Abb. 7: 5; unpubl., AÚ Brno, DET., Z. und V. Priehodovi 2016, Nr. 1).
33. Dyjákovice („Za Šimlem“), Siedlung (Bez. Znojmo): GKF-D, L. 3,1 cm (*Hanáková 2023*, 67, obr. 3B: 1; 10B: 1).
34. Hevlín („Na Rybníce“), Siedlung (Bez. Znojmo): GKF-D, L. 3,7 cm (Abb. 12: 14; unpubl., AÚ Brno, DET., Z. und P. Priehodovi 2016, Nr. 10).
35. Hevlín („Na Šanovsku“), Siedlung (Bez. Znojmo): GKF-A, L. 3 cm (Abb. 2: 9; *Hanáková 2023*, 67, 68, obr. 3B: 2; 10B: 2; *Rožnovský 2015*, 212, obr. 2: 1).
36. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-B, L. 3,3 cm (Abb. 8: 6; unpubl., AÚ Brno, DET., V. Freiwald 2017, Nr. 47).
37. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-D, L. 2,9 cm (*Hanáková 2023*, 67, 68, obr. 3B: 7; 10B: 7).
38. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-DB, L. 4 cm (Abb. 6: 3; *Hanáková 2023*, 67, 68, obr. 3B: 4; 10B: 4; *Rožnovský 2015*, 212, obr. 2: 5).
39. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-DB, L. 3,9 cm (Abb. 6: 4; *Hanáková 2023*, 67, 68, obr. 3B: 6; 10B: 6).
40. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-D, L. 3,5 cm (*Hanáková 2023*, 67, 68, obr. 3B: 5; 10B: 5).
41. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-D, L. 3,8 cm (unpubl., AÚ Brno, DET., V. Freiwald 2017, Nr. 44).
42. Hevlín („Na Šantovsku“), Siedlung (Bez. Znojmo): GKF-D, L. 3,7 cm (unpubl., AÚ Brno, DET., Z. und P. Priehodovi 2015, Nr. 5).
43. Hroznová Lhota II, Siedlung (Bez. Hodonín): GKF-AC, L. 2,7 cm (Abb. 7: 4; *Zeman 2017*, 242, Nr. 88, obr. 26: 12; 39: 25; tab. 154: 10).
44. Hroznová Lhota II, Siedlung (Bez. Hodonín): GKF-DA, L. 3,3 (Abb. 5: 7; *Zeman 2017*, 242, Nr. 87, obr. 26: 11; tab. 39: 24; 154: 5).
45. Hrubá Vrbka, Siedlung (Bez. Hodonín): GKF-D, L. 3,3 cm (*Žuga/Vachůtová/Zeman 2015*, obr. 1: 12).
46. Hrušky bei Brünn („Horalky“), Siedlung (Bez. Vyškov): GKF-A, L. 3,4 cm (Abb. 2: 1; unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 1).
47. Hrušky bei Brünn („Hrubé díly“), Siedlung (Bez. Vyškov): GKF-A(?), fragment, L. 1,6 cm (unpubl., AÚ Brno, DET., P. Spálovský 2015, Nr. 2).
48. Charvátská Nová Ves („Hrudý“), Siedlung (Bez. Břeclav): GKF-D, L. 3,8 cm (unpubl., AÚ Brno, DET., V. Moulis 2021, Nr. 1; *Fouček 2024*).

49. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-A, L. 3,4 cm (Abb. 2: 5; unpubl., AÚ Brno, DET., J. Jeřábek 2017, Nr. 68).
50. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-AC, L. 3,1 cm (Abb. 7: 6; unpubl., AÚ Brno, DET., Z. und P. Priehodovi 2017, Nr. 5).
51. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-C, L. 3,4 cm (Abb. 9: 5; unpubl., AÚ Brno, DET., J. Jeřábek 2017, Nr. 73).
52. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-D (nebo GKF-DD?), L. 4,2 cm (unpubl., AÚ Brno, DET., V. Ryšová und F. Michálek 2019, Nr. 99; *Fouček 2024*).
53. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-D (resp. GKF-DC?), fragment, L. 2,3 cm (unpubl., AÚ Brno, DET., J. Fišer 2018, Nr. 21).
54. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-D, L. 3,5 cm (Abb. 12: 1; unpubl., AÚ Brno, DET., J. Jeřábek 2016, Nr. 13).
55. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-D, L. 3 cm (unpubl., AÚ Brno, DET., J. Jeřábek 2019, Nr. 88).
56. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-D, L. 5,7 cm (unpubl., AÚ Brno, DET., J. und V. Oulehlovi 2015, Nr. 56).
57. Jaroslavice („Na Farském“), Siedlung (Bez. Znojmo): GKF-DA, L. 3,4 cm (Abb. 5: 5; unpubl., AÚ Brno, DET., J. und V. Oulehlovi 2015, Nr. 1).
58. Koberžice u Brna („Na Předních“), Siedlung (Bez. Vyškov): GKF-B, L. 3,1 cm (Abb. 8: 2; unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 3).
59. Lanžhot, Siedlung (Bez. Břeclav): GKF-D, L. 2,8 cm (unpubl., freundliche Informationen von Herrn P. Kubín, Mikulov).
60. Lanžhot, Siedlung (Bez. Břeclav): GKF-D, L. 3 cm (unpubl., freundliche Informationen von Herrn P. Kubín, Mikulov).
61. Medlovice („Široké“), Siedlung (Bez. Vyškov): GKF-D, L. 3,3 cm (*Čižmář a kol. 2009*, 145, obr. 5: 19; *Droberjar 2012a*, 237, obr. 3: 3; *Tejral 2015a*, 439, Abb. 7: 7; *2015b*, 58, fig. 13: 9).
62. Měnín („Pod Padělký“, Siedlung (Bez. Brno-venkov): GKF-D, L. 3,2 cm (Abb. 12: 15; AÚ Brno, DET., M. Tulis 2014, Nr. 94).
63. Mikulov („Nad Valtickou silnicí“, Siedlung (Bez. Břeclav): GKF-AC, L. 3,1 cm (Abb. 7: 7; unpubl., AÚ Brno, DET., V. Holouš 2016, Nr. 4).
64. Mikulov („Nad Valtickou silnicí“, Siedlung (Bez. Břeclav): GKF-C, L. 2,6 cm (unpubl., AÚ Brno, DET., P. Spálovský 2016, Nr. 93).
65. Mikulov „Nad Valtickou silnicí“ (Bez. Břeclav): GKF-C, L. 3,4 cm (unpubl., AÚ Brno, DET., L. Štouděk 2015, Nr. 25).
66. Mikulov („Nad Valtickou silnicí“, Siedlung (Bez. Břeclav): GKF-D, L. 2,8 cm (unpubl., AÚ Brno, DET., R. Pinker 2016, Nr. 34).
67. Mikulov („Nad Valtickou silnicí“, Siedlung (Bez. Břeclav): GKF-D, L. 3,2 cm (Abb. 12: 7; unpubl., AÚ Brno, DET., P. Spálovský 2016, Nr. 110).
68. Mikulov („Nad Valtickou silnicí“, Siedlung (Bez. Břeclav): GKF-D, L. 3,7 cm (Abb. 12: 6; unpubl., AÚ Brno, DET., M. Valach 2015, Nr. 20).
69. Mikulov („U Vodárny“, Siedlung (Bez. Břeclav): GKF-D, fragment, L. 2,4 cm (unpubl., AÚ Brno, DET., Z. Šámal 2017, Nr. 3).
70. Mušov-Burgstall, römische Fundstelle (Bez. Brno-venkov): GKF-B, L. 3,5 cm (Abb. 8: 8; *Tejral 2015a*, 439, Abb. 7: 1; 8: 1; *2015b*, 58, fig. 13:4).
71. Mušov-Burgstall, römische Fundstelle (Bez. Brno-venkov): GKF-C, L. 2,7 cm (Abb. 9: 9; unpubl., AÚ Brno, DET., Z. Omelka 2016, Nr. 5).
72. Mušov-Burgstall, römische Fundstelle (Bez. Brno-venkov): GKF-D, L. 3 cm (Abb. 12: 17 ; unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 8).
73. Mušov-Burgstall, römische Fundstelle (Bez. Brno-venkov): GKF-D, L. 3 cm (*Tejral 2015a*, 439, Abb. 7: 2; 8: 2; *2015b*, 58, fig. 13: 8).
74. Mušov-Burgstall, römische Fundstelle (Bez. Brno-venkov): GKF-DD, Halbfabrikate, L. 3,4 cm (Abb. 11: 6; *Komoróczy 2008*, 414, obr. 18; *Tejral 2015a*, 439, Abb. 7: 3; 8: 3; *2015b*, 58, fig. 13: 1).
75. Mušov („Na Pískách“, Siedlung (Bez. Brno-venkov): GKF-D, Halbfabrikate, L. 4,3 cm (Abb. 11: 3; AÚ Brno, DET., J. Walter 2011, Nr. 7).
76. Mušov („Na Pískách“, Siedlung (Bez. Brno-venkov): GKF-D, L. 3,4 cm (Abb. 12: 10; unpubl., AÚ Brno, DET., J. Walter 2011, Nr. 53).
77. Nezamyslice, Siedlung (Bez. Prostějov): GKF-CC, L. 5 cm (Abb. 7: 9; *Čižmář et al. 2010*, 129, obr. 4: 10).
78. Olbramovice („U Potoka“, Siedlung (Bez. Znojmo): GKF-D, L. 3,4 cm (unpubl., AÚ Brno, DET., J. und V. Oulehlovi 2014, Nr. 7).
79. Ostrožská Nová Ves I, Siedlung (Bez. Uherské Hradiště): GKF-D, L. 3,2 cm (*Zeman 2017*, 259, Nr. 13, obr. 26: 3; tab. 58: 17; 154: 9).
80. Ostrožská Nová Ves V, Siedlung (Bez. Uherské Hradiště): GKF-D, L. 3,3 cm (*Zeman 2017*, 270, Nr. 40, obr. 26: 5; tab. 69: 16).
81. Petrovice, Siedlung (Bez. Znojmo): GKF-B, L. 3,6 cm (Abb. 8: 7; unpubl., Sammlung von P. Havlíček).
82. Pohořelice („Hornoleský dvůr“, Siedlung (Bez. Brno-venov): GKF-D, L. 2,8 cm (unpubl., AÚ Brno, DET., Z. Omelka 2016, Nr. 17).
83. Pohořelice („Nový rybník“, Siedlung (Bez. Brno-venkov): deutlich abgeschliffene Kopfplatte, ursprünglich GKF-A?, L. 3,2 cm (unpubl., AÚ Brno, DET., R. Šteffel 2019, Nr. 2; *Fouček 2024*).
84. Prosiměřice („U Kyjovic“, Siedlung (Bez. Znojmo): GKF-D, L. 3,7 cm (Abb. 12: 18; unpubl., AÚ Brno, DET., D. Vejmelka 2023, Nr. 16).

85. Prosiměřice („Za Mlýnem“), Siedlung (Bez. Znojmo): GKF-C (Silber), L. 3,5 cm (Abb. 9: 4; Čížmář 2009, 191, obr. 3: 6).
86. Příbice („Zadní Žleby“), Siedlung (Bez. Brno-venkov): GKF-B, L. 3,1 cm (Abb. 8: 3; unpubl., AÚ Brno, DET., L. Štoudek 2014, Nr. 1).
87. Pustiměř, Brandgrab (Bez. Vyškov): GKF-D, L. 2,7 cm (Abb. 12: 19; Jílek et al. 2020, 265, 269, obr. 6: 35).
88. Rakvice, Siedlung (Bez. Břeclav): GKF-D, L. 3,4 cm (unpubl., freundliche Informationen von Herrn P. Kubín, Mikulov).
89. Rakvice, Siedlung (Bez. Břeclav): GKF-D, L. 3,6 cm (unpubl., freundliche Informationen von Herrn P. Kubín, Mikulov).
90. Rakvice („Díly“), Siedlung (Bez. Břeclav): GKF-C, versilberter oder verzinnter Nadelhalter, L. 3,3 cm (Abb. 9: 8; unpubl., AÚ Brno, DET., J. Kotásek 2016, Nr. 68).
91. Slatinice, Siedlung (Bez. Olomouc): GKF-C, L. 3,3 cm (Abb. 9: 3; Droberjar 2012a, 237; Loskotová 2009, 337, obr. 15; Tejral 2015b, 58, fig. 13: 10).
92. Stošíkovice na Louce („Za Jevišovkou“), Siedlung (Bez. Znojmo): GKF-D, L. 4 cm (unpubl., AÚ Brno, DET., V. Ryšavá und F. Michálek 2019, Nr. 44; Fouček 2024).
93. Strachotice („Za Dyjí“), Siedlung (Bez. Znojmo): GKF-C, L. 3,2 cm (Abb. 9: 1; unpubl., freundliche Informationen von Herrn M. Vokáč, Třebíč).
94. Strachotice („Za Dyjí“), Siedlung (Bez. Znojmo): GKF-D, Halbfabrikate, L. 3,7 cm (Abb. 11: 5; unpubl., freundliche Informationen von Herrn M. Vokáč, Třebíč).
95. Strachotice („Za Dyjí“), Siedlung (Bez. Znojmo): GKF-D, L. 3,9 cm (Abb. 12: 11; unpubl., freundliche Informationen von M. Vokáč, Třebíč).
96. Strážnice II, Siedlung (Bez. Hodonín): GKF-D, L. 3,5 cm (Zeman 2017, 300, Nr. 71, obr. 26: 2; tab. 103: 28).
97. Strážnice II, Siedlung (Bez. Hodonín): GKF-D, L. 3,5 cm (Zeman 2017, 300, Nr. 72, obr. 26: 9; tab. 103: 26).
98. Strážnice-Petrov II, Siedlung (Bez. Hodonín): GKF-B, L. 3,1 cm (Abb. 8: 10; Zeman 2017, 317, Nr. 11, obr. 26: 10; tab. 115: 16; 154: 7).
99. Uherský Brod II, Siedlung (Bez. Uherské Hradiště): GKF-D, L. 3,9 cm (Zeman 2017, 320, Nr. 6, obr. 26: 6; tab. 117: 6; 154: 4).
100. Valtice („Brody“), Siedlung (Bez. Břeclav): GKF-A, L. 3,6 cm (Abb. 2: 16; Komoróczy/Růžičková 2018, 60, obr. 4: 6).
101. Valtice („U Remízu“), Siedlung (Bez. Břeclav): GKF-A, L. 3,3 cm (Abb. 2: 14; unpubl., AÚ Brno, DET., P. Spálovský 2017, Nr. 59).
102. Vážany nad Litavou („Dolní zahrádka“), Siedlung (Bez. Vyškov): GKF-D, L. 2,5 cm (unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 11).
103. Velké Hostěrádky-Dambořice, Siedlung (Bez. Břeclav): Gussform, GKF-D, L. 4,6 cm (Abb. 11: 1; Jagošová et al. 2021, 2, 5, fig. 1: 3).
104. Velké Němčice („Na Boudecku“), Siedlung (Bez. Břeclav): GKF-A, L. 3,1 cm (Abb. 2: 2; unpubl., AÚ Brno, DET., J. Kotásek 2016, Nr. 7).
105. Velké Němčice („Staveniště“), Siedlung (Bez. Břeclav): GKF-D, L. 3,4 cm (unpubl., AÚ Brno, DET., M. Tulis 2010, Nr. 3).
106. Velké Němčice, Siedlung (Bez. Břeclav): GKF-A, L. 3,4 cm (Abb. 2: 13; unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 28).
107. Velké Němčice, Siedlung (Bez. Břeclav): GKF-D, L. 3,6 cm (unpubl., AÚ Brno, DET., D. Novotný 2009, Nr. 29).
108. Věteřov I, Siedlung (Bez. Hodonín): GKF-D, L. 3,3 cm (Abb. 12: 5; Zeman 2017, 330, Nr. 8, obr. 26: 4; tab. 129: 14).
109. Věteřov II, Siedlung (Bez. Hodonín): GKF-D, L. 3,8 cm (Zeman 2017, 331, Nr. 5, obr. 26: 7; tab. 130: 1).
110. Vlčnov I („Hýblův kříž“), Siedlung (Bez. Uherské Hradiště): GKF-D, L. 4,4 cm (Zeman 2017, 332, Nr. 12, obr. 26: 15; tab. 130: 14).
111. Vlčnov-Dolní Němčí, Siedlung (Bez. Uherské Hradiště): GKF-A, L. 4,5 cm (Abb. 2: 10; Zeman 2017, 335, Nr. 33, obr. 26: 1; tab. 133: 10).
112. Zborovice, Gräberfeld (Bez. Kroměříž): GKF-A, L. 3,4 cm (Pecháček 2022, 50, 51, 108, tab. 13: 1).
113. Mähren, Fundstelle unbekannt: GKF-C, L. 3,5 cm (Abb. 9: 6; Peškař 1972, 57, Taf. 15: 2).

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114. Bohdanovce nad Trnavou, Siedlung (Bez. Trnava): GKF-D, L. 3,5 cm (Kolník/Mitáš 2012, 41, obr. 3: 8).
115. Bratislava-Vajnory (Bez. Bratislava III), Siedlung, Obj. 5: GKF-CC (Silber), L. 3,8 cm (Vymazalová 2024, 221, obr. 5).
116. Cífer-Pác, Siedlung, Obj. 6/1993 – Grubenhaus (Bez. Trnava): GKF-C, L. 3,5 cm (Abb. 9: 7; Droberjar 2012a, 237; Hüssen/Rajtár 1994, 232, Abb. 9: 1; Cheben/Ruttikay 1994, 68, obr. 43: 5; Tejral 2015a, 438, Abb. 7: 8).
117. Čáry, Siedlung (Bez. Senica): GKF-D, L. 4 cm (Abb. 12: 9; Iván 2015, tab. 116: 1512).
118. Čáry, Siedlung (Bez. Senica): GKF-DC, L. 3,7 cm (Abb. 7: 12; unpubl., freundliche Informationen von Herrn J. Rajtár, Nitra).
119. Čataj, Siedlung (Bez. Senec): GKF-A, d. 3,4 cm (Abb. 2: 3; Bazovský 2005, 62, 63, tab. XIX: 10; Bazovský 2019, Abb. 3: 8).
120. Dojč, Siedlung (Bez. Senica): GKF-AC, L. 3,1 cm (Abb. 7: 1; Iván 2015, tab. 75: 1524).
121. Dojč, Siedlung (Bez. Senica): GKF-DA, L. 3 cm (Abb. 5: 6; Iván 2015, tab. 75: 1523).
122. Mužla, Siedlung (Bez. Nové Zámky): GKF-A, L. 3,4 cm (Abb. 2: 15; Iván 2015, tab. 115: 1479).
123. Radimov, Siedlung (Bez. Skalica): GKF-D (silberplattiert), L. 2,7 cm (Iván 2015, tab. 115: 1480).
124. Sekule („Za humnami“), Gräberfeld, Gr. 5b (Bez. Senica): GKF-C (Eisen), L. 5,6 cm (Abb. 9: 10; Iván/Kováčková/Rajtár 2019, 309, Taf. 7: 5b/2).
125. Sekule („Za humnami“), Gräberfeld (Bez. Senica): GKF-AC, L. 2,7 cm (Iván 2015, tab. 75: 1528).
126. Sekule („Za humnami“), Gräberfeld (Bez. Senica): GKF-AC, L. 2,5 cm (Abb. 7: 2; Iván 2015, tab. 75: 1529).
127. Šaľa-Veča, Siedlung (Bez. Šaľa): GKF-AC, L. 5,8 cm (Abb. 7: 3; Bazovský 2005, 152, tab. XXXI: 1; Fottová 2003, 40, obr. 17: 1).
128. Štúrovo, Siedlung (Bez. Nové Zámky): GKF-A, L. 2,9 cm (Abb. 2: 8; Iván 2015, tab. 116: 1514).

129. Zohor, Gräberfeld (Bez. Malacky): GKF-A, L. 3,2 cm (unpubl., freundliche Informationen von Herrn K. Elschek, Nitra).
 130. Zohor, Gräberfeld (Bez. Malacky): GKF-CA, L. 3,7 cm (unpubl., freundliche Informationen von Herrn K. Elschek, Nitra).
 131. Zohor, Gräberfeld (Bez. Malacky): patrň GKF-D, Halbfabrikate, L. 4 cm (Abb. 11: 4; *Elschek 2017*, 173, obr. 4: 15; 5: 17).
 132. Slowakei, Fundstelle unbekannt: GKF-A, L. 3,7 cm (Abb. 2: 6; *Droberjar 2012a*, 237; *Lamiová-Schmiedlová 1961*, 63, tab. XVI: 11).

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133. Bernhardsthal („Wehrweide/Krautäcker/Aulüssen“), Siedlung (Bez. Mistelbach): GKF-B, L. 3,4 cm (Abb. 8: 1; *Adler 1992*, Abb. 586; *Jedlička 2017*, 120, Taf. 3: 25; *Tejral 2015b*, 58, fig. 13: 3).
 134. Bernhardsthal („Wehrweide/Krautäcker/Aulüssen“), Siedlung (Bez. Mistelbach): GKF-D; L. 3,4 cm (Abb. 12: 4; *Adler 1992*, Abb. 585; *Jedlička 2017*, 120, Taf. 3: 28; *Tejral 2015b*, 58, fig. 13: 6).
 135. Bernhardsthal („Wehrweide/Krautäcker/Aulüssen“), Siedlung (Bez. Mistelbach): GKF-D, L. 3,8 cm (*Adler/Nebehay 1990a*, 217, Abb. 788; *Jedlička 2017*, 120, Taf. 3: 27; *Tejral 2015b*, 59, fig. 14: 8).
 136. Bernhardsthal („Wehrweide/Krautäcker/Aulüssen“), Siedlung (Bez. Mistelbach): GKF-DC, L. 3,8 cm (Abb. 7: 14; *Adler/Nebehay 1990b*, Abb. 847; *Jedlička 2017*, 120, Taf. 3: 29).
 137. Drösing („Hutmannsdorf“), Siedlung (Bez. Gänserndorf): GKF-A, L. 3 cm (Abb. 2: 12; *Droberjar 2012a*, 240; *Jedlička 2017*, 202, Taf. 15: 2; *Stuppner 1993a*, 484, Abb. 687).
 138. Drösing („Hutmannsdorf“), Siedlung (Bez. Gänserndorf): GKF-B, L. 3 cm (Abb. 8: 4; *Droberjar 2012a*, 237; *Jedlička 2017*, 202, Taf. 15: 3; *Lauermann 1996*, 699, Abb. 478).
 139. Drösing („Hutmannsdorf“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,8 cm (*Jedlička 2017*, 201, Taf. 14: 33; *Stuppner 1992*, 282, Abb. 688).
 140. Drösing („Hutmannsdorf“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3 cm (*Stuppner 1984*, 285, Abb. 475).
 141. Drösing („Mühlflleck“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,4 cm (*Droberjar 2012a*, 241; *Jedlička 2017*, 217, Taf. 16: 18; *Stuppner 1986*, Abb. 465; *Tejral 2015b*, 59, fig. 14: 7).
 142. Drösing („Schafbruck“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,4 cm (*Droberjar 2012a*, 241; *Jedlička 2017*, 223, Taf. 17: 5; *Jedlicka/Schmidt 1995*, 564, Abb. 693).
 143. Enzersfeld („Langes Enzersbrunnfeld“), Siedlung (Bez. Korneuburg): GKF-D, L. 3,6 cm (*Droberjar 2012a*, 237; *Karl/Karl 1999*, 781, Abb. 619).
 144. Enzersfeld („Enzersbrunnfeld“), Siedlung (Bez. Korneuburg): GKF-D, L. 4 cm (*Karl/Karl 2001*, 648, Abb. 697).
 145. Enzersfeld („Langes Enzersbrunnfeld“), Siedlung (Bez. Korneuburg): GKF-DC, L. 3 cm (*Karl/Karl 1997*, 497, Abb. 540).
 146. Jedenspeigen („Dammfeld“), Siedlung (Bez. Gänserndorf): GKF-C, L. 3 cm (Abb. 9: 12; *Allerbauer/Jedlicka 2001a*, 648, Abb. 708; *Tejral 2015b*, 58, fig. 13: 5).
 147. Katzelsdorf („Zwifangäcker“), Siedlung (Bez. Mistelbach): GKF-C, L. 3,6 cm (Abb. 9: 2; *Gschwantler/Jedlicka/Schmidt 1995*, 566, Abb. 719; *Jedlička 2017*, 97, Taf. 1: 10).
 148. Palterndorf, Siedlung (Bez. Gänserndorf): GKF-C, L. 3,2 cm (*Adler/Schuppler 1991*, 246, Abb. 1061; *Droberjar 2012a*, 241).
 149. Reinthal („Wiesäcker“), Siedlung (Bez. Mistelbach): GKF-A, L. 3,3 cm (Abb. 2: 17; *Allerbauer/Jedlicka 2001b*, Abb. 768; *Jedlička 2017*, 100, 101, Taf. 1: 20).
 150. Ringelsdorf („Fünf Mahden/Neues Feld/Langfeld“), Siedlung (Bez. Gänserndorf): GKF-A, L. 3,4 cm (Abb. 2: 4; *Allerbauer/Jedlicka 2001c*, Abb. 790; *Jedlička 2017*, 170, Taf. 10: 24; *Tejral 2015a*, 439, Abb. 7: 4; *2015b*, 58, fig. 13: 2).
 151. Ringelsdorf („Fünf Mahden/Neues Feld/Langfeld“), Siedlung (Bez. Gänserndorf): GKF-D, L. 2,9 cm (*Jedlička 2017*, 169, Taf. 10: 23).
 152. Ringelsdorf („Fünf Mahden/Neues Feld/Langfeld“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,4 cm (*Jedlička 2017*, 170, Taf. 10: 26).
 153. Ringelsdorf („Fünf Mahden/Neues Feld/Langfeld“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,5 cm (Abb. 12: 16; *Droberjar 2012a*, 240; *Jedlička 2017*, 169, Taf. 10: 22; *Stuppner 1991*, Abb. 1161).
 154. Ringelsdorf („Trümmer“), Siedlung (Bez. Gänserndorf): GKF-B, L. 2,9 cm (Abb. 8: 5; *Droberjar 2012a*, 241; *Jedlička 2017*, 141, Taf. 6: 23; *Nebehay/Stuppner 1990a*, 238, Abb. 1294).
 155. Ringelsdorf („Trümmer“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,4 cm (Abb. 12: 8; *Droberjar 2012a*, 241; *Jedlička 2017*, 141, 142, Taf. 6: 24; *Nebehay/Stuppner 1990b*, 239, Abb. 1317).
 156. Ringelsdorf („Trümmer“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,9 cm (*Jedlička 2017*, 142, Taf. 6: 25).
 157. Ringelsdorf („Langfeld“), Siedlung (Bez. Gänserndorf): GKF-D, L. 3,8 cm (*Stuppner 1993b*, 501, Abb. 849).
 158. Schützen am Gebirge („Wulkaäcker“), römische Fundstelle (Bez. Eisenstadt-Umgebung): GKF-D, L. 3,4 cm (*Kropf 1997*, 483, Abb. 473).
 159. Tresdorf („Pappeln“), Siedlung (Bez. Korneuburg): GKF-D, L. 3,4 cm (*Adler/Schmelzenbarth 1988*, 246, Abb. 608).
 160. Waidendorf, Siedlung (Bez. Gänserndorf): GKF-D, L. 3,1 cm (*Allerbauer/Jedlicka 2001d*, 669, Abb. 847).

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K typologii germánských kolínkovitých spon severně od středního Dunaje

Eduard Droberjar – Balázs Komoróczy

Souhrn

Předložená práce se zabývá definováním středodunajské skupiny germánských kolínkovitých spon (GKF: germanische Kniefibeln), která vznikla a vyvíjela se u polabských Germánů severně od středního Dunaje na území jižní Moravy, jihozápadního Slovenska a Dolního Rakouska ve 2. polovině 2. století. Pod silnými vlivy kolínkovitých spon římsko-provinciálních (Jobst 13C), labskogermánských (Almgren 141–145) a przeworských (Almgren 132) se vytvořila svébytná skupina šatových spínadel, jejíž jednotlivé artefakty lze sledovat i mimo střední Podunají. První pokus o jejich třídění (Droberjar 2012a) vycházel z malého počtu nálezů, kde původně byly označeny jako různé varianty spon typu Almgren 132 nebo BGKF (bronzové germánské kolínkovité spony).

Základním kritériem pro jejich typologické třídění jsou tvar záhlavní destičky či vývalku/pseudohlavice a tvar lučíku a nožky (obr. 1). Záhlavní destička GKF je někdy výrazná, jindy může být obtížné její tvar přesněji určit, zejména jsme-li odkázáni výhradně na publikované, často nepřiliš detailní ilustrace. Rozlišujeme u ní čtyři hlavní tvary, resp. typy: polokruhovitý (GKF-A, obr. 2), trojúhelníkovitý (GKF-B, obr. 8), pravoúhlý/kvadratický (GKF-C, obr. 9) a variantu s malou nevýraznou „záhlavní destičkou“, někdy zvýrazněnou jednoduchým nebo žlábkovaným vývalkem (GKF-D, obr. 12).

Spony GKF mají zpravidla rovnou patku, nezdobenou nebo zdobenou (rytím, plastickými žebry nebo fasetováním). Dalším třídícím kritériem je tvar lučíku a tvar zakončení nožky, resp. patky. Varianta A má tyčinkový lučík a nožku zakončenou kuličkou, varianta B má tyčinkový lučík a nožku zakončenou terčovitou nožkou, varianta C má tyčinkový lučík a lichoběžníkovitou nožku a varianta D má širší páskový lučík plynule přecházející v rovně zakončenou nožku.

Kombinací tvaru záhlavní destičky a tvaru nožky (patky) vydělujeme jednotlivé varianty (obr. 5–7). V jejichž označení první písmeno značí tvar záhlavní destičky (u typů GKF-A, GKF-B, GKF-C, GKF-D) či její absenci. Druhé písmeno identifikuje tvar nožky (A, B, C), popřípadě její absenci u jednotlivých variant nebo odlišný tvar lučíku (D). Šedě vybarvené a schematicky nakreslené typy a varianty (obr. 1) jsou doloženy v nálezech (viz katalog). Pokud se v budoucnu objeví nové dosud neznámé typy či varianty, lze systém směrem dolů (GKF-E) tak i nahoru (např. GKF-AE) dále rozšiřovat.

Dvojdílné germánské kolínkovité spony (GKF) se záhlavní destičkou nebo vývalkem, resp. s úzkou pseudoválcovitou hlavicí mají buď háček na uchycení horní tětiny nebo tětiva je provlečená přes druhý otvor v destičce na uchycení spirály. Konstrukčně se podobají římsko-provinciálním kolínkovitým sponám typu Jobst 13C, a to zejména přítomností různě tvarované a různě velké záhlavní destičky a háčkem pro horní tětivu (Jobst 1975, 65, 66, Taf. 20; 21), což je nejviditelněji patrné na typu GKF-A. Ačkoli římsko-provinciální kolínkovité spony mají zpravidla zaoblený lučík, méně často se i u nich můžeme setkat se sponami s pravoúhle zalomeným lučíkem (obr. 4). GKF jsou rovněž podobné germánským kolínkovitým sponám typu Almgren 132 s výraznou širokou válcovitou hlavicí vyskytující se hlavně v areálu przeworské kultury (Andrzejowski/Cieśliński 2007, ryc. 7).

Jelikož hlavní koncentrace spon GKF je severně od středního toku Dunaje, označujeme je jako středodunajskou skupinu germánských kolínkovitých spon. Činíme tak navzdory tomu, že některé varianty (zejména GKF-AA a GKF-AB) z tohoto území téměř neznáme. Naopak se vyskytují hlavně na území kultury wielbarské (Andrzejowski 2023, 193, tab. CCCVII: 4; Andrzejowski/Maciałowicz 2017, 215, ryc. 24: 4; Cieśliński 1999, 79, 80, tab. V).

Dlouhou dobu se naše dosavadní vědomosti k výzkumu spon doby římské opíraly o hrobové nebo náhodné nálezy. Teprve systematická povrchová prospekce, dokumentace a konzervace kovových artefaktů ze sídlištních lokalit realizovaná v Jihomoravském kraji a koordinovaná Archeologickým ústavem AV ČR v Brně (základní metodická východiska viz Komoróczy/Vlach/Zelíková 2017) přináší nové zásadní poznatky i k problematice středodunajské skupiny germánských kolínkovitých spon (GKF). Možná právě tyto aktivity, které jsou v posledních letech utvářeny jako systematická činnost občanských spolupracovníků této instituce (Komoróczy 2022) způsobují, že právě na jižní Moravě jich je nejvíce. Na 57 lokalitách je

doloženo 93 spon včetně tří polotovarů a jednoho kadlubu (jedna lokalita má neznámý patrně moravský? kontext). Po patnácti lokalitách je v Dolním Rakousku (28 spon včetně jedné panonské lokality) a v Čechách (20 spon včetně jednoho kadlubu). Z jihozápadního Slovenska pochází 12 lokalit s devatenácti nálezy včetně jednoho polotovaru.

Celkem tedy evidujeme 160 spon GKF na 99 lokalitách (plus dvě lokality neznámé a jedna panonská). Výrazně dominují sídlištní nálezy, šest lokalit je hrobových (Hostěnice, Třebusice, Pustiměř, Zborovice, Sekule, Zohor) a dvě římské (Mušov-Burgstall, Schützen am Gebirge v Panonii) s tím, že na Mušov-Burgstallu se našly ve vrstvách, a tudíž jejich příslušnost k římskému osídlení není zcela jistá. GKF se koncentrují do oblasti středního Podunají, tj. na jižní Moravu, jihozápadní Slovensko a severní část Dolního Rakouska (obr. 3; 10; 13; 14). Výraznou skupinu tvoří i nálezy ze středních Čech.

O labskogermánské provenienci těchto spon ve středodunajském prostoru svědčí i doklady jejich výroby (obr. 11), jakými jsou dva kadluby, resp. jejich poloviny, jeden bronzový z lokality Kočí (obr. 11: 2), druhý měděný z lokality Velké Hostěrádky-Dambořice (obr. 11: 1), ve kterých Germáni odlévali spony typu GKF-D a čtyři polotovary rovněž typu GKF-D, resp. GKF-DD z Mušova (obr. 11: 3, 6), Strachotic (obr. 11: 5) a Zohora (obr. 11: 4). Pro lokální výrobu GKF v nejjižnější části Moravy ukazuje i větší koncentrace nálezů zejména na sídlišťích v Jaroslavcích „Na Farském“ (9 ks), Hevlíně „Na Šantovsku“ (8 ks) a Mikulově „Nad Valtickou silnicí“ (6 ks).

Na kolínkovitých sponách středodunajské skupiny je vidět velmi zřetelné propojování římsko-provinciálních a germánských vlivů. Na vznik a vývoj GKF měly silnou vazbu bouřlivé děje markomanských válek a doba kolem těchto událostí, kdy polabští Germáni zejména Markomani a Kvádové pronikali na území římských provincií a ze severu na jih se dostávaly skupiny východních Germánů (*superiores barbari*). Vedle klasických labskogermánských spon Almgren 141–145, przeworských spon Almgren 132 a římsko-provinciálních spon Jobst 13C, které u polabských Germánů byly známé, vytvořili si v klíčové jihomoravsko-západoslovensko-dolnorakouské oblasti specifický kulturní projev, jímž nám zanechali odkaz na šatových spínadlech v podobě GKF.

Obr. 1. Typologické třídění germánských kolínkovitých spon (GKF). Šedě vyznačené typy a varianty jsou obsaženy v katalogu.

Obr. 2. Kolínkovité spony typu GKF-A. 1 – Hrušky u Brna (č. kat. 46, nepubl.); 2 – Velké Němčice (č. kat. 104, nepubl.); 3 – Čataj (č. kat. 119, podle Bazovský 2019); 4 – Ringelsdorf (č. kat. 150, podle Tejral 2015b); 5 – Jaroslavice (č. kat. 49, nepubl.); 6 – Slovensko, neznámá lokalita (č. kat. 132, podle Lamiová-Schmiedlová 1961); 7 – Dyjákovice (č. kat. 31, nepubl.); 8 – Štúrovo (č. kat. 128, podle Iván 2015); 9 – Hevlín (č. kat. 35, podle Hanáková 2023); 10 – Vlčnov-Dolní Němčí (č. kat. 111, podle Zeman 2017); 11 – Sáňy (č. kat. 9, podle Droberjar 2012a); 12 – Drösing (č. kat. 137, podle Stuppner 1993a); 13 – Velké Němčice (č. kat. 106, nepubl.); 14 – Valtice (č. kat. 101, nepubl.); 15 – Mužla (č. kat. 122, podle Iván 2015); 16 – Valtice (č. kat. 100, podle Komoróczy/Růžicková 2018); 17 – Reinthal (č. kat. 149, podle Allerbauer/Jedlicka 2001b).

Obr. 3. Kolínkovité spony typů GKF-A, GKF-AA, GKF-AC. 1 – Božice; 2 – Čataj; 3 – Dojč; 4 – Drösing; 5 – Dyjákovice „U Josefa“; 6 – Dyjákovice „Za Černou strouhou“; 7 – Hevlín; 8 – Hroznová Lhota; 9 – Hrušky u Brna „Horalky“; 10 – Hrušky u Brny „Hrubé díly“; 11 – Jaroslavice; 12 – Mikulov; 13 – Mužla; 14 – Nová Ves; 15 – Sáňy; 16 – Sekule; 17 – Valtice „Brody“; 18 – Valtice „U Remízu“; 19 – Velké Němčice „Na Boudecku“; 20 – Velké Němčice; 21 – Vlčnov-Dolní Němčí; 22 – Reinthal; 23 – Ringelsdorf; 24 – Šaľa-Veča; 25 – Štúrovo; 26 – Zborovice; 27 – Zohor. Grafika: M. Vlach.

Obr. 4. Římské kolínkovité spony typů Jobst 13C (1, 3–5) a Jobst 13D (2) nebo GKF-A, B. 1 – Lauriacum (podle Jobst 1975); 2 – Brigetio (podle Merczi 2011); 3 – Bernhardsthal (č. kat. 133, podle Adler 1992); 4 – neznámá lokalita (podle Peškař 1972); 5 – Hrušky u Brna (č. kat. 46, nepubl.).

Obr. 5. Kolínkovité spony typů GKF-AA, CA, DA. 1 – Nová Ves (č. kat. 4, podle Droberjar 2012a); 2 – Kryspinów (podle Andrzejewski/Maciałowicz 2017); 3 – Nová Ves (č. kat. 7, nepubl.); 4 – Třeběchovice pod Orebem (č. kat. 14, podle Horník/Kmošek 2020); 5 – Jaroslavice (č. kat. 57, nepubl.); 6 – Dojč (č. kat. 121, podle Iván 2015); 7 – Hroznová Lhota II (č. kat. 44, podle Zeman 2017).

Obr. 6. Kolínkovité spony typů GKF-AB, DB. 1 – NowyŁowicz (podle Andrzejewski 2023); 2 – Jartypory (podle Ciešliński 1999); 3 – Hevlín (č. kat. 38, podle Rožnovský 2015); 4 – Hevlín (č. kat. 39, podle Hanáková 2023).

Obr. 7. Kolínkovité spony typů GKF-AC, CC, DC. 1 – Dojč (č. kat. 120, podle Iván 2015); 2 – Sekule (č. kat. 126, podle Iván 2015); 3 – Šaľa-Veča (č. kat. 127, podle Bazovský 2005); 4 – Hroznová Lhota II (č. kat. 43, podle Zeman 2017); 5 – Dyjákovice (č. kat. 32, nepubl.); 6 – Jaroslavice (č. kat. 50, nepubl.); 7 – Mikulov (č. kat. 63, nepubl.); 8 – Božice (č. kat. 24, nepubl.); 9 – Nezamyslice (č. kat. 77, podle Čižmář et al. 2010); 10 – Tatce (č. kat. 12, nepubl.); 11 – Všehřlapy-Krchleby (č. kat. 19, podle Droberjar/Militký 2020); 12 – Čáry (č. kat. 118, nepubl.); 13 – Třebusice (č. kat. 15, podle Svoboda 1948); 14 – Bernhardsthal (č. kat. 136, podle Adler/Nebehay 1990a).

Obr. 8. Kolínkovité spony typu GKF-B. 1 – Bernhardsthal (č. kat. 133, podle Tejral 2015b); 2 – Koberžice (č. kat. 58, nepubl.); 3 – Přibice (č. kat. 86, nepubl.); 4 – Drösing (č. kat. 138, podle Lauermann 1996); 5 – Ringelsdorf (č. kat. 154, podle Nebehay/Stuppner 1990a); 6 – Hevlín (č. kat. 36, nepubl.); 7 – Petrovice (č. kat. 81, nepubl.); 8 – Mušov-Burgstall (č. kat. 70, podle Tejral 2015a); 9 – Semčice-Žerčice (č. kat. 10, podle Droberjar 2012a); 10 – Strážnice-Petrov II (č. kat. 98, podle Zeman 2017); 11 – Božice (č. kat. 22, podle Jílek 2008).

Obr. 9. Kolínkovité spony typu GKF-C. 1 – Strachotice (č. kat. 93, nepubl.); 2 – Katzlsdorf (č. kat. 147, podle Gschwantler/Jedlicka/Schmidt 1995); 3 – Slatinice (č. kat. 91, podle Loskotová 2009); 4 – Prosiměřice (č. kat. 85, podle Čižmář 2009); 5 – Jaroslavice (č. kat. 51, nepubl.); 6 – Morava, neznámá lokalita (č. kat. 113, podle Peškař 1972); 7 – Cífer-Pác, obj. 6/1993 (č. kat. 116, podle Hüssen/Rajtár 1994); 8 – Rakvice (č. kat. 90, nepubl.); 9 – Mušov-Burgstall (č. kat. 71, nepubl.); 10 – Sekule, hr. 5b (č. kat. 124, podle Iván/Kováčková/Rajtár 2019); 11 – Nová Ves (č. kat. 5, nepubl.); 12 – Jedenspeigen (č. kat. 146, podle Tejral 2015b).

- Obr. 10. Kolínkovité spony typů GKF-C, GKF-CA, GKF-CC. 1 – Bratislava-Vajnory; 2 – Cífer-Pác; 3 – Jaroslavice; 4 – Jeden-speigen; 5 – Katzlsdorf; 6 – Mikulov; 7 – Mušov-Burgstall; 8 – Nezamyslice; 9 – Nová Ves; 10 – Palterndorf; 11 – Prosiměřice; 12 – Rakvice; 13 – Sekule; 14 – Slatinice; 15 – Strachotice; 16 – Tatce; 17 – Všechlapy-Krchleby; 18 – Zohor. Grafika: M. Vlach.
- Obr. 11. Doklady výroby (formy a polotovary) typu GKF-D, DD. 1 – Velké Hostěrádky-Dambořice (č. kat. 103, podle *Jagošová et al. 2021*); 2 – Kočí (č. kat. 3, podle *Vích/Kmošek 2020*); 3 – Mušov „Na Pískách“ (č. kat. 75, nepubl.); 4 – Zohor (č. kat. 131, podle *Elschek 2017*); 5 – Strachotice (č. kat. 95, nepubl.); 6 – Mušov-Burgstall (č. kat. 74, podle *Tejral 2015a*).
- Obr. 12. Kolínkovité spony typu GKF-D. 1 – Jaroslavice (č. kat. 54, nepubl.); 2 – Prachovice (č. kat. 8, podle *Vích 2010*); 3 – Blatnice pod Svatým Antonínkem I (č. kat. 21, podle *Zeman 2017*); 4 – Bernhardsthal (č. kat. 134, podle *Adler 1992*); 5 – Velké Němčice (č. kat. 108, podle *Zeman 2017*); 6 – Mikulov (č. kat. 68, nepubl.); 7 – Mikulov (č. kat. 67, nepubl.); 8 – Ringelsdorf (č. kat. 155, podle *Nebehay/Stuppner 1990b*); 9 – Čáry (č. kat. 117, podle *Iván 2015*); 10 – Mušov „Na Pískách“ (č. kat. 76, nepubl.); 11 – Strachotice (č. kat. 95, nepubl.); 12 – Zalužany (č. kat. 20, podle *Droberjar/John/Zavřel 2017*); 13 – Tatce (č. kat. 13, podle *Droberjar 2012a*); 14 – Hevlín (č. kat. 34, nepubl.); 15 – Měnín (č. kat. 62, nepubl.); 16 – Ringelsdorf (č. kat. 153, podle *Stuppner 1991*); 17 – Mušov-Burgstall (č. kat. 72, nepubl.); 18 – Prosiměřice (č. kat. 84, nepubl.); 19 – Pustiměř, žárový hrob (č. kat. 87, podle *Jílek et al. 2020*).
- Obr. 13. Kolínkovité spony typů GKF-D, GKF-DA, GKF-DB, GKF-DC, GKF-DD. 1 – Bernhardsthal; 2 – Blatnice pod Svatým Antonínkem I; 3 – Bohdanovce nad Trnavou; 4 – Božice; 5 – Břeclav; 6 – Čáry; 7 – Dojč; 8 – Dolní Bojanovice; 9 – Drnholec; 10 – Drösing „Hutmannsdorf“; 11 – Drösing „Mühlfleck“; 12 – Drösing „Schafbruck“; 13 – Dyjákovice „Pod Kanálem“; 14 – Dyjákovice „Před Lesem“; 15 – Dyjákovice „Za Šimlem“; 16 – Enzersfeld „Langes Enzersbrunnfeld“; 17 – Enzersfeld „Enzersbrunnfeld“; 18 – Hevlín „Na Rybníci“; 19 – Hevlín „Na Šantovsku“; 20 – Hevlín „Na Šantovsku“; 21 – Hořátek-Zvěřínek; 22 – Hostěnice; 23 – Hroznová Lhota II; 24 – Hrubá Vrbka; 25 – Charvátská Nová Ves; 26 – Jaroslavice; 27 – Kočí; 28 – Lanžhot; 29 – Medlovice; 30 – Měnín; 31 – Mikulov „Nad Valtickou silnicí“; 32 – Mikulov „U Vodárny“; 33 – Mušov-Burgstall; 34 – Mušov „Na Pískách“; 35 – Olbramovice; 36 – Ostrožská Nová Ves I; 37 – Ostrožská Nová Ves V; 38 – Pochořelice; 39 – Prachovice; 40 – Prosiměřice; 41 – Pustiměř; 42 – Radimov; 43 – Rakvice; 44 – Ringelsdorf „Fünf Mahden/Neues Feld/Langfeld“; 45 – Ringelsdorf „Trümmer“; 46 – Ringelsdorf „Langfeld“; 47 – Stošíkovice na Louce; 48 – Strachotice; 49 – Strážnice II; 50 – Schützen am Gebirge; 51 – Šlotava; 52 – Tatce; 53 – Tresdorf; 54 – Třeběchovice pod Orebem; 55 – Třebusice; 56 – Uherský Brod II; 57 – Vážany nad Litavou; 58 – Velké Hostěrádky-Dambořice; 59 – Velké Chvalovice; 60 – Velké Němčice „Staveniště“; 61 – Velké Němčice; 62 – Věteřov I; 63 – Věteřov II; 64 – Vlčnov I; 65 – Vrbová Lhota; 66 – Waidendorf; 67 – Zalužany; 68 – Zohor. Grafika: M. Vlach.
- Obr. 14. Kolínkovité spony typu GKF-B. 1 – Bernhardsthal; 2 – Božice; 3 – Drösing; 4 – Hevlín; 5 – Koberice u Brna; 6 – Mušov-Burgstall; 7 – Petrovice; 8 – Přibice; 9 – Ringelsdorf; 10 – Semčice-Žerčice; 11 – Strážnice-Petrov II. Grafika: M. Vlach.

prof. PhDr. Eduard Droberjar, PhD.
Trnavská univerzita v Trnave
Katedra klasickej archeológie FF
Hornopotočná 3
SK – 918 43 Trnava
eduard.droberjar@truni.sk

Mgr. Balázs Komoróczy, Ph.D.
Archeologický ústav AV ČR, v. v. i.
Čechyňská 19
CZ – 60 00 Brno
komoroczy@arub.cz
<https://orcid.org/0000-0002-0576-7230>

und

Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra

und

Archeologický ústav AV ČR, v. v. i.
Čechyňská 363/19
CZ – 602 00 Brno
droberjar@arub.cz
<https://orcid.org/0000-0003-3407-6452>

ROMAN-PROVINCIAL PEACOCK PLATE BROOCH FROM OSICE, HRADEC KRÁLOVÉ DISTRICT¹

Pavel Horník – Viktoria Čiřáková – Zuzana Zlámalová Cílová – Jan Jílek

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Abstract: The article comprehensively evaluates the find of a zoomorphic (peacock) enamelled plate brooch of Roman origin. The brooch is dated to the 2nd century AD. The artefact was made of a copper alloy with a high proportion of zinc. It is ancient brass – the so-called aurichalcum. The peacock motif was one of the popular decorative elements in Roman antiquity, and in the case of a brooch, it can be associated with the symbolism of luxury, prosperity and wealth.

INTRODUCTION²

Roman-provincial plate brooches are not very often found in the territory of East Bohemia. The most recent comprehensive publication of Bohemian finds of these brooches comes from the pen of E. Droberjar and is dated 2016, but it does not include finds from East Bohemia. Among the small number of enamel brooches from the territory of East Bohemia, we lack zoomorphic brooches. One such brooch was found at a Roman period

settlement site in Osice (Hradec Králové district) in November 2020. The brooch was handed over to the collection of the Museum of Eastern Bohemia in Hradec Králové by Z. Mitáš. The evaluated brooch, which falls within the category of Roman imports, comes from a multicultural site (Fig. 1), which has been monitored for a long time by amateur collaborators using metal detectors. Metal finds show that the site was inhabited throughout the Roman Period.

The primary aim of this article is to comprehensively evaluate and interpret an interesting and rare find in the territory of Bohemia. Our attention is not only focused on the standard typological-chronological analysis, but also brings archaeometric findings and reflections on the meaning of the brooch in the Roman and barbarian environments.



Fig. 1. Osice (Hradec Králové district). Location of the Roman Period settlement site (created by P. Čechák, background map by Czech Office for Surveying, Mapping and Cadastre, ČÚZK).

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² The team of authors dedicates this text to the dear jubilarian Ján Rajtár, who is one of the most prominent experts on the issue of Roman-barbarian relations in Central Europe. His recommendations and ideas have always been a great inspiration to us!

Description

Brass brooch stylised in the form of a peacock. The head is turned right. The crest atop the head is broken off, the wing is divided into six cells, in three of which the enamel is preserved. The tail feathers are indicated by engraving. There are two circular cells on the tail and on the wing. On the reverse side there is the preserved pin holder and an eyelet for the spring. The pin and the spring are broken off. Dimensions: 30 × 19 mm, weight: 5.8 g, Inv. No. A95042. Storage place: Museum of Eastern Bohemia in Hradec Králové (Fig. 2).

ARTEFACTUAL ANALYSIS

Peacock-shaped brooch from Osice site (Fig. 2) is consists of an oval body with a wing. It is divided into six triangular cells originally filled with enamel. The enamel fill was preserved in three of them and is red in colour. On the wing and on the tail, there are two other small circular cells that bore the enamel decoration. The body is connected with distinctive tail feathers, indicated by engraving. At the other end is a tiny neck with an upright head facing right. The crest, which we know from several brooches of this form (e.g. *Gaspar* 2007, Taf. 94: 2123, 2124; *Gugl* 1995, Taf. 19: 145; *Hattatt* 2007, fig. 220: 1171), is unfortunately broken off. A completely identical brooch was found in the Roman city of Virunum in the province of Noricum. The Austrian specimen allows us, with a certain degree of tolerance, to reconstruct the colour range of the enamel, with which also the cells of the brooch from East Bohemia could have been filled. In accordance with our find, a red enamel has been preserved here, still supplemented with a green enamel. The zoomorphic brooch is dated to the 2nd century AD (*Gugl* 1995, 46, 93, Taf. 19: 145). Another very close analogy has to be sought in Luxembourg (*Gaspar* 2007). Another brooch, also dated to the 2nd century, is listed in *R. Hattatt's* catalogue (2007, 361, fig. 220: 1171) without detailed localisation. Brooches from the sites of Augst and Baden are similar in shape to our find. *E. Ettlinger* (1973, 30, 125, Taf. 14: 21, 28: 6) places them in the middle of the 1st century AD. *E. Riha* (1979, 200, 201, Taf. 67: 1738) assigned the brooch from Augst to her type 7.25, which comprises various forms of flat zoomorphic brooches decorated with enamel. This group is dated to the 2nd century AD. In *M. Feugère's* classification, we observe some similarities in shape with brooches of Feugère types 29a22a and 29a22b. These brooches are reported from the French sites of Etaples and Verault, Mont-Berny, and from Bologna in Italy (*Feugère* 1985, 410, fig. 60). The French researcher anchors his type 29 group of brooches chronologically only in a very general way. He points to the beginning of the appearance of various forms of zoomorphic brooches in the middle of the 1st century and continuation into the 2nd century (*Feugère* 1985, 393, 394). The peacock brooch from the Zugmantel *castellum* is more elaborate than the brooch from Osice. Nevertheless, we consider it a suitable parallel. Its wing is decorated with dark blue enamel. The brooch is dated to the 2nd century (*Böhme* 1972, 40, 41, Taf. 27: 1049). Two brooches in the form of peacocks date from the period when Roman settlement flourished on the site of the former Titelberg *oppidum*. One of the brooches bears green enamel, the other has survived without it. Brooches that were found out of context are dated as early as the 1st century (*Gaspar* 2007, 50, Taf. 94: 2123, 2124). In the author's classification, they correspond to type 56, which is supposed to be characterized by metal inlay (*Gaspar* 2007, 50). The catalogue item No. 2123 is mentioned to bear green enamel, which is, however, characteristic of brooches type 57 (*Riha* 7.25) dating to the 2nd century (*Gaspar* 2007, 50, 217).

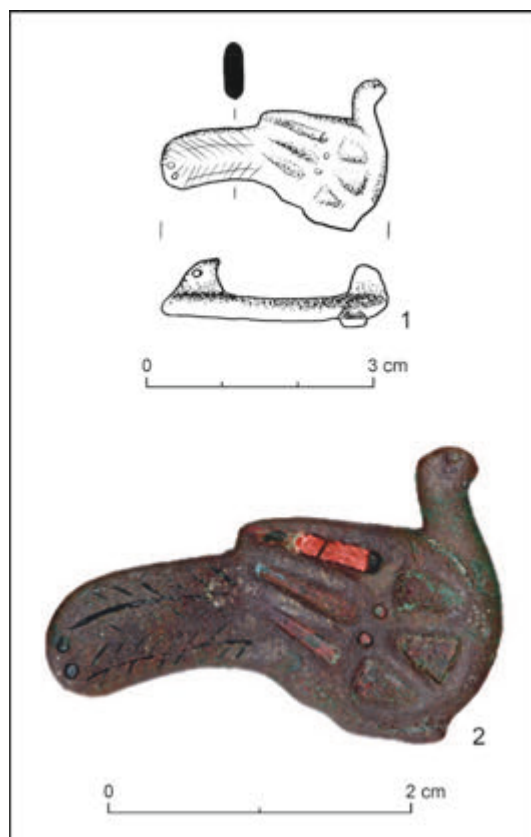


Fig. 2. Osice (Hradec Králové district). 1 – drawing documentation of the brooch; 2 – obverse side of the brooch with remains of enamel (drawing by H. Oláhová, photo by J. Souček).

Zoomorphic enamelled brooches developed in the Roman-provincial environment in the last third of the 1st century. The finds from both military and civilian environments testify to their popularity throughout the 2nd century. They were still popular with Germans at the beginning of the 3rd century (Zeman 2017, 94). Due to the circumstances of finding, we have to understand the brooch from Osice as a find without a closer knowledge of the context. The presented parallels make it possible to place the optimum of its popularity in the 2nd century AD. However, we are unable to answer whether its archaeologisation could have taken place at the beginning of the 3rd century.

ANALYSIS OF ENAMEL AND ELEMENTAL COMPOSITION OF METAL

In the case of enamel, it is a popular decorative technique that has been documented in various variations from ancient times to the present day. The best-known enamel techniques include *cloisonné* (in added compartments) and *champlevé* (in sunken cells). It is a crushed glass powder coloured with the help of appropriate metal oxides, which is fused to the metal surface under high temperatures. The oldest evidence of enamel comes from Cyprus – these objects are products of the Mycenaean culture and are dated to the 13th century BC. In Hellenism, we can already follow up the use of the *cloisonné* technique in the Mediterranean area and in the northern Black Sea region (Urbanová 2015, 21–23). At that time, this was only an accessory technology, when small details on gold jewellery were decorated with the help of enamel. Only in the environment of the La Tène Period can we talk about the true rise of *champlevé* enamel decoration. In the context of the Western and Central European La Tène cultural sphere, exclusively red enamel appears, in contrast to the territory of today's Serbia, where we can also encounter blue and yellow (Dizdar 2014, 103). Enamel decoration appears both on personal ornaments – brooches and belts, and on functional objects – fittings, spurs, parts of horse harness, rivets. Enamel decoration became also popular in the Roman-provincial environment, where it is most often used to decorate small objects such as brooches, belt or horse harness fittings, seal boxes, etc. Exceptionally, it can also be found on larger objects, for example on bronze vessels (Pelpel/Vernou 2019). The *champlevé* technique is typical for the Roman-provincial environment. This technique is characterized by troughs or cells that are engraved or cast into the surface of objects. In contrast, *cloisonné* uses compartments added to the surface of objects by soldering thin metal strips onto the base (Bateson 1981, 81, 82). At the same time, the colour palette is also expanding, so we can most often find blue, red and white. Green, yellow, yellow-brown and orange are less frequent (Henderson 1991, 69–72). Finds of objects with enamel decoration are concentrated in the territory of Roman provinces. Numerous finds of enamel brooches or belt fittings are also known from the Barbaricum (for more details, see Droberjar 2016; Elschek 2017). The issue of workshops for the production of enamelled objects is not yet resolved, as we lack direct evidence of this production activity. For example, workshops can be assumed in the region around the city of Cologne, whose territory was a renowned glassmaking centre. We can also think about the existence of workshops in Trier and Mainz (Riha 1979, 30; Sedláčková 2020, 75). Evidence for the production of enamelled artefacts is also known from Dacia, from the sites of Ilişua and Tibiscum (Benea 2016, 782, 786, Abb. 6: 3, 4).

Roman glasses were made from the natron mineral (rich in sodium), which had the function of a flux. Another raw material was sand, which also contains calcareous shells. Natron-based glasses are typically low in K₂O and MgO (usually less than 1.5%) and low in P₂O₅ (usually < 0.2%). The chemical composition of the glass or enamel in the brooch from Osice was determined by the LA-ICP-MS³ method and is shown in Table 1.

Based on the results in the table, it seems that this type of glass is not involved. However, higher contents of the discussed oxides are described in the literature for Roman red glasses and are usually associated with

³ The major, minor and trace element contents of sample were determined using the LA-ICP-MS (laser ablation-inductively coupled plasma-mass spectrometry) system consisting of Agilent 7900 quadrupole (Q)-ICP-MS (Agilent Technologies Inc., USA) coupled with an Analyte Excite Excimer 193 nm LA system (Photon Machines, USA), equipped with a two-volume HelEx ablation cell. The gas system of the Laser includes Nitrogen for purging of the laser beam path and Helium carrier gas. Agilent 7900 Q-ICP-MS was equipped with standard nickel sampler and skimmer cones and a quartz torch with a 2.5 mm injector. The applied laser fluence was 4.71 J/cm² with a laser pulse rate of 10 Hz. A typical analysis consisted of 20 s of background acquisition (gas blank), 60 s of sample ablation, and 60 s of wash-out time. The Iolite 4.0 software package was used for data reduction to estimate trace element concentrations, analytical errors, and detection limits. The internal standardization was based on Si concentrations determined by the SEM-EDS. NIST 612 glass reference material and Corning B were used for external calibration.

Table 1. Chemical composition of glass – major, minor and trace elements from LA-ICP-MS.

	Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	SO ₃	P ₂ O ₅	K ₂ O
wt%	12.59	2.54	2.63	55.77	0.2	1.1	1.78
	CaO	TiO ₂	MnO	Fe ₂ O ₃	CuO	PbO	–
wt%	8.13	0.19	0.73	1.7	0.84	10.09	–
	Li	B	V	Cr	Co	Ni	Zn
ppm	5.3	188	31	20	30	25	369
	As	Rb	Sr	Y	Zr	Ag	Sn
ppm	48	5.0	675	6.2	70	10	2407
	Sb	Ba	La	Nd	Hf	Bi	U
ppm	1537	292	6.7	6.7	1.8	3.2	0.9

Table 2. Elemental composition of metal analysed by SEM/EDS (wt%).

	Cu	Zn	Pb	Sn
wt%	77.8	20.2	1.2	0.1

additions of vegetable ash to natron glass during the production process. These additions were apparently supposed to ensure the reducing conditions of melting by the introduced carbon contained in plant ash (*Bandiera et al. 2020*).

The PbO and CuO content in the enamel is also interesting. According to these oxides, the glass can be classified



Fig. 3. Detail of preserved enamel; image obtained with an Olympus SZX9 stereo microscope.

into the so-called low-copper, low-lead group of glasses. This designation is based on the literature dealing with the red glass of archaeological artefacts (*Freestone et al. 2003*). In the cited text, two basic types of red glass coloured with copper are distinguished: (a) low-copper low-lead glass with values of max 4% copper oxide and 10% lead oxide and (b) high-copper high-lead glass with 5–12% copper oxide and 20–40% lead oxide. The second group of glasses is referred to as the so-called high-copper high-lead glass, also referred to as the “sealing wax” red variety. Lead ensures good fusibility in the glass and reduces the viscosity of the glass. In this case, copper is related to colour and opacification (Fig. 3).

In glass, copper as opacifier can occur in two modifications – as elemental copper (Cu⁰) or as dendritic Cu₂O crystals. The presence of Cu₂O is typical of the high-copper high-lead type glasses mentioned above, while elemental copper is found in glasses with a CuO content < 5 wt% and rather higher Fe₂O₃ content (2–5 wt%). In our case, smaller particles with a size of lower hundreds of nm are evident in the enamel (Fig. 4).

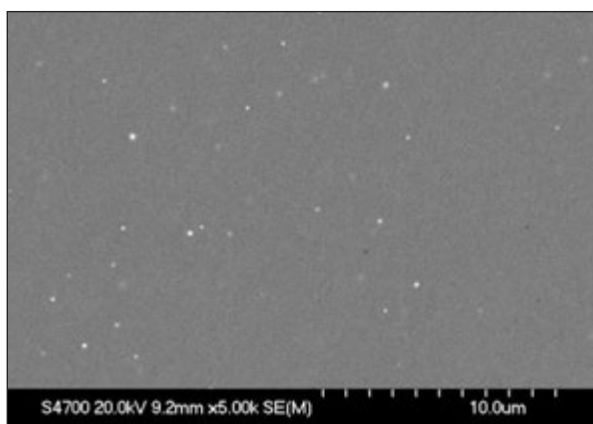


Fig. 4. Copper particles in the form of Cu° contained in the glass (white points), the size of the larger ones is approximately 250 nm. Image obtained with a Hitachi S-4700 scanning electron microscope.

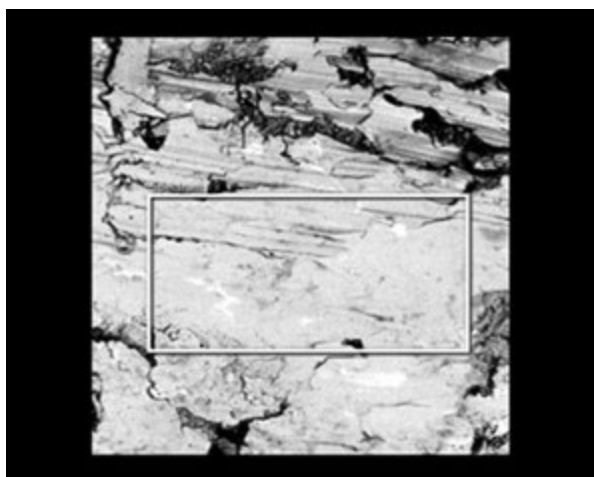


Fig. 5. Detail of the analysed area. Image obtained with a TESCAN Vega 3 LMU scanning electron microscope.

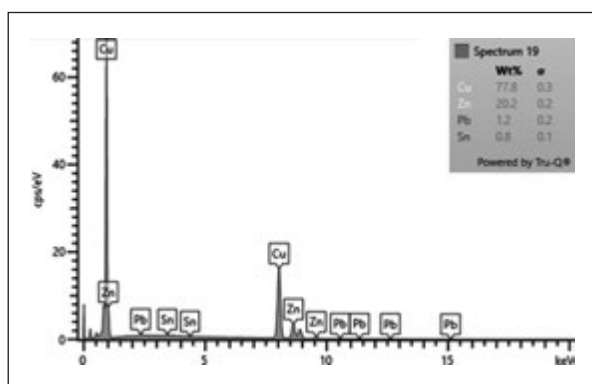


Fig. 6. Basic values of elemental composition. Material analysis was conducted using a TESCAN Vega 3 LMU scanning electron microscope with an Oxford Instruments INCA 350 energy dispersive analyser.

The method that was chosen to identify the represented particles was Raman spectroscopy.⁴ With this method, Cu_2O can be well identified, but the Cu° phase will not be clearly visible. In our case, Cu_2O was not found, but the sample spectrally coincides with samples in which metallic copper was determined as the opacifier based on other methods.

Due to the formation of copper particles in the glass, reducing conditions are required during melting. To create proper conditions in the glass melt, other reducing agents, such as iron, tin or antimony, are also added. In the enamel we evaluated, the higher iron content is particularly noticeable.

Also interesting is the study of elements which are present in smaller quantities. On the basis of the manganese and antimony contents, the Roman glass types Rom-Sb or Rom-Mn are often assumed (depending on the antimony- or manganese-based decolouriser used). Provided that these elements were not introduced with a raw material containing lead, copper or iron, it can be assumed that the enamel is a mixture of these two glasses and therefore the raw materials were recycled; glass recycling in the given period is also mentioned by *M. Davis* and *I. C. Freestone* (2018, 117). However, zinc (369 ppm) or tin (2407 ppm) are also present in larger amounts in the enamel, which could indicate the use of copper alloys and/or different copper alloy waste products as the source of a copper-rich raw material. If we consider the option that antimony also was introduced with a raw material related to the production of bronze, then we can lean towards the type of glass from the Levant (Rom-Mn). The determined higher contents of CaO and Al_2O_3 would also correspond to this glass (data compared with Fig. 6 in *Davis/Freestone* 2018, 118).

The object was made of a copper alloy with a high proportion of zinc ≈ 20 wt% (Fig. 5; 6; Table 2). It is ancient brass – the so-called *aurichalcum*, which could contain from 5 to 28 (30) wt% zinc in the alloy. Depending on the proportion of zinc, the colour of the resulting alloy also changed: brass with a content of more than 15 wt% is characterized

⁴ The Raman spectroscopy method was applied to study opaque glass particles. Raman spectra were measured with a Thermo Scientific Raman dispersive spectrometer – model DXR Microscope, equipped with an Olympus confocal microscope. The excitation source was a 532 nm Nd:YAG laser with an input power of 10 mW, and a grid of 900 notches/mm was utilised. As a detector, a multichannel thermoelectrically cooled CCD camera was used. The samples were measured at 50 $\times$ magnification with a measurement footprint of approx. 1 μm through the aperture of a 50 μm pinhole. Omnic 9 (Thermo Scientific) was employed to process the spectra obtained.

by a bright golden colour, which was used to imitate gold. In our territory, we find artefacts with a higher proportion of Zn as early as the late La Tène Period (*Bursák et al. 2022*, 2, 3). After all, the best quality ancient brass was already produced in the Augustan era, when the zinc content could even reach 28 wt%. Brass is supposed to have been produced by cementing copper with zinc minerals (*Craddock 1998; Rehren 1999*). In the 1st century AD we still encounter finds with a higher proportion of Zn, but already in the second half of the 1st century, the proportion of Sn gradually begins to increase to 2 wt% (*Rehren 2002*, 150). In the course of the 2nd and 3rd centuries, the zinc content in brass begins to decrease, and already in the 3rd century, it is possible to observe a significant decrease in the concentration of zinc in brass down to 5–7 wt% (*Frána/Droberjar 2004*, 444). This fact can be explained either by the lack of raw material resulting from the depletion of zinc deposits or by political-economic instability in the Roman Empire. At the same time, a trend in the recycling of non-ferrous metals can be observed, both in the barbarian territory and in the Roman-provincial environment, which may have had a significant effect on reducing the concentration of Zn (for more details, see *Čistáková/Beneš 2024; Vích et al. 2020*).

The brass alloy of the brooch from Osice also contains a small amount of tin (Sn $\approx$ 0.8 wt%) and approximately 1.2 wt% of lead. Lead may occur in the brass alloy as an impurity element from the ores, or it may have been added to the brass alloy intentionally as an alloying element. The alloy of the brooch from Osice can be classified into group No. 17 (Zn from 15 to 20 wt%; Pb from 1 to 10 wt%) after *Riederer (1999, 200)*. The composition of the material presented corresponds to alloys dated to stage B1, which are characterized by a very high proportion of zinc (from 15 to 20 wt%) and a low proportion of Sn and Pb (*Bursák et al. 2022*, 5). Artefacts with an increased zinc content (from 12.9 to 19.2 wt%) are also known from the collection of finds from Boršov; compared to our brooch, however, they contain a higher percentage of tin (on average 2.4 wt%) and lead (on average 2.8 wt%; *Vích et al. 2020*, 176). At the same time, it is appropriate to mention a similar composition of two enamel brooches from Xanten: No. 3628 with Zn 17 wt% and Sn 1 wt%, and No. 12200d5 with Zn 13.5 wt%, Sn 1.5 wt% and Pb 1.5 wt% (*Rehren 2002*, 149–151). This proves that even during the 2nd and at the beginning of the 3rd century, we can encounter relatively pure brass with a high zinc content, just as in the case of the brooch from Osice.

COMMENTS ON THE PEACOCK MOTIF

In the Roman world, the depiction of the peacock is one of the popular motifs with various interpretations (for a clear overview, see *Toynbee 1973*, 250–253). This bird was primarily associated with the goddess Hera/Iuno and is also one of her main attributes (*Arnott 2007*, 343, 344). However, it acquires a whole range of meanings during the Roman imperial period, from a symbol of luxury, happiness, wealth-prosperity to connection with the propaganda of the Roman empresses, eternity, or eschatological issues. It then found its application in early Christian art as well. We must not forget that peacock was also one of the delicacies offered at the opulent feasts of the Roman elites (comprehensively *Arnott 2007*, 344; *Anđelković/Rogić/Nikolić 2011; Mynott 2018*, 97, 101, 103, 104, 123, 370; *Pukanczová 2022*, 59–61).

The question is what meaning the depiction of a peacock may have had in the case of Roman provincial plate brooches. The motif was certainly not chosen by chance, so one can also think about a targeted choice of decoration and its symbolism (cf. *Neustupný 2010*, 83–91). The brooch as a clothing accessory could have expressed the wearer's opinion, taste and perhaps even attitude towards life. This assumption can be substantiated in the case of some brooches associated with Roman deities, e.g. with Roma, Mars (*Hoss 2015*, 202, Abb. 4: b, c) and Serapis (*Kuzmová 1997*, 81, 82; 2001, 121, 122, Abb. 2; 3). However, in the case of a peacock image, the situation is more complicated. Although the peacock represents an animal associated with Iuno, we do not have any strong argument for a direct connection of this type of peacock-shaped brooches with the aforementioned deity. However, for the purpose of consideration, we cannot rule it out.

Nevertheless, it is clear that already in ancient Greece this bird was very rare and widely admired for its beauty and exoticism (*Arnott 2007*, 343, 344). It was thus associated with a luxurious lifestyle. This tradition continues further into the Roman Empire, including the provinces (*Arnott 2007*, 344; *Mynott 2018*, 135). Peacocks can therefore be seen figuratively as a symbol of exotic beauty, wealth and luxury. This aspect could also be emphasized in the case of clothing accessories. But it is surprising that the brooch from Osice belongs to the group of common brooches, which were widespread mainly in the territory of the Gallic provinces and in the Rhineland. However, it stands out in that it was made of brass, which in its lustre remotely resembles

gold, and also the colourful decor could have been impressive in combination with brass. Hypothetically, in the expansion of these brooches we thus can see a reflection of the lifestyle of the highest ranking Roman elite, who had easier access to peacocks than the general population of the Rhine and Danube border provinces.

What meaning might the brooch have had in the Upper Elbe region during the Roman Period? Certainly, different from the imperial environment. Enamelled plate brooches do not belong to common finds of Roman-provincial brooches in this environment, so one can only consider its difference from commonly worn specimens. However, what meaning the barbarians attributed to the representation of the peacock remains unknown.

CONCLUSION

The Roman-provincial Riha 7.25 type brooch from Osice in the form of a peacock is an interesting find, proving the production of high-quality brass objects with a high zinc content (≈ 20 wt%) still in the 2nd century AD. In East Bohemia, it is one of the few imported objects with preserved enamel. Based on the increased contents of CaO and Al₂O₃, we rather suppose a Levantine origin of the glass. In the Roman world, the peacock symbolized luxury, happiness, wealth and prosperity. It is also associated with the goddess Iuno and with the propaganda of the Roman empresses, eternity, or eschatological issues. In the territory of the Roman Empire, these brooches can be evidenced from the Rhineland, Noricum and Gaul. The described brooch falls into the category of zoomorphic plate brooches, which do not deviate in any way from the usual provincial repertoire. What role this object played in the barbarian environment remains an unanswered question. The peacock symbolism is typical only for the territory of the Empire.

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Římsko-provinciální destičkovitá spona ve tvaru páva z Osic, okr. Hradec Králové

Pavel Horník – Viktoria Čiřáková – Zuzana Zlámalová Cílová –
Jan Jílek

Souhrn

Článek komplexně hodnotí nález destičkovité zoomorfní (paví) spony zdobené emailem římského původu. Spínadlo bylo nalezeno při prospekci s detektorem kovu v Osicích ve východních Čechách. Identická spona z římského města Virunum v provincii Norikum (Gugl 1995, 46, 93, Taf. 19: 145) náš nález datuje do 2. století našeho letopočtu. Tuto dataci můžeme podepřít dalšími nálezy spon stylizovaných do podoby páva z lokalit Augst a Zugmantel (Böhme 1972, 40, 41, Taf. 27: 1049; Riha 1979, 200, 201, Taf. 67: 1738). Zobrazení páva patří v římském světě k oblíbeným motivům s různými výklady (k tomu přehledně Toynbee 1973, 250–253). Tento opeřenec byl primárně spojován s bohyní Hérou/Iuno a patří rovněž k jejím hlavním atributům (Arnott 2007, 343, 344). Jeho význam však získává v době římského císařství celou řadu směrů od symbolu luxusu, štěstí, hojnosti-prosperity až po spojení s propagandou římských císařoven, věčností, eschatologickými otázkami. Své uplatnění poté nachází i v raně křesťanském umění. Spona – doplněk oděvu mohla vyjadřovat názor nositele, jeho vkus a snad i životní postoje.

Červený email studované zoomorfní spony lze charakterizovat jako tzv. low-copper – low-lead glass (s obsahem PbO 10 %; specifikace dle Freestone et al. 2003). Ramanova spektroskopie přispěla k určení kaliva (fáze Cu^o) ovlivňujícího optické vlastnosti emailu (barvu i zakalení). Nutné redukční podmínky pro získání červené barvy byly zajištěny přidávky redukčního činidla s obsahem železa a zřejmě i přidávky rostlinného popele. Podle vyšších obsahů CaO a Al₂O₃ usuzujeme spíše na levantský původ skla (data srovnána s Davis/Freestone 2018, 118).

Předmět byl vyroben ze slitiny mědi s vysokým podílem zinku ≈ 20 hm. %. Jedná se o antickou mosaz- tzv. aurichalkum, která mohla obsahovat od 5 do 28 (30) hm. % zinku ve slitině. V 1. století n. l. se stále setkáváme s nálezy s vyšším podílem Zn, ale již v 2. polovině 1. století postupně začíná narůstat podíl Sn na 2 hm. % (Rehren 2002, 150). V průběhu 2. a 3. století obsah zinku v mosazi začíná klesat a již v 3. století je možné pozorovat výrazné snížení koncentrace zinku v mosazi až na 5–7 hm. % (Frána/Droberjar 2004, 444). Mosazná slitina u spony z Osic obsahuje také menší množství cínu (Sn ≈ 0.8 hm. %) a přibližně 1.2 hm. % olova. Vysoký podíl zinku v případě spony z Osic svědčí o tom, že i v průběhu 2. století se setkáváme s relativně čistou mosazi s vyšším obsahem zinku.

Obr. 1. Osice (okr. Hradec Králové). Poloha sídliště z doby římské (sestavil P. Čechák, mapový podklad ČUZK).

Obr. 2. Osice (okr. Hradec Králové). 1 – kresebná dokumentace spony; 2 – lící strana spony se zbytky emailu (kresba H. Oláhova, foto J. Souček).

Obr. 3. Detail dochovaného emailu; snímek získán pomocí stereomikroskopu Olympus SZX9.

Obr. 4. Částice mědi ve formě Cu^o obsažené ve ve skle (bílé body), velikost u větších z nich je cca 250 nm. Snímek získán skenovacím elektronovým mikroskopem Hitachi S-4700.

Obr. 5. Detail analyzované plochy. Snímek získán elektronovým rastrovacím mikroskopem TESCAN Vega 3 LMU.

Obr. 6. Základní hodnoty prvkového složení. K materiálové analýze byl použit elektronový rastrovací mikroskop TESCAN Vega 3 LMU s energiově disperzním analyzátozem Oxford Instrument INCA 350.

Tabela 1. Chemické složení skla – hlavní, vedlejší a stopové prvky z LA-ICP-MS.

Tabela 2. Elementární složení kovu analyzované pomocí SEM/EDS (wt%).

Mgr. Pavel Horník
Muzeum východních Čech v Hradci Králové
Eliščino nábřeží 465
CZ – 500 03 Hradec Králové
p.hornik@muzeumhk.cz
<https://orcid.org/0009-0004-8014-8378>

Ing. Zuzana Zlámalová Cílová, Ph.D.
Vysoká škola chemicko-technologická v Praze
Technická 5
CZ – 160 00 Praha 6-Dejvice
cilovaz@vscht.cz
<https://orcid.org/0000-0002-3566-964X>

Mgr. Viktoria Čistáková, Ph.D.
Národní muzeum
Oddělení archeologie
Václavské náměstí 68
CZ – 110 00 Praha 1-Nové Město
viktoria.cistakova@nm.cz
<https://orcid.org/0000-0001-6584-6478>

PhDr. Jan Jílek, Ph.D.
Masarykova univerzita
Filozofická fakulta
Ústav archeologie a muzeologie
odd. klasické archeologie
Arna Nováka 1/1
CZ – 602 00 Brno

and

Východočeské muzeum v Pardubicích
Zámek 2
CZ – 530 02 Pardubice
mitridates@post.cz
<https://orcid.org/0000-0003-1751-6030>

KEIN HÄSSLICHES ENTLEIN!

Eine Fibel mit Vogeldarstellung von Groß Görnow (Mecklenburg-Vorpommern)

Jens-Peter Schmidt – Jan Schuster

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Keywords: Westmecklenburg, Groß Görnow, Roman Period, Scheibenfibel, Water Bird

Abstract: **No ugly duckling! Brooch depicting a bird from Groß Görnow (Mecklenburg-Western Pomerania).** At Groß Görnow in the Ludwigslust-Parchim district of West Mecklenburg, several metal finds from the Roman Iron Age were discovered in summer 2022 during a detector survey. These include a cast disc brooch made of copper alloy decorated with a water bird figure. The piece is unique in its current form, but the fastening mechanism with a wide spiral and the style of the brooch indicate that it is a local Germanic work dating from the early Roman Iron Age. Comparable depictions of water birds from the 1st and 2nd centuries are found in Central and Northern Europe in various forms (pin heads, metal fittings, etc.).



Abb. 1. Lage des Fundplatzes Groß Görnow innerhalb Deutschlands. Grafik J. Schuster.

EINFÜHRUNG

Bei Groß Görnow, einem kleinen Ort nördlich der Stadt Sternberg im Landkreis Ludwigslust-Parchim in Westmecklenburg (Abb. 1), wurden im Sommer 2022 bei einer Detektorprospektion mehrere Metallfunde der römischen Kaiserzeit geborgen.¹ Diese streuten über eine ackerbaulich genutzte Fläche von 70 × 30 m Größe. Das Fundareal liegt oberhalb der nur 60 m südöstlich beginnenden Niederung der Warnow, auf einer weitgehend ebenen, trockenen Sanderfläche im unmittelbaren Vorfeld der Endmoränen der Pommerschen Haupteisrandlage des Weichselglazials.

In den Ortsakten des Landesamtes für Kultur und Denkmalpflege Mecklenburg-Vorpommern war der Fundplatz als „Groß Görnow 17“ bekannt, denn dort waren bereits 1998 erste Oberflächenfunde in Form von Keramikscherben, Silexartefakten und Hüttenlehm geborgen worden (*Kurze Fundberichte* 1998, 596). Diese legen nahe, dass der Bereich sowohl während der römischen Kaiserzeit als auch in der älteren Slawenzeit als Siedlungsplatz genutzt worden war. Insbesondere für den westlichen Randbereich der Warnowniederung sind in diesem Flussabschnitt zahlreiche Siedlungsplätze bekannt, wobei im Umfeld von Fundplatz 17 mit

Groß Görnow 18 und Groß Görnow 26 zwei weitere kaiserzeitliche Plätze erfasst sind, die nur 90 bzw. 200 m entfernt ermittelt wurden.

Funde

Das 2022 geborgene Fundmaterial umfasst fünf Objekte, von denen vier aus einer Kupferlegierung und eines aus Silber gefertigt ist. Sie streuen relativ stark über die Fläche, lediglich die Scheibenfibel (Kat.-Nr. 2) und die mutmaßliche zweite Scheibenfibel (Kat.-Nr. 3) wurden nur 6 m voneinander entfernt gefunden. Alle Stücke sind unter der Inventarnummer ALM 2022/625 im Fundarchiv des Landesamtes inventarisiert.

¹ Gefunden wurden sie durch den ehrenamtlichen Bodendenkmalpfleger Heiko Klockmann (Sternberg).

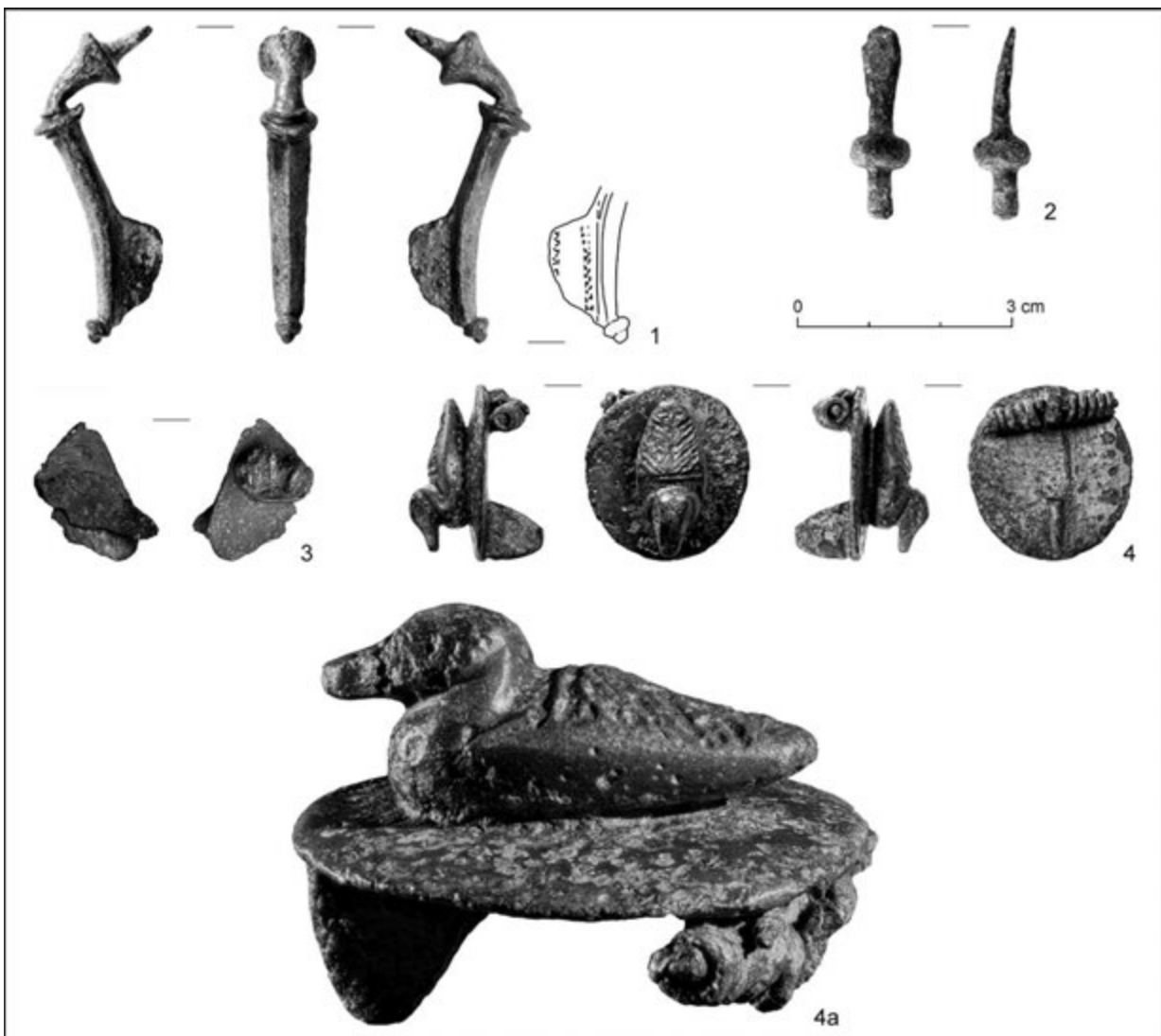


Abb. 2. Detektorfunde von Groß Görnow, Lkr. Ludwigslust-Parchim (Mecklenburg). Alle Kupferlegierung (4a ohne Maßstab; © Landesamt für Kultur und Denkmalpflege Mecklenburg-Vorpommern, Landesarchäologie; Foto A. Paasch).

1. Denar des Septimius Severus (RIC 4.1, 425); 194/195 n. Chr. in Emesa geprägt; Herrscherportrait mit Lorbeerkranz auf der einen und geflügelte Victoria auf der anderen Seite. Silber; $1,87 \times 1,71$ cm; Gew. 3,22 g.²
2. Scheibenfibel mit Vogelplastik (L. 2,1 cm; Br. 1 cm breit) auf planer, annähernd runder Grundplatte ($2,3 \times 2,45$ cm), auf der Unterseite intakt erhaltene Spirale (2×5 Windungen; Br. 1,9 cm) und hoher Nadelhalter; Nadel abgebrochen und nicht erhalten. Kupferlegierung; H. 1,88 cm; Gew. 14,2 g (Abb. 2: 4, 4a).
3. Fibelfragment, wohl von einer zweiten Scheibenfibel, jedoch mit deutlich blechförmiger, sekundär zusammengebogener Grundplatte ($1,9 \times 1,1$ cm; St. 0,7 mm); auf der Unterseite Spiralkonstruktion mit Achse und 2×2 Windungen (Br. 1 cm) und unterer Sehne, vollständig erhalten; Spiralthaltung angenietet. Kupferlegierung; Gew. 1,5 g (Abb. 2: 3).
4. Bügel einer kräftig profilierten Fibel mit trompetenartig verbreitertem Kopf und niedrigem scheibenförmigem Bügelkamm (Almgren IV, Fig. 77), Nadelhalter außen tremolierstichverziert. Kupferlegierung; L. 4,57 cm; Dm. Kamm 0,83 cm; Gew. 7,1 g (Abb. 2: 1).
5. Riemenzungenfragment mit annähernd kugelförmig verdicktem Unterteil und zylindrischem Abschluss; oberes Ende flachgehämmert. Kupferlegierung; L. 2,67 cm; Dm. Kugel 0,83 cm; Gew. 2,77 g (Abb. 2: 2).

² Bestimmung durch David Wigg-Wolf, RGK Frankfurt a. M. (<https://afe.dainst.org/findspot?afeid=4077> [abgerufen 11. 12. 2023]) – 2023 wurde nur 20 m entfernt ein zweiter römischer Denar gefunden. Dieser war 75 n. Chr. in Rom unter Vespasian geprägt worden (RIC 2.1 [2 ed.], 772).

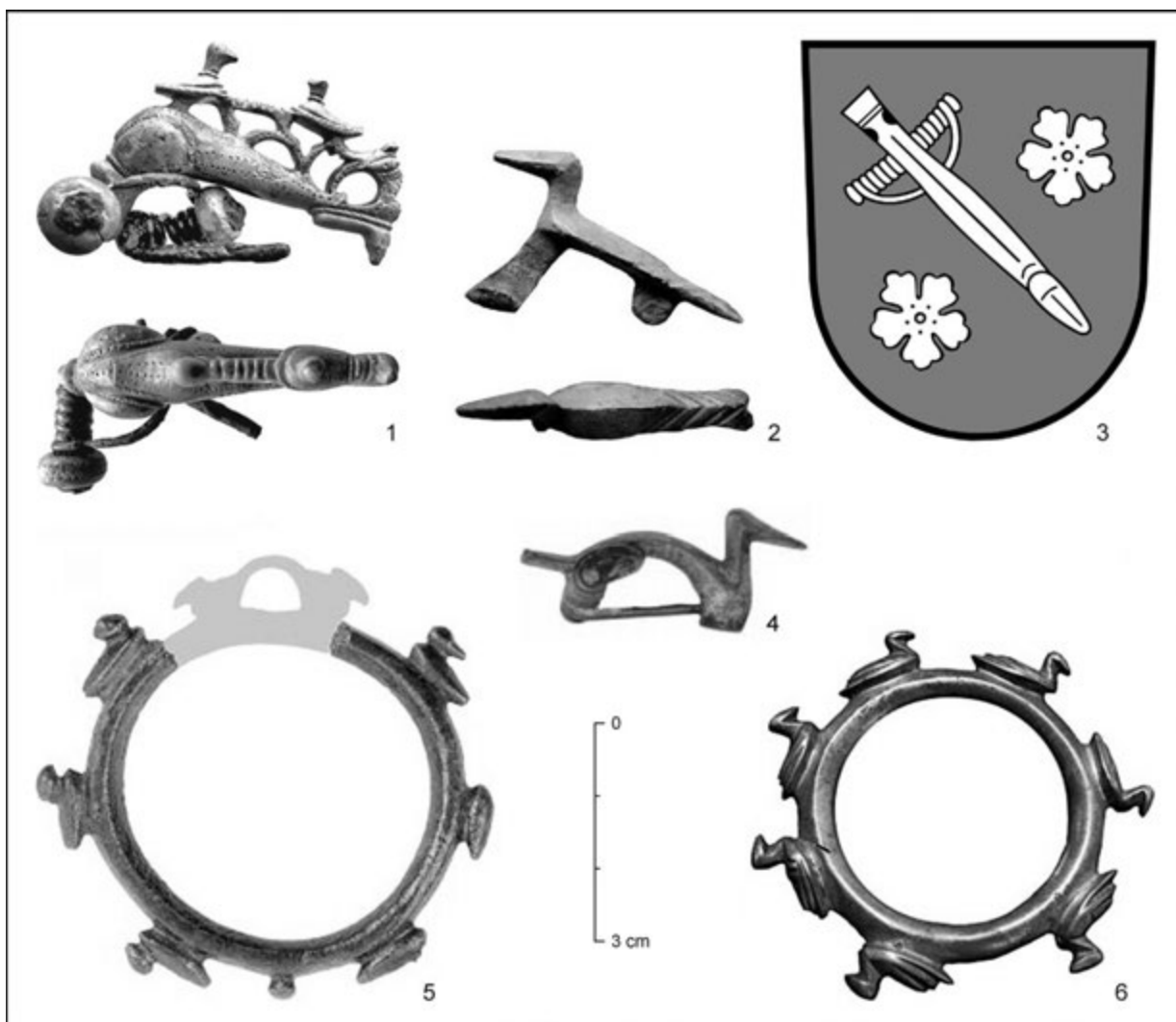


Abb. 3. Beispiele für frühgeschichtliche Fibeln in Wasservogelform oder mit Wasservogelplastiken (1–4) und für derartigen kaiserzeitlichen Ringschmuck (5, 6). 1 – Radětica u Bechyně, Böhmen (nach *Sankot et al. 2019*, Abb. 3; 2 – Vrbová Lhota, Böhmen (nach *Droberjar 2018*, Abb. 4); 3 – Wappen von Pritzler, Mecklenburg, mit der Vogelfibel aus Grab 880 des Gräberfeldes aus der Gemarkung Pritzler (<https://de.wikipedia.org/wiki/Pritzler>); 4 – Vogelfibel von Grabowiec, Ostpolen (nach *Kokowski/Mazurek 2021*, Abb. 1: 4); 5 – Brunilo-Koski, Masowien; 6 – Ukraine, ohne Lokalisierung (nach *Andrzejowski 2021*, Abb. 2: a; 3: j).

ANALYSE

Das herausragende Fundstück dieses Ensembles ist fraglos die mit einer Vogelplastik versehene Scheibenfibel. Sie hat die Jahrhunderte annähernd schadlos überstanden, es fehlen nur die Nadel und die Nadelrast, wohingegen der 0,77 cm hohe, gerundet-trapezförmige Nadelhalter und die 1,9 cm breite Spiralkonstruktion sehr gut erhalten sind. Letztere ist unterhalb des Bürzels (Schwanzansatzes) angebracht, während sich der Nadelhalter unterhalb des Vogelkopfes befindet. Die Spirale besteht aus insgesamt zehn Windungen – fünf Windungen auf jeder Seite des mittigen Spiralhalters, durch den der 1,9 cm lange Achsstift aus Kupferlegierung geführt ist. Die obere Sehne ist unterhalb der Scheibe durch eine zweite Öffnung im Spiralhalter geführt. Feine Schleifspuren auf der Unterseite lassen erkennen, dass diese nach dem Guss überarbeitet wurde.

Die bis zu 2,3 mm starke, zur Mitte hin massiver werdende Scheibe ist ebenfalls sorgfältig geglättet, doch abgesehen von der mittig sitzenden Vogelplastik unverziert. Die Rückenzeichnung des Tieres besteht aus zwei Querlinien hinter dem Kopf, an die sich eine mittig zu den Schwanzfedern laufende Doppellinie anschließt. Diese wird auf beiden Seiten durch Schrägstriche flankiert, die den Rücken in der Art eines Tannenzweig-musters bedecken. Nur der Bürzel wird davon freigehalten. Brust und Kopf sind unverziert. Die Augen sind

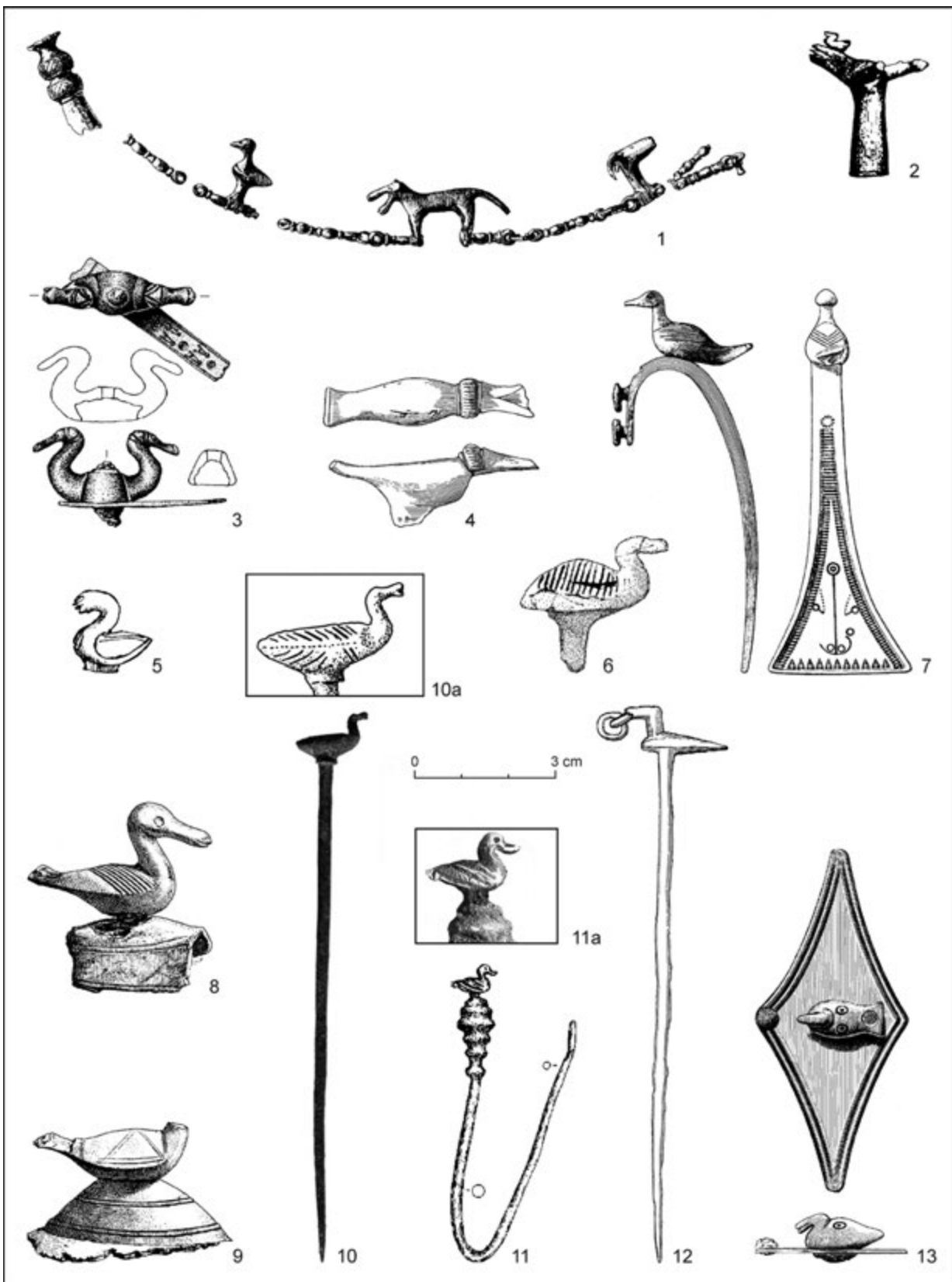


Abb. 4. Beispiele für älter- und mittelkaiserzeitliche Vogelfiguren. 1 – Kejlstrup, Jütland; 2 – Norra Kvinneby, Öland; 3 – Fredbjerg, Fünen; 4 – Nørre Broby, Fünen; 5 – Siemianice, Großpolen; 6 – Lübsow (Lubieszewo), Hinterpommern; 7 – Ringsarve, Gotland; 8, 9 – Vejrupgård, Fünen; 10 – Sławsko Wielkie, Kujawien (nach *Bednarczyk 1998*); 11 – Slovita, Westukraine nach *Onyščuk 2021*, Abb. 1: 2); 12 – Kamieńczyk, Ostmasowien; 13 – Lilla Sojvide (Gotland; nach *Schuster 2010*, verändert). Grafik J. Schuster.

als kreisförmige Flächen mit Mitteldelle und U-förmiger, durch Abrieb nur noch schwach erkennbarer Einfassung dargestellt.

Trotz Stilisierung ist deutlich, dass es ohne Zweifel die Intention des Handwerkers war, einen Wasservogel darzustellen. Die Ausführung ohne Beine – mit dem Bauch unmittelbar auf der glatten Fläche der Scheibenfibel – lässt zwangsläufig an eine Sitz- oder Schwimmposition denken, doch kann die Haltung mit zurückgebogenem Hals vom realen Tier auch im Stehen oder Laufen eingenommen werden. Somit ist der sitzende oder schwimmende Eindruck womöglich nur fertigungstechnisch bedingt.

Das Stück ist in der vorliegenden Ausprägung bislang ohne Parallele, doch sprechen die Verschlusskonstruktion mit breiter Spirale sowie der Duktus der Fibel für eine einheimische, germanische Arbeit³. Generell steht sie den flachen runden Scheibenfibeln Thomas Typ A nahe, die hauptsächlich im elbgermanischen Milieu hergestellt und ab der ausgehenden Stufe B2 gefertigt wurden und vor allem die Stufen C1–C2 charakteristisch sind (Bode 1998, 328–332, Abb. 2; 3; Thomas 1967, 67). Stücke mit einem Durchmesser um 3 cm wie das Exemplar von Groß Görnow lassen sich dabei der Stufe C1 zuweisen (Bode 1998, 331, Abb. 7). Die Begleitfunde stehen einer solchen Datierung nicht entgegen. Mit einer Fibel der Form Almgren Gr. IV, Form 77, haben wir ein Leitform der Stufe B2 im Fundmaterial, während der Denar bereits ans Ende des 2. Jahrhunderts und auch die Riemenzunge schon nach C1 weist. Letztere ist der Form O15 nach Raddatz zuzuweisen, die durch eine gedrückt-kugelige Profilierung mit Zapfenfortsatz gekennzeichnet ist (Raddatz 1957, 85–88, Abb. 1; Taf. 12, 21–31).

Fibeln mit beziehungsweise als Wasservogeldarstellung treten durch die Zeiten hinweg immer wieder gelegentlich in den Regionen nördlich des mittelmeeischen Kulturkreises auf, mit einer latènezeitlichen Maskenfibel mit Schwimmvögeln (Abb. 3: 1), jünger-kaiserzeitlichen Fibeln vom Typ Małomęcz (Abb. 3: 2) und spätkaiserzeitlich-frühvölkerwanderungszeitlichen Fibeln in Form von Vögeln (Abb. 3: 3, 4) ist innerhalb der Eisenzeit der große chronologische Rahmen umrissen.

Mit Blick auf das 1. und 2. Jahrhundert n. Chr. und in thematischer Hinsicht lassen sich zu dem Fund von Groß Görnow ferner einige Parallelen aus dem germanischen Barbaricum beibringen, die vor einiger Zeit schon zusammengestellt und besprochen wurden (Schuster 2010, 162–169, Abb. 69). Als chronologisch und stilistisch nahe Vergleichsfunde sind vier kleine, leider verschollene Plastiken aus Kupferlegierung aus dem B2-zeitlichen Fürstengrab Lübsow/Tunnehult 2 (heute Lubieszewo) in Pommern zu nennen, bei denen es sich ebenfalls um Wasservogeldarstellungen handelt (Eggers 1953, 97, Taf. 2b; Schuster 2010, Taf. 35: 2–6). Auch diese Tiere scheinen zu sitzen oder zu schwimmen, der Hals liegt jedoch nicht am Körper (vgl. Abb. 4: 6). Rücken und Seiten zieren parallele Schrägrillen. Ob diese an eine Begrenzung stießen wie im Falle des Groß Görnowers Vogels, ist auf der Basis der vorliegenden Fotos nicht zu entscheiden. Ein tatsächlich schwimmend dargestellter Vogel zierte samt Blechbeschlag ein Holzgefäß von Lilla Sojvide auf Gotland (Abb. 4: 13): Der Bauch befindet sich unterhalb des Beschlages und scheint „einzutauchen“. Diese Vogelplastik ist mit Ringaugen verziert.

Gelegentlich wurden auch Ziernadelköpfe in Vogelform gestaltet. Zu nennen ist eine Nadel aus Grab 254 von Kamieńczyk in Ostmasowien (Dąbrowska 1997, 55, Taf. CXXII: 254: 4; CCIII: 4: 5). Das aus Kupferlegierung gefertigte Stück (Abb. 4: 12) datiert in die ausgehende ältere oder beginnende jüngere Kaiserzeit und entspricht somit der Zeitstellung der Groß Görnow-Fibel. Eine weitere Nadel aus Kupferlegierung wurde bei Sławsko Wielkie in Kujawien gefunden (Bednarczyk 1998, Abb. 98). Das ebenfalls aus Kupferlegierung gefertigte Exemplar stammt von einem in der älteren und in der jüngeren Kaiserzeit genutzten Siedlungsplatz (Abb. 4: 10). Eine dritte Ziernadel aus Weißmetall – wohl Silber – mit Kopf in Form eines Wasservogels wurde bei Slovita in der Westukraine (Onyśchuk 2021, 7, Abb. 1: 2) gefunden. Das Stück ist ohne Kontext, dürfte aber in die mittlere Kaiserzeit datieren (Abb. 4: 11). Auffällig ist der doppelkonisch verdickte und mehrfach gerippte Kopf, den der Wasservogel krönt.

Nicht unerwähnt bleiben sollen auch Ringe oder ringförmige Anhänger aus Kupferlegierung (Abb. 3: 5, 6), deren Reif mehrere, regelmäßig angeordnete Wasservogelplastiken zieren (Andrzejowski 2021; Magomedov 2018). Diese jünger-kaiserzeitlich-frühvölkerwanderungszeitlichen Stücke, die inzwischen in sehr großer Zahl aus dem Gebiet der heutigen Ukraine vorliegen, streuen nach Westen bis in das Weichselgebiet und sogar bis Südostschweden (Andrzejowski 2021, Abb. 5).

³ Laut S. Thomas (1967, 12, 13) sollen die germanischen im Gegensatz zu den römischen Scheibenfibeln nicht in einem Stück gegossen worden sein, doch ist eine solche schematische Unterscheidung nicht haltbar. – Es sei aber erwähnt, dass das (nicht gänzliche) Wegarbeiten des Verbindungssteiges zwischen Nadelhalter und halbrunder durchlochter Platte zur Befestigung der Spirale bei römischen Scheibenfibeln häufig anzutreffen ist. Als geografisch nahes Beispiel: Scheibenfibel mit Schachbrettmail von Zemitz, Lkr. Vorpommern-Greifswald, Fpl. 6 (Kurze Fundberichte 2018, 370, 371, Abb. 215).

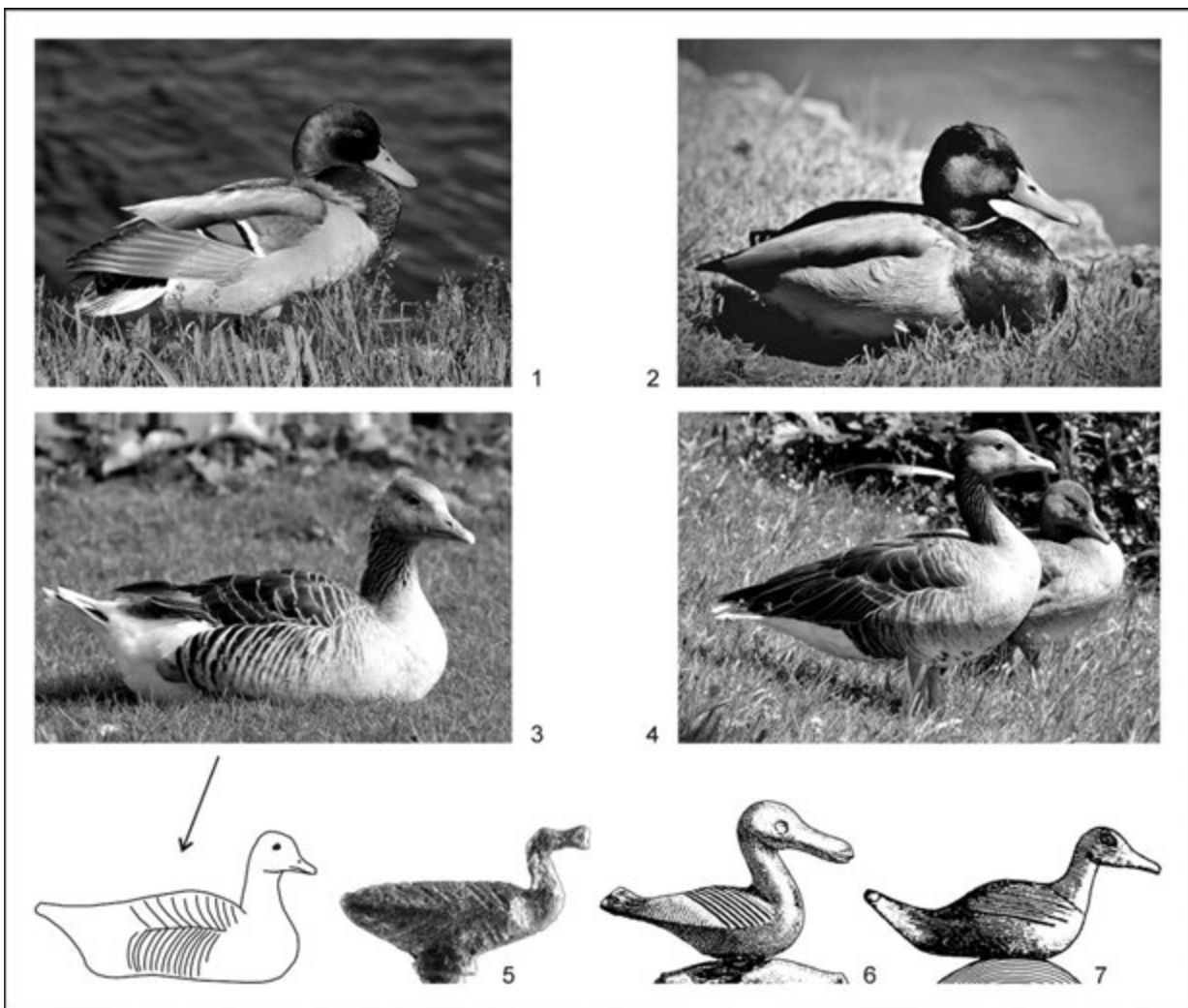


Abb. 5. 1, 2 – Ente; 3, 4 – Graugans (instehender und sitzender Position); 5–7 – Vogelfiguren von Ślawsko Wielkie, Vejrupgård und Ringsarve (siehe Abb. 3). Grafik J. Schuster.

FAZIT

Während die Datierung der Fibel in die ausgehende ältere oder beginnende jüngere Kaiserzeit sowohl anhand des Typs als auch der Beifunde kaum in Frage zu stellen ist, lässt sich aufgrund der Stilisierung nicht leicht entscheiden, ob der Wasservogel von Groß Görnow eine Ente oder eine Gans darstellen soll. Beide Tierarten unterscheiden sich – abgesehen von den hinsichtlich der Plastiken aber unwesentlichen Größenunterschieden – in Körperform und Proportionen kaum voneinander (Abb. 5). In der Regel ist aber „Ente“ die erste Assoziation der Betrachter entsprechender Funde,⁴ allerdings ist die Schraffur mancher Vogeldarstellungen der Gefiederzeichnung der in Mittel- und Nordeuropa als Brutvogel heimischen Graugans (*Anser anser*) derart ähnlich (Abb. 5: 5–7), dass man nicht an Zufall glauben möchte. Warum allerdings dieses in der germanischen Mythologie kaum eine Rolle spielende Tier (vgl. Nedoma 1997, 433) als Motiv für Appliken von Arbeiten aus Kupferlegierung gewählt wurde, bleibt eine offene Frage.

⁴ Vgl. zum Beispiel die Bezeichnungen bei Eggers 1953, 97, 98 („die bronzenen Entenfiguren von Lübsow“, „eine Ente aus dem Grab von Nörre-Broby“), bei Kokowski 2021, 225, 228 („Entenfibern“, „kreisförmigen Anhängern mit Entenminiaturen“) und bei Magomedov 2018, 502 („... all these birds, according to their specific profile, could be defined as ducks“).

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Žiadne škaredé káčatko!

Spona s vyobrazením vtáčika z lokality Groß Görnow (Mecklenbursko-Predpomoransko)

Jens-Peter Schmidt – Jan Schuster

Súhrn

V lete 2022 sa pri prieskume s detektorom kovov neďaleko obce Groß Görnow v okrese Ludwigslust-Parchim v západnom Meklenbursku našlo niekoľko kovových artefaktov z doby rímskej. Patrí k nim aj doštičkovitá spona s trojrozmerným vyobrazením vodného vtáčika, odliata z medenej zliatiny s trojrozmerným vyobrazením vodného vtáka. Doštička spony je hrubá 2,3 mm a smerom k stredu je masivnejšia, a tak isto starostlivo vyhladená, okrem plastiky vtáka v strede nie je zdobená. Chrbát zvieraťa zdobia dve priečne línie za jeho hlavou, po ktorých nasleduje dvojité línie prechádzajúce stredom chvostových pier. Trup vtáčika je ponechaný bez znakov. Tú po oboch stranách lemujú diagonálne línie, ktoré pokrývajú chrbát vzorom borovicových vetvičiek. Hruď a hlava sú nezdobené. Oči sú znázornené ako kruhové plochy s centrálnou jamkou a okrajom v tvare písmena U, ktorý je kvôli opotrebovaniu len slabo rozpoznateľný. Napriek štylizácii je zrejmé, že zámerom remeselníka bolo zobraziť vodného vtáka. Vyhodenie bez nôh – s bruškom priamo pripojeným k hladkej ploche kotúčovej spony – nevyhnutne naznačuje sediacu alebo plávajúcu polohu, ale postoj s ohnutým krkom dozadu môže reálne zviera vykonávať aj v stojacej alebo kráčajúcej polohe. Dojem sedenia alebo plávania môže byť preto spôsobený len technikou výroby. Spona je v súčasnej podobe bez paralel, ale jej konštrukcia so širokou špirálou a štýl hovoria, že ide o pôvodnú prácu Germánov. Vo všeobecnosti je spona blízka plochým, okrúhlym diskovitým sponám typu Thomas A, ktoré sa vyrábali najmä v polabsko-germánskom prostredí, ktoré sa vyskytovali od konca stupňa B2 a sú charakteristické najmä pre stupne C1–C2. Zatiaľ čo datovanie spony do záveru staršej alebo mladšej doby rímskej možno na základe typu sprievodných nálezov len ťažko spochybníť, štylizácia sťažuje rozhodnutie, či vodný vtáčik z Groß Görnow predstavuje kačicu alebo hus. Okrem zanedbateľných rozdielov vo veľkosti nie je medzi oboma druhmi takmer žiadny rozdiel, pokiaľ ide o tvar tela a proporcie.

Obr. 1. Poloha lokality Groß Görnow v Nemecku. Grafika J. Schuster.

Obr. 2. Detektorové nálezy z lokality Groß Görnow, okres Ludwigslust-Parchim (Meklenbursko). Všetko zliatina medi (4a bez mierky). © Landesamt für Kultur und Denkmalpflege Mecklenburg-Vorpommern, Landesarchäologie; foto A. Paasch.

Obr. 3. Príklady včasnohistorických spôn v tvare vodného vtáctva alebo s plastikami vodného vtáctva (1–4) a kruhových šperkov z doby rímskej (5, 6). 1 – Raděčice u Bechyně, Čechy (podľa Sankot *et al.* 2019, obr. 3); 2 – Vrbová Lhota, Čechy (podľa Droberjar 2018, obr. 4); 3 – Erb Pritzier, Mecklenbursko, s vtáčou sponou z hrobu 880 cintorína z okresu Pritzier (<https://de.wikipedia.org/wiki/Pritzier>); 4 – Grabowiec, východné Poľsko, vtáčia spona (podľa Kokowski/Mazurek 2021, obr. 1: 4); 5 – Brunilo-Koski, Mazovsko; 6 – Ukrajina, bez lokalizácie (podľa Andrzejowski 2021, obr. 2: a; 3: j).

Obr. 4. Príklady vtáčích figúrok zo staršej a strednej doby železnej. 1 – Kejlstrup, Jutsko; 2 – Norra Kvinneby, Öland; 3 – Fredbjerg, Funen; 4 – Nørre Broby, Funen; 5 – Siemianice, Veľkopoľsko; 6 – Lübsow (Lubieszewo), Západné Pomoransko; 7 – Ringsarve, Gotland; 8, 9 – Vejrupgård, Funen; 10 – Slawsko Wielkie, Kujawy (podľa Bednarczyk 1998); 11 – Sloviata, Západná Ukrajina (podľa Onyščuk 2021, obr. 1: 2); 12 – Kamieńczyk, Východné Mazovsko; 13 – Lilla Sojvide (Gotland; podľa Schuster 2010, upravené). Grafika J. Schuster.

Obr. 5. 1, 2 – kačica; 3, 4 – hus sivá (v stojí a v sede); 5–7 – figúrky vtákov zo Slawska Wielkeho, Vejrupgård a Ringsarve (pozri obr. 3). Grafika J. Schuster.

Dr. Jens-Peter Schmidt
Landesamt für Kultur und
Denkmalpflege Mecklenburg-Vorpommern/Landesarchäologie
Domhof 4/5
D – 190 55 Schwerin
j.p.schmidt@lakd-mv.de
<https://orcid.org/0009-0002-8778-5869>

prof. Dr. Jan Schuster
Instytut Archeologii Uniwersytetu Łódzkiego
Narutowicza 65
PL – 90-131 Łódź
jan.schuster@uni.lodz.pl
<https://orcid.org/0000-0003-1836-3240>

FUNDE DER PRZEWORSK KULTUR AUS STUPAVA

Vladimír Turčan

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Keywords: Western Slovakia, Záhorie, Stupava, Roman period, Przeworsk Culture, jewellery

Abstract: **Finds of the Przeworsk culture from Stupava.** Three artefacts are presented in this study, all of them originating from the archaeological site Stupava archaeological site. One of them is made out of gold and is formed in the shape of a bucket. The other one is shaped as a small iron hollow pendant in rectangular box form. The third one is an iron clasp in the shape of strip covered with silver foil and are from the Stupava – Malacky district. The finds are related to the items found in the horizon of the Przeworsk Culture in the Middle Danube region and is dated to the second half of the 2nd century AD/beginning of the 3rd century AD.

In der materiellen Kultur des mitteldonauländischen Barbarikums fehlen auch Artefakte nicht, die mit dem konkreten historischen Hintergrund im Zusammenhang stehen. Im Fundspektrum widerspiegelten sich z.B. deutlich die Markomannenkriege (166–180) einschließlich der Gegenstände, die für die Przeworsk Kultur im nordwestlichen Polen charakteristisch sind (z.B. *Bazovský 2023; Droberjar 2019; Jílek 2009; Tejral 1970*). Funde vom Przeworsk Kulturmilieu finden wir auch im Záhorie Gebiet in der Südwestslowakei. Hierher gehören

außer dem Grabkomplex aus Čáčov (*Ondrouch 1957, 53–63; Pieta 2002, 343–354; Šemmer 1940–41, 139, tab. IV: 2, 3*), das Zaumzeug aus Borinka (*Bazovský et. al. 2020, 251–272*) und auch das Inventar von zwei Brandgräberfeldern. In Sekule wurden 44 Brandgräber untersucht (*Iván/Kováčsová/Rajtár 2019, 292*), in Závod wird die Anzahl der Gräber auf zwischen 150 bis 250 geschätzt (*Bazovský 2023; Bazovský et al. 2022, 226*).

M. Olędzki charakterisierte die Funde der Przeworsk Provenienz im Mitteldonauegebiet (Fibeln, Anhänger u. a.) als typische Kleidungsbestandteile, die nicht Gegenstand des Fernhandels waren. Er nimmt an, dass es sich um Belege der Bevölkerungsumsiedlungen vom Norden handelt, die im Rahmen von zwei Trassen erfolgen sollten (*Olędzki 1997, 76*). Der östliche Strom durchdrang ins untere Waagtal (*Olędzki 2011, 82*). Die zweite Kolonne kam längs der Karpatenhänge und Durchwattung der March ins Záhorie Gebiet (*Olędzki 1997, Karten*). Es handelte sich also nicht um die „Mobilität der Artefakte“ aber um Verschiebung von Gruppen (*Hladík/Hladíková/Červík 2023, 72*).

Es bedeutet, dass in der Hälfte des 2. Jahrhunderts nach Chr. wuchs also offenbar die Bevölkerungszahl im nördlichen Vorfeld von Carnuntum um die Zuwanderer vom Gebiet der Przeworsk Kultur. Wenn wir von der Voraussetzung ausgehen, dass es sich um jüngere Menschen mit niedriger Mortalität handelte, änderten die bisher identifizierten

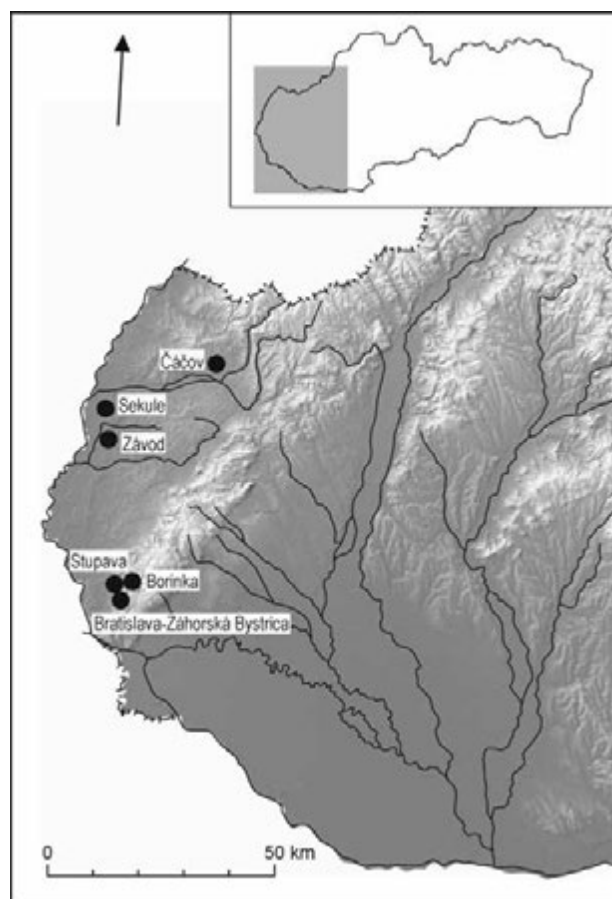


Abb. 1. Záhorie. Im Text erwähnte Fundplätze (Archiv des Autors).

minimal 200–300 Bestatteten auf den höher erwähnten Gräberfeldern die gesamten demographischen Verhältnisse der Region.

Die Funde der Przeworsk Provenienz vom Záhorie Gebiet kann man um drei kleine Artefakte aus Stupava (Bez. Malacky) ergänzen, die südwestlich von den erwähnten Fundstellen liegt, am südlichen Rand der Region (Abb. 1).¹

Schon im Jahr 1946 publizierte V. Ondrouch den eimerförmigen geösten Goldanhänger, deren Körper durch zwei Umfangsrillen verziert war, und der aus dem Abflusskanal

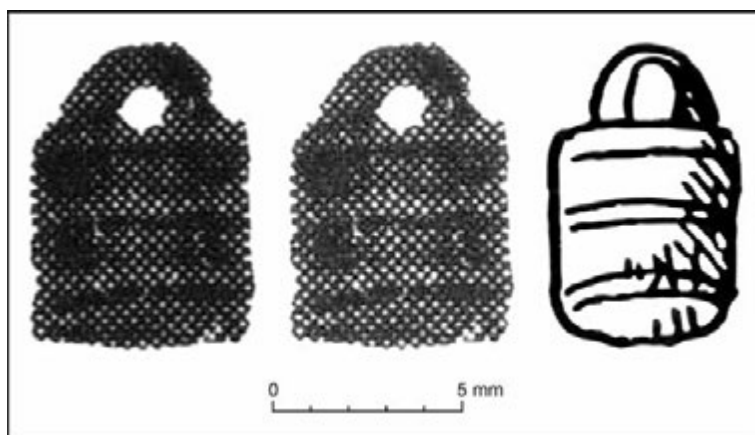


Abb. 2. Stupava. Eimerförmige Gold Anhänger aus römische Station (archiv des Autors).

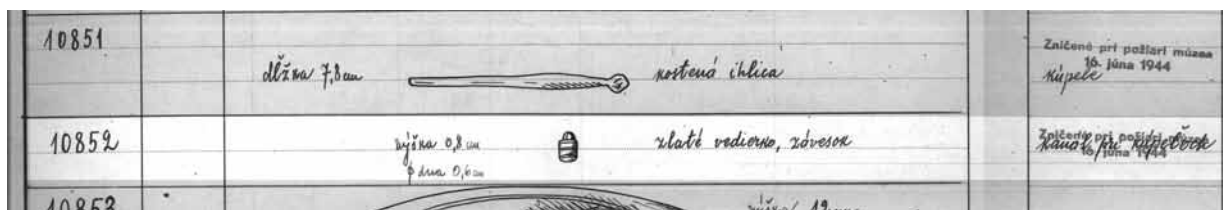


Abb. 3. Eintragung im Original Evidenzbuch (Archiv des SNM-Archäologisches Museum).

des Badegebäudes der römischen Station in der Lage Kopce stammte (Abb. 2). Heute kann man ihn nicht mehr aus der Autopsie studieren, weil er während der Bombardierung von Bratislava in des Zweiten Weltkriegs verbrannte (Kaššák/Kršák/Tupý 2016, 98, 99). In der Publikation führte der Autor die Maße vom Gegenstand nicht an, von schwarz-weiß Foto kann man keine Details feststellen, es ist aber sein Gewicht von 0,94 g angeführt worden (Ondrouch 1945-46, 88, tab. VI). Im Evidenzbuch im SNM-Archäologisches Museum in Bratislava ist der Anhänger unter der Nummer 10 852 durch die Zeichnung und dem Text „eimerförmiger Goldanhänger“ angeführt (Abb. 3). Im Unterschied zur Publikation sind hier auch die Maße angeführt: Höhe 0,8 cm, Durchmesser am Boden 0,6 cm.² An der schematischen Zeichnung ist die Öse zum Anhängen und das Umlaufrippenpaar zu sehen. Bei der Kontrastbehandlung des publizierten Fotos im graphischen Programm (Adobe Photoshop) werden wirklich zwei Umlaufstreifen der angeführten Riefelung sichtbar (Abb. 2).

In der späteren Publikation des Grabinventars aus Čáčov datierte V. Ondrouch den verfolgten Anhänger-typ in die zweite Hälfte des 2. Jahrhunderts (Ondrouch 1957, 56, tab. 13). Ein anderer eiserner eimerförmiger Anhänger wurde später auch im Brandgrab von Bratislava-Záhorská Bystrica gefunden, der aber ins 3. bis Hälfte des nachfolgenden Jahrhunderts datiert wurde (Kraskovská 1965, 356, obr. 115).

In den Jahren 1987–2004 wurde in Stupava die archäologische Grabung der römischen Station erneuert (Turčan 2022, 186–198), wobei die Aufmerksamkeit auch seinem Hinterland gewidmet wurde. Nordwestlich von der Fundstelle wurden am nördlichen Hang des Berges, ca. 150 m von der Ecke der Umfassungsmauer, in der Lage Morávkovo pole durchs Tiefpflügen drei vertiefte germanische Objekte gestört, die in den nächsten Jahren untersucht wurden (Turčan 2005, 293–300).

Im außerordentlich reichen Objekt 1/1996, der sicher sekundär als Abfallgrube für den antiken Komplex diente, wurde ein weiterer Anhänger aus Eisen gefunden (Abb. 4). Im Unterschied zu zylinderförmigen, eventuell dreieckigen Formen (Kaczanowski 1987, 67, 68) ist dieser flach (Beckmann 1973, 14; Ondrouch 1957, 56, tab. 13: 1–4; Rybová 1970, 77, Taf. 1).

¹ Die Funde sind in den Sammlungen des SNM-Archäologischen Museums in Bratislava deponiert.

² Für die Hilfe beim Studium des Artefaktes bedanke ich mich bei der Angestellten der Dokumentation des SNM Archäologischen Museums S. Csabiová.

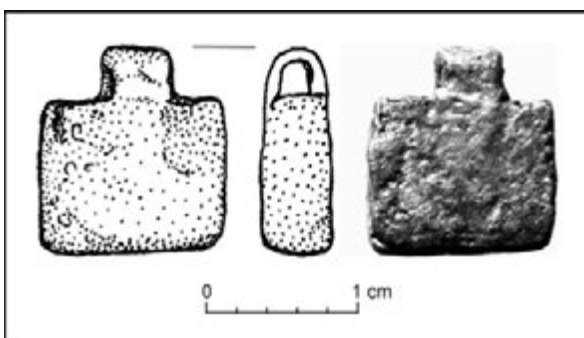


Abb. 4. Stupava. Kaptorförmige Anhänger aus germanischen Siedlungsobjekt (Zeichnung und Foto Autor).

Der Anhänger ist 1,4 cm hoch, 1,2 cm breit, 0,5 cm dick, die Maße der Öse sind 0,5 × 0,3 cm. Einen Vergleichsfund finden wir nicht einmal in der Typologie von Beilke-Voigt (*Beilke-Voigt* 1998, 52–57). Ein vergleichbares Exemplar kennen wir nicht einmal vom Gräberfeld in Závod, von wo eine Kollektion von 14 eisernen und bronzenen eimerförmigen Anhängern stammt (*Bazovský et al.* 2022, 203, tab. XVII: 1–14).

Im angeführten Objekt 1/1996 wurde auch eine eiserne bandförmige Fibel gefunden (Abb. 5): Länge 3,3 cm, Länge der Windung 3,9 cm, ø 0,7 cm. Das Bügelband ist 3,8 cm lang, seine Breite ist 1,4 cm. Die

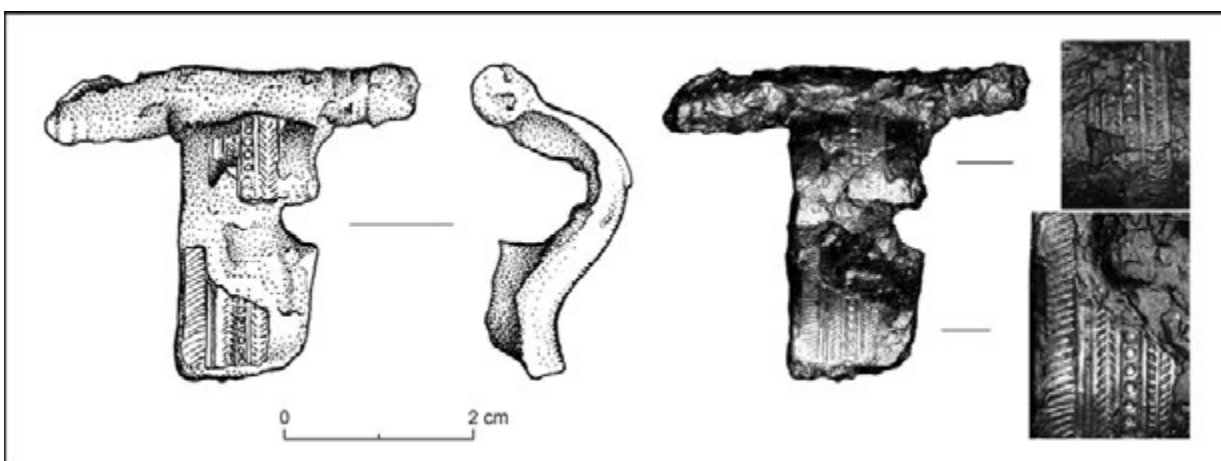


Abb. 5. Stupava. Fibel mit breiten bandförmigen Bügel aus germanischen Siedlungsobjekt (Zeichnung P. Šimčík, Foto Autor).

Oberseite der Fibel ist durch eine Silberfolie verziert, die an zwei Stellen erhalten ist. Bei der Windung ist eine Fläche von 1,4 × 0,9 cm, über dem Nadelhalter 1,6 × 0,9 cm. Die Nadel blieb nicht erhalten. Vom Nadelhalter blieb nur ein länglicher Streifen erhalten (*Turčan* 2017, 253, obr. 2: 9). Die Fibeln mit Bandbügel gliederte O. Almgren als Gruppe V, Serie 10, bzw. 12 aus.

Schon vor längerer Zeit sprach sich E. Beninger im Zusammenhang mit zwei Fibeln des angeführten Typs aus Závod dafür aus, dass sie mit der Ankunft der langobardischen Krieger in den Mitteldonausraum am Vorabend der Markomannenkriege kamen (*Beninger* 1934, 100, 101). Während der späteren Untersuchungen an der angeführten Fundstelle wurde die Anzahl der bandförmigen Fibeln um weitere 7 Exemplare vermehrt, davon sechs eiserne und ein bronzenes Exemplar (*Bazovský* 2023, 75; *Bazovský et al.* 2022, 199). Die bandförmigen Fibeln vom Typ Leonów (*Jamka* 1963, 62, tab. I: 5) kennen wir vom Brandgräberfeld aus Sekule (*Iván/Kováčsová/Rajtár* 2019, 297, tab. 4: 1, 2). Beide Fundstellen, an der Bernsteinstraße situiert, sind voneinander nur 5 km entfernt.

Von den vorherigen Untersuchungen und Begehungen sind bandförmige Fibeln in der Südwestslowakei aus Bešeňov (*Kolník* 1961, 246, obr. 10: 6, 7), Bohdanovce nad Trnavou (*Kolník/Mitáš* 2012, 47, obr. 5: 4), Bratislava-Trnávka (*Varsik* 2011, 42, 43, obr. 15: 16) und Šala-Veča (*Fottová* 2003, 40, obr. 17: 2; *Kolník* 1962, 278, obr. 1: 1) bekannt. Im mitteldonauländischen Barbarikum füllen diese den Horizont zwischen der 2. Hälfte des 2. Jahrhunderts und dem Anfang des 3. Jahrhunderts aus (*Kolník* 1961, 246; 1962, 277; *Kolník/Mitáš* 2012, 47; *Peškař* 1972, 92, *Stuppner* 1984, 302, Abb. 774; *Varsik* 2011, 43).

Die Silberfolie der Fibel aus Stupava blieb wie weiter oben angeführt, nur an den Rändern der oberen Bügelseite erhalten, in der Mitte fehlt sie.³ Die Verzierung der Folie ist in längliche Streifen gegliedert,

³ Nach Ergebnissen der Analyse besteht sie aus 73,95 % Ag, 14,35 % Sn, 7,18 % Fe, 2,07 % Pb, 1,09 % Au, 0,92 % Cu, 0,32 % Bi, 0,13 % Zn. Für die Analyse bedanke ich mich bei der Restauratorin des SNM-Archäologischen Museums B. Ritterová.

wobei sich das zweigförmige Ornament abwechselt und in der Mitte vom länglichen Rippchen verbunden wird. Beide Bänder sind mit einem Mittelstreifen mit Zierkappen geteilt. Es ist interessant, dass die Bänder mit Zweigen sind wechselweise in umgekehrte Richtungen orientieren. An der linken Seite (das bedeutet von der Position des Fotos) säumen die Verzierung, quere, dicht gereichte Rippchen. Applikationsspuren der verfolgten Schmucktechnik führen die Autoren auch bei anderen Funden dieses Typs an, in der Mehrheit aber als fragmentarisch erhaltene Reste (Bazovský et al. 2022, 199; Iván/Ölvecký/Rajtár 2019, 245; Kolník/Mitáš 2012, 47; Stuppner 1984, 302). Die Plattierung der Fibel mit Gold oder Silber war auch in der Przeworsk Kultur häufig (Madyda-Legutko/Rodzińska-Nowak 2017, 301, 307, Abb. 2).

Von der Verfüllung des Objekts 1/1996 stammen auch zwei Münzen (Minarovičová 2002, 186, 187) und das Denar von Elagabalus (218–222) und gelochter Antoninian von Probus (276–282). Wenn wir von der höher erwähnten Datierung der eimerförmigen Anhänger und der bandförmigen Fibeln im Mitteldon-auraum ausgehen, begrenzen diese Prägungen die obere Grenze ihres Vorkommens in der Region. Die verfolgten Funde konnten aber in die Verfüllung erst als Relikte mit einem gewissen zeitlichen Abstand kommen.

Funde der Przeworsk Provenienz aus Stupava erweitern den Fundfond dieser Artefaktgruppe vom Záhorie Gebiet zwar nicht markant, ergänzen aber bekannte Erkenntnisse um einen regionalen Kontext.

Die gegenständlichen Funde hängen offenbar mit Bewegungen germanischer Gruppen am Vorabend der Markomannenkriege zusammen. Der eimerförmige Goldanhänger vom Areal der Station eröffnet die Frage der möglichen Anwesenheit sozial höher situierter Individuen in der verfolgten Region.

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Nálezy przeworskej kultúry zo Stupavy

V l a d i m í r T u r č a n

Súhrn

Väčšina bádateľov spája prítomnosť artefaktov severskej proveniencie v stredodunajskej dobe rímskej s príchodom skupín obyvateľstva z oblasti przeworskej kultúry. Na Slovensku sú zastúpené v žiarových pohrebiskách v Sekuliach a Závode na Záhorí, ale poznáme aj dva ojedinelé nálezy v Čáčove a Borinke. Okrem toho sú v tomto článku publikované tri šperky przeworskej kultúry zo Stupavy: zlatý prívesok s vedierkovým tvarom, nájdený v odtoku z kúpeľa, ktorý je súčasťou antickej stanice. Ďalej publikujeme dva nálezy: železný malý dutý prívesok v tvare obdĺžnikovej škatuľky a železnú sponu zdobenú pásikom zo striebornej fólie, doplnený mincami z 3. storočia. Oba pochádzajú z germánskeho sídliska.

Obr. 1. Záhorie. Lokality uvedené v texte (archív autora).

Obr. 2. Stupava. Vedierkovitý prívesok z rímskej stanice (archív autora).

Obr. 3. Záznam v archívnej knihe SNM-Archeologického múzea (archív SNM-Archeologické múzeum).

Obr. 4. Stupava. Prívesok z germánskeho sídliskového objektu (kresba a foto autor).

Obr. 5. Spona so širokým pásikovým lučíkom z germánskeho sídliskového objektu (kresba P. Šimčík, foto autor).

PhDr. Vladimír Turčan, CSc.

SNM-Archeologické múzeum

Žižkova 18

SK – 811 02 Bratislava

vladimir.turcan1952@gmail.com

<https://orcid.org/0009-0004-2309-0923>

Military World



EIN HORT VON VERSILBERTEN GEGENSTÄNDEN AUS DER RÖMISCHEN KAISERZEIT VON BORINKA (SÜDWESTSLOWAKEI)

Igor Bazovský

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Keywords: Southwest Slovakia, Little Carpathians, silver-plated riding saddle belt fittings, belt endings, Elites

Abstract: **Mass Discovery of Silver-Plated Objects from the Roman Period in Borinka (Southwestern Slovakia).** In 2021, a second hoard of metal objects (Borinka II) was discovered in the mountain terrain near the village of Borinka (Malacky district, SW Slovakia), consisting of six almost identical copper, zinc and tin alloy belt ends and three bronze plates with decorative openwork. All items were originally decorated with silver foil and thread-lined rosettes. The finds can be interpreted as parts of riding saddle belts, or as parts of a belt and dated in grades B2/C1 and C1a. The affinity with finds from northern Europe is evidence of trans-regional contacts in the 2nd and 3rd centuries. Ritual practices are the likely cause of its placement in the ground.

Im Jahr 2017 wurden 2 km östlich vom Vorgebirgsdorf Borinka (Bez. Malacky) in den Kleinen Karpaten Bestandteile eines Zaumzeugs von einem prunkvollen Pferdegeschirr aus der römischen Kaiserzeit entdeckt (Bazovský *et al.* 2020). Die Stelle, wo das Zaumzeug gefunden wurde, befindet sich auf einem Gebirgsvorsprung, der im Westen und Norden von steilen Hängen, die sich zum Stupava Bach und Červený Bach absenken, begrenzt ist. Der Bergvorsprung ist vom Norden zugänglicher. Im Jahr 2021 wurde nahe dieser Fundstelle, etwa 65 m nordwestlich vom Fund des Zaumzeugs (Borinka 1), mithilfe eines Metallsuchgeräts ein zweiter Hort von Bronzegegenständen gefunden, den wir als Borinka 2 bezeichneten (Abb. 1). Zum Hort gehören sechs fast identische Riemenzungen und drei Beschlagplatten, die in Durchbrucharbeit verziert sind. Diese entspricht stilistisch der

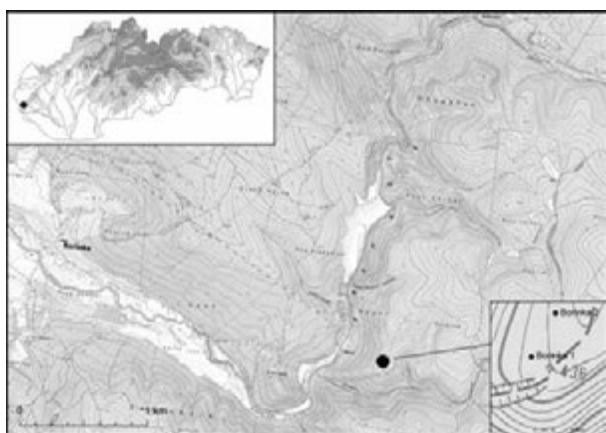


Abb. 1. Borinka. Karte mit der Lage des Fundes, samt Detail-ausschnitt.

Verzierung des Riemenhalters der Zaumzeugkette des ersten Fundes. Nach Aussagen des Finders wurde in einer Tiefe von 30 cm zuerst der große Bronzebeschlag mit Silberbelag angetroffen. Er befand sich in horizontaler Lage mit der Schauseite nach oben. In einer Entfernung von 65 und 75 cm östlich von diesem befanden sich etwas flacher, ca. 25 cm auseinander, die zwei kleinen Beschläge. Bei einem davon lagen Reste einer Silberfolie mit Durchbruchmuster. Etwa 75 cm westlich vom großen Beschlag ruhten relativ dicht beieinander fünf stabförmige Riemenzungen – davon zwei gekreuzt übereinander. Die letzte Riemenzunge wurde ca. 5,5 m südlich von dem großen Beschlag entfernt gefunden. Alle Funde, mit Ausnahme der sechsten Riemenzunge, lagen in einem Umkreis von 1,5 m.

BESCHREIBUNG DER GEGENSTÄNDE

Der Hort besteht aus sechs fast identischen bronzenen Riemenzungen und drei Beschlagplatten mit Durchbruchverzierung mit einem Gesamtgewicht von 333 g. Alle Gegenstände waren ursprünglich mit Silberfolien und mit rosettengefassten Nieten verziert. Die Folie blieb nur auf einem Beschlag erhalten, auf den weiteren Gegenständen sind nur noch Folienreste vorhanden. Ferner ist eine lose Folie erhalten, die ursprünglich einen der länglichen Beschläge zierte. Die Gegenstände sind im SNM – Archäologischen Museum unter den Inventarnummern AP 45 167–45 175 deponiert.

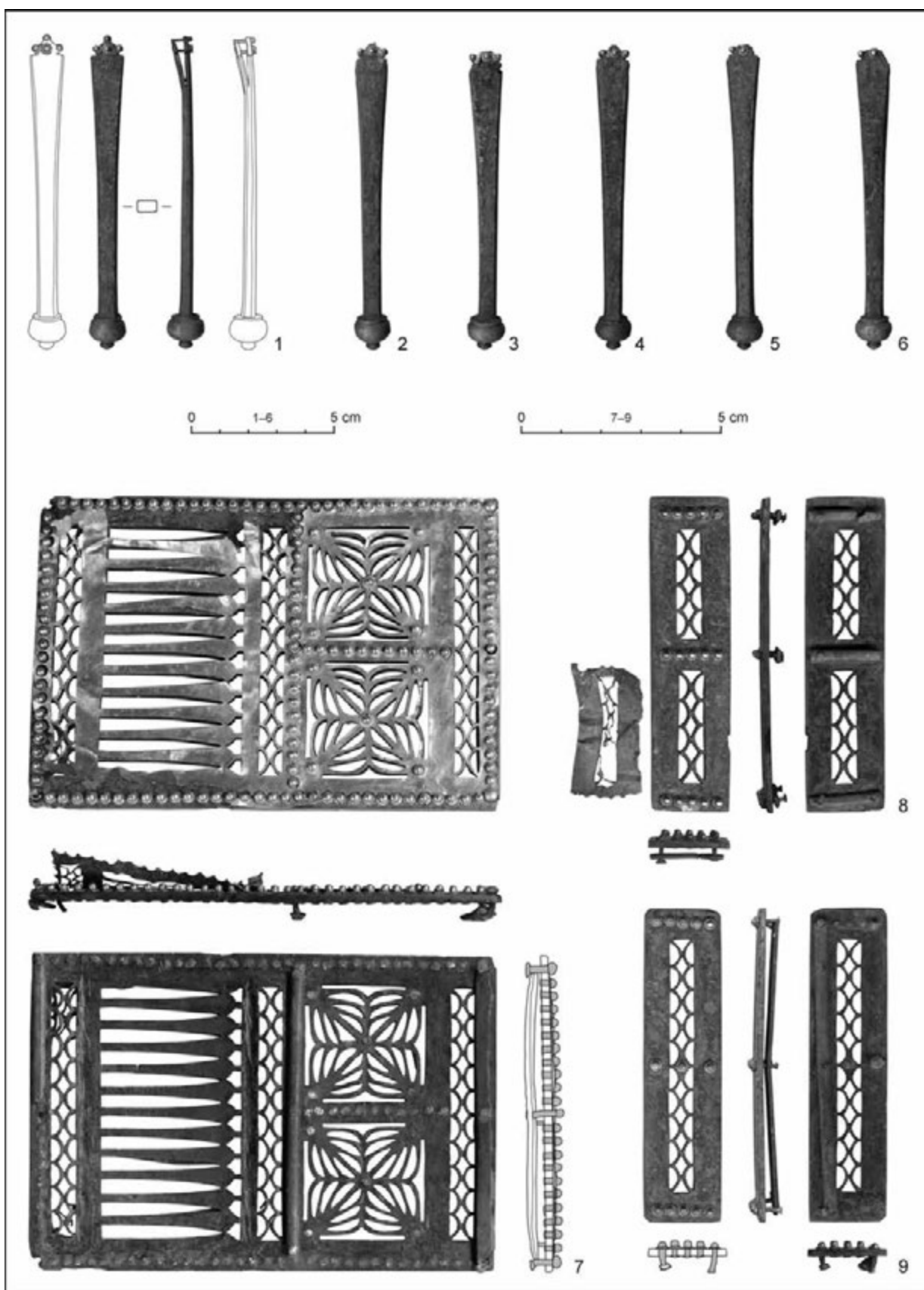


Abb. 2. Borinka 2. Hort. 1-6 – Riemenzungen; 7-9 – Beschläge mit Durchbruchverzierung (foto A. Bajanová).

1. Riemenzunge aus einer Legierung aus Kupfer, Zink und Zinn; stabförmig und mit rechteckigen Querschnitt. Der Schaft ist am Oberteil verbreitert, aufgespalten und schließt mit einem halbkreisförmigen Plättchen mit vier Silbernieten ab, die zwei mittleren dienten zur Befestigung am Riemen, die zwei äußeren zur Befestigung einer Silberfolie, von welcher nur Reste unter einem der Niete erhalten blieben. Der Mittelniet ist mit einer blechnen Silberrosette verziert. Der Unterteil ist kugelförmig und schließt mit einem linsenförmigen Fortsatz ab – dieser ist vom kugelförmigen Knopf durch einen Ring abgesetzt abgegliedert. Maße: Länge 11,35 cm, max. Breite des Schaftes 1,2 cm, Durchmesser des kugelförmigen Endes 1,25/1,3 cm, Länge der Niete 2,5–7,5 mm, Durchmesser des Nietkopfes 2 mm, Durchmesser des Nietschaftes 1 mm, Durchmesser der Rosette 4,5 mm, Gewicht 28,87 g (Abb. 2: 1; Inv. Nr. AP 45 167).
2. Riemenzunge wie Nr. 1, mit 3 Silbernieten und dem Rest einer Silberfolie verziert, der obere Niet nicht erhalten. Maße: Länge 11,05 cm, max. Breite des Schaftes 1,15 cm, Durchmesser des kugelförmigen Endes 1,25/1,3 cm, Gewicht 28,32 g (Abb. 2: 2; Inv. Nr. AP 45 168).
3. Riemenzunge wie Nr. 1, sekundär verbogen, mit 3 Silbernieten und dem Rest einer Silberfolie verziert, der obere Niet nicht erhalten. Unter den Nieten Reste der Silberfolie. Maße: Länge 10,8 cm max. Breite des Schaftes 1,15 cm, Durchmesser des kugelförmigen Endes 1,35 cm, Gewicht 26,3 g (Abb. 2: 3; Inv. Nr. AP 45 169).
4. Riemenzunge wie Nr. 1, mit 3 Silbernieten und dem Rest einer Silberfolie verziert, der obere Niet nicht erhalten. Maße: Länge 11 cm max. Breite des Schaftes 1,2 cm, Durchmesser des kugelförmigen Endes 1,3 cm, Gewicht 27,7 g, Abb. 2: 4; Inv. Nr. AP 45 170).
5. Riemenzunge wie Nr. 1, mit 2 Silbernieten verziert, 2 Niete und Folie nicht erhalten. Maße: Länge 11 cm, max. Breite des Schaftes 1,2 cm, Durchmesser des kugelförmigen Endes 1,3 cm, Gewicht 28,02 g (Abb. 2: 5; Inv. Nr. AP 45 171).
6. Riemenzunge wie Nr. 1, mit 2 Silbernieten verziert, 2 Niete und Folie nicht erhalten. Maße: Länge 10,85 cm, max. Breite des Schaftes 1,2 cm, Durchmesser des kugelförmigen Endes 1,3 cm, Gewicht 25,08 g (Abb. 2: 6; Inv. Nr. AP 45 172).
7. Bronzebeschlag Nr. 1, groß, rechteckig, mit Durchbruchmotiven verziert – Bögen, Vierblätter und keilförmig sich verbreitertes Stäbchen. Die Vorderseite der Beschlagplatte ist mit einer identischen durchbrochenen Silberfolie und umlaufend mit Silbernieten mit Blechrosetten verziert. In den Ecken und in der Mitte befinden sich 9 Niete zur Befestigung von 3 flachen Stäbchen auf der Rückseite des Plättchens, die Silberfolie ist beschädigt. Auf der Rückseite wurden vor der Konservierung Reste einer Vergoldung festgestellt. Maße: Länge 11,75 cm, Breite 8,1 cm, Dicke 2,5 mm, Gewicht 129,45 g (Abb. 2: 7; Inv. Nr. AP 45 173).
8. Bronzebeschlag Nr. 2, schmal-rechteckige Form, in 3 Reihen bilden je 5 Silberniete mit Rosetten die Verzierungen. Die 6 Randniete dienen zur Befestigung von 3 kurzen stegförmigen Gegenblechen. Bei den Nieten sind am Rand Reste der Silberfolie vorhanden. Auf der Rückseite sind Reste einer Vergoldung vorhanden. In der Mitte 2 Felder mit bogenförmiger Durchbruchverzierungen. Bestandteil des Beschlages war ursprünglich auch ein jetzt lose erhaltener Teil einer Silberfolie mit gleicher Durchbruchverzierungen. Maße: Länge 8 cm, Breite 2 cm, Dicke 2 mm, Gewicht 18,58 g, Gewicht der Silberfolie 0,5 g, Durchmesser des Nietkopfes 2 mm, Durchmesser der Rosette 3 mm (Abb. 2: 8; Inv. Nr. AP 45 174).
9. Bronzeplättchen Nr. 3, schmal-rechteckige Form, in 2 Reihen bilden je 5 Silberniete mit Blechrosetten und 1 Reihe mit 3 Nieten die Verzierungen. Die 6 Randniete dienen zur Befestigung von 2 langen flachen stegartigen Gegenblechen, von denen eines fehlt. Die Nietköpfe sind sekundär flachgedrückt. Die Beschlagfläche ist mit zwei Reihen von zehn, gegenüber gestellten Bögen verziert. Maße: Länge 8 cm, Breite 2 cm, Dicke 2 mm, Gewicht 19,9 g (Abb. 2: 9; Inv. Nr. AP 45 175).

AUSWERTUNG DER GEGENSTÄNDE

Der Hort von Borinka besteht aus neun Metallgegenständen – sechs Riemenzungen und drei Beschlägen mit Durchbruchverzierungen. Ihr gemeinsames Kennzeichen, was auf die Fertigung in ein und derselben Werkstatt hindeutet, ist die Verzierungen mit Silberfolie und Silbernieten, deren Köpfe oft von Rosetten gerahmt sind. Die Silberfolie blieb auf einigen Gegenständen nur fragmentarisch und auf anderen gar nicht erhalten.

Sechs der Riemenzungen sind ihrer Form nach fast identisch – sie haben einen unüblich langen Schaft mit gerundeten Kanten und ein kugelförmiges Ende mit einem Fortsatz, der durch einen Ring abgesetzt ist (Abb. 2: 1–6). Die Riemenzungen sind mit Silbernieten mit halbkugeligem Kopf verziert ($\varnothing$ 2 mm), unter welchen in vier Fällen Reste der Silberfolie erhalten geblieben sind. Man kann annehmen, dass die Folie ursprünglich die Schauseite dieser Gegenstände zierte. Nur auf einer Riemenzunge sind alle Niete vollständig erhalten (Abb. 2: 1; 3: 1) – der durch mit einer Blechrosette gefasste Mittelniet und der obere Niet dienten zur Befestigung des Lederriemens (Länge 7–7,5 mm), während die beiden seitlichen Niete (Länge 2,5–3 mm) eher nur eine Verzierungsfunktion hatten bzw. das aufgelegte Silberblech hielten. Die Riemenzungen von Borinka kann man nach der Typologie von K. Raddatz in die Gruppe O einreihen, für die ein kugelförmiger Abschluss mit Fortsatz kennzeichnend ist und deren älteste Formen schon in der Stufe B2 auftauchen (Raddatz 1957, 83–88, Abb. 1). Nach der Gliederung von R. Madyda-Legutko stehen die Riemenzungen der Variante 4 des Typs 2 nahe, die sich durch einen relativ langen Schaft und

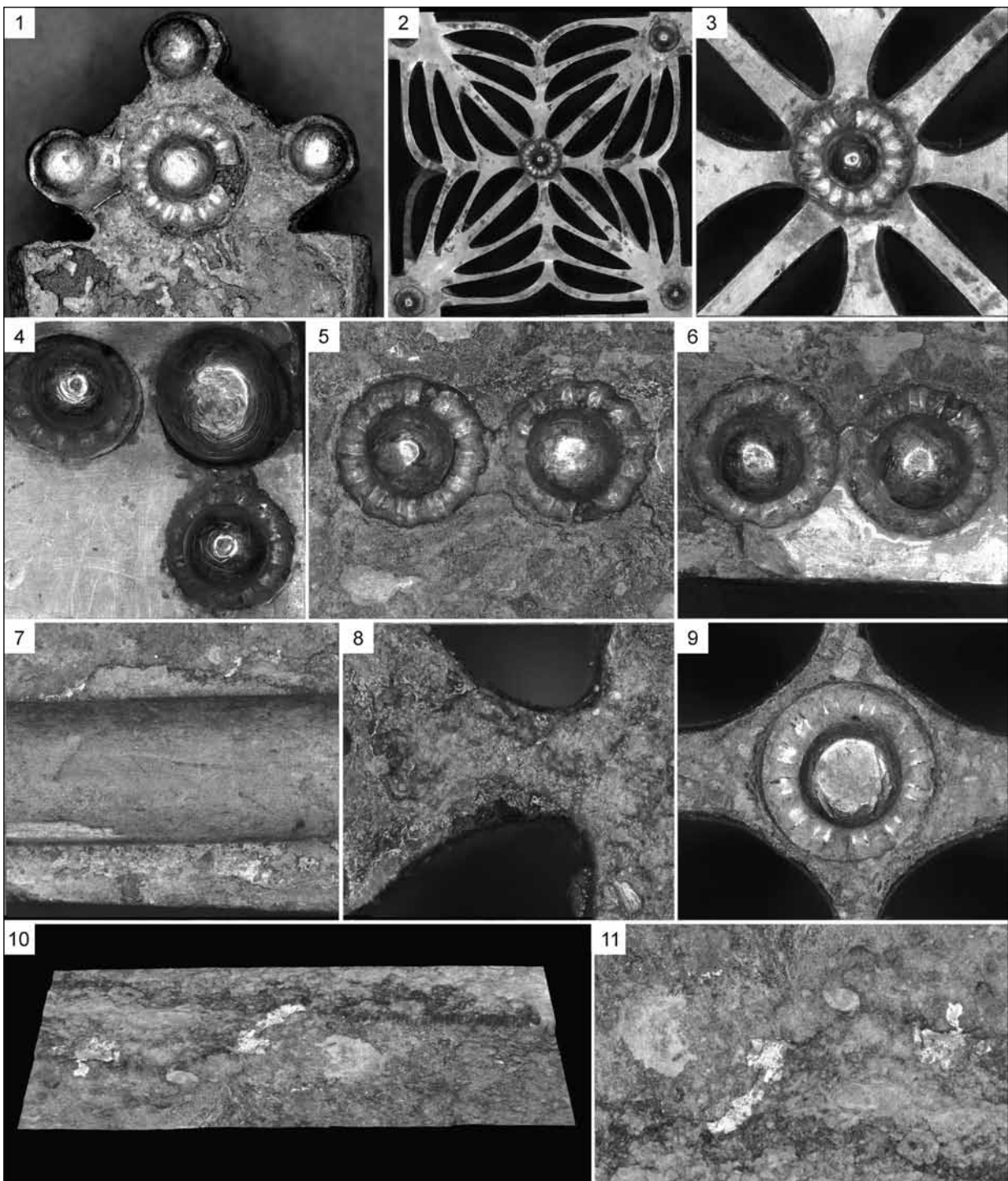


Abb. 3. Borinka. Details der Gegenstände. 1 – oberer Teil des Beschlags Nr. 1; 2-4 – obere Rosette und rechter oberer Winkel des großen Beschlages; 5-6 – Niete auf der Vorderseite des Beschlages mit quer verlaufenden Gegenblechen; 7, 8, 10, 11 – Reste der Vergoldung auf der Rückseite des Beschlages mit quer verlaufenden Gegenblechen; 9 – Mittelniet des Beschlages mit längs verlaufendem Gegenblech (foto B. Ritterová).

einen kugelförmigen Abschluss mit Fortsatz auszeichnen (*Madyda-Legutko 2011*, 32, Taf. VII: 1-6; Karte 7: 2, 3). Die Riemenzungen dieser Variante erscheinen im Gebiet der Przeworsk-Kultur hauptsächlich in der Stufe B2b, kommen aber auch in der Stufe B2/C1 vor (*Madyda-Legutko 2011*, 33). Die Funde aus Borinka sind deutlich länger (10,85–11,34 cm) als der Großteil ähnlicher Exemplare, ihre engste Parallele aus dem Przeworsk-Gebiet bildet ein Fund von Nowa Cerekwia, durch die silberne Verzierung steht ihnen

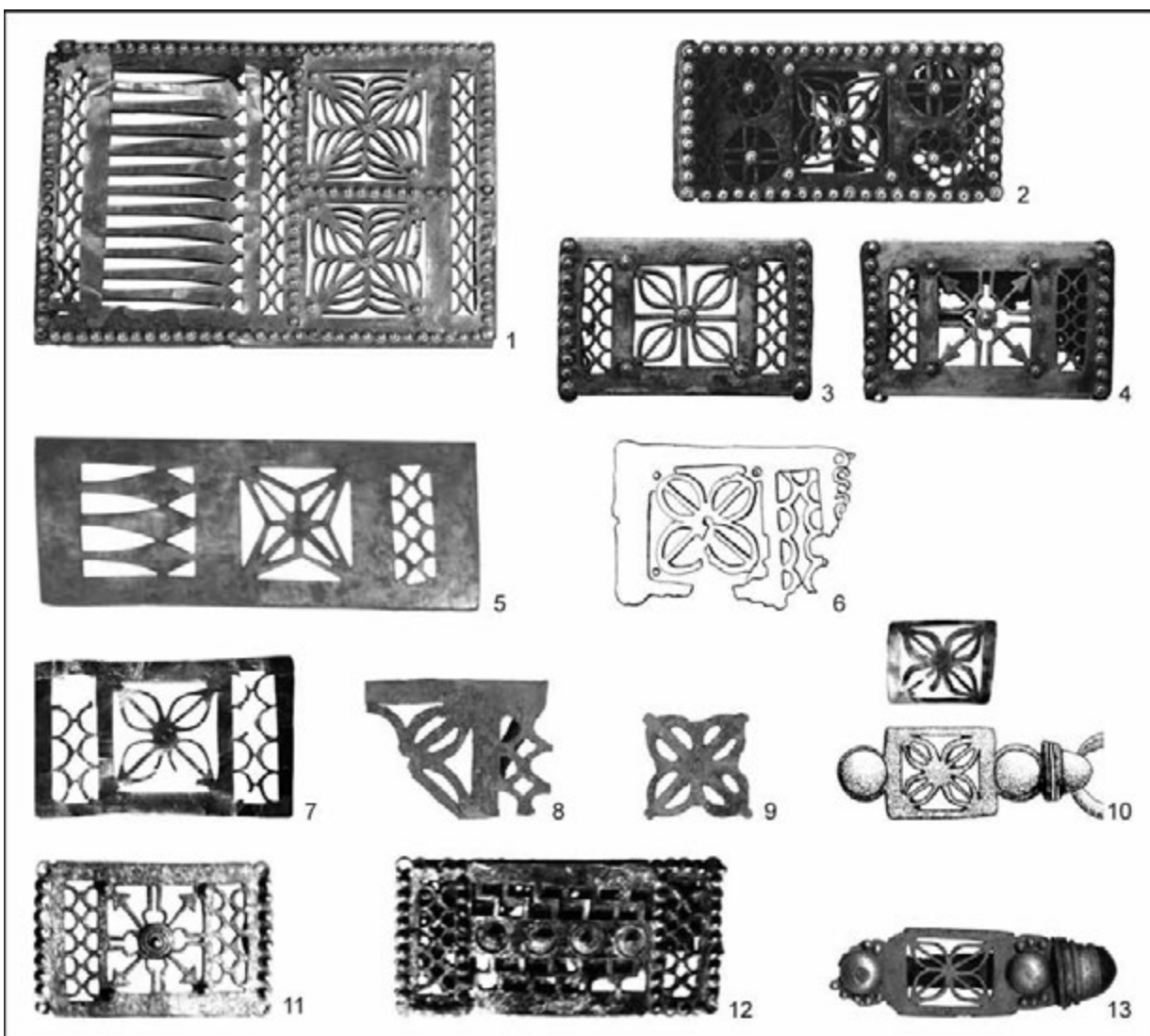


Abb. 4. Durchbruchverzierung im Vierblattform auf Beschlägen. 1 – Borinka 2; 2–4 – Illerup-Ådal; 5 – Trinnenmose; 6 – Witaszewice; 7 – Rykhtychy; 8, 9 – Mojmírovce; 10 – Mödring; 11, 12 – Kazanskaja, Hügelgrab 16; 13 – Borinka 1. Ohne Maßstab.

wiederum ein Stück aus Grab XXV von Kotel nahe (*Madyda-Legutko 2011, 32–33, Taf. VIII: 5, 6*).¹ Die engste Parallele im nördlichen Mitteldonauegebiet ist eine Riemenzunge von Palterndorf in Niederösterreich (*Adler/Schluppler 1990, 245, Abb. 1046*). C. Carnap von Bornheim gliederte im Rahmen der Gruppe Raddatz O die Variante Mušov aus, zu welcher er auch das Exemplar von Palterndorf zählte. Aufgrund der Konzentration vergleichbarer Funde im Mitteldonauegebiet rechnet er hier mit einer lokalen Produktion der Variante und datiert diese vorwiegend in die Stufe B2b, obwohl er auch eine jüngere Datierung nicht ausschließt (*Carnap-Bornheim 2002, 208–210, Abb. 10*). In diese Gruppe können wir auch noch den Fund von Medlovice in Mähren einreihen (*Čížmář et al. 2009, 144, obr. 5*).

Die drei Beschläge waren eindeutig Bestandteil eines Gegenstandes, was die gleiche Art der Durchbruchverzierung, die Versilberung der Schauseiten, die Maße und die Art ihrer Befestigung auf eine organische Unterlage mit einer Dicke von 1,5 mm belegen. Die Länge der zwei identisch großen schmalen Beschläge entspricht der Breite des großen Beschlages, was bedeutet, dass sie auf einem 8 cm breitem Band aus organischem Material – wahrscheinlich aus Leder – befestigt wurden. Die Oberflächenveredelung durch eine dünne Silberfolie ist vollständig nur im Fall des großen Beschlages erhalten (Abb. 2: 7), auf einem der schmalen

¹ Nach der Einreichung des Manuskripts wurde die Studie von Jan Schuster mit fast identischen Analogien aus Stinka und Toboliw aus der Ukraine veröffentlicht (*Schuster 2024, 204, 214, Abb. 17 und 24*).

Beschläge sind nur Reste davon vorhanden (Abb. 2: 8; 3: 5, 6). Geringe Goldreste auf der Rückseite von zwei Beschlägen deuten an, dass die Durchbruchverzierung mit einer Goldfolie hinterlegt gewesen sein könnte, die auf einer organischen Unterlage befestigt war (Abb. 3: 7, 8, 10, 11).

Der hinsichtlich seiner Maße außergewöhnlich große Beschlag (11,7 × 8,1 cm) ist durch die Kombination von drei Durchbruchtypen verziert – dreimal bogenförmig, zweimal mit dem Motiv eines vielfachen Vierblatts und einmal mit einer Reihe aus 11 keilförmig verbreiterten Stegen (Abb. 2: 7; 3: 2, 3; 4: 1). Die beiden schmalen Beschläge mit identischen Maßen zieren zwei Reihen bogenförmiger Motive in opus interasile. Während in einem Fall die Durchbruchverzierung in zwei Felder geteilt ist (Abb. 2: 8) und auch ein Teil der Silberfolie erhalten blieb, ist im anderen Fall die Verzierung durchgehend (Abb. 2: 9). Die engsten Parallelen zum großen Beschlag kennen wir aus dem Heeresausstattungsort Illerup-Ådal, von wo einige Beschläge stammen, die eine Kombination von Vierblatt- und bogenförmiger Durchbruchverzierung sowie Zierniete in Rosetten aufweisen (*Carnap-Bornheim/Ilkjær 1996a*, Taf. 231). Am nächsten steht dem Fund von Borinka ein Exemplar mit umlaufend verzierten Silbernieten und mit dem vielfachen Vierblattmotiv verziert ist (Abb. 4: 2), während die anderen in der Mitte ein einfaches Vierblattmotiv aufweisen und die Niete nur an den Schmalseiten platziert sind (Abb. 4: 3, 4). Aufgrund der Kombination der drei erwähnten Motive der Durchbrucharbeiten steht dem großen Beschlag von Borinka auch ein Fund aus dem Trinnenmose nahe (Abb. 4: 5; *Ilkjær 2003*, Abb. 42). Eine Kombination der bogenförmigen- und rosettenförmigen Durchbrucharbeiten kommt auch auf Funden vor, die von weit voneinander entfernten Fundplätzen stammen (Abb. 4: 6–12) – von Witaszewice (*Tejral 2006*, 143, Abb. 16: 5), Rykhtychy (*Onyschtchuk 2022*, 76, obr. 5: 4), Mojmírovce (*Bazovský et al. 2020*, Abb. 5: 5, 6) und Kazanskaya (*Sharov 2017*, fig. 3). Das Motiv des Vierblatts zierte auch den Riemenhalter der Zügelkettenzaumzeuge von Mödring und Borinka (Abb. 4: 10, 13; *Bazovský et al. 2020*, 258, Abb. 4: 1, 2; *Friesinger/Tuzar/Pollak 2000–2001*, 265, Abb. 11). Auf der Basis von Vergleichsfunden kann man die Beschläge nur im Rahmen eines breiteren Zeithorizonts der Stufen B2/C1 bis C1b datieren. Hinsichtlich ihres gemeinsamen Vorkommens mit älter zu datierenden Riemenzungen datieren wir diese in die Stufen B2/C1 und C1a.

Der große Beschlag wurde mittels drei schmaler Bronzestäbchen befestigt, von denen jedes an den Rändern und in der Mitte durch drei Silberniete mit dem Beschlag verbunden ist (Abb. 2: 7). Die zwei schmalen, gleich großen Beschläge unterscheiden sich voneinander durch die Art ihrer Befestigung – während der erste drei kurze Querstäbchen aufweist (Abb. 2: 8), ist das zweite ursprünglich länglich durch zwei lange flache Stäbchen an drei Stellen auf dieselbe Art wie der große Beschlag befestigt (Abb. 2: 9). Das spricht dafür, dass erstgenannter Beschlag wahrscheinlich den breiten Riemen mit einem rechtwinklig zu diesem verlaufenden schmalen Riemen verband. Es ist aber auch nicht ausgeschlossen, dass er auf einem schmalen Riemen saß. Die Niete der drei Beschläge haben einen Durchmesser von 1 mm und schließen mit einem halbkugelförmigen oder kugelförmigen Kopf (ø 2 mm) ab. Ausnahmen sind zwei größeren Nieten (ø vom Kopf 3 mm) in den Ecken.

RÖNTGEN-FLUORESZENZANALYSE

Zum Zweck der Bestimmung bzw. Verifizierung der Materialzusammensetzung wurden eine der Riemenzungen und die drei Beschläge der Röntgen-Fluoreszenzanalyse unterzogen. Für die Messung wurde ein manueller XRF-Analysator NITON XL3t vom Produzenten Thermo Fisher Scientific, NITON (USA) verwendet, der für destruktionsfreie Analysen der chemischen Zusammensetzung der Oberfläche von Gegenständen bestimmt ist. Zum Vergleich wurden Messungen sowohl vor Beseitigung der Patina als auch nach ihrer Entfernung durchgeführt. Die Dauer der Messung betrug etwa 30 Sekunden. In der Patina wurde, wie erwartet, an allen Gegenständen ein erhöhter Zinnanteil festgestellt. Nach Beseitigung der Patina zeigte sich, dass die drei Beschläge eine einander sehr ähnliche Zusammensetzung aufweisen – es handelt sich um eine Bronze aus Kupfer (80,7–86,1 %), Zinn (8,4–14,8 %) und Blei (3–5 %). Dem gegenüber ist die analysierte Riemenzunge eine Legierung aus Kupfer (84 %), Zinn (7,7 %) und Zink (6,1 %) mit minimalem Blei- (0,7 %) und Eisenanteil (0,5 %; Tabelle 1).² Eine solche Kombination ist für die römische Kaiserzeit typisch und hängt mit dem Umschmelzen von Altmetallstücken zusammen. Alle Gegenstände waren ursprünglich mit Silbernieten und Silberplattierung verziert, was die XRF-Analyse bestätigte. Die Plattierung des großen Beschlages ist

² Die Analyse wurde von Mgr. Art. B. Ritterová durchgeführt.

Tabelle 1. Borinka. Hort. Tabelle mit Messungen zur Materialzusammensetzung der Riemenzunge und der Beschläge mit Durchbruchverzierung.

Abbildung	Inventarn.	Kommentar	Cu	Sn	Zn	Pb	Ag	Au	Fe
Abb. 2: 6	AP 45172	Riemenzunge, Frontseite, mit Patina	58,995	31,762	3,697	0,651	2,602	0	1,195
Abb. 2: 6	AP 45 172	Riemenzunge, hintere Seite, mit Patina	76,905	15,443	4,041	0,879	1,079	0	1,095
Abb. 2: 6	AP 45 172	Riemenzunge, hint. Seite ohne Patina	84,07	6,068	7,716	0,656	0,607	0	0,509
Abb. 2: 6	AP 45 172	Riemenzunge, kugelige Ende, mit Patina	16,908	75,401	1,119	0,481	2,695	0	0
Abb. 2: 6	AP 45 172	Riemenzunge, kugel. Ende, ohne Patina	85,427	7,364	4,832	0,636	0,853	0	0,477
Abb. 2: 7	AP 45 173	Beschlag 1, hintere Seite, mit Patina	56,422	35,69	0,477	4,219	0,509	0	1,921
Abb. 2: 7	AP 45 173	Beschlag 1, hintere Seite, ohne Patina	80,782	14,752	0,437	3,007	0	0	0,709
Abb. 2: 7	AP 45 173	Beschlag 1, Silberblech	2,678	0,904	0	0,13	95,79	0,341	0
Abb. 2: 7	AP 45 173	Beschlag 1, Nit, obere Vierpassverzierung	5,181	6,988	0	0,205	86,797	0,369	0,379
Abb. 2: 8	AP 45 174	Beschlag 2, Frontseite, mit Patina	56,518	35,742	0,209	5,031	1,146	0,068	0,35
Abb. 2: 8	AP 45 174	Beschlag 2, hintere Seite, mit Patina	73,043	17,588	0,444	8,246	0	0	0,362
Abb. 2: 8	AP 45 174	Beschlag 2, hintere Seite, ohne Patina	85,983	8,38	0,401	4,858	0	0	0,111
Abb. 4: 7	AP 45 174	Beschlag 2, hintere Seite, Goldreste	45,272	40,762	0,387	9,596	0,486	1,741	1,471
Abb. 2: 8	AP 45 174	Beschlag 2, Silberblech	2,407	0	0	0,142	96,886	0,392	0,116
Abb. 2: 9	AP 45 175	Beschlag 3, Frontseite mit Patina	67,165	23,818	0,201	7,435	0,387	0	0,306
Abb. 2: 9	AP 45 175	Beschlag 3, hintere Seite mit Patina	58,197	29,436	0,194	10,789	0,281	0	0,482
Abb. 2: 9	AP 45 175	Beschlag 3, hintere Seite ohne Patina	86,066	8,31	0,082	5,128	0	0	0,125

vollständig erhalten, während auf einem der kleinen und auf vier Riemenzungen nur Reste davon erhalten blieben. Schon bei der Konservierung der Gegenstände wurden auf der Rückseite von zwei Beschlägen geringe Mengen einer Vergoldung bemerkt – was auch auf den Makrofotos (Abb. 3: 7, 8, 10, 11) und durch die Analyse der Patina bestätigt wurde.

URSACHE DER DEPONIERUNG IN DIE ERDE

Es ist nicht möglich, die Ursache der Deponierung der Horte Borinka 1 und Borinka 2 in die Erde eindeutig zu bestimmen. Am wahrscheinlichsten scheint eine absichtliche Deponierung im Zusammenhang mit rituellen Praktiken. Auf diese Tatsache weist vor allem ihre Lage auf einem von steilen Hängen gesäumten Bergvorsprung außerhalb der Siedlungsareale und abseits der großen Kommunikationstrassen hin. Die Belege für das rituelle Einbringen von Gegenständen in den Boden in bergigen Gelände finden sich in grösseren Mengen ab der Bronzezeit (Vích *et al.* 2020, 180). Als indirekte Parallele kann man Deponierungen von Waffen und anderen Gegenständen in Mooren und Seen in Nordeuropa anführen (Lau 2009). In einen Zusammenhang mit rituellen Praktiken werden neuerdings auch mehrere Funde aus der römischen Kaiserzeit in der Nordwest-Slowakei gesehen (Pieta 2023, 42–47). Eine zweite Möglichkeit ist die Thesaurierung vom Vermögen. Das Tal des Červený-Baches unterhalb der Fundstelle ist zur Überquerung des Bergkamms der Kleinen Karpaten geeignet und es ist möglich, dass durch dieses ein Handelsweg verlief. Unwahrscheinlicher sind weitere zwei weitere theoretische Möglichkeiten – die Deponierung als Materialhort zum Umschmelzen oder der Verlust von zwei Komplexen wertvoller Gegenstände. Die Anwesenheit dieser wertvollen Gegenstände als materielle Hinterlassenschaften einer germanischen Elite können wir in einen Zusammenhang mit bedeutenden Fundstellen der römischen Kaiserzeit von Stupava und Zohor sehen. Die sog. „Römische Station“ von Stupava (Turčan 2022) ist nur 7 km, die Fundstelle mit Fürstengräbern in Zohor (Elschek 2014; Kolník 1959, 144–149; Kraskovská 1959) liegt nur 13 km vom Fundplatz entfernt.

SCHUSSFOLGERUNGEN

Die entdeckten Metallgegenstände sind wahrscheinlich Erzeugnisse ein und derselben Werkstatt und können auf Basis der Vergleichsfunde in die gleiche Zeit wie der Komplex Borinka 1 – das bedeutet in die Stufen B2/C1 und C1a – datiert werden, also in die Zeit der Markomannenkriege und kurz danach. Beim Vergleich beider Funde sehen wir bestimmte Übereinstimmungen (Versilberung, Durchbruchverzierung), aber auch mehrere Unterschiede. Im ersten Fall handelt es sich um Bestandteile eines Zaumzeugs, im zweiten Fall ist der Verwendungszweck nicht ganz eindeutig. Die Beschläge mit Durchbruchverzierung können als Bestandteile von verzierten Riemen von Pferdegeschirren betrachtet werden, während die Riemenzungen als Elemente eines senkrechten Gürtelriemen zu interpretieren sind. Sollten die Beschläge und Riemenzungen Elemente einer Garnitur gewesen sein, können wir über zwei Möglichkeiten nachdenken. Die erste ist ihre Interpretation als Bestandteil von Sattelriemen – wobei die Beschläge am Brustriemen platziert gewesen sein könnten, während die Riemenzungen am hinteren Riemen hingen, wie die Rekonstruktion des Fundes SARK von Illerup-Ådal zeigt (Carnap-Bornheim 1996b, 237, Abb. 176). Die zweite Möglichkeit ist, dass die Beschläge und Riemenzungen Bestandteil eines breiten Gürtelriemens waren. Die Riemenzungen hingen am freien Ende des Gürtelriemen, das Auftreten von 6 identischen Stücke würde andeuten, dass sie in der Art des römischen Cingulums getragen gewesen sein könnten. Es ist aber auch nicht völlig ausgeschlossen, dass es sich ursprünglich um zwei eigenständige Sätze handelte – die RFA-Analyse zeigte eine unterschiedliche Materialzusammensetzung der Beschläge und der Riemenzungen. Die Versilberung und Vergoldung bezeugt, dass sie Bestandteil der Ausrüstung vom Angehörigen der germanischen Nobilität waren. Die Verwandtschaft mit Funden aus Nordeuropa ist ein Beispiel überregionaler Beziehungen im 2. und 3. Jahrhundert, es muß sich aber nicht zwangsläufig um Gegenstände handeln, die aus den nördlichen Gebieten des Barbaricums stammen.

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Hromadný nález postriebrených predmetov z doby rímskej z Borinky (JZ Slovensko)

Igor Bazovský

Súhrn

V roku 2017 boli 2 km východne od podhorskej obce Borinka v pohorí Malé Karpaty objavené súčasti uzdy honosného konského postroja z doby rímskej (Bazovský et al. 2020). Miesto nálezu sa nachádza na horskom výbežku ohraničenom zo západu a z juhu strmými svahmi zvažujúcimi sa do dolín Stupavského a Červeného potoka. V roku 2021 sa na tej istej lokalite cca 65 m severozápadne od staršieho nálezu (Borinka 1) našiel pomocou detektora kovov druhý hromadný nález kovových predmetov, ktorý sme označili ako Borinka 2 (obr. 1). Tvorí ho šesť takmer identických nákončí remeňov zo zliatiny medi, zinku a cínu a tri bronzové platničky s ozdobným prelamovaním. Všetky predmety z nálezu boli pôvodne zdobené striebornými nitmi a striebornou fóliou. Nákončia možno zaradiť k variantu Mušov O skupiny K. Raddatza, ktorý bol vyrábaný v priestore stredodunajského barbarika a je datovaný do stupňov B2b a B2/C1 (obr. 2: 1–6; 3: 1). Tri platničky boli evidentne súčasťou jedného predmetu, o čom svedčí rovnaký typ prelamovanej výzdoby, postriebrenie čelných plôch, rozmery, spôsob uchytenia na organický podklad a materiálové zloženie (obr. 2: 7–9; 3: 2–9; tabela 1). Dĺžka dvoch rozmerovo identických užších platničiek je rovnaká ako šírka veľkej, čo by naznačovalo, že boli umiestnené na 8 cm širokom páse z organického materiálu – pravdepodobne kože. Drobné zvyšky zlata zistené na zadných stranách dvoch platničiek naznačujú, že prelamovaná výzdoba mohla byť zo spodnej strany podložená zlatou fóliou upevnenou na organickom podklade (obr. 3: 7, 8, 10, 11). Analógie k takto zdobeným platničkám nachádzame vo vzdialených oblastiach barbarika (obr. 4). Prelamované platničky patria k predmetom, ktoré sú považované za súčasť ozdôb remeňov konského postroja, zatiaľ čo nákončia sú interpretované ako súčasti zvislých remienkov opaska. Ak by sme predpokladali, že platničky a nákončia tvorili súčasť jedného súboru, môžeme uvažovať o dvoch možnostiach. Prvou je ich interpretácia ako súčasti remeňov jazdeckého sedla – platničky mohli byť umiestnené na hrudnom remeni, zatiaľ, čo nákončia viseli na bočných remienkoch

na zadnom remeni, ako vidíme na rekonštrukcii umiestnenia platničiek z nálezu z Illerup-Ådal. Druhou možnosťou je, že platničky a nákončia tvorili súčasť širokého opasku.

Nájdene kovové predmety sú pravdepodobne výrobkom jednej dielne a na základe analógií ich možno datovať do rovnakého obdobia ako nález Borinka 1 – t. j. do stupňov B2/C1 a C1a, t. j. do obdobia markomanských vojen a obdobia po ich ukončení. Príbuznosť s nálezmi zo severnej Európy je dokladom nadregionálnych stykov v 2. a 3. storočí. Nemusí ísť však o predmety pochádzajúce zo severných častí barbarika – čo dokladajú nálezy odlievacích foriem na súčasti konského postroja typu Vimose z južnej Moravy a Dolného Rakúska.

Príčinu uloženia hromadných nálezov Borinka 1 a Borinka 2 do zeme nemožno jednoznačne určiť. Najpravdepodobnejšie vzhľadom na miesto nálezu v ťažko prístupnom teréne sa javí zámerné uloženie spojené s rituálnymi praktikami.

Obr. 1. Borinka. Mapa s vyznačením miesta nálezu, s výrezom detailu.

Obr. 2. Borinka 2. Hromadný nález. 1–6 nákončia remeňov; 7–9 platničky s prelamovanou výzdobou (foto A. Bajanová, kresba I. Bazovský).

Obr. 3. Borinka. Detaily častí predmetov. 1 – horná časť nákončia č. 1; 2–4 – horná ružica a pravý horný roh veľkej platničky; 5, 6 – nity na prednej strane platničky s priečnym uchytением; 7, 8, 10, 11 – zvyšky pozlátenia na zadnej strane platničky s priečnym uchytением; 9 – stredový nit na platničke s pozdĺžnym uchytением (foto B. Ritterová).

Obr. 4. Prelamované kovania v tvare štvorlístka. 1 – Borinka 2; 2–4 Illerup-Ådal; 5 – Trinnenmose; 6 – Witaszewice; 7 – Rykhty; 8, 9 – Mojmirovce; 10 – Mödring; 11, 12 – Kazanskaja, mohyla 16; 13 – Borinka 1. Bez mierky.

Tabela 1. Borinka. Hromadný nález. Tabuľka meraní materiálového zloženia nákončia a prelamovaných platničiek (meranie B. Ritterová).

Mgr. Igor Bazovský, PhD.

SNM – Archeologické múzeum

Žižkova 12

P. O. BOX 13

SK – 810 06 Bratislava

igor.bazovsky@snm.sk

igorbazovsky@centrum.sk

<https://orcid.org/0000-0001-9023-3411>

ARCHAEOZOOLOGICAL RESEARCH OF THE ROMAN FORT AT IŽA (SW SLOVAKIA)

History and Current Knowledge¹

Zora Bielichová – Katarína Šimunková

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Abstract: Despite extensive archaeological research, the ecofactual data from the Roman fort in Iža – a Brigetio bridge-head – remain limited and scattered across hard-to-access papers. This study summarizes and revises the existing archaeozoological data, highlighting key findings. Since 1984, approximately 6,000 bones and shells have been analyzed, primarily from the earth-and-timber phase of the camp's existence (175–179 AD). Taxonomic and anatomical identification, kill-off patterns, and bone modifications indicate that the Roman army relied on local faunal resources, although there were occasional imports of new species, such as the domestic ass (*Equus asinus*). Soldiers from Iža-Leányvár primarily consumed meat from young adult caprines aged two to three years. Animals were brought on hooves, slaughtered, and processed locally. Biometric data revealed consumption of oxen and rooster meat. Preliminary analysis of shellfish and fish remains from the later stone fort (2nd–4th century AD) suggests that large fish (e.g., *Silurus glanis*, *Cyprinus carpio*, *Esox lucius*) and shellfish (e.g., *Unio crassus*) played a significant role in the diet. At the same time, Mediterranean species such as the European flat oyster (*Ostrea edulis*) and the banded dye-murex (*Hexaplex trunculus*) appeared among the finds.

INTRODUCTION

One of the most important monuments testifying to the permanent military presence of the Romans on the territory of present-day Slovakia is the Roman fort in Iža. It was built on a strategic site near the confluence of the Danube and Vár rivers, as a bridgehead of Brigetio, the headquarters of the first auxiliary legion (Fig. 1). The fort controlled the adjoining section of the empire border and provided defense for the foreland of Brigetio (Bartus *et al.* 2022; Rajtár 2000). Besides their military-strategic function, Brigetio and Iža played an important role in cross-border and long-distance trade (Kuzmová/Rajtár 2017, 7). Two main phases of development have been recognized: first, a brief phase with an earth-and-timber camp during the Marcomannic wars (175–179 AD) and the second, spanning the subsequent period of the existence of the stone fort (2nd–4th century AD). They differ not only in the circumstances of their establishment and duration but also in the quantity and quality of finds and the information obtained by the archaeological research (Hajnalová/Rajtár 2009, 195). The earth-and-timber camp was built as a permanent frontier fortification, whose military garrison – most likely formed of cavalry units of archers – was tasked with overseeing compliance with the terms of peace between Romans and Germans (Quadi) and protecting the adjoining section of the border from sudden invasion (Rajtár 2000, 36). The camp was destroyed by fire after an unexpected attack in around 179. Before the construction of the new stone fort, during the reign of Emperor Commodus, original structures were levelled, so all finds from the early phase of the fort's existence can be reliably dated between 175 and 179 AD (Rajtár 1992).

¹ This work was supported by the Slovak Research and Development Agency under the Contract No. APVV 21-0257. The authors would like to take this opportunity to express their sincere gratitude to J. Rajtár, head of the archaeological research in Iža, for providing vital unpublished research reports. His proactive assistance and insightful consultations were instrumental in enhancing the quality of the data presented in this work.

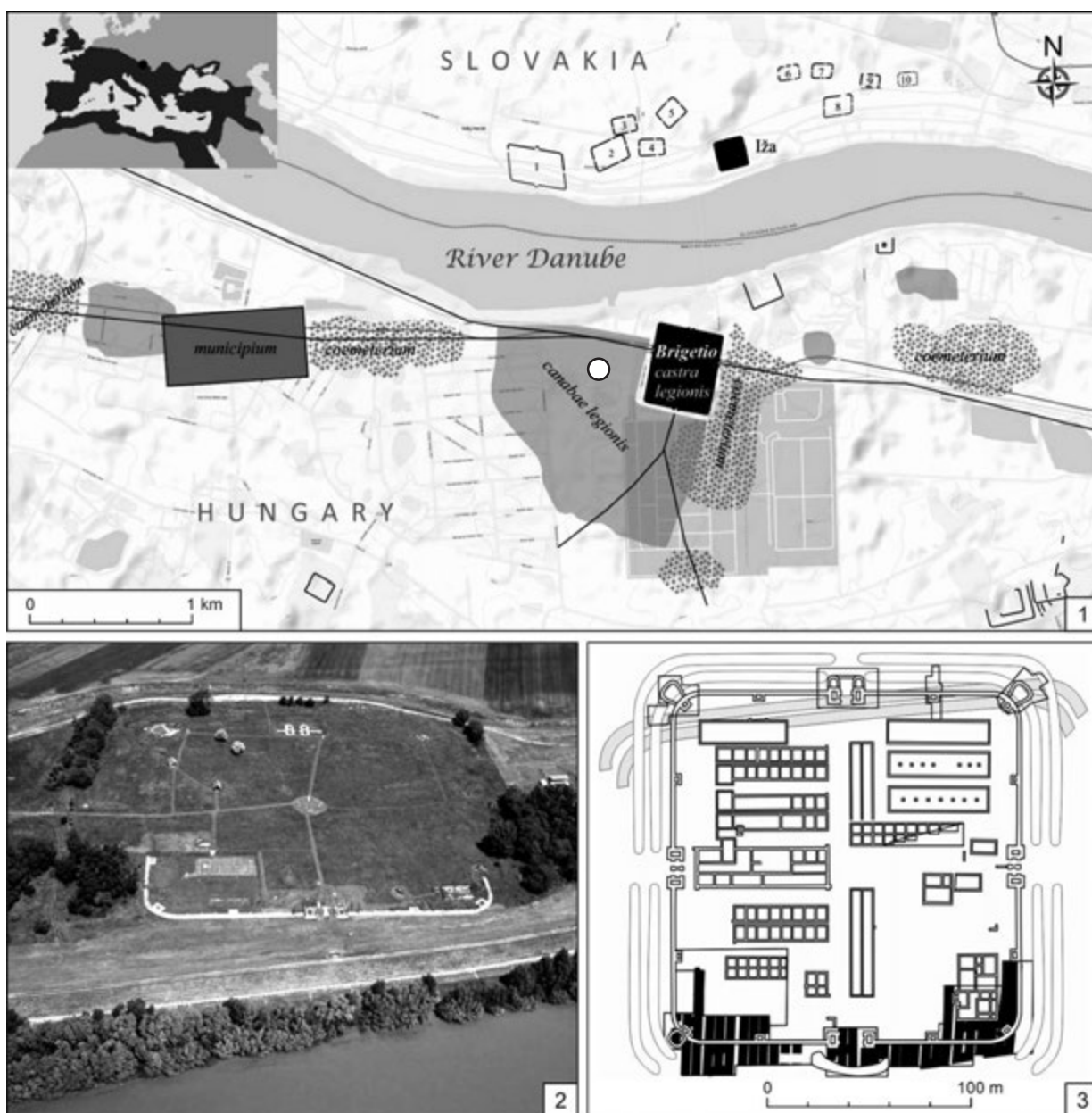


Fig. 1. Iža, Leányvár. 1 – location of the Roman fort as a bridgehead of Brigetio; 2 – an aerial view of the fort remnants (National Cultural Monument and UNESCO site); 3 – ground plan of the stone fort and parts of the earth-and-timber camp (areas filled with black; source: archive of the AI SAS).

Since 1978, the site has been systematically investigated by researchers from the Institute of Archaeology in Nitra under the leadership of J. Rajtár, together with late colleagues T. Kolník and K. Kuzmová (*Buranská/Kolník/Rajtár 1980; Kolník 1977; Rajtár 1981*).² Despite multiple re-buildings and re-adjustment phases, the excavation has yielded rich evidence on its architecture and inner life and helped to clarify the chronology of the site complicated by the lack of clear contexts and undisturbed layers (e.g. *Kuzmová 2020; Kuzmová/Rajtár 1986; 2010; Rajtár 2000*). Many architectural elements, pottery, parts of military equipment, clothing, coins, tools, or decorative objects made of iron, bronze, precious metals, glass, bone, antler or stone have been revealed and partly analysed (e.g. *Daňová 2012; Hrnčiarik 2017; Chrastina 2003; Rajtár 1987; Šimunková 2013; Švaňa 2012*).

² For the full list of excavation reports see the yearbook AVANS published by the Institute of Archaeology of the Slovak Academy of Sciences in Nitra and the references in *Daňová 2021*.

In the past, the ecofacts were systematically collected and analysed to shed more light on the military diet and provisioning the garrison with fuel and building materials. The archaeobotanical research has also provided a glimpse into the natural environment of the fort and testified it's warm and dry, deforested hinterland suitable for cultivating crops and/or grazing of domestic livestock (Čejka/Hajnalová 2000; Hajnalová/Rajtár 2009). Similar to pottery, the use of local and non-local materials was recorded, suggesting that some of the fuel or building wood might have been rafted downstream from Noricum and Raetia (Hajnalová/Rajtár 2009, 198). The cereal and pulse crops together with livestock were probably imported from the opposite bank of the Danube (Hajnalová/Rajtár 2009, 202). This paper aims to extend the present knowledge with information obtained by analyses of animal remains. Several local researchers have been involved in studying bone and shell remains from Iža. Besides the basic taxonomic and anatomical identification, they provided information on the sex and age (at death) of the consumed animals, the nature of bone modification or the size of the animals. However, for decades they remained unpublished and unassessed. We have therefore decided to make them available to the professional public on the occasion of the jubilee of the head of the archaeological excavations in Iža, Ján Rajtár. His genuine interest in animal remains and results of archaeozoology never ended only with the findings from the Roman fort.

ARCHAEOZOOLOGICAL MATERIAL AND ITS RECOVERY

The majority (ca. 80–90%) of analysed animal bones and shells in Iža originate from contexts datable to the earth-and-timber camp phase and were retrieved between 1984 and 1996.³ The archaeofaunal remains retrieved before this date, if there were any, have not been reported or analysed. The collecting of samples at sporadic excavations between 1997 and the present day (Beljak/Rajtár 2007; Benková/Gere/Rajtár 2017; Kuzmová/Rajtár 1999) followed the strategy from previous years and focus on macroscopically visible remains. The majority of bone or shell finds retrieved recently are associated with the stone fort and none has yet been analysed.

There are two types of faunal materials available from the excavations in Iža – one comprising the hand-collected specimens and another the finds retrieved during flotation from the soil (archaeobotanical) samples. The field retrieval of both had been supervised by the senior archaeologist(s) and focused on easily recognizable concentration or solitary bones and teeth of the vertebrates. The molluscs' shells and larger fish bones were also hand-collected and recorded separately in the field.⁴ The microfaunal remains including the fish scales, tiny fragments of larger bone elements, bird and small rodent remains, small molluscs shells, remains of insects, a burnt matter of animal origin were sorted out under the microscope from both, light (flot) and heavy (residue) fractions (Hajnalová 1986).⁵ The hand-retrieved as well as flotation samples were all catalogued, including available contextual information (e.g. feature, sector, layer, date of excavation, and dating). The area of the fort was divided into smaller sections (sectors of 5 × 5 m) marked with alphabet letters and Arabic numbers (Fig. 2). For easier orientation, the buildings of the earth-and-timber camp were marked with Arabic and the stone fort with Roman numbers. As noted above, the fish remains, shells and bone/antler artefacts were sorted out from original bone samples, and catalogued/stored separately. Most of the material had been washed, cleaned, and dried in the course of the excavation seasons.

It needs to be mentioned that part of the hand-retrieved specimens from the research period 1984–1990 were discarded.⁶ This may have been primarily related to small unidentifiable fragments, perhaps mostly parts of ribs, skulls, vertebrae, and other highly fragmentary parts of the skeleton. In the 70ties and 80ties, this was a common practice of C. Ambros, who was at that time in charge of the bone analysis in Nitra. Fortunately, other specialists avoided this kind of treatment, and so the integrity of some of the samples has been preserved.

The archaeofaunal finds were temporarily stored at the field base in Iža and later on moved to the deposits of the Archaeological Institute in Nitra. The finds that had been sorted out, for instance, hand-collected fish and shell remains from the excavations between 1981 and 2005, are stored in two separate boxes.

³ J. Rajtár, pers. comm. 2024.

⁴ J. Rajtár, pers. comm. 2024.

⁵ M. Hajnalová, pers. comm. 2024.

⁶ J. Rajtár, pers. comm. 2024.

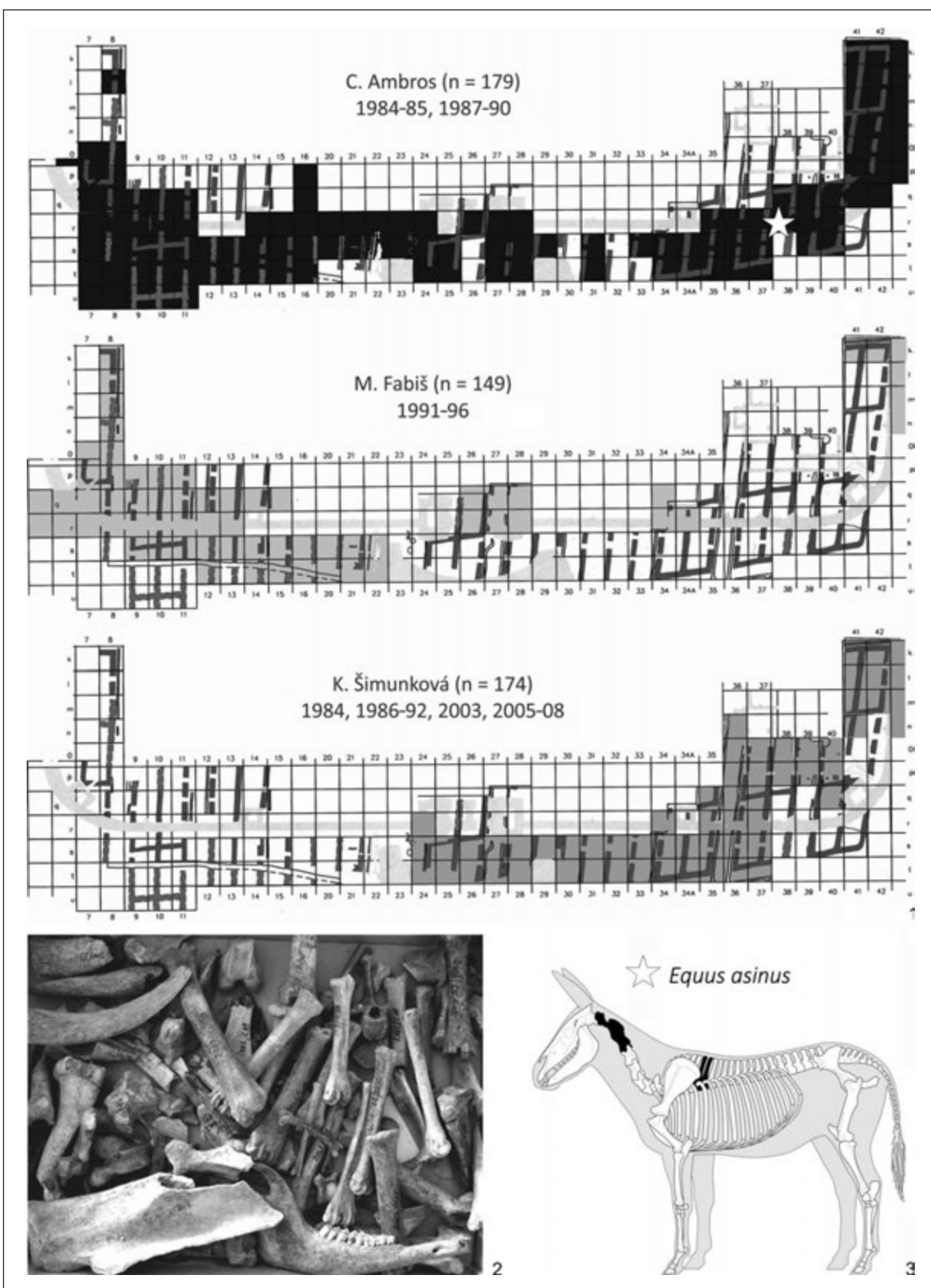


Fig. 2. Iža, Leányvár. 1 – a plan of the earth-and-timber camp with archaeozoologically analyzed areas and the name of the bone expert, number of processed samples (n), and years of excavation; 2 – a selection of the measurable bones; 3 – vertebrae of a donkey found in one of the barracks' interiors (see star in the first site plan). Source: archive of the AI SAV; photo by Z. Bielichová.

HISTORY OF ARCHAEOZOOLOGICAL RESEARCH

The analysis of archaeofaunal remains from Iža had been dependent on the requirements of the archaeologists. In the past, several bone and shell experts from the Slovak Academy of Sciences (SAV) and Comenius University in Bratislava (UK) participated in their analysis. The first information was provided by C. Ambros (Archaeological Institute SAV, Nitra), who examined 20 hand-retrieved samples collected during the 1984 and 1985 excavations (Ambros 1986). He provided basic data including the taxa, the anatomy, and (whenever possible) the age at death and sex for 1285 bone and shell specimens (Ambros 1986, 30). Using the Number of Identified Specimens (NISP) quantification, he also provided the summary tables with information on the relative representation of identified taxa and domestic species (Ambros 1986, 30). No metrical data has been attached to the report. Ambros returned to animal remains from Iža again in the early 1990s. He processed a further 159 hand-retrieved samples of the four excavation seasons 1987–1990 (Ambros 1988; 1990a; 1990b; 1991a) and significantly enlarged the overall number of the analysed material, the majority of which is connected the earth-and-timber phase contexts (Fig. 2).

The short evaluation of the primary data collected by Ambros remained only in the form of an unpublished manuscript (Ambros 1991b).⁷ It presents the first trends observed in the taxonomic and anatomic representation and comments on the age-at-death and size of the main economic species reconstructed based on dental ageing and the standard measurements (Driesch 1976). Some of the observations Ambros compared to the contemporary Roman-provincial sites from Germany. Although very briefly, he also addresses paleopathology. More importantly, the summary tables, using two quantification methods – Number of Identified Specimens NISP and Minimum Number of Individuals MNI (Ambros 1991b, tab. 1–6) and a complete list of bone measurements were provided (Ambros 1991b, tab. 7). One of the greatest draw-backs of this manuscript is absence of detailed description of the methods, used for instance in the evaluation of the body parts (missing classification of considered skeletal elements) and the slaughter age of livestock (no methods cited). This manuscript as well as all partial unpublished reports omit the issues of taphonomy, except for a few general statements on the preservation and fragmentation of bones.

During the 90ties, a small selection of shells retrieved from the earth-and-timber layers was analysed by J. Šteffek (Institute of Forest Ecology SAV, Banská Štiavnica – Zvolen), and its taxonomic determination was briefly reported (Šteffek 1991). Some of the fish bones were taxonomically determined by K. Hensel (Faculty of the Natural Sciences, UK, Bratislava) (Balon 1995, 31, 32), who later published the most interesting specimens (Hensel 2004). The involvement of these two specialists stimulated more meticulous excavation techniques and handling of the finds. Both types of archaeofauna were given special attention already in the field – by the naked eye recognizable fish bones and molluscs were packed and separated from other ecofacts already in the field (see above). However, the studied and published information represents only a fraction of available fish bones and molluscs material.

After 1991, the study of archaeofauna was overtaken by other researchers. Few bone artefacts have been determined to taxa and elements by J. Konč (Archaeological Institute SAV, Nitra) (Konč 1991). Following the work of Ambros, another 149 bone samples from the earth-and-timber contexts have been studied by M. Fabiš (Archaeological Institute SAV, Nitra). According to the preliminary dating of the material, three of the 149 samples represent the stone fort, and eight samples represent the earth-and-timber or stone fort (in total 7% of all processed). A similar admixture of the samples from later phases (3rd–4th century) is presumed for the material processed by Ambros. Unfortunately, many results retrieved by Fabiš remained unpublished, although a summary table with the taxa representation, based on NISP and WISP (Weight of Identified Specimens) quantification methods, and the list of measurements became available (Fabiš 2008). He processed circa two thousand hand-retrieved specimens from the 1991–1996 seasons. Probably around the same time, he also studied a collection of bone and antler artefacts to determine the source of the tools, decorative and other objects from both phases of the site's occupation (Fabiš 2006).⁸

In the late 1990s, the study of mollusc shells from the flotation samples was carried out by T. Čejka (Botanical Institute SAV, Bratislava). In cooperation with E. Hajnalová (Archaeological Institute SAV, Nitra), who reviewed the archaeobotanical findings from the site, they published a contribution to the reconstruction

⁷ The manuscript has been kindly provided by J. Rajtár.

⁸ Summary tables of his unpublished report have been kindly provided by J. Rajtár.

of the past environment and plant food and building materials supply to the fort (Čejka/Hajnalová 2000). A more comprehensive assessment of the ecofacts from Iža as well as interpretations concerning the supply and subsistence of the troops stationed in the earth-and-timber camp and the stone fort was presented in the contribution of M. Hajnalová and J. Rajtár (Hajnalová/Rajtár 2009). The charcoal analysis has shown that a substantial part of wood used as timber must have been transported from distant regions, most probably by rafting down the large rivers (Hajnalová/Rajtár 2009, 201). The article also presents some of the unpublished results of past archaeozoological research (compiled by J. Rajtár), highlighting for the first time the striking dissimilarities between Iža and other military sites in Pannonia and the western provinces. The authors also discussed some results related to the animal body parts and ageing introduced by Ambros (Ambros 1991b; Hajnalová/Rajtár 2009, 202, 203).

Under the supervision of M. Hajnalová (Department of Archaeology, Constantine Philosopher University, Nitra), the archaeofaunal remains from Iža have been revisited in a master thesis project (Šimunková 2013). Joining two lines of evidence – pottery, and bones, the work of K. Šimunková focused on the analysis of Roman domestic pottery and the archaeofauna from the eastern area of the earth-and-timber camp which has been destroyed by fire and was preserved *in situ*. The main aim was to contribute to the information about the soldiers' diet and supply of food and pottery to the site. The typological analysis aimed at determining the function of different types of pottery and their use for cooking and serving dishes. Using NISP, WISP, and DZF (Diagnostic Zone Fragment) quantification methods, the representation of main economic taxa and their body parts was compared among barracks and alleyways between them. The most important contribution of this unpublished work is a joint interpretation of archaeological and archaeozoological data that offers new insights into the nature of food, its preparation, and the way of dining (Šimunková 2013, 57–62). Šimunková re-analyzed 174 bone samples and circa seven thousand specimens and included some of the more standardized methods, for instance for collecting dental data (e.g. Payne 1973) or evaluation of meat value of bones and its distribution in excavated areas (Uerpmann 1973, 316).

Most recently, the bone and antler artefacts from Iža have been studied by E. Hrnčiarik (Department of Classical Archaeology, Trnava University), who in cooperation with É. David (CNRS, UMR 7194 HNHP – Histoire naturelle de l'Homme préhistorique) re-analysed some of the finds, previously reported as made of ivory (David/Hrnčiarik 2021; Hrnčiarik 2017).

PRELIMINARY RESULTS

As already mentioned, most of the findings presented here are from the earliest phase of the Roman military occupation of Iža. They are associated with the earth-and-timber camp – especially its southern part. Here were uncovered the well-preserved remains of (burned down) garrison barracks and the spaces (alleyways) between them (Fig. 2). Uniquely these contexts and all associated material come from a very short interval spanning only a few years (175–179 AD).

It needs to be noted again that the animal remains from a subsequent occupation phase(s) of the stone-built *castellum* from the 3rd to the 4th century AD, were not yet fully studied, except for a selection of fish and shellfish finds (see below).

Faunal composition

The information on the assortment and proportions of recovered taxa in the assemblage is based on thousands of bones and teeth from the studied contexts (Table 1). Identified specimens reached 55.7% in a study of Ambros (NISP = 3852), 75.5% in Fabiš (NISP = 1630) and 89.3% in Šimunková (NISP = 6270). Despite evaluating different assemblages (Fig. 2) and applying different quantification methods, all three authors recorded similar species composition. In general, mammals predominate the studied samples, while birds, fish, or shellfish occur in low numbers. The majority of processed remains belong to domestic species, making up from 75% (by DZF) to 99.4% (by WISP) of the total, depending on the assemblage (author) and quantification used. The remains of wild taxa make up from 0.3% (by WISP) to 7.2% (Fig. 3; by DZF).

Plausibly attested among the hand-retrieved finds were horse (*Equus caballus*), cattle (*Bos taurus*), sheep (*Ovis aries*), goat (*Capra hircus*), pig (*Sus domesticus*), dog (*Canis familiaris*), hare (*Lepus europeus*), wild boar

Table 1. Iža, Leányvár. The earth-and-timber camp. The representation of animal taxa according to bone expert and quantification methods. DZF – diagnostic zone fragment; NISP – number of identified specimens; MNI – minimum number of individuals; WISP – weight of identified specimens (data from Ambros 1991b; Fabiš 2008; Šimunková 2013).

Taxa	C. Ambros				M. Fabiš				K. Šimunková					
	NISP	%	MNI	%	NISP	%	WISP	%	NISP	%	WISP	%	DZF	%
Horse, <i>Equus caballus</i>	5	0.1	1	0.8	2	0.1	352.0	2.3	1	0.0	20.3	0.0	1	0.8
Equid, Equidae indet.	.	.	.	.	3	0.2	55.0	0.4	.	.	.	.	.	.
Cattle, <i>Bos taurus</i>	272	7.1	6	4.8	189	11.6	3403.7	22.1	415	6.6	14982.4	20.2	7	5.3
Caprines, <i>Ovis/Capra</i>	2139	55.5	61	49.2	1075	66.0	5301.8	34.4	3930	62.7	37694.3	50.8	64	48.9
Sheep, <i>Ovis aries</i>	.	.	.	.	159	9.8	2201.6	14.3	.	.	.	.	.	.
Goat, <i>Capra hircus</i>	.	.	.	.	97	6.0	1188.8	7.7	.	.	.	.	.	.
Pig, <i>Sus domesticus</i>	1315	34.1	41	33.1	313	19.2	2734.7	17.8	1646	26.3	20629.8	27.8	41	31.3
Dog, <i>Canis familiaris</i>	1	0.0	1	0.8	1	0.1	2.7	0.0	16	0.3	113.6	0.2	1	0.8
Chicken, <i>Gallus domesticus</i>	74	1.9	11	8.9	29	1.8	38.1	0.2	119	1.9	171.4	0.2	10	7.6
Pig/wild boar, <i>Sus</i> sp.	.	.	.	.	2	0.1	44.0	0.3	.	.	.	.	.	.
Bird, Aves indet.	7	0.2	.	.	1	0.1	0.4	0.0	6	0.1	5.4	0.0	1	0.8
Small rodent, Rodentia	.	.	.	.	5	0.3	2.4	0.0	.	.	.	.	.	.
Hare, <i>Lepus europaeus</i>	2	0.1	1	0.8	1	0.1	0.6	0.0	7	0.1	10.3	0.0	1	0.8
Wild boar, <i>Sus scrofa</i>	.	.	.	.	3	0.2	44.0	0.3	.	.	.	.	.	.
Red deer, <i>Cervus elaphus</i>	1*	0.0	1*	0.8	2?	0.1	17.6	0.1	.	.	.	.	.	.
Roe deer, <i>Capreolus capreolus</i>	1	0.0	1	0.8	.	.	.	.	.	.	.	.	.	.
Fish, Pisces	31	0.8	.	.	4	0.2	5.0	0.0	3	0.0	0.8	0.0	1	0.8
Shellfish, Mollusca	5	0.1	.	.	.	.	.	.	4	0.1	23.9	0.0	2	1.5
Small mammal, indet.	.	.	.	.	.	.	.	.	9	0.1	7.96	0.0	1	0.8
Medium sized mammal, indet.	.	.	.	.	.	.	.	.	114	1.8	516.28	0.7	1	0.8
Total determinate	3852	100	124	100	1630	100	15392.4	100	6270	100	74176.4	100	131	100.0
Determinate total	3852	55.7	124	100	1630	75.5	15392.4	93.1	6270	89.3	74176.4	97.1	131	99.2
Indeterminate total	3064	44.3	.	.	529	24.5	1145.0	6.9	753	10.7	2233.2	2.9	1	0.8
Total	6916	100	124	100	2159	100	16537.4	100	7023	100	76409.6	100	132	100

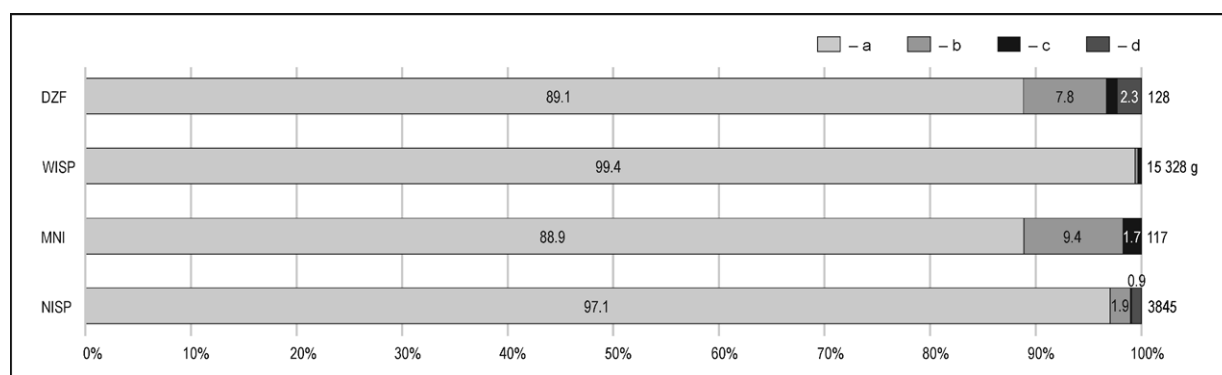


Fig. 3. Iža, Leányvár. The earth-and-timber camp. The abundance of taxa on the basis of different quantitative methods (see Table 1). Legend: a – domestic mammal; b – chicken; c – wild mammal (small rodent and antlers excluded); d – fish/shellfish.

(*Sus scrofa*), roe deer (*Capreolus capreolus*), chicken (*Gallus domesticus*), fish (Pisces) and shellfish (Mollusca). Based on different quantification methods, the overall representation of main economic species in the earth-and-timber assemblage shows no significant differences, except for the weight (Fig. 4). Circa half of the identified specimens are caprines (from 56.5% by MNI to 58.6% by WISP). Among anatomically determined finds, the sheep was represented by ca. 60% and goat by ca. 40% (Fabiš 2008). The second most common species is the domestic pig (from 18.4% by WISP to 37.9% by MNI). The MNI values suggest that beef was only an

occasional dish (5.6%). The highest proportion of cattle remains (23%) was indicated by the weight of bones.

Two more species – red deer (*Cervus elaphus*) and domestic ass (*Equus asinus*) – have been reported (Ambros 1986, 30; 1991), but their presence could not be attested plausibly either because only elements (antlers) not related to the diet were present or due to the obstacles to verify the finding (missing bag sample⁹). According to Ambros, three cervical and two thoracic vertebrae of a donkey were present in the material, of which the first – *atlas* – showed clear signs of chopping (Ambros 1986, 16). The report indicates that, the vertebrae originated from the interior of a garrison barrack in sector 38/r and were uncovered at a depth of 180–200 cm in 1985 (Fig. 2: 1, 3). Although without indicating the element, also Fabiš identified the equid remains (Table 1; Fabiš 2008) and supported the idea of a donkey or its crossbreeds with a horse in the camp. The donkey vertebrae would be the earliest evidence of a donkey (or mule?) in the territory of Slovakia (Fabiš/Bielichová 2014, 174, 175). While being of similar use as pack animals, the donkey was also used in gastronomy and medicine. The mules were important working animals for the military troops, used as pack animals or to pull heavy artillery such as catapults (Mitchell 2018). Probably half a million of these animals served in the Roman army by the time of Augustus (31 BC–14 AD), but yet they remained elusive in the archaeological record (*ibid*). While their osteological identification can be problematic, the morphometric and DNA studies prove that mules comprised a fairly large proportion of equids in Pannonia (e.g. Bilal Sharif *et al.* 2022). Horses were the elite animals and their frequent employment in the military services has been attested through archaeogenetics (Bilal Sharif *et al.* 2022, fig. 1; 6). In Iža, the horses occur in low numbers (Table 1), suggesting their secondary use in the meat provisioning of military garrison. The four teeth and a single scapula specimen were identified (Ambros 1991b, tab. 3). A few more horses remains, including measurable scapula and patella have been reported by other researchers (Fabiš 2008; Šimunková 2013).

Similarly rare were the dog remains. A single mandible is reported by Ambros (1991, tab. 3) and further specimens (NISP = 16) by Šimunková (2013, 53, tab. 7). In Iža, a sporadic presence of this species cannot be taken as evidence that the dog flesh had been consumed, although it cannot be completely excluded. According to the observations made by Ambros, there were hardly any records of traces of dog bites on bones (Ambros 1991b, 3; see below) which may indicate the rare presence of these animals in the camp or the organized discard of food remnants and keeping of dogs away from the area. In the contexts of the Roman period and the geographic location of the site, a relatively large number of chicken bones has been identified (1.9% by NISP to 8.9% by MNI). Regarding the knowledge about the bird's domestication (e.g. Kysely 2010) and its rarity at barbaric settlements, the number of its bones in Iža is noteworthy. During the Iron Age and the Roman period, the chicken was more likely to be found at the burial sites, probably as a part of a culinary/symbolic offering to the deceased (Bielichová 2019a, tab. 7; 2019b, tab. 3). Therefore, it is possible that the consumed chicken was supplied to the camp from the Roman-provincial sites in Pannonia or they were kept in the camp to produce eggs. It is also possible that their importance was even greater than indicated by the quantification analysis, as the small and gracile elements have a smaller chance of being preserved and thus, revealed in the hand-collected samples.

A low number of wild taxa shows that the share of the game was minimal and the meat consumed occasionally. The hare was identified by all researchers, of which two radii were specified by Ambros (Ambros 1991b, tab. 1; 3; Fabiš 2008; Šimunková 2013, tab. 7). Ambros also identified a single tarsal bone of a roe deer

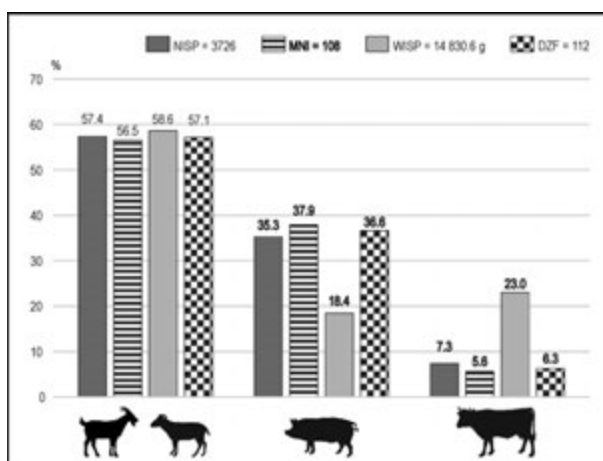


Fig. 4. Iža, Leányvár. The earth-and-timber camp. The representation of the main domestic species based on different quantitative method (see Table 1).

⁹ The current location of the animal bone finds from the 1984 and 1985 excavation seasons remains unknown, nevertheless, some of the samples were found mixed in the bone storage (a single banana-box destroyed by the nest of a marten), but the bag with the donkey vertebrae was missing.

and one fragment of red deer antler (Ambros 1991b, tab. 3). The measurable humerus and ulna of a wild boar have been reported by Fabiš, but their context is unclear (Fabiš 2008). Fabiš also reported two bones of a red deer, but the bone anatomy is unknown (*ibid*). All recorded taxa are common to the wild fauna of the warm Danube plain (Krištofík/Danko 2012).

As for the unidentified bird bones (NISP = 7), Ambros argues that „although it was not possible to identify them more precisely, they most probably belong to species of water birds that lived on the banks of the Danube“ (Ambros 1991b, 3). The large river also offered an ample variety of culinary valuable fish. The rarity of their remains in the analysed hand-retrieved samples was reported by all researchers (Table 1). This can be explained by the recovery methods and further, by the separation of fish bones and molluscs from other material before the analysis (see section dealing with methods).

Representation of body parts

Based on the identification of skeletal elements of present species, the question of meat supply to the camp has been addressed (Ambros 1991b, 3, 4, tab. 3; Šimunková 2013, 49–51, fig. 3–5). The standard approach, classifying the fragmentary specimens (elements) into skeletal portions (body parts) of the main economic mammals has been applied. Based on NISP quantifications, the balanced representation of meaty and meatless body parts of caprines, pigs, and cattle was attested. Except for the sternum and fibula, all skeletal elements have been represented in assemblage, suggesting that the animals were most probably supplied to the camp alive and slaughtered at the site (Ambros 1991b, tab. 3). The body parts with a low amount of meat, mainly

Table 2. Iža, Leányvár. The earth-and-timber camp. The representation of body parts according to the number of skeletal elements of main economic species (after Ambros 1991b, tab. 4).

Body part	Caprines		Pig		Cattle	
	NISP	%	NISP	%	NISP	%
Skull	491	23.0	372	28.3	40	14.7
Spine	182	8.5	55	4.2	43	15.8
Forelimb	501	23.4	355	27.0	56	20.6
Hindlimb	552	25.8	379	28.8	65	23.9
Acropodium	413	19.3	154	11.7	68	25.0
Total	2139	100.0	1315	100.0	272	100.0
Of which autopodium	811	37.9	387	29.4	118	43.4

the distal part of the limbs (*autopodium*), seem to predominate in cattle (Table 2; 43.4% of NISP), while in caprines (37.9%) and pigs (29.4%) are relatively common. This can suggest that ordinary soldiers rarely received better portions of meat (Ambros 1991b, 4). In the earth-and-timber camp, all body parts of meat suppliers had been exploited, including the meatless limb extremities or the horncores of herbivores. Their presence indicates their local slaughter or some interest of the soldiers in using them as a source of horn or glue (see below). The horn cores were present in all excavated barracks and plenty of them bear multiple chops and cut marks. As for chicken, an absence of the skull bones was observed (Ambros 1991b, tab. 3).

According to Ambros, the livestock was “probably kept alive in the fort, as there were favourable conditions for it” (Ambros 1991b, 4). Nevertheless, there is no archaeological evidence of structures for keeping livestock, stables, or artifacts connected with animal husbandry supporting his hypothesis and it remains unexplored in which part of the camp or for how long the animals were kept. Thus, the questions on the local raising of animals in Iža, although possible, remain unanswered. More probable seems the version of the shipment of goods including food and living animals along or across the Danube, which was possible either by boat (Hajnalová/Rajtár 2009, 203; Kolník 1978) or using a bridge connecting the later stone fort with Brigetio (more on recently discovered foundations of the bridge pillars see Daňová/Daňová/Sočuvka 2022).

The spatial analyses

The analyses of the distribution of the main economic taxa and their body parts have suggested only minor differences in proportions within the investigated areas of the earth-and-timber camp (Šimunková 2013, 55, 56). According to the bones (NISP), five of the six barracks showed the predominance of caprines (Fig. 5). Their remains were also dominant in the alleyways. The second most abundant were pig bones, showing caprine and pork to represent a staple meat. However, the situation in barrack 1 was different. Here cattle and pigs dominated over caprines and chicken was more abundant. When the quality of caprine meat is compared

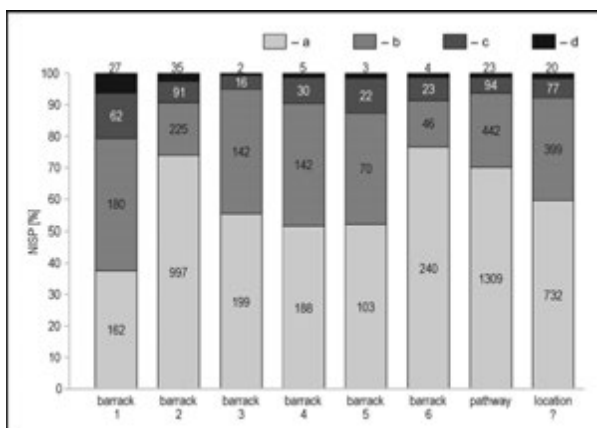


Fig. 5. Iža, Leányvár. The earth-and-timber camp. The spatial distribution of bones of main economic species in the barracks and alleyways (after Šimunková 2013, fig. 11). Legend: a – caprines; b – pig; c – cattle; d – chicken.

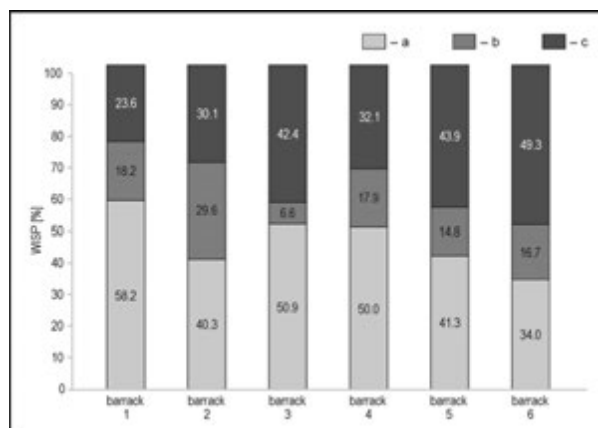


Fig. 6. Iža, Leányvár. The earth-and-timber camp. The spatial distribution of the caprines according to the bone anatomy and meat value. Legend: a – best; b – mid; c – poor quality of meat. Unpublished data by K. Šimunková.

based on the weight of bones (Fig. 6), in barrack 1 the elements bearing top-rated meat portions represented 58.2% of the total WISP. So, besides more “beef and pork” oriented dishes of the consumers, it seems that the sheep and goat meat of higher quality had been consumed in barrack 1. Behind observed results can be pre-and/or post-depositional processes (including the waste management in the camp), however, the differences can also reflect the dietary preferences of different groups among the garrison. It can be noted here that their military status, financial options, or health issues could all play a role in the catering. The preference for beef and pork was typical for the majority of the Roman military and civilian sites in the Middle Danube area (e.g. Choyke 2003, 227; Peters 1994, 49; Riedel 1993).

Regarding the most represented caprines, it has been found that the braincase, mandible, and ribs (category B) were not frequent in the barracks, but the meatless elements including facial bones, horn cores, metapodials, phalanges, and caudal vertebrae (category C) were, except for the barrack 1, abundant (ca. 30–50% of WISP). Their presence (or storage?) in the buildings can be explained by the use of these bones (e.g. metapodia) and horns (or hooves) for the production of tools, glue, or other utensils needed in the military or household (see also section dealing with the modifications). The (hand-retrieved) fish remains were reported only from the barracks interiors (Šimunková 2013, 56). This result is, however, distorted due to their sorting before the analysis and unfinished analysis (see below).

The age and sex of domestic animals

The age-at-death of the main meat suppliers was recorded and evaluated by C. Ambros (1991b) and K. Šimunková (unpubl.). Ambros based his assessment on the dental eruption and attrition, however without indicating whether maxillary or mandibular teeth were considered and the method of quantification used (Table 3). He found that the caprines were slaughtered at various ages including the “young”, the adult as well as older individuals (Ambros 1991b, 4). According to the quantified cases, approximately 38% of sheep and goats died before reaching two years, half were killed between the second and second and a half year, and 12% died older than 5th–6th year (Ambros 1991b, tab. 5). This would mean a predominance of the young adult animals in or shortly after reaching the ideal meat yield, assumed

Table 3. Iža, Leányvár. The earth-and-timber camp. The dental ageing of main economic species. The legend of teeth eruption and wear stages: 0 = not erupted; + = light wear; ++ = medium wear; +++ = heavy wear (after Ambros 1991b, tab. 5).

State of the tooth		Caprines	Pig	Cattle
Pd4 +/-	M1 –	.	1	.
Pd4 +	M1 +/-	3	1	.
M1 +	M2 –	4	1	.
M2 +/-	.	3	2	.
M2 +	M3 –	2	7	.
Pd unchanged	.	3	.	.
M3 +/-	P +/-	7	7	.
M3 +	.	29	20	1
M3 ++	.	6	1	.
M3 +++	.	1	1	.

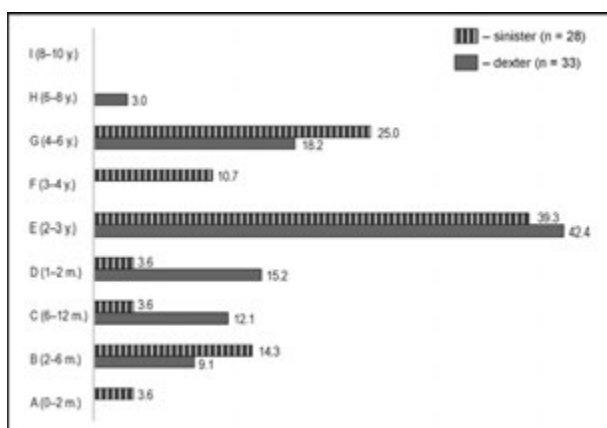


Fig. 7. Iža, Leányvár. The earth-and-timber camp. The mortality profile of caprines based on the Payne's classification (Payne 1973). Unpublished data (% of NISP) by K. Šimunková.

Table 4. Iža, Leányvár. The earth-and-timber camp. The sex determination of the most abundant domestic species (data from Ambros 1986, 1988; 1990a; 1990b; 1991a).

Sex	Cattle	Sheep	Goat	Pig	Chicken
Female	1?	5	4	50	7
Male	.	13	5	41	8
Male/castrate	1	.	.	.	.
Castrate	1	.	.	.	.
Total	3	18	9	91	15

(goats). The ratio derived from the sexually determined specimens, mostly horn cores (Ambros 1986; 1988, 1990a; 1990b; 1991a), suggested that in adult caprine, both male and female individuals were killed. The sex ratio was fairly balanced in goats, whereas in sheep males predominate (Table 4).

For cattle, the ageing and sexing data are scarce. A single assessed cattle molar indicated the killing of a subadult/adult individual between the 2nd and 4th year of age (Table 3). The occurrence of unfused epiphyses in cattle long bones, on the other hand, attests to consumption of tender meat of juvenile animals (e.g. Ambros 1986, 7; 1991a, 1, 3, 16, etc.). According to Ambros, measurable metacarpals represented one cow and one bull individual (Ambros 1991b). However, recent investigations in biometry of the Roman period cattle from southwestern Slovakia and adjacent areas have suggested that one of the metacarpals might belong to an ox and the other is questionable due to its extreme length reaching 230 mm (Ambros 1991b).¹⁰ The only metatarsal bone was also big, comparable to the castrated Roman period oxen (Bielichová 2019b, fig. 17; 18). Pigs seem to be slaughtered mostly between their second and third year of life (Ambros 1991b, tab. 5). According to the quantified cases, approximately 46% of pigs were slaughtered before reaching their second and similar amount (49%) before reaching the third year of life (Ambros 1991b, 4). The remaining portion (5%) of the cull was older than three years.

In pigs, not only meat but also fat were important consumable products. The subadult or young adult pigs might have been purposely fattened up to suit the high soldiers' dietary demands. Such animals might have been a surplus of the local rural economies (e.g. Groot 2008; Groot et al. 2009) or feed in the military camp on food waste. The antique literary sources attest the cooked cured pork fatback (*lardum*; Fig. 8) was a popular military meat dish (more in Rzeźnicka 2014, 652). The information on the sex of pigs has been derived from the information on canine teeth (Ambros 1986; 1988, 1990a; 1990b; 1991a), attesting the presence of both, females and males in the assemblage. Their raw counts revealed a fairly balanced sex ratio, although the

in caprines between 1st–2nd years (Uerpmann 1973, 316). In archaeozoology, such a kill-off pattern points to meat-oriented husbandry or in the case of a military site, the seat of consumers. In the “production sites”, the multipurpose use of herbivores and bones of newborns is expected. In Iža, the bones of foetal and neonatal sheep and goats are absent. According to Ambros, the youngest sheep/goat individuals were killed between the 2nd and 6th month of age (Table 3).

A similar variable kill-off pattern is shown using Payne's criteria for dental ageing in caprines (Payne 1973). The unpublished data of 33 right and 28 left mandibles and isolated third molars, collected by K. Šimunková, attest predominance of adult caprines in the culled stock with the highest share (ca. 50%) of individuals killed between their second and third year (Fig. 7). However, the older animals, between their fourth and sixth year of age (ca. 20%) and the juveniles or subadults (ca. 25%) were also relatively frequent. According to this method, the infantile, younger than two months, and senile individuals older than 6 years occurred rarely. This points to a meat-oriented husbandry, with a possible exploitation of secondary products such as milk or wool. Considering a relatively high proportion of goat remains in the assemblage (ca. 40%), it can be hypothesized that the older animals could just represent the dairy females

¹⁰ For the determination of gender in this particular specimen mentioned by Ambros, revision is needed in the future.

female pigs slightly predominated which is typical for rural “production” sites (Bökönyi 1984, 54). The higher occurrence of boars is interpreted as a well-organized and specialized system of pig breeding (Pucher 2008, 74–77).

Information on the chicken’s age and sex are scarce but can be derived from evidence of spur in tarsometatarsals and the measurements (Ambros 1986; 1988, 1990a; 1990b; 1991a). So far, the findings attest seven hens and eight roosters in the earth-and-timber assemblage (Table 4). According to ancient sources, Romans used to keep roosters in high numbers and use them also for cock-fighting – a popular pastime of the lower social strata (Bökönyi 1984, 94). Except for the spurs, the presence of females, the egg-laying hen, was indicated by the re-investigation of a couple of long bones stored in the laboratory of AI SAS in Nitra. Our revision revealed that two of four bones displayed a medullary bone typical for the female bird in lay.¹¹ The eggshell specimens, retrieved from the hand-collected samples also, showed a chicken-like thickness and size.¹² Based on their regular presence in the material and the presented medullary bone we can conclude that most possibly locally produced eggs formed a part of the soldiers’ diet.



Fig. 8. A popular military dish consisting of ring-shaped bread rolls (*buccellatum*), cooked cured pork fatback (*lardum*) and the mixed water-and-vinegar beverage with mint (*posca*). Source: <https://historicalitaliancooking.home.blog/english/recipes/the-diet-of-the-legionaries-buccellatum-lardum-and-posca/>.

The morphology of domestic animals

The metric data from Iža were systematically collected and partly evaluated by C. Ambros and M. Fabiš. In addition, the non-metric, traits related to abnormal or pathological bone changes, were described and non-systematically recorded.

Based on the greatest length of the completely preserved bones reported by C. Ambros (1991, 5, 6) and M. Fabiš (2008), the withers’ height for horse, cattle, sheep, goat, and pig can be estimated (Table 5). Not surprisingly, most information has been collected for caprines and the sheep, which withers’ height ranged from ca. 57.7 to 75.6 cm, with an average of 67.5 cm (after Teichert 1975). Compared to sheep from Germanic settlements in southwestern Slovakia, where the scarce data on the withers’ height ranged from 68.8 cm to 69.6 cm (Fabiš/Bielichová 2014, 177), the adult sheep from Iža seems to be a bit smaller or representing the females. The sheep of similar or bigger size were reported for sheep kept in Pannonia (Bökönyi 1974). For instance, the sheep from TÁC-Gorsium had on average 69 cm in withers (Bökönyi 1984, 41). At the same site, a high percentage of hornless sheep was observed (27%), suggesting the import(s) of Italian-improved breeds and intensive cross-breeding in the provinces (Bökönyi 1984, 43). Interestingly, also in Iža the abundance of the hornless sheep was striking (Ambros 1987, 2, 46; 1988, 12, 27, 33; 1990, 21, 31), which can be considered as one of the results supporting the hypothesis of live animal supply from the opposite bank of the Danube.

For other species, the wither height estimation has been based on a much smaller number of measurable specimens – in goats eight elements indicated the withers height from 60.2 to 77.9 cm (after Schramm 1967) and for cattle, three measurements suggested the height between 126.4 and 138.3 cm, with the average of 131.9 (after Matolcsi 1970). Ambros stated the withers height of a horse is between 135.4 and 142.9 cm, with an

Table 5. Iža, Leányvár. The earth-and-timber camp. The estimation of the withers, heights of domestic mammals (compiled by the authors after measurements taken by Ambros 1991b; Fabiš 2008).

WRH	Horse	Cattle	Sheep	Goat	Pig
Number of cases	3	3	47	8	13
Min. [cm]	135.4	126.4	57.7	62.9	63.5
Max. [cm]	142.9	138.3	75.6	77.9	84.1
Mean [cm]	140.0	131.9	67.4	71.3	74.4

¹¹ Bielichová, pers. observation.

¹² Bielichová, pers. observation. The list of hand-retrieved finds from all excavation seasons include also sorted out eggshell samples.

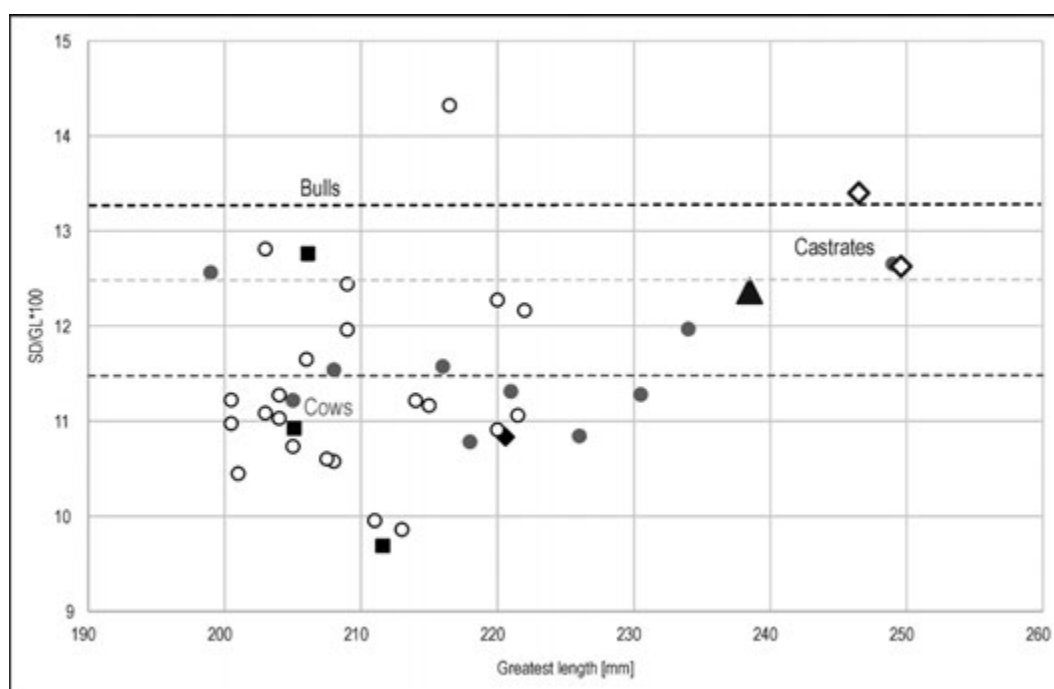


Fig. 9. The size of cattle metatarsals from selected Roman period sites. Legend: full triangle – cattle from Iža; white diamond – oxen from *villa rustica* in Nickelsdorf (Austria); other marks – individual from Germanic settlements in southwest Slovakia (for the names of the sites see original paper by Z. Bielichová). Dashed lines refer to the average size of a bull, a cow, and an ox from the Roman-provincial settlement at Tăc-Gorsium (Bökönyi 1984, 36). Abbreviations: SD – the smallest breadth of diaphysis; GL – the greatest length of the metatarsal. After Bielichová 2019b, fig. 18.

average of 140 (after Vitt 1952). A single pig metacarpus suggested the withers' height at 79.8 cm. A calculation based on the astragali (after Teichert 1969) enlarged the range from 63 to 84 cm, but this result needs to be taken with caution. Ambros compared his results with the data from the Roman-provincial sites located north of the Alps (e.g. Baas 1966; Bökönyi 1984; Dannheimer 1964; Kokabi 1982; Müller 1967; Piehler 1976; Sauer-Neubert 1968; Schmidt-Pauly 1980; Swegat 1976; Teichert 1990; Uerpmann 1977; Waldmann 1966) and stated that "domestic animals from Iža fall within the observed variation" (Ambros 1991b, 5). He also assumed that the livestock formed middle- to middle/large-sized animals, only "a bit larger than the average indigenous stock" (Ambros 1991b, 6). The research in Germanic domestic mammals from southwestern Slovakia (Bielichová 2019b; Fabiš 2003; Fabiš/Bielichová 2014) at least partly supported his observations. On the other hand, a comparison of metapodials showed that the cattle from Iža was significantly larger than the average barbaric cattle with the wither's height being estimated at 117 cm (Bielichová 2019b, tab. 10). A single cattle metatarsal from Iža fell within the range of castrated animals, being similar to the large-sized cattle form (or collections with predominant oxen) from the settlements in Štúrovo or Trnava (Fig. 9). This increase of the body size recorded at several Late Roman period sites from "the provincial-barbaric contact zone" is considered as a consequence of the improvement ("romanization") of Germanic lifestyle and husbandry regimes, which may include the import of new cattle breeds.

In horses, the original measurements are not available (Ambros 1991b, appendix), therefore it is hard to evaluate their size and morphology (Ambros 1991b, tab. 6). Nevertheless, the calculated withers height (135.4–142.9 cm) roughly corresponds to the small or mid-sized animals, which, however, seem to be larger than the horses of native populations (the average withers height at Veľký Meder settlement was 133.3 cm according to Fabiš/Bielichová 2014, 175), but smaller than a Roman military horse (the withers height from Al bertfalva fort was 150–160 cm according to Lyubyanovics 2002). The size of the average horse in Iža (140 cm), however, corresponds well with an average horse of Tăc-Gorsium (139.1 cm according to Bökönyi 1984, 61).

Regarding the non-metric traits in animals other than caprines, Ambros reported several cases of dental anomalies in a pig, including oligodontia (Ambros 1986, 12; 1987, 8), a crowding of mandibular premolars



Fig. 10. Iža, Leányvár. The earth-and-timber camp. The wedge-shaped defect in the incisors of an adult cattle individual (after Ambros 1991b, abb. 1).

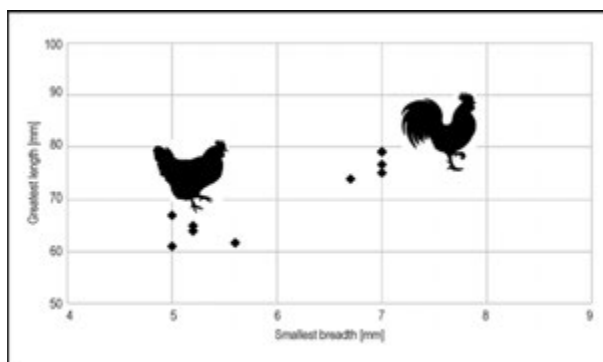


Fig. 11. Iža, Leányvár. The earth-and-timber camp. The sex and size of chicken. Compiled by authors on the basis of tarsometatarsals' measurements taken by Ambros 1991b and Fabiš 2008.

(Ambros 1987, 4, 14; 1990, 38) or further irregularities (Ambros 1987, 20). These used to represent inherited disorders related to the domestication process or advancement of the pig husbandry (Bartosiewicz 2013, 196, 197), but in Iža, the most important indicator for their evaluation within compared populations – the percentage of positive cases – was not yet reported. A single dental anomaly in cattle included the four isolated incisors of probably the same individual showing the wedge-shaped (cuneiform) defect (Ambros 1990, 16, 27). The teeth columns displayed deep grooves making them “look like intentionally shaped” (Fig. 10). According to Ambros, this condition is also frequently found in humans and can be classified as a developmental defect of dentin (Ambros 1991b, 5; Müller 1990).

The research at the Roman provincial sites in Hungary attested to the presence of two types of chicken – a smaller native one and an improved one, probably imported by the Romans (Bökönyi 1984, 93, 94). The knowledge of castration has been evidenced by the tarsometatarsal with rudimentary spurs, indicating the capons in the cull (Bökönyi 1984, 94). In Iža, a relatively large number of measurable bones allowed to assess the of chicken size and sex. There are two distinct groups, one representing hens and one rooster (Fig. 11). Comparing their size with the population in Táp-Gorsium (Bökönyi 1984, fig. 44), it can be hypothesised that investigated specimens represent the smaller, native chicken type. Its provenance cannot be yet specified, as the data from so far analysed barbaric settlements within the region show only limited evidence on the consumption and keeping of chicken (cf. Bielichová 2019a; 2019b).

The bone modifications

So far, the taphonomy of animal bone material from Iža has not been sufficiently studied. C. Ambros describes the bones in general as “mostly fragmented, some bearing the signs of butchery including the chop and cut marks” (Ambros 1991b, 1). On the nature of the unidentified portion of finds (44%), he adds that “most of the unidentified finds comprised the small fragments of ribs of mid-sized mammals such as sheep, goat and pig” (Ambros 1991b, 2). More specific notes on the butchered, gnawed, or burnt bones and teeth, however, can be tracked down in his unpublished reports (Ambros 1986; 1988, 1990a; 1990b; 1991a).

A special category included the worked bones and antlers sorted out from the samples before the archaeozoological analysis. These have been taxonomically and anatomically determined by J. Konč (1991), M. Fabiš (2006) and É. David (Hrnčiarik 2017, 17, 18; David/Hrnčiarik 2021). Nevertheless, several worked specimens were overlooked and identified only by archaeozoologists in the laboratory. These usually comprise semi-finished products, hardly recognizable in the field, but also cases of more distinctive implements such as an antler inlay of the composite bow (Fabiš, unpublished; Hrnčiarik 2017, 50–53).

M. Fabiš analysed 254 worked specimens recorded as artefacts and identified the species and type of the bone. He reported the goat (*Capra hircus*), sheep (*Ovis aries*), horse (*Equus caballus*), pig (*Sus domesticus*), great bustard (*Otis tarda*), unidentified bird and fish (catfish?), further the teeth of wild boar (*Sus scrofa*) and bear (*Ursus arctos*), as well as the antler of roe deer (*Capreolus capreolus*) and red deer (*Cervus elaphus*). He suggested that nearly half of the worked implements were made from ivory, but later microscopic expertise

of É. David did not approve it (David/Hrnčiarik 2021; Hrnčiarik 2017, 17). Instead, 81% of objects were made of animal bone and 19% of antler (Hrnčiarik 2017, tab. 2). This research focused only on the differentiation of bone, antler, and ivory, so the taxonomic and anatomic determination of artefacts can be only roughly based on the unpublished results of the Fabiš's analysis (Fabiš 2006).

The information on the butchery pattern in the assemblage from Iža remains limited. A brief look at the collection of measurable bones currently deposited in the laboratory, however, suggests diverse cut and chop marks. In some of the long bones and the scapulae so-called “shaving marks”, associated with the removal of the meat from bone, can be observed. The character of the butchery indicates that all steps of carcass processing can be documented in Iža – from initial portioning to the working of bones (on classification of butchery marks see more in Rixson 1988; Seetah 2006). In the reports, the butchery is noted mainly for the cattle and pig bones, although rather common were also recordings of the chopped caprine horncores (Ambros 1986; 1988, 1990a; 1990b; 1991a). This part of the butchery waste may have been used to obtain horn substance, which the soldiers could process in their spare time, similar to antlers.

The other types of bone modifications such as burning or carnivore gnawing, were scarce. Two isolated cases of burning (cattle talus in sample 244/85; Ambros 1986, 21) and of dog gnawing (cattle metacarpal in sample 102/85; Ambros 1986, 11) were reported.

Fish and molluscs

Although systematically collected, the fish and mollusc remains from Iža have not yet been fully studied. The retrieval of both materials, however, was continuously discussed with the specialists and selected finds were forwarded for the analysis. During the excavations, fish and mollusc finds were sorted out from the original bone material and stored separately. In the past, selection of fish bones was screened by K. Hensel, who identified the large freshwater species, such as catfish (*Silurus glanis*), carp (*Cyprinus carpio*), and sturgeons (*Acipenser* spp.). Based on our observation, the pike (*Esox lucius*) is also regularly present.¹³ Hensel and Balon considered the bones of the wild common carp in Iža the most abundant. In the study devoted to carp history and husbandry, Balon speculates about their early Roman keeping and breeding for gastronomic purposes (Balon 1995, 31). He argues that the military troops settled between *Carnuntum* and *Celemantia* (presumed name for Iža) triggered increased food demands and the carps were the natural target as they aggregated in high numbers in the waterbodies on the floodplains every spring for spawning (*ibid.*). He believes that the population of the Danube wild carp produced the individuals that “... were transported to the Roman Italy of the first and second century AD and began life in piscinae, where some were bred and cared for by their owners” (Balon 1995, 33). The Roman military activities may therefore relate to the early phases of the wild carp domestication as well as its introduction west of the Danube (Balon 1995; Benecke 1994, 406–411).

At the same time, freshwater fishing was an important source of fish for consumption. The fishing by the soldiers stationed in Iža is evidenced by finds of the fish hooks and the lead and clay sinkstones from rods or nets found during the excavations of the stone fort (Hajnalová/Rajtár 2009, 205) or recent underwater research (Daňová/Daňová/Murín, *this volume*). According to J. Rajtár, the fish hook(s) were large and suitable for catching large Danube species. The interest in large-sized fish is documented also by one of the identified fish bones which attest to the catch of a capital wels catfish during the existence of the stone fort (Hensel 2004). Using the annual growth rings, it has been estimated that the largest vertebra belonged to a catfish older than 33 years, reaching a body length of 256.5 cm (Fig. 12: 1). This catfish had approximately one hundred kilograms of live weight that must have been much appreciated item to feed the army (Hensel 2004, 201). The other vertebrae under the study belonged to the large individuals aged between 15+ and 18+ years (Hensel 2004, 193). However, it is impossible fully assess the importance of fishing and species assortment without identification of the larger bulk of the material. It is also possible that, the remains of a smaller fish form part of the not studied flotation samples (e.g. Hajnalová 1986; Hunková/Hajnalová 1991; Hajnalová/Hunková/Mihályiová 2000).

A selection of the hand-retrieved molluscs – six samples from the area of the earth-and-timber camp – have been analysed by J. Šteffek (1991). He identified the shells and valves of the freshwater (*Unio crassus*; *Planorbis planorbis*) and terrestrial species (*Cepaea vindobonensis*). Of interest was the finding of a concentration of

¹³ Bielichová; pers. observation 2024.

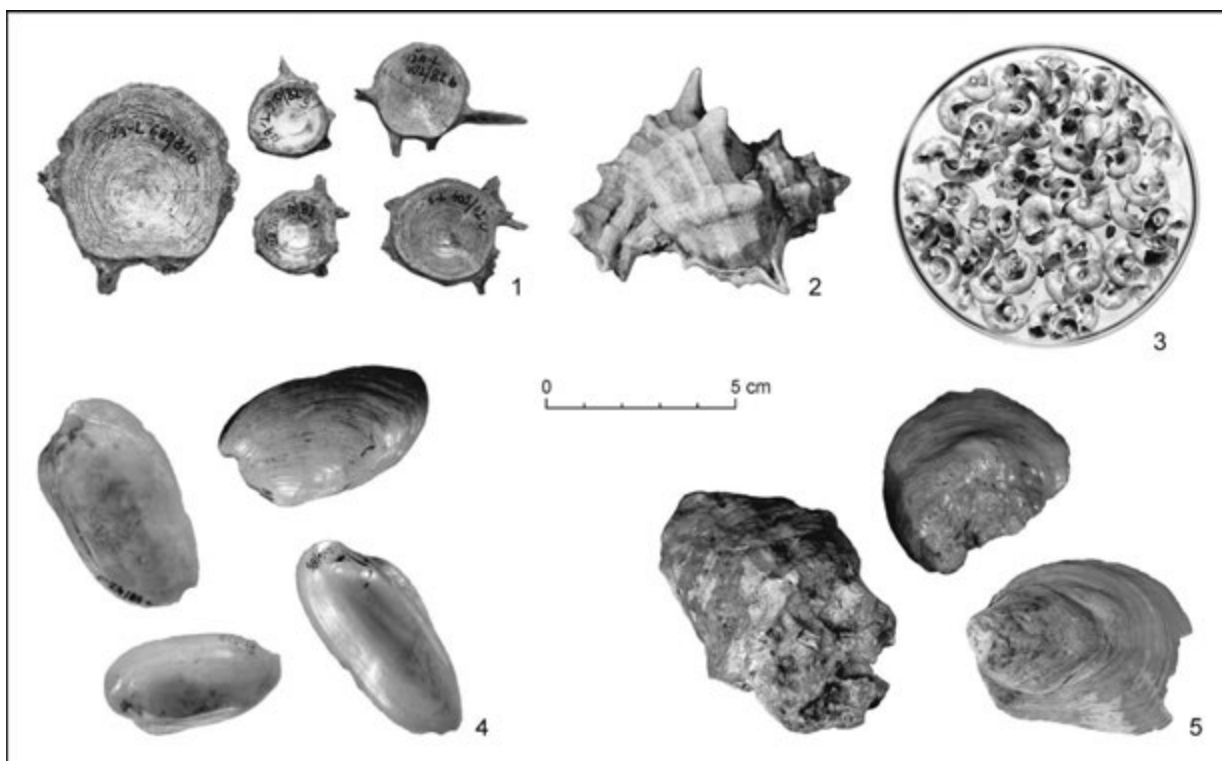


Fig. 12. Iža, Leányvár. Selection of the fish and shellfish remains from the earth-and-timber camp and the stone fort. 1 – a vertebrae of elderly, large-sized wels catfish (*Silurus glanis*); 2 – a banded dye-murex (*Hexaplex trunculus*); 3 – shells of the Eastern heath snail (*Xerolenta obvia*); 4 – a thick-shelled river mussel (*Unio crassus*); 5 – a European flat oyster (*Ostrea edulis*). Photo by Z. Bielichová, J. Rajtár, and P. Červeň.

the snail shells found in the alleyway between barracks 9 and 10 (Fig. 12: 3). This species is an Eastern heath snail (*Xerolenta obvia*), that became part of the Slovak fauna only about 800 years ago, i. e. in the 13th century when it spread with the advancing Wallachian colonization from the more southern areas.¹⁴ The thermophilic species originally had a pontic range, which in historic times began to increase abruptly from the southeast into central Europe and further westward and northwestward (Ložek 1964). Today it lives in a variety of steppe to alternate pseudo-steppe habitats, and prefers anthropically influenced habitats such as quarries, embankments, lawns around buildings, fallow fields, etc. (Horsák *et al.* 2013, 136). Its flattened and small globular shell (diameter max. 22 mm) with dark brown to black spiral stripes is of minimal flesh content, therefore we may suspect its modern (intrusive) origin or an unintentional or intentional introduction to the camp by the Romans. A non-dietary use (including collecting of shells by the camp visitors for ornamental or medicinal purposes) can be also presumed to other terrestrial and aquatic mollusks, except for thick-shelled river mussels (Fig. 12: 4). The accumulation of its valves (ca. 20–40 pieces)¹⁵ has been uncovered by the wall inside in one of the barracks (Building 1) which suggests that the mussels were most possibly collected and consumed.

Among remarkable finds are also the solitary shells of the marine molluscs, retrieved from the closely unidentified area of the stone fort. Although this material was not available at the moment of writing this paper, based on the photos acquired from J. Rajtár the banded dye-murex (*Hexaplex trunculus*; Fig. 12: 2) and the European flat oyster (*Ostrea edulis*; Fig. 12: 5) can be determined. Both have wider natural distribution – *H. trunculus* lives in the Mediterranean Sea and the Atlantic coasts of Europe and Africa (Spain, Portugal, Morocco, the Canary Islands, Azores) and *O. edulis* ranges along the western and southern shores of Europe from Norway to Morocco, including the British Isles and the Mediterranean coast – thus their provenance remains unknown. Since both are edible and considered a delicacy (Andrews 1948; Marzano

¹⁴ Čejka; pers. comm.

¹⁵ The information kindly provided by J. Rajtár.

2013, 143–195), it can be hypothesised that they were brought (in a fresh state?) to the site for consumption. However, besides gastronomy, the murex shell could be found in the fort for many other reasons, including ornamental, medical, religious, and emotional (e.g. *Nongmaithem et al. 2017; Veropoulidou 2012*). Its laxative, diuretic, anti-inflammatory, muscle-relaxing, and pain-relieve properties known since antiquity, using the mollusc broth, boiled flesh, hypobranchial gland, or pulverized operculum (*Voultsiadou 2010, 242, tab. 3*) can all be considered in a military camp.

CONCLUSIONS AND FUTURE PERSPECTIVES

For many years, the results of the archaeozoological research of the Roman military fort at Iža in southwestern Slovakia (Fig. 1) have been unavailable to the professional community. The main aim of this paper was therefore to collect all archival research reports and unpublished manuscripts or thesis projects that touch on the subject and to provide a first comprehensive overview with a preliminary evaluation. The numerous plant and animal remains from Iža, which have received systematic attention thanks to the head of the excavations J. Rajtár, are the primary evidence of subsistence strategies and the supply of food to the Roman army on the borders of Pannonia. Through their precise analysis, interpretation and integration with other archaeological sources, they can shed more light not only on the military diet but also on cultural and economic influence of the Romans on the development and the way of life of the local populations of the Germanic Quadi. Among other things, archaeozoological finds help to reconstruct the appearance of animals and the natural environment of a site and the region. The text of the paper is divided into two parts, one presenting a complete history of the archaeozoological investigation of the site and the other providing the reader with a summary evaluation of the available data, including the assortment and relative abundance of the identified taxa and their body parts, the sex and mortality profiles of the livestock species, the metric and non-metric characteristics on bones and the way of bone modifications by humans.

The importance of the archaeozoological material from Iža is underlined by the quantity and good preservation of the finds, but also by the fact that the analysis and interpretations can be based on a representative number of data (Fig. 2: 2; Table 1). Between 1986 and 1996, several researchers from the Slovak Academy of Sciences and the Comenius University in Bratislava were involved in the analysis of more than six thousand mollusc, bone and shell specimens (Fig. 2: 1). The hand-collected animal bones were determined by C. Ambros, M. Fabiš, J. Konč, K. Hensel, and K. Šimunková, the mollusc shells were analysed by J. Šteffek and T. Čejka. The bulk of the finds (ca. 80–90%) represents food waste and remains of the carcasses discovered in the interiors and exteriors of military buildings (barracks) of an earlier, earth-and-timber camp dating to a short period between 175 and 179 AD (Fig. 1: 3; 2). The remainder is a refuse from later phases of the site's occupation when a stone fort was constructed and rebuilt many times on the same site in the 3rd–4th centuries AD (Fig. 1: 2; 3). The results of the research so far can therefore be interpreted mainly in the context of the earth-and-timber camp, destroyed in a fire by the end of the Marcomannic Wars.

Through various quantification approaches, it was possible to confirm that the diet of the local military garrison was dependent on the supply of meat from domestic livestock, primarily small ruminants (Fig. 3; Table 1). Overall, sheep (*Ovis aries*), goats (*Capra hircus*) and pigs (*Sus domesticus*) were the most numerous in the assemblage. Cattle (*Bos taurus*), chicken (*Gallus domesticus*), horse (*Equus caballus*), donkey (*Equus asinus*), dog (*Canis familiaris*), and wild mammals including the hare (*Lepus europaeus*), wild boar (*Sus scrofa*), deer (*Cervus elaphus*) and roe deer (*Capreolus capreolus*), occurred to a lesser extent (up to 10% of the total NISP). The butchery marks recorded show that, in addition to the commonly consumed meat, more unusual types such as donkeys may appear on the soldier's table. However, small ruminants dominated the local meat diet (55.5–66% of the total NISP; Fig. 4; 5), with a fairly balanced representation of mutton/lamb and goat meat (NISP abundance of the two species was 9.8 : 6%). The age structure shows a mixed slaughter, with an emphasis on young adults, slaughtered between the second and fourth year of age (Fig. 7; Table 3). However, some of the bones represented younger (*infans* to *subadultus* category) or older (*adultus/senilis*) individuals, indicating flexibility in the use of available meat resources (and producers) or different preferences of camp residents. Interpretation of caprines age at death is further complicated by the fact that the categories include two different species that are difficult to distinguish in the fragmentary material. Hypothetically, then, the older individuals may represent females (of goats?) raised (in the camp?) for milk production. Sex information is

limited, but suggests a balanced representation of females and males in the goat and a predominant slaughter of males in the sheep (Table 4).

The representation of pigs (19.2–34.1% of total NISP) and cattle (6.6–11.6%) was significantly lower compared to the caprines, indicating that pork and beef were consumed less frequently (Fig. 4; Table 1). The pigs' mortality profile showed a focus on the slaughter of young adults in their second and third year of life following the needs for ideal meat and fat yield (Fig. 8; Table 3). Available analyses suggest a balanced sex distribution within the culled animals, with a subtle predominance of female pigs (Table 4). In the case of cattle, sex and age data are even more limited, but at least document consumption of meat of young adult and immature animals (veal). Sex could be determined by osteometry in only three cases, documenting the predominance of castrated males among adults (Fig. 9; 10; Table 4). The representation of the domestic chicken in Iža was relatively high (especially in terms of DZF and MNI quantification results; Fig. 3; 5), with a surprisingly high proportion of males (Fig. 11; Table 4). In addition to the popularity of chicken and rooster meat, adult hens were an important producer of eggs, consumption of which was evidenced by numerous records of eggshells in both hand-collected and flotation samples from the earth-and-timber camp area.

Important findings from Iža include the occurrence of all body parts of livestock including the meatless limb bones and the horn-cores (Fig. 6; Table 2). It points to the fact that the consumed individuals were brought to the camp whole, apparently alive, and killed on the spot. However, we cannot yet say whether and which species were kept at the site and for how long after they were supplied, stolen, or purchased. However, some of the results, also presented in the thesis, support the hypothesis of camp provisioning from the opposite Brigetio. For example, the sheep from Iža show a relatively high proportion of hornless individuals, similar to some Roman settlements in Pannonia (Tác-Gorsium). Evaluation of osteometric data also shows incomparably larger cattle sizes at Iža compared to the sites of native populations, which may be related to the importation of new types of animals or the increasing need for draught animals (Fig. 9). A clear import animal is represented by domestic donkey (*Equus asinus*), which ranks among the earliest records of originally African species in the region. The vertebrae determined by C. Ambros display clear signs of chopping and thus can be interpreted in the context of local food (Fig. 2: 3). Regarding long-distance trade and the involvement of Iža in the wider military logistical network, the isolated shells of the Mediterranean molluscs *Ostrea edulis* and *Murex trunculus* are noteworthy, but these were recovered from the stone camp layers (Fig. 12: 2, 5). So far, the results from this phase of the fort's existence suggest that the Danube and the riverine habitats have been an important (seasonal?) food resource for the garrison. Few specimens identified so far showed that the diet was enriched with the meat of large-sized freshwater species including the Wels catfish (*Silurus glanis*; Fig. 12: 1), common carp (*Cyprinus carpio*), the Northern pike (*Esox lucius*) or the thick-shelled river mussels (*Unio crassus*; Fig. 12: 4). The isolated finds of other wild taxa also attested that except for the hare (*Lepus europaeus*), the game did not play a role in the soldiers' diet (Fig. 3; Table 2).

In conclusion, while some of the results can be considered indicative of typically Roman culinary traditions (e.g., preference for pork and chicken, an increased proportion of goat and rooster meat), others, such as the low proportion of beef and higher consumption of caprines point to dietary differences within the military camps in Pannonia and the western provinces. This underlines the importance of further archaeozoological research in Iža and its evaluation in the wider geographical context. Future research should focus on completing the determination of the fish and shellfish collection, including materials from flotation samples. Further, through a detailed analysis of the butchery pattern, it would be possible to complete the information of how the animal carcasses were processed, whether the meat was cured or fresh, and where or to what extent the waste from consumed carcasses (horn, bones) was processed and deposited. An important part of future investigations should be the employment of modern research techniques, especially isotope (strontium, sulfur or oxygen) and genetic (aDNA) analysis, through which the origin and the husbandry regimes of animals can be specified. More precise methods in assessing tooth wear and morphology of domestic animals would be beneficial (e.g. Stallibrass/Thomas 2008).

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Archeozoologický výskum rímskeho tábora v Iži (JZ Slovensko)

História a súčasné poznatky

Zora Bielichová – Katarína Šimunková

Súhrn

Napriek rozsahu a významu súboru archeozoologických náleзов z rímskeho tábora v Iži (obr. 1) boli až dosiaľ výsledky jeho výskumu neprístupné odbornej verejnosti. Primárnym cieľom tejto štúdie bolo preto zhromaždiť všetky existujúce pramene vrátane nepublikovaných výskumných správ, študentských záverečných prác či rukopisov, ktoré sa venovali analýze a vyhodnoteniu náleзов zvyškov zvierat a poskytnúť prvý ucelený prehľad ich výsledkov. Počas dlhoročného archeologického výskumu v Iži sa odberu vzoriek ako aj spracovaniu zvieracích kostí venovala a dosiaľ venuje náležitá pozornosť, predovšetkým vďaka neutíchajúcemu záujmu a erudícii archeológa J. Rajtára. Tieto nálezy sú primárnymi dokladmi subsistenčných stratégií a zásobovania rímskej armády vysunutej na hraniciach ríše v Panónii. Vďaka interpretácii a integrácii poznatkov archeozoológie s archeologickými a historickými prameňmi poskytujú svedectvo nielen o stravovaní vojakov, ale aj o kultúrnom a hospodárskom vplyve Rimanov na spôsob života miestnych (kvádskych) populácií sídlivých v tom čase na území juhozápadného Slovenska. Čiastočne tieto nálezy pomáhajú aj pri rekonštrukcii úrovne chovateľstva vrátane vzhľadu zvierat a približujú prírodné prostredie lokality a regiónu.

Štúdia je rozdelená do dvoch častí, pričom prvá prezentuje doterajšiu históriu archeozoologického výskumu v Iži a druhá poskytuje prehľad jej najdôležitejších výsledkov, vrátane sortimentu zvierat a výskytu anatomických častí v rámci skúmaného priestoru tábora, informácií o pohlaví a veku konzumovaných druhov, morfológie a veľkosti domácich zvierat a spôsobu ich využitia človekom.

Význam archeozoologického súboru z Iže podčiarkuje nielen množstvo a dobrá zachovalosť náleзов, ale aj fakt, že načrtnuté interpretácie sú založené na reprezentatívnom počte prípadov (obr. 2: 2; tabeľa 1). V rokoch 1986 až 1996 sa na analýze viac ako šesťtisíc vzoriek kostí a chránok mäkkýšov podieľali viacerí poprední bádatelia zo Slovenskej akadémie vied a Univerzity Komenského v Bratislave (obr. 2: 1). Ručne vytriedené kosti zvierat boli postupne determinované C. Ambrosom, M. Fabišom, J. Končom, K. Henselom, a K. Šimunkovou, chránky mäkkýšov analyzovali J. Šteffek a T. Čejka. Treba podotknúť, že prevažná

časť nálezov (80–90 %) reprezentuje odpad z prípravy potravy a mŕtvych tiel zvierat objavených v interiéroch a exteriéroch vojenských objektov (barakov) staršieho, drevozemného tábora datovaného do krátkeho obdobia medzi rokmi 175 a 179 n. l. (obr. 1: 3; 2). Zvyšnú časť (10–20 %) predstavuje odpad z neskorších fáz osídlenia lokality, kedy bola v 2.–4. storočí n. l. na rovnakom mieste vybudovaná a mnohokrát prebudovaná kamenná pevnosť (obr. 1: 2, 3). Výsledky doterajšieho výskumu možno preto interpretovať predovšetkým v kontexte fungovania drevozemného vojenského tábora, zničeného požiarom na konci markomanských vojen.

Hoci sú doterajšie výsledky bádateľov v Iži založené na rôznych metódach kvantifikácie nálezov, ukazujú na rovnaký trend zloženia živočíšnej stravy miestnej vojenskej posádky. Tá bola závislá na mäse (a pravdepodobne aj iných produktoch) domácich hospodárskych zvierat, predovšetkým malých prežúvavcov (obr. 3; tabela 1). V súbore boli najčastejšie prítomné kosti a zuby oviec (*Ovis aries*), kôz (*Capra hircus*) a ošípaných (*Sus domesticus*). V menšej miere (do 10 % z celkového NISP) sa objavuje hovädzí dobytok (*Bos taurus*), kura (*Gallus domesticus*), kôň (*Equus caballus*), osol (*Equus asinus*), pes (*Canis familiaris*), a voľne žijúce cicavce ako zajac (*Lepus europaeus*), diviak (*Sus scrofa*), jeleň (*Cervus elaphus*) a srnec (*Capreolus capreolus*). Známy mäsiarskeho spracovania – záseky a zárezy svedčia o tom, že okrem bežných druhov sa na stole vojakov objavovali aj netradičnejšie typy mäsa, napr. oslie a divina. V jedálničku však jednoznačne prevládali malé prežúvavce (55,5–66 % z celkového NISP; pozri tiež obr. 4 a 5), a to v pomerne vyváženom meradle baranina/jahňacina aj kozlacia (celkový pomer oviec a kôz bol 9,8 : 6 %). Veková štruktúra poukazuje na porážku zvierat v rôznom veku, s dôrazom na mladé dospelé jedince medzi druhým a štvrtým rokom života (obr. 7; tabela 3). Časť kostí však predstavovala mladšie (kategória *infans* až *subadultus*) alebo staršie (*adultus* až *senilis*) ovce/kozy, čo poukazuje na flexibilitu vo využívaní dostupných zdrojov mäsa (a producentov) alebo rozličné preferencie obyvateľov tábora. Interpretáciu veku v čase smrti komplikuje aj fakt, že kategórie zahŕňajú dva rôzne, vo fragmentárnom materiáli ťažko rozlíšiteľné druhy zvierat. Hypoteticky teda môžu starší jedinci predstavovať samice (azda kozy), chované (v tábore?) na mlieko. Informácie o pohlaví sú sporé, no naznačujú vyvážené zastúpenie samíc a samcov u kozy a prevažujúcu porážku samcov u ovce (tabela 4).

Zastúpenie ošípaných (19,2–34,1 % z celkového NISP) a hovädzieho dobytku (6,6–11,6 %) bolo oproti ovciam a kozám výrazne nižšie, čo naznačuje, že bravčové a najmä hovädzie mäso bolo málo frekventované a tvorilo doplnok stravy (obr. 4; tabela 1). Ošípané vykazovali zmiešanú vekovú štruktúru dožitia, s dôrazom na mladé dospelé jedince medzi druhým a tretím rokom života, pravdepodobne v nadväznosti na potreby ideálneho výťažku mäsa ale aj tuku (obr. 8; tabela 3). Dostupné analýzy naznačujú vyvážené zastúpenie pohlaví v rámci porážky, s miernou prevahou samíc (tabela 4). V prípade hovädzieho dobytku sú údaje o pohlaví a veku limitované počtom prípadov, dokladujú však konzumáciu mäsa mladých dospelých aj nedospelých jedincov (teľacieho mäsa). Pohlavie sa podarilo určiť na základe osteometrie iba v troch prípadoch dospelých zvierat, dokladujúc prevahu kastrovaných samcov (obr. 9; tabela 4). Relatívne vysoké bolo zastúpenie kury domácej v Iži (najmä z pohľadu DZF a MNI kvantifikačnej metódy; obr. 3 a 5) s prekvapivo výrazným podielom kohútov (obr. 10; tabela 4). Okrem obľuby kuracieho a kohútieho mäsa, boli sliepky významným producentom vajec, o ktorých konzumácii v tábore svedčia početné záznamy vaječných škrupín v ručne zbieraných i flotačných vzorkách.

K dôležitým poznatkom z Iže patrí prezencia všetkých typov kostí a častí tiel hospodárskych zvierat (obr. 6; tabela 2). Poukazuje na fakt, že skonzumované jedince boli do tábora prinesené vcelku, zrejme živé a zabité až na mieste. Nevieme však zatiaľ povedať, či a ktoré druhy boli na lokalite držané a ako dlho po tom, ako boli privezené, ukoristené či zakúpené. Niektoré výsledky archeozológie však podporujú hypotézu o zásobovaní tábora z protihľého Brigetia. Ovce z Iže napríklad vykazujú pomerne vysoký podiel bezrohých jedincov, veľmi podobný ako na niektorých rímskych sídliskách v Panónii (Tác-Gorsium). Vyhodnotenie osteometrických údajov tiež ukazuje na neporovnateľne väčšie rozmery hovädzieho dobytku v Iži v porovnaní s germánskymi lokalitami, čo môže súvisieť s importom nových typov zvierat alebo potrebou využívania ťažných zvierat (obr. 9). Jednoznačný import reprezentuje osol domáci (*Equus asinus*) – pôvodne africký druh, pravdepodobne dovezený z niektorej z provincií. V tomto prípade je zaujímavé, že jeho kosti niesli stopy po sekaní a teda možno ho interpretovať v kontexte stravovania vojakov (obr. 2: 3). Pokiaľ ide o diaľkový obchod a zapojenie Iže do širšej vojenskej logistickej siete, pozoruhodné sú zatiaľ ojedinelé schránky mäkkýšov stredomorského pôvodu *Ostrea edulis* a *Murex trunculus*, avšak získané z mladších vrstiev súvisiacich s existenciou kamenného tábora (obr. 12: 2, 5). Početné, ale zatiaľ nie úplne preskúmané pozostatky mäkkýšov a rýb z Iže môžu v budúcnosti poskytnúť ďalšie podobné príklady. Zdá sa, že Dunaj a riečny biotop bol pre vojenskú posádku pomerne dôležitým (sezónnym?) zdrojom potravy. Niekoľko dosiaľ identifikovaných exemplárov svedčí o tom, že strava bola obohatená o mäso miestnych sladkovodných druhov ako sumec (*Silurus glanis*; obr. 12: 1), kapor (*Cyprinus carpio*), štika (*Esox lucius*) alebo korýtko (*Unio crassus*; obr. 12: 4). Ukazuje sa tiež, že okrem zajaca poľného (*Lepus europaeus*) voľne žijúca zver zohrávala v stravovaní posádky drevozemného tábora bezvýznamnú úlohu (obr. 3; tabela 2).

Na záver možno konštatovať, že kým niektoré výsledky z Iže svedčia o typicky rímskych stravovacích zvyklostiach (napr. pravidelná konzumácia bravčového a kuracieho mäsa, zvýšený podiel kozieho a kohútieho mäsa), ďalšie, ako napr. nízky podiel hovädzieho mäsa poukazuje na stravovacie odlišnosti v rámci vojenských táborov v Panónii a v západných provinciách. To zdôrazňuje význam ďalšieho archeozologického bádania nielen v Iži, ale aj na okolitých barbarských sídliskách. Budúci výskum by sa mal zamerať na dokončenie analýz bohatej kolekcie rýb a mäkkýšov vrátane nálezov z flotačných vzoriek. Prostredníctvom analýzy mäsiarskych zásahov je možné doplniť informácie o tom, ako boli telá zvierat v Iži spracovávané, či bolo mäso konzervované, a kde, prípadne v akej miere sa odpad z živočíšnych tiel (rohovina, kosti) spracovával a deponoval. Dôležitou súčasťou budúceho výskumu by mala byť aplikácia moderných analýz, najmä geochemických (izotopy stroncia, síry, alebo kyslíka) a genetických (aDNA), prostredníctvom ktorých by bolo možné overiť pôvod zvierat v tábore. V tomto smere by mohli byť tiež prínosom precíznejšie metódy a porovnanie zubného veku a morfometrických znakov zvierat z rímskoprovinciálnych a domácich kvádskych lokalít (viac napr. *Stallibrass/Thomas 2008*).

- Obr. 1. Iža, Leányvár. 1 – poloha vojenského tábora v predmostí rímskeho Brigetia; 2 – letecký pohľad na zvyšky tábora (národná kultúrna pamiatka a pamiatka UNESCO); 3 – pôdorys kamenného tábora a časti drevozemného tábora (plochy vyplnené čiernou farbou, zdroj: MZVaEZ SR a archív AÚ SAV).
- Obr. 2. Iža, Leányvár. 1 – plán drevozemného tábora s vyznačením archeozoologicky analyzovaných plôch. Uvedené je meno archeozoológa, počet spracovaných vzoriek (n) a rok výkopu; 2 – pohľad na výber merateľných kostí; 3 – stavec osla nájdený v interiéri jedného z barakov (hviezda; zdroj: archív AÚ SAV a ArchéoZoothèque, foto Z. Bielichová).
- Obr. 3. Iža, Leányvár. Drevozemný tábor. Zastúpenie identifikovaných taxónov v súbore na základe rôznych kvantifikačných metód (pozri tabuľku 1). Legenda: a – domáce cicavce; b – domáce hydina; c – divoké cicavce (kosti drobných hlodavcov a parohy nezapočítané); d – ryby/mäkkýše.
- Obr. 4. Iža, Leányvár. Drevozemný tábor. Zastúpenie hlavných domácich zvierat v súbore na základe rôznych kvantifikačných metód (pozri tabuľku 1).
- Obr. 5. Iža, Leányvár. Drevozemný tábor. Priestorové rozloženie kostí dôležitých domácich druhov zvierat v barakoch a uličkách medzi nimi (podľa Šimunková 2013, obr. 11). Legenda: a – ovca/koza; b – ošípaná; c – hovädzí dobytok; d – kura domáca.
- Obr. 6. Iža, Leányvár. Drevozemný tábor. Priestorové rozloženie skeletových elementov kostry oviec/kôz indikujúce kvalitu konzumovaného mäsa. Legenda: a – najlepšia; b – stredná; c – slabá kvalita mäsa. Nepublikované údaje K. Šimunkovej.
- Obr. 7. Iža, Leányvár. Drevozemný tábor. Mortalita oviec/kôz podľa S. Payna (1973). Nepublikované údaje (% NISP) K. Šimunkovej.
- Obr. 8. Oblúbené jedlo rímskych vojakov pozostávajúce z chlebových žemlí v tvare krúžku (*bucellatum*), vareného údeného bravčového chrbta (*lardum*) a miešaného nápoja z vody a octu s mätou (*posca*). Zdroj: <https://historicalitaliancooking.home.blog/english/recipes/the-diet-of-the-legionaries-bucellatum-lardum-and-posca/>.
- Obr. 9. Veľkosť metatarzálnych kostí hovädzieho dobytku z vybraných lokalít doby rímskej. Legenda: plný trojuholník – jedinec z Iže; biely kosoštvorec – kastrované býky z *villa rustica* v Nickelsdorfe (Rakúsko); ostatné značky – dobytok z germánskych sídlisk na juhozápadnom Slovensku (názvy lokalít pozri pôvodnú publikáciu). Prerušované čiary sa vzťahujú na priemernú veľkosť germánskeho býka, kravy či kastráta z rímsko-provinciálneho sídliska Táb-Gorsium (*Bökönyi* 1984, 36). Skratky: SD – najmenšia šírka diaľky; GL – najväčšia dĺžka kosti. Prevzaté z Bielichová 2019b, obr. 18.
- Obr. 10. Iža, Leányvár. Drevozemný tábor. Klinovitý defekt na rezákoch dospelého jedinca hovädzieho dobytku (prevzaté z Ambros 1991b, Abb. 1).
- Obr. 11. Iža, Leányvár. Drevozemný tábor. Pohlavná štruktúra a veľkosť kury domácej na základe metriky tarsometatárnych kostí (dáta prevzaté z Ambros 1991b; Fabiš 2008).
- Obr. 12. Iža, Leányvár. Výber nálezov zvyškov rýb a mäkkýšov z drevozemného a kamenného tábora. 1 – stavec veľkého a starého sumca (*Silurus glanis*); 2 – pásavka farbiarska (*Hexaplex trunculus*); 3 – ulity slimáka vresovca východného (*Xerolenta obvia*); 4 – lastúrník riečny s hrubou ulitou (*Unio crassus*); 5 – ustrica plochá (*Ostrea edulis*). Foto Z. Bielichová, J. Rajtár, P. Červeň.

Tabela 1. Iža, Leányvár. Drevozemný tábor. Zastúpenie identifikovaných druhov podľa autora analýzy a použitej kvantifikačnej metódy. DZF – počet fragmentov s diagnostickou zónou; NISP – počet identifikovaných nálezov; MNI – minimálny počet jedincov; WISP – hmotnosť identifikovaných nálezov (podľa Ambros 1991b; Fabiš 2008; Šimunková 2013).

Tabela 2. Iža, Leányvár. Drevozemný tábor. Zastúpenie skeletových elementov a kvalita konzumovaného mäsa hlavných hospodárskych druhov (podľa Ambros 1991b, tab. 4).

Tabela 3. Iža, Leányvár. Drevozemný tábor. Dentálny vek hlavných hospodárskych druhov. Legenda: 0 = zuby neprerazané; + = ľahko obrúsené; ++ = stredne obrúsené; +++ = silne obrúsené (podľa Ambros 1991b, tab. 5).

Tabela 4. Iža, Leányvár. Drevozemný tábor. Pohlavná štruktúra najdôležitejších hospodárskych druhov. Zostavila Z. Bielichová podľa dát uvedených v prácach Ambros 1986; 1988; 1990a; 1990b; 1991a.

Tabela 5. Iža, Leányvár. Drevozemný tábor. Odhad kohútikovej výšky domácich zvierat. Zostavila Z. Bielichová podľa metrických dát zaznamenaných C. Ambrosom (1991b) a M. Fabišom (2008).

Mgr. Zora Bielichová
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra
zora.miklikova@gmail.com
<https://orcid.org/0000-0002-1178-2744>

Mgr. Katarína Šimunková, PhD.
Univerzita Konštantína Filozofa v Nitre
Filozofická fakulta
Katedra archeológie
Hodžova 1
SK – 949 74 Nitra
ksimunkova@ukf.sk
<https://orcid.org/0000-0002-5600-5201>

HOW DID SOLDIERS LIVE IN A ROMAN FORT?

A case study of the fort at Bearsden on the Antonine Wall

David J. Breeze

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Abstract: Excavations at the Roman fort at Bearsden on the Antonine Wall from 1973 to 1982 led to the near-complete excavation of the praetentura and selective examination of other parts of the fort. Analysis of the distribution of pottery demonstrated that nearly all the barrack-rooms contained fragments of mortaria, cooking pots and bowls/dishes, implying that the preparation, cooking and eating of food took place in these rooms. One other building was tentatively identified as a store for amphorae.

An advantage of studying the Roman army and its structures is the possibility of using what Leo Rivet called ‘evidence by analogy’ (Rivet 1964, 20). This paper which details some of the result of a campaign of excavations on the far north-west frontier of the Roman empire is offered to Jan, the excavator of military structures along the central sector of the northern frontier of the empire, as a token of a long friendship.

INTRODUCTION

Identifying the use of all buildings in Roman forts has been a long process. Traditionally it has depended on the discovery of inscriptions such as that found at Rough Castle on the Antonine Wall in Scotland, which identified the name of the headquarters building as the principia (RIB* 2145), whereas that building had previously been thought to be the praetorium, the commanding officer’s house as a result of studying the literary sources. Alternatively, the plan of a building might indicate its function, though of course not always its name. Thus, we can now identify granaries and barrack-blocks. Recognising stables in a fort has long been problematic, but while we can now identify barrack-stables, possible accommodation for pack animals remains difficult (Hodgson/Bidwell 2004). Determining which of the buildings of similar plan were hospitals has been another issue. The artefacts recovered from buildings during excavation obviously can be helpful, especially in the case of a hospital and a workshop. But it is almost with a sense of despair that we call long, narrow buildings with no internal partitions storehouses when we have so little evidence for their use. The usage of buildings remains one of our problems. Where, for example, was the firewood stored to keep it dry? In the lean-to sheds which are found in some forts? To date, no building has been identified as a mess-hall, a building where soldiers went to eat, and the question of where soldiers prepared, cooked and ate their food remains high on our list of problems relating to the life of the soldiers in Roman forts.

Plotting the distribution of artefacts ought to help us address some of our outstanding questions. The seminal work on this subject is that of Rikke Giles (Giles 2012). Realising that we rarely – very rarely – excavate complete Roman forts, Giles hit on the idea of creating a composite fort based on several excavations and plotting the distribution of pottery within that imaginary structure. She was able to show that some types of vessels are found in certain buildings while others are less common. To take one example, jars tend to be found in granaries and on roads. An interpretation is that they were used to carry grain – and possibly water – and on the return to the barrack-room the soldier dropped his precious cargo for it to smash on the road.

* RIB = Roman Inscriptions of Britain

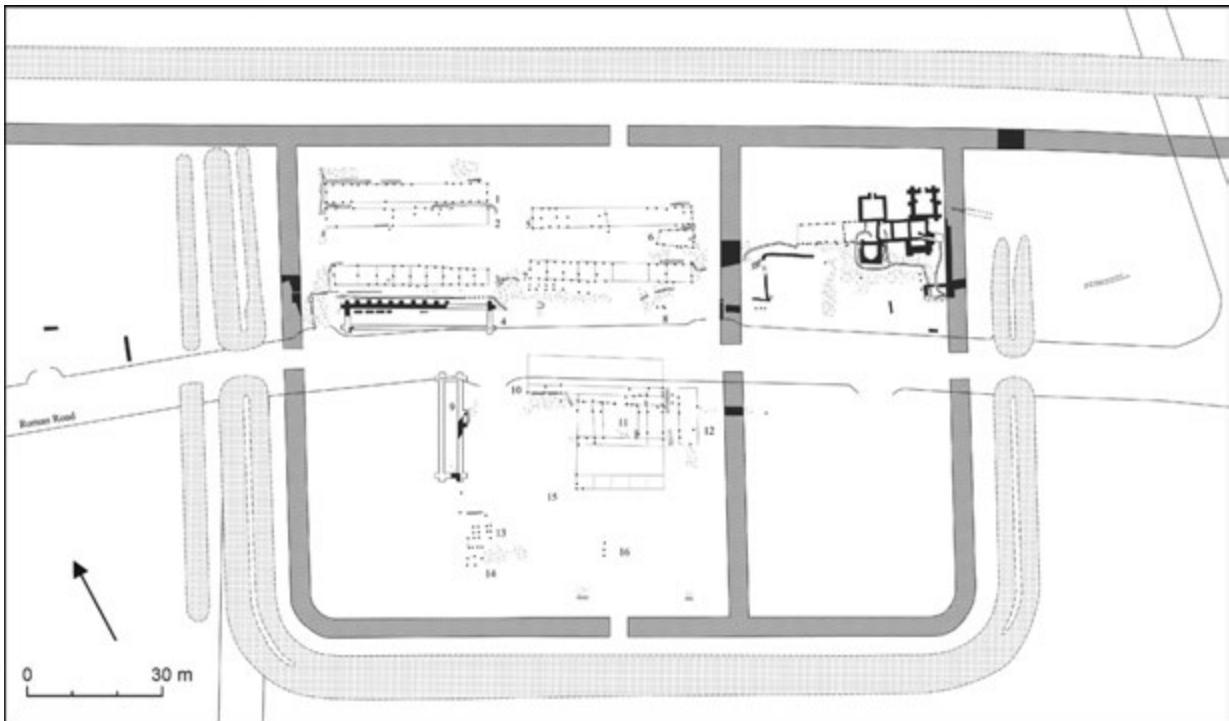


Fig. 1. Plan of the Roman fort at Bearsden.

THE ROMAN FORT AT BEARSDEN

Over the period from 1973 to 1982, I investigated the Roman fort at Bearsden on the Antonine Wall, cumulatively digging a little less than a third of the military compound, which was occupied for a mere generation from about 142 to perhaps 158/65 (Fig. 1; *Breeze 2016*). The excavations were focussed on the praetentura, with very restricted areas of the central range and retentura examined. The extent of the work was hampered by trees protected by law, while post-Roman ploughing had removed ancient features in some parts of the site. The area of the fort and its immediate surroundings had been divided into fields by the 19th century (*Breeze 2016*, 5, fig. 2: 3). The fort was surveyed by William Roy in 1755, and his plan shows no upstanding ramparts only ditches, and even one of those discovered during the excavations was not recorded by Roy, another indicator of ploughing (*Breeze 2016*, 3, 4). Pottery – and other artefacts – will therefore have been moved around the site.

There was also disturbance of the site caused by the construction of seven large houses in the second half of the 19th century (*Breeze 2016*, 5, fig. 2: 4). In some places Roman levels had been removed while elsewhere large quantities of clay had been laid to create terraces.

Further, the excavation revealed the existence of a broad depression running across the southern area of the praetentura, immediately north of the via principalis, today's Roman Road (*Breeze 2016*, 10, fig. 3: 1.1). Here, deeper deposits had accumulated, and therefore there was a better survival of Roman artefacts. Over the central range and retentura the topsoil was very shallow. There were, therefore, three distinct zones within the fort. Over the area of the north rampart, all traces of the rampart and intervallum road had been destroyed. The buildings of the praetentura survived, some buried deeper than in any other part of the fort. The central range and retentura were flat and stratigraphy shallow, possibly the result of landscaping in the 19th century in connection with the construction of the houses. Care, therefore, needs to be taken in any interpretation of the distribution of pottery and other artefacts within the fort.

In spite of the difficulties, two barrack-blocks were identified, three long narrow buildings either with no or irregular internal partitions, two granaries and a headquarters building. On its abandonment, the army appears to have removed anything of value from the fort, leaving only the dross, such as damaged querns and metal artefacts, and then demolished and burnt the buildings (*Breeze 2016*, 375). As a result, pottery was the main indicator of the function of the buildings (Fig. 2). It was found widely across the fort, but some areas



Fig. 2. Some types of pottery found at Bearsden. Top – cooking pot, mortarium, jar; bottom – bowl, mortarium.

produced significant quantities and others very little or none. Plotting of the recovered Roman pottery not only reveals differential distribution patterns but also what appear to be indicative distributions within certain buildings (Breeze 2016, 350–359, fig. 21: 23–30).

The barrack-blocks

Two buildings were securely identified as barrack-blocks. Each contained eight rooms with the quarters of the officer in the usual position at the rampart end (Breeze 2016, 26–32). Such barrack-blocks would normally be identified as being occupied by cavalry with eight men in each room, thereby providing accommodation for a total of 32 men, that is, one cavalry turma. Seven of the eight rooms in the western barrack-block produced at least one fragment of a mortarium, a mixing bowl, while several fragments were recovered from the drain beside the officer's quarters (Table 1). Not all the adjacent barrack-block was excavated, but three out of the six rooms investigated furnished fragments of mortaria, while more were found in and beside the officer's quarters.

Table 1. The distribution of pottery in the two barrack-blocks, buildings 3 and 7 on Fig. 1. 0 = officer's quarters. *Contubernia* 2 and 3 in the right-hand barrack-block were not excavated.

	0	1	2	3	4	5	6	7	8	8	7	6	5	4	3	2	1	0
Mortaria	✓	✓	✓	✓	✓	–	✓	✓	–	–	✓	–	✓	✓	–	–	✓	✓
Cooking pot	✓	✓	✓	✓	–	✓	–	✓	✓	✓	–	–	✓	–	–	–	✓	✓
Bowl/dish	✓	✓	✓	✓	✓	✓	–	✓	–	–	✓	–	–	✓	–	–	✓	✓
Plate	–	✓	–	–	✓	–	–	✓	–	–	–	–	–	–	–	–	–	–
Samian	✓	–	✓	–	–	–	–	–	–	–	–	–	–	✓	–	–	✓	✓

The distribution of the fragments of cooking pots was similar. In the western barrack-block, the officer's quarters and five of the eight rooms contained fragments of cooking pots with a significant collection outside a sixth. Again, evidence was less abundant in the other barrack-block, with three rooms and the officer's quarters producing fragments.

The distribution of bowls and dishes was similarly significant. In the western barrack-block, four of the eight rooms contained fragments of bowls or dishes with more beside a fifth room and the officer's quarters. Only two rooms in the other barrack-block contained fragments, though some lay outside two more rooms, and there were fragments in and beside the officer's quarters.

Samian fragments were recovered from only one of the soldiers' rooms in the west barrack-block, though there were several fragments in the officer's quarters and a similar pattern occurred in the other barrack, though with two rooms containing fragments of samian vessels as well as the officer's quarters.

Jars were unusual, with just one fragment in two rooms in one barrack-block and none in the second. Plates were rare, with three rooms in the western barrack producing one fragment in each. Jars were found in greater numbers on the internal roads, while there was a cache of plate fragments on the southern interval-lum. The officer's quarters of the eastern barrack yielded a fragment of a flagon, a vessel found very rarely across the site. Beakers and cups were also absent from the barracks though the former were present in small numbers in the area of the eastern barrack-block.

The long-narrow buildings

One building in the north-west corner of the fort appeared to have no internal partitions while its neighbour had but two. Building 1 produced 2–5 fragments of mortaria, rather more fragments of cooking pots and bowls/dishes but in restricted locations, that is, not spread across through the building. The second building yielded one fragment of a mortarium and another of a mortarium but no other pottery. A third building was similarly devoid of pottery.

The totally different patterns of pottery distribution in these buildings strongly suggest that they were not barrack-blocks.

The central range

A fragment of a jar was found in the north granary, and one of samian in the south granary. The presumed headquarters building yielded fragments of a cooking pot and a plate, as well as several fragments of bowls/dishes in one location. But the essential point is that the retrieval of pottery from this building was very small.

Ovens

The intervallum was examined in various locations on the west, east and south sides of the fort. The northern intervallum area including its road did not survive. Significant stratigraphy remained in pockets elsewhere. In no area investigated was an oven found nor any evidence of burning such as might have been related to ovens.

Fragments of four braziers were identified at Bearsden, but only one can be securely located and it was not in the praetentura but in an area of the retentura where there were no certain buildings. The presence in the fort of pottery with 'saggy bottoms', that is, convex bases, points to their use in conjunction with braziers.

The use of braziers and these pottery vessels indicates cooking in an African style (Fig. 3). This is likely to be linked to soldiers from the army of Britain serving in North Africa in the 150s and is evidenced on the Antonine Wall by the discovery of a kiln making pottery in an African style in the fort at Bar Hill which was the base of a regiment serving in North Africa in the 150s (*Eck/Holder/Pangerl 2016; Keppie 1985*).

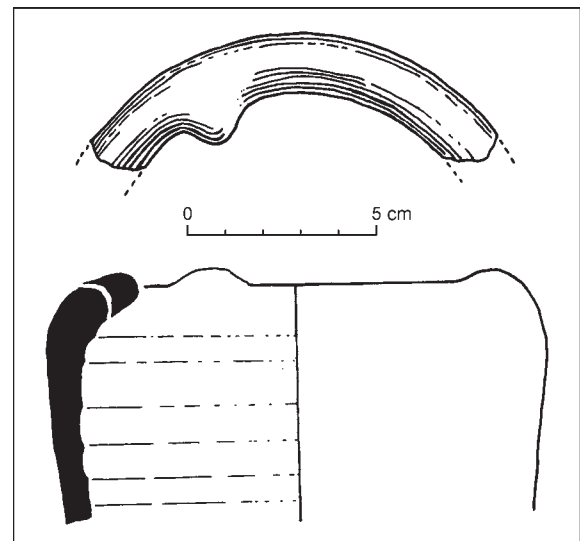


Fig. 3. The upper part of a brazier used for cooking in an African style.

Amphorae

The occurrence of amphora fragments across the whole fort was plotted and three levels of survival were identified (*Breeze 2016*, 357, fig. 21: 30). The highest density of amphora fragments was found in the long narrow building in the north-west corner and a small building on the east side of the fort. Both buildings had previ-

ously been tentatively identified as storehouses on the basis of their plans, so the presence of the amphorae in significant numbers provides supportive evidence. The western barrack produced the least evidence for amphorae. The eastern barrack furnished more fragments but this may have related to the greater depth of stratigraphy in that part of the fort.

Summary of the analysis of the distribution of pottery

The distribution of pottery throughout the two barrack-blocks makes it challenging to avoid the conclusion that soldiers prepared, cooked and ate their food in their own barrack rooms. The paucity of plates is important because it suggests that food was eaten from the bowls and dishes and not from plates from which it could easily slip. Perhaps, then, the food was eaten with fingers, or with wooden spoons which have perished. The lack of metal implements such as knives is of little consequence in view of the poor survival of the metalwork.

Food

This leads us on to a consideration of what food the soldiers ate. A trench cut across the inner east ditch of the fort's annexe revealed that by the time the fort was abandoned it was about half full of sewage, itself covered by water. It was only later in the campaign of excavations that the source of the sewage was found, the latrine. This lay a few metres south of the bath-house and was flushed by water from that building.

The diet of the soldiers was very varied. The pH level was such that few bones survived in the soil covering the fort. Nevertheless, we know that Roman soldiers ate meat (*Davies 1971*). The sewage revealed that wheat formed a major part of the soldiers' diet. Two types of wheat were identified, emmer and spelt (*Breeze 2016*, 223–280). Experimental archaeology coupled with literary evidence indicate that emmer could have been used for porridge, whereas spelt wheat could have been made for making bread. A third type of wheat was identified through residual analysis in pottery vessels; this was durum wheat, used today for making pizza and pasta (*Breeze 2016*, 281–284). Barley only survived in small quantities and was probably used for thickening broth.

Other food items include fruits – bilberry, raspberry, strawberry and blackberry – hazel nuts, celery, turnips, radishes, lentils, horse beans, linseed, fig, dill, coriander and opium poppy. Most of these could be eaten with the fingers. One might expect that the consumption of porridge and broth would have required bowls or dishes to hold the food as well as an implement with which to eat it, perhaps a wooden spoon which has not survived.

CONCLUSIONS

The very different distribution of fragments of pottery within the barrack-blocks and other buildings of similar size but different internal layout would seem to confirm that the latter are not barrack-blocks but served some other purpose(s). The higher survival of amphorae in one such building may point to its use as a store. The distribution of fragments of mortaria, cooking pots and bowls/dishes within the barrack-rooms points to the preparation, cooking and eating of food within these rooms. The items of food found in the sewage includes many that could have been eaten with the fingers but others are more likely to have required the use of a spoon; remarkably a wooden spoon was found at Vindolanda (Fig. 4). The braziers and the bowls with convex bases indicate cooking in a North African style and therefore the probability that soldiers from the fort at Bearsden served the Moorish War of Antoninus Pius in the 150s.



Fig. 4. A wooden spoon found at Vindolanda on Hadrian's Wall. Reproduced by kind permission of the Vindolanda Trust.

The excavations at Bearsden, therefore, provide valuable evidence for an important activity of Roman soldiers, their eating habits. They also help us understand the purpose of several buildings within the fort in the face of the lack of other evidence. We are a step forward in our appreciation of these aspects of the single most important institution in the Roman empire, its army.

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Ako žili vojaci v rímskej pevnosti?

Prípadová štúdia pevnosti v Bearstene pri Antonínovom vale

David J. Breeze

Súhrn

Terénne práce v pevnosti Bearstene pri Antonínovom vale (1973–1982), osídlenej približne v rokoch 142 až 158/165 n. l., identifikovali na základe analýzy ich plánov dve budovy ako kasárne. Rozmiestnenie keramiky, ako boli mortáriá, hrnce na varenie a misky v týchto budovách naznačuje, že príprava jedla, varenie a stravovanie sa uskutočňovali v barakových miestnostiach. Džbány a tanieri sa v budovách nenachádzali; fragmenty džbánov sa našli na ceste, kde mohli spadnúť pri prenášaní surovín, ako boli obilie alebo voda. V kasárňach sa nenašli žiadne príbory, väčšina druhov potravín získaných z odpadových vôd sa mohla jesť rukami. Analyzovali sa aj ďalšie budovy podobnej veľkosti ako spomínané baraky, ale s iným vnútorným členením. Počet amfor v jednej z nich naznačuje, že išlo o skladisko nádob na víno. Rozmiestnenie keramiky, čo sa týka typov aj množstva, v budove „hlavného stanu“ a v sýpkach bolo také, ako sa dalo očakávať. Našli sa fragmenty štyroch brazierov a niekoľko misiek s vypuklým dnom, čo poukazuje na varenie v africkom štýle. Vojenská jednotka so sídlom na Bar Hill pri Antonínovom vale vyslal vojakov do severnej Afriky a tí si po návrate vyrobili keramiky v severoafrickom štýle. Aj vojaci z Bearstenu pravdepodobne slúžili v severnej Afrike.

Výskumy v Bearstene poskytujú cenné dôkazy o dôležitej súčasti života rímskych vojakov – o ich stravovacích návykoch. Pomáhajú nám pochopiť funkciu budov v pevnosti. Výskumy v Bearstene nás tak posunuli o krok vpred v poznaní viacerých aspektov fungovania v najdôležitejšej inštitúcii v Rímskej ríši – jej armády.

Obr. 1. Plán rímskej pevnosti v Bearstene.

Obr. 2. Niektoré typy keramiky nájdené v Bearstene. Hore – hrniec na varenie, mortarium, nádoba; dole – misa, mortarium.

Obr. 3. Horná časť brazier používaného na varenie v africkom štýle.

Obr. 4. Drevená lyžica nájdená vo Vindolande pri Hadriánovom múre. Reprodukované s láskavým súhlasom Vindolanda Trust.

Tabela 1. Rozloženie keramiky v dvoch barakových blokoch, budovách 3 a 7 na obr. 1. 0 = dôstojnícke priestory. *Contubernia* 2 a 3 v pravom barakovom bloku neboli preskúmané.

Honorary professor David J. Breeze, OBE, BA, PhD, Hon D Litt
36 Granby Road
UK – EH16 5NL Edinburgh
davidbreeze@hotmail.co.uk

TWO FOURTH-CENTURY ROMAN SEALS FROM SLOVAKIA

Marek Budaj – István Vida

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Keywords: Germanic settlement, 4th century, Roman lead seals

Abstract: Two Roman seals from the 4th century were found close to the village of Reca in the Senec District in 2015. They were discovered in an area known to have been intensely settled by Germanic peoples, but never systematically investigated by archaeologists. Finds of such seals are rare in Slovakia, with the only known finds besides these two being two seals from a Germanic settlement at Hurbanovo.

In 2015, during an amateur survey conducted during a walk, two interesting Roman lead seals were found and immediately handed over to the collection of the SNM-Museum of History. The seals were found at a location between the villages of Veľký Grob in Galanta District and Reca in Senec District, near the Zichy stream, at the site “Za potokom” (Fig. 1). The archaeological site extends to the east towards Šúr and towards the village of Čataj.

THE SETTLEMENT OF THE AREA IN THE ROMAN PERIOD AND FINDS OF SEALS IN THE TERRITORY OF SLOVAKIA



Fig. 1. Location of the find of Roman lead seals (author R. Čambal).

The site of the find and the nearby area was quite intensively settled in the Roman period, as shown by many archaeological and numismatic finds. Unfortunately, it is an area that has not received much attention from professional archaeologists but is often targeted by detectorists. Even so, it has been possible to preserve and document several interesting finds. The same location yielded an interesting trove of iron items from the Roman period, which can be dated to the second half of the 2nd century to the 3rd century AD (Bazovský 2007, 249–260). A shard from the 2nd century found together with the items supports the dating. On its eastern side, the site is adjacent to the Šúr site, where finds have included terra sigillata, Germanic ceramics and a deformed bronze fibula (Bartík/Štrbík 1992, 20, 21; 1995, 22, 23; Bazovský 2005, 132, no. 18). Several other significant archaeological and numismatic finds have been found between Čataj and Veľký Grob but unfortunately have not yet been processed. Most are artefacts found at the sites “Za záhradami” and “Pod Vinohradmi”, which are almost adjacent to the site of the find currently under discussion. These sites have yielded hundreds of Roman coins, including a gold aureus of Emperor Diocletian (284–305).¹ Even so, the literature includes only sporadic reports on a few of the Roman coins found in the region. There is a report of a Roman coin of Constantine I (306/7–337) found at the Zemianske-Gejzové site in Čataj, which was found in a child’s grave in a burial site from the 7th or 8th century AD (Kolníková/Hunka 1994, no. 168).

A great deal of related archaeological material has been found around Čataj, although the literature refers only to a few pins, frequently without specified locations (Bazovský 2005, 116–152). Other pins have been found in the area around Veľký Grob and Reca, which is further evidence that the area was intensively settled in the Roman period (Bazovský 2005, 116, no. 3; 139, no. 29/b).

¹ The unstudied material is mainly held in private collections and public institutions gain access to only a few such finds.

Another significant aspect of this find of Roman seals is providing evidence of contact between Germanic peoples and the territory of the Roman Empire. Such seals are extremely rare in the territory of Slovakia, with the only other currently known finds being two seals from a relatively significant site at Hurbanovo in Komárno District (Hrnčiarik/Kuzmová 2016, 152; Kolníková 2002a, 84, 85; 2002b, 295–303). This settlement underwent an economic boom in the second half of the 4th century, with which both these seals were associated.

THE SEALS

No. 1. (Fig. 2: 1)

Obv.: MAXIM-INE, draped bust right, wearing a crossbow brooch (fibula) on right shoulder, circular field, border or dots.

Rev.: Large Christogram, circular field, border or dots.

Sizes: 6.47 g; 14.1 × 13.8 mm

Dating: AD 364–376

Held by: SNM-Museum of History (Cat. no. S 87382; Acquisition no. 20/2016).

RFA – Obverse: Pb = 97.817%; Fe = 1.34%; Cu = 0.529%; Sb = 0.075%; Sn = 0.081%; Zr = 0.023%; Zn = 0.022%.

Reverse: Pb = 98.192%; Fe = 1.114%; Cu = 0.431%; Sb = 0.108%; Sn = 0.082%; Zr = 0.02%.²

The first seal is a well-known seal of Maximinus, the favourite of the Emperor Valentinian I, more than 50 pieces are known with three different obverses and reverses (Szabadváry 2018, 195–197; 472–484 with further literature; Vida 2016). Most of them are known from auctions and private collections, but several are known from museum collections as well, the find spots are always in Pannonia (Szabadváry 2018, 473–477), thus this is the first case such a sealing is found outside the Pannonian provinces (Fig. 3).

Although Maximinus was born in Sopianae, Pannonia his career – *praeses Corsicae et Sardiniae* (c. 364–365), *corrector Tusciae* (366), *praefectus annonae* in Rome (368–370), *vicarius Urbi* (370), *praefectus praetorio Galliarum* (371–376) – was not connected to Pannonia in any way; the seals must have been used by him as a private man, a landowner, not as an official of the Roman administration. In late Roman times, the members of the elite established their latifundia close to their birthplace, in Maximinus' case probably southern Transdanubia, where several of his seals without exact find-spots are known from. The find-spots of the seals – Carnuntum (Petronell), Arrabona (Győr), Brigetio (Komárom), Gorsium (Tác), Intercisa (Dunaújváros), Savaria (Szombathely), Siscia (Sisak), Sopianae (Pécs) are all administrative and military centres – suggest, that he was a supplier of the Roman army, the produce of his estates was bought by the military.

The seal had presumably got to the Barbaricum as booty, as it was most likely used for sealing the bags containing the agricultural produce, which could have been looted by the Quadi during their raid on Valeria in 374 (Kovács 2018, 92, 93).



Fig. 2. Lead seals from Reka (drawing R. Čambal, photo B. Ritterová).

² Cleaned seals were analysed using a Thermo Niton Analyzer XL 3t 970. The length of analysis was 30 seconds. We are grateful to Mgr. T. Maleček for carrying out the analysis.

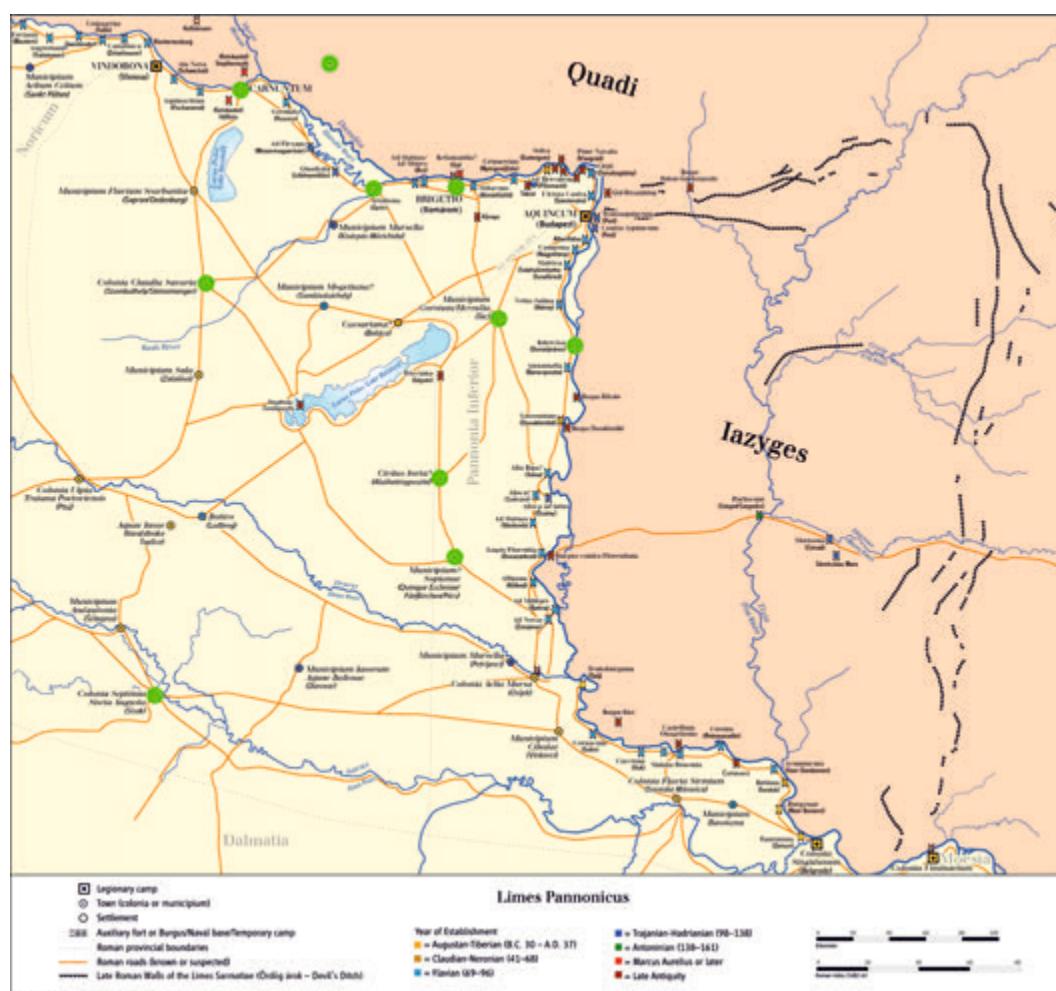


Fig. 3. The find-spots of the seals of Maximinus (author I. Vida).

No. 2. (Fig. 2: 2)

Obv.: Head right, circular field, border or dots.

Rev.: SOT/ERIO/[...], inscription in three lines, circular field, border or dots.

Sizes: 3.37 g; 13.02 × 11.43 mm.

Dating: 4th century AD.

Held by: SNM-Museum of History (Cat. no. S 87383; Acquisition no. 20/2016).

RFA – Obverse: Pb = 95.516%; Fe = 0.891%; Cu = 0.167%; Sb = 0.055%; Sn = 3.308%.

Reverse: Pb = 95.658%; Fe = 1.003%; Cu = 0.192%; Sb = 0.057%; Sn = 3.016%; Zr = 0.024%.

The portrait on the obverse is uncertain. It is most likely a head; details what seem to be folds of the drapery below are just surface damages. Whether it is a female or male head, young or old cannot be specified. The reading of the reverse is not clear. The SOT/ER of the first two lines is certain; the IO at the end of the second line is highly probable. The letters of the third line – if there is any – are illegible.

The type is unpublished, neither can it be found in auction catalogues, nor in the collection of the Hungarian National Museum or in the three major Hungarian private collections accessible to us. Though its surface is quite damaged, it can be dated to the 4th century AD on the basis of the style. The dating is also supported by the observation that – except for mythological and historical figures – the portraits of non-imperial persons appear on seals only in the late 3rd–early 4th century AD.

The seals are typically not found at the place of their production but rather at the destination where the goods were exported. The absence of the type from the Hungarian finds may indicate that it is not of local origin, but had got to Pannonia with imported goods and then to the Barbaricum through trade or looting.

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Dve rímske plomby zo 4. storočia zo Slovenska

Marek Budaj – István Vida

Súhrn

V roku 2015 sa v blízkosti obce Reca v okrese Senec našli dve rímske plomby zo 4. storočia. Ide o región, o ktorom archeológovia predpokladajú, že bol intenzívne osídlený, ale doteraz nebol predmetom systematických výskumov. Z regiónu nie je veľa publikovaných nálezov. Plomby sa našli v blízkosti súboru železných predmetov z druhej polovice 2. až 3. storočia. Tento nález je len druhým doteraz známym nálezom takýchto plomb na území Slovenska. Miesto nálezu sa nachádza neďaleko lokality Šúr, ďalšieho známeho germánskeho sídliska v blízkosti obce Čataj.

Obr. 1. Miesto nálezu rímskych olovených plomb (autor R. Čambal).

Obr. 2. Olovené plomby z Reca (kresba R. Čambal, foto B. Ritterová).

Obr. 3. Náleziská plomb z Maximina (autor I. Vida).

Mgr. Marek Budaj, PhD.
NBS – Múzeum mincí a medailí Kremnica
Štefánikovo nám. 11/21
SK – 967 01 Kremnica
marek.budaj@nbs.sk
<https://orcid.org/0000-0001-7675-1941>

Mgr. István Vida, PhD.
Hungarian National Museum Budapest
Múzeum körút 14–16.
HU – 1088 Budapest
vida.istvan@mnmu.hu
<https://orcid.org/0000-0002-7886-5392>

SURVEY OF THE DANUBE BANK AT THE ROMAN MILITARY CAMP IN IŽA¹

Klaudia Daňová – Miroslava Daňová – Igor Murín

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Keywords: Iža, Brigetio, Danube, Roman period, military camp, bridge, non-destructive survey, fishing, geophysical survey

Abstract: Sonar researches near the Roman camp in Iža carried out in 2019 and 2021 confirmed the presence of a linear structure that was interpreted as a bridge. The sonar captured four pillars. Pillars 1–3 are located on the Slovak side of the Danube. In 2022, several activities were carried out in the area of the linear structure, which led to the dating of the bridge and resulted in obtaining a first picture of the material composition of individual pillars. Absolute data obtained from wooden stakes from Pillar 2 dated the structure to the 3rd–4th century AD. The low level of the river in the summer months allowed to carry out a GPR survey of Pillar 1, which is located closest to the bank. The research confirmed the presence of a 20 × 10 m solid anomaly buried beneath approximately one metre of gravel and sand deposit. The surface survey revealed four fishing net weights made of stone and Roman building ceramics. Based on analogies from other sites, these finds may represent activities associated with Roman activity in the area.

In 2018, a team for archaeological research below the water surface was established. In the first phase, the research focused on the rivers Váh and Nitra. The goal of these activities was to supplement knowledge of the potential for archaeological sites below the water surface. The team focused mainly on immovable monuments of a technical nature such as bridges and harbours (Daňová/Daňová 2019). With the “revival” of the research at the Roman military camp at Iža near Komárno, interest has shifted to the Danube River and the exploration of the coastal zone in front of the southern entrance to the camp. At the beginning of the research, attention was focused on the comparison of map documents and archival records with the archaeological research carried out during the years (1906–1909; 1912; 1913; 1978–present). In an earlier

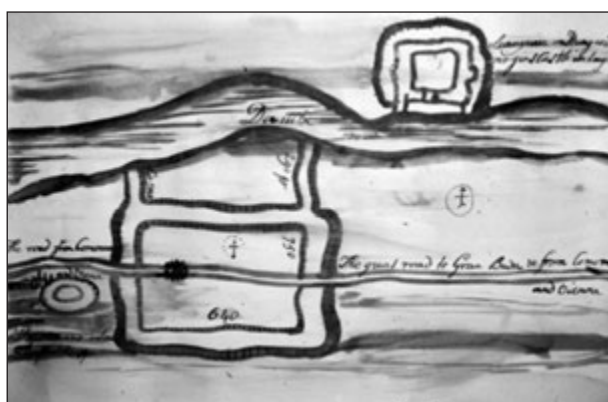


Fig. 1. Drawing of Brigetio and the Roman fort on the north bank by J. Milles from 1737 (Kubitschek 1931, 203).

depiction of an 18th-century Roman stone fort (Fig. 1), two lines pointing towards the Danube bank are visible (Kubitschek 1931, 203; Pococke 1743, 245). In 1907 J. Tóth Kurucz documented the western line of this “fortification” and called it *cloaca* (1908, 45, 46, fig. III), but he did not examine the eastern line and did not provide information about its possible existence (Fig. 2). This was later confirmed in further research by K. Kuzmová and J. Rajtár, who identified only wolf pits in the foreland destroyed by military interventions in the 1970s (Kuzmová/Rajtár 1985, 143). By comparing the line at the SW corner of the Roman fort with known examples on the Danube (Drobeta) and the Rhine (Colonia Agrippina and its bridgehead Divitia), we concluded that it could be a fortification related to harbour protection.

For this reason, it was important to intensively investigate the river bed in the section in question. However, this was not the first attempt to look below the water surface on the Danube. Already in 1978, the first survey of the river bottom was carried out, at that time with the active participation of our jubilant Jan Rajtár (Fig. 3). The divers managed to discover a larger stone block that could be related to the presence of the

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Romans in the area. The activities of the Romans on the Danube are indicated by the finds of iron anchors, votive stone and two stone *cippi* excavated during the modification of the riverbed (Kolník 1977, 170, 171; 1978, 165–171). This information became the basis for the 2019–2021 sonar survey (Daňová *et al.* 2022, 219–228). The result is a bathymetric image² of the river bottom, where four structures were subsequently identified, forming a line crossing the river in the S – N direction. These are directed towards the southern gate of the Roman military camp at Iža on the Slovak side and on the Hungarian side the outcrop is directed east of the Roman legionary camp of Brigetio. After careful analysis of the shape and dimensions of the preserved structures, the team members concluded that these were the pillars of a bridge connecting the two Roman camps. Three of the four identified structures (No. 1; 2; 3) are located on the Slovak side of the border and one on the Hungarian side. As part of the bathymetry of the bed, we also discovered a distinctive structure in the fairway, about 200 m downstream, which we tentatively consider to have been destroyed by one or more pillars from

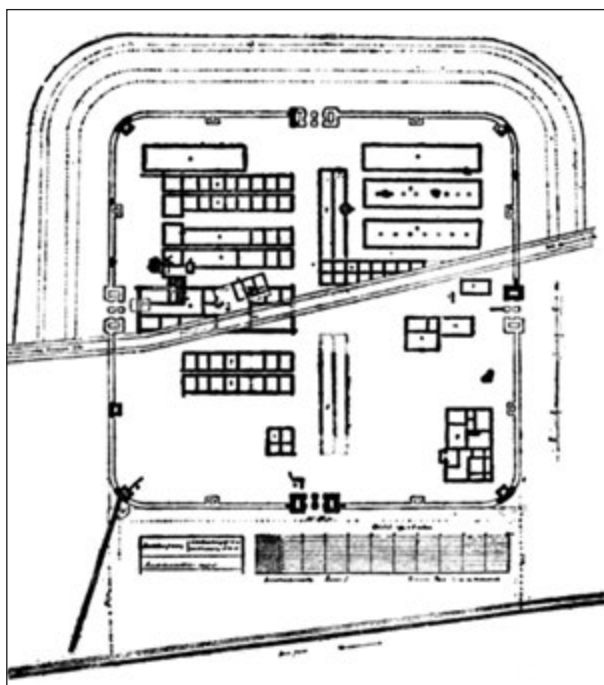


Fig. 2. Ground plan of the Roman fort at Iža based on the archaeological excavations of J. Tóth-Kurucz (Tóth-Kurucz 1908, 45, 46, fig. III).



Fig. 3. Ján Rajtár during the first explorations of the Danube in 1978 (photo Archive AŮ SAV).

the bridge line; hence the rubble has been given a separate designation (No. 4) and the pillar in the bridge line, near the Hungarian bank, has been designated as No. 5. In 2022 a dive was successfully carried out to Pillar 2 and a wood sample was taken, which confirmed the dating to the 3rd–4th century AD (Daňová/Daňová/Rajtár, *in print*). From this point on, a team composed of archaeologists, professional divers, and

² The author of the bathymetric plan is the company Helicop, s. r. o.

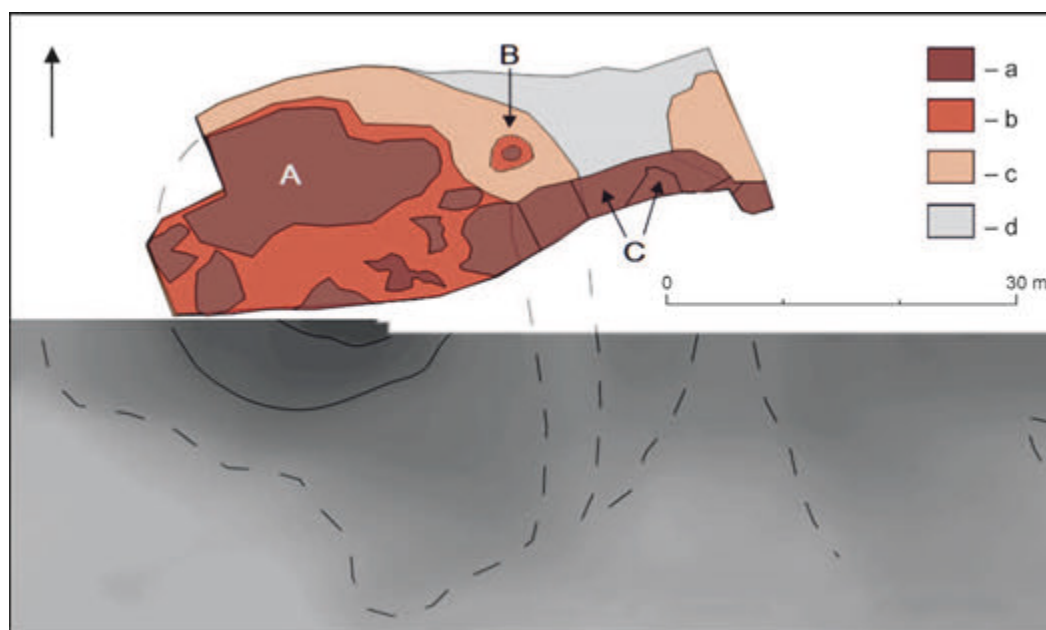


Fig. 4. The dashed line indicates the possible extension of the anomalous areas or their connections with structures visible in the sonar survey (author I. Murín). Legend: a – more compact fill, stone; b – unconsolidated fill, stone, rubble; c – unconsolidated material, gravel, stones; d – finer sediment, sand.

geophysicists focused on developing a methodology for the survey of the individual pillars of the bridge. The pillars are located at different depths and their location requires a modified methodological approach not only due to the depth but also to the conditions of the survey.

NON-DESTRUCTIVE SURVEY OF PILLAR 1

In 2022, a non-destructive survey of the area near the structure identified as Pillar 1 was commenced. It is located closest to the bank almost opposite the southern gate of the Roman camp of Iža-Leanyvár. Unlike Pillars 2 and 3, whose wooden and stone structures extend into the river, Pillar 1 is completely covered by a deposit of sand and gravel. In drier months, such as August and early September in 2022, the level of the Danube dropped. Upon visual inspection of the surrounding area, the presence of the structure was evident. The presumed site was distinguished from the surrounding area by a higher deposit, which was formed by the accumulation of gravel and sand on a solid structure. Favourable conditions allowed GPR surveys of the area, which is submerged for most of the year.

The GPR survey was conducted using the RAMAC X3M, GEOSCIENCE MALA (Sweden) system with a shielded antenna operating at a central frequency of 250MHz. Geophysical surveying is beneficial because it is non-invasive, time-efficient and effective. The GPR method is one of the most widely used geophysical methods for screening shallow subsurface structures. At this site it proved to be the most suitable for identifying buried building structures. The method uses the measurement of reflections from transmitted electromagnetic (EM) waves into the subsurface to create an image of the investigated structure of the environment below the surface. One of the main advantages of GPR is the ability to display measured results three-dimensionally.

Geophysical GPR survey was carried out in August 2022 on the left bank of the Danube, in front of the southern entrance to the Roman camp near the village of Iža. The survey was carried out in accessible areas on the bank and exposed bottom of the Danube River at times of low water level. The GPR survey focused on the area of the presumed location of Bridge Pillar 1 (Fig. 4). The survey was made on a relatively flat surface sloping towards the river. The coordinate system was designed with the x-axis running approximately parallel to the river edge. The survey was conducted in one direction in parallel profiles. The density of the GPR record was 0.05 m in the profile direction (x-axis) and the profiles were measured with 0.5 m spacing between

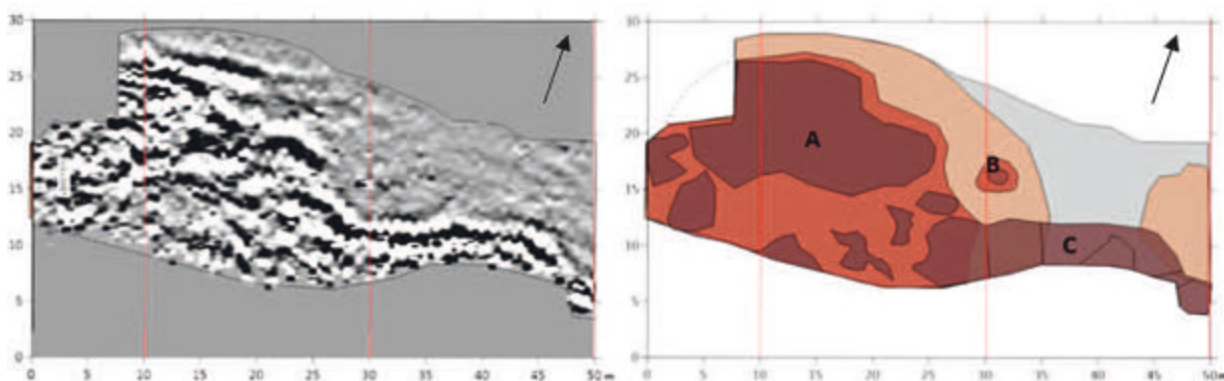


Fig. 5. Survey results divided into several groups (marked in brown, red, orange and grey). The anomalous area formed by less homogeneous fill such as smaller stone and larger gravel is marked in red. The blue-grey colour indicates a homogeneous fill probably composed of silty clay, sand and finer gravel (author I. Murín).

each other (y-axis). The measured area was divided into two main parts, with the two measured areas joining at a length level of 15 m on the y-axis. The first area was on the outer side and extended to the level of vegetation (trees and shrubs) located on the raised bank measuring approximately 15×50 m. The second surveyed area covered the accessible lower part towards the river surface measuring approximately 8×50 m. In total, an area of approximately 1150 m^2 was surveyed. The measured GPR data in the form of vertical profiles (radargrams) were processed using a standard procedure to improve their visual quality: their lengths and zero level were adjusted, a gain function was applied to highlight the signal, a filter was applied to remove noise and procedures were applied to suppress unwanted signal. The processed data were further interpolated and converted to depth. This resulted in amplitude horizontal depth slices (Fig. 4). They record the progression of reflexes (reflected waves) depending on the depth; different character of these reflexes expresses a change in the structure of the bedrock.

The GPR survey results (Fig. 3; 5) show anomalies located almost throughout the entire survey area, predominantly concentrated in the centre of the western part of the survey area, which is associated with a slight terrain elevation. These anomalies occur at multiple depth levels and follow a similar pattern. Based on the survey results, it was possible to identify more pronounced anomalies – structures A, B and C. Anomalous area “A” is approximately oval in shape, located at the upper edge of the anomalous zone, identical to the terrain elevation. It is a more compact layer at a depth of approximately 1 to 2 m, measuring about 20×10 m, and probably consisting of a more compact fill containing stone or brick. This structure lies in the line of the original bridge and most probably represents the remains of the original bridge pillar on the bank of the Danube. Anomaly “B” indicates a smaller circular structure located at the right edge of the anomalous zone at a depth

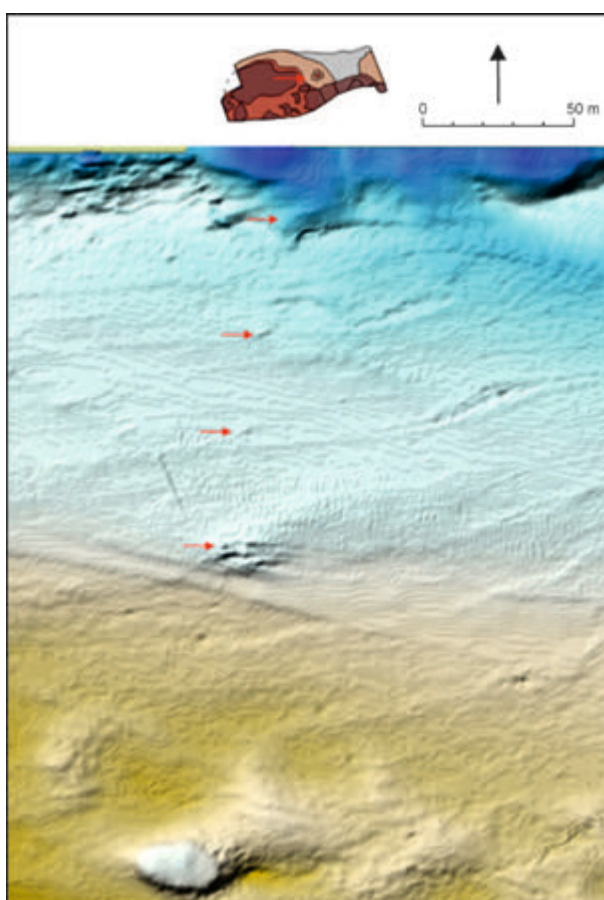


Fig. 6. The results of the GPR survey are shown for comparison along with sonar survey of the Danube riverbed showing the remains of the bridge pillars (© author Helicop/I. Murín).

of approximately 1.5 to 2 m, which lies in a line of dimensionally similar anomalies identified in the sonar survey made by HELICOP in 2021 (Fig. 6). These structures are approximately 30 m apart and may represent yet unidentified structural elements of the original bridge or other contemporary structure. Anomalous zone “C” represents a band of more prominent anomalies at the edge of the survey area at a depth of approximately 1 m, which is only partially captured in the measurements and is composed of a compact, more solid material, probably a rock component.

SURFACE SURVEY OF THE PILLAR 1 AREA

A survey of the area around Pillar 1 was carried out on land and in water almost at the same time. Four fishing weights made of stone and clay were found in the immediate vicinity of the pillar. These were located upstream of the pillar.

Weight 1 – irregular shape (Pl. I: 1). Dimensions max. $11.4 \times 9.8 \times 3.1$ cm, hole diameter 0.7 cm, ground down to 1.8 cm on one side, hole at top of weight. Weight 359.2 g. Material – clay (reused building ceramics – *tegula*).

Weight 2 – irregular shape (Pl. I: 2). Dimensions max. $10.8 \times 8.7 \times 2.7$ cm, hole diameter 0.7 cm, ground down to 1.5 cm on one side, hole at the top of the weight. Weight 265.7 g. Material – stone (sandstone).

Weight 3 – trapezoidal shape (Pl. I: 3). Dimensions max. $5.2/7.8 \times 8.8 \times 2.9$ cm, hole diameter 0.7 cm, ground down to 1.7 cm on one side, hole at the top of the weight. Weight 196.9 g. Material – clay (reused building ceramics).

Weight 4 – trapezoidal shape (Pl. I: 4). Dimensions $7.8/5.5 \times 8.2 \times 3.3$ cm, hole diameter 0.9 cm, ground to 1.5 cm on one side, hole in the top of the weight, weight 198.9 g. Material – clay (reused building ceramics).

Weights 1, 3 and 4 were made of Roman building ceramics, Weight 2 of sandstone³. The material from which finds 1, 3 and 4 were made is related to Roman activity in the area. Weight 1 was made of Roman roofing material – *tegula*. This is evidenced by the smoothed exterior of the brick, the thickness of the preserved shard and the fine consistency of the clay. Weights 3 and 4 are also made of Roman building ceramics, but of a different type to Weight 1. The coarse admixture of pebbles and shards, the numerous air bubbles and the thickness of the shard indicate that they were made of bricks that were mass-produced and used in large numbers (*pedales*, *besales*, or larger types). Today they are found in greater numbers at both the Brigetia and Iža excavations. Due to the surface grinding of Weights 3 and 4, it is not possible to determine the original thickness of the shard, which was greater than that of the previous pieces.

The Romans were no strangers to the use of damaged building and other ceramics. These were used for compacting concrete, filling some layers of roads or harbours. The finds from the Danube show considerable similarity to fishing weights discovered at the sites of Spijk on the Rhine, Wijchense Meer (Lake Wijchen) and Eiland van Maurik (Island of Maurik; *Kuijpers 2023a*, 17; *2023b*, 21). Like the weights in the Danube, those from the Netherlands are made mostly of Roman building ceramics. Kuijpers clearly considers some of the specimens to be weights made in Roman times, a secondary use of an earlier roofing material from the 1st century.

The typology of Roman weights was developed on the basis of finds from Israel and the surrounding area by the researchers E. Galili, B. Rosen and J. Sharvit (*Galili/Rosen/Sharvit 2002*). It refers only to weights made of stone and lead; ceramic equivalents are not known from the area (*Galili/Rosen/Sharvit 2002*, 183; *Chavane 1975*, 109–114). The finds from Europe correspond in shape to the typology made. Weights 1 and 2 can be assigned in shape to type S1.2.1 (*Galili/Rosen/Sharvit 2002*, 183, fig. 2), with the difference that the first of the weights is made of clay. Weights 3 and 4 can be assigned to type S1.2.2 (*Galili/Rosen/Sharvit 2002*, fig. 2). In this case, however, it is also true that the weights from Iža are made of Roman building ceramics.

The weights must meet certain criteria in order to fulfil their function. In addition to the shape, which indicates their placement on the net, weight is also an important criterion. The weight of the weights from Iža ranges around 197–359 g. Similarly, at the Wijchen site, the weight ranges from 200–500 g. The average weight of the weights in Spijk was 500–700 g. The difference in weight may be related to keeping the net in a taut state in open water. In a lake like Wijchen, where no large ballast is needed, smaller and lighter weights

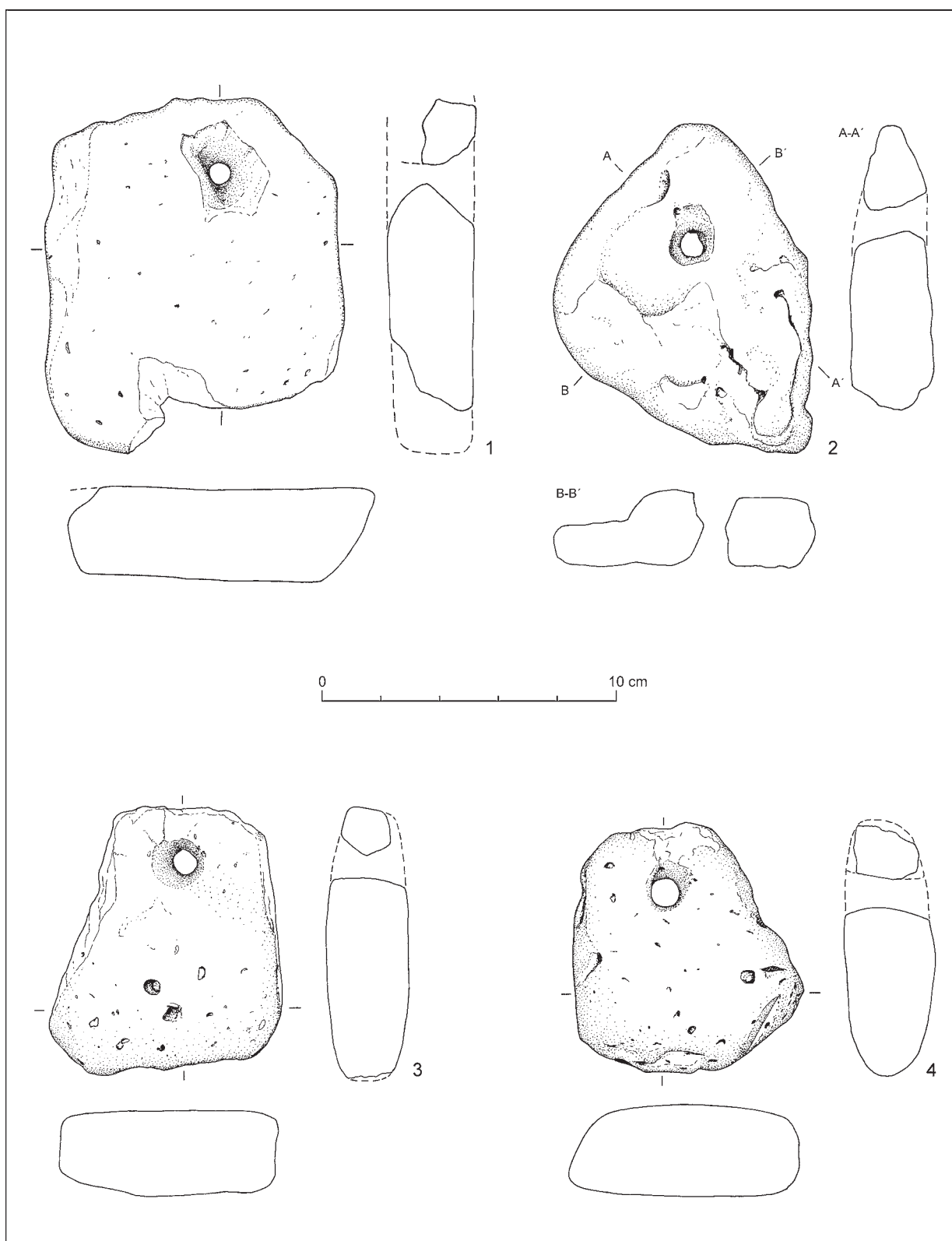
³ For the identification we thank Mgr. M. Cheben, PhD. from the Institute of Archaeology of the Slovak Academy of Sciences, Public Research Institution.

were sufficient for fishing, whereas in Spijk, which was on the Rhine, a larger ballast is needed in the current (*Kuijpers 2023b*, 25). If we proceed on this theory then the weights from Iža should be similar in weight to their equivalents from the Spijk site and not from Wijchen, provided that the same fishing technique was used. The current in the Danube varies throughout the year. Water and its flow significantly impact the integrity and preservation of artefacts. Additionally, in the case of the finds from Iža, one has to take into account that their original weight was greater than their current state. However, the weight of the net itself may also have been affected by the amount and placement of the weights used.

Fishing in the Danube is evidenced not only by net weights but especially by fish bones. The processing of archaeozoological material from the Iža survey confirmed the occurrence of fish bones as evidence of fish consumption, which belonged to the diet of the Roman garrison (more details *Bielichová/Šimunková 2025*; *Hajnalová/Rajtár 2009*, 194–208).

CONCLUSION

In 2021, thanks to a bathymetric survey of the Danube riverbed, it was possible to identify a linear structure consisting of four structures. Based on the spatial analysis of the position and direction, these structures were identified as the four pillars of a bridge. In 2022, by taking samples of the wood from the construction of Pillar 2, it was possible to date the building to the Roman period. Pillar 1 is closest to the bank, and is located beneath a layer of alluvial deposits. Due to the drier period, it was possible to carry out a GPR survey, which confirmed the presence of a solid component of the structure over a 20 × 10 m area. The working anomaly, labelled A, is located below 1 m of alluvial deposits and continues to a depth of 2 m. The survey also revealed other anomalies, labelled B and C (Fig. 4; 5). These may be related to the bridging, the connection of the bridge to the Roman camp or harbour, or other use of the bank. They may also represent modern interventions and alterations, modifications to the shoreline. The information obtained by non-destructive GPR survey is the first step towards a thorough planning of archaeological research in challenging flow conditions such as the Danube. A non-destructive survey of the vicinity of Pillar 1 also yielded other unexpected finds in the form of net weights. Their dating is, however, questionable for the time being. The collected information on the typological similarity of the finds from Iža and other sites and the localization of the finds suggests that the weights for fishing nets could be the result of Roman activity in this area.



Pl. I. Fishing weights made from Roman roof tiles (1, 3, 4) and sandstone (2) were all found in the area of Pillar 1 (source AÚ SAV).

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PhDr. Klaudia Daňová, PhD.
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra
klaudia.danova@gmail.com
<https://orcid.org/0000-0002-5682-9518>

doc. Mgr. Miroslava Daňová, PhD.
Trnavská univerzita v Trnave
Katedra archeológie
Hornopotočná 23
SK – 918 43 Trnava
miroslava.danova@truni.sk
<https://orcid.org/0000-0002-1324-566X>

Mgr. Igor Murín, PhD.
Masarykova univerzita
Filozofická fakulta
Ústav archeologie a muzeologie
Arne Nováka 1/1
CZ – 602 00 Brno
murin@mail.muni.cz
<https://orcid.org/0000-0003-4311-5054>

Prieskum brehu Dunaja pri rímskom vojenskom tábore v Iži

K. Daňová – M. Daňová – I. Murín

Súhrn

S „oživením“ výskumu rímskeho vojenského tábora v Iži pri Komárne sa záujem preniesol aj na rieku Dunaj a skúmanie pobrežnej zóny pred južným vstupom do tábora. Na staršom vyobrazení rímskeho kamenného kastela z 18. storočia (obr. 1) sú viditeľné dve línie smerujúce k brehu Dunaja. V roku 1907 J. Tóth Kurucz zdokumentoval západnú líniu tohto „opevnenia“ a nazval ju *cloaca*, východnú líniu nepreskúmal a ani neuvádza informácie o jej prípadnej existencii (obr. 2). Toto sa neskôr potvrdilo aj pri ďalšom výskume K. Kuzmovej a J. Rajtára, ktorí v predpolí zničenom vojenskými zásahmi zo 70. rokov 20. stor. identifikovali len vlčie jamy. Na základe porovnania línie pri JZ nároží kastela so známymi príkladmi na Dunaji (Drobeta) a Rýne (Colonia Agrippina a jej predmostie Divitia) sme dospeli k názoru, že by mohlo ísť o opevnenie súvisiace s ochranou prístavu. Z tohto dôvodu bolo dôležité preskúmať aj dno rieky a nadviazať tak na prvý pokus z roku 1978, kedy sa uskutočnil prieskum, vtedy s aktívnou účasťou nášho jubilanta Jána Rajtára (obr. 3).

Na aktivity Rimanov na Dunaji poukazujú nálezy železných kotiev, votívneho kameňa a dvoch kamenných *cippi* vybágotovaných pri úprave koryty rieky. Tieto informácie sa stali základom pre sonarový prieskum v rokoch 2019–2021. Výsledkom je batymetrický snímok dna rieky (Autor HELICOP, s. r. o.), kde boli následne identifikované štruktúry pretínajúce v smere J – S rieku. Po dôkladnej analýze tvaru a rozmerov zachovaných štruktúr dospeli členovia tímu k názoru, že ide o piliere mosta, spájajúce oba rímske tábory. Tri zo štyroch identifikovaných štruktúr (č. 1; 2; 3) sa nachádzajú na slovenskej strane hranice a jeden pravdepodobne zničený a jeden zachovaný na strane Maďarska (č. 4; 5). V roku 2022 sa podarilo uskutočniť ponor k pilieru 2 a odobrať vzorku dreva, ktorá potvrdila datovanie do 3.–4. stor. n. l.

V roku 2022 sa začalo s nedeštruktívnym výskumom oblasti označenej ako pilier 1, ktorý je kompletne pokrytý nánosom piesku a štrku. Predpokladané miesto sa od okolia odlišovalo vyšším nánosom, ktorý vznikol kumulovaním štrku a piesku na pevnej štruktúre. Priaznivé podmienky umožnili georadarový výskum plochy, ktorá je väčšinu roka pod hladinou.

Geofyzikálne merania formou GPR merania (aparátúra RAMAC X3M, GEOSCIENCE MALA (Švédsko) systém s tienou anténou s centrálnou frekvenciou 250MHz) boli realizované v auguste 2022 na ľavom brehu Dunaja, pred južným vstupom do rímskeho tábora pri obci Iža. Prieskum sa realizoval v prístupných priestoroch na brehu a obnaženom dne rieky Dunaja v čase jeho nízkej hladiny. GPR prieskum bol lokalizovaný na predpokladanom mieste výskytu mostného piliera (obr. 4). Hustota GPR záznamu bola v smere profilu 0,05 m (os X) a profily boli merané s rozstupom 0,5 m medzi sebou (os Y). Prvá meraná plocha sa nachádzala na vyvýšenom brehu s rozmermi cca 15 × 50 m. Druhá plocha merania pokryla prístupnú spodnú časť smerom k hladine rieky s rozmermi cca 8 × 50 m. Celkovo bola zmeraná plocha o rozlohe cca 1150 m². Identifikované anomálie vo výsledkoch GPR merania (obr. 4; 5; štruktúry A–C) sa nachádzajú takmer po celej ploche merania, pričom sa prevažne koncentrujú v strede západnej časti meranej plochy, ktorá sa viaže na miernu terénnu vyvýšeninu.

Anomálna oblasť „A“ v hĺbke cca 1–2 m s rozmermi cca 20 × 10 m je tvorená pravdepodobne pevnejšou výplňou. Táto štruktúra leží v línii pôvodného premostenia a predstavuje najpravdepodobnejšie zvyšky pôvodného mostného piliera na brehu Dunaja. Anomália „B“ označuje menšiu kruhovú štruktúru nachádzajúcu sa na východnom okraji skúmanej zóny, v hĺbke približne 1,5–2 m, v línii rozmerovo podobných anomálií identifikovaných v sonarovom meraní vytvorenom HELICOP v roku 2021 (obr. 6). Tieto štruktúry sú vzdialené od seba približne 30 m a môžu predstavovať doposiaľ neidentifikované konštrukčné prvky pôvodného mostu alebo inej súdobej štruktúry. Anomálna zóna „C“ predstavuje pás výraznejších anomálií na okraji meranej plochy v hĺbke cca 1 m, ktorá je zachytená v meraniach len čiastočne a je tvorená kompaktným, pevnejším materiálom pravdepodobne kamennou zložkou. Tieto anomálie môžu súvisieť s premostením, prepojením mosta s rímskym táborom, alebo prístavom, či iným využívaním brehu. Taktiež môžu predstavovať aj moderné zásahy a zmeny, úpravy pobrežia. Informácie získané nedeštruktívnym georadarovým meraním sú prvým krokom k dôkladnému naplánovaniu archeologického výskumu v náročných podmienkach toku ako je Dunaj. Nedeštruktívny prieskum okolia piliera 1 priniesol aj ďalšie nečakané nálezy v podobe sieťových závaží. Ich datovanie je však nateraz otáznе.

Takmer v rovnakom čase sa uskutočnil aj prieskum okolia piliera 1 na súši ale aj vo vode. V bezprostrednej blízkosti piliera sa podarilo nájsť štyri rybárske závažia (tab. I: 2) a rímskej stavebnej keramiky (tab. I: 1, 3, 4). Tie sa nachádzali pred pilierom po prúde rieky. Sekundárne využívanie poškodennej stavebnej a inej keramiky nebolo Rimanom cudzie. Nálezy z Dunaja vykazujú značnú podobnosť s rybárskymi závažiami objavenými v lokalitách na rieke Rýn, jazere Wijchen alebo Island of Maurik. Niektoré z exemplárov sú považované za závažia vyrobené ešte v dobe rímskej, za sekundárneho využitia staršej strešnej krytiny z 1. storočia. Typológiu rímskych závaží vypracovali na základe nálezov z Izraela a blízkeho okolia bádatelia E. Galili, B. Rosen a J. Sharvit. Lov rýb v Dunaji v dobe rímskej dokladajú nielen sieťové závažia ale najmä rybie kosti. Pri spracovaní archeozoologického materiálu z výskumu v Iži sa potvrdil výskyt rybích kostí ako doklad konzumácie rýb.

Obr. 1. Kresba Brigetia a rímskeho tábora na severnom brehu od J. Millesa z roku 1737 (*Kubitschek 1931, 203*).

Obr. 2. Pódorys rímskej pevnosti v Iži na základe archeologických vykopávok J. Tótha-Kurucza (*Tóth-Kurucz 1908, 45, 46, obr. III*).

Obr. 3. Ján Rajtár počas prvých výskumov na Dunaji v roku 1978 (archív AÚ SAV).

Obr. 4. Prerušovanou čiarou je vyznačené možné rozšírenie oblastí anomálií alebo ich prepojenie so štruktúrami viditeľnými pri sonarovom prieskume (autor I. Murín). Legenda: a – kompaktnější výplň, kameň; b – nespevnená výplň, kameň, suť; c – nespevnený materiál, štrk, kamene; d – jemnejší sediment, piesok.

Obr. 5. Výsledky prieskumu rozdelené do niekoľkých skupín (vyznačené hnedou, červenou, oranžovou a sivou farbou). Oblasť anomálií je tvorená menej homogénnou výplňou, ako sú menšie kamene a väčšie štrky, je vyznačená červenou farbou. Modro-sivá farba označuje homogénnu výplň, ktorú pravdepodobne tvorí sprašová hlina, piesok a drobnejší štrk (autor I. Murín).

Obr. 6. Výsledky georadarového prieskumu sú zobrazované na porovnanie spolu so sonarovým prieskumom koryta Dunaja s vyznačením zvyškov mostných pilierov (autor Helicop/I. Murín).

Tab. I. Rybárske závažia vyrobené z rímskej strešnej krytiny (1, 3, 4) a pieskovca (2) všetky sa našli okolo piliera 1 (zdroj: AÚ SAV).

ARCHÄOLOGISCHE METHODIK IN CARNUNTUM

Eine Standortbestimmung

Christian Gugl – Silvia Radbauer – Mario Wallner

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Keywords: Carnuntum, Pannonia, geophysical prospection, methodology, digital humanities

Abstract: **Archaeological methodology in Carnuntum. An assessment of the situation.** Over the past two to three decades, archaeological research in Carnuntum has undergone significant transformation, driven primarily by technological innovations. Around 2000, archaeological prospection emerged as a pivotal methodology in urban archaeological studies at Carnuntum. Concurrently, digitization advanced rapidly across numerous archaeological disciplines. These developments extended far beyond Carnuntum, profoundly impacting urban archaeology and fundamentally transforming scientific approaches to ancient settlement studies. The authors have witnessed this dynamic and challenging period of change, from university archaeological training without computers to today's digitally-enhanced field practices. Carnuntum has consistently served as a proving ground for technological innovation, and this paper aims to characterize current archaeological methodologies to better understand and appreciate the transformations of the past five decades.

EINLEITUNG

In den letzten zwei bis drei Jahrzehnten hat die archäologische Forschung in Carnuntum eine Reihe von grundlegenden Änderungen erfahren, die in erster Linie auf einige technische Innovationen zurückzuführen sind. Spätestens um das Jahr 2000 konnte sich die archäologische Prospektion als eine neue wichtige Methode in der archäologischen Siedlungsforschung in Carnuntum etablieren. Gleichzeitig machte die Digitalisierung vieler archäologischer Arbeitsbereiche große Fortschritte. Diese Entwicklungen waren nicht nur auf Carnuntum beschränkt, sondern ein Phänomen, dass die gesamte römische Siedlungsarchäologie tiefgreifend umkrempelte. Die Autoren dieser Zeilen – und wir nehmen an, gerade auch der Jubilar – haben diese spannende und herausfordernde Zeit des Umbruchs miterlebt, von der universitären Ausbildung her geprägt von einer Archäologie ohne Computer, primär gestützt auf Papier und Bleistift – und vielleicht auch stärker fokussiert auf Befunde und Funde.

Carnuntum war schon immer eine Spielwiese für technische Neuerungen. Dieser Beitrag gibt einen Überblick über die Entwicklung der archäologischen Methodik in Carnuntum in den letzten Jahrzehnten. Die Autoren beschreiben den Paradigmenwechsel von großflächigen Ausgrabungen hin zu zerstörungsfreien Prospektionsmethoden und die zunehmende Digitalisierung in der Archäologie. Sie diskutieren aktuelle Herausforderungen bei der Datenerfassung, -verwaltung und -auswertung sowie zukünftige Strategien zur Bewältigung der wachsenden Datenmengen. Dabei werden viele Aspekte angesprochen, die im Rahmen dieses Beitrags nicht in allen Details ausdiskutiert werden können. Der Text bietet eine Standortbestimmung der archäologischen Forschung in Carnuntum und reflektiert die methodischen Veränderungen der letzten 50 Jahre.

PARADIGMENWECHSEL IN CARNUNTUM: VON DEN GROSSGRABUNGEN DER VERGANGENHEIT ZU GROSSRÄUMIGEN ARCHÄOLOGISCHEN PROSPEKTIONSPROJEKTEN

Mit dem Ende der Großgrabungen in Carnuntum konnte sich die archäologische Prospektion immer mehr in Szene setzen. Mehrere Jahrzehnte lang, von 1978 bis 2004, war archäologische Siedlungsforschung in Carnuntum gleichbedeutend mit den Grabungen auf den Mühläckern, im Auxiliarkastell, auf dem Pfaffenberg und in den Randbereichen der Zivil- und Militärstadt (*Kandler 2004*), die von Bauvorhaben, ausgelöst



Abb. 1. Aktueller Gesamtplan von Carnuntum. 1 – Tempelbezirk für die orientalischen Gottheiten; 2 – Tempelbezirk für Liber und Libera; 3 – Forumsthermen/Macellum („Palastruine“); 4 – Forum; 5 – Stadtviertel (Archäologischer Park); 6 – Lager der Statthaltergarde. In Orange – Grabungsergebnisse, in Rotbraun – Prospektionsergebnisse (Geophysik, Luftbild). © M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

durch die anhaltende Siedlungserweiterung von Petronell und Bad Deutsch-Altenburg sowie den Bau von Infrastruktureinrichtungen (Straßen, Wasserleitungen) bedroht wurden (Abb. 1). Einrichtungen wie das Österreichische Archäologische Institut (ÖAI) und das Museum Carnuntinum mussten einen großen Teil ihrer Ressourcen aufbringen, um denkmalpflegerische Aufgaben zu erledigen. Die Situation in Carnuntum war damit durchaus vergleichbar mit Plätzen in anderen österreichischen Bundesländern, wo die Museen ebenfalls grundlegende denkmalpflegerische Tätigkeiten leisteten. Bei der Größe von Carnuntum war es dabei von Vorteil, dass neben dem Museum auch eine Forschungseinrichtung wie das ÖAI intensiv mit dieser Herausforderung betraut wurde. Trotz dieser Aufgabenteilung stellte sich aber letztendlich heraus, dass die Ressourcen angesichts der Größe der Aufgabe nicht ausreichten. Eine koordinierte Dokumentations-, Verwaltungs- und Publikationsstrategie zwischen den Hauptprotagonisten kam – nicht zuletzt auch wegen persönlicher Differenzen – nicht zustande.

Eine Folge dieser Entwicklung zeigte sich erst in den letzten Jahrzehnten in aller Deutlichkeit. Die langfristige Bindung der Ressourcen des ÖAI in der Denkmalpflege führte zu einem Aussetzen der Forschungsgrabungen, die zwar 1968 im Legionslager begonnen wurden, bald danach aber wegen der erforderlichen Notgrabungen eingestellt werden mussten. In den folgenden Jahren wurde zwar wichtige Forschungsarbeit geleistet, sowohl zu militärischen Anlagen wie dem Carnuntiner Auxiliarkastell oder zur Sakraltopographie wie der Freilegung des Tempelbezirks für die orientalischen Gottheiten sowie des Heiligtums für Liber und Libera (Abb. 1: 1, 2). Durch die jährlich stattfindenden, monatelangen Grabungen wurde zudem eine enorme Vielfalt an archäologischen Quellen erschlossen. Für eine damit Schritt haltende Aufarbeitungs- und Publikationsleistung reichten die Ressourcen allerdings nicht aus. Die neuen Grabungsergebnisse ließen sich vielfach nur in Form von Vorberichten publizieren oder man fokussierte sich auf Einzelaspekte, die man mit Detailstudien zur Veröffentlichung brachte (z.B. *Cencic/Jobst* 2004; *Humer/Kandler* 2003; *Kandler* 1987; 2001). Die Zunahme der archäologischen Quellen durch den kontinuierlichen Grabungsfortschritt und deren Dokumentation und Aufarbeitung standen spätestens in den 1990er-Jahren in keiner guten Relation. Selbst an einem zentralen Grabungsplatz wie dem Auxiliarkastell war es trotz zweier inhaltsreicher Monographien (*Kandler* 1997; *Stiglitz* 1997) nicht möglich, wesentliche Aspekte der Baugeschichte des Lagers nachvollziehbar darzulegen. Viele Fragen zu den Befunden, zu den Funden und zur Funktion und Chronologie des Reiterlagers blieben deshalb offen.

Aufgrund der Fixierung auf die Denkmalpflege bestand keine Notwendigkeit nach einem übergeordneten Forschungskonzept für Carnuntum. Aus verständlichen Gründen hatten andere Dinge, wie der Erhalt bzw. die Dokumentation des archäologischen Erbes, Vorrang. Das Fehlen eines übergreifenden Forschungskonzepts, an dessen Ausarbeitung unterschiedliche Institutionen aus der Archäologie, den Altertumswissenschaften und den Naturwissenschaften eingebunden wären, wirkt leider bis heute nach und ist immer noch ein Desiderat.

Um die Jahrtausendwende setzte ein Paradigmenwechsel ein, der durch die Erfolge der Luftbildarchäologie und der geophysikalischen Prospektion ausgelöst wurde. Zunächst konnten große Teile von Carnuntum luftbildarchäologisch kartiert werden, indem Tausende von Luftbildern, beginnend von Bildserien aus den 1960er-Jahren bis in die Gegenwart, erfasst, digitalisiert, entzerrt und mit Hilfe eines Geographischen Informationssystems (GIS) ausgewertet wurden (*Doneus/Neubauer/Scharrer 2001*). Die Luftbildarchäologie lieferte erstmals aktualisierte Pläne der römischen Siedlung, die weit über den bisherigen Kenntnisstand, der in erster Linie auf Grabungsergebnissen fußte, hinausreichte. Einen Schwerpunkt der luftbildarchäologischen Studien bildeten die *canabae legionis* im Vorfeld des Legionslagers (*Doneus/Gugl/Doneus 2013*). In Carnuntum gelang es nicht zuletzt auch wegen der offenen, nahezu unverbauten Landschaft, einen vergleichsweise vollständigen Gesamtplan dieses Siedlungstyps vorzulegen. Von Anfang an wurde auf eine enge Verknüpfung der neuen Prospektionsergebnisse mit den alten Grabungsaufschlüssen und den Funden, insbesondere auch den Steindenkmälern, großen Wert gelegt. Bereits mit der Luftbildarchäologie zeigte sich, dass man über die topographische Kontextualisierung altbekannter Denkmäler neue Erkenntnisse gewinnen kann, beispielsweise mit den Grabstelen entlang der sogenannten Gräberstraße und der Verortung der Kult- und Weihedenkmäler in der gesamten Siedlung (*Doneus/Gugl/Doneus 2013*, 115–145; *Gugl/Kremer 2012*).

Einen Wendepunkt markierte zweifelsohne das Projekt „ArchPro Carnuntum“, das zwischen 2012 und 2015 unter der Leitung des Ludwig-Boltzmann-Institutes für Archäologische Prospektion und Virtuelle Archäologie und durch die Mitarbeit zahlreicher Partner umgesetzt wurde (*Neubauer et al. 2018; Wallner et al. 2021*). Das Verständnis um die Struktur und Ausdehnung der römischen Siedlung wurde in diesen Jahren auf eine neue Grundlage gestellt. Durch die Entwicklung von motorisierten Messsystemen war es möglich, insgesamt eine Fläche von 743,2 ha mit Magnetik und 232,2 ha mit hochauflösendem Georadar zu erkunden. Diese enormen Datenmengen forderten auch eine Weiterentwicklung der Software, da die am Markt befindlichen Produkte nicht in der Lage waren, mit derart umfangreichen Datenmengen umzugehen. Das ambitionierte Hauptziel des Projektes war eine integrierte Gesamtinterpretation aller zur Verfügung stehenden Datenquellen und deren Visualisierung in aussagekräftigen Karten.

Für die Wissenschaft und die Denkmalpflege sind die Ergebnisse dieses Projekts ein großer Schritt nach vorn. Zugleich zeigten sich aber auch schon die ersten Probleme bei der Auswertung derart großflächiger Prospektionsunternehmungen. Durch die motorisierte Datenerfassung im Gelände lieferte vor allem das Bodenradar eine bis dahin kaum gekannte Fülle an Informationen, deren Prozessierung und insbesondere deren Auswertung ungemein zeitintensiv sind. Derzeit sind teil- oder vollautomatisierte Verfahren noch nicht in der Lage, eine ähnliche anspruchsvolle Auswertung zu liefern, wie sie professionelle Archäologen/-innen erstellen können. Fortschritte in der Algorithmenentwicklung führen schließlich dazu, dass mit derselben Datengrundlage verbesserte Graustufenvisualisierungen erzeugt werden können, die eine erneute Interpretation der „alten Messungen“ notwendig machen. Die Messergebnisse der Jahre 2012–2015 bildeten also die Grundlage für wiederholt zu erneuernde Messbilder, sodass die Interpretation, also die Vektorisierung der Graustufenbilder, mitunter als ein nicht abgeschlossener Prozess zu verstehen ist. Die Dreidimensionalität der Radardaten erfordert im Gegensatz zu den Magnetikmessbildern einen zusätzlichen Mehraufwand, weil pro Fläche immer eine Auseinandersetzung mit mehreren Tiefscheiben erforderlich ist, um das volle Potential der Methode ausschöpfen zu können.

Aber auch nach dem Abschluss des „ArchPro Carnuntum“-Projektes wurde die zerstörungsfreie Erkundung fortgesetzt. So konnten seither mehrere bisher nicht prospektierte Bereiche im Zuge der Weiterentwicklung von Messsystemen erkundet werden. Der technische Fortschritt – sowohl in der Soft- als auch in der Hardware – führt zu einer ständigen Verbesserung der Datenqualität. Durch den Einsatz der neuesten Georadar-Systeme ist es zur Zeit möglich, die Erkundungstiefe auf bis zu 2,5 m zu erweitern. Zu den erst jüngst gemessenen Arealen zählt beispielsweise die Fläche westlich der Forumsthermen, wo sich sehr schön das antike Straßenraster und ein mögliches – zum *decumanus maximus* hin orientiertes – Heiligtum abzeichnen (Abb. 2).



Abb. 2. Carnuntum, Zivilstadt. Bodenradarmessungen des Jahres 2022 nördlich und westlich der sog. Palastruine, die zwischen 1939 und 1977 ergraben wurde (vgl. Abb. 1: 3). © M. Wallner (Geosphere Austria).

Zieht man Bilanz über die letzten 50 Jahre archäologischer Forschung in Carnuntum, so muss man die großen Erfolge dieser Zeit uneingeschränkt würdigen. Carnuntum konnte sich als international anerkanntes Zentrum der Limesforschung an der mittleren Donau etablieren. Mit den großen Erfolgen der archäologischen Prospektion in den letzten beiden Jahrzehnten ließ sich in Carnuntum ein weiteres Alleinstellungsmerkmal etablieren (Gugl/Wallner/Pollhammer 2024; Wallner *et al.* 2023). Auch für eine Auseinandersetzung mit der römischen Religion ist die Carnuntiner Sakraltopographie ein wichtiger Bezugspunkt (Kremer 2021). Dies sollte aber nicht darüber hinwegtäuschen, dass es in vielen anderen Bereichen der antiken materiellen Kultur einen großen Nachholbedarf in Carnuntum gibt.

VON RETTUNGSGRABUNGEN ZU FORSCHUNGSGRABUNGEN

An einem großen Ort wie Carnuntum wird man immer ein breites Spektrum an Forschungsfragen verfolgen können. Die Ausrichtung der Forschungen und die Gewichtung der Themen werden naturgemäß von den beteiligten Forscherpersönlichkeiten abhängen. In der Vergangenheit standen einige wichtige Fragenkomplexe im Vordergrund, die durch die Notgrabungen zwangsläufig mitbestimmt wurden. Dazu zählt seit den 1970er Jahren die kontinuierliche wissenschaftliche Auseinandersetzung mit den römischen Heiligtümern und dem Thema „Kult und Religion“ in Carnuntum (Abb. 1). Die großen Grabungen im Jupiterheiligtum auf dem Pfaffenberg und in den Heiligtümern für orientalisch-gottheiten sowie für Liber und Libera auf den Mühläckern am Ostrand der canabae lieferten dazu wichtige Bausteine.

Ähnlich umfangreich waren die großflächigen Ausgrabungen im Zentrum der Carnuntiner Zivilsiedlung im Bereich der so genannten „Palastruine“ (Abb. 1: 3), einem Komplex von Forumsthermen und Macellum nördlich des Forums (Sedlmayer 2015). Nach Abschluss dieser Grabungen konzentrierten sich die Arbeiten auf Nachgrabungen in einem Stadtviertel im Südosten der römischen Siedlung, die durch die Umgestaltung und Erweiterung des Archäologischen Parks ausgelöst wurden (Abb. 1: 5). Zentrale Fragen zur römischen Stadt konnten damit aber nicht geklärt werden, wie etwa die Suche nach einem vormunizipalen Vicus und damit zusammenhängend die Ursprünge der Zivilstadt (Gugl *et al.* 2023a; 2024). Die Entwicklung des Stadtzentrums ließ sich erstmals mit der Bearbeitung der Ausgrabungen in der „Palastruine“ aufzeigen, aber viele Fragen zu den Veränderungen des Stadtbildes im 3. und 4. Jh. sowie zur Aufgabe der Siedlung in der Spätantike können erst ansatzweise diskutiert werden.

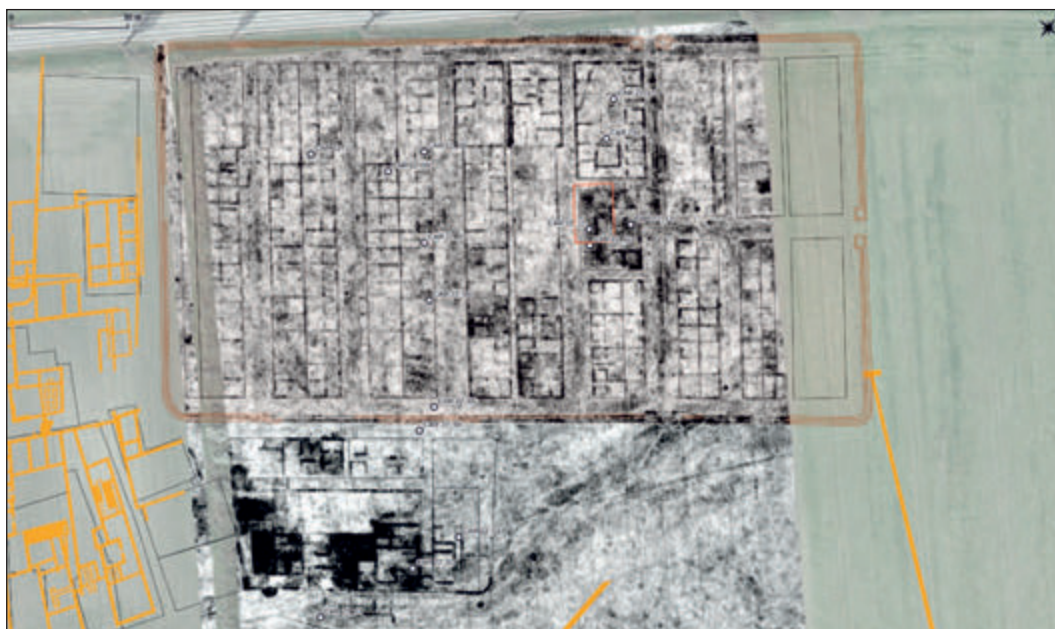


Abb. 3. Carnuntum, canabae legionis. Bodenradarmessungen und geoarchäologische Bohrungen im Bereich des Statthaltersitzes. In orange – Ausgrabungen vor 1914; rot umrandet die Grabungsfläche von 2022/2023; weiße Kreise – Bohrprofile (Rammkernbohrungen). M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

Ein dritter großer Themenkomplex waren die Bauten des römischen Heeres in Carnuntum, zu denen das Legionslager, das Auxiliarkastell, mindestens 20 temporäre Lager sowie das Lager der Statthaltergarde zählen. Die 2022 und 2023 durchgeführten Ausgrabungen in der Garnison der Statthaltergarde (Abb. 1: 6) waren die ersten größeren Forschungsgrabungen in Carnuntum seit langem (Gugl *et al.* 2023b). Gemeinsam mit dem am Ostrand von Virunum gelegenen Militärlager (Gugl *et al.* 2014) sind die Carnuntiner castra singularium eine der wenigen bekannten militärischen Anlagen an Statthaltersitzen, die der Unterbringung der zum Gouverneur abkommandierten Truppen dienen (Abb. 3; Gugl/Wallner/Neubauer 2021). Ein großer Teil des insgesamt ca. 1,73 ha großen Lagerareals konnte mit unterschiedlichen geophysikalischen Prospektionsmethoden untersucht werden. Ergänzende geoarchäologische Bohrungen mit einer Rammkernsonde lieferten Einblicke in den groben Schichtaufbau und die zu erwartende maximale Tiefe der archäologischen Strukturen. Freigelegt wurden mehrere Räume im rückwärtigen Teil der principia sowie der angrenzende Straßenraum und ältere frühkaiserzeitliche Strukturen unter dem Zentralgebäude des Lagers.

Den Kern der principia bildet das Lagerheiligtum (Raum 1; Abb. 4). In seiner letzten Ausstattung befand sich in der Nordwestecke des Heiligtums ein rundliches, etwa 60 cm hohes Ziegelplatten-Podium, das von einem mit Lehm gebundenen Steinkranz eingefasst wurde (Periode 3). In dieselbe Bauphase dürfte auch der mit einer Schlauchheizung ausgestattete nordwestliche Eckraum des Zentralgebäudes gehören (Raum 3), in dem Wandmalereireste mit der Darstellung eines Medusenhauptes zum Vorschein gekommen waren. Die Periodisierung und Datierung des Gebäudes konnte insbesondere durch die Ausgrabungen im Korridor vor dem Lagerheiligtum geklärt werden (Vorraum 1 und 2). Der letzte, mit erstaunlich wenig Aufwand und Sorgfalt ausgeführte Umbau (Periode 3) erfolgte nicht vor 240/241 n. Chr. Im durchlaufenden Korridor wurde zu dieser Zeit eine einfache, querverlaufende Trockenmauer eingezogen. In Periode 2, die man aus derzeitiger Sicht in die (spät-)antonisch-severische Zeit datieren darf, war noch die Aufteilung des Gebäudes in eine rückwärtige Raumreihe mit dem Lagerheiligtum und seinen Nebenräumen sowie dem vorgelagerten Korridor vorhanden. Von Periode 1, die man ab der ersten Hälfte des 2. Jhs. ansetzen kann, haben sich kaum Mauerreste, jedoch ein vorzüglich ausgeführter Ziegelsplittmörtelstrich in Vorraum 2 und im Eingangsbereich von Raum 2 erhalten. Auffällig war eine alternative Nutzung des Gebäudes in den Umbauphasen zwischen Periode 1 und 2 bzw. insbesondere zwischen den Perioden 2 und 3. Es konnten zahlreiche Öfen bzw. „Werkplätze“ (unbekannter Funktion) dokumentiert werden. Im Fundmaterial trat ein ungewöhnlich hoher Anteil an Speiseresten (Tierknochen) und Gefäßkeramik zutage. Ausschlaggebend für die zeitliche Einordnung



Abb. 4. Carnuntum, Statthaltersitz. Ausgrabungen in den Principia des Lagers der Statthaltergarde. Raum 1 – *Aedes principiorum*. M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

der Aufgabe des Zentralgebäudes ist das Keramikspektrum, das in der zweiten Hälfte des 3. Jhs. abbricht, sowie eine 50 Stücke umfassende Münzreihe von der gesamten untersuchten Fläche, die mit Prägungen von Gallienus, Claudius Gothicus und Aurelianus in den 270er-Jahren endet.

Die größte Überraschung kam jedoch unter den Planierschichten des Lagerheiligtums zutage. Unmittelbar über dem anstehenden Boden kamen die Reste eines älteren römischen Gebäudes zum Vorschein. Die Ausrichtung dieses Vorgängerbaus, der mit polychromer Wandmalerei ausgestattet war und Lehmziegel- bzw. Lehmfachwerkwände aufwies, weicht um ca. 5–7° von den Fluchten der principia ab. Von diesem Gebäude konnte ein Raum mit einem qualitätvollen Mörtelstrich freigelegt werden, der überraschenderweise von einem später errichteten Sechspostengrubenhaus durchbrochen wurde. In der in flavisch-trajanische Zeit zu datierenden Verfüllung des Grubenhauses wurden neben Speiseresten und römischer Keramik auch handgemachte germanische Gefäße sowie Gefäße, die man in der archäologischen Fachliteratur als „boisch“ bezeichnet, geborgen.

Diese Entdeckungen werfen ein etwas anderes Licht auf die Entstehung und Entwicklung der Lagervorstadt, als man es bisher im Vorfeld des Legionslagers für möglich gehalten hätte. Im Laufe des 1. Jhs. wurde ein doch qualitativvoll ausgestattetes römisches Gebäude von einem Grubenhaus abgelöst, das wahrscheinlich als Webhütte diente. Ein solcher Vorgang ist ohne einschneidende Veränderungen in den Besitzverhältnissen der Bewohner der Lagervorstadt nicht vorstellbar. Am ehesten könnte man sich derartige Neuaufteilungen im Kontext von Truppenverlegungen erklären, im Zuge derer auch immer wieder Teile der canabae-Bewohner mit den Truppen an den neuen Garnisonsort gezogen sind. Dies hätte neuen Siedlern die Chance eröffnet, sich in den Carnuntiner canabae niederzulassen. In Carnuntum könnte dieser Migrationsvorgang beispielsweise in den 60er-Jahren des 1. Jhs. durch den Abzug der legio XV Apollinaris in den Osten ausgelöst worden sein, die erst 71 n. Chr. wieder aus dem Orient an die mittlere Donau zurückkehrte (Mosser 2003, 15–24).

Aktuell wird der Frage nachgegangen, ob nordöstlich von Carnuntum nicht doch auch ein römisches Brückenkopfkastell existierte (Abb. 1). Berücksichtigt man die Situation beim benachbarten Legionslager von Brigetio, wäre auch hier eine mit dem Kastell von Iža-Leányvár (Rajtár 1992) vergleichbare militärische Anlage nicht überraschend. Seit der Mitte des 19. Jhs. gibt es Nachrichten über römische Mauerreste und Funde an einem Altarm der Donau (Rosskopfarm) östlich von Stopfenreuth an einer Lokalität, die mit dem Namen „Ödes Schloss“ bezeichnet wird (Abb. 5). Bei Niedrigwasser sind dort im Landschaftsschutzgebiet der Donau-March-Thaya-Auen noch immer die imposanten Mauerreste zu erkennen, die Maximilian von Groller Ende des 19. Jhs. auf einem Plan dokumentierte (von Groller 1900). Zu Jahresbeginn 2024 im aufgelockerten Auwald durchgeführte Bodenradarmessungen ermöglichen es jetzt, die Lage dieses alten Plans so zu



Abb. 5. Donauauen bei Stopfenreuth, heute noch sichtbare Mauerreste des „Öden Schlosses“, hinterlegt mit dem Kastellgrundriss von Iža-Leányvár. M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

verorten, dass man über die gezielte Anlage einer Sondage nachdenken kann, um zumindest die (römische?) Zeitstellung und die Bauweise dieser Befestigung zu klären. Ein innen oder außen ansetzender Eckturm ist auf dem vorliegenden Plan nicht zu erkennen. Die damals freigelegte abgerundete Ecke und die ansetzenden Kurtinenreste lassen unterschiedliche Rekonstruktionsmöglichkeiten zu, etwa eine Befestigung in der Größe von rund 0,5 ha (Numeruskastell) oder aber auch in einer Größenordnung von etwa 3–4 ha, die den Steinkastellen in Iža-Leányvár oder dem Auxiliarkastell von Carnuntum entspräche. Grundsätzlich wäre die Lage eines römischen Brückenkopfkastells – unweit der heutigen Donaubrücke – aus geomorphologischen Gründen verständlich, weil die die Donau begrenzenden Niederterrassen des Nord- bzw. Südufers einen vergleichsweise geringen Abstand aufweisen. Ein Überschreiten der Donau wäre somit hier sicherlich leichter zu bewerkstelligen gewesen als anderswo.

„MATERIALSCHLACHTEN“



Abb. 6. Hauptkomponenten des Dokumentationsworkflows auf den Ausgrabungen in Carnuntum (Stand 2023). C. Gugl (ÖAW-ÖAI).

Antike Siedlungsagglomerationen wie Carnuntum stellen an die Erfassung, Verwaltung und Auswertung von archäologischen Befunden und Funden besondere Ansprüche. Die großen Mengen an Informationen, die bei Ausgrabungen direkt oder in der Folge davon anfallen, lassen sich bei fehlender Planung und/oder fehlendem Fachpersonal nicht sinnvoll verarbeiten. In Zeiten der Digitalisierung kommt deshalb der Etablierung erprobter Workflows und dem Datenmanagement eine nicht zu unterschätzende Rolle zu. Für die Forschungsgrabungen der letzten Jahre konnte ein Workflow entwickelt werden, dem das Konzept stratigrafischer Grabungen, wie sie das Österreichische Bundesdenkmalamt (BDA) vorgibt, zugrunde liegt (BDA 2024).

In Abb. 6 sind die wesentlichen Komponenten dieses Workflows zusammengestellt:

- Die exakte Einmessung der Grabung mit den Fixpunkten erfolgte über eine subzentimeter-genaue Aufnahme mit einer Totalstation. Für die dreidimensionale Einmessung der Schichtgrenzen (SE = stratigraphischen Einheiten) und von Funden erwies sich eine Aufnahme mit einem GPS-RTK-System als ausreichend, mit dem man in der Regel Genauigkeiten von 2–3 cm in Lage und Höhe erreichen kann. Über das Smartphone zu steuernde Lösungen, wie das EMLID-System, sind aufgrund der benutzerfreundlichen Eingabemöglichkeiten besonders geeignet.
- Die fotografische Dokumentation der Dokumentationsoberflächen (DOF) in Form von Schrägaufnahmen hat nach den Richtlinien des BDA gewisse Elemente, wie einen Nordpfeil, einen Maßstab bzw. Fluchtstangen sowie eine Fototafel mit der Angabe der Kurzbezeichnung der Grabung, der Maßnahmennummer (Bewilligungsnummer), der SE-Nummern sowie des Datums, zu erfolgen.
- Auch der nächste Schritt der Dokumentation ist fotografisch, indem mit einer Vielzahl von sich größtenteils überlappenden Fotos eine dreidimensionale Punktwolke und eine davon abgeleitete Oberfläche (Mesh) generiert werden. Auf der Grabung selbst erfolgt nur die Dokumentation der Oberfläche mit einer geeigneten Kamera. Das 3D-Modell als Endprodukt dieses Aufnahmeverfahrens (IBM = Image Based Modelling) steht erst nach einem aufwändigen Rechenprozess – in der Regel – am Folgetag zur Verfügung.
- Im Jahr 2023 konnten die Vor- und Nachteile einer 3D-Aufnahme mit einem Apple iPad oder iPhone getestet werden. Die neueren Geräte dieses Herstellers verfügen über einen eingebauten Lidar-Sensor, der in Kombination mit der Gerätekamera die Aufnahme eines Objekts oder einer DOF auf der Grabung erlaubt. Innerhalb von etwa 15 Minuten sind das Scannen und das Prozessieren der Daten abgeschlossen, sodass das Resultat der Aufnahme beurteilt und weiterverarbeitet werden kann (Paukkonen 2023). Verwendet man ein iPad mit einem Eingabestift, kann man im Anschluss daran direkt auf einem Orthophoto oder einer anderen Visualisierung der 3D-Daten – annähernd wie auf einem Blatt Papier – schreiben und zeichnen. Die Qualität dieser 3D-Modelle bzw. der davon abgeleiteten Orthofotos ist so gut, dass man zumeist jeden Stein in der Größe von 3–5 cm unterscheiden kann. Die Qualität der Textur ist sicherlich nicht mit den oben beschriebenen photogrammetrischen Aufnahmen vergleichbar, bei der eine Spiegelreflexkamera verwendet wird, aber sie ist für viele weitere Arbeitsschritte ausreichend. Die mit dem iPad/iPhone erzeugten 3D-Modelle zeigen genügend Details, um daraus einen Plan abzuleiten. In Carnuntum und Troesmis durchgeführte Genauigkeitsstudien haben gezeigt, dass die Abweichungen in einem Bereich von 1–3 cm liegen, also durchaus mit der Qualität von Handzeichnungen (Maßstab 1 : 20) mithalten können (Abb. 7).
- Der deskriptive Teil der Dokumentation stützt sich zur Zeit noch sehr stark auf eine Datenerfassung über vom BDA bereitgestellten PDF-Formulare. Diese umfassen digitale Beschreibungsblätter für verschiedene Befundkategorien (Schichten, Mauern, Gräber, ...) sowie Listen, insbesondere eine Überblicksliste für alle stratigraphischen Einheiten. Die Beschreibungsblätter beinhalten auch einen Bereich für die Dokumentation der stratigraphischen Beziehungen. Für die Erstellung einer Harris-Matrix empfiehlt es sich jedoch, auf eine Spezialsoftware wie den Harris Matrix Composer zurückzugreifen. Ein Grabungsprotokoll, das den Grabungsfortschritt festhält, rundet die Dokumentation ab.
- Bei der Fundverwaltung besteht der erste Schritt in einer tabellarischen Erfassung der Funde nach Fundgattungen, gegliedert nach den SE-Nummern und Fundnummern, die umgehend als Fundliste



Abb. 7. Carnuntum, Statthaltersitz/Ausgrabungen in den Principia des Lagers der Statthaltergarde: mit dem iPad erstelltes und in QGIS georeferenziertes Orthophoto der Befunde in Vorraum 2. C. Gugl (ÖAW-ÖAI).

vorliegen. Bei der weiteren Versorgung der Funde ist die Unterstützung durch das Museum Carnuntum von großer Bedeutung, wobei das Reinigen der Funde sowie die Verpackung und die Lagerung des Fundmaterials im Depot des Landes Niederösterreich in der Kulturfabrik in Hainburg (KUFA) erfolgen kann.

In der KUFA gibt es sehr gute Voraussetzungen, um das Fundmaterial auszulegen, Anpassungen durchzuführen und die Artefakte den eigenen Anforderungen entsprechend zu dokumentieren. Eine große Herausforderung sind die enormen Materialmengen, die bei Siedlungsgrabungen in besonderem Ausmaß anfallen. Neben der Baukeramik und der Wandmalerei, die bei der Lagerung mitunter große Kubaturen beanspruchen, sind dies die zahlreichen Tierreste sowie Erdproben, entnommen für weitere bio- und geoarchäologische Untersuchungen. Die in der Archäologie umfangreichste Materialgruppe ist in der Regel die Gefäßkeramik, der wir in den letzten beiden Jahrzehnten die größte Aufmerksamkeit gewidmet haben. Eine

Tabelle 1. Überblick über den Stand der Datenerfassung des ÖAI-Teams in Carnuntum. Datenerfassung S. Radbauer, M. Kronberger (2009–2022). © S. Radbauer, C. Gugl (ÖAW-ÖAI).

Ausgrabung/Survey	Gefäßkeramik	Baukeramik	Anderes
Zivilstadt/Westvorstadt, Ausgrabungen 1976	24.235	41	2.530
Gladiatorenschule, Survey 2012	7.510	9.384	491
Limesgasse, Ausgrabungen 2016	4.577	147	1.910
Gstettenbreite, Survey 2017	7.860	7.532	1.115
Gstettenbreite, Ausgrabungen 2017	1.763	261	1.557
Canabae, Survey 2009/10	8.731	6	73

Erstellt mit Datawrapper

erste Vereinheitlichung der Aufnahmeprozesse erfolgte bereits im Zuge des Canabae-Surveys, der zwischen 2009 und 2010 in den Randbereichen und im Vorfeld der Lagervorstadt durchgeführt wurde (Gugl/Radbauer/Kronberger 2015). In der Folge ließ sich die Artefakterfassung in einer relationalen Datenbank (Microsoft Access) derart optimieren, dass die Daten in zwei verknüpften Tabellen abgelegt werden: eine für den Gesamtbestand der Funde und eine zweite für die Detaillierung signifikanter Artefakte, die bereits als Vorstufe für einen Katalog dient.

Die Gesamtanzahl der von unserem Team erfassten Artefakte ist mittlerweile beachtlich und umfasst sowohl Funde aus Ausgrabungen als auch von Feldbegehungen (Tabelle 1). Unterrepräsentiert

Tabelle 2. Klassifikation der Gefäßkeramik nach Typen und Parallelen in Carnuntum. Häufigkeit ihres Vorkommens. Klassifizierung der Gefäßkeramik S. Radbauer (2012–2022). © S. Radbauer, C. Gugl (ÖAW-ÖAI).

Vorkommen	1-5	6-10	11-20	21-40	41-60	61-80	81-100	101-500	501-1200	1201+
Parallele	307	43	13	11	3	1		1		
Typ	211	41	41	24	21	5	6	10	2	
Unbestimmt										1

Erstellt mit Datawrapper

tiert sind allerdings nach wie vor datierende Fundkontexte mit zeitlich homogenen Fundensembles. Bei der Klassifizierung der Gefäßkeramik kommen zwei verschiedene Konzepte zur Anwendung (Tabelle 2). Wenn möglich, werden die Gefäße formtypologisch bestimmt, wobei auf die in Carnuntum bereits vorliegenden Typologien (Gugl et al. 2023a, 100), die in der Regel keramikgattungsspezifisch entwickelt wurden, zurückgegriffen wird. Falls dies nicht durchführbar ist, arbeiten wir mit Parallelen (Analogien), wobei bei der Klassifikation der entsprechende Tafel- bzw. Abbildungsverweis zur Anwendung kommt. Von derzeit 15 597 signifikanten Gefäßen (Stand: 2022) lassen sich 8 915 näher klassifizieren, wobei sich dieser Datenbestand auf 740 unterschiedliche Klassen aufteilt. Gefäßkeramikklassen, die mehr als 40 mal vorkommen, werden durch die bestehenden Typologien gut abgebildet. Bei Gefäßkeramikklassen, die maximal zehnmal erfasst wurden, spielen hingegen Verweise auf Parallelen eine größere Rolle. Entscheidend ist ferner die Zeitstellung, denn das 2. und 3. Jh. wird durch Typologien deutlich besser abgedeckt als die Spätantike. Dieser Umstand spiegelt sich beispielsweise bei der Vorlage der Gefäßkeramik aus der Zivilstadt (Tabelle 1: Ausgrabungen 1976) deutlich wider, einem Fundspektrum, das den Zeitraum von flavischer Zeit bis in die erste Hälfte des 5. Jhs. umfasst (Gugl et al. 2023a, Taf. XXXVI–LVII).

ZUKUNFTSSTRATEGIEN

Für die nächsten Jahre gibt es eine Reihe von Herausforderungen zu bewältigen, die nicht zuletzt durch die laufenden technischen Fortschritte entstehen. Am ÖAI wurde die abteilungsübergreifende Forschungsinfrastruktureinrichtung „Digital Archaeology and Classics“ (DAC) eingerichtet, um die Kompetenzen des Instituts im Bereich der Digital Humanities zu konzentrieren. Um das Datenmanagement zu erleichtern, wird man bei der Datenerfassung im Feld sowie der Weiterverarbeitung der erhobenen Daten eine Reihe von Entscheidungen treffen müssen:

- Sinnvoll ist ein verstärkter Gebrauch von Open Source Software (OSS), solange damit dieselben Aufgaben erfüllt werden können wie mit proprietärer Software. Dies dient sowohl dem Abbau von Abhängigkeiten als auch der Reduzierung von Lizenzkosten. In der Regel arbeitet OSS auch mit offenen Dateiformaten, die für die Weiterverarbeitung und Archivierung eine größere Flexibilität bietet.
- Verstärkt wird man sich der Entwicklung von Workflows widmen müssen, die softwareseitig auf der Grundlage von OSS aufbaut, um möglichst viele Arbeitsschritte in einer Arbeitsumgebung abzudecken und auch die Heterogenität der Dateiformate zu reduzieren. Bei Ausgrabungen und Surveys bzw. bei allen Aktivitäten, die raumbezogene Daten verarbeiten, kommt dabei GIS zum Einsatz. GIS hat aber nach wie vor große Schwächen beim Umgang mit (umfangreichen) 3D-Daten. Die Verbindung zwischen einem GIS und seinen Attributdaten, die als relationale Datenbanken strukturiert sind, und einem Graphen, wie er zum Beispiel durch die sogenannte Harris-Matrix repräsentiert wird, ist nach wie vor nur ansatzweise gelöst. Erste Schritte diesbezüglich gibt es sowohl von Seiten kommerziell-proprietärer Softwareentwickler (Esri ArcGIS, Harris Matrix Composer) als auch über OSS-Lösungen (QGIS inkl. Plugins, yEd). Gerade letzterer Ansatz wird derzeit am ÖAI verfolgt.
- Bei überschaubaren Einzelprojekten mögen Desktop-Datenbanksysteme eine gute Wahl sein, bei größeren Plätzen mit kontinuierlicher Forschungsaktivität zeigen sich aber bald deren gravierende Nachteile. Derzeit werden servergestützte Datenbanklösungen wie Baserow sowohl vom ÖAI als auch vom Austrian Center for Digital Humanities (ACDH) an der Österreichischen Akademie der Wissenschaften (ÖAW) aufgebaut, die zahlreiche Vorteile bieten. Allerdings befinden sich diese Systeme für Carnuntum noch im Aufbau und sind bisher nicht im Einsatz. Eine Online-Plattform ermöglicht mehreren Teammitgliedern an einem Projekt zu arbeiten. Der Arbeitsfortschritt kann sehr transparent dargestellt werden. Technisch sind Online-Datenbanken um einiges einfacher zu betreiben, sowohl im Hinblick auf die Datenmodellierung und die Datensicherheit als auch mit der Absicht, harmonisierte Begriffe bzw. kontrollierte Vokabulare bei der Datenerfassung zu implementieren. Der letztgenannte Aspekt ist bei den Digital Humanities ein Schlüsselkonzept, um Daten semantisch aufzubereiten und sie im Internet verfügbar zu machen.

Baserow bietet als Online-Datenbank auch eine Schnittstelle, über die man auf die Datensammlungen mit einer Programmiersprache wie Python zugreifen kann. Während die Datenerfassung zentral erfolgt, lassen sich weiterführende analytische Aufgaben auch lokal durchführen. Ein Auszug der Daten kann entnommen und auf seinem eigenen Rechner mit einer Tabellenkalkulation wie Excel oder mit Programmiersprachen wie Python oder R verarbeitet werden. Je umfangreicher der Datenbestand wird, desto mehr erscheint es notwendig, eine softwaregestützte explorative bzw. grafische Datenanalyse durchzuführen (Unwin 2015). Attraktiv erscheinen web-basierte, interaktive Applikationen wie die ShinyStats, mit denen sich laufend ansprechende Visualisierungen des aktuellen Datenbestandes im Webbrowser verwirklichen lassen (Wickham 2021).

Was die Geoinformationstechnologie betrifft, so wird diese in Carnuntum bisher ausschließlich auf Desktop-Ebene eingesetzt. Die Implementierung von WebGIS-Lösungen steht noch aus, obwohl solche Systeme bereits für andere archäologische Stätten, wie beispielsweise den Grabungsplatz Ephesos, zur Verfügung stehen. Die Einführung von WebGIS-Servern für Carnuntum würde den Datenzugriff und die -analyse erheblich erleichtern und die ortsunabhängige Zusammenarbeit der Forschenden fördern. Diese Entwicklungen zeigen, dass Carnuntum zwar auf dem Weg zu moderneren, serverbasierten Lösungen ist, aber noch einige Schritte zu gehen hat, um das volle Potenzial dieser Technologien auszuschöpfen.

In Carnuntum werden auch erste Schritte unternommen, um maschinenbasiertes Lernen (ML) und Künstliche Intelligenz (KI) in der Archäologie einzusetzen. Auf den GitHub-Copilot, ein KI-Werkzeug, das sich

in die Entwicklungsumgebung einbindet und Unterstützung beim Schreiben von Computer-Code anbietet, würde man nur mehr ungern verzichten. Ferner sind Projektplanungen am Laufen, um einen ML-Workflow zu etablieren, der eine computer-gestützte Klassifikation von Gefäßkeramik leistet. Allein von der Menge her sollte in Carnuntum genügend „Trainingsmaterial“ für maschinelles Lernen vorliegen.

Vieles schlummert allerdings noch in den Archiven und ist nicht digitalisiert. Die Digitalisierung der Archivbestände aus den Ausgrabungen des ÖAI in Carnuntum ist schon vor einigen Jahren angelaufen. Zu den Core-Services, die die Einheit DAC am ÖAI entwickelt und betreibt, gehört auch eine Mediendatenbank (oeai.DAM) zur Verwaltung der digitalen Datenbestände des Instituts. Von den derzeit im System erfassten 361 543 Datensätzen sind erst 27 747 online verfügbar (Stand: 2024-02-25), ein Bruchteil davon aus Carnuntum. Die Einheit DAC verfügt ferner über große Kompetenzen bei der digitalen Erschließung und Archivierung von Datenbeständen. Mit Jahresende 2025 wird das zweijährige Projekt IUENNA abgeschlossen sein, bei dem es um die Digitalisierung, Inwertsetzung und Archivierung der archäologischen Forschungsdaten der Kleinregion Globasnitz-Hemmaberg-Jaunstein-St. Stefan im Kärntner Jauntal geht, einem Projekt, das gemeinsam von ÖAI und dem Kärntner Landesmuseum umgesetzt wird (Hagmann/Reiner 2023). Die Erfahrungen, die in diesem Projekt gesammelt werden, lassen sich gewinnbringend auf andere Plätze übertragen. In Carnuntum konnte bisher nur ein kleiner Teil der Forschungsdaten im Repositorium ARCHE archiviert werden. Dieses Repositorium wird an der ÖAW vom ACDH betrieben und ist das größte seiner Art in Österreich (Gugl/Trognitz 2020). Es bleibt zu hoffen, dass hier nicht nur die Daten aus den Forschungen zum westlichen Suburbium der Carnuntiner Zivilstadt eine möglichst lange Bleibe finden, sondern auch noch viele weitere Forschungsdaten aus Carnuntum folgen werden. Denn die Sicherung und Distribution unserer Forschungsdaten muss uns ein genauso wichtiges Anliegen sein, wie der Erhalt unseres materiellen kulturellen Erbes.

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Archeologické metódy v Carnunte

Aktuálny stav

Christian Gugl – Silvia Radbauer – Mario Wallner

Súhrn

Počas posledných dvoch až troch desaťročí prešiel archeologický výskum v Carnunte výraznými zmenami, ktoré boli spôsobené predovšetkým technologickými inováciami. Okolo roku 2000 sa archeologická prospekcia etablovala ako nová kľúčová metóda pri výskume osídlenia v Carnunte. Súčasne výrazne pokročila digitalizácia na mnohých archeologických pracoviskách. Tento vývoj sa neobmedzil len na Carnuntum, ale mal veľký vplyv na archeologický výskum sídlisk a zásadne zmenil vedecké prístupy v celej oblasti.

Autori tohto článku boli svedkami tohto vzrušujúceho a náročného obdobia zmien, od univerzitného vzdelávania v archeológii bez počítačov až po súčasný stav odboru, ktorý je výrazne podporovaný digitálnymi technológiami. Carnuntum bolo vždy skúšobným poľom technologických inovácií a cieľom tohto príspevku. Cieľom je charakterizovať súčasný stav archeologickej metodológie, aby sme lepšie pochopili a zhodnotili zmeny za posledných 50 rokov. Text opisuje zmenu paradigmy od rozsiahlych vykopávok k neinvazívnym prospekčným metódam. Celé desaťročia bol archeologický výskum osídlenia v rímskom tábore Carnuntum synonymom práce v rôznych oblastiach ohrozených stavebnými projektmi. Dlhodobé vyčlenenie dostatočných finančných prostriedkov na ochranu kultúrneho dedičstva však viedlo k pozastaveniu výskumných aktivít. Na prelome tisícročí úspechy v leteckej archeológii a geofyzikálnej prospekcii vyvolali zmenu paradigmy. Prelom znamenal projekt „ArchPro Carnuntum“ (2012–2015), ktorý využíval motorizované meracie systémy na prieskum veľkých plôch pomocou magnetometrie a pozemného penetračného radaru s vysokým rozlíšením.

Článok sa zaoberá aj nedávnymi archeologickými výskumami, vrátane tých v sídle miestodržiteľa tábora v rokoch 2022 a 2023. Tieto vykopávky priniesli nové poznatky o vývoji vojenského mesta a jeho okolia. Autori sa dotýkajú aj prebiehajúcich výskumov novej existencie rímskej predmostnej pevnosti severovýchodne od Carnunta.

Významná časť textu sa venuje problémom správy a analýzy obrovského množstva údajov, ktoré sa získavajú modernými archeologickými metódami. Autori opisujú pracovný postup vyvinutý pre nedávne výskumné projekty, vrátane presného prieskumu, fotografickej dokumentácie, 3D modelovania a rôznych techník zaznamenávania údajov. Zdôrazňujú potenciál nových technológií, ako je napríklad 3D skenovanie pomocou iPadov Apple vybavených snímačmi LiDARu. V príspevku sa venujeme aj klasifikácii a správe archeologických nálezov, najmä keramiky, ktorá predstavuje najväčšiu skupinu materiálu v archeológii. Autori diskutujú o využívaní relačných databáz na evidenciu artefaktov a o výzvach spojených so spracovaním obrovského množstva materiálu zo sídliskových výskumov.

Pri pohľade do budúcnosti sa v texte uvádza niekoľko výziev a stratégií na nadchádzajúce roky. Patrí medzi ne intenzívne využívanie softvéru s otvoreným zdrojovým kódom, vývoj pracovných postupov založených na GIS na spracovanie priestorových údajov a implementácia serverových systémov riadenia databáz. Autori sa zmieňujú aj o prvých krokoch smerom k využívaniu strojového učenia a umelej inteligencie v archeológii, napríklad pri počítačom podporovanej klasifikácii keramiky. Na záver sa článok dotýka prebiehajúcej digitalizácie archívneho materiálu z vykopávok ÖAI v Carnunte a významu

digitálnej archivácie výskumných dát. Autori zdôrazňujú, že uchovávanie a šírenie výskumných dát by malo byť rovnako dôležité ako uchovávanie hmotného dedičstva. V závere tohto príspevku je uvedený komplexný prehľad vývoja archeologickej metodológie v Carnunte za posledné desaťročia, pričom sa autori zamýšľajú nad výzvami a príležitosťami, ktoré predstavujú nové technológie a prístupy v oblasti archeológie.

Obr. 1. Aktuálny celkový plán mesta Carnuntum. 1 – chrámová štvrť pre orientálne božstvá; 2 – chrámová štvrť pre Libera a Liberu; 3 – kúpele na fóre/Macellum („ruiny paláca“); 4 – fórum; 5 – mestská štvrť (archeologický park); 6 – tábor miestodržiteľovej gardy. Oranžová – výsledky výskumov; červenohnedá – výsledky prospekcie (geofyzika, letecká snímka). © M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

Obr. 2. Carnuntum, civilné mesto. Merania georadarom z roku 2022 severne a západne od tzv. ruín paláca, ktoré boli preskúmané v rokoch 1939–1977 (obr. 1: 3). © M. Wallner (Geosphere Austria).

Obr. 3. Carnuntum, *canabae legionis*. Merania georadarom a geoarcheologické vrty v oblasti sídla miestodržiteľa. Oranžová – výkopávky pred rokom 1914; červeným orámovaná plocha výkopávok z rokov 2022/2023; biele kruhy – vrtné profily (jadrové vrty). M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

Obr. 4. Carnuntum, sídlo miestodržiteľa. Výkopávky v *principii* tábora miestodržiteľskej gardy. Miestnosť 1 – *aedes principiorum*. M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

Obr. 5. Dunajské lužné lesy pri Stopfenreuth: dodnes viditeľné zvyšky múrov „Öden Schloss“, prekryté pôdorysom kastela Iža-Leányvár. M. Wallner (Geosphere Austria), C. Gugl (ÖAW-ÖAI).

Obr. 6. Hlavné komponenty dokumentačného pracovného postupu na výkopákach v Carnunte (stav 2023). C. Gugl (ÖAW-ÖAI).

Obr. 7. Carnuntum, sídlo miestodržiteľa/výkopávky v *principii* tábora miestodržiteľskej gardy: pomocou iPadu vytvorené a v QGIS-e georeferencované ortofoto nálezov vo vstupnej miestnosti 2. C. Gugl (ÖAW-ÖAI).

Tabela 1. Prehľad o stave zberu dát tímu ÖAI v Carnunte. Zber údajov S. Radbauer, M. Kronberger (2009–2022). © S. Radbauer, C. Gugl (ÖAW-ÖAI).

Tabela 2. Klasifikácia keramických nádob podľa typov a paralel v Carnunte. Frekvencia ich výskytu. Klasifikácia keramických nádob S. Radbauer (2012–2022). © S. Radbauer, C. Gugl (ÖAW-ÖAI).

PD Dr. Christian Gugl
Österreichische Akademie der Wissenschaften
Österreichisches Archäologisches Institut
Dominikanerbastei 16
AT – 1010 Wien
christian.gugl@oeaw.ac.at
<https://orcid.org/0000-0001-6607-959X>

DDr. Silvia Radbauer
Österreichische Akademie der Wissenschaften
Österreichisches Archäologisches Institut
Dominikanerbastei 16
AT – 1010 Wien
silvia.radbauer@oeaw.ac.at

Dr. Mario Wallner
GeoSphere Austria
Hohe Warte 38
AT – 1190 Wien
mario.wallner@geosphere.at
<https://orcid.org/0000-0001-7006-8367>

ARCHAEOLOGICAL EVIDENCE OF A LATE ROMAN MILITARY CONFLICT NEAR AJDOVŠČINA (SLOVENIA)

Janka Istenič – Vesna Tratnik¹

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Keywords: Slovenia, Ajdovščina, Late Roman period, military conflict, militaria, *plumbatae*

Abstract: The recent archaeological finds that came to light on the steep southern slope of Trnovski gozd, a karst plateau located a few kilometres east and north of Ajdovščina in the Vipava Valley (Vipavska dolina in Slovenian, W Slovenia), reflect the great significance that the communication along the valley had for the Roman army, especially in the period of Roman expansion (1st century BC) and in the Late Roman period. The artefacts from the Late Roman period comprise six scatters of coins (possibly purse contents), most of the 76 individually recovered coins and at least a quarter of the non-numismatic finds largely consisting of Roman weapons. The weapons include 17 *plumbatae* and 16 three-bladed arrowheads; the damage on several of them indicates they were used in a military conflict. This evidence suggests that a large part of the Late Roman artefacts is related to a military conflict that took place in the Late Roman period, probably in the last quarter of the 4th century; preliminary coin survey implies the latest coin dates from 392 to 395. The Late Roman remains discussed in the paper are the first archaeological evidence of a military conflict in the wider area of Ajdovščina, i. e. the area considered as the probable site of the battle that the armies of Theodosius and Eugenius fought in 394.

INTRODUCTION

In the late spring of 2021, Andrej Ferletic brought to our attention a series of discoveries made between 2016 and 2020 by local history enthusiast Primož Fučka from Ajdovščina (W Slovenia). Using a metal detector, Fučka unearthed more than 200 Roman coins and a similar number of other finds, mostly Roman, in the broader area of Ajdovščina.

When examining the documentation provided by the finder, we were struck by the great number of *plumbatae*, which constitutes roughly one fifth of all published examples of these Late Roman weapons (*Pflaum 2007*, 296, fn. 43; *Vermaat 2005*, 42; *Vujović 2009*), and by four scatters of coins (possibly purse contents) from the 4th century. We deemed they indicate an important archaeological site, the evidence from which includes that related to a Late Roman military conflict with the core N of the Ajdovščina-Col road at Budanje (Fig. 1).

From the spring of 2022 onwards, the Archaeological Department of the National Museum of Slovenia has been conducting fieldwork at the site that includes analysing the LiDAR-derived data and conducting intensive field surveys with the use of metal detectors, trenching and geophysical surveys. The investigations have confirmed the data provided by the metal-detectorist, as we unearthed further pieces of military equipment of the same types as those found in 2016–2020.

This paper presents the preliminary analysis of the finds unearthed between 2017 and 2020, with an emphasis on the Late Roman period.

AVAILABLE DATA AND WORKFLOW

The finder kept records of his work that are of a very high standard for the amateur level. He kept field diaries that relate the following data for most of his finds: date of discovery, brief definition, drawing with one measurement, weight of the object, depth at which the object was found (measured from the current

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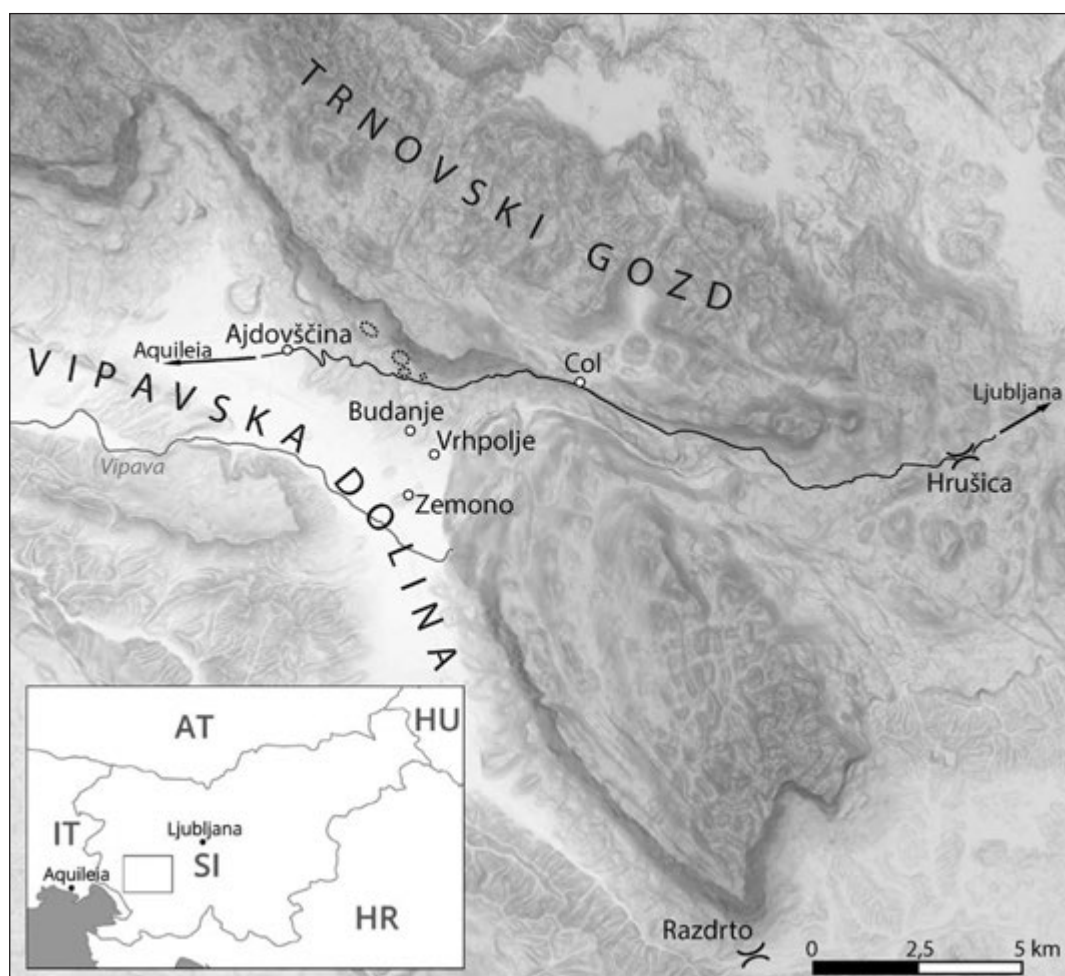


Fig. 1. The wider area of Ajdovščina with marked Ajdovščina-Col road, sites and other geographical units mentioned in the text; the areas A–D discussed in the paper are shown hatched. Map: Vida Bitenc. © National Museum of Slovenia.

surface) and spatial (GPS) coordinates, description and sometimes sketch of the findspot location, usually also his opinion on the dating. For some of the finds, the records further include photographs of the finds upon discovery. For the coin finds, he usually drew both sides in his diary, rarely only one side, and added diameter measurements.

The finder photographed all the recovered objects. He used the photographs and the context data in his diaries to create a manuscript in 2021. Even before that, on 28 May 2020, he handed over all the finds, including the coins, to the Goriški muzej in Nova Gorica.

Our analysis of the findspot data and the finds is based on the manuscript and supplemented with the data taken directly from the field diaries. Excluding the undiagnostic objects without GPS data, the analysis considered 216 Roman coins and 200 other objects.

Using typo-chronological criteria, each object was identified as to its dating and function (costume, tool, weapon, military outfit and equipment, coin, other, unidentified). Three non-numismatic finds could be dated more precisely as they were a cluster find. We verified the finder's dating of the coins as far as the available data permitted. The spatial distribution of objects according to time periods was analysed using Q-GIS.

DATING AND FUNCTION

A comparison of the data in the diaries and in the manuscript reveals that the finder, who possesses a good knowledge of the artefacts for an amateur, included in the manuscript all the finds that he positively or po-

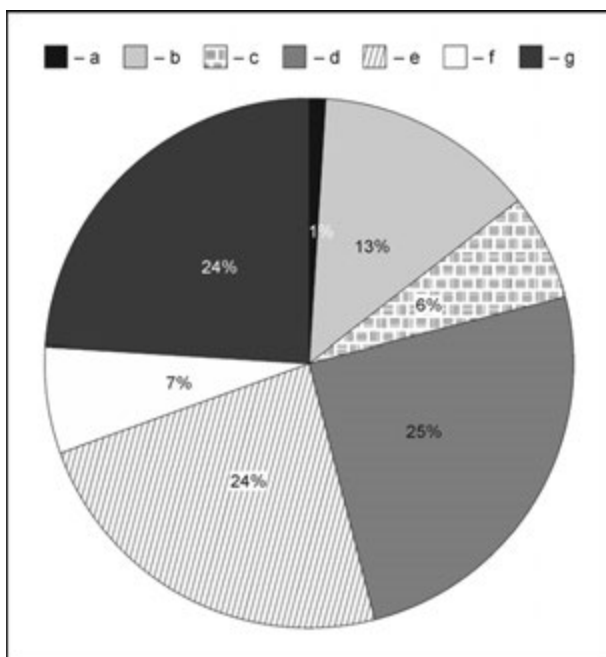


Fig. 2. Chronological distribution of the non-numismatic finds from the site with the core near Budanje E of Ajdovščina. Legend: a – prehistory; b – roman, 1st c. BC; c – roman, late 1st c. BC–3rd c. AD; d – Late Roman–6th c.; e – broader dating including Late Roman period; f – Middle Ages and later; g – not specified.



Fig. 3. *Plumbatae* from Areas A (1–3) and D (4) of the site with the core near Budanje. Length: 100 mm (1), 128 mm (2), 124 mm (3) and 135 mm (4). Photo P. Fučka.

tentially identified as prehistoric, Roman or early medieval, but excluded most objects he deemed later. The finder's selection therefore did not affect the numerical proportions of the finds from prehistory to and including the early medieval period.

The chronological distribution of the finds is shown in Fig. 2. Two finds are from the Metal Ages of prehistory. There is ca. 13% of finds from the 1st century BC; one is a brooch and all others are hobnails of Roman military footwear (Alesia types; cf. *Istenič 2019*). Roughly 6% of finds date from the late 1st century BC to the 3rd century AD, not including the numerous hobnails that postdate ca. 15 BC but cannot be dated more precisely within the Roman Imperial period (cf. *Istenič 1987*, 107, 108, pl. 4: 9; 6: 9; 8: 4; 10: 10; 2019, 278, 279). Dating to and including the 2nd century are the *kräftig profilierte Fibeln*, which are not associated with the Roman army. The five objects dated to the 3rd century are mounts of military belts or pieces of horse equipment.

A quarter of the finds can be attributed to the Late Roman period up to the 6th century. They are weapons and other objects associated with the Roman army. Offensive weapons predominate, mainly *plumbatae* (Fig. 3; 17 pieces, four of which only survive as lead weights; cf. *Höck 2003*, 69–72; *Keszi 2018*; *Pflaum 2007*, 296, 297; *Vermaat 2015*; *Vujović 2009*) and three-bladed arrowheads (Fig. 4; 16 pieces; cf. *Bitenc/Knific 2001*, 30, 31, cat. 81; *Freeden 1991*; *Istenič 2015*, 370, pl. 1: 11), as well as a tanged double-pyramidal projectile head (cf. *Tratnik 2024*, 366, pl. 6: 106). Other objects include an iron handgrip fitment of a shield boss (Fig. 5), with a parallel from a grave dated to the second half of the 4th century (*Schorsch 1986*, 18, 19, fig. 4: 5), a copper-alloy penannular brooch with an iron pin (cf. *Istenič 2015*, 369, 370, pl. 1: 1, 6), a copper-alloy belt buckle frame (pin missing; cf. *Konrad 1997*, 46, 50, fig. 8/15), a small copper-alloy bell (cf. *Božič 2005*, 317, 318, fig. 25; 26) and a cluster of finds composed of a copper-alloy mount of a B type belt set with chip-carved decoration (narrow date: last third of the 4th, broad date: second half of the 4th and early 5th century; cf. *Böhme 1974*, 83–85), an iron *dolabra* with triangular lugs (cf. *Hanemann 2014*, Type 3A, 423, dating of tools with triangular lugs: p. 345) and a large iron curry-comb² (similar to e.g. *Bitenc/Knific 2001*, 40, cat. 109).

There are ca. 24% of objects we could only attribute to different broad periods that include the Late Roman period.³ Slightly less than half of these are caltrops with flat triangular spike terminals (20 pieces;

² *Pásztókai-Szeőke (2011)* argues this kind of artefacts was not used as curry-combs for grooming animals, but for making textiles on a vertical two-bean loom. Nevertheless, seven of the 35 items from Pannonia come from 4th century forts.

³ The broadest period spans from the Roman to the post-medieval period.

Fig. 6); parallels originate from Early Byzantine (Špehar 2010, 128, no. 689–692, pl. 38: 689) or undated contexts (Radman-Livaja 2004, 85, 131, pl. 34: 191, 192, 194, 196; Drnić/Radman-Livaja 2020, 197, 199, fig. 122). The Roman caltrops or *tribuli* commonly had simple spike terminals (cf. Flügel 2010; additions to the list of Roman examples: Dolenz/Flügel/Buora 2021, 691, fn. 48). Caltrops were also used in the medieval and post-medieval periods (Flügel 2010), though little is known of their appearance. The group of broadly dated objects includes numerous iron projectiles (arrowheads/catapult bolts; cf. Milavec 2020, pl. 33: 23), a fragment of iron chain mail as yet not precisely dated, ‘awls’ possibly connected with the Late Roman army (cf. Horvat/Žbona/Trkman 2016, 113, fig. 9: 10; Pflaum 2007, 327, pl. 40: 4), iron keys (cf. Leben/Šubic 1990, pl. 4: 41; Milavec 2011, 59, 60, pl. 30: 19–21; 31: 1) and iron bells (cf. Knific/Murgelj 1996).

Thirteen objects (ca. 7%) date to the medieval and post-medieval periods. Roughly a quarter of all finds are chronologically undiagnostic.

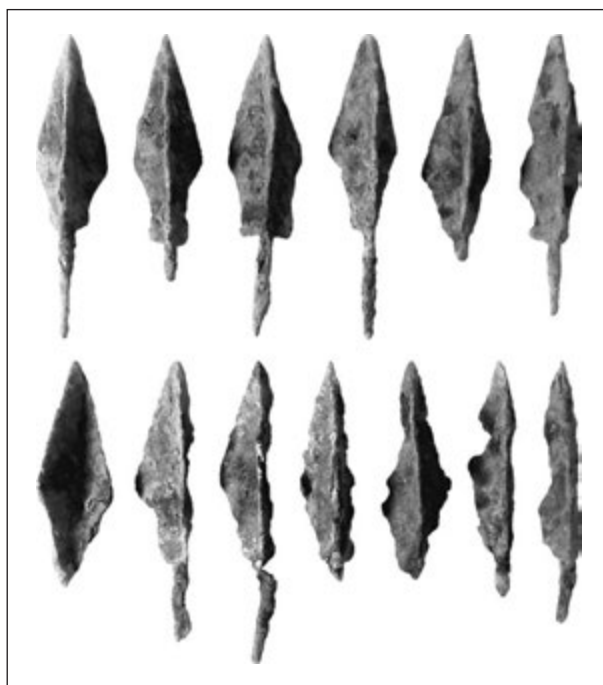


Fig. 4. Arrowheads from Area D of the site with the core near Budanje. Length of the top left arrow: 57 mm. Photo P. Fučka.



Fig. 5. Iron shield grip fitments (two pieces) from Area A of the site with the core near Budanje. Surviving length ca. 291 mm. Photo P. Fučka



Fig. 6. Iron caltrops (*tribuli*) from Area D of the site with the core near Budanje. Width of the central caltrop is ca. 45 mm. Photo P. Fučka.

The site revealed six scatters of Roman coins (possibly purse contents), each comprising between three and 61 coins. It further revealed 76 individual coins from the 1st to the 4th century AD. The finder's data on the coins show that one scatter dates to the last third of the 3rd century, one to the early second half of the 4th century and four to the last third of the 4th century; approximately 70% of the individual coins are from the 4th century. The latest seems to be the *Centenionalis*/Aes 3 minted in Constantinopolis between 392 and 395 (Theodosius I., Arcadius or Honorius, Constantinopolis, RIC IX 89).

AREAS OF GREATEST CONCENTRATIONS OF LATE ROMAN FINDS

By far the largest number of Late Roman or Late Antique artefacts comes from Area A (Fig. 7; 8), which lies on steep south-facing and uneven terrain, delimited in the north by the cliff of the karst plateau of Trnovski gozd. This area is widest (roughly 320 m) in the north and is some 250 m long in the north-south direction, with a difference in altitude of about 70 m. It is predominantly covered with sparse forest. Most of the excavated artefacts lay 5–15 cm below the current surface, a few of them deeper (maximum 30 cm).

The Late Roman and Late Antique finds from Area A predominantly consist of projectiles: 13 *plumbatae* (two of which only survive as lead weights), a three-bladed arrowhead (undoubtedly bent) and a tanged double-pyramidal head. At least four *plumbatae*, the arrowhead and the double-pyramidal head show damage presumably sustained upon impact. The finds further include a handgrip fitment of a shield boss (Fig. 5), an annular belt buckle, 12 coins from the 4th century and two coins scatters (possibly purse contents), composed of five and six coins, respectively, that were lost in the second half and last third of the 4th century. Eight arrowheads or perhaps catapult bolts date to broad periods that include the Late Roman period;⁴ at least four among them are bent or show other damage consistent with that incurred in battle. The latest coin from the area is dated to 392–395 (cf. Dating and function).

Around 100 m lower down the same steep slope begins Area B. It measures some 200 m in length, 150 m in width and around 60 m in altitude difference between the top and a clearing in the lowest, SW part (Fig. 7; 8). Except for the clearing, it is covered with sparse forest. The artefacts were found at the depth of 5 to 15 cm, rarely deeper (maximum 45 cm). They include two *plumbatae*, a three-bladed arrowhead, two coins scatters from the last third of the 4th century and individual coins from the 4th century. One *plumbata* is bent. Among the finds from broader periods that include the Late Roman period are a caltrop, a razor, a key, an auger, 'awls' and two bells.

The clearing in Area B holds the remains of buildings. The trenching that we conducted in 2023 revealed two walls and the floor of a building from the 3rd–6th century. The finds that the amateur unearthed here in 2016–2020 include coins from the 4th century, a copper-alloy frame of a belt buckle and the already mentioned (Paragraph 3) cluster of finds consisting of a Late Roman belt mount with chip-carved decoration, a *dolabra* and an iron curry-comb, but no Roman weapons or other indicators of battle.

Area C lies approximately 400 m east of Area B (Fig. 7; 8), on a steep south-facing slope covered with sparse forest. At the depth of 10 to 25 cm, the roughly 25 × 30 m large area revealed three clusters of *tribuli* (of 7, 4 and 2 pieces; Fig. 6), an arrowhead with a twisted neck, a bent (impact-damaged) *plumbata* and 13 three-bladed arrowheads (Fig. 4) recovered in a 5 m wide strip together with a scatter of three coins from the last third of the 4th century.

Located on the same slope S below Trnovski gozd, around 2 km NW of Area A and ca. 1.6 km NE of Ajdovščina lies Area D (Fig. 8). The slope here is less steep and terminates in the S at the edge of a few-metres-high cliff; the area offers a good view over the Vipava Valley. The Late Roman finds from the area are a *plumbata* weight found close to the rocky ridge, a poorly preserved Late Roman three-bladed arrowhead and presumably an 'awl'.

With the exception of the remains of the buildings in Area B, no structures that could be connected with the Roman period were detected in Areas A–D.

⁴ Cf. fn. 1.



Fig. 7. View from the Vipava Valley (Vipavska dolina) towards the NW with marked Areas A – D on the slopes below the cliffs of the karst plateau of Trnovski gozd. Photo V. Tratnik. © National Museum of Slovenia.



Fig. 8. View from the Vipava Valley (Vipavska dolina) to the NE with marked Areas A–C. Photo V. Tratnik. © National Museum of Slovenia.

DISCUSSION

The greatest number of the chronologically diagnostic artefacts from the site near Ajdovščina are Late Roman or Late Roman up to and including the 6th century (Fig. 2) and are associated with the Roman army. *Plumbatae* (Fig. 3) and three-bladed arrowheads (Fig. 4) are particularly well represented; they include examples with potential impact damage. All this leads us to presume the Late Roman evidence at the site is related to a military conflict. The shield handgrip fitment and the preliminary dating of the four coins scatters (possibly purse droppings) narrow the dating of this conflict to the last third of the 4th century, while the latest coin associated with Late Roman military finds suggests it took place after 392.

Potentially also related to the conflict is part of the objects typo-chronologically dated to broad periods; this is especially true of the *tribuli* and arrowheads/catapult bolts, several of which show the damage that was probably caused by hitting a target.

Areas A–C lie along the major Roman road connecting *Aquileia* (NE Italy) and *Emona* (modern-day Ljubljana, Slovenia; Fig. 1), which from the Augustan period onwards led across the *Ad pirum*/Hrušica Pass (*Žerjal/Tratnik* 2020, 15–18) and was the main land route from Italy to the Balkans and the E part of the Roman state. The road ran through *Fluvius Frigidus*/Ajdovščina, called *Castra* in the Late Roman period (*Kos* 2015, 41), and past Col (*Bosio* 1991, 206–209; *Gruden* 2021; *Šašel* 1975, 74–88; *Tratnik* 2021). The road between Ajdovščina in the Vipava Valley and Col located roughly 500 m higher up mainly followed the line of the present-day road (*Bosio* 1991, 207) except for the initial stretch between Ajdovščina and the area N of Budanje. The current road makes bends to surmount an altitude difference of 250 m, whereas we presume the Roman road rose in a more or less straight line up the slope.⁵ From Budanje on, the road gradually gains altitude to reach Col (and further on Hrušica), lined by very steep slopes N and S (Fig. 8). Areas A and B, which revealed the greatest numbers of conflict-related artefacts, are situated next to the Ajdovščina-Col road near Budanje, where the steep climb up from the Vipava Valley ends.

Both Hrušica and Ajdovščina were the sites of Late Roman military forts (*Kos* 2015; *Svoljšak* 2015; *Ulbert* 1981; *Urek/Kovačič* 2020; *Žerjal/Tratnik* 2020). They played an important role in the *claustra Alpium Iuliarum*, i.e. the Late Roman linear defence/control system of NE Italy that in addition to forts consisted of fortlets, barrier walls and towers (*Kos* 2012; 2014; *Šašel/Petru* 1971; *Višnjič/Zanier* 2020). Ancient literary sources report numerous instances of Roman emperors and their rivals moving across this area, as well as other military activities (*Šašel/Petru* 1971).

For the area between Hrušica and Ajdovščina, literary, archaeological and numismatic sources referring to the 4th century have thus far provided evidence of three military actions. One concerns Constantius II capturing the fort on Hrušica in 352 (*Kos* 2014, 118, 119, 128, 131; *Šašel/Petru* 1971, 24–26, sources No. 9b, d). The second is a presumed military engagement between Theodosius I and Magnus Maximus on Hrušica and in the nearby defensive towers in 388 (*Kos* 2014, 120, 129, 131; *Šašel/Petru* 1971, 27, source No. 12a). The third conflict, known as the Battle of the Frigidus, took place in 394 and resulted in Theodosius defeating the usurper Eugenius (*Bratož* 1994; 2018; *Šašel/Petru* 1971, 20; *Springer* 1996). The geographic location and the preliminary dating of the evidence of the Roman military encounter discussed in the paper suggest the remains might be related to the 394 conflict landscape, of which no previous archaeological evidence exists. Based on information in literary sources and on military-strategic considerations, it was widely believed that this conflict (or its core – authors' note) took place on the bottom of the Vipava Valley, either immediately S or some 5 km E of Ajdovščina, between Vrhpolje and Zemono (*Bratož* 1994, 30, fig. 4; 2018, 18–21, fig. 1; 2).

CONCLUSION

The results of the preliminary analysis of the finds from Areas A–D on the S slopes of the Trnovski gozd plateau, with the core above Budanje, reflect the great importance of the transport corridor through the Vipava Valley for the Roman army, especially in the period of Roman expansion (1st century BC) and again in the Late Roman period.

⁵ O. Seek and G. Veith (1913, 461) posited that the Roman road from Ajdovščina first led along the valley and reached the modern road some 750 metres further east.

The Late Roman finds indicate a site of a military conflict dating to the final third of the 4th century. Based on available publications, this appears to be the only known archaeological evidence related to a Roman battlefield from the 4th century.

The conservation, detailed study and publication of the small finds discovered by Primož Fučka are in the domain of Goriški muzej in Nova Gorica (Slovenia), where the artefacts are kept. A comprehensive investigation of the conflict landscape, initiated in 2022, is led by a team from the National Museum of Slovenia and includes extensive field research.

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Archeologické doklady neskororímskeho vojenského konfliktu v blízkosti obce Ajdovščina (Slovinsko)

Janka Istenič – Vesna Tratnik

Súhrn

Nedávne archeologické objavy na strmom južnom svahu krasovej planiny Trnovski gozd, ktorá sa nachádza niekoľko kilometrov severne od mesta Ajdovščina vo Vipavskej doline (slovinsky Vipavska dolina, Z Slovinsko), dokazujú, aký veľký význam mala táto komunikácia dolinou v období rímskej expanzie (1. stor. pred n. l.) a v neskoršej dobe rímskej.

Artefakty z neskoršej doby rímskej obsahujú päť celkov rozsypaných mincí (pravdepodobne obsah mešca), 76 jednotlivito získaných mincí a štvrtina z nich sú nemincové nálezy – prevažne rímske zbrane. Medzi zbrane patrí 17 plumbatae a 16 trojhranných hrotov šípov. Poškodenia na viacerých z nich naznačujú, že sa použili vo vojenskom konflikte. Na základe týchto dôkazov predpokladáme, že veľká časť objavených artefaktov súvisí s vojenským konfliktom, ktorý sa odohral v neskoršej dobe rímskej, pravdepodobne v poslednej štvrtine 4. storočia; predbežná analýza mincí naznačuje, že najmladšia z nich pochádza z rokov 392 až 395.

Spomínané neskororímske nálezy sú pravdepodobne prvým archeologickým dokladom vojenského konfliktu v širšom okolí Ajdovščiny, t. j. v oblasti považovanej za miesto bitky, v ktorej v roku 394 bojovali vojská Theodosia a Eugenia.

Obr. 1. Širšie územie obce Ajdovščina s vyznačenou cestou Ajdovščina – Col, s lokalitami a ďalšími geografickými jednotkami uvedenými v texte. Mapa: Vida Bitenc. © Slovinské národné múzeum.

Obr. 2. Chronologické rozloženie nenumizmatických nálezov z lokality s jadrom pri Budanje východne od Ajdovščiny. Legenda: a – pravek; b – doba rímska, 1. stor. pred Kr.; c – doba rímska, koniec 1. storočia pred n. l. až 3. storočie n. l.; d – neskorá doba rímska až 6. stor.; e – širšie datovanie vrátane neskoršej doby rímskej; f – stredovek a neskôr; g – neurčené.

Obr. 3. *Plumbatae* z plôch A (1–3) a D (4) z lokality s jadrom pri Budanje. Dĺžka: 100 mm (1), 128 mm (2), 124 mm (3) a 135 mm (4). Foto P. Fučka.

Obr. 4. Hroty šípov z oblasti D lokality s jadrom pri Budanje. Dĺžka hrotu vľavo hore: 57 mm. Foto P. Fučka.

Obr. 5. Železné kovania štítu (dva kusy) z plochy A lokality s jadrom pri Budanje. Zachovaná dĺžka cca 291 mm. Foto P. Fučka.

Obr. 6. Železné nášlapné ostne (tribuli) z plochy D lokality s jadrom pri Budanje. Šírka stredovej nášlapnej ostne je cca 45 mm. Foto P. Fučka.

Obr. 7. Pohľad z Vipavskej doliny (Vipavska dolina) smerom na SZ s vyznačenými plochami A–D na svahoch pod skalami krasovej plošiny Trnovského lesa. Foto V. Tratnik. © Slovinské národné múzeum.

Obr. 8. Pohľad z Vipavskej doliny (Vipavska dolina) na SV s vyznačenými plochami A–C. Foto V. Tratnik. © Slovinské národné múzeum.

Assoc. Prof. Dr. Janka Istenič, Ph.D.
Narodni muzej Slovenije
Prešernova 20
SI – 1000 Ljubljana
janka.istenic@nms.si
<https://orcid.org/0000-0002-6705-4471>

Dr. Vesna Tratnik, Ph.D.
Narodni muzej Slovenije
Prešernova 20
SI – 1000 Ljubljana
vesna.tratnik@nms.si
<https://orcid.org/0000-0003-4279-3435>

A ROMAN SWORD FROM HURBANOVO

Kristián Jócsik – Dominik Repka

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Abstract: This paper describes the chance discovery of an iron double-edged sword in Hurbanovo, in the location of Štrkovisko Konkôľ, which was found by a local fisherman in 2015. Based on its shape and dimensions, the well-preserved sword can be categorised as Roman *spatha*. This find enhances our knowledge of the Roman Empire's interactions with the area of the Middle-Danubian Barbaricum, as well as the intensity and character of the settlement in the cadastre of the town of Hurbanovo during the Roman Period, which was situated close (14 km as the crow flies) to the Roman borders at that time.

INTRODUCTION

In 2015, a fisherman coincidentally discovered an iron double-edged sword, or rather its blade, without the aid of a metal detector. He was able to mark the find's location, marking it in the southern part of Hurbanovo's cadastral territory (Komárno district), between the local parts of Konkôľ and Zelený háj, at the western tip of gravel pit Štrkovisko Konkôľ. According to the finder, the sword was discovered in the water near the bank of gravel pit (Fig. 1). The gravel pit was created by mining a sand dune in the 1980s. The sword was later given to a high school teacher who reported the find, facilitated its documentation and handed it over.



Fig. 1. Localisation of the place of Roman iron sword find in Hurbanovo, site Štrkovisko Konkôľ on the Basic Map of Slovakia from 1999. Source: ÚGKK SR, graphic design D. Repka.

DESCRIPTION OF THE FIND

The straight, relatively well-preserved double-edged blade exhibits symmetrical characteristics along its longitudinal axis (Fig. 2). In several places along both edges, the blade is slightly chipped or rusted. With an absent fuller on the surface, the blade possesses a lenticular cross-section. Measuring 73.3 cm in total length, the blade's body spans 58 cm, with a tang length of 15.3 cm. The blade's widest part lies at the level of the horizontally-shaped shoulders, where it measures 4 cm. That is also where the thickest part of the blade is located with a measurement of 0.45 cm. At a distance of 5 cm from the blade's point, this part is 0.3 cm thick, while the thinnest part of the point measures 0.2 cm. The point is short and relatively rounded, with its more pronounced shaping observed only in the last 2 cm of the blade's length. The blade's

tang, rather subtle and slightly secondarily bent, has the shape of an elongated trapezoid with a rectangular or square cross-section. The maximum tang's width – 1.2 cm – is located at its base, i.e. at the point where it connects to the blade's body. From there onwards, the tang narrows to a value of 0.5 cm at its end. The maximum thickness of the tang – 0.6 cm – is found 1.3 cm from the blade's base, thinning to 0.35 cm towards the end of the tang. No organic residue or stamped marks are visible on the blade's surface (Fig. 2).

TYPOLOGICAL AND CHRONOLOGICAL CLASSIFICATION OF THE FIND

The iron sword from Hurbanovo clearly aligns well with double-edged specimens known from the Roman Period. Based on its size, it falls between the *spatha* and *gladius* type of the Roman swords. In the case of longer double-edged Roman *spathae*, it can be classified as a Straubing-Nydam type and a Straubing variant (according to *Miks 2007*, 80–87; *Ulbert 1974*), characterized by a blade's length ranging from 56–81.5 cm and a hilt's tang length of 11–20 cm. The width of the blade falls within the range of 3–4.4 cm. As in the case of the analysed sword from Hurbanovo, the given variant is characterized by horizontal shoulders, a narrow blade ending in a short point in the shape of an oblique semicircle, and a longer hilt. This variant of the swords can be compared in terms of shape and size with *spathae* of the Vimose-Ilkerup type and its subtypes 1 and 2 (according to *Biborski/Ilkjaer 2006*, 217 nn). Comparable in shape are also the *spathae* of the Bibor variant 3 of type VI, created on the basis of finds from the environment of the Przeworsk culture. In this case, however, the swords reach larger dimensions, with blades ranging from 85 cm to 95 cm. According to *M. Biborski's (1994)* more recent classification, the sword from Hurbanovo is close to group 12.

In the case of shorter *gladii*, the closest analogies to the sword from Hurbanovo can be found in their *spathae* types and the Straubing variant defined by *G. Ulbert (1974)* and later by *Ch. Miks (2007, 71–74)*. Their blade's length reaches 32–58.5 cm, the hilt's tang lengths from 11–18 cm and the blade's width equal to 3–4.4 cm. Due to the blade's narrowness compared to other types of *gladii*, it is also possible that *spatha*-type *gladii* were secondarily remade from destroyed or damaged *spathae* longswords.

Timewise, these types and variants appear during the stages of the Roman Period B2 and C1, possibly overlapping into the following stage C2, i.e. in the period from the end of the 1st century to the middle or end of the 3rd century. The majority of finds known from Central Europe, especially from the territory of Poland and Hungary, fall primarily into the C1 period (*Biborski 1978*, 149, 154; *Miks 2007*, 558, 591, 592, 649, 703, 744). No similar sword shapes are known from the territory of present-day Slovakia. The closest similarities in shape are found in the sword stored in the grave 2 from the Kostolná pri Dunaji municipality, dated to the B2b phase. On the other hand, it is a dimensionally larger sword with a blade's length of 76 cm, a width of 5 cm and a hilt's tang length of 21.8 cm (for the latest evaluation of the find, see *Kolník/Rajtár 2017*).

ROMAN PERIOD SETTLEMENT NEAR THE SITE

In the southern part of the cadastre of the town of Hurbanovo, on the territory of the local parts of Konkoľ and Zelený háj, several rescue excavations had already been conducted in the past, mainly connected with sand mining (Fig. 3). An intensive settlement has been found here, with the oldest finds from the Neolithic (Želiezovce group) coming from Zelený háj (*Březinová/Pažinová 2011*, 9n.; *Točík 1978*, 234). In the immediate vicinity of Štrkovisko Konkoľ (to the north and north-east), in the locality of Konkoľ, lies the Pieskovisko (Szarvaskút) area. Settlements from the Bronze Age, the Hallstatt period, La Tène period and the Migration period have been found here (*Bujna 2007*; *Dušek 1961*, 66, 68; *Rajtár/Ratimorská 1990*, 143). In this position, a younger Roman Period grave was also found. It was discovered just above the grave from the La Tène period, about 700 m north-east of the analysed iron sword find. Based on a pair of flat bronze fibulae of lozenge (rhomboid) and crescent shape (*Dušek 1961*, 67, 68, tab. 5: 11, 12), the Roman Period grave can be assigned to the 1st century (types 7.4 and 7.6 according to *Riha 1979*, 181–183, Tab. 58).¹ The finds of sunken objects and Roman provincial pottery, discovered during the excavation of irrigation furrows in the locality of Konkoľ, are feasibly related to the above-mentioned location (Fig. 3; *Ratimorská 1980*, 227).

Distinctive traces of settlement from the Eneolithic, namely the Baden culture (*Rajtár 2004*, 146), the Vekerzug culture from the late Hallstatt period (*Rajtár/Ratimorská 1990*, 143) and the La Tène period (*Rajtár/Ratimorská 1990*, 143), were identified in the Štrkovisko location (Fig. 3). The site, located 1 km north from the analysed iron sword find, between the Hurbanovo residential area and the locality of Konkoľ, was inhabited during the Roman Period as well, with evidence of a Germanic settlement. During the construction of the new slaughterhouse, six sunken settlement features from this period, dating to the second half of the 2nd to

¹ Originally, the grave was incorrectly dated to the late Roman Period/Migration period (*Dušek 1961*, 68).

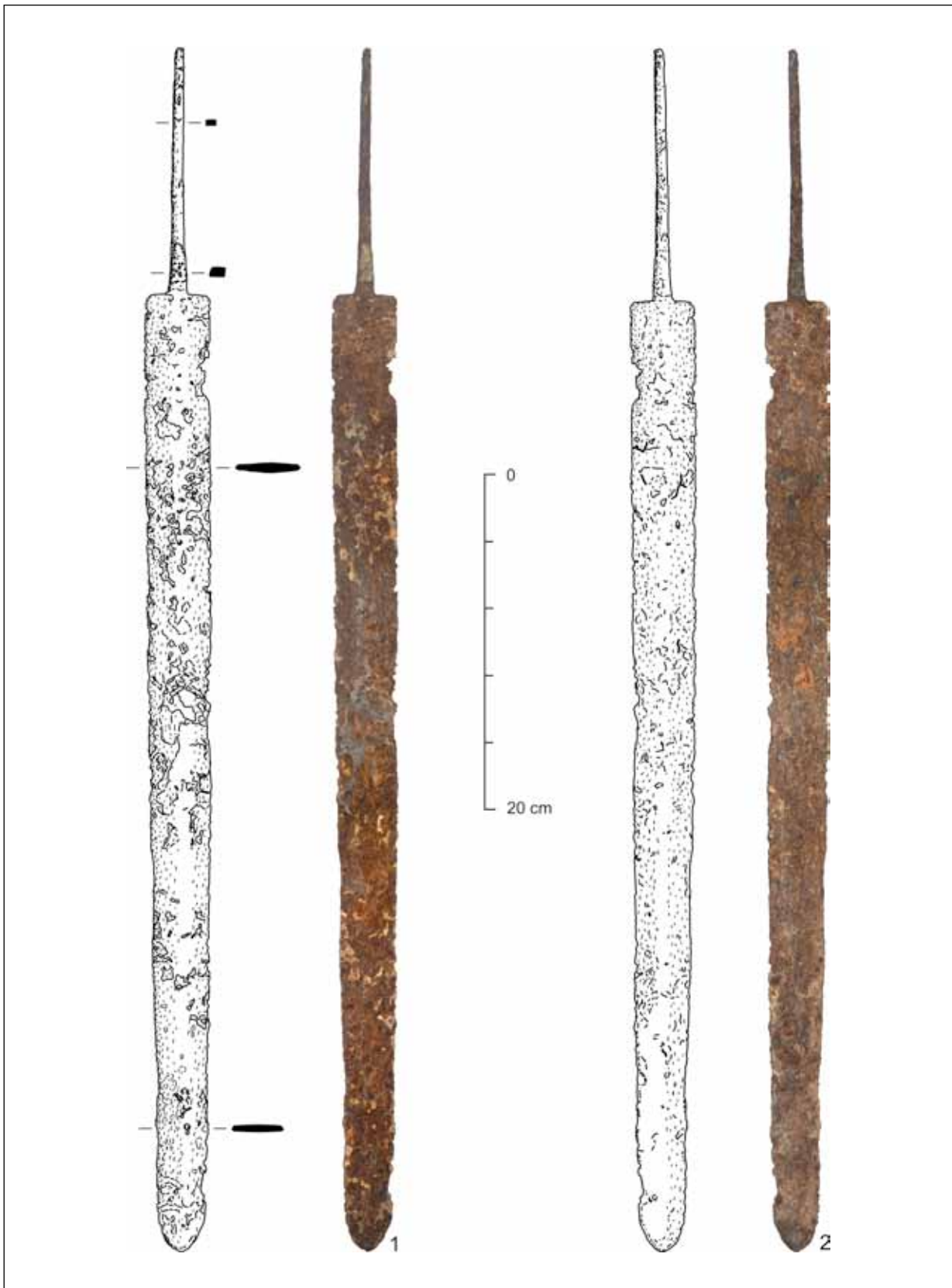


Fig. 2. Roman iron sword from Hurbanovo, site Štrkovisko Konkol'. Photo and drawing D. Repka.

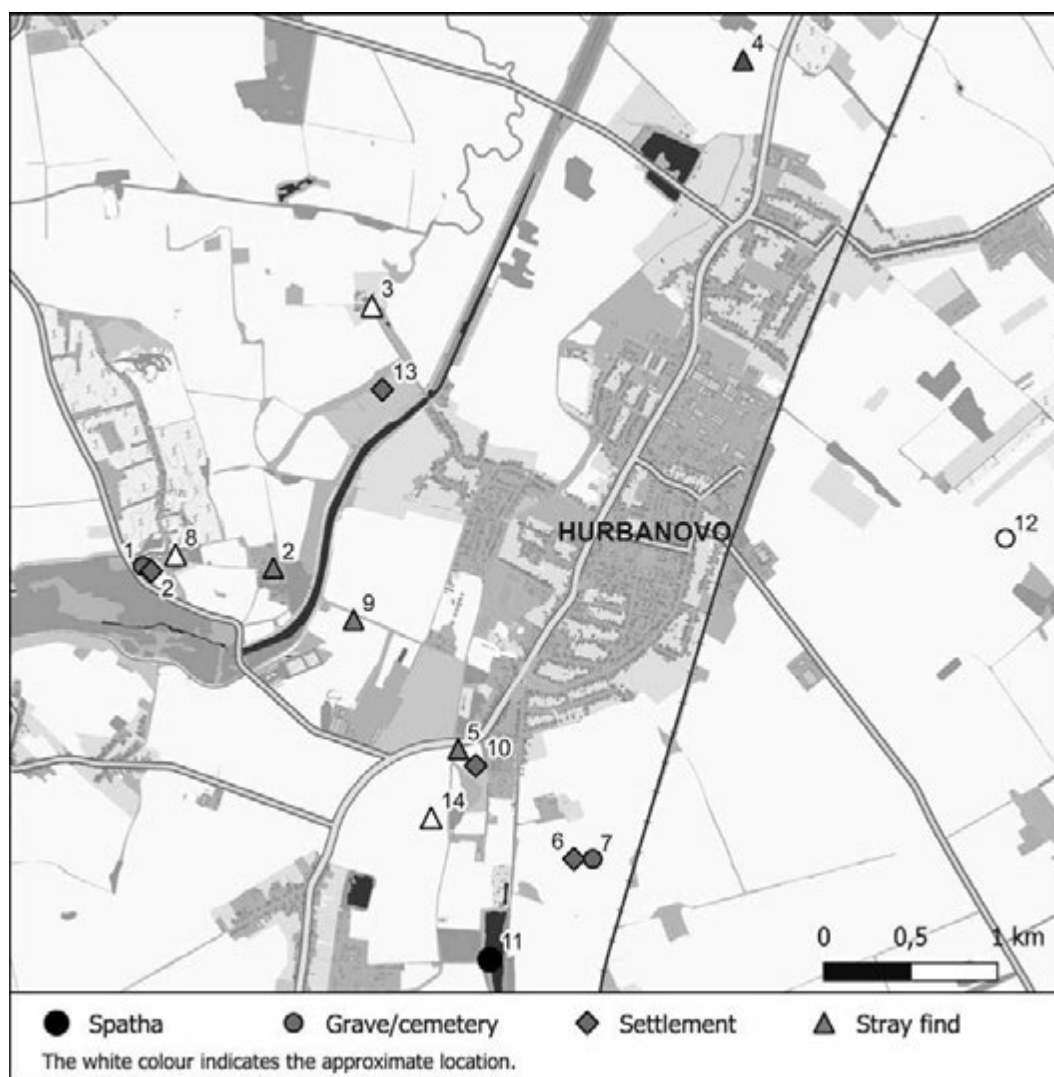


Fig. 3. Localisation of the place of Roman iron sword find in Hurbanovo, site Štrkovisko Konkoly and evidence of settlement of cadastre of the town of Hurbanovo during Roman Period. Sites and their sources are mentioned in the text. Author K. Jócsik.

the 3rd century, were examined. However, finds recovered during the examination of the building area prove there was human activity already in the 1st century. In addition to the Roman fibulae, the area also yielded other objects of Roman origin, such as terra sigillata and Pannonian Roman-provincial pottery (Hajnalová *et al.* 2018; Hanzelyová/Kuzma/Rajtár 1995, 55; Kuzmová 1997, 122; Rajtár 2004). Regarding the Štrkovisko area, a collection of finds (via detector), consisting of fibulae, Roman coins and pottery, can also be allocated to this place. The objects were obtained in 1991 and can be assigned to the period from the end of the 1st century to the beginning of the 3rd century (Ratimorská/Žundálek 1992, 99–101). The site also contained Roman militaria, namely an iron arrowhead, a fragment of a bronze helmet/shield and an iron plate from scale armour (Rajtár 2008, 177).

Area of Hurbanovský brook/channel, located to the west of the examined settlement features, is also a part of the Roman Period settlement in question (Fig. 3). A larger number of Roman coins of wider date range – from the 1st to the middle of the 4th century – were found here, as well as two Roman lead seals, a 4th century Roman leaden product label and a leaden statue of the Roman god Mercury (Hunka/Kolníková 1996, 95; 1997, 85; 1999, 60; 2001, 92; 2002, 72, 73; 2004, 76; 2005, 98, 99; 2006, 98; Kolníková 2002a; 2002b; Kopecký/Kuzma/Rajtár 1990, 100; Rajtár 2016). Without a possibility of a closer localisation, an area on the right bank of the Žitava river's old branch (location west of Konkolyho Majer area; Fig. 3) was explored in

1977, where the finds of pottery from the Roman Period came from (Točík 1978, 234). P. Ratimorská (1998, 41) connects it with the settlement on the southern outskirts of Hurbanovo (locations of Štrkovisko or Pieskovisko).

Further evidence of the Roman settlement was found in the western part of the Hurbanovo cadastre, on the banks of the Žitava river's old branch (known as "Stará Žitava"). These locations lie behind the Žitava river (Fig. 3), in the area where a Germanic settlement with sunken objects from the 2nd century, and one from the end of the Roman Period and the Migration period, had been examined. A fragment of Roman roofing was found in the filling of one of the pits (Ruttikay/Bielich 2002, 166, 167). The isolated finds come from the locations of Sesílešská (Szesilecká) road, Semex complex, Sesíleš, Bacherov majer, between Bacherov majer and Sesíleš, Cséplős part. Metal finds from the Roman Period were found at the location of Sesílešská (Szesilecká) road (Hajnalová 2002, 56). More Roman coins were discovered at the location of the Semex complex (state-owned Institute for research and breeding of vegetables and special crops). The coins are dated from the end of the 1st century to the second half of the 3rd century (Hunka/Kolníková 1994, 88; 1995, 63; 2007, 91). A Roman coin from the 3rd century was found in the Sesíleš location (Fig. 3; Ratimorská 1998, 41). Further north from the territory of the Bacherov majer area, the examination revealed unspecified (settlement) features from the Roman Period (Ratimorská 1998, 41). A bronze crossbow fibula dated from the end of the 3rd to the 4th century was found between Bacherov majer and Sesíleš (Kolník 1958, 380, 381, 387, tab. I: 9, 9a). Other finds, specifically fragments of Germanic pottery, were found at the site of Cséplős (Kolník 1957, 55). A settlement or settlement features are also cited in the location of Aba (Abadomb; Fig. 3; Ratimorská 1998, 41).

Additionally, to the discovered settlement features, evidence of burials from the Roman Period in Hurbanovo was also acknowledged. A cremation grave from the early Roman Period (stage B) was found east of the Hurbanovo residential area in the Vinohrad(y) location (Kolník 1973, 43). Cremation graves from the Roman Period were allegedly discovered in 1936 in the location of Abadomb as well (Fig. 3).

EVALUATION

Based on its shape and dimensions, the iron double-edged sword found by chance on the shore of gravel pit Štrkovisko Konkol' in Hurbanovo-Konkol' can be classified as either short types/variants of the Roman spathae (Straubing variant of Straubing-Nydam type, Biborski variant VI/3 or Biborski group 12) or longer gladii (Straubing variant of spathae type) and dated to the Roman Period of B2 to C1 (C2?). This find can be associated with the extensive settlement of the given area and its surroundings during the Roman Period. In the immediate vicinity of the discovery site, especially in the locations of Pieskovisko and Štrkovisko, the remains of a larger Germanic settlement were found, which existed from the second half of the 1st century until the middle of the 4th century.

The place, where the sword was found – a former sand dune could also point to a grave find (Fig. 1). The almost completely preserved sword could also come from a grave destroyed during sand mining in the 1980s. Mild terrain elevations in the form of sand dunes in southwestern Slovakia were often used for burials in the Roman Period, for example cemeteries Kostolná pri Dunaji (Kolník 1980, 91), Sládkovičovo (Kolník 1980, 126), Čierny Brod (Kolník 1975, 341), etc.

Numerous archaeological finds in the given area, consisting of objects of Roman origin, attest to the intensive interactions of the local Germans with the Roman Empire. Besides that, Roman militaria finds are documented in this settlement, specifically an iron arrowhead, a fragment of a bronze helmet/shield and an iron plate from scale armour dating to the period of the Marcomannic Wars (Rajtár 2008, 176, 177, fig. 6: 1, 4, 5). The analysed sword thus completes the set. Roman militaria are typically sighted on the territory of the Middle-Danubian Barbaricum, mainly in the period of the Marcomannic Wars. This also applies to finds of Roman swords and parts of their scabbards (Droberjar 2021, 235, diagramm 5; Kramár 2021; Krekovič 1994). They are probably related to the presence of Roman military units in the area during the Roman counter-offensive north of the Danube directed against the Quads and Marcomanni. This presence is also proven by Roman military marching camps, for which there is plenty of evidence in south-western Slovakia (Fig. 4; Kuzma 2010, 81–85; Rajtár 2014). Such camp was detected through the examination of freely available satellite images in the cadastre of the town of Imeľ (Kuzma 2010, 85), which

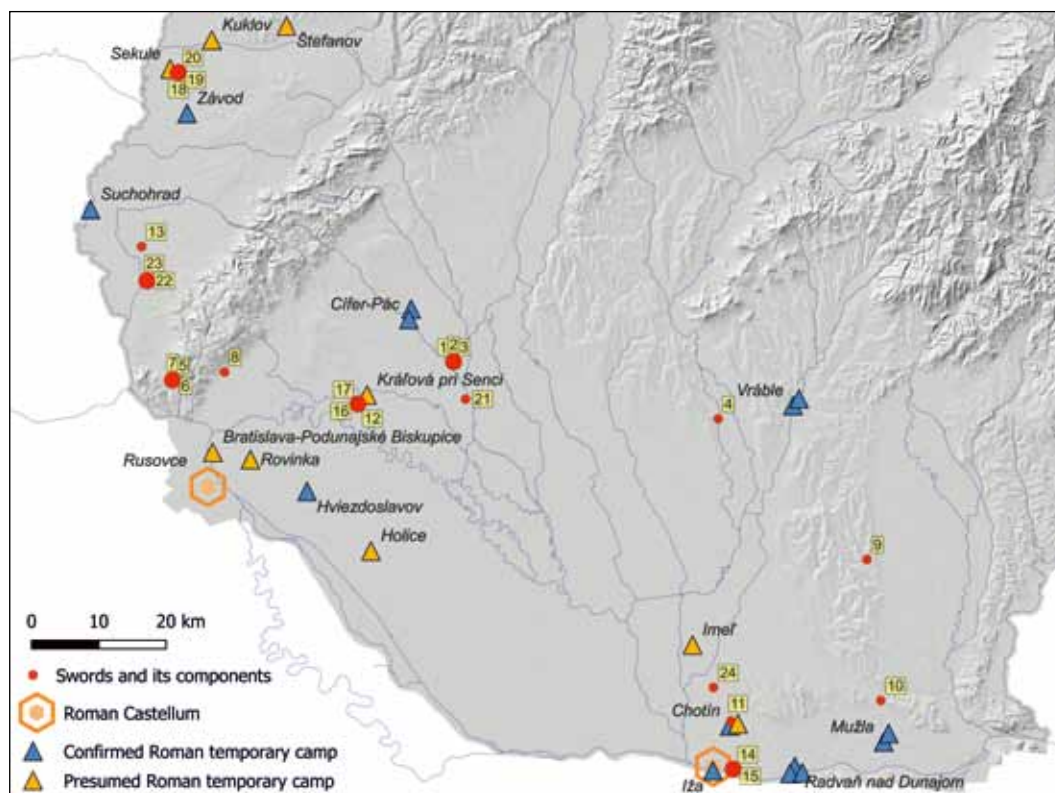


Fig. 4. Finds of Roman swords, parts of their scabbard and evidence of Roman military camps (according to Kuzma 2010, 85, fig. F60, with addition) in south-western Slovakia. 1–3 – Abrahám (Kolník 1980, 53, 73, tab. XLII: 131b; LVIII: 205b); 4 – Branč (Kolník/Varsik/Vladár 2007, 153, tab. 1: 3); 5–7 – Bratislava-Lamač (Turčan 2017, 43, 44, fig. 3: 1; 4: 1, 2); 8 – Bratislava-Rača (Turčan 2017, 43, fig. 3: 2); 9 – Čaka (Beljak/Kolník 2006, 61, fig. 5: 11); 10 – Gbelce (Beljak/Kolník 2006, 69, fig. 12: 2); 11 – Chotín? (Hečková/Repka 2019, 111, fig. 51: 1); 12 – Kostolná pri Dunaji (Kolník 1980, 95, tab. LXXVI: 2b); 13 – Láb (Hrnčiarik 2013, 158, tab. 59); 14, 15 – Iža (Rajtár 1996, 3, fig. 3: 1, 2); 16, 17 – Kostolná pri Dunaji (Kolník 1980, 103, 111, Taf. CII: 37b); 18–20 – Sekule (Hüssen/Rajtár/Voß 2017, 116, fig. 3; Iván/Ölvecký/Rajtár 2019, 240, fig. 4: 15–17); 21 – Sládkovičovo (Kolník 1980, 133, tab. CXXXI: 13b); 22, 23 – Zohor (Turčan 2017, 43, fig. 3: 3); 24 – Hurbanovo, research site; without number – River Dunaj (without closer localization; Turčan 1999, 82, fig. 6: 3). Author K. Jócsik.

is located approximately 6 km north-west of the sword find. However, this camp has not been confirmed by archaeological field survey yet. At roughly the same distance, but in a south-eastern direction, there is another Roman marching camp in the village of Chotín (Fig. 4; Rajtár 2014, 117, 119, 118, 127, fig. 9; 19: 4; Rajtár/Kolníková/Kuzmová 2017, 174, 176, fig. 2: 3).

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Rímsky meč z Hurbanova

Kristián Jócsik – Dominik Repka

Súhrn

V roku 2015 bol na západnom okraji Štrkoviska Konkoľ, južne od intravilánu mesta Hurbanovo (obr. 1) nájdený miestnym rybárom dobre zachovaný železný dvojsečný meč (obr. 2). Ide o krátky meč (dĺ. 73,3 cm) s vodorovnými ramenami, úzkou čepeľou (š. 4 cm), ukončenou krátkym hrotom v tvare lomeného poloblúka a s dlhším trňom rukoväte (dĺ. 15,3 cm). Na základe tvaru a veľkosti možno meč priradiť k rímskym mečom – spatha (variant Straubing krátkeho a úzkeho typu Straubing-Nydam alebo variant Biborski VI/3, či skupina Biborski 12), prípadne gladius (variant Straubing dlhšieho typu Spatha) a datovať do obdobia stupňov doby rímskej B2 až C1 (C2?). Tento nález možno spájať s rozsiahlym osídlením daného priestoru a jeho okolia v dobe rímskej. V bezprostrednej blízkosti miesta nálezu, najmä v polohách Pieskovisko a Štrkovisko (obr. 3), boli zistené pozostatky rozsiahlejšej germánskej osady s početným zastúpením predmetov rímskej proveniencie, ktorá existovala od druhej polovice 1. storočia až do polovice 4. storočia. Okrem iného sú z osady doložené aj nálezy rímskych militárií – železný hrot šípu, fragment bronzovej prilby/štítu a železná platnička zo šupinového brnenia s datovaním do obdobia markomanských vojen. Súvisia tak pravdepodobne s prítomnosťou rímskych vojenských jednotiek na danom území počas rímskej protiofenzívy severne od Dunaja namierenej proti Kvádom a Markomanom. Dokladom tejto prítomnosti sú aj rímske vojenské dočasné tábory, ktoré máme početne doložené na juhozápadnom Slovensku (obr. 4). Bezprostredne pri Hurbanove je to tábor v Chotíne a Imeli.

Obr. 1. Lokalizácia miesta nálezu rímskeho železného meča v Hurbanove, poloha Štrkovisko Konkoľ na základnej mape Slovenskej republiky z roku 1999. Zdroj: ÚGKK SR, grafická úprava D. Repka.

Obr. 2. Rímsky železný meč z Hurbanova, poloha Štrkovisko Konkoľ. Foto a kresba D. Repka.

Obr. 3. Lokalizácia miesta nálezu rímskeho železného meča v Hurbanove, poloha Štrkovisko Konkoľ a doklady osídlenia katastra mesta Hurbanovo počas doby rímskej. Lokality a odkazy na zdroje sú uvedené v texte. Autor J. Jócsik.

Obr. 4. Nálezy rímskych mečov, časti ich pošiev a doklady rímskych vojenských táborov (podľa Kuzma 2010, 85, obr. F60, s doplnením) na juhozápadnom Slovensku. 1–3 – Abrahám (Kolník 1980, 53, 73, tab. XLII: 131b; LVIII: 205b); 4 – Branč (Kolník/Varsik/Vladár 2007, 153, tab. 1: 3); 5–7 – Bratislava-Lamač (Turčan 2017, 43, 44, obr. 3: 1; 4: 1, 2); 8 – Bratislava-Rača (Turčan 2017, 43, obr. 3: 2); 9 – Čaka (Beljak/Kolník 2006, 61, obr. 5: 11); 10 – Gbelce (Beljak/Kolník 2006, 69, obr. 12: 2); 11 – Chotín? (Hečková/Repka 2019, 111, obr. 51: 1); 12 – Kostolná pri Dunaji (Kolník 1980, 95, taf. LXXVI: 2b); 13 – Láb (Hrnčiarik 2013, 158, taf. 59); 14, 15 – Iža (Rajtár 1996, 3, obr. 3: 1, 2); 16, 17 – Kostolná pri Dunaji (Kolník 1980, 103, 111, taf. CII: 37b); 18–20 – Sekule (Hüssen/Rajtár/Voß 2017, 116, Abb. 3; Iván/Ölvecký/Rajtár 2019, 240, obr. 4: 15–17); 21 – Sládkovičovo (Kolník 1980, 133, taf. CXXXI: 13b); 22, 23 – Zohor (Turčan 2017, 43, obr. 3: 3); 24 – Hurbanovo, skúmaná poloha; bez čísla – rieka Dunaj v okolí Bratislavy (bez bližšej lokalizácie; Turčan 1999, 82, obr. 6: 3). Autor K. Jócsik.

Mgr. Kristián Jócsik
Institute of Archaeology
The University of Łódź
ul. G. prez. Gabriela Narutowicza 65
PL – 90-131 Łódź
kristian.jocsik2@uni.lodz.pl
<https://orcid.org/0000-0002-1643-3623>

doc. Dominik Repka, PhD.
Univerzita Konštantína Filozofa v Nitre
Filozofická fakulta
Katedra archeológie
Hodžova 1
SK – 949 01 Nitra
dreпка@ukf.sk
<https://orcid.org/0000-0001-6835-3740>

A SMALL PURSE FIND FROM THE LEGIONARY FORTRESS OF BRIGETIO

Lajos Juhász

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Keywords: Brigetio, Late Roman, legionary fortress, hoard, purse, Valentinian

Abstract: In recent years, the legionary fortress of Brigetio has been the focus of systematic excavations that have uncovered numerous building complexes and many finds. This paper focuses on a small assemblage of only six late Roman copper coins that most likely formed the content of a modest purse. Unfortunately, the find context is not secure, since it came from the cleaning layer of the big apsidal building in the eastern part of the fortress. The coins can be dated between 355 and 367 and were minted in the Pannonian mints of Siscia and Sirmium. Valentinianic hoards usually consist of copper issues and are much larger, so this new small find adds to the handful of late assemblages low in number.

In the past almost ten years, excavations have been carried out in the legionary fortress of Brigetio, greatly contributing to our knowledge of the ancient military camp. This is not only true of the impressive and large-scale buildings uncovered, but also of the plethora of finds.¹ In 2017–2018 the investigations focused on an apsidal building of appr. 600 m² on the eastern side of the *praetentura*, near the *porta principalis dextra* (Fig. 1). Based on the Terentius dux brick stamp found in a pit under a wall and further ones discovered elsewhere in the building by Frigeridus dux, the construction was carried out at the beginning of the 370s (Bartus *et al.* 2018, 542, 543). Here, six coins (No. 1–6) were found in trench 4, 5 (Fig. 2), on the southern side of the building, but unfortunately in the upper cleaning, thus not intact ancient layer, at the top level of the still standing walls in a corner.²

THE HOARD

Coins No. 1, 2 and 6, 7 were found stuck together, with the imprints of more coins in the earth on the uncleaned finds (Fig. 3: 1, 2; 5: 1, 2). This can only happen if these were deposited tightly next to each other that point to that the assemblage is, in fact, a small hoard or a purse find. This is further strengthened by the very good condition of the specimens that, apart from the reactions caused by the harmful chemicals in the soil, only show minor wear. Usually, the late Roman coins found at the excavation are quite worn, very unlike the crisp images and legends of the six presented here.

The assemblage can be narrowly dated between 355 and 367 and shows a nice sequence (Fig. 4) that also includes a coin of Jovian (No. 3; Fig. 5: 3), who only reigned for eight months, hence his issues are rare. Only the smallest AE4 SPES REIPVBLICE from 357–363 are missing from within this period, therefore it is possible that this type was omitted because of its smaller size, since all six coins are the somewhat larger AE3. Interestingly, the three coins from the Valentinianic period (No. 4–6; Fig. 5: 4–6) all fall in the earliest period, i.e. the first three years of their reign. The very narrow date of only twelve years for these late Roman coins also point to that the assemblage is likely a purse find.

The good state of preservation also makes it possible to identify the mints, which in every case was Siscia except for No. 3 that was issued in Sirmium. This is not surprising, since these were the local mints of Pannonia, and especially the first one had a huge output that supplied the region, and most importantly the military with money. Nonetheless, other mints e.g. Thessalonica or Aquileia are common in this region as

¹ The excavations uncovered the *porta praetoria* as well as the *thermae* (Bartus *et al.* 2022).

² The hoard was brought to my attention by Tibor Négycrű, who wrote his BA thesis on the finds from the apsidal building, to whom I owe my gratitude (Négycrű 2024).



Fig. 1. The apsidal building in the legionary fortress of Brigetio (author D. Bartus–L. Rupnik).

well, so their occurrence would also have fitted the generally tendencies.

The hoards ending under the Valentinianic dynasty are usually much larger, containing only bronze pieces (*Vida 2020*, 62, 63).³ Nevertheless, there are some smaller ones as well that will be listed here. The closest parallel to the Brigetio hoard are the 11 coins (355–378 AD) from the Late Roman fort of Iovia that was dug into the burnt floor of a building (*Prohászka/Torbágyi 2017*, 29; *Soproni 1975*, 175, 176). Very similar are the 12 coins found at Döbrököz, where most of the specimens were minted between 358 and 375, although starting with a single coin of Helena (337–340; *Prohászka/Torbágyi 2017*, 135, 136). Also, a small assemblage is the 13 aes dated between 351 and 378, found scattered at building XV in the northern part of the *area sacra* at Gorsium (*FMRU 1* 359). Similar in size, although from a broader time frame is the hoard from Baracska containing 15 bronze coins from 335 to 378 (*FMRU 1* 28, 29).

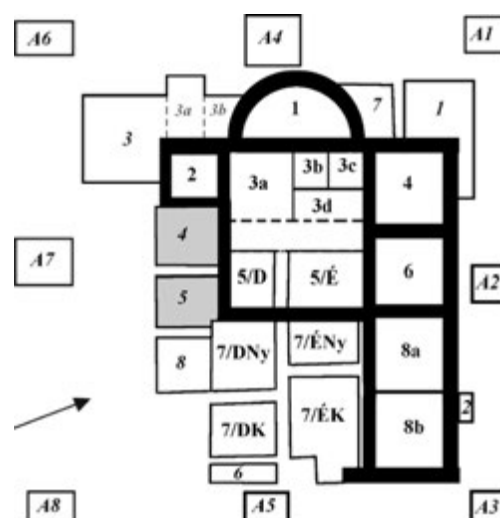


Fig. 2. The trench 4, 5 where the coins were discovered in the cleaning layer (author D. Bartus).

³ The exception to the rule is the one from Mursella (222–378) with more than 4872 coins that also contained a denarius of Severus Alexander and two antoniniani of Salonina and Claudius Gothicus, the rest being Late Roman aes coins (*Jónás 1933–1934*, 3).



Fig. 3. Coins No. 1 and 2 stuck together with the imprint of further coins in the earth (photo L. Juhász).

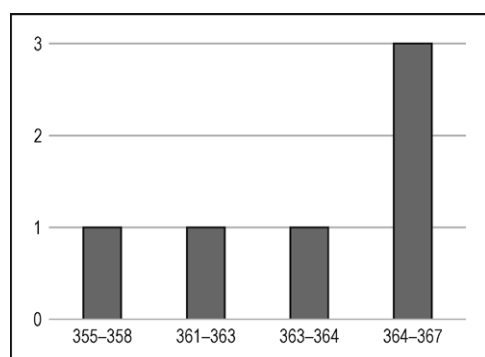


Fig. 4. The chronological distribution of the six coins (author L. Juhász).

led to the death of Valentinian I in the legionary fortress of Brigetio (Mócsy 1974, 126–129). The coin influx to this region dries up after 378 and comes to a halt at the end of the century.⁵ This seems somewhat surprising, since the *ripa* itself must surely have still been active following the death of Valens and Gratian at Adrianople. However, those coins are usually missing from military sites or are only present in very small numbers compared to the abundance of the *GLORIA ROMANORVM* and *SECVRITAS REIPVBLICAE* types. Evidently this was a turbulent and unstable period, which only makes the exact dating and the reasons behind the concealment of the coins more problematic. In Brigetio the most recent coin of Valentinian III, dated to 425–435, was found in the *canabae* and only recently did we discover another one of the same type in the legionary fortress.⁶

CONCLUSIONS

Unfortunately, the small purse find does not provide any information on the erection or destruction of the apsidal building, since it came from the cleaning layer. The closing date of 367 and the minor wear of the coins would point to a date in the middle of the 370s. This would then roughly coincide with the building period confirmed by the Terentius dux brick stamp. However, the unclear context in the upper part layers does not make this probable. The most likely scenario is that it was an accidental loss of not great value, thus the owner did not make much of an effort to recover them. Hopefully, the processing of all the find material and the examination of the stratigraphic evidence can help to place this small purse in its historical context.

⁴ The closing coin was a Byzantine issue that was surely a later and accidental addition by the collector (Bíró-Sey 1974, 147–150; 1977, 142–149).

⁵ For Brigetio this is 3 coins per year average (Bíró-Sey 1977, 16).

⁶ There is of course a chance that there are some similarly recent pieces among the over 2000 coins, mostly uncleaned, from the recent excavations from the legionary fort, which were overlooked (Juhász 2024, 17).



Fig. 5. Coins, AE3. 1 – Constantius II. (355–358); 2 – Julian (361–363); 3 – Jovian (363–364); 4 – Valentinian I. (364–367); 5, 6 – Valens (364–367; photo L. Juhász).

CATALOGUE

1. Constantius II 355–358 (Fig. 5: 1)

Mint: Siscia
 Weight: 2.33 g
 Die-axis: 6 h
 Obverse legend: D N CONSTAN – TIVS P F AVG
 Reverse legend: FEL TEMP – REPARATIO // ASIS (retro-grade)Z
 Reference: *RIC* 8 361
 Inv. No. 2018.2.725.34

2. Julian II 361–363 (Fig. 5: 2)

Mint: Siscia
 Weight: 3.12 g
 Die-axis: 12 h
 Obverse legend: D N FL CL IVLI – ANVS P F AVG
 Reverse legend: VOT X MVLT XX // ☸ (branch)BSICS•
 Reference: *RIC* 8 421
 Inv. No. 2018.2.725.34

3. Jovian 363–364 (Fig. 5: 3)

Mint: Sirmium
 Obverse legend: [D N IO]VIA – NVS P F A[VG]
 Reverse legend: VOT / V / MVLT / X // ASIRM
 Weight: 2.86 g
 Die-axis: 12 h
 Reference: *RIC* 8 118
 Inv. No. 2018.2.725.31

4. Valentinian I 364–367 (Fig. 5: 4)

Mint: Siscia
 Weight: 2.55 g
 Die-axis: 6 h
 Obverse legend: D N VALENTINI – ANVS P F AVG
 Reverse legend: SECVRITAS REIPVBLICAE // ASISC
 Reference: *RIC* 9 7a i
 Inv. No. 2018.2.725.32

5. Valens 364–367 (Fig. 5: 5)

Mint: Siscia
 Weight: 2.35 g
 Die-axis: 6 h
 Obverse legend: D N VALEN – S P F AVG
 Reverse legend: SECVRITAS REIPVBLICAE // BSISC
 Reference: *RIC* 9 7b i
 Inv. No. 2018.2.725.33

6. Valens 364–367 (Fig. 5: 6)

Mint: Siscia
 Weight: 2.24 g
 Die-axis: 6 h
 Obverse legend: D N VALEN – S P F AVG
 Reverse legend: GLORIA ROMANORVM // ☸ (branch) BSISC
 Reference: *RIC* 9 5b iii
 Inv. No. 2018.2.725.33

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Nález malej „peňaženky“ z legionárskeho tábora v Brigetiu

L a j o s J u h á s z

Súhrn

V posledných rokoch sa legionársky tábor Brigetio stal predmetom systematických archeologických výskumov, ktoré odhalili početné komplexy budov a množstvo nálezov. Vo veľkej budove s apsidou v blízkosti *porta principalis dextra*, ktorá sa skúmala v rokoch 2017–2018, sa podarilo objaviť šesť mincí. Štyri z nich boli zlepené, takže sa môžeme domnievať, že pôvodne boli uložené spolu v malom mešci alebo peňaženke. Žiaľ, stratigrafické okolnosti nálezu neboli dostatočné, pretože sa našli vo vrchnej vrstve počas začistenia, v rohu ešte stojacich múrov. Stav zachovania nájdených mincí bol veľmi dobrý, na rozdiel od bežných emisií z týchto vykopávok. Jednotlivé exempláre môžeme datovať medzi roky 355 a 367 a boli vyrazené v panónskych mincovniach Siscia a Sirmium. Všetky sú veľkosti AE3, chýba jedna menšia séria z tohto obdobia, pravdepodobne kvôli špecifickému výberu. Valentiniánske depoty zvyčajne pozostávajú z emisií medených mincí a sú oveľa väčšie, takže

tento nový malý depot sa dá priradiť k malej skupine nálezov charakteristických nízkym počtom kusov. Dôvody uloženia mešca nepoznáme. Valentiniánske medené mince sú najmladšie, s akými sa v Panónii masovo stretávame. Neskoršie razby sú v podobných depotoch prekvapivo zriedkavé, hoci *ripa* musela fungovať až do konca 4. storočia. Interpretácia týchto depotov, roztrúsených po celom Zadunajsku, je problematická a nedá sa jednoducho vysvetliť konkrétnou politickou alebo vojenskou udalosťou z tohto búrlivého obdobia. V našom prípade však s najväčšou pravdepodobnosťou ide o stratový nález, ktorý mal nízku hodnotu a majiteľ sa nesnažil dohľadať svoj majetok.

Obr. 1. Budova s apsidou v legionárskom tábore Brigetio (autor D. Bartus, L. Rupnik).

Obr. 2. Sonda 4, 5, kde boli objavené mince v začistenej vrstve (autor D. Bartus).

Obr. 3. Dohromady zlepené mince 1 a 2; v zemi medzi nimi sa zachovali odtlačky ďalších mincí (foto L. Juhász).

Obr. 4. Chronologická klasifikácia šiestich mincí (autor L. Juhász).

Obr. 5. Mince, AE3. 1 – Constantius II. (355–358); 2 – Julian (361–363); 3 – Jovian (363–364); 4 – Valentinian I. (364–367); 5, 6 – Valens (364–367; foto L. Juhász).

Ass. prof. Lajos Juhász, PhD.

ELTE – Eötvös Loránd Tudományegyetem

Régészeti Tudományok Intézete

Múzeum krt. 4/B

H – 1088 Budapest

juhasz.lajos@btk.elte.hu

<https://orcid.org/0000-0003-0550-1173>

FINDS OF ARTILLERY MISSILES FROM THE SOUTH-EASTERN PART OF THE VICUS OF THE ROMAN AUXILIARY FORT AT GERULATA¹

Tomáš Kolon – Erik Hrnčiarik

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Abstract: The subject of the paper is the finds of Roman sling projectiles and a throwing machine – ballista, which was discovered in the area of the south-eastern part of the civil settlement (vicus) in ancient Gerulata (the territory of modern Bratislava-Rusovce). The finds were discovered during a rescue archaeological research by the Department of Classical Archaeology, University of Trnava in Trnava, conducted in the Rusovce Manor House and its park in the summer of 2018. In the fills of two partially excavated sunken settlement features, two stone projectiles of oval, almost circular cross-section (diameter approx. 8.8×10.2 cm) made of sandstone and one smaller round clay ball were found among the common settlement material (pottery, clay lamp). Based on analogues, we assume the two stone balls were projectiles for a throwing weapon called a *ballista*. In contrast, the smaller clay ball (diameter 3.5×3.9 cm) was intended as a slingshot (*funda*) projectile. The accompanying finds permit their framework dating to the 2nd to 3rd century AD.

INTRODUCTION

From the archaeological point of view, the city district of Bratislava-Rusovce represents one of the most important archaeological sites of the Roman Period in present-day Slovakia. Unfortunately, most former ancient settlements are currently located under medieval and modern buildings. Nevertheless, numerous archaeological excavations realised in the second half of the 20th century and the first decades of the 21st century have provided many important clues (for a summary, see Kolník/Krekovič/Snopko *et al.* 1993; Polla/Vallašek 1991; Schmidtová 2008; 2012; Schmidtová/Mathédesz 2018; 2020; Snopko/Geržová/Ferus 1982; 1986; Varsík 1996a; 1996b; most recently Dragun 2022, 22–30, also with additional references). The building of a military auxiliary fort in the late 1st century AD has an immediate effect on the development of the settlement in its vicinity and the wider hinterland. The *Castellum* of Gerulata was the first of the fortified points of the Roman frontier on the Carnuntum – Ad Flexum line. The auxiliary fort (*Castellum*) was built near the Danube's side branch (today the Rusovce Canal), its strategic position being to protect the northern part of the relatively large area of the widely branching Danube with its many branches and riverside islands with alluvial forests (Schmidtová/Mathédesz 2019, 6, 15; 2020, 87, 88). The military fort was surrounded on three sides by a civilian settlement, the vicus, which gradually grew. The presumed extent of the settlement is indicated by the directly excavated settlement features and the burial areas located on its periphery and along the roads leading out of the former settlement. So far, the most prolific civil features have been excavated in front of the north-western gate of the *castellum* (present-day Maďarská and Irkutská Streets). A settlement pattern of a similar character has long been assumed in the area to the south and southeast of the fort, but so far, there has been only negligible information about it. One of the main entrance gates to the fort (the southern one) faced directly onto the area of the present-day castle site, which is approximately 215–220 m away from it as the crow flies (Fig. 1). The unsatisfactory state of research is aptly illustrated by virtually all published maps, where the area of the present Manor House and the adjacent park is drawn as a *de facto* empty area – ‘*terra incognita*’ (cf., e.g. Dragun 2022, fig. 2; Schmidtová 2008, fig. 78; Schmidtová/Mathédesz 2018, 57; Snopko/Geržová/Ferus 1986, fig. 1; Varsík 1996a, Abb. 1; 1997, fig. 1.34: 1). In other words, it represented an area without any evidence of settlement in a given location. There is even a sceptical opinion in the professional literature that the presumed numerous younger building activities from the medieval and modern periods in this part of Bratislava-Rusovce seem

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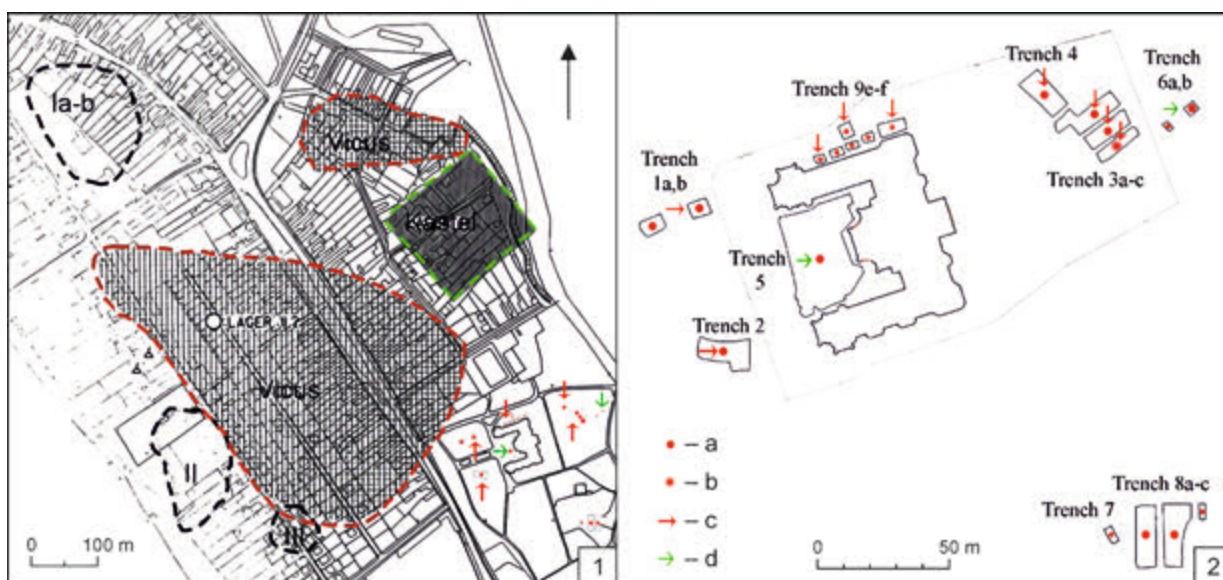


Fig. 1. Bratislava-Rusovce. Site on the map (after Dragun 2022, fig. 2; Varsik 1996a, 31, Abb. 8). Legend: a – sectors/trenches; b – sector/trench 3c; c – sectors with attested settlement from the Roman Period; d – sectors with likely occupation from the Roman Period.

to have destroyed the older settlement layers and features from the Roman Period (cf. Schmidtová 2012, 265). One of the few published exceptions is the mention of Roman *spolia* secondarily used in the construction of the church of St. Vitus (Polla/Vallašek 1991, 144; Schmidtová/Mathédesz 2019, 32; Schmidtová/Jezná/Kozubová 2005, 40, 62), in the vicinity of which five late Roman skeletal graves and one horse skeleton were simultaneously investigated (the so-called cemetery number IV). It is assumed that this burial site continued towards Balkánska Street, where an empty brick tomb was uncovered (Schmidtová/Štolcová 2017, 4, 5). This location is topographically only at the southern edge of the Manor House Park. This burial suggests the possible extent of a civilian settlement in the area to the south and southeast of the auxiliary fort. The results of the exploratory research in the area of the present-day Manor House and its adjacent park in Bratislava-Rusovce, the original assumptions about the destruction of evidence of Roman Period settlement in this location are significantly corrected or directly refuted. The present paper aims to briefly introduce the main results of the archaeological research and then discuss in more detail two settlement contexts in which several pieces of Roman artillery missiles were found.

BRIEF RESEARCH DESCRIPTION

Field archaeological research in 2018 under the direction of the Department of Classical Archaeology of the University of Trnava in Trnava was undertaken on the recommendation of the Monuments Board of the Slovak Republic. It was a rescue archaeological research significantly limited by space and time possibilities. It was to immediately precede a more extensive rescue research, which has still not been carried out so far, even with the gap of several years. The research aimed to identify the stratigraphic situation in the locality and the state of preservation of the archaeological features and to verify the results of the previous geophysical survey. The information obtained was subsequently incorporated into the project documentation for the long-term planned reconstruction of the site.² A total of 10 sectors were delineated, located in the areas potentially most threatened by the planned construction activity (Fig. 1). The archaeological survey revealed the presence of archaeological components from several periods. Reliably documented settlement features belong to the late

² Following the manuscript of this study's submission to the editors of the proceeding, the second phase of field archaeological research near the Manor House in Bratislava-Rusovce was initiated in August 2024. Its first phase focused on the area east of the Manor House and the periphery of Sector 3a–c, where an intensive settlement dating from the Early and Middle Roman Period was also identified.

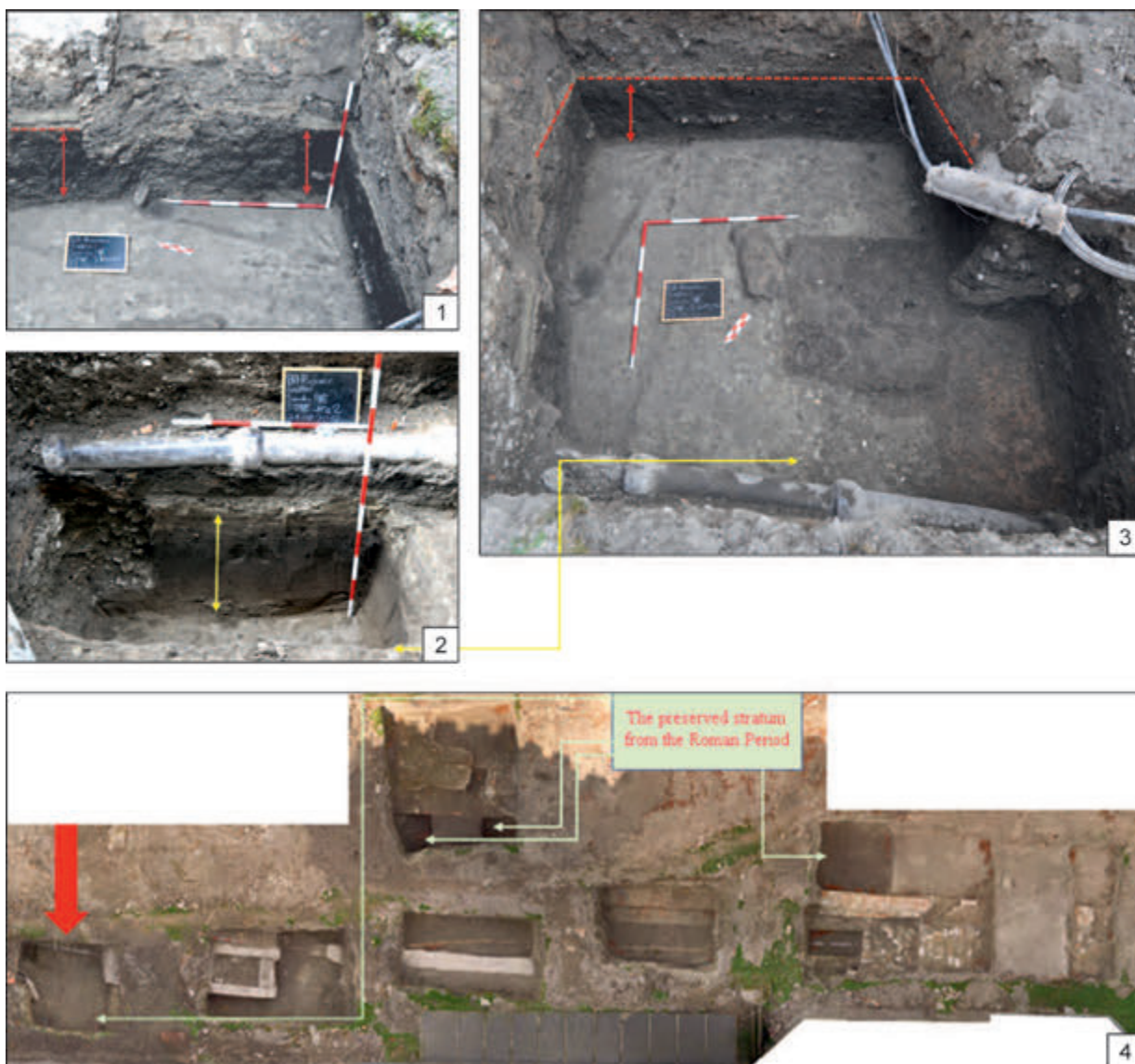


Fig. 2. Photos of the area of research Sector/Trench 9. 1–3 – parts of the examined area (Sector 9e) with preserved settlement strata and floor from the Roman Period (author T. Kolon, E. Hrnčiarik).

Hallstatt Culture (the area of Sectors 3 and 4) and the 17th to 19th century (concentrated mainly in the area of the Manor House courtyard – Sector 5 and in the area of Sectors 1, 2 and 9). To a lesser extent, the La Tène Culture is also attested amongst the moveable finds (the area of Sector 3a, sporadically within Sector 3c and Sector 4).

A partly surprising finding was the identification of preserved traces of intensive Roman era settlement of the site (Sector 1b, Sector 2, Sector 3, Sector 4, Sector 9 and, at least in part, the area of the entrance courtyard beneath the under the unbasemented parts of the older ruined Manor House – the so-called Sector 5). Although the construction of the Neo-Gothic Manor House in the areas with basements appears to have destroyed most of the earlier features, the immediate vicinity of the Manor House has been artificially raised in the modern period to the level of the pedestrian walkway. As a result, the older stratigraphic situations have remained relatively well preserved in some positions despite some 19th and 20th century trenches and incursions (Fig. 2). For example, within the minor archaeological survey of Sector 9 situated along the northern wall of the Manor House, a compact homogeneous cultural layer with dark brown to black filling was even identified in several positions, which was characterised by the concentration of a large number of artefacts dated to the second half of the 2nd to the first half of the 3rd century (Fig. 2: 1–3). The upper level of



Fig. 3. Photos of the area of research Sector/Trench 3c. 1 – photo of Trench 3c; 2, 3 – photos of the feature S.J. 3c_4/8; 4–6 – photos of the feature S.J. 3c_7a (author E. Hrnčiarik).

this layer started approximately 0.94 m from the present ground level. It continued to a depth of 1.44 (1.50) m, where the level of the earthen floor of a feature of unknown dimensions dating to the early Roman Period was located (Fig. 2: 1, 3). This cultural layer of approximately 0.5 m thickness, dating to the Early Roman Period, thus represents the *terminus ante quem* for dating the excavated part of the smothered clay floor (Fig. 2: 3). Subsequently, using a smaller reconnaissance section, we found another cultural layer as thick as 1.00 to 1.06 m under this floor (Fig. 2: 4). It cannot be ruled out that the total thickness of the preserved cultural layers from the Roman Period in the area north of the Manor House may reach from 0.5 m to 1.45–1.56 m in places. A similar layer was also present in places a few dozen metres further away in the main entrance courtyard (Sector 5), but this was only investigated at its upper level of interception. So, the extent of the preserved Roman era features in that area of the Manor House site cannot be determined. At the same time, a partially preserved cultural layer from the Early Roman Period is also presumed to be present near Sector 1b. The findings certainly cannot be applied universally to other locations within the Manor House grounds. For example, a different situation was found in the nearby areas of Sectors 3 and 4. Compared to the immediate vicinity of the Manor House building, the relief in this area is characterised by a significantly

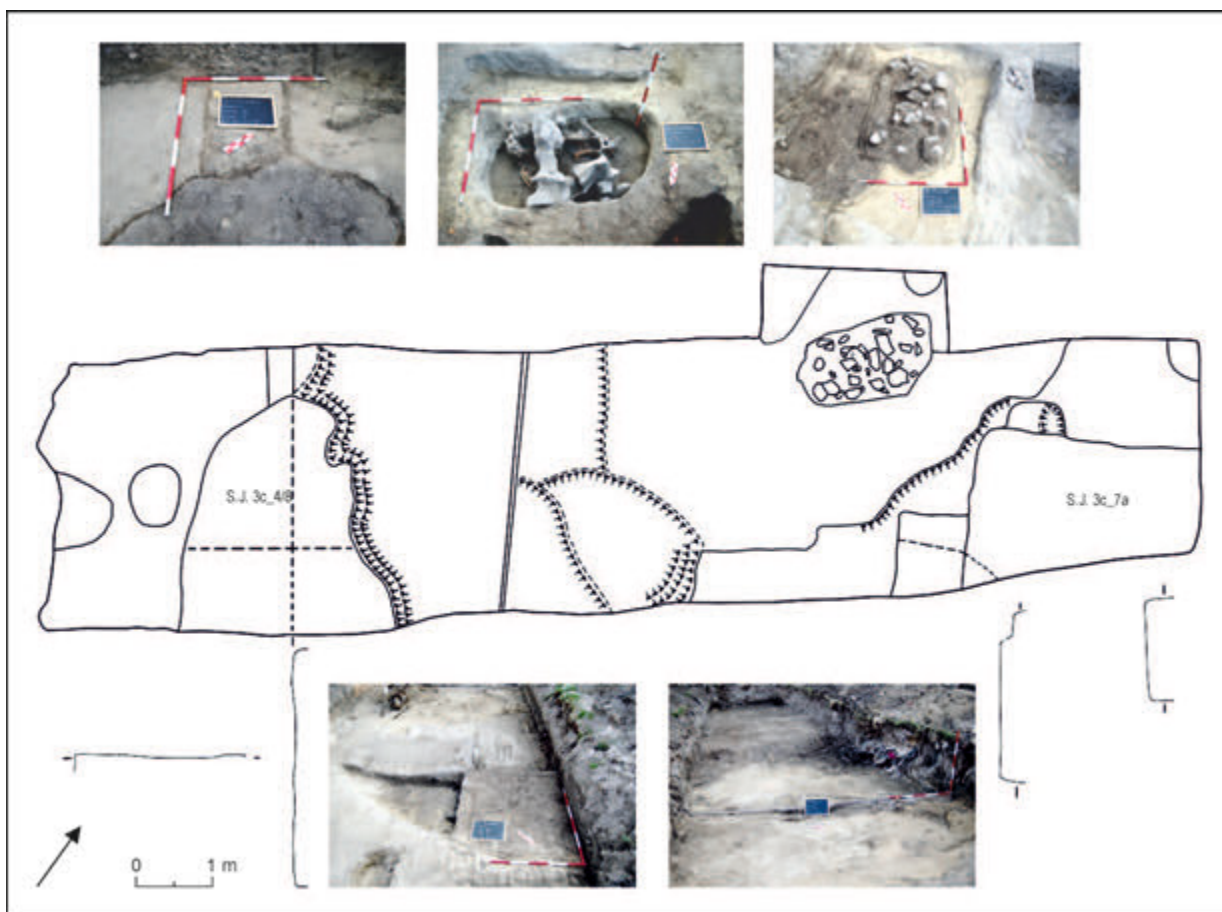


Fig. 4. Plan of the area of research Sector/Trench 3c (author T. Kolon, E. Hrnčiarik).

lower level, which is probably related to the gradual slope of the terrain towards the Danube and also to the landscaping of the garden carried out in the modern period (levelling of the terrain). This fact was immediately reflected in the state of preservation of the documented archaeological features. The cultural layer has been preserved only in a torso-like condition in the given location, especially in the places of natural depressions. The original surface has not been preserved in this part of the study area, and a significant part of the settlement features has thus been preserved only when they are sunk into the sands of the subsoil (Fig. 3: 1). A number of these have also been secondarily disturbed by various interventions and trenches dating to the modern period. Nevertheless, even in this location, intensive settlement from the Roman Period has been documented.³ By agreement with the situation with Sector 9 mentioned above, in this section, most of the artefacts were mainly from the 2nd century to the first half of the 3rd century. Only isolated finds (e.g. a few fragments of glazed *mortaria*) indicate the continuation of the settlement in the Middle and Late Roman Period.

FINDSPOTS WITH THE PRESENCE OF ROMAN MILITARIA

The Roman Period military equipment, which is the subject of this study, was found in the sunken parts of the two settlement features investigated in Sector/Trench 3c (Fig. 3; 4). This trench was one of three line trenches excavated in the enclosure area behind the east wing of the Neo Gothic Manor House. The trench was slightly trapezoidal in plan (length: 17.25 m; width: 2.45–3.9 m) and had a longer axis orientated approximately

³ During the current archaeological research, part of a masonry aqueduct was identified in the area east of the present Manor House. This aqueduct most probably supplied water from an adjacent branch of the Danube River to an unknown structure, probably originally located under the south wing or southwest or west of the south wing of the Manor House, respectively.

east-west. The purpose of this trench was to verify the presence of extant archaeological remains and to establish the essential characteristics of the relief. The upper layer of the brown earth was to be excavated using an earth machine with a flat spoon approximately 0.5 to 0.6 m in thickness. However, immediately after the extraction of part of the brown humus surface, the remains of the bulk of an unrecorded modern dump of construction and communal waste from the 1990s were recovered in the central part of the excavated trench, significantly disturbing the earlier find situations. The archaeological remains were also damaged by the digging for a water pipe that cut north–south across the entire trench. Nevertheless, several interesting archaeological situations could be archaeologically documented.

The first is a relatively shallowly sunken, flat-bottomed settlement feature (Fig. 3: 2, 3), the filling of which consisted of brown compact earth with an admixture of a large number of pottery sherds, animal bones, and, more rarely, other finds (labelled S.J. 3c_4/8). The floor of the feature consisted of a beaten, hard grey earthen floor (Fig. 3: 3). The original exact dimensions of the feature could not be determined as the waste dump and the trench for the water pipe had destroyed its eastern side. At the same time, its southern part lay outside the excavation area. No remains of the column structure were recovered directly in the floor area. Several pits were investigated near the feature, but their relationship to the feature is unclear. The preserved dimensions of 3.52 m (surviving width) $\times$ 4.5 m (surviving length) $\times$ 0.15–0.23 m (depth) suggest that this was a typical partially sunken hut with rounded wall. Several analogues to this feature are recorded directly from the hinterland of the auxiliary fort at Bratislava-Rusovce (*Varsik* 2012, 229, 230, fig. 378, 380). The fragments of pottery – Red-coloured (oxidized) ware (both undecorated and Pannonian striped ware with painted horizontal bands), the so called grey (reduced) coarse ware and samian ware (*terra sigillata*) – were numerous in the fill of the sunken hut (Pl. III: 10–18; IV). The small finds (Pl. III: 10, 13) include fragments of iron building fitting (Pl. II: 6) and fragments of another building fitting or corroded iron key? (Pl. II: 2), smaller fragments of ceramic building material (*tegulae*) and one specimen of an almost round terracotta ball (dimensions: 3.9 $\times$ 3.5 $\times$ 3.7 cm, weight: 48.9 g). The ball was made of well-baked fine-grained clay of reddish-brown colour (7.5YR 5.5–6/3).

Unfortunately, the other sunken settlement feature recorded in the area of Trench 3c could also be investigated only partially. At the time immediately after the removal of the humus layer, it was not possible to determine its exact dimensions, as after clearance, the entire eastern quarter of the area of Trench 3c was characterised by a continuous brown with no distinct borders, with a few accumulations of moveable artefacts (Fig. 3: 1; 4). From a methodological point of view, the feature was therefore designated collectively as S.J. 3c_7 and investigated through several reconnaissance cuts (Cut 1, Cut 2, Cut 3 and partially Cut 4) oriented transversely to the longer axis of Trench 3c (Fig. 3: 4). After documenting the findspot situation, the control blocks were removed, and the features were separately marked. Part of the material thus recovered also came from the clearance of the cultural layer above its level of interception in the sandy subsoil, from the excavation of the test cuts and the removal of the control blocks. Except for one stone artefact found directly on the floor, all other artefacts came from its fill and so cannot be directly linked to the original function of the feature.

The part of the feature examined was rectangular in plan with vertical upright walls and a flat bottom. On both partially captured sides, a shallowly sunken and outward protruding ‘stepped niche’ measuring 0.91 $\times$ 0.43 m. On the flat bottom, the remains of a beaten floor were preserved in places – grey hard earthen floor (Fig. 3: 5, 6). Below the floor, there was a thin sand layer with distinctive yellow mottles and streaks, just below a layer of geological subsoil gravel. The filling of the feature was grey-brown clay with an admixture of river pebbles, which produced marbled dark yellow veining in places. The feature in the southern part near the edge of the trench was disturbed by another feature, S.J. 3c_7c (?), but the more significant part was located south of the survey area. A horse grave (S.J. 3c_6a) and part of a hearth/oven were examined near it (S.J. 3c_7b). Two pieces of stone artefacts made of yellow–grey sandstone (2.5Y 7/2–2.5) were found directly in the fill of the sunken hut and from the layer above it (Pl. I). Both artefacts were oval, almost spherical with one flatter side and approximately the same size and weight (1. stone ball: diameter 8.8 cm $\times$ 10.0 cm, weight: 1.0198 kg; 2. stone ball: diameter 8.9 cm $\times$ 10.2 cm, weight: 0.9971 kg). One stone ball was found during the clearance of the area of Trench 3c after the removal of the humus layer in the area above the level of feature 3c_7. A second stone artefact was found during the removal of control Block 3, located in the fill space of the sunken portion of the same feature. At the same time, another larger stone in the “shape of a loaf” (dimensions: 20.1 $\times$ 17.2 $\times$ 9.5 cm; weight: 3.0956 kg) with one flat side with traces of working (semi-working/raw material) was found

on the floor of the feature, and it was made of the same type of sandstone, too. A smaller fragment of another artefact made of a different (harder and finer-grained) type of stone was also found during the excavation of Cut 4. The preserved worked part is oval rounded with a presumed diameter of ca. 7–9 cm (preserved dimensions: 8.0 × 3.9 × 5.0 cm).

THE ANALYSIS OF ARTEFACTS

The recovered movable finds based on analogues served as projectiles for Roman long range weapons. Two more giant sandstone stone balls (Pl. I: 1, 2) may have been used as munitions for a Roman military stone throwing machine called a ballista.⁴ In the case of the larger limestone, which is in the shape of a loaf, its interpretation is uncertain (Pl. I: 4). It may be, for example, a semi-finished stone or part of a raw material. Similarly, in the case of a smaller fragment made from a different type of stone, its exact functional assignment is questionable (Pl. I: 3). It may also be a projectile for a ballista or part of a stone weight.

Studies of ancient artillery rely heavily on literary evidence – for example, Heron (*On the Construction of Artillery*), Vitruvius (*On Architecture*), Vegetius, Ammianus Marcellinus, the anonymous author of the *De Rebus Bellicis* (*On Military Matter*), and Procopius – all include detailed descriptions of artillery pieces (Sarantis 2013, 170; detailed by Campbell 2004 also with relevant commentary). The terminology used is inconsistent and, in some cases, quite confusing. Ancient writers often used different names for the same weapons. This fact may theoretically indicate a change in terminology over time (cf. Chapman 2005, 53). The two main types of artillery used by the Roman army in the first century AD were the stone-thrower (*ballista*) and the bolt-shooter (*catapulta*). By the time of Trajan's reign, these static field pieces were supplemented by versions mounted on carriages (*carroballistae*), designed to provide mobile artillery that was employable in open battle. In the 3rd century, the onager, also called the *Scorpio*, was added, apparently becoming the main stone throwing engine by the time of Vegetius and Ammianus Marcellinus. By the fourth century, the term ballista had come to mean a bolt-shooter (Chapman 2005, 53). This new vocabulary for artillery is also found in Vegetius (detailed in Campbell 2011, 690).

Stone projectiles are attested in various parts of the Roman Empire but relatively rarely published. It is generally assumed that stones weighing less than 500 g are unsuitable for use as ballista missiles, and they were probably thrown by hand or shot with a slingshot (Arbiv 2023, 110). From the area of ancient Gerulata, only one such find has so far been recorded, but without known detailed finding context. It is identical in terms of the material used (sandstone) and dimensions – diameter ca. 9.5 cm (Krekovič 1994, 212). A fragment of a smaller artefact of round shape, made of limestone (diameter: 8.6 cm; weight: 605 g), was also found during archaeological research on Gerulatská Street in Bratislava-Rusovce. However, unlike the finds from the Manor House area, it has a hole dug in one of its sides, where a metal handle could have been fixed originally. From a functional point of view, it probably represents a weight (Varsik/Kuzmová/Schmidtová 1996, Taf. 5: 50). Weights with a hollowed-out cavity and with a preserved metal handle are known from some localities. At this point, however, it should be pointed out that several sandstone balls interpreted as ballista projectiles also had a partially excavated hole on one side (e.g. Beutler et al. 2017, 294, Cat. No. 500; Chirilă et al. 1972, Taf. LXIII: 2). Several projectiles made of stone and clay with a diameter of 7.4–12.5 cm have also been found in the auxiliary fort of the Carnuntum (Beutler et al. 2017, 294, Cat. No. 498–500; Tragau 1897, 203, Abb. 15). One find of a stone ball interpreted as a projectile is now exhibited in the Komáromi Klapka György Museum. The location of the discovery is mentioned as Komárom-Szőny Stadion, and it is roughly dated to the 1st to 4th century AD. A single limestone ball (diameter: 12.4 cm, weight: 1658 g) was found together with another Roman military equipment in the town centre of Poetovio (Janežic/Lazar 2015, 265, fig. 11). Several crudely worked stone balls were also found in the Ellingen Castellum (Zanier 1992, 285, Taf. 105). Rather sporadic finds of missiles (in stone or terracotta) are also known from the western provinces of the Roman Empire (e.g. Maldegem-Vake in the territory of present-day Belgium, Neiderberg in the territory of present-day Germany) or the territory of Britain – e.g. from Burnswark and High Rochester (Bishop/Coulston 2006, 135, 170, fig. 82; Campbell 2008, 38; Lemke 2013, 360; Reid 2016, 22; Streinu 2017, 264).

⁴ During the current excavation, another stone artefact was found a few metres away from Sector 3c, which resembles a ballista projectile in its form and dimensions.

There are several published finds of stone ballista projectiles from the province of Dacia – e.g. from Romita-Certiae (*Matei/Bajusz 1997*, 131, Taf. LXXXIV: 2), Moigrad-Pomet (Porolissum 1), Cășei (Samum) and from Buciumi, Babadag – Topraichioi (*Gudea 2009*, 232–235; *Streinu 2017*, 263). More detailed finds are also known from the area of the military fort in Buciumi, where a more significant number of missiles have been discovered directly in barracks 2, 4, and 5, dated to the 2nd–3rd centuries (*Chirilă et al. 1972*, 66). This type of militaria is also known as Capidava, one of the most important Roman forts erected during the massive effort to strengthen the Dobrogea limes at the beginning of the 2nd century AD (*Rațiu/Stoian 2014*, 319–335). At the same time, they are also known from other sites on the Lower Danube, e.g., at Abrittus, Sucidava, Hinova, Răcari, Pleșa, Drobeta, Arutela, Feldioara, Inlăceni, Brețcu, Arcobadara, Porolissum, Gherla, Mehadia, Celei, Bumbesti, Vărădia – Chilii and Bistret (*Lemke 2013*, 360; *Streinu 2017*, 264). An extensive assemblage of stone projectiles from the legionary fortress Novae was published a few years ago. Projectiles from Novae are not entirely spherical. Some were well rounded and fabricated, suitable for a ballista or onager. Others were made with much less care, sometimes “recycling” architectural elements or artefacts, such as a mortarium (*Lemke 2013*, 360). The study’s author does not rule out their possible application in defence of the city during the Middle and Late Roman Period when an increased number of barbarian attacks in the region were recorded. The mixed military and civilian inhabitants of Novae could have effectively used these stone projectiles together to defend the city against enemies if necessary. They thus could have at least partially recompensed for the smaller number of defenders, for example (*Lemke 2013*, 360). Stone missiles thrown by hand were a crucial defensive weapon in siege warfare. Stones could be thrown with one hand or dropped over the side of the wall with both hands. For example, the ancient writer Vegetius describes how legionaries used to practice throwing stones weighing up to one pound (0.3275 kg) by hand. These were presumably thrown with one hand and may indicate the possible weight of smaller hand-thrown projectiles (*Holley 2014b*, 49).

Several stone projectiles were also discovered in locations around the Black Sea area. However, it is difficult to unequivocally prove any link with the Roman army’s presence. Examples of such sites include Apsaros, Panicapaeum, Phanagoria, Iluration, Tauric Chersonese, Tasunovo, Artesian, Uzunlarskoe Gorodiše, Kepoi, and other smaller sites on the Taman Peninsula (*Kubrak/Aslanishvili 2018*, 109–112). The 128 stone projectiles from Apsaros can be divided into five groups in terms of their diameter, whereby the most numerous represented have diameters amounting to between 5.5 and 8 cm and a weight from 0.24 to 0.75 kg. (*Kubrak/Aslanishvili 2018*, 124–126). Some dozens of stone projectiles are also known from the Roman fortress on Ai-Todor Cape in Crimea. One hundred similar artefacts were also found in Artaxata, one of the ancient capitals of Armenia (*Kubrak/Aslanishvili 2018*, 111).

Stone projectiles are particularly abundant at well-fortified sites in the Mediterranean, the Near East, and Egypt, where the use of artillery in the conquest of fortified settlements was known in earlier periods (see e.g. *Campbell 2003*, 20). There is evidence from the Roman Period, for example, at the site of Qasr Ibrim. There are 652 stone ballista projectiles published to date, with the original total estimated at over 780 pieces, but some have been lost over time due to disturbance to the site (*Wilkins/Barnard/Rose 2006*, 76). As no siege ramp is attested at this site, it seems likely that the Roman military commander Petronius employed the tactic of heavy artillery fire before the actual assault when taking the fortified city (*Wilkins/Barnard/Rose 2006*, 66).

According to eyewitness testimony of Josephus Flavius, Vespasian, for example, reportedly followed a similar approach during the siege of Jotapata (Palestine) in 69 AD. Paradoxically, only a few dozen finds of stone projectiles are known directly from archaeological excavations of this site, most of which were no heavier than 2 kg. A considerable groups of stone ammunition have been found at the other sites besieged by the Romans during the Jewish War – Jerusalem, Gamala and Masada. However, the details of only 50 of the many hundreds found at Masada have been published (*Campbell 2003*, 36, 37). A. Holley, who published the *ballista* shot from Yadin’s excavations at Masada, notes that they were all found in loci on the northwest side of the mountain, that is, on the side facing the assault ramp. He concludes that the majority of the *ballistae* at Masada were small-calibre engines (scorpions or light artillery) used to provide cover fire rather than make a breach in the wall, confirming Josephus’ description (*Davies/Magness 2017*, 61; *Holley 1994a*, 347–365). The use of *ballistae* is also well documented archaeologically well documented in the city of Jerusalem. Stone projectiles were most recently recovered as a part of research on the part of the city’s fortifications (*Arbiv 2023*, 103–116) and also in the form of a selection from the site of Herod’s Palace in Jerusalem. The findings corresponded to 8 weight categories weighing from 0.5 kg to 26 kg. Gamalla, besieged by the Romans in 67 AD,

produced over 2000 ballista balls (Campbell 2003, 36, 37). A total of 1310 stones were recorded at Gamla. Most were found along the defensive wall and were then grouped by the excavators. The stone balls likely represent more or less the complete inventory of stone projectiles used at the siege (Holley 2014b, 37, 38). Three hundred rounded stone balls came to light in the Khirbet el-Maqatir excavations, distributed throughout the Bronze Age, Iron Age, Late Hellenistic, and Early Roman strata. While the largest was 1.96 kg, most balls weighed 250–350 g. Stones weighing over 655 grams could have been Early Roman ballista balls (Strecker/SeEVERS 2023, 303). Significant numbers of stone balls of different diameters were also recovered at Dura Europos (Bishop/Coulston 2006, 169, 170, fig. 108; James 1990, 101, 102).

The smaller terracotta, almost globular ball (Pl. III: 10), represents the projectile for the sling, according to the classification of Th. Völling belongs to its Type I (Völling 1990, 38, Abb. 22: I). Directly in Bratislava-Rusovce, a few finds of slingshot projectiles from the Roman Period have been obtained so far through several archaeological excavations (Kraskovská 1988, 134; Krekovič 1994, 211, 212, fig. 4: 8; Pichlerová 1990, 82; Schmidtová/Mathédesz 2019, 39, 68; Varsik 1996b, 555, Abb. 13: 6).⁵ The author mentioned above also collected most of the previously known published Type I clay projectiles, including well-dated pieces from the sites of Tharros, Haltern, Alphen, Pförring, Buciumi, Balmuidy, Bar Hill, Brough-on-Humber, Old Kilpatrick, Watercrock and Telița (Völling 1990, List 6). Pannonia also documented their occurrence in nearby Carnuntum (Beutler et al. 2017, 291, Cat. No. 493, 494). Soldiers were taught slinging as a matter of course during their training, presumably as a helpful skill to keep a reserve. However, specialists in this weapon seem to have been spread amongst the army in the garrison rather than kept together in one place (Bishop/Coulston 2006, 88).

In the ancient Mediterranean, the slingers (*funditores*) of the Balearic Islands are frequently mentioned in contemporary sources. According to experiments, optimal throwing accuracy is achieved at an angle of approximately 40°. The maximum range of a clay ball is 200 m, and that of a stone ball is up to 230 m. However, shooting is only effective up to a distance of 65 m, respectively 85 m (Pieta 2005, 48; Schmidtová/Mathédesz 2019, 22). Vegetius advocated using the sling and staff-sling on the end of wooden staves measuring 4 Roman foot (1.18 m) within legionary formations (Bishop/Coulston 2006, 88). Paradoxically, e.g. in the column of Marcus Aurelius, the sling is depicted in only one scene, and that too in the hands of two barbarians (Hrnčiarik/Ulický 2014, 63). In present-day Slovakia, we have evidence of using clay or stone projectiles from other periods and cultural environments. They are, for example, among the relatively common finds in hillforts and settlements of the so called Púchov culture (in detail Pieta 2005, 48, 49, Taf. 6).

DATING OF FINDS

In order to date the *ballista* and sling projectiles from the vicus research at Bratislava-Rusovce, we can rely solely on the context dating's of the accompanying artefacts (Pl. I–IV). Both settlements find assemblages belong to a waste area with high proportions of secondary to tertiary rubbish. The presumed significant proportion of unintentional cultural and natural transformations does not allow us to speak of a “sealed deposit” in the strict sense of the term. Find of the lower part of the cup (Pl. III: 4) with a so-called “sandblasted surface” (“*Becher mit Griefsbewurf*”) belongs to the group of wares referred to as “fine red-slipped ware with a gritty surface” (“*Keramik mit Griefsbewurf*”). The technique of sandblasting the exterior of pottery first appeared in the Rhineland under the Flavians. It lasted until the end of the Roman Period, while in Pannonia only until the beginning of the 3rd century, with the latest wares considered local imitations of Western shapes (Krekovič 1981, 358, 359). In the Carnuntum, this pottery form is attested in Period II (Gassner 1991, 275). Several cups have been found as part of grave goods in the cemeteries of Bratislava-Rusovce. This shape usually dates from the second third of the 2nd century to the end of the 2nd century AD (Gassner 1991, 275; Krekovič 1998, 9, Taf. 1: 12–15). Sherds of red-coloured (oxidised) ware (Pl. II: 11; III: 2, 3, 7, 15, 18; IV: 13) can only be tentatively dated to the 2nd to 3rd centuries AD. A few thin-walled fragments from the bodies of vessels, decorated on the surface with painted horizontal bands and thin engraved horizontal grooves or rows of short incisions made with a point chisel, belong to the group of so-called Pannonian striped ware (Pl. II: 14; III: 12; IV: 7). These are characteristic products of the potters in Pannonia in the Period from late 1st century to the second half of the 4th century. Most often, this technique was used to decorate a variety of jar or pot shapes. The red or

5 Another terracotta sling projectile was found within a few metres of Sector 3c during the current archaeological research.

brown paint is identical in composition to the coating on other pottery types, except that it was applied with a brush (Krekovič 1981, 353). The fragmentary character of the sherds only allows their tentative dating to the 2nd century to the first half of the 3rd century.

The relatively numerous fragments of rim sherds from the so-called grey coarse ware represent a chronologically less sensitive type of artefacts (Pl. II: 12, 13; III: 5, 6, 8, 9; IV: 1–6, 8–12, 14, 15). From the shape spectrum, lids, pot-shaped vessels and huge deep bowls with a horizontally or outward-sloping rim (the so-called “*Schüsseln mit Horizontalrand und Wandknick*”) are represented (Pl. IV: 1–3). Analogues to several of the finds can be found directly in Bratislava-Rusovce (Krekovič 1998, Taf. 9–15), but also e.g. in Carnuntum. This pottery type was produced with minor modifications throughout the Roman Period (cf. Krekovič 1981, 366). According to the classification of B. Petznek, two sherds of lids (Pl. II: 12; IV: 10) belong to Type 28 (the so-called “*Deckel mit rundem Rand und Innenabsatz*”), and they are among the oldest variants of this shape (Petznek 1998, 268, 269; 1999, Taf. 55). The rim of a pot-shaped vessel with a slanting outwardly flared rim (Pl. II: 13) has its closest analogy in Type 5.4 (Petznek 1999, Taf. 6:73), while a vessel with a triangularly flared rim (the so-called “*Töpfe mit Dreieckrand*”; Pl. IV: 4) in Type 6.1 (Petznek 1999, Taf. 7; 8; Krekovič 1998, 32). The upper part of another pot (the so-called “*Große Töpfe mit ausgebogenem Kolbenrand*”, Pl. IV: 5) belongs to Type 2 (Krekovič 1998, 33, Taf. 21; Petznek 1999, Taf. 1).

The more chronologically sensitive associated finds include, in particular, the tiny fragment of Samian ware (*terra sigillata*) found in fill feature S.J. 3c_4/8. Part of the rim of the conical cup of Drag. 33 (not illustrated) has a provenance in the Central Gaulish workshop and its presumed period of origin within the Antonine dynasty. The rim of a deeper bowl imitates the shape of Drag. 37 decorated on the outside and inside with delicate red-coloured marbling like ‘flames’ (Pl. III: 14) belongs to so-called marbled ware (“*Marmorierte Keramik*”), which was characterised by a specific surface treatment, which involved the application of red or brown slip with brush or sponge to imitate the appearance of marble. In finds assemblages, marbling is attested in the western provinces in the pre-Flavian Period, with Gaulish sigillata producers wanting to imitate glass vessels. In Pannonia, marbled wares first appeared at Emona during the middle of the first century AD, apparently connected to local pottery production (Krekovič 1981, 348; 1998, 14, 15; Vrba 2008, 268). By the traditional classification, the fragment from Bratislava-Rusovce belongs to an older (earlier) group of finds produced from the end of the 1st century to the end of the 2nd century, which were characterised by a higher quality surface finish (cf. Krekovič 1981, 348; 1998, 15).

One rim of a sherd belongs to a vessel referred to in the literature as a *turibulum* (Pl. III: 17). This form of pottery is however known under the names of *fruit dish*, *tazza*, *incense cup* or *censer* in English, *Räucherkelch* or *Räucherschale* in German and *calice à encens* in French (Mihailescu-Bîrliba 1996, 97). This pottery dates to the 1st to 4th century AD. Certainly, there are both early and late examples, but it appears most frequently in well-dated complexes between the middle of the 1st and the middle of the 3rd century AD (Mihailescu-Bîrliba 1996, 98). This type of vessel is also well attested at nearby Carnuntum, where it occurs regularly from the so-called Period 1 to Period 4 – i.e., from 50 to 300 AD. The find from feature S.J. 3c_4/8 has quite unusual profiling. The closest analogues in shape are dated to the Period 120 to 170/180 AD (Gassner 1990, Taf. 4: 19). A few fragments of *turibula* have so far also been found during other archaeological excavations in Bratislava-Rusovce (Krekovič 1998, Taf. 7: 5, 6; Varsik 1996a, Abb. 17: 8; Varsik/Kuzmová/Schmidtová 1996, Taf. 3: 22). The clay lamp belongs to the Loeschcke X type, while the open-channel lamps represent a younger variant of the firm lamps (Pl. II: 1). Throughout the long-term copying process, there were gradual changes in shape. The contours of the lamps gradually became more and more coarse, less pronounced and partly degenerated (Žundálek/Žundáleková 2012, 32). The absence of a sharp boundary between the body and the burner characterises the find from feature 3c_7. Morphologically, the lamp corresponds to shape B according to the classification of E. Alram-Stern (Alram-Stern 1989, 41). The maker’s mark is illegible. The letters are fused and form a continuous protruding band. Several such ‘marks’ can be found, for example, in the collection of the Danube Museum in Komárno (Žundálek/Žundáleková 2012, Cat. No. 72, 73, 76, 90, 92 108).

One fragment of a stamped tegula was also found in each of the two analysed settlement features. The tegula from feature 3c_7 has a preserved part of the inscription “[...] PIAF” placed in the inscriptional recessed field as a *tabula ansata* (Pl. II: 5). The interpretation of this mark is still unclear, as no precise analogues are found in the published literature known to our knowledge. Hypothetically, it could be an “atypical alternative variant” of the abbreviation of the honorary designation “*Pia Fidelis*” of the Xth Legion

of Vindobona, granted to it by Emperor Domitian in 89. The *Legio X Gemina* arrived in the Pannonian territory in 62, replacing the *Legio XV Apollinaris* in Carnuntum. It was transferred to Italy in 68 and returned to Pannonia around 101–102 again. Initially, its seat was Aquincum, but around 118 AD, it was transferred to Vindobona, where it remained until the end of the Roman administration of Pannonia (Dragun 2022, 70; Kraskovská 1991, 50). However, we do not have sufficient arguments to reliably identify the partially preserved stamped tegula with the military unit in question. In the fill of the second settlement feature, S.J. 3c_4/8, a tegula with the mark “LEG XV[....]” was found in a simple rectangular cartouche (Pl. III: 13). It represents a product of the XVth Auxiliary (*Apollinaris*) Legion, which was active in Carnuntum between 14 and 62. Subsequently, this unit was temporarily transferred to the east. After its return to Pannonia in 71, it operated again in Carnuntum until it was finally withdrawn from the Danubian area sometime between 117/118 (Neumann 1973, 11, 12; Turčan 2011, 27). Finds of stamped bricks of the XVth Auxiliary Legion are known not only from Bratislava-Rusovce (Kraskovská 1991, 51, fig. 8: 8, 9; Schmidtová/Mathédesz 2019, 47, 86) but also from the area of barbarian residences of Germanic elites built in the Roman manner – e.g. Stupava, Milanovce/Velký Kýr (Turčan 2011, 27; detailed in Brandl 1999, 204–206, Map 22). The occurrence of bricks with military troop markers does not automatically imply a direct link to the army environment. In the provinces, their occurrence in civilian buildings is also documented in several localities. The appearance of brick and tile with stamps of troops outside military forts was already noticed during the 19th century (Schmidts 2018, 169). The diversity of the conditions in the provinces makes it clear that it is nearly impossible to create one single explanatory model. For building ceramics, their later reuse cannot be ruled out. The secondary use of military bricks and tiles in civil contexts seems comprehensible, especially for regions with abandoned legionary forts (Schmidts 2018, 170). However, the dating of most of the remaining movable finds from the fills of both features is also consistent with the period of greatest settlement intensity at the site, which falls in the 2nd to 3rd (first half?) century AD.

DISCUSSION

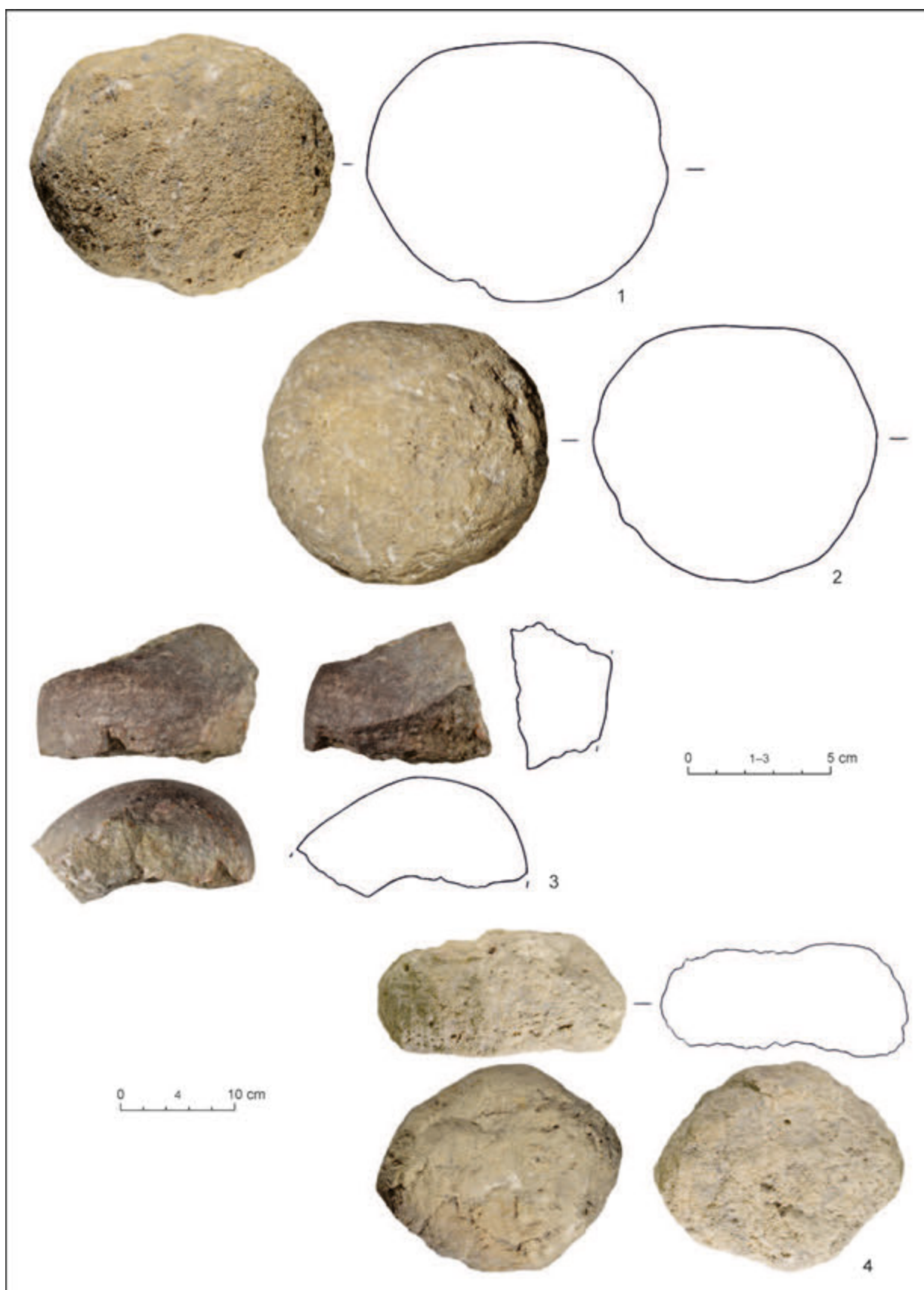
Several factors must be considered when interpreting the discoveries of military equipment recovered during the archaeological research of the Bratislava-Rusovce Manor House area. First and foremost, the exact finding context must be taken into consideration. Two stone ballista projectiles and one ceramic slingshot bullet were found in the fill of two sunken parts of the settlement features, where they had been deposited as secondary to tertiary waste. The associated findings allow the two stone ballista projectiles and one clay sling cartridge to be dated tentatively to the second half of the 2nd century to the first half of the 3rd century AD. The excavated contexts indicate that a previously unexamined archaeological part of the civilian settlement, the vicus, was located in this position, which also surrounded the military *castellum* on the south and southeast sides. From the area of Bratislava-Rusovce, we have so far published findings of military equipment from several positions (Dragun 2022, 78–80; Kraskovská 1988, 133–140; Krekovič 1994; Schmidtová/Mathédesz 2019, 36–52; Varsik 1996b, 550–558). Unsurprisingly, the largest concentration is recorded directly from the area of the soldier's fort. However, smaller numbers are also represented in other contexts, and exceptionally, they have even been deposited in graves as grave goods – e.g., one iron spear from cemetery II (Kraskovská 1988, 136; Krekovič 1994, 211). The investigated area within the Manor House is located relatively close to approximately 215–220 m as the crow flies from the southern gate of the fort. Projectiles for the *ballista* and one clay slingshot may have entered this part of the civilian settlement in several ways. The possibility that the artefacts were used by the Romans during the defence of the military base fort in an attempt to ward off an enemy attack is a possibility. Roman troops used *ballista missiles* in the siege and conquest of enemy-fortified settlements and the defence of military forts. The previously mentioned finds from Novae or Buciumi are interpreted this way (cf. Holley 2014b, 49; Lemke 2013, 360; Streinu 2017, 263).

According to the authors of the research at the second mentioned site (Buciumi), the presence of stone projectiles is probably related to the equipment of the fort garrison with several *ballistae*, which were placed on the platforms of some towers of the fortification (Gudea 2009, 227, 228, Taf. 5; Chirilă et al. 1972, 66, 67). With their precision, range, penetrative power, and rate of fire due to the use of the torsion principle, Roman artillery far exceeded the effectiveness of the archer's bow or sling (Beutler et al. 2017, 293). Other alternative interpretations must be considered at this point. They may have come to this position accidentally

and unintentionally, e.g. as part of waste disposal material. A larger stone artefact in the shape of a loaf was found on the floor of the sunken feature and, thus, theoretically, could represent part of its original inventory (?). If it is a semi-finished or uncompleted product, it could indicate the existence of a stone workshop in the vicinity. From Bratislava-Rusovce, we know of many stoneworks. Commonly, limestone was mainly used for their production, but also sandstone to a minor extent (see e.g. *Pichlerová 1990*, 69; *Schmidtová/Jezná/Kozubová 2005*, 36–44, 46–48, 50, 51, 55–61). In this respect, it should be mentioned that an undated horse grave (3c_6) was investigated near sunken feature 3c_7a, which was covered with a quarried stone of varying size with no trace of mortar. The remains or waste stone from the then non-existent stonemason's workshop, which had gradually accumulated in the vicinity, may (?) have been used to backfill the horse grave. The stone projectiles found from Bratislava-Rusovce show similarities with several published examples of this type of artefact. The preference for an easily workable and soft sandstone rock is consistent. There are also similarities in the preferred diameter of the stone spheres and their weight, corresponding to approximately three Roman pounds. The closest analogues of the stone projectiles are known directly from Bratislava-Rusovce and Carnuntum. At both sites, analogues to the ceramic slingshot are also attested (*Beutler et al. 2017*, 291, Cat. No. 493, 494; *Krekovič 1994*, 211, 212, fig. 4: 8; *Varsik 1996b*, 555, Abb. 13: 6).

CONCLUSION

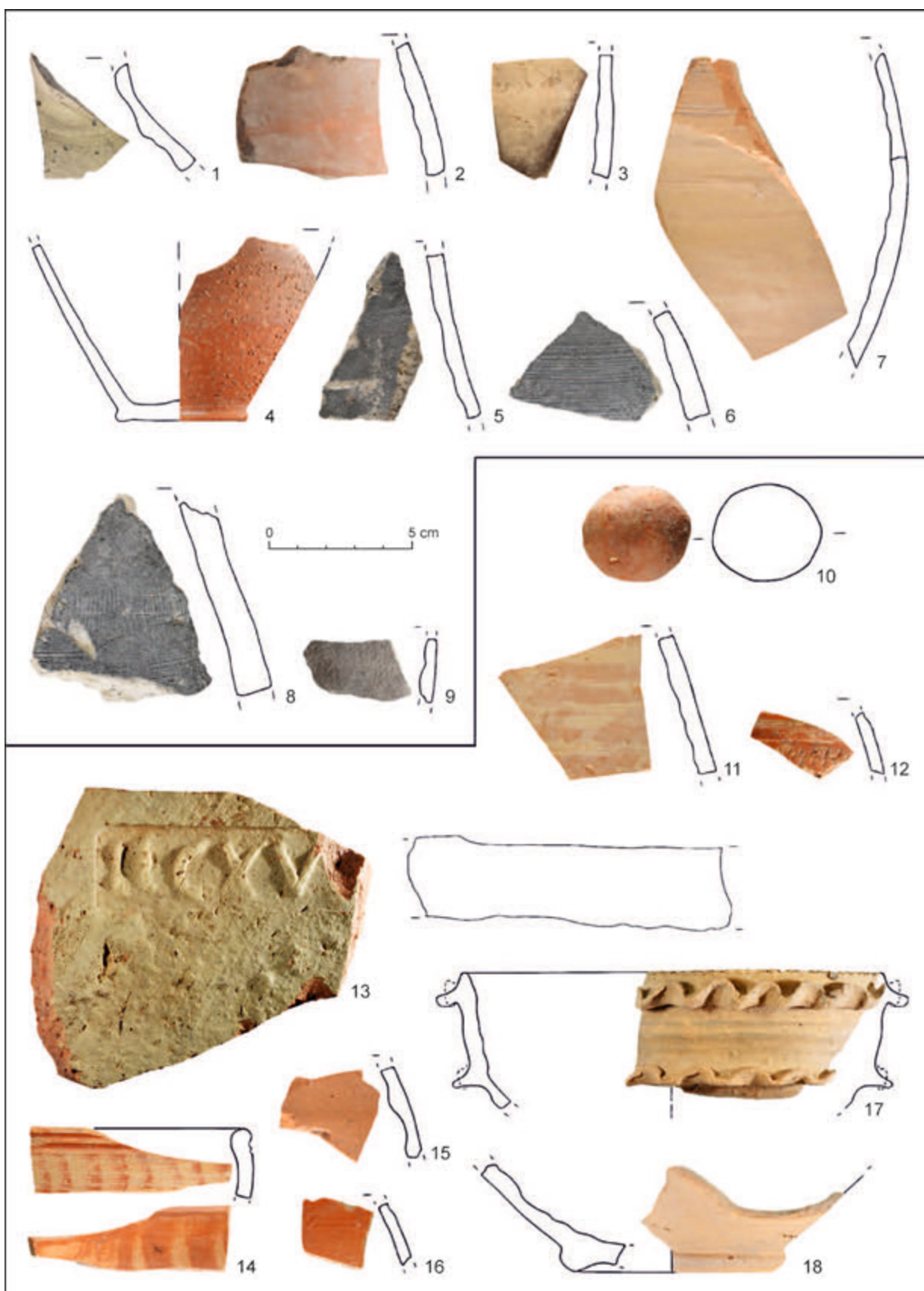
The study aimed to examine the finds of the slingshot and throwing machine projectiles (*ballista*) from the Roman Period, which were found in the area of the south-eastern part of the Bratislava-Rusovce civil settlement (ancient Gerulata), hitherto unknown in the published literature. The military equipment was found during a rescue archaeological research by the Department of Classical Archaeology of the Trnava University in 2018. The results of the field investigation in today's Manor House complex and its adjacent park in Bratislava-Rusovce, the original assumptions about the destruction of evidence of the Roman era settlement in this location are significantly corrected or directly refuted. Intensive Roman settlement occupation has been demonstrated in several locations. Although the construction of the Neo Gothic Manor House in areas with basements has largely destroyed most of the earlier features, there has been an artificial raising of the walking level in the immediate vicinity in the modern period. As a result, the older stratigraphic situations remained relatively well preserved despite several excavations and interventions in the 19th and 20th centuries. In the fills of the two partially excavated buried settlement features in Sector 3c, two larger stone projectiles of oval or almost circular cross-section made of sandstone and one smaller round terracotta ball were found amongst the usual settlement material (pottery fragments, clay lamp). Based on analogues, we assume that the two more giant stone balls served as projectiles for a throwing weapon called a *ballista*, while the smaller clay ball was intended as a projectile for a slingshot (*funda*). The accompanying finds tentatively date the military equipment to the 2nd or first half of the 3rd century AD.



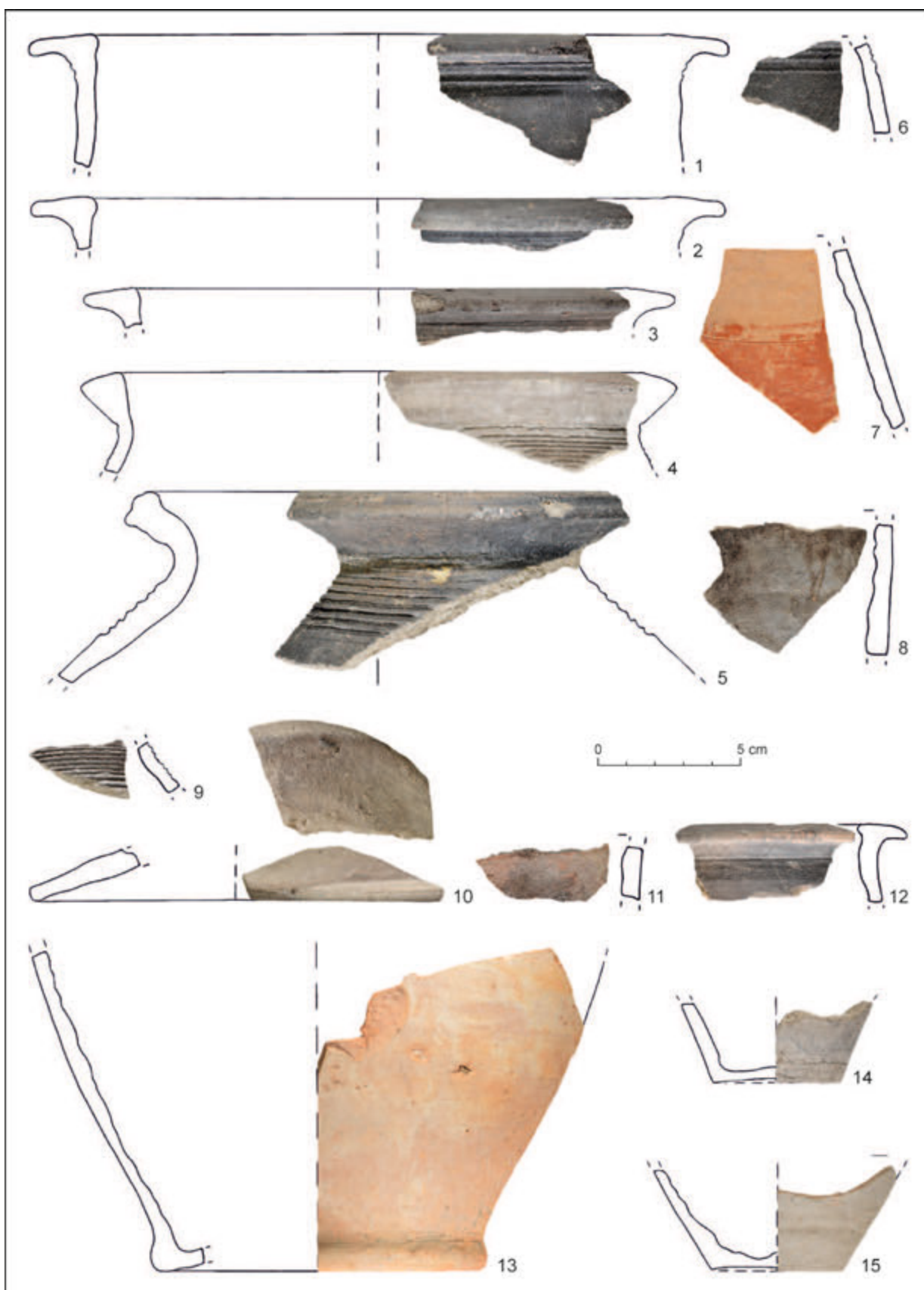
Pl. I. Bratislava-Rusovce. Selection of finds from the feature S.J. 3c_7a. 1, 2 – sandstone stone balls; 3 – a fragment of stone oval rounded artefact; 4 – larger a stone in the “shape of a loaf” (author T. Kolon).



Pl. II. Bratislava-Rusovce. Selection of finds from the feature S.J. 3c_7a. 1 – clay lamp; 2, 6 – iron construction fittings/a corroded iron key (?); 3 – glass; 4, 5, 7, 10 – ceramic building material (*tegulae*); 8, 9 – clay daub; 11–14 – pottery (author T. Kolon).



Pl. III. Bratislava-Rusovce. Selection of finds from the feature S.J. 3c_7a (1-9) and feature S.J. 3c_4/8 (10-18). 1-9, 11, 12, 14-18 – pottery; 10 – terracotta projectile for the sling; 13 – tegula (author T. Kolon).



Pl. IV. Bratislava-Rusovce. Selection of finds from the feature S.J. 3c_4/8. Pottery (author T. Kolon).

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Nálezy projektilov z juhovýchodnej časti vikusu rímskej pomocnej pevnosti v Gerulate

Tomáš Kolon – Erik Hrnčiarik

Súhrn

Predmetom štúdie bolo vyhodnotenie nálezov projektilov do praku a vrhacieho stroja z doby rímskej, ktoré sa našli v priestore dosiaľ prakticky neznámej polohy vo východnej a juhovýchodnej časti civilnej osady Gerulata. Militária sa našli počas zisťovacieho archeologického výskumu realizovaného Katedrou klasickej archeológie Trnavskej univerzity v Trnave v roku 2018. Výsledky terénneho výskumu v priestore dnešného areálu Rusoveckého kaštieľa a jeho prilahlého parku, pôvodné predpoklady o zničení starších dokladov osídlenia v tejto polohe výrazne korigujú, resp. priamo vyvracajú. Preukázané bolo intenzívne osídlenie z doby rímskej vo viacerých častiach (Sonda 1b, Sonda 2, Sonda 3, Sonda 4, Sonda 9 a minimálne z časti aj priestor vstupného nádvorja pod nepodpivničenými časťami staršieho zaniknutého kaštieľa – tzv. Sonda 5). Výstavba neogotického kaštieľa v miestach s podpivničenými priestormi síce z veľkej časti zničila väčšinu starších štruktúr, avšak v jeho bezprostrednom okolí došlo v novoveku k umelému navýšeniu nivelety pochádzajúcej úrovne. Vo výplniach dvoch čiastočne preskúmaných zahĺbených sídliskových objektov v priestore Sondy 3c sa medzi bežným sídliskovým materiálom (úlomky

keramiky, hlinená lampa) našli aj dva väčšie kamenné projektily oválneho, resp. takmer kruhového prierezu vyhotovené z pieskovca (diameter cca 8,8 cm × 10,2 cm) a jedna menšia okrúhla hlinená guľička (diameter 3,5 × 3,9 cm). Na základe analógií predpokladáme, že dve väčšie kamenné gule slúžili ako projektily do vrhacej zbrane zvanej *ballista*, kým menšia hlinená guľička bola určená ako náboj pre prak (*funda*). Sprievodné nálezy umožňujú ich rámcové datovanie do 2. storočia až prvej polovice 3. storočia po Kr.

Obr. 1. Bratislava-Rusovce. Lokalita na mape (podľa *Dragun 2022*, obr. 2; *Varsik 1996a*, 31, Abb. 8). Legenda: a – sektory/sondy; b – sektor/sonda 3c; c – sektory s potvrdeným osídlením z doby rímskej; d – sektory s pravdepodobným osídlením z doby rímskej.

Obr. 2. Fotografie plochy výskumného sektora/sonda 9. 1–3 – časti skúmanej plochy (sektor 9e) so zachovanými sídliskovými vrstvami a s podlahou z doby rímskej (autor T. Kolon, E. Hrnčiarik).

Obr. 3. Fotografie plochy výskumu sektor/sonda 3c. 1 – fotografia výkopu 3c; 2, 3 – fotografie objektu SJ 3c_4/8; 4–6 – fotografie objektu SJ 3c_7a (autor E. Hrnčiarik).

Obr. 4. Plán plochy výskumu sektor/sonda 3c (autor T. Kolon, E. Hrnčiarik).

Pl. I. Bratislava-Rusovce. Výber nálezov z objektu S.J. 3c_7a. 1, 2 – pieskovcové kamenné gule; 3 – fragment kamenného oválneho zaobleného artefaktu; 4 – väčší kameň v „tvare bochníka“ (autor T. Kolon).

Pl. II. Bratislava-Rusovce. Výber nálezov z objektu SJ 3c_7a. 1 – hlinená lampa; 2, 6 – železné stavebné kovanie/korodovaný železný kľúč (?); 3 – sklo; 4, 5, 7, 10 – keramický stavebný materiál (tegulae); 8, 9 – hlinená mazanica; 11–14 – keramika (autor T. Kolon).

Pl. III. Bratislava-Rusovce. Výber nálezov z objektu SJ 3c_7a (1–9) a objektu SJ 3c_4/8 (10–18). 1–9, 11, 12, 14–18 – keramika; 10 – terakotový projektil do praku; 13 – tegula (autor T. Kolon).

Pl. IV. Bratislava-Rusovce. Výber nálezov z objektu S.J. 3c_4/8. Keramika (autor T. Kolon).

Mgr. Tomáš Kolon, PhD.
Trnavská univerzita v Trnave
Filozofická fakulta
Katedra klasickej archeológie
Hornopotočná 23
SK – 918 43 Trnava
tomas.kolon@truni.sk
<https://orcid.org/0000-0002-4014-2965>

doc. Dr. phil. Erik Hrnčiarik
Trnavská univerzita v Trnave
Filozofická fakulta
Katedra klasickej archeológie
Hornopotočná 23
SK – 918 43 Trnava
erik.hrnčiarik@truni.sk
<https://orcid.org/0000-0003-3095-4561>

CINGULUM MILITARE FROM THE PRZEWORSK CULTURE AREA

New Finds of Roman Imports from South-Eastern Poland

Anna Lasota-Kuś – Renata Madyda-Legutko – Sabina Stempniak-Kusy

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Keywords: Przeworsk culture, Marcomannic wars, belt fittings, *cingulum*, cremation grave

Abstract: Archaeological excavations at a cremation cemetery of the Przeworsk culture at Ostrów, site 21, Podkarpackie Voivodeship, located in the San River basin, yielded metal elements of a Roman military belt, so-called *cingulum*, found in a warrior's grave. The feature from which the artefact was recovered dates to the Marcomannic wars. As can be observed, during the 2nd century, the Przeworsk culture population moved south to the basin of the Tisza River. These migrations coincide with the first appearance of the Vandal tribe of Hasdingi, attested by written sources, which originated, as is generally assumed, in the area encompassed by the Przeworsk culture.

Metal parts of Roman military belts, the so-called *cingulum militare*, are found in all areas that came under the domination of the Roman state. This dress accessory was intended to distinguish soldiers from the civilian population (cf. *Darenberg/Saglio 1918*, 1178–1182; *Fischer 2012*; *Hoss 2014*; *2017*) and, thus, played both a prestigious and a symbolic role. In the Przeworsk culture area, despite the steady increase in the number of discovered artefacts of Roman origin (recently, cf. *Lasota-Kuś/Madyda-Legutko 2023*), elements of Roman belt fittings are still unique finds.

Until recently, the only known artefact of this category has been a fragment of an openwork enamelled plate discovered at a settlement at Zagórzycy, Świętokrzyskie Voivodeship, in the material dated to phase B2b (*Madyda-Legutko 2016*, 608, footnote 31, fig. 2: 13a, b). In its shape, it resembles enamelled buckle plates of Oldenstein type 827–831, known from the Upper Germanic-Rhaetian Limes area (*Oldenstein 1976*, 197, 198, pl. 64: 827–831).

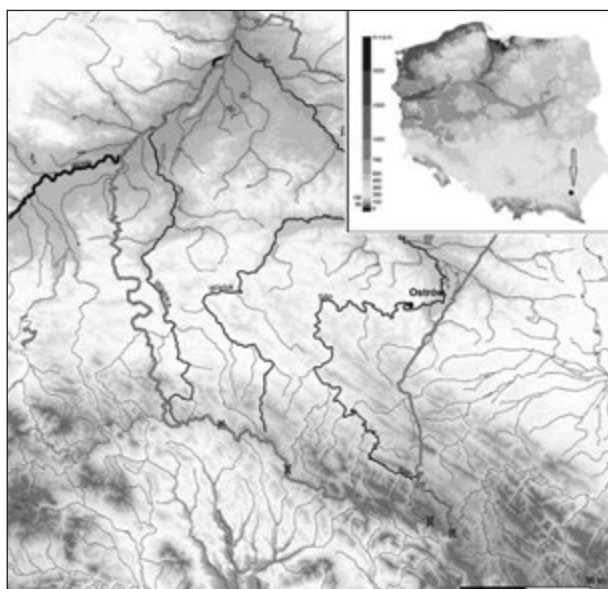


Fig. 1. Ostrów, Przemyski District, Podkarpackie Voivodeship, site 21. Location of the site.

In recent years, fragments of two bronze buckles have been discovered in the Kujawy region of central Poland, in the village of Gąski-Wierzbiczany.¹ The first one can be dated to the 1st century or the first half of the 2nd century AD (*Kontny/Rudnicki 2020*, 506, fig. 14.2: 1). The fragment of the second one is possibly of Roman origin; however, it cannot be excluded that it is a local imitation of Roman specimens (*Kontny/Rudnicki 2020*, 506, 507, fig. 14.2: 2). Other elements of belt fittings, pieces of weaponry, equestrian equipment – among which there are also Roman specimens – that were discovered at Gąski-Wierzbiczany are dated to the second half of the 4th century and the beginning of the 5th century (*Kontny/Rudnicki 2016*, 307–318; *2020*, 500–538).

The conducted analysis of the archival material has also revealed openwork elements of belt fittings of Roman origin recovered before 1910 from a Przeworsk culture cemetery in the locality of Lubogoszcz-Dąb, Wschowa District, Lubuskie Voivodeship. The artefacts in question

¹ Inowrocław District, Kujawsko-Pomorskie Voivodeship.

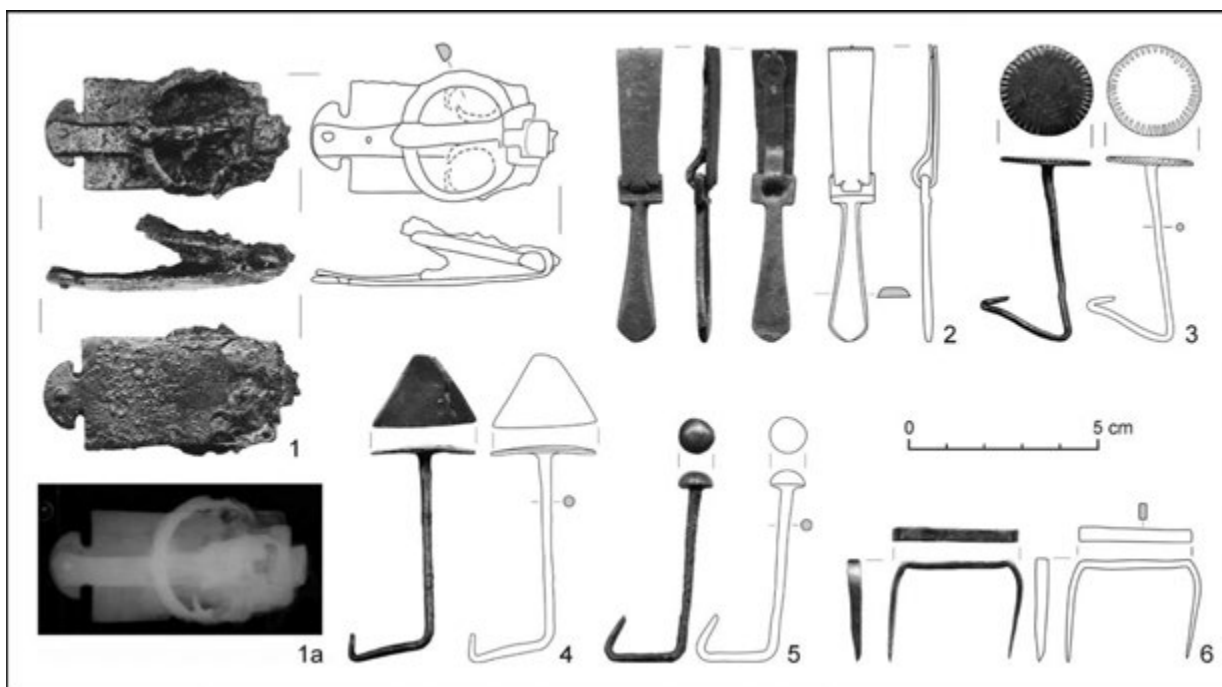


Fig. 2. Ostrów, Przemyśl District, Podkarpackie Voivodeship, site 21. Grave 9. 1, 2 – *cingulum militare*; 3–6 – chest fittings. All iron.

are a fragment of an openwork fitting of a *balteus*-type belt and a buckle. According to the author who studied the artefacts, the items came from grave no. 1, but it is uncertain whether they were actually part of a single assemblage (Bohr 2021, 49, 500, fig. 1: 3, 4).

In this article dedicated to Jubilarian, we would like to present the unique elements of a *cingulum militare* that were discovered at a Przeworsk culture cemetery at Ostrów, Przemyśl District, Podkarpackie Voivodeship, site 21, located on the Middle San River (Fig. 1), alluding in this manner to the Jubilarian's interest in Roman-Barbarian contacts in the areas north of the Middle Danube.

CEMETERY AT OSTRÓW

The Przeworsk culture cremation cemetery at Ostrów, site 21, was investigated in 2013–2014 by Anna Lasota-Kuś and Sabina Stempniak-Kusy. The excavations uncovered seventy-four urn and pit burials and two artefact clusters. The presence of both female and male burials has been confirmed at the cemetery; the former was furnished with, among other things, three fibulae, glass beads and spindle whorls, while the latter included warrior graves with so-called full weapon sets. Prominent among them is a burial containing a Roman sword of the *Ringknaufschwert* type (Lasota-Kuś/Stempniak-Kusy 2019, 77–89; Stempniak-Kusy/Lasota-Kuś 2021, 221–249).

A richly furnished urn grave of a warrior (no. 9) from phase B2b–C1a contained fittings of a Roman *cingulum militare*, including a destroyed iron *pelta*-type buckle with a rectangular buckle plate ending in a fan-shaped projection. On the underside of the plate, there is a narrow band bearing traces of rivets which were used to attach the fitting to the strap. The diameter of the buckle measures 25 mm, while the length and width of the buckle plate are 52 mm and 23 mm respectively (Fig. 2: 1).

The buckle was accompanied by a bipartite iron strap-end, so-called *pteryx* (cf. Oldenstein 1976, 142), consisting of an attachment end with plates joined with a flat-headed rivet and, suspended on it, a flat, tongue-shaped terminal with faceted edges.² The upper edge of the attachment end is finely decorated with a zigzag line. The length of the attachment end is 30 mm, while the lower part (pendant) measures 34 mm (Fig. 2: 2).

The design of the attachment plates of the buckle and strap-end as well as their size are typical of Roman specimens of this kind. Such artefacts are known from the Limes area and Roman provinces.

² In the literature, such belt terminals are usually referred to as “teardrop-shaped pendants” (Horváth 2018, 196; Radman-Livaja 2004, 96).

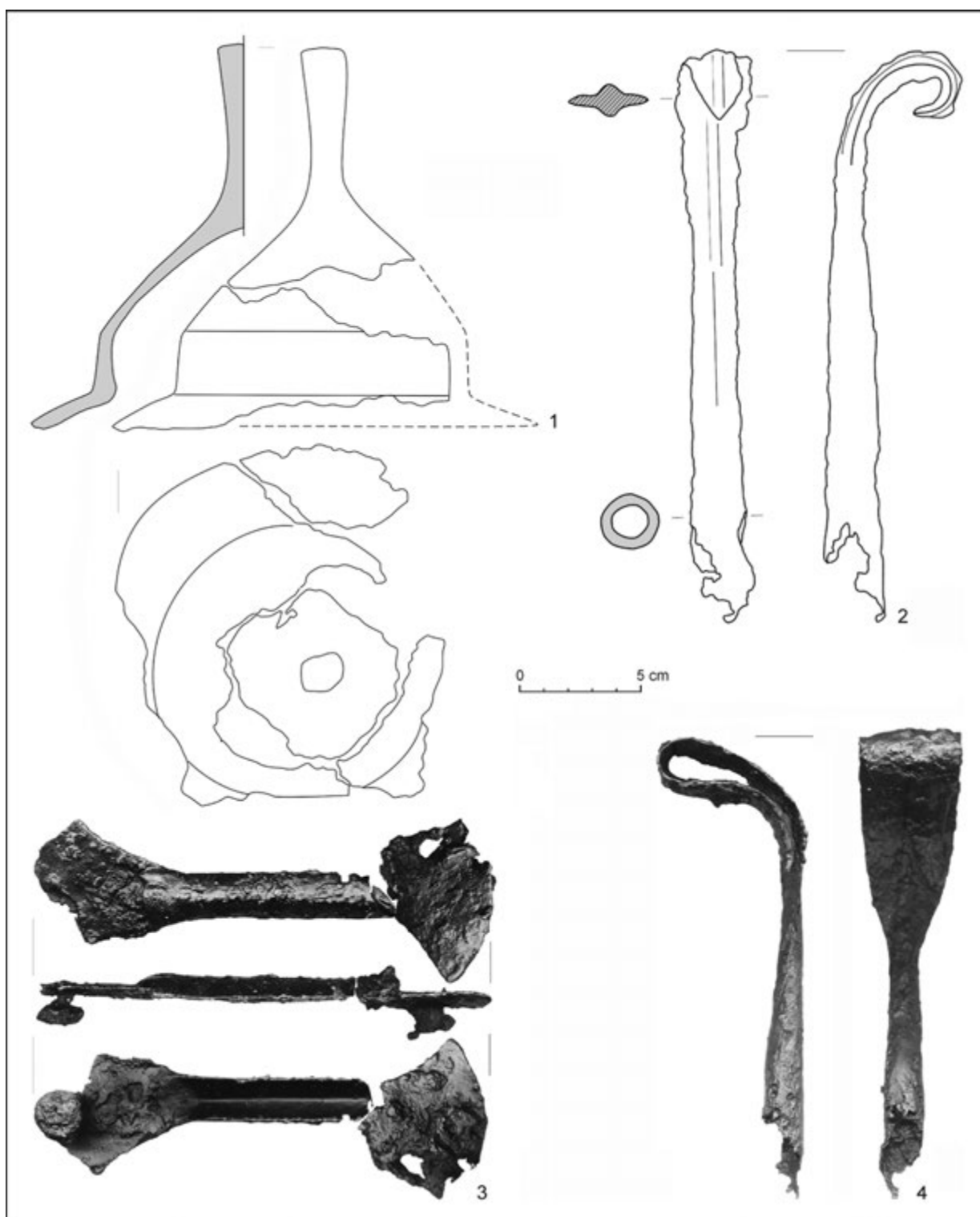


Fig. 3. Ostrów, Przemyśl District, Podkarpackie Voivodeship, site 21. Grave 9. 1 – shield boss; 2, 4 – spearheads; 3 – shield grip. All iron.

The grave goods of burial no. 9, in which the *cingulum* was discovered, also included shield fittings, i.e., a shield boss J7a (Fig. 3: 1)³ and shield grip J9 (Fig. 3: 3), two spearheads of types VI/1/2 and XII/1 (Fig. 3: 2, 4), two bow-shaped spurs of type E2, a rod-shaped fire striker, shears, a knife and a fragment of a perforator

³ Typologies used in this article: metal shield fittings – Jahn 1916; spearheads – Kaczanowski 1995; bow-shaped spurs – Ginalski 1991.



Fig. 4. Ostrów, Przemyśl District, Podkarpackie Voivodeship, site 21. Grave 9. *Terra sigillata* (samian ware).

or an awl. Moreover, grave 9 yielded numerous iron fittings of a large wooden chest⁴ (Fig. 2: 3–6). The rivets had very long shafts (7.8 to 8.7 cm) and heads of various shapes: flat, round, with a notched edge (three pieces, Fig. 2: 3); flat, triangular (two pieces, Fig. 2: 4); and round, domed (two pieces, Fig. 2: 5). In addition, potsherds with smooth, blackened surfaces, probably from an urn, and several burnt vessels have been preserved in the feature. It is noteworthy that, in addition to the *cingulum*, the burial contained a *terra sigillata* (samian ware) vessel from Lezoux, from the CINNAMUS workshop, dated to 150–170 AD (Fig. 4), representing most common Drag. 37 type. These objects of Roman origin indubitably accentuated the social position of the buried warrior.

ANALOGIES

The closest analogies to the *cingulum* from the Ostrów grave are Roman belt fittings from grave 4 from the Rankovce cemetery (Košice-okolie District), located in the Slanské vrchy/Slanské Hill zone, in the Western Carpathian region. This cemetery is linked to Przeworsk culture settlement developing in eastern Slovakia and is dated to phases B2b–C1a (*Luštková* 2019, 208; *Rákoš* 2019, 215–226). The metal belt parts discovered there consisted of a *pelta*-shaped buckle and three plates with fan-shaped terminals (Fig. 5). Like the *cingulum* fittings from Ostrów, they were made of iron (*Gašaj/Rákoš* 2015, 12; *Rákoš* 2019, 220). The *cingulum* fittings from Rankovce were accompanied by a sword of the *Ringknaufschwert* type and the fittings of its scabbard. The grave goods, as in grave 9 from Ostrów, included shield fittings (shield boss, grip), a pair of spearheads, a pair of spurs, a knife and a bucket pendant (*Rákoš* 2019, 220, fig. 3).



Fig. 5. Rankovce, Košice-okolie District. Grave 4. *Cingulum militare*. All iron (after *Gašaj/Rákoš* 2015; no scale).

⁴ A reconstruction of the size of selected large chests has recently been presented by *Katarzyna Czarnecka* (2020, 148, 149).

The distinguishing feature of the belt pieces from Rankovce and Ostrów is the raw material from which they were made. They were all iron, which is not typical of Roman objects, usually made from bronze. Only a few references in the literature suggest that iron specimens occurred sporadically in the provinces (*Busuladžić* 2022, 80). For example, such fittings were supposedly found at *Siscia* (*Radman-Livaja* 2004, 94). On the other hand, the presence of iron scabbard components at the camps of the Upper Germanic-Rhaetian Limes confirms that this raw material was used to make other types of fittings (*Oldenstein* 1976, cat. no. 62, 66–100, 133–147; pl. 14: 62; 15: 66–76; 16: 77–88; 17: 89–100; 21: 133–137; 22: 138–140; 23: 141–143; 24: 144–147).

Pelta – shaped buckles are common in the areas of the Upper Germanic-Rhaetian Limes (*Oldenstein* 1976, 214–216, cat. no. 1002–1025; pl. 75: 1002–1005; 76: 1006–1025) and the entire Danube Limes (*Farka/Jungwirth* 1990, 231, fig. 1089; *Kostromichyov* 2016, fig. 3; *Maspoli* 2014, cat. no. 81, 82; fig. 5; pl. 14: 81, 82, with earlier literature). They are also attested in the territory of Dacia Porolissensis (*Gudea* 1989, pl. CCXXII: 12–24). Outside the Limes zone, such buckles are also found in southern Pannonia, at *Sisca* (*Radman-Livaja* 2004, 94, pl. 41: 272, 273; 42: 274–276), and in Thrace (*Gencheva* 2009, fig. 8: 7). They are characteristic of the 2nd century, especially the second half of the 2nd century and the first half of the 3rd century (*Maspoli* 2014, 46; *Oldenstein* 1976, 215, 216, footnote 719; *Radman-Livaja* 2004, 94).

The above chronology is also confirmed by the finds of *pelta*-shaped buckles from the left bank of the Middle Danube, recovered from sites associated with Roman military activity during the Marcomannic wars (166–180). Such buckles are known from an earth-and-timber camp at Iža, Komárno District, destroyed by Germanic invasions during the aforementioned wars (*Rajtár* 1996, 93, fig. 8: 6–8). A small Roman cemetery at Radvaň nad Dunajom-Žitava also dates to the period of the Marcomannic wars. In the large collection of military equipment found there, there was also a fragment of a buckle, probably a *pelta*-shaped one (grave 4 – *Hüssen/Rajtár* 1994, 220, fig. 6: 4f; *Komoróczy et al.* 2020, 187, fig. 14: 4e).

Pelta-shaped buckles, commonly found at Roman sites, occur also in southern Moravia, where they are also linked to military activity during the Marcomannic wars. Worthy of mention here are the specimens from Mušov-Burgstall, with a fully preserved buckle plate (*Tejral* 1999, fig. 40: 13), and from a nearby temporary camp at Mušov-Na Pískách (*Komoróczy et al.* 2020, 232, fig. 58). The buckle from Mušov-Burgstall (Fig. 7: 6), albeit relatively massive, is stylistically similar to the specimen from Ostrów, site 21. A fragment of such a buckle is also known from the site Ostrožská Nová Ves, Uherské Hradiště District (*Zeman* 2017, 138, 141, fig. 38: 13).

Daniil Kostromichyov's full-range analysis of *pelta*-shaped buckles allowed distinguishing their four main variants (A to D) based on the details of their construction (*Kostromichyov* 2016, 144, fig. 4). The find from Ostrów most closely resembles subvariant C1 with a trapezoidal expanding base for attaching the pin and buckle plate (Fig. 2: 1).

Of note is one stylistic element of the buckle plate from Ostrów and the rectangular plates from Rankovce, namely, the fan-shaped projection at the narrower edge of the plate. At the sites of the Upper Germanic-Rhaetian Limes, rectangular plates are usually decorated with openwork ornamentation made using the *in opus interrasile* technique; solid plates are only occasionally encountered. Fan-shaped projections are equally uncommon (*Hoss* 2014, 308, fig. XI.7; *Oldenstein* 1976, cat. no. 780; pl. 62: 780). Their presence has been attested in the case of openwork, *Neuburg*-type belt plates from the second half of the 2nd century (*Fischer* 2012, 124, fig. 139). At the same time, similar solid plates with a fan-shaped projection are known from Roman burials in Thrace (Fig. 6: 3; *Gencheva* 2009, 25, fig. 8: 6; *Kostromichyov* 2005, fig. 4: 3) and from a grave described as a "cremation site/1910" from *Chersonesus/Chersonesos* (Fig. 6: 4; *Kostromichyov* 2005, 105, 106, fig. 12: 1, 2).

Equally wide-ranging as the buckles are the bipartite strap-ends referred to as *pteryx*. Fittings of this type, usually flat, less often moulded, were suspended on the ends of narrow straps. They were usually worn in pairs. In addition to being fitted on the belt straps of Roman soldiers, they may occasionally have been used also by civilians (*Horváth* 2018, 196). They were probably also an element of a horse's harness (*Horváth* 2018, 196; *Cheben/Ruttkay* 2010, 320; *Maspoli* 2014, 53, footnote 615; *Oldenstein* 1976, 142; *Varsik* 1999, 631). They are dated analogously to the *pelta*-shaped buckles described above, i.e., from the early 2nd century to the mid-3rd century, and they were the most common during the reign of the Antonine dynasty (*Horváth* 2018, 196; *Oldenstein* 1976, 144; *Weber* 2007, 161, 162).

The strap-ends in question are found from Hadrian's Wall in Britain (*Bishop/Coulston* 2006, 144, fig. 88) through the sites of the Upper Germanic-Rhaetian Limes to the entire Danubian Limes (*Fischer* 2012, 125, fig. 118; *Garbsch* 1985, 437, fig. 29: 9; *Gencheva* 2009, 22, fig. 3: 10, 11; *Grünwald* 1981, 25; pl. 17: 20; *Maspoli* 2014,

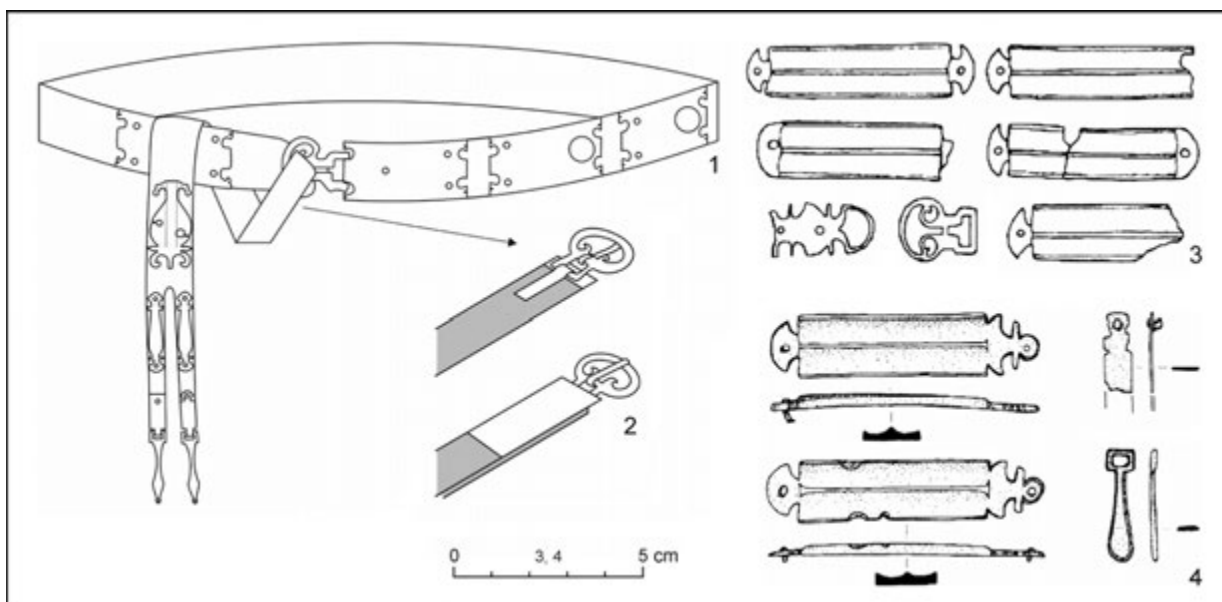


Fig. 6. *Cingulum militare*. 1 – belt reconstruction (Chersonesus/Chersonese, Barrow 93/1910, after Kostromichyov 2005); 2 – reconstruction of the attachment of the buckle to the strap (after Radman-Livaja 2004); 3 – Kabile, Yambol District, Barrow III, grave 34 (after Kostromichyov 2005); 4 – Chersonesus/Chersonese, so-called “cremation site/1910” (after Kostromichyov 2005). 3, 4 – bronze (1, 2 – no scale).

53, 54, cat. no. 114–120; pl. 16: 112–120; Oldenstein 1976, 142–147, cat. no. 291–304; pl. 36: 291–304; Weber 2007, 161, 162, pl. 12: M27, M28). They are also known from Dacia Porolissensis (Gudea 1989, pl. CCXIII: 14–18, 26–46; CCXIV: 1–32). They have also been attested at Dura Europos in Syria (James 2004, 85, fig. 40: 152–158) and in the Chersonesos area (Kostromichyov 2005). A large series of strap fittings of this type is also known from the province of Pannonia, including the town of Siscia (Radman-Livaja 2004, 96, cat. no. 313–343; pl. 46: 314–316; 47: 317–328; 48: 329–339; 49: 340–343; 2008, 298, 301, cat. no. 48–65), as well as from the Roman provinces of Thrace (Gencheva 2009, fig. 8: 4) and Dalmatia (Busuladžić 2022). A blank of such a strap-end was discovered at Siscia, indicating local production of this type of belt terminals (Radman-Livaja 2004, 96, cat. no. 313; pl. 46: 313).

Like *pelta*-shaped buckles, the strap-ends in question are known from Roman sites located in the Middle Danube zone, on the left bank of the river, e.g., from the aforementioned camp of Iža (Rajtár 1996, fig. 8: 4) and from temporary camps in south-western Slovakia (i.e., Hviezdoslavov, Cífer-Pác, Trnava District – Komoróczy et al. 2020, 197, 200 fig. 27: 7; 30: 25).

Strap-ends of this type were also used in the area of a settlement complex developing in the Middle Danube zone, on the right bank of the river, in the vicinity of the camp of Gerulata, where the *ala I Cannenefatium* was stationed from the early 2nd century (Krekovič 1994, 211). Grave 53 at Roman cemetery II at Gerulata, dated to the early 3rd century, contained a *pteryx*, found among the personal equipment of the deceased (Krekovič 1994, 217, fig. 5: 13; Pichlerová 1981, 316, pl. LXXXVIII: 2). To the south of the Gerulata camp, there was a settlement of indigenous people, dating to the 2nd century. The huts there contained various small fittings from a horse's harness and from military equipment, including two *pteryxes* (Varsik 1999, 631, fig. 9: 14, 15). According to Vladimir Varsik, the inhabitants of the settlement may have provided the Roman army with, e.g., horses or livestock and may have thus acquired these fine fittings (Varsik 1999, 631). Surveys carried out in the vicinity of the camp (now Bratislava-Rusovce) also yielded other finds of the strap-ends under discussion (Bratislava-Rusovce, site Nižné pole; Bratislava-Rusovce, site Lúčne polia – Bazovský 2002, 26, 28, pl. V: 13, 14).

Of note is also a set of metal belt parts from a cemetery at Chersonesus/Chersonesos in south-western Crimea, dating to the time when Roman troops were stationed in the city. One grave (93/1910) contained a set of fittings, which consisted of a buckle and eight Roman belt parts, and two knife or dagger scabbard fittings (Fig. 6: 1). Apart from the buckle, which is a local imitation, the other fittings are typical of Roman military equipment (Kostromichyov 2005, 100–105, fig. 8: 1–11; 11). The grave probably belonged to a person of high rank in the military hierarchy. Another burial (so-called “cremation site/1910”) also contained a *pteryx* and

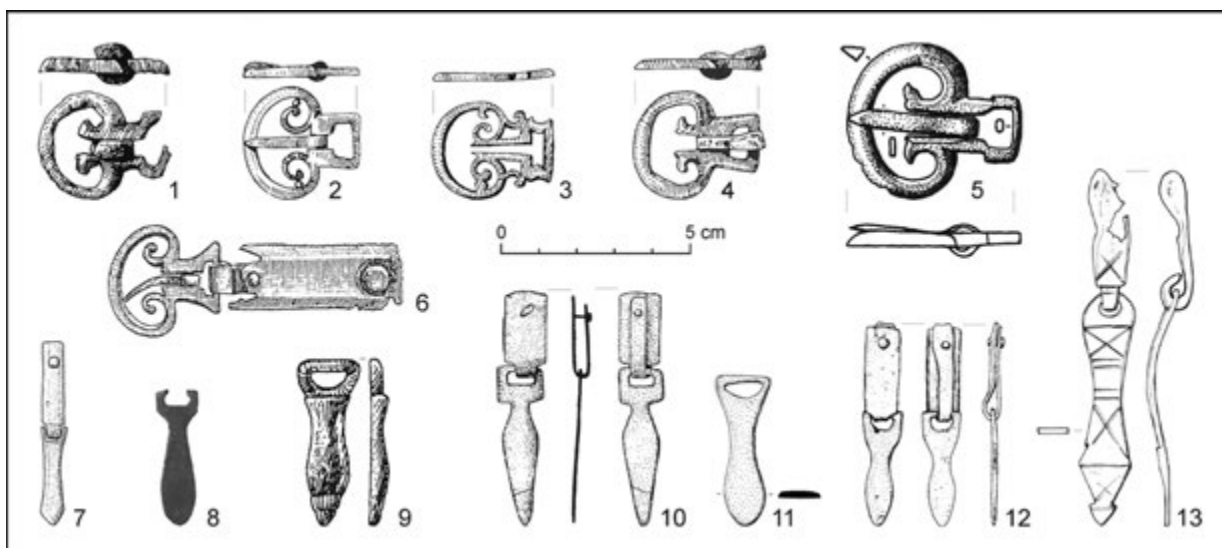


Fig. 7. Roman belt fittings (1–12) and their imitation (13). 1 – Pottenbrunn, SG St. Pölten (after Adler/Wallner 1990); 2 – Ringelsdorf, VB Gänserndorf (after Nebehay/Stuppner 1990a); 3 – Bernhardsthal, VB Mistelbach (after Adler 1994); 4 – Paltendorf, VB Gänserndorf (after Adler/Stuppner 1991); 5 – Blatnica, Martin District, Rémová site (after Pieta/Švihurová 2019); 6 – Mušov-Burgstall (after Tejral 1999); 7 – Mušov “royal grave” (after von Carnap-Bornheim 2002b); 8 – Šebetov I, Malá Haná area (after Droberjar 2020); 9 – Drösing, VB Gänserndorf (after Nebehay/Stuppner 1990b); 10 – Gelej, Kom. Borsod-Abaúj-Zemplén (after Hadházy-Vadai 1980); 11 – Cífer-Pác, Trnava District, Germanic settlement, feature 6 (after Hüssen/Rajtár 1994); 12 – Cífer-Pác, Trnava District, residential settlement (after Varsik/Kolník 2021a); 13 – Sekule, Senica District, grave 40/2017 (after Iván/Ölvecký/Rajtár 2019). All bronze.

the previously mentioned solid plates with fan-shaped projections (Fig. 6: 4). Both burials are dated to the second half of the 2nd century and the beginning of the 3rd century, i.e., to the peak period of Roman troops stationing in the Chersonesos area (Kostromichyov 2005, 106, fig. 12: 4).

Pelta-shaped buckles and pteryx strap-ends are also sporadically found in *Barbaricum*, north of the Middle Danube, in the areas where the Germanic tribes and Romans interacted during the 2nd century. They are observed, among others, at the Germanic settlements located in Lower Austria⁵ that were in operation during the Marcomannic wars. Together with the areas on the right bank of the Morava (March) River, these sites formed a zone in the foreground of *Carnuntum* of intensive movement of Roman troops and the establishment of temporary camps. The presence of Roman soldiers' equipment, including cingulum fittings, has been attested at settlements in that area (Fig. 7: 1–4, 9; Stuppner 2016, 878, fig. 22: 10, 11; Tejral 1999, 135–147).

Pteryx-type strap-ends are also known from Germanic sites in Moravia. Particularly noteworthy is the presence of such a strap-end in a “royal” grave from Mušov, located on the Dyje (Thaya) River (Fig. 7: 7; von Carnap-Bornheim 2002a, 222, 223; 2002b, 550, 551, pl. 63: C 41), in the neighbourhood of Roman military sites (Mušov-Burgstall) and temporary camps (Komoróczy et al. 2020, 203–212; Tejral 1994, 44–47; 1999). However, the context of the discovery of the artefact from the aforementioned “royal” tomb is not clear, and it is uncertain whether it belonged to the equipment of the deceased or whether it found itself there by accident (von Carnap-Bornheim 2002a, 223).

In Moravia, the remains of the temporary camp of Jevíčko XII and a Germanic settlement were found to the north of the aforementioned sites, in the Malá Haná area (Droberjar 2020). Among the numerous military objects discovered throughout the region, there was also a pteryx-type strap-end, found at the Germanic settlement of Šebetov I (Fig. 7: 8; Droberjar 2020, 492, fig. 7: 4).

Similarly, such belt fittings appear at Germanic settlements in south-western Slovakia, in the zone of Roman military activity or very strong Roman influence, with the camp of *Brigetio* and the camp of Iža, located on the opposite banks of the Danube, playing an important role in that regard. As an example,

⁵ Bernhardsthal, VB Mistelbach, buckle (Adler 1994, 555, fig. 621; Tejral 1999, fig. 43: 7); Drösing, VB Gänserndorf, pteryx (Madyda-Legutko 2016, 609, fig. 2: 19; Nebehay/Stuppner 1990b, 225, fig. 966); Paltendorf, VB Gänserndorf, buckle (Adler/Stuppner 1991, 245, fig. 1043); Pottenbrunn, SG St. Pölten, buckle (Adler/Wallner 1990, 236, fig. 1251); Ringelsdorf, VB Gänserndorf, buckle (Madyda-Legutko 2016, 609, fig. 2: 20; Nebehay/Stuppner 1990a, 240, fig. 1326).

the fill of a Germanic hut (no. 6) at the site of Cífer-Pác, situated between two Roman temporary camps, contained pieces of weaponry and various fittings, including a *pteryx* (Fig. 7: 11), dated to the second half of the 2nd century. Presumably, these items were looted during raids on the Roman camps (Hüssen/Rajtár 1994, 220, fig. 9: 9; Cheben/Ruttkay 2010, 313, fig. 4: 4; pl. II: 5).

A *pteryx* was also discovered at a Germanic residential settlement at Cífer-Pác, displaying a very strong Roman influence in terms of architecture and spatial organisation of the settlement. The oldest occupation phase of the settlement (feature 1), dating to the younger Roman period, also yielded a *pteryx* (Fig. 7: 12; Varsik/Kolník 2021a, 161, 353, fig. 130: 3; 240: 4; 2021b, 22, pl. 18: 3).

Deserving of closer note is the presence of a Roman *pelta*-shaped buckle (Fig. 7: 5), accompanied by various fittings of Roman provenance and other local finds, mainly dress accessories, at Blatnica, Martin District, site Rémová, in the Slovak Carpathian zone, relatively far north of the Danube Limes area (Pieta/Švihurová 2019, 118, fig. 5: 1–4). These artefacts are attributed to the Púchov culture and dated to phase B2/C1. According to Karol Pieta, they should perhaps be linked to a cult site or interpreted as grave furnishings. It cannot be ruled out that the presence of Roman *cingulum* fittings in the Slovak Carpathians is related to Roman military activity by the Váh (Waag, Vág) River, extending as far as *Laugaricio* (Trenčín).

In the context of Roman military finds, *pelta*-shaped buckles also appear in the Sarmatian environment of the Great Hungarian Plain (Istvánovits/Kulcsár 1994, fig. 5: 1). There, they are found relatively close to the Limes, in the area between the Danube and the Tisza rivers (Istvánovits/Kulcsár 1994, 413).

Although *pteryx*-type strap-ends are characteristic of Roman military equipment, they sometimes also appear in richly furnished female burials. For example, a Sarmatian burial at Gelej, Kom. Borsod-Abaúj-Zemplén, in the Hungarian Lowlands contained intercultural grave goods consisting of, among other things, two provincial Roman knee-shaped brooches, a Pomeranian snake-headed bracelet and Roman military belt fittings, including a *pteryx* (Fig. 7: 10; Hadházy-Vaday 1980, 91, pl. I: 1–9; II: 1–12; Tejral 2003, 245, fig. 5: 10). The *pteryx* was located at the left knee of the deceased (Hadházy-Vaday 1980, pl. II: 1). The burial is dated to the third quarter of the 2nd century (Hadházy-Vaday 1980, 99). Moreover, grave 40/2017, dated to phase B2/C1, from the cemetery of Sekule, Senica District, located in south-western Slovakia, contained a bronze imitation of a Roman *pteryx* (Fig. 7: 13; Iván/Ölvecký/Rajtár 2019, 244, 245, 247, fig. 9: 16).

CONCLUSION

The analysed Roman belt fittings from the Przeworsk culture cemeteries at Ostrów, site 21, and at Rankovce in south-eastern Slovakia are characterised by a similar chronology falling on the period of the Marcomannic wars (years 166–180). During the 2nd century, there was a clear shift in the location of the Przeworsk culture population, which moved southwards into the Tisza River basin (Godłowski 1994, 65–89, fig. 2; Madyda-Legutko/Rodzińska-Nowak 2019, 247, 248; Soós 2019). As a result, Przeworsk culture sites extend as far as the Dacian Limes covering a section of the Meseş Mountains (Dubicki/Olędzki 2022, 323, fig. 6). The southbound movement of the Przeworsk culture population coincides with the emergence, attested by written sources, of the Vandal tribe of Hasdingi, originating, as is generally assumed, in the territory encompassed by the Przeworsk culture. The tribe in question appeared in the borderlands of Dacia in the early 170s, during the Marcomannic wars (Dio Cassius, LXXI, 12.1; Godłowski 1982, 48, 49; 1994, 65–89; 2000, 28). The cemeteries located on the San River, such as Ostrów, site 21, and Prusiek, site 25, Sanok District, as well as those in eastern Slovakia – at Rankovce and Kvakovce, Vranov District – have yielded Roman weapons, mainly swords. For example, swords with circular pommels, so-called *Ringknaufschwert*, were found at Ostrów and Rankovce, as mentioned previously. Moreover, swords with inlaid blades come from the cemeteries at Prusiek, site 25 (feature 42) and at Rankovce (grave 8; Madyda-Legutko/Rodzińska-Nowak/Zagórska-Telega 2008, 47–49, fig. 2–4; Rákoš 2019, 229, fig. 4). Additionally, from Prusiek, site 25, comes a sword with smithing stamps (feature 16; Madyda-Legutko/Rodzińska-Nowak/Zagórska-Telega 2007, 64, fig. 4). Roman provenance of a sword from Kvakovce is attested by its manufacturing technology (Lamiová-Schmiedlová/Máčala 1991, pl. I: 6, 7; Mihok/Lamiová-Schmiedlová/Máčala 1993, 41–51). The Rankovce cemetery also yielded a shield boss, unique in the area of central European *Barbaricum*, with a rectangular decorated flange (grave 8; Rákoš 2019, 220, fig. 8). The listed military objects were most likely also accompanied by *cingulum militare* fittings. Likely, the Germanic tribes would not have acquired all this military equipment during their invasions of the Limes zone or Roman provincial territory. At the same time, it cannot be ruled out that the items in question were Roman gifts to

the local military elite. Such offerings, it should be assumed, would have been related to the external policy of the Empire, supporting in some way the principle of *divide et impera*, as the Romans would take advantage of internal conflicts between tribes, especially those that arose close to the borders of the Roman state. It is possible that warriors from the Przeworsk culture, who may have served in the Roman army, brought individual elements of weapons, parts of clothing, or other objects of Roman origin to their headquarters (cf. Bazovský *et al.* 2021). In the burials of warriors in cemeteries located on the San River and in neighboring territories, there are also other objects of Roman origin, which are an expression of the prestige of the buried people. The existence of long-distance trade cannot be ruled out either.

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Cingulum militare z oblasti przeworskiej kultúry

Nové nálezy rímskych importov z juhovýchodného Poľska

Anna Lasota-Kuś – Renata Madyda-Legutko –
Sabina Stempniak-Kusy

Súhrn

V článku venovanom jubilantovi sú prezentované unikátne kovania *cingulum militare* z oblasti osídlenia przeworskej kultúry, ktoré boli objavené v bohato vybavenom hrobe so súčasťami výzbroje a s terrou sigillatou z dielni Lezoux, na pohrebisku uvedenej kultúry v Ostrowie, okres Przemyśl, Podkarpatské vojvodstvo, lok. 21 (hrob 9), ležiacom v strednom toku rieky San (obr. 1–4). Tento hrob je datovaný do fázy B2b–C1a. Kovania *cingulum militare* pozostávajú z poškodenej peltovitej pracky a z dvojdielného kovaného nákončia opaska (*pteryx*; obr. 2: 1, 2). Najbližšou analógiou ku kovaniu *cingulum* z Ostrowa sú kovania z hrobu 4 na pohrebisku v Rankovciach (okres Košice-okolie), nachádzajúceho sa v oblasti Slanských vrchov (obr. 5). Toto pohrebisko patrí k osídleniu przeworskej kultúry na východnom Slovensku a je datované do fázy B2b–C1a. Obe súpravy kovaní *cingulum* boli vyrobené zo železa, čo nie je typické pre rímske výrobky, ktoré sa väčšinou vyrábali z bronzu. Len jednotlivé zmienky v literatúre naznačujú, že príležitostne sa v provinciách vyskytovali aj železné exempláre.

Peltovité pracky a dvojdielne kovania koncov opaska (*pteryx*), tzv. *pteryx*, sa vyskytujú na širokom území. Často sa objavujú na území hornogermánskeho-raetskeho limesu a celého dunajského limesu. Sú doložené aj na území rímskych provincií. Sú charakteristické hlavne pre 2. storočie, najmä pre druhú polovicu 2. storočia, za panovania dynastie Antoninovcov. Vyskytujú sa aj na náleziskách na ľavom brehu stredného Dunaja spojených s rímskou vojenskou aktivitou počas markomanských vojen (roky 166–180). Sú doložené v sídlach obývaných v tom čase autochtónnym obyvateľstvom.

Rímske kovania opaskov na przeworských pohrebiskách v Ostrowie, lok. 21, a v Rankovciach sú datované podobne, do obdobia markomanských vojen (roky 166–180). V priebehu 2. storočia možno pozorovať výrazný presun obyvateľstva przeworskej kultúry na juh, do povodia rieky Tisy. Tieto migrácie sa časovo zhodujú so správami antických autorov o objavení sa vandalského kmeňa Hasdingov, ktorí podľa všeobecného názoru pochádzali z územia spojeného s przeworskou kultúrou. Na pohrebiskách nachádzajúcich sa pri rieke San a na území východného Slovenska sa tiež objavujú rímske militárie, hlavne meče, spolu s ktorými sa tam pravdepodobne dostali aj kovania opaskov typu *cingulum militare*.

Obr. 1. Ostrów, okres Przemyśl, Podkarpatské vojvodstvo, lokalita 21. Poloha lokality.

Obr. 2. Ostrów, okres Przemyśl, Podkarpatské vojvodstvo, lokalita 21. Hrob 9. 1, 2 – *cingulum militare*; 3–6 – kovania truhlice. Všetko železo.

Obr. 3. Ostrów, okres Przemyśl, Podkarpatské vojvodstvo, lokalita 21. Hrob 9. 1 – umbo štítu; 2, 4 – hroty kopijí; 3 – drždadlo štítu. Všetko železo.

Obr. 4. Ostrów, okres Przemyśl, Podkarpatské vojvodstvo, lokalita 21. Hrob 9. *Terra sigillata*.

Obr. 5. Rankovce, okres Košice-okolie. Hrob 4. *Cingulum militare*. Všetko železo (podľa Gašaj/Rákoš 2015; bez mierky).

Obr. 6. *Cingulum militare*. 1 – rekonštrukcia opasku (Chersonézos, kurhan 93/1910, podľa Kostromichyov 2005); 2 – rekonštrukcia upevnenia pracky k remeňu (podľa Radman-Livaja 2004); 3 – Kabile, okres Yambol, kurhan III, hrob 34 (podľa Kostromichyov 2005); 4 – Chersonézos, tzv. žiarovisko/1910 (podľa Kostromichyov 2005). 3, 4 – bronz (1, 2 – bez mierky).

Obr. 7. Rímske kovania opaskov (1–12) a ich imitácia (13). 1 – Pottenbrunn, SG St. Pölten (podľa Adler/Wallner 1990); 2 – Ringelsdorf, VB Gänserndorf (podľa Nebehay/Stuppner 1990a); 3 – Bernhardsthal, VB Mistelbach (podľa Adler 1994); 4 – Paltenndorf, VB Gänserndorf (podľa Adler/Stuppner 1991); 5 – Blatnica, okres Martin, poloha Rémová (podľa Pieta/Švihurová 2019); 6 – Mušov-Burgstall (podľa Tejral 1999); 7 – Mušov „kráľovský hrob“ (podľa von Carnap-Bornheim 2002b); 8 – Šebetov I, k. ú. Malá Haná (podľa Droberjar 2020); 9 – Drösing, VB Gänserndorf (podľa Nebehay/Stuppner 1990b); 10 – Gelej, kom. Borsod-Abauj-Zemplén (podľa Hadrázy-Vaday 1980); 11 – Cífer-Pác, okres Trnava, germánske sídlisko, objekt 6 (podľa Hüssen/Rajtár 1994); 12 – Cífer-Pác, okres Trnava, sídlisko (podľa Varsík/Kolník 2021a); 13 – Sekule, okres Senica, hrob 40/2017 (podľa Iván/Ólvecky/Rajtár 2019). Všetko bronz.

Dr. Anna Lasota-Kuś
Instytut Archeologii i Etnologii PAN
Ośrodek Archeologii Gór i Wyzyn
ul. Sławkowska 17
PL – 31-016 Kraków
a.lasota-kus@iaepan.edu.pl
<https://orcid.org/0000-0002-0603-846X>

prof. dr. hab. Renata Madyda-Legutko
ul. Syrokomli 20/10
PL – 30-102 Kraków
rmlegutko@o2.pl
<https://orcid.org/0000-0001-6210-7450>

Mgr. Sabina Stempniak-Kusy
Muzeum Narodowe Ziemi Przemyskiej
pl. Berka Joselewicza 1
PL – 37-700 Przemyśl
sabinastempniak@wp.pl
<https://orcid.org/0000-0002-7184-816X>

VON BRÜCKEN UND MENSCHEN

Zu einem alten kolorierten Druck im Archiv des Bundesdenkmalamtes

René Ployer

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Abstract: **On Bridges and People. On an Old Hand-Coloured Print in the Archive of the Federal Monuments Office.** The following article deals with the history of the famous Trajan's Bridge, also known as the Apollodorus Bridge. It was built between 103 and 105 AD by Apollodorus of Damascus and connected the Roman provinces of Moesia Superior and Dacia. Emperor Trajan had it built during his reign in the course of the Dacian Wars in order to improve communication and troop movements along the Danube and towards Dacia. The bridge was a masterpiece of Roman engineering and consisted of stone pillars with a wooden superstructure. Although it stood in ruins for a long time and its piers gradually disappeared into the Danube, remains have been confirmed by historical reports and modern archaeological investigations. Today, only a few parts are still visible or have been preserved underwater. The rediscovery of a coloured print from 1858 in the archives of the Austrian Federal Monuments Authority provides important information for the reconstruction and research of this ancient structure.

Das Thema „Brücke“ scheint für diese Festschrift sehr geeignet, kann doch der Jubilar als Brückenbauer in der Archäologie verstanden werden. Seit Jahrzehnten beschäftigt sich Ján Rajtár intensiv mit dem Donaulimes und seinem Vorfeld in der Slowakei. Insbesondere um die Geschichte des Militärlagers von Iža hat er sich mit systematischen Grabungen und Untersuchungen hervorgetan. Dieses mit zehn temporären Feldlagern umgebene Brückenkopfkastell liegt am Nordufer der Donau, direkt gegenüber des Legionslagers *Brigetio* (Ungarn) und war in der Antike von großer strategischer Bedeutung. Heute sind die Militäranlagen von Iža Teil des UNESCO Welterbes „Frontiers of the Roman Empire – The Danube Limes (Western Segment)“.¹ Bei den langjährigen Vorbereitungsarbeiten für die Nominierung fungierte Ján Rajtár als wichtiger wissenschaftlicher Berater für den slowakischen Abschnitt dieses Welterbes. Auch war er Gründungsmitglied der sogenannten Bratislava Group, einem internationalen wissenschaftlichen Beratungsgremium mit Mitgliedern aus Vertragsstaaten entlang der Grenzen des Römischen Reiches. Aber schon lange zuvor war Ján Rajtár ein Brückenbauer, der einen wissenschaftlichen und vor allem kollegialen Bogen zwischen den ost- und westeuropäischen Staaten spannte. Nach dem Fall des Eisernen Vorhangs intensivierte er die freundschaftliche Zusammenarbeit, boten sich doch nun neue Möglichkeiten für beide Seiten. Neben seiner wissenschaftlichen Arbeit und seinem Einsatz für den Denkmalschutz engagiert sich der Jubilar auch aktiv in der Ausbildung junger Archäologinnen und Archäologen und in der Vermittlung von Archäologie an die breite Öffentlichkeit – hier baut er eine Brücke zwischen Wissenschaftlern und interessierten Laien.

Seit einiger Zeit beschäftigt Ján Rajtár auch eine richtige Brücke. Eine im Jahr 2021 durchgeführte Bathymetrie² des Donaubettes zwischen Iža und *Brigetio* brachte Strukturen zutage, die sich in einer Linie über die Donau bis zum südlichen Tor des Kastells von Iža erstreckten (*Daňová/Daňová/Rajtár, im Druck*). Diese Strukturen erinnerten in ihrer Form an die Pfeiler römischer Brücken wie sie aus anderen Teilen der römischen Welt bekannt sind. Etwas später konnten Holzproben entnommen werden, die mittels ¹⁴C-Analyse die Strukturen in das 3. bis 4. Jahrhundert n. Chr. datierten (*Daňová/Daňová/Rajtár, im Druck*). Die Sensation war perfekt: die Pfeiler einer römischen Donaubrücke waren (wieder)entdeckt!³

¹ Entscheidung des Welterbekomitees 44 COM 8B.24.

² Vermessung der topographischen Gestalt von Gewässerbetten.

³ Schon gegen Ende des 19. Jahrhunderts berichtet der Benediktinerpater Rudolf Gyulai (1848–1906) von Überresten einer antiken Brücke über die Donau bei *Brigetio*, doch konnten diese Hinweise lange Zeit nicht verifiziert werden.

Begeben wir uns nun aber weiter flussabwärts, zu einer schon länger bekannten römischen Brücke über die Donau zwischen Drobeta-Turnu Severin (Rumänien) und Kostol (Serbien), der weltbekannten Trajansbrücke bzw. Apollodorusbrücke.

HISTORISCHER ABRISS

Im 1. Jahrhundert n. Chr. verursachte die konstante Bedrohung durch die Daker Unruhe in den Provinzen entlang der mittleren und unteren Donau (Gudea/Lobüscher 2006, 14–17). Als Kaiser Trajan im Jahr 98 n. Chr. die Herrschaft übernahm, war eine seiner ersten Maßnahmen, gegen die Daker vorzugehen. Nach seiner Amtseinführung begab er sich nach Moesien, um dort die Truppen und Befestigungen zu inspizieren und sich auf einen Krieg vorzubereiten. Er ließ neue Kastelle aus Stein errichten, die unter seinen Vorgängern begonnene Straße entlang der Donauschlucht fertigstellen und einen Kanal am Ende der Schlucht anlegen. Diese Maßnahmen sollten im Hinblick auf einen Krieg eine effiziente Kommunikation, Versorgung und Truppenbewegung gewährleisten. In dieser Zeit kam es auch zu größeren Truppenverschiebungen: Neben den bereits in *Moesia Superior* stationierten Legionen *legio IIII Flavia*, *legio VII Claudia*, *legio I Italica* und *legio V Macedonica* kamen weitere Legionen aus *Pannonia* und Vexillationen der Legionen aus der *Germania Superior*, *Britannia* und den östlichen Provinzen sowie zahlreiche Hilfstruppen hinzu (Tudor 1974, 123). Im Jahr 101 n. Chr. begann Trajan seinen ersten Krieg gegen die Daker, in dem er große Teile ihres Landes unter römische Kontrolle brachte (Cass. Dio 68, 6; Breeze/Marcu/Cupcea 2021, 42; Gudea/Lobüscher 2006, 18, 19). Ein Jahr später schloss er mit den Dakern unter ihrem Führer Decebal Frieden, der aber eine vollständige Abrüstung und Entmilitarisierung ihres Volkes zur Bedingung hatte. Durch die Eroberung großer Gebiete Dakiens konnten die Römer nun die Grenzen der beiden moesischen Provinzen bereits im Limesvorland sichern (Breeze/Marcu/Cupcea 2021, 44, 45). Zusätzliche Kastelle wurden entlang des linken Donauufers errichtet, so dass auf beiden Flussseiten Militäranlagen vorhanden waren. Zwischen den heutigen Ortschaften Kostol (Serbien) und Drobeta-Turnu Severin (Rumänien) ließ Trajan zwischen 103 und 105 n. Chr. von seinem Herresingenieur Apollodorus von Damaskus eine Brücke erbauen, welche die Flussüberquerung wesentlich erleichterte (Cass. Dio 68, 13; Prok. aed. 4, 6).

Der Frieden zwischen Römern und Dakern hielt nicht lange an, da sowohl Trajan als auch Decebal ihre Truppen für einen erneuten Konflikt mobilisierten. Den Bruch der Friedensvereinbarung nahm Trajan zum Anlass, ein zweites Mal gegen die Daker zu ziehen. Diesmal mit dem erklärten Ziel, Decebal und seine Anhänger zu vernichten und ihr Land als Provinz in das Imperium einzugliedern (Breeze/Marcu/Cupcea 2021, 45; Gudea/Lobüscher 2006, 19, 20). Die von Apollodorus errichtete Brücke diente dabei als Ausgangspunkt für den zweiten Dakerkrieg. Beide erfolgreichen Feldzüge wurden später auf der Trajanssäule in Rom verewigt.

Mit der Gründung der Provinz *Dacia* im Jahr 106 n. Chr. verlor der Donaulimes in diesem Abschnitt vorübergehend seine Rolle als Verteidigungslinie (Gudea/Lobüscher 2006, 21, 22). Die Kastelle entlang des Donauufers blieben zwar bestehen, jedoch mit der Hauptaufgabe, den Verkehr und die Kommunikation zwischen den Truppen aufrechtzuerhalten. Viele Legionen und Hilfstruppen, die zuvor in den moesischen Lagern und Kastellen stationiert waren, wurden in die neu gegründete Provinz versetzt, was zu einer erheblichen Verringerung der Truppen entlang des Donaulimes führte. Mit der neuen Provinz als Puffer zwischen Donau und der Reichsgrenze gab es unter den folgenden Kaisern keine weiteren Angriffe auf die moesischen Provinzen.

ANTIKE BIS NEUZEITLICHE QUELLEN BIS ZUR WIEDERENTDECKUNG DER TRAJANSBRÜCKE

Die Brücke, die zweifelsfrei eine Meisterleistung römischer Ingenieurskunst darstellte, wird dem Baumeister Apollodorus zugeschrieben, der um 65 n. Chr. in Damaskus geboren wurde (Stefan 2020, 81). Trajan vertraute ihm während der Dakerkriege und danach wichtige Bauprojekte an, neben der Donaubrücke etwa auch die Trajanssäule, die Trajansmärkte und das Trajansforum in Rom. Ebenso wird ihm die Errichtung der Puente de Alconétar in der spanischen Extremadura zugeschrieben (O'Connor 1993, 108, 109, 171).

Die Existenz der Trajansbrücke wird durch verschiedene Quellen bestätigt, obwohl antike Schriften spärlich sind. Leider ist Apollodorus Bericht über die Donaubrücke verloren gegangen. Abbildungen auf



Abb. 1. Relief der Trajansbrücke auf der Trajanssäule in Rom. Im Vordergrund Opferhandlung des Kaisers an der Donau, im Hintergrund die Brücke des Apollodorus und die beiden Kastelle Pontes und Dobreta (Vorlage Cichorius 1900, Taf. LXXII; bild XCIX).

römischen Münzen ab dem Jahr 105 n. Chr. und die noch erhaltene Trajanssäule in Rom (um 112 n. Chr. errichtet) belegen zweifelsfrei ihre Existenz (Abb. 1; *Stefan 2020*, 84, Abb. 35; Taf. 39; 40). Cassius Dio (um 163–um 235 n. Chr.) drückt seine Bewunderung für das Bauwerk aus, erwähnt jedoch nicht den genauen Standort oder den Baumeister (*Cass. Dio* 68, 13). Prokopius von Caesarea liefert in der ersten Hälfte des 6. Jahrhunderts Informationen über die Brücke und nennt Apollodorus von Damaskus als Erbauer, basierend auf dem verlorenen Werk des Apollodorus (*Prok. aed.* 4, 6).

Der um die Mitte des 12. Jahrhunderts in Konstantinopel lebende Johannes Tzetzes bestätigt ebenfalls Apollodorus als Baumeister und trägt zusätzliche Details zur Pfeilergründung im Flussbett der Donau bei (*Tzetzes chiliad.* 2, 61–73, 86–94). Tzetzes beruft sich in seinem Bericht auf Theophilus Patricius, dem die Schrift des Apollodorus in der ersten Hälfte des 4. Jahrhunderts noch vorgelegen haben soll (*Aschbach 1858*, 211).

Die frühesten neuzeitlichen Berichte über die römischen Ruinen von Drobeta stammen von Ioannes Cuspinianus (1473–1529) und Ștefan Brodarics (1470–1539), die beide die Überreste der Trajansbrücke erwähnen (*Găzdac et al. 2015*, 11). Auf der *Tabula Hungariae* (sogenannte Karte von Lazarus), der ältesten noch erhaltenen Landkarte Ungarns von 1528, ist die Brücke als *Pons Traiani* eingezeichnet, obwohl sie da schon lange nicht mehr existierte (*Török 1987*, 1823 mit Anm. 107). Im 17. bzw. frühen 18. Jahrhundert beschrieben auch Constantin Cantacuzino und Dimitrie Cantemir diese Ruinen (*Găzdac et al. 2015*, 11).

Die ersten bedeutenden Informationen über die Brücke lieferte der italienische Graf Luigi Ferdinando de Marsigli (1658–1730), ein Offizier im Heer des Prinzen Eugen von Savoyen. Er war zwischen 1689 und 1691 an der mittleren Donau stationiert und veröffentlichte 1726 eine sechsbändige, mit zahlreichen Kupferstichen illustrierte Monographie über den Donaauraum, seine Geschichte und Geographie (*Marsigli 1726*). Er beschrieb detailliert die Lage der Auxiliarkastelle von Pontes und Drobeta, der zugehörigen Zivilsiedlungen sowie der Brückenpfeiler (*Marsigli 1726*, II. *De antiquitatibus Romanorum ad ripas Danubii*, 25–34). Auch fertigte er mehrere Pläne, Rekonstruktionen und Zeichnungen an, etwa der beiden Widerlager, die noch heute auf serbischer bzw. rumänischer Seite zu sehen sind (Abb. 2; *Marsigli 1726*, II. *De antiquitatibus Romanorum ad ripas Danubii*, Taf. 10–15). Marsigli äußerte als erster die Vermutung, dass es sich dabei um die berühmte Brücke von Trajan handeln müsse, doch es dauerte noch eineinhalb Jahrhunderte, bis diese Theorie bestätigt wurde.

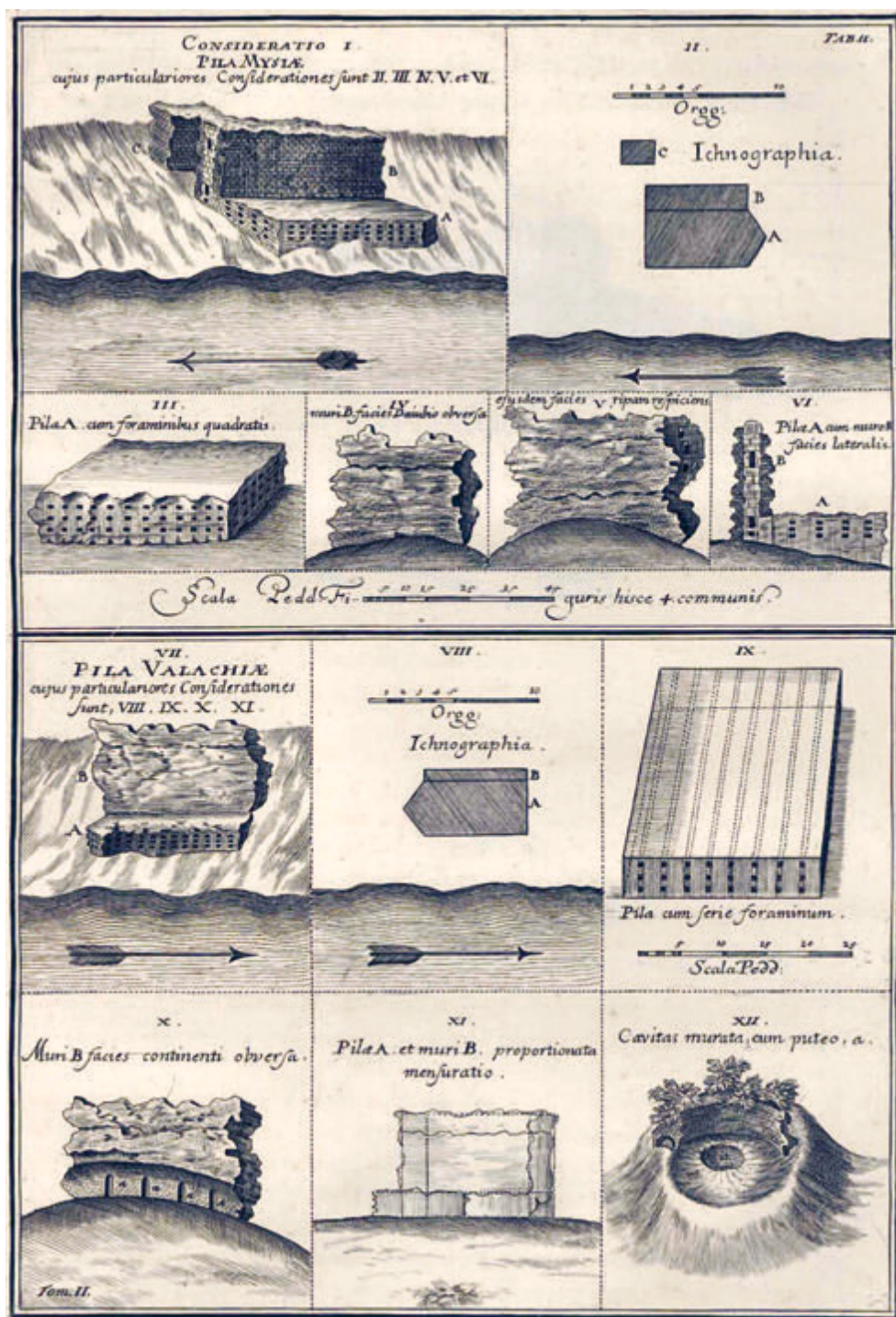


Abb. 2. Befundzeichnungen und Rekonstruktionen der Überreste der Trajansbrücke durch Graf Luigi Ferdinando de Marsigli (Vorlage Marsigli 1726, II. De antiquitatibus Romanorum ad ripas Danubii, Taf. 11).

In Jahre 1858, während eines außergewöhnlich trockenen Jahres, erreichte der Wasserstand der Donau ein historisches Tief, sodass weitere Pfeiler der von Marsigli beschriebenen Brücke, als die schon auf seinem Übersichtsplan bekannten (Abb. 3), sichtbar wurden. Diesen Umstand nutzte eine österreichische Expedition unter der Leitung des k. k. Majors Martin Imbrisevic, um die Brückenreste im Flussbett im Jänner 1858 näher zu untersuchen. Das Vorhaben war nur möglich, weil die k. k. Central-Commission (die Vorgängerorganisation des heutigen Bundesdenkmalamtes) die großzügige Unterstützung der Werftbauleitung der *Donau-Dampfschiffahrts-Gesellschaft* (DDSG, gegründet 1829) in Orsova erhielt.



Abb. 3. Lageplan der beiden Kastelle Pontes und Dobreta sowie der Pfeilerreste der Trajansbrücke um 1690 (Vorlage Marsigli 1726, II. De antiquitatibus Romanorum ad ripas Danubii, Taf. 10).

Joseph Aschbach veröffentlichte dazu noch im selben Jahr die erste monographische Abhandlung über die Brücke (Aschbach 1858). Ferner publizierte er Grund- und Aufrisse der Pfeiler, die das Landesgeneralkommando Temesvár der Central-Commission vorlegte (Abb. 4; Aschbach 1858, Taf. IX). Aufgrund der großen Übereinstimmungen mit den historischen Quellen war sich die Fachwelt von nun an einig, dass es sich bei den Ruinen zwischen Kostol (bei Kladovo) und Drobeta-Turnu Severin um Trajans Brücke handeln müsse.

Seitdem rückte die Brücke mehr und mehr in das Interesse der Forschung. Aus der Feder des ersten preußischen Staatskonservators Ferdinand Alexander von Quast (1807–1877) etwa sind drei Bleistiftzeichnungen der Reste eines Brückenpfeilers bei Turnu Severin überliefert (Abb. 5).⁴ Vom gegenüber liegenden Donauufer geben Aufzeichnungen und Skizzen des österreichisch-ungarischen Archäologen und Naturforschers Felix Philipp Kanitz Auskunft über Aufbau und Erhaltungszustand des beim Kastell Pontes befindlichen Brückenpfeilers (Kanitz 1892, 45–48, Abb. 25; 26).

Ende des 19. Jahrhunderts begann Grigore Tocilescu mit systematischen Ausgrabungen in Drobeta und konzentrierte sich dabei auf die Pfeiler der Trajansbrücke, das Kastell und Teile der Zivilsiedlung (Găzdac et al. 2015, 11). Der französische Ingenieur Edgar Duperrex veröffentlichte 1907 eine Monographie über die Trajansbrücke, die sich auf

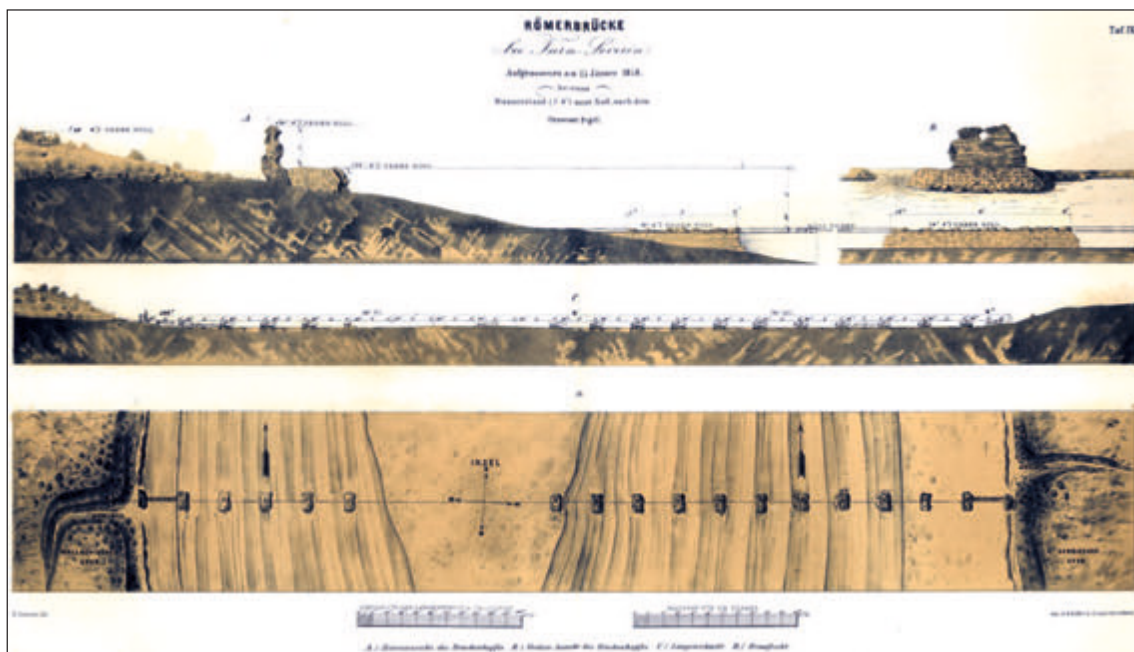


Abb. 4. Grund- und Aufriss der Pfeiler der Trajansbrücke im Jahr 1858 (Vorlage Aschbach 1858, Taf. IX).

⁴ TU Berlin Architekturmuseum, Inv. No. 44513.

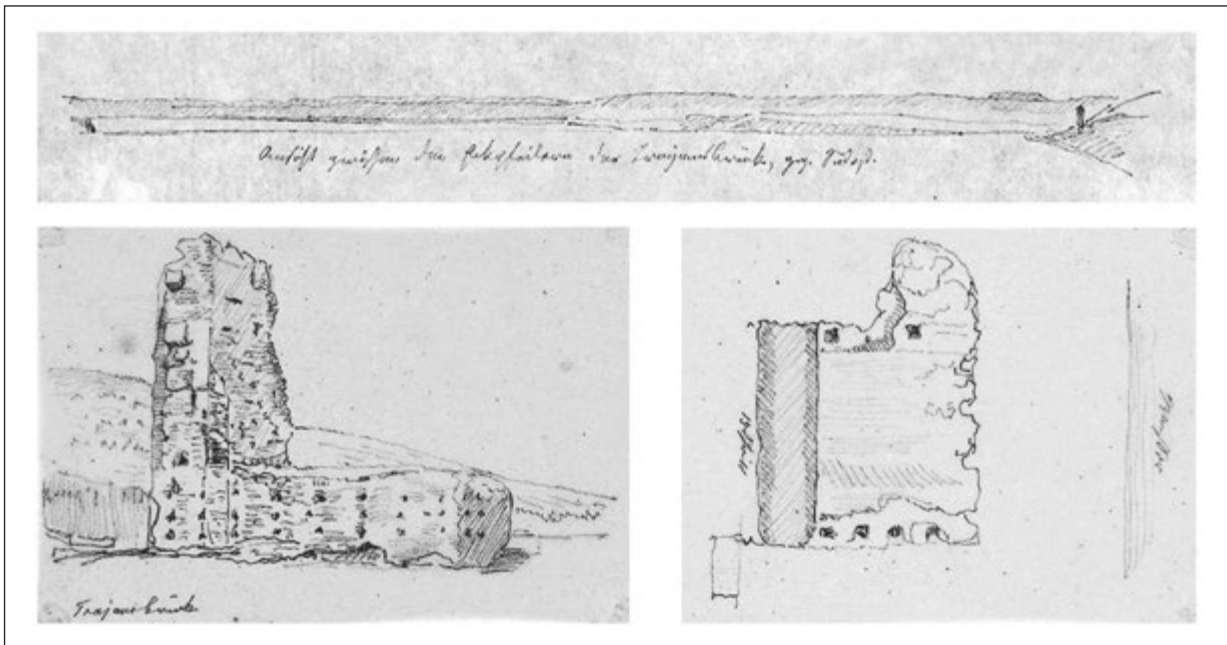


Abb. 5. Reste des Brückenpfeilers bei Turnu Severin. Bleistiftskizzen des preußischen Staatskonservators Ferdinand Alexander von Quast (Vorlage Architekturmuseum der TU Berlin, Inv. Nr. 44513).



Abb. 6. Rekonstruktionsversuch der Trajansbrücke von Edgar Duperrex (Vorlage Duperrex 1907).

technische und architektonische Aspekte konzentrierte (Duperrex 1907). Seine Rekonstruktion der Brücke ist bis heute die weit verbreitetste (Abb. 6).

Bereits 1909 wurden zwei Brückenpfeiler im Fluss zerstört, da sie die Schifffahrt behinderten (Garašanin/Vasić 1980, 11). Wiederholte Untersuchungen bis in die heutige Zeit haben ergeben, dass die Bausubstanz der verbliebenen Pfeiler mehr und mehr schwindet.⁵ Waren 1932 noch 16 Pfeiler im Wasser auszumachen, so konnten 2003 nur mehr zehn Pfeiler festgestellt werden. Somit ist der von Aschbach 1858 veröffentlichte Plan der vollständigste, den es von der Trajansbrücke gibt. In seiner Publikation ist jedoch nur eine umgearbeitete Schwarz-Weiß-Abbildung dargestellt. Erst unlängst konnte der zugehörige kolorierte Druck, der von Bauingenieur Deuster am 6. März 1858 in „Turn Severin“ angefertigt wurde und als Vorlage diente, im Archiv des Bundesdenkmalamtes in Wien wiederentdeckt werden (Abb. 7).⁶ Dieser

⁵ Zur Forschungsgeschichte im 20. und 21. Jahrhunderts s. zusammenfassend: Brzakovic 2014, 13–17, 104, 105; Găzdac et al. 2015, 11, 12.

⁶ Für diesen Hinweis sei Gabriele Roithner vom Archiv des Bundesdenkmalamtes herzlich gedankt. Die in Aschbach 1858, Taf. IX abgebildete Schwarz-Weiß-Zeichnung ist dem farbigen Original sehr ähnlich, naturgemäß aber von schlechterer Qualität. Das Original misst 100 × 63,5 cm.

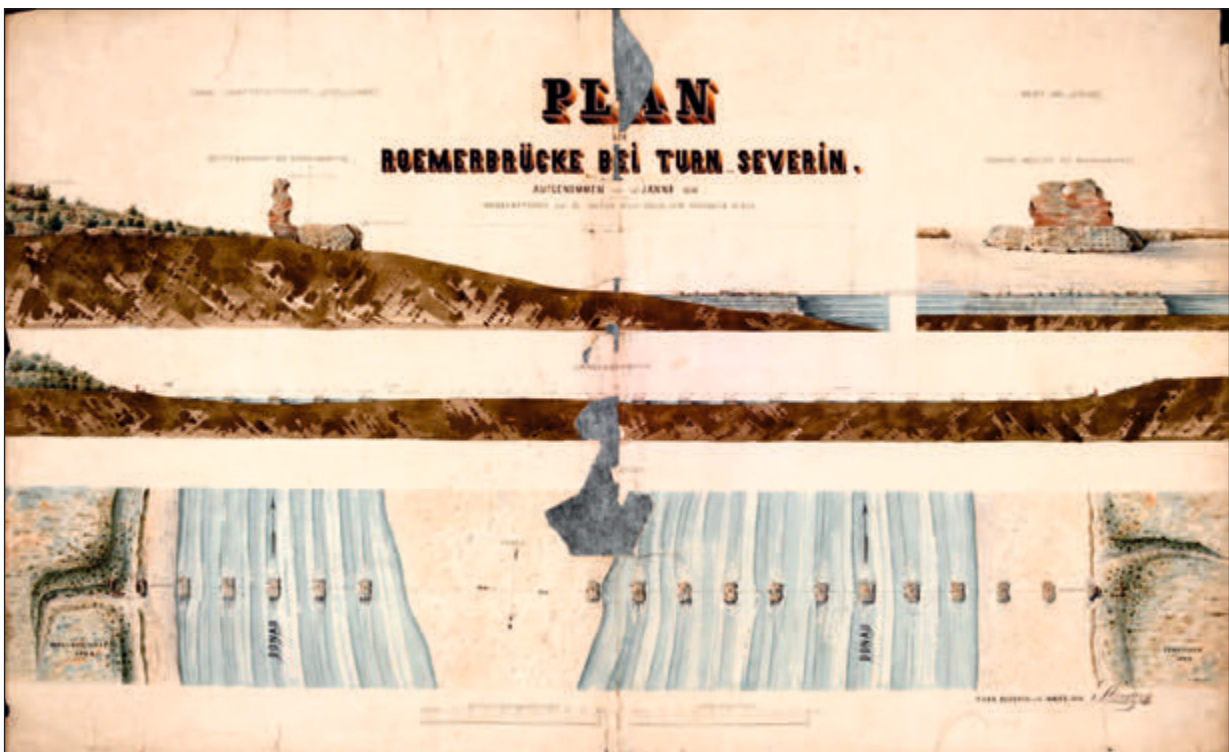


Abb. 7. Plan der Überreste der Trajansbrücke bei Turnu Severin, aufgenommen von Ing. F. Deuster am 15. Jänner 1858, Planerstellung am 6. März 1858 (© Bundesdenkmalamt, Archiv).

Druck soll nun als Grundlage für die weiteren Ausführungen dienen und die dort angegebenen Maße und Informationen sollen mit jenen von Cassius Dio und den neuesten wissenschaftlichen Untersuchungen verglichen werden.⁷

DIE BRÜCKE

Die Position für den Bau der Brücke wurde sowohl aus topografischen als auch aus strategischen Überlegungen gewählt, um die Kontrolle über das Donautal von beiden Ufern aus zu ermöglichen. Die Brücke verband das Kastell von *Pontes* in *Moesia Superior* (heute Kostol, Serbien) mit *Drobeta* in *Dacia* (heute Drobeta-Turnu Severin, Rumänien). In römischer Zeit wurde die Donau an dieser Stelle von einer großen Sandbank in zwei Kanäle geteilt, die stromaufwärts der heutigen Șimian-Insel lag. Dadurch konnte der Flussstrom je nach Bedarf in den einen oder anderen Kanal geleitet werden (Tudor 1974, 76–78).

Die Brücke wurde zwischen 103 und 105 n. Chr. errichtet, noch vor dem Ausbruch des zweiten Dakerkrieges im Jahr 105 (Cass. Dio 68, 14). Schon Aschbach hält die Errichtung der Brücke in der Zeit zwischen den beiden Dakerkriegen für plausibel, da dafür (und für den Bau der beiden Kastelle *Pontes* und *Drobeta*) der volle Einsatz der römischen Truppen und „viele Tausende von Händen“ notwendig waren (Aschbach 1858, 202). Auf der Trajanssäule zeigt eine Darstellung römische Legionäre beim Fällen von Bäumen und Anrühren von Kalk. Möglicherweise wird hier der Beginn des Brückenbaus gezeigt (Stefan 2020, Taf. 38, Segment XCVII). Die Fertigstellung der Brücke im Jahr 105 bezeugen nicht nur die Überlieferung Cassius Dios (Cass. Dio 68, 13), sondern auch Münzen aus diesem Jahr, die der Senat anlässlich der Eröffnung des Baus prägen ließ (Aschbach 1858, 202, Anm. 1; Garašanin/Vasić 1980, 9; Stefan 2020, 84, Abb. 35). Die in den Pfeilern verbauten aufgefundenen gestempelten Ziegel deuten darauf hin, dass verschiedene Einheiten

⁷ Zu den hier herangezogenen Forschungen auf serbischer Seite siehe Karović/Mihajlović/Vučković 2008. Die Ergebnisse basieren auf hydrographischen Messungen des Flussbetts mittels Fächerecholot, bei denen die Pfeilerreste geortet wurden. Der aktuelle Zustand der Pfeilerreste wurde mittels Photogrammetrie gemessen. Einen Überblick über diverse andere neuzeitliche Untersuchungen der Trajansbrücke gibt Griggs 2007 wieder.

wie die *legio VII Claudia*, die *cohors III Brittonum*, die *cohors I Cretum*, die *cohors XIII Gemina*, die *cohors II Hispanorum*, die *cohors I Antichensium* sowie die *cohors I Civium Romanorum Equitata* am Brückenbau beteiligt waren. Alle diese Truppen gehörten zur Armee von *Moesia Superior* und nahmen am zweiten Dakerkrieg teil (Tudor 1974, 123).

Die Sicherung der Brücke erfolgte von den beiden schon genannten Kastellen *Pontes* und *Drobeta*, die sich direkt an den Brückenköpfen an beiden Seiten der Donau befanden, sowie von Schiffen der *Classis Flavia Moesica* (Tudor 1974, 124–129). Sowohl Brücke als auch Kastelle wurden zeitgleich errichtet (Prok. aed. 4, 6). Neben der antiken Überlieferung durch Prokop sprechen auch die Bautechnik sowie Baumaterialien für diese Tatsache (Garašanin/Kondić o. J.; Garašanin/Vasić 1980, 7).

Bei der Brücke handelte es sich allem Anschein nach um eine auf steinernen Pfeilern ruhende hölzerne Fachwerkkonstruktion mit flachen Segmentbögen. Dies untermauern antike Darstellungen der Brücke wie etwa auf Münzen oder auf der Trajanssäule (Abb. 1; Stefan 2020, 84, Abb. 35; Taf. 39). In den Widerlagern konnten horizontale und vertikale Einfassungslöcher für Holzbalken festgestellt werden, die diese Annahme bestätigen (Aschbach 1858, 220; Garašanin/Vasić 1980, 7. 11; zusammengefasst bei Brzakovic 2014, 106, 107). Deuster gibt für die Löcher, in denen noch Holzreste zu finden waren, einen Querschnitt von 5–6 Zoll (13,2–15,8 cm) und eine Tiefe von 18 Zoll bis 2 Fuß (47,4–63,2 cm) an (Aschbach 1858, 220).

Von beiden Ufern aus führten Rampen bis zu den Portalen, die auf den Pfeilern der Brückenköpfe errichtet waren und durch die man auf die Brücke gelangte. Münzdarstellungen überliefern, dass diese Portale mit Skulpturen geschmückt waren (Stefan 2020, 84, Abb. 35). Auch ein 1850 in der Nähe eines Brückenkopfs gefundener Bronzekopf (der vermutlich von einer Statue von Trajans gleichnamigem Vater stammte) bestätigt diese Annahme (Tudor 1974, 58–62, Abb. 24).

Laut der Angaben bei Cassius Dio müsste die Spannweite der Brücke 3230 römische Fuß betragen haben, was etwa 956 m entspricht.⁸ Dio gibt an, dass die Brücke 20 Pfeiler besaß, die ohne Fundament 150 Fuß (44,40 m) hoch und 60 Fuß (ca. 17,80 m) breit waren. Der Abstand zwischen den Pfeilerachsen betrug 170 Fuß (etwa 50,30 m). Fügt man die auf beiden Uferseiten errichteten Widerlager hinzu, erhöht sich die Anzahl der Pfeiler auf 22. Somit kann die Länge der Holzkonstruktion der Brücke zwischen den beiden Widerlagern nach Dios Angaben mit 3570 Fuß (1057 m) rekonstruiert werden.⁹ Auf Deusters Plan ist der Abstand zwischen den beiden Widerlager mit 596 Klaftern angegeben, was 1130 m entspricht.¹⁰ Mittels der im September 2003 durchgeführten hydrographischen Messungen kann die Spannweite zwischen den Pfeilern, von denen die Holzkonstruktion der Brücke ausging, mit 1097,50 m angegeben werden, also 32,50 m weniger als bei Deuster (Karović/Mihajlović/Vučković 2008, 285). Werden zu dieser Länge noch die Entfernungen zum Portal auf der serbischen Seite (30,43 m) und zum Portal auf der rumänischen Seite (30,40 m) hinzugezählt, ergibt sich eine Gesamtlänge der Brücke von 1158,33 m von Tor zu Tor (Karović/Mihajlović/Vučković 2008, 285).

Die Anzahl der angegebenen Pfeiler bei Dio wird durch die Untersuchungen der DDSG jedenfalls bestätigt. Im Strombett konnten 16 Pfeiler dokumentiert werden, die auf einem festen Fundament aus *opus caementitium* erbaut waren. Wie Deuster anmerkt, sind auf der Sandbank zwischen den Pfeilern 5 und 6 noch vier weitere Stützen anzunehmen (Aschbach 1858, 220). Diese fehlenden Pfeiler lassen sich auch auf der zugehörigen Zeichnung gut einfügen. Der Abstand zwischen den einzelnen Pfeilerachsen wird auf Deusters Plan sehr einheitlich mit 28 Klafter, 2 Fuß und 3 Zoll angegeben. Dies entspricht 53,81 m. Mithilfe der neuesten Untersuchungen konnte ein Pfeilerachsenabstand von 54 m ($\pm 2\%$) eruiert werden, was den Deuster'schen Angaben sehr gut entspricht (Karović/Mihajlović/Vučković 2008, 285).¹¹

Weiters sind aus den Ausführungen Deusters die Maße der Pfeiler zu entnehmen (Aschbach 1858, 220). Sie haben eine Länge zwischen 11 Klafter 3 Zoll (20,94 m) und 12 Klafter (22,76 m) und eine Breite von 7 Klafter und 3 Fuß (14,22 m) bis 7 Klafter und 5 Fuß (14,86 m). Der besterhaltene Pfeiler Nr. 12 wies noch Sichtmauerwerk und eine Breite von 10 Klafter auf (18,96 m). Dieser Pfeiler stimmt gut mit der Darstellung

⁸ Cass. Dio 68, 13 gibt den Abstand zwischen den 20 Pfeilerachsen mit je 170 Fuß an. Umgerechnet mit der statistischen Länge von 296 mm für 1 röm. Fuß.

⁹ Die in der Literatur zur Länge der Brücke gemachten Angaben variieren zwischen 800 und 1500 m. Siehe zusammenfassend: Griggs 2007, 40 tab. 1; Karović/Mihajlović/Vučković 2008, 285.

¹⁰ Mit Gesetz vom 23. Juli 1871 wurde das metrische System in Österreich mit Wirkung ab 1. Jänner 1876 verbindlich eingeführt und das Klafter auf genau 1,89648384 m festgesetzt (kundgemacht durch Reichsgesetzblatt No. 16 am 2. März 1872, s. 29).

¹¹ In Karović/Mihajlović/Vučković 2008, Anm. 8 wird angemerkt, dass in der Literatur der letzten vier Jahrzehnte der Abstand zwischen den Pfeilerachsen von 38 bis 57 m variiert.



Abb. 8. Reste des südlichen Brückenkopfs bei Kostol (Serbien) von Osten gesehen, Zustand September 2018 (Foto R. Ployer).



Abb. 9. Reste des südlichen Brückenkopfs bei Kostol (Serbien) von Westen gesehen, Zustand September 2018 (Foto R. Ployer).

Dios überein, der ein Quadermauerwerk beschreibt und eine Breite von knapp 18 m angibt (*Cass. Dio* 68, 13). Vergleichende Maßangaben neuerer Untersuchungen sind leider nicht vorhanden. Zwar fanden 1979 archäologische Grabungen auf serbischer Seite statt, doch wurden dabei nur die Brückenreste am Festland untersucht (*Garašanin/Vasić* 1980, 7). Dies waren einerseits drei Pfeiler, die den Beginn der Brücke markierten, auf denen das Eingangsportal stand und die kleiner als die Tragepfeiler für die eigentliche Brückenkonstruktion waren. Andererseits wurde das Widerlager untersucht, das unmittelbar am Uferstand und von dem aus die hölzerne Brückenkonstruktion begann (bei Deuster als „Brückenkopf“ am „serbischen Ufer“ bezeichnet).

Die Brückenpfeiler wurden mittels Kastendämmen errichtet, eine Baumaßnahme, die schon Vitruv beschreibt (*Vitr.* 5, 12, 5). Der Kern der Pfeiler bestand aus *opus implectum*, einer äußeren Ziegelreihe mit einer inneren Füllmasse aus Bruchsteinen und Mörtel, das mit Quadersteinen verkleidet war. Die Sockel der Pfeiler liefen in Richtung flussaufwärts spitz zu, um einerseits den Druck durch die Wassermassen zu entlasten, andererseits um als Eisbrecher zu fungieren. In die Mitte der Fundamente wurden Eichenstämme getrieben, um die Pfeiler zu stabilisieren. Diese Eichenstämme werden bereits im Bericht von Major Imbrisevic an die k. k. Central-Commission beschrieben (*Aschbach 1858*, 220). Auf Deusters Plan ist jedoch nur bei den beiden auf den Flussufern befindlichen Widerlagern die flussaufwärts gerichtete keilförmige Verstärkung der Pfeiler eindeutig erkennbar (die übrigens bis heute noch besteht); bei den in der Donau befindlichen Pfeilern lässt sie sich nur erahnen.

Zur Zerstörung der Brücke gibt es zwei Hypothesen: Nach Cassius Dio ordnete bereits Kaiser Hadrian die Entfernung der Überstruktur an, um die Daker am Überqueren des Flusses nach Moesien zu hindern (*Cass. Dio* 68, 13). Die zweite mögliche Erklärung stammt von Prokopios und betrifft natürliche Ursachen wie „Überschwemmungen des Ister (Donau) und den Zahn der Zeit“ (*Prok. aed.* 4, 6, 11). Zu seiner Zeit, in der ersten Hälfte des 6. Jahrhunderts, stand die Brücke jedenfalls in Ruinen. Es ist jedoch unklar, wann und wie genau die Brücke zerstört wurde.

Heute werden sowohl auf serbischer als auch auf rumänischer Seite Überreste der gemauerten Brückenköpfe durch Betonmauern und Dämme vom steigenden Wasserpegel der Donau, der durch die Stauanlagen des Kraftwerks Djerdap 2 etwas gestiegen ist, geschützt (Abb. 8; 9). Abgesehen von diesen steinernen Pfeilern sind nur mehr wenige Überreste im Wasser der Donau erhalten, die von der einst großartigen architektonischen Leistung des Apollodoros von Damaskus und seiner Brücke zeugen. Dass es sich aber durchaus lohnt, alte Archivalien zur Rekonstruktion von Vergangenen in die Hand zu nehmen, zeigt exemplarisch der hier vorgestellte Plan der „Roemerbrücke bei Turn Severin“ von der Expedition der DDSG im Jahr 1858.

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O mostoch a ľudoch

K starej kolorovanej tlači v archíve Spolkového pamiatkového úradu

René Ployer

Súhrn

Článok sa zaoberá históriou slávneho Trajánovho mosta, známeho aj ako Apollodorov most. Dákovia ohrozovali v 1. storočí n. l. rímske provincie na strednom a dolnom Dunaji. Keď sa v roku 98 n. l. ujal vlády cisár Traján, začal sa pripravovať na vojnu s Dákmi. Kvôli logistike nechal postaviť nové pevnosti a zlepšiť infraštruktúru a to vrátane mosta cez Dunaj medzi dnešnými obcami Kostol (Srbsko) a Drobeta-Turnu Severin (Rumunsko). V roku 101 n. l. začal Traján prvú dácku vojnu, počas ktorej sa veľká časť Dácie dostala pod rímsku kontrolu. Po krátkom mieri však nasledovala druhá vojna, v ktorej spomínaný most slúžil ako dôležitý východiskový bod pre rímske jednotky. Po založení provincie Dácia v roku 106 n. l., stratil dunajský Limes svoju obrannú funkciu.

Most, navrhnutý slávnym architektom Apollodorom z Damašku, bol postavený v rokoch 103 až 105 n. l.. Išlo o majstrovské dielo rímskeho inžinierstva. Pozostával z kamenných pilierov s drevenou nosnou konštrukciou. Antickí autori Cassius Dio a Prokopios z Caesarey o ňom písali a vyjadrovali obdiv k tejto stavbe. Zobrazenia mosta na rímskych minciach a na Trajánovom stĺpe poskytujú indicie o vzhľade mosta. Most ležal po stáročia v ruinách a jeho piliere postupne mizli v Dunaji. Pozostatky mosta však potvrdili historické správy ale aj moderné archeologické výskumy. V priebehu storočí bolo o moste napísaných mnoho správ a to vrátane podrobných štúdií Luigiho Ferdinanda de Marsigliho (17. storočie).

Dnes sú žiaľ z mosta viditeľné, prípadne pod vodou zachované, len jeho časti. Znovuobjavenie farebnej tlače z roku 1858 v archíve Rakúskeho spolkového pamiatkového úradu poskytuje dôležité informácie pre rekonštrukciu a výskum tejto

starobylej stavby. Nízka hladina vody vtedy umožnila rakúskej expedícii prezrieť si zvyšky mosta zblízka. V koryte rieky zdokumentovali 16 pilierov, ktoré postavili na pevnom základe – opus caementitium. Keďže v posledných desaťročiach bolo viac a viac častí starobylého mosta zničených, tento dokument je nielen najúplnejším plánom mosta, ale jeho opis zároveň poskytuje dôležité informácie o konštrukcii mostných pilierov.

- Obr. 1. Reliéf Trajánovho mosta na Trajánovom stĺpe v Ríme. V popredí obetný akt cisára pri Dunaji, v pozadí most Apollodora a obe kastely Pontes a Drobeta (predloha *Cichorius 1900*, tab. LXXII; obr. XCIX).
- Obr. 2. Nálezy a rekonštrukcie zvyškov Trajánovho mosta od grófa Luigiho Ferdinanda de Marsigliho (predloha *Marsigli 1726*, II. De antiquitatibus Romanorum ad ripas Danubii, tab. 11).
- Obr. 3. Situácia oboch kastelov Pontes a Drobeta, ako aj zvyškov pilierov Trajánovho mosta okolo roku 1690 (predloha *Marsigli 1726*, II. De antiquitatibus Romanorum ad ripas Danubii, tab. 10).
- Obr. 4. Pôdorys a nárys pilierov Trajánovho mosta v roku 1858 (predloha *Aschbach 1858*, tab. IX).
- Obr. 5. Zvyšky mostného piliera pri Turnu Severin. Skice ceruzkou pruského štátneho konzervátora Ferdinanda Alexandra von Quasta (predloha Architektonické múzeum TU Berlín, inv. č. 44513).
- Obr. 6. Pokus o rekonštrukciu Trajánovho mosta od Edgara Duperrexa (predloha *Duperrex 1907*).
- Obr. 7. Plán zvyškov Trajánovho mosta pri Turnu Severin, zaznamenaný inžinierom F. Deusterom 15. januára 1858, spracovanie plánu 6. marca 1858 (© Spolkový pamiatkový úrad, archív).
- Obr. 8. Zvyšky južného konca mosta pri Kostolaci (Srbsko) z pohľadu od východu, stav september 2018 (foto R. Ployer).
- Obr. 9. Zvyšky južného konca mosta pri Kostolaci (Srbsko) z pohľadu od západu, stav september 2018 (foto R. Ployer).

Mag. Dr. René Ployer
Bundesdenkmalamt
Abteilung für Digitalisierung und Wissensmanagement
Hofburg, Säulenstiege
AT – 1010 Wien
rene.ployer@bda.gv.at
<https://orcid.org/0000-0002-5124-2574>

NEW DATA ON THE HISTORY AND TOPOGRAPHY OF AD MURES (ÁCS-BUMBUMKÚT, HUNGARY) ON THE *RIPA PANNONICA* AND THE QUESTION OF THE PANNONIAN BORDER (3RD–4TH CENTURY CE)¹

Bence Simon – Melinda Szabó

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Keywords: *Ad Mures*, Pannonia Superior, auxiliary fort, *ripa Pannonica*, *legio X Gemina*, *legio II Italica*, archaeological topography

Abstract: In the last 200 years, only minor excavations and fieldwalkings have been carried out in the area of the fort of Ad Mures. The collected information was useful, but not sufficient to define the role and significance of the fort on the *ripa Pannonica* and to outline its history. In recent years, the Eötvös Loránd University has carried out geophysical and field surveys, as well as a short excavation campaign in 2023. The results of these works helped to clarify the issues of previous research.

Although the troop(s) guarding the fort are still unknown, we present that the *legio X Gemina*, the *legio II Italica* and the *cohors I Aelia milliaria sagittariorum* were certainly involved in the (re)construction works of the fort. An important observation is that the tile stamps of the *legio I Adiutrix*, the garrison legion of Brigetio, are missing from the site even though the fort and the fortress are quite close to each other. Regarding the troops mentioned on the stamps, we outline similarities between Ad Mures, Ad Statuas, Arrabona, Quadrata and Gerulata. Based on these, we assume that the theory that B. Lőrincz and P. Kovács have proposed about the common border of Pannonia Inferior and Superior after 214 CE, i.e. that the border was east of Ad Mures, can be confirmed by the results of the latest excavations. In addition, regarding the topographical research, the most probable line for the border is the valley of the Concó stream.

INTRODUCTION

In frame of a national research project the Department of Classical and Roman Archaeology and the Department of Archeometry and Archaeological Methodology of the Eötvös Loránd University (Budapest) started complex research on the northern part of the Pannonian *ripa*. Methodologically, this study is based on results of geophysical surveys and excavations, topographical observations, epigraphic and historical research. The aim of the present paper was to gather new information about the fort of Ad Mures, to better understand its location and its role among the forts along the northern Pannonian limes.

RESEARCH HISTORY OF THE FORT

The research history of the area around the Bumbum-kút site goes back to the end of the 19th century. The site was first identified as Ad Mures in 1874, when R. Sztachovics, writing about the system of Roman roads in the neighbourhood, mentioned that a Roman fort is located at the Danube, near Ács, around the estuary of the Concó stream (Sztachovics 1874, 384). A decade later, R. Gyulai with the help of B. Berkovics found some massive wall foundations in the vineyards of Ács. He described a trapezoidal fort without a northern wall, which he assumed had been destroyed by the river (Gyulai 1886). First, he interpreted the ruins as a road station (Gyulai 1886), but one year later, he referred to them as the fort of Ad Mures.² According to Zs. Visy,

¹ The research was realised through a four-year thematic grant from the National Research, Development and Innovation Office (OTKA K 2020, Grant ID: K134522).

² “... az ácsi szőlőkben van a korábban már tüzetesen leírt Ad Mures nevű, trapez-alakú erőd.” “... in the vineyards of Ács, situated the already in details described, trapezoidal fort called ad Mures.” Here, he cited himself from 1886 (Gyulai 1886).

R. Gyulai's measurements³ could not be correct, and even the proposed shape could not be verified at any of the possible locations of the fortress (Visy 2003, 28). But it seems that R. Gyulai did indeed find some part of the fort of Ad Mures, because he mentions the location: the "Upper-" and the "Papist-" vineyards, the parcels of the Décsi and the Páli family. On the cadastral map of Ács from 1887 (*Habsburg Empire – Cadastral maps (XIX. century)*) the vineyards, where the fort is situated, were called the "Dézsma = Tithe-vineyards", which clearly refers to ecclesiastical taxation. Moreover, the owners of parcels no. 6178, 6182, 6183, 6184, 6184, 6185 were Décsi Bálintné and Zsigmond Pályi in 1888 (*HU-MNL-OL-S 79-529.-1, 323, 324*) which coincides with the currently known location of the fort. However, it is still not known why R. Gyulai presumed that the northern part of the fort was demolished by the river; his statement has no proof yet.

In 1877 R. Gyulai also wrote about a watchtower, at the estuary of the Concó 'at the edge of a small pine forest, which corresponds to the tip of the island' (Gyulai 1887, 4).⁴ This watchtower is yet unidentified,⁵ and the case is problematic. He has found an inscribed slab there (Gyulai 1887, 4; the inscription he referred to is *CIL 03, 10993*), which may prove that the ruins were Roman. However, at about the same mentioned place – on the bluff, opposite the island – a redoubt was built during the Napoleonic Wars. R. Gyulai did not mention the Napoleonic fortification, so there is also a chance that he has found only that, not a Roman watchtower. However, it is likely that the inscription was found at the mentioned place. This way it was not *in situ* but was being reused during the 19th century.⁶

In 1936, A. Graf cited the measurements and the information of the above-mentioned sources, but at some point, his work was not consistent. First, he referred to the works of I. Fehér, and mentioned that a Roman fort was located around the estuary of the Concó, called Ad Mures (Graf 1936, 90). Secondly, he identified Bumbum-kút as a site, where remains of a burgus are visible (Graf 1936, 90). Without knowing he must have referred to the ruins of the fort, not a burgus, which was excavated at the time of his publication by I. Paulovics (Graf 1936, 90, note 5).

In the 1930's, researchers debated whether the site at Ács-Bumbumkút could be identified with Ad Mures. E. Lovas stated in 1937 that Ad Mures could have been located either under the contemporary settlement of Ács or in the vineyards near the estuary of the stream (Lovas 1937, 281).⁷

In the middle of the 20th century, J. Szilágyi wrote about the "fortified camp at Bum-Bum Well", and cited A. Graf (Szilágyi 1952, 203). But as we saw, A. Graf has probably confused the places of the fort and the watchtower, so J. Szilágyi must have relied on the work of L. Barkóczi (Barkóczi 1951, 6). Thanks to L. Barkóczi and D. Gabler, the genuine place of the fort became known and widely accepted (Barkóczi 1951, 6; Fitz 1976, 29; Visy 2003, 28). They also specified the extent of the fort, which they measured 130 (E-W) × 120 (N-S) m. Zs. Visy has found new data in an aerial photograph from 1954 and estimated the N-S walls to be at least 180 m long. Based on the photograph Zs. Visy supposed that the northern part of the fort was destroyed by the Danube (Visy 2003, 28).⁸ In light of our recent results, regarding the stone period of the auxiliary fort, his opinion must be refuted.

Sources mention the fort's excavations on multiple occasions – in 1948, between 1966–1972 and 1989 (Lóki/Szabó/Visy 2011, 61) – but the truth is that before 2023 and apart from 1989, only a few, smaller fieldwork campaigns were carried out. In other works, excavations in 1944, 1948 and 1951 are attributed to L. Barkóczi (Gerecsei/Lakatos 2015, 17), between 1966–1972 to D. Gabler (Petényi 2003, 73), in 1984 and 1988–1989 to

³ The original source of these measurements is unknown. R. Fröhlich wrote that the southern wall was 25 steps long, the eastern was 266 steps, and the western was 200 steps, the missing northern wall could have been 140 steps. He refers to Gyulai's work, but there Gyulai did not mention any detail about the length of the walls (Fröhlich 1887, 163). Later, A. Graf mentioned the same measurements, without citation (Graf 1936, 90).

⁴ His statement was not clear, as he could have meant that the burgus was on the island. A. Graf interpreted the text similarly (Graf 1936, 90), but looking at the local topography it seems unlikely that the burgus was built on a low lying (max. 109 m asl.) island. It seems more likely that A. Graf misinterpreted the sentence of R. Gyulai.

⁵ In 1951, L. Barkóczi wrote, he personally did not find the ruins which R. Gyulai was writing about (Barkóczi 1951, 6). In 1976, without explaining it, D. Gabler mentioned that the burgus at Várhegy is the one which R. Gyulai described (Gabler 1976, 29).

⁶ If it was reused in the Napoleonic times, its place of origin must have been nearby, which probably led L. Barkóczi to assume that the monument was from the fort of Ad Mures. See below.

⁷ E. Lovas has also mentioned that some said that Ad Mures could be identified as Ács-Vaspuszta, but he did not find any proof of this claim.

⁸ Zs. Visy has also made a field survey in 1985, when he could observe the trenches on the ground, which were visible on the photographs.

E. Tóth.⁹ But, there is no direct proof of their work.¹⁰ The only proper documentation exists from a rescue excavation in 1989, which was carried out by S. Petényi. He worked at Bumbum-kút because a nursery garden was being created. The need for an excavation was reported by E. Tóth to the authorities.¹¹

After the millennium, research has been restarted in the area, because of the world heritage nomination of the Danubian Limes (See the cited works of Zs. Visy.), and some rescue excavations were carried out in the area of the vicus by Anna Győri-Pórszász in 2022.¹²

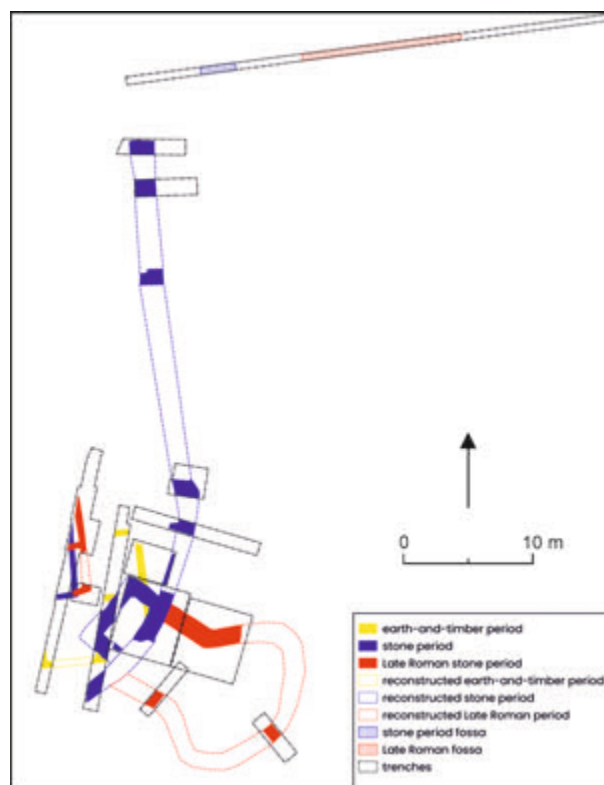


Fig. 1. Map of the 1989 excavation in the fort of Ad Mures with the identified building periods. Plan B. Simon, based on S. Petényi's documentation.

a total area of 4200 m², three gates, the north-western tower, the wall, and some inner buildings of the fort were identified. Also, an excavation was launched in Spring 2023 to gather information about the periods of the fort and the condition of the detected walls. Based on the results of the excavation, besides some Pre-historic features, three periods of Roman settlement could be determined. We came across similar features like S. Petényi, as the earliest building phase was characterised by wall foundations composed of a mixture of mud bricks and stones, which were cut by the features of the earlier stone period of the fort. The wall, the inner rectangular corner tower, the western gate and the *fossa* of the younger phase of the stone fort were all identified in the opened trenches. The late Roman building phase of the fort could also be clearly identified,

TOPOGRAPHY OF THE FORT

Before recent topographic studies, only the excavation of S. Petényi in 1989 provided a trustworthy plan about the Roman auxiliary fort at Ács-Bumbumkút. Luckily, he prepared a precise and detailed geodetic measurement of the excavation site, which was available for georeferencing. In 1989 he investigated the area of the southeastern corner, where three phases of the fort were identified (Fig. 1). The earliest building was found under the walls of the younger stone fort, the foundations of which were made of yellow mud bricks and layers of stones. The second period is the time of the stone fort, when the walls, the rectangular inner tower and the new inner buildings were built. Sometime in the Late Roman period a fan-shaped tower was built at the fort's southeastern corner and the inner buildings were modified. S. Petényi also unearthed the earlier and the later *fossa* of the fort.

In 2022 and 2023, the Institute of Archaeological Sciences of the Eötvös Loránd University started new investigations to clarify the layout and the chronology of the fort (Simon *et al.* 2023). We started the study based on the excavation results of S. Petényi and an infrared aerial photo from 1990 (Lechner Nonprofit Kft. 1990-0478-0010). With a GPR (ground-penetrating radar) survey, covering

⁹ For the latter excavations we were not able to find any detailed source, just the Heritage Impact Assessment of Ács (http://www.acs-varos.hu/docs/ACS_OROKSEGVEDELMI_HATASTANULMANY.pdf), where at page no. 31 the authors mention the campaigns of E. Tóth without citing any sources.

¹⁰ As D. Gabler stated himself, he has never excavated on the site of Ad Mures, he has just visited and examined it (personal information from D. Gabler). We suppose the same could have happened during the other surveys, after which no archaeological documentation was produced.

¹¹ Documentation stored in the repository of Kuny Domokos Museum (Tata, Hungary): 2013–2015 Ács, Bumbumkút 1989. For details of the excavation, see next chapter.

¹² Documentation stored in the repository of Kuny Domokos Museum (Tata, Hungary): 2024.24 (404229) EuroVelo 6 kerékpáros útvonal Gönyű-Komárom szakaszának kivitelezése.

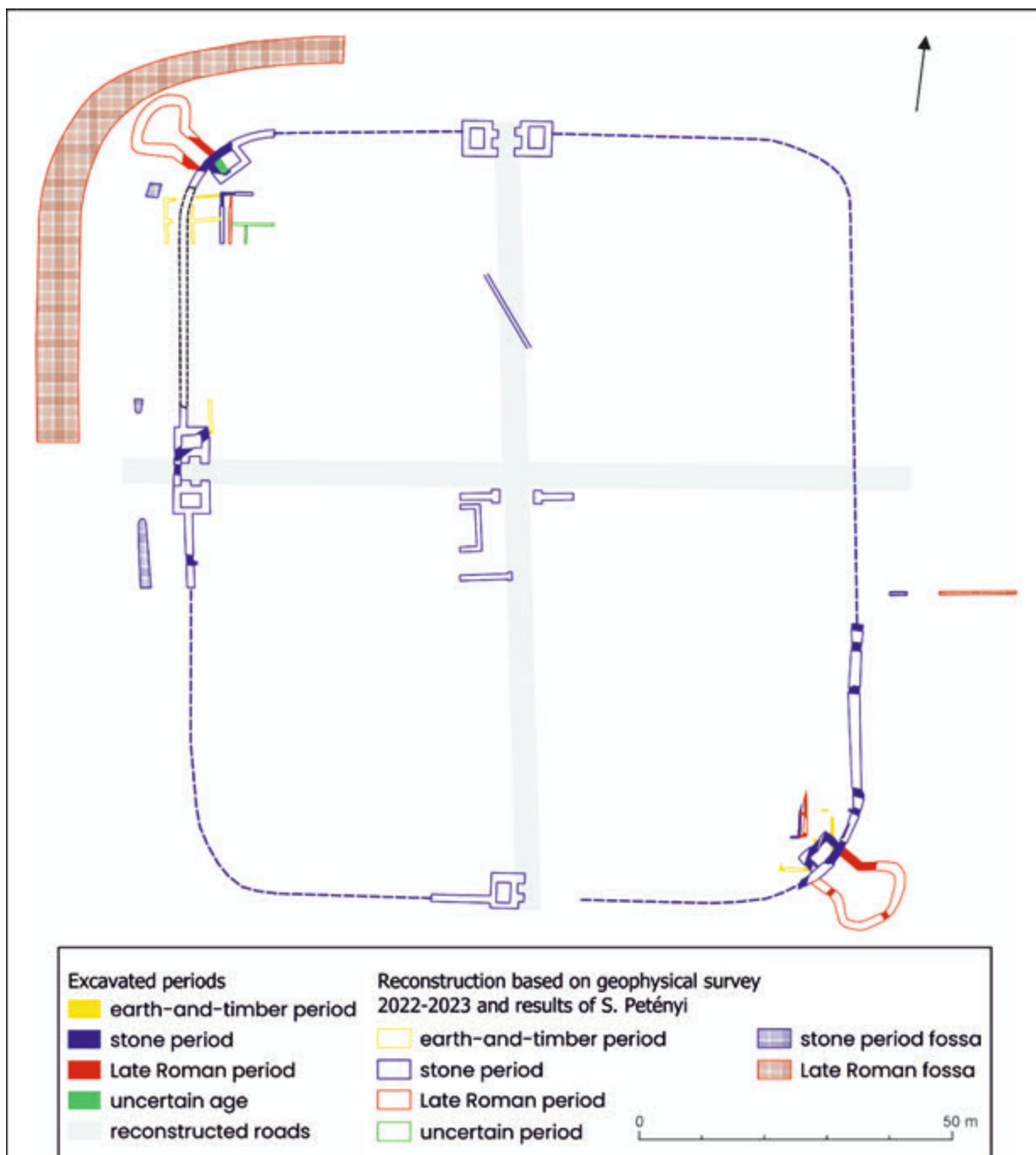


Fig. 2. Summary map of the fort of Ad Mures with the identified building periods (map B. Simon).

as part of a distinctive fan-shaped tower was unearthed at the fort's north-western corner. In the late Roman tower, a layer of ash and rubble from the destruction of the tower has yielded imbrices and tegulae of the *legio X Gemina* as well as a coin of Gratian (375–383 CE), which sheds light on the possible end of the fort.

Based on all relevant archaeological data, the earth-and-timber fort was probably more extensive than the stone period fort or was not in the same area. Nevertheless, the orientation of the earliest buildings is much like the younger ones (Fig. 2).

In its first period, the stone fort had a typical rectangular layout with four gates and four inner corner towers, and it is altogether 106.5 m wide (E–W) and 123.5 m long (N–S). The inner roads, which would normally segment the fort into four quadrants, were not visible on the GPR survey or during the excavation,

but they could be reconstructed. In this period the stone fort was protected with a 2.5 m wide and 2.2 m deep ditch (*fossa*) from the outside.

The fort's dimensions can best be compared to the ones of Ad Statuas, which was 106 m wide and 112 m long (Gabler 2009, 130, 131). Also, the same main building phases were identified in Ad Statuas – an early earth-and-timber one, the period of the early stone fort and the period of the late Roman fort. These are also the main building phases of Pannonian auxiliary forts, so it shouldn't be a peculiarity, but the dimensions of the forts and the destruction layers of the late Roman towers show striking similarities. The quite similar extent was already mentioned, but it has not yet been emphasised that just like the towers of Ad Statuas (Gabler 1972), the one excavated in Ad Mures was covered with tiles bearing the stamp of the *legio X Gemina* at the time of its destruction.

HISTORY OF THE FORT – QUESTIONS OF THE EPIGRAPHIC MATERIAL

Regarding the epigraphic material, the earlier literature has produced some inconsistent information. The main problem is that in the garden of the Esterházy-Liechtenstein-Zichy castle in Ács, a few inscribed stones were recorded, but those could have originated from other, nearby settlements, not just from the fort of Ad Mures. Unfortunately, many of them have been lost during the ages, so their identification is impossible (List of the missing monuments: *CIL* 03, 11020 = *RIU*-03, 00646 = *RHP* 00200; *CIL* 03, 11059 = *RIU*-03, 00647, *RIU*-03, 00648). There are altogether three inscriptions which are thought to have originated from the territory of Ács. The first one is the tombstone of Albanus (*CIL* 03, 04368), the second is an altar, erected to Jupiter and Juno (*CIL* 03, 10993), and the third, lost one is the tombstone of Lucanus (*CIL* 03, 11020).

There are a lot of uncertainties about the tombstone of Albanus.¹³ In recent literature, it seems to have originated from the fortress of Ad Mures (Barkóczy 1951, appendix 11), but in the first publication of the inscription from 1905, H. Hofmann stated that the stone is from Brigetio, from the neighbourhood of Tata (Hofmann 1905, 39). A bit later W. Kubitschek (1912, 129, 130). published the epitaph again, but he provided no information about its origin, just that the stone has been in a museum since 1840.¹⁴ Then A. Schober stated again that the inscription comes from Brigetio (Komárom-Szöny, Komárom-Esztergom County, Hungary) and is stored in the Hofmuseum in Wien (Schober 1923, 92, No. 159; Currently the monument is in the collection of the Kunsthistorisches Museum, Wien, Gabler 1968, 60). From this point onwards the location of the stone's origin was disputed. Because of the mentioned troop on the stone, E. Lovas wrote that the stone must have come from Arrabona (Lovas 1937, 4). Then the RIU (*RIU* 03, 635) gave the most detailed information about the epitaph. The description starts with the same details as the *Corpus Inscriptionum Latinarum* (*CIL* 03, 4368; according to this, it was found in 'Bregetii in Transilvania') stating that the stone was part of the collection of Hieronymus Beck in Ebreichsdorf, already in the 16th century. Then the RIU carried on by citing W. Kubitschek's work from 1912, stating that the stone was found in Arrabona. However, as we have seen, W. Kubitschek did not mention this detail. According to the RIU the current location of the tombstone is the Kunsthistorisches Museum, Wien, and eventually the monument was listed as an "addendum" to Szöny (Brigetio). Besides the RIU, A. Mócsy also listed the inscribed monument as one from Arrabona (Mócsy 1959, 243).

As shown above, both Brigetio and Arrabona are among the stone's possible locations of origin. Then, in 1951, L. Barkóczy wrote that the stone was found among the ruins of Ács-Bumbumkút (Ad Mures) and was moved from Arrabona to rebuild the fort of Ad Mures (Barkóczy 1951, 18). But there is no clear explanation why Barkóczy had thought that the tombstone was found at the fort. Among his references we can find the work of A. Schober, and the *Corpus Inscriptionum Latinarum*, but neither of them mentioned Ács as a possible finding spot of the tombstone. The latest work mentioning the tombstone was written by D. Gabler (1968, 60), in which he repeated the opinion of L. Barkóczy about the stone's origin (Arrabona) and the location of finding (Ad Mures). There is no explanation why D. Gabler has chosen Ad Mures from all the possibilities. Except for two military diplomas (*CIL* 16, 180 and AE 1944, 102), only four inscriptions are known from Pannonia

¹³ *CIL* 03, 04368. Albanus Balvi f(ilius) / dec(urio) ala(e) Augusta(e) Ituraeo(rum) domo Betavos(!) an/nor(um) XLII stipendiorum / XX hic situs est titulum / memoriae posuerunt / Tib(erius) Iulius Reitugenus et / Lucanus dec(uriones) ala(e) Aug(ustae) / Ituraeo(rum).

¹⁴ He also said that the upper part of the stone had already been lost, even though previous researchers had seen the entire monument.

mentioning the *ala I Ituraeorum*. One is the discussed tombstone of Albanus, the origin of which is uncertain, one is known from Intercisa (RIU 1233), two from Arrabona (RIU 253 and RIU 263), and one from Sirmium (CIL 3, 10222). With all this information, there is still doubt about the origin of the tombstone, as there is no direct source or proof of its origin from Ad Mures. Moreover, as the discussed unit was garrisoned at Arrabona and the earliest descriptions of the epitaph also mention Brigetio as the location of finding, it makes these two possibilities more likely.

Another inscription,¹⁵ already mentioned above in the first chapter, is also considered to be from the fort of Ad Mures, but there is some uncertainty in this case as well. Most probably this one is from a nearby watch-tower. Since the mentioned monument is a votive altar, erected for the well-being of a quaestor and decurio of the town Mogetiana (Kovács 2003, 293), we can assume that it was secondary used either in Roman or later times (see above). R. Gyulai's description from 1887 (Gyulai 1887, 4) is well-detailed¹⁶ and it seems sure that he is referring to other ruins, not the fort, because while he mentions that the stone was found in a pine forest, the maps of his time clearly show vineyards in the vicinity of the fort (*Habsburg Empire – Cadastral maps – XIX. century*). A bit later, when R. Fröhlich described the inscription (Fröhlich 1891, 83. The CIL also used his information about the inscription.), he has already provided a little less information, as he has mentioned that the stone was found in Ács, next to the Danube (and had been transported to Komárom, where he saw it). Later, L. Barkóczi attributed the slab to the “Bumbum-kút castrum” (Barkóczi 1951, 59, no. 162), which seems to be a mistake, taking R. Gyulai's detailed description about the original finding place into consideration.

There is another inscription, unfortunately lost, which may be attributed to the area of the fort.¹⁷ The only information about this tombstone's findspot is that it was found in Ács. However, this could mean not only Ad Mures, but also a civilian settlement, the fort of Ad Statuas or even the gardens of the Esterházy-Liechtenstein-Zichy castle, where inscribed stones have been collected from over a wider area. As the inscription is lost, the CIL provides the most detailed description of the stone's findspot, mentioning that it was found in “Ács in monumento hortorum”. The named location may be identified as the mentioned castle's park, meaning that the origin of the stone is uncertain. As we cannot link the inscription to the area of Ad Mures, the troop, which is mentioned in the text, shouldn't be attributed to the fort either.¹⁸

From the territory of Bumbum-kút, recent discoveries brought seven tile stamps to light. One of them was found during the latest GPR surveys, five during the excavation in 2023, and one, which was formerly in private hands, was found during fieldwalking activities.

All the stamps found during the excavation in 2023 bore the name of the *legio X Gemina*. One of them (Fig. 3: 4; 4: 4) was found in the upper layers of the trench opened in the area of the western gate (On the location of the trenches see: Simon *et al.* 2023, 645, fig. 4). The stamp on the tile is well readable, but not intact, as its second part is missing. The remaining part of the stamp shows the letters LEG and the number X. The letter L's horizontal line is sloping downwards, while the E is not symmetrical along its horizontal axis because the upper half is wider than the lower. The details of the letter G are not clearly visible because of the mineral deposition, just as the number X. The tile itself is the fragment of a tegula. From Ad Statuas, a slightly similar tile stamp is known from the retentura, the area of the corner towers of the fort (Gabler *et al.* 1989, 142, fig. 56: 7). The dating of this stamp type is not very precise. The stamped tiles of the type are also known from a destruction layer of Ad Statuas, dated to 355 CE (Gabler *et al.* 1989, 134, 418) and from a late-Roman grave in Ad Flexum (Mosonmagyaróvár, Hungary; Lőrincz 1977, Taf. 2: 5).

¹⁵ CIL 03, 10993. [I(ovi) O(ptimo) M(aximo)] / et Iunoni Reg(inae) / pro salute / Ael(i) Rufiniani qu(a)e(storis) / dec(urionis) m(unicipii) Moget(ianae) / Ael(ius) Rufinus /]

¹⁶ ‘A Czonzó torkolata alatti sziget orrának megfelelő kis fenyves szélén, az úgynevezett <<kőbányánál>> az alapfalakból és a hely magasságából ítélve őrtorony állhatott, itt egy fogadalmi oltárt találtam.’

¹⁷ CIL 03, 11020. M(arco) Au[r]eli[o] M(arci) [f(ilio)] / Lu[ca]no(?) vet(erano) ex dec(urione) a[l(ae)] / III Th[r]ac(um) S[e]v[er]ianae[t].

¹⁸ Moreover, there is a lot of uncertainty about the inscription. In line 1, the editors of the CIL reconstructed the name as Marcus Aurelius Lucanus. Marcus and Lucanus seems to be correct, but the drawing in CIL shows longer empty spaces between the letters AV – E(?) – LI to reconstruct the name to Aurelius. However, there is no proof that the drawing is proportional. If it is not, then Aurelius could be a possible solution. The problem is quite similar regarding line 3. The drawing shows three shortening vertical lines. We cannot be sure if these were really shortening, or the inscription was damaged at that point. If the stone was damaged, then it seems more safe not to guess the troop's name and number, only its Severiana ‘title’ seems to be certain. However, the editors of the CIL have provided probably the best solution, by attributing the inscription to the mentioned *ala III Thracum sagittariorum*, which was stationed in the fort of Azaum, right next to Brigetio.



Fig. 3. Drawing of the recently discovered tile stamps from Ad Mures. Without scale (drawing B. Simon).

The other four tile stamps, which also belonged to the *legio X Gemina*, were found at the same location, in the north-western corner tower's destruction layer (Simon *et al.* 2023, 650–652).¹⁹ Based on the fact that no other troop stamps were found in the fort, at the present state of research it can be assumed that at least one important construction project was carried out with the intervention of the *legio X Gemina*. This legion was not mentioned in B. Lőrincz's work in connection with Ad Mures (Lőrincz 1981, 95. Here he listed stamps of the *legio XIII Gemina*, and with uncertain findspot a stamp of the *legio I Adiutrix* and probably one of the *cohors I Ulpia Pannoniorum*). One of the tiles (Fig. 3: 5; 4: 5) has a backwards written stamp. It is not intact, as both its end and its beginning are missing. But luckily, its most characteristic part, the last two letters of LEG, the dot next to the X, and the upside P are well visible. A similar one was found at Ad Statuas (Gabler *et al.* 1989, 419, 420, fig. 60/5, Kat. No. 139) and the variation of this type is also known from Vindobona and Arrabona (Lőrincz 1981, 21, Taf. 3: 1). However, the type's dating is not so precise, as such stamped tiles were used during the 2nd–4th centuries CE.

The other three stamps were of the same type (Fig. 3: 1–3; 4: 1–3). One of them was fully preserved, but in the other two cases, only the second part of the stamp was found. These stamps had rounded ends on both sides. The letters appeared as LEGXGEPF and were well readable ones. The horizontal part of L is a bit short, there is a wide space between the Gs and the X, and the upper horizontal line of F is longer than the other and goes upwards. A stamp from Gerulata seems to provide a perfect analogy (Kraskovská 1991, 57, fig. 3: 5). Quite

¹⁹ Although the tiles were registered in different stratigraphic units, by elaborating the stratigraphy, it seems sure that all the layers were parts of the same destruction layer.

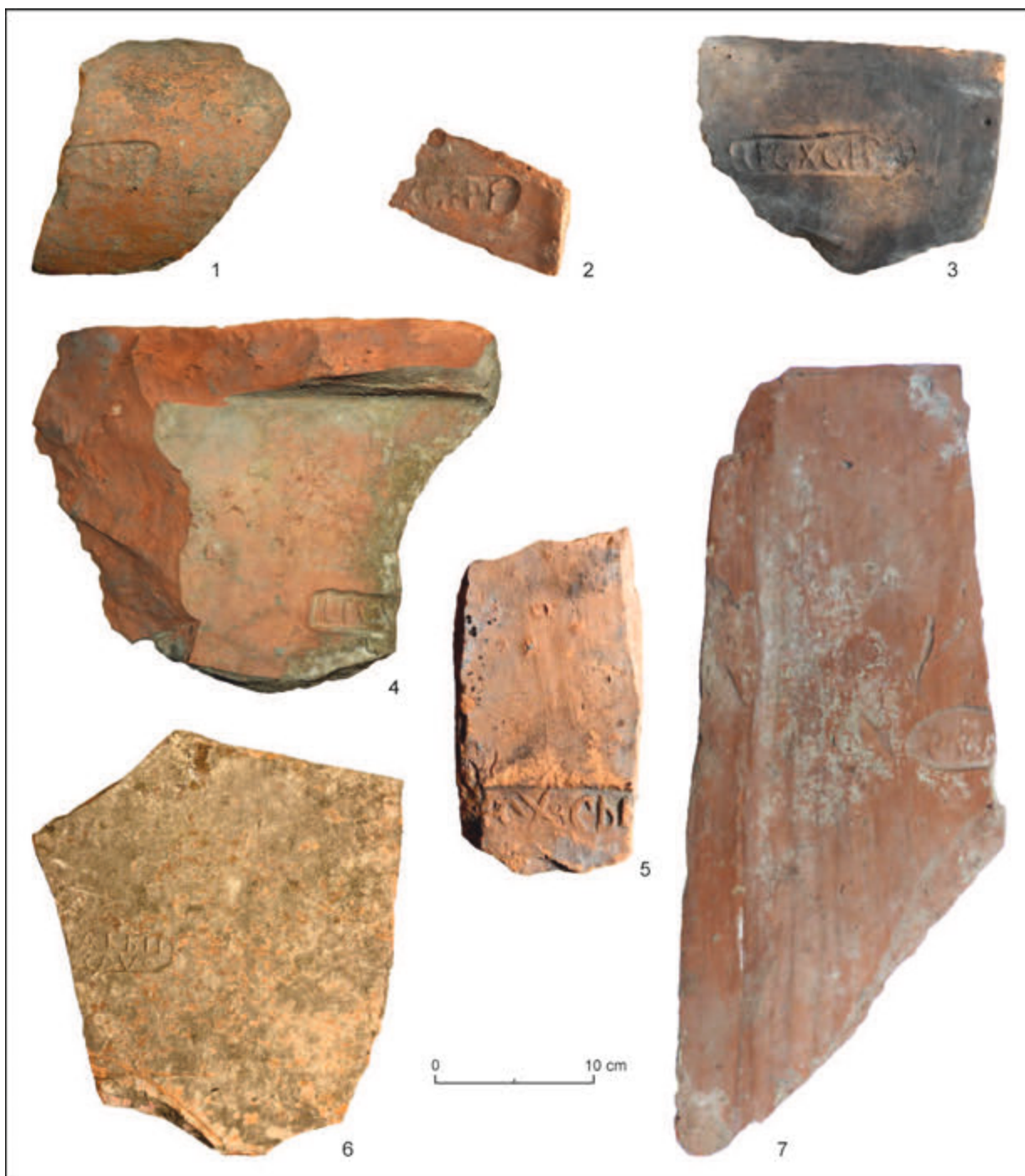


Fig. 4. Photo montage of the recently discovered stamped tiles from Ad Mures (photos I. Koós, M. Szabó, B. Simon; graphic design B. Simon).

similar stamps were found during earlier fieldwalkings (Lóki/Szabó/Visy 2011, 61) in Ad Mures and from the area of Ad Statuas (Gabler *et al.* 1989, fig. 62: 1, Kat. No. 164), but because of the fragmented form of our stamps it is not sure that all of them belonged to exactly the same type. However, the slightly rounded frame, the inscribed text, and the form of letter F look similar. Unfortunately, their dating is roughly the same as our earlier example (Gabler *et al.* 1989, 420), with a wide time frame of two centuries.

There are two other stamps, which were found during on-site surveys. The first one belonged to the *cohors I Aelia milliaria sagittariorum* (Fig. 3: 7; 4: 7) and was found on a fieldwalking. This cohort was also attested in Ad

Statuas, but the stamp is definitely not the same. The stamp from Ad Mures seems to belong to the 4th category of B. Lőrincz, which could be dated to the 4th century CE (Lőrincz 1981, 31). The stamp is fragmented, just as the last five letters survived, and the text is written backwards. The G at the end of the stamp looks like the other ones belonging to this cohort, but the A is a bit different. In most cases, the A has a horizontal line in the middle, but this type has an A without it. The E, L, S are similar in all types.

The other stamp, which was found during one of our GPR surveys, can be well dated (Fig. 3: 6; 4: 6). The stamp has two lines, in which the *legio II Italica* together with *Ursicinus dux* is named. The tile must have been produced under the time of *Ursicinus dux*, probably between 368–371 CE (Kovács 2018, 92). *Ursicinus dux* was the governor of Noricum and Pannonia I (earlier Pannonia Superior), but the tiles bearing his name were also transferred as far as to Pannonia Inferior (Szilágyi 1933, 36). This type is also known from Carnuntum, Vindobona and Gerulata (Kraskovská 1991, fig. 8: 10–14) there is also one possible example for this type from Brigetio, but as J. Szilágyi stated, it is fragmentary and hardly readable (Szilágyi 1933, 38).

A more detailed picture can be obtained by comparing the new finds in Ad Mures with information from earlier literature. Most of the stamps of the *legio X Gemina* were found in a destruction layer, which means that the tiles for the construction works in Ad Mures were supplied by this legion. However, B. Lőrincz in his summary work did not record the occurrence of the *legio X Gemina*'s stamped tiles in the vicinity of Ad Mures (Lőrincz 1981, 18). Similarly, J. Szilágyi listed Arrabona, Brigetio and Kelamantia as findspots of the legion's tilestamps, but Ad Mures and Ad Statuas were not among them (Szilágyi 1933, 50–63). From the vicinity of Ács, he mentioned only the stamps of the *legio XIII Gemina*, *XIII Gemina* and *XV Apollinaris* and stamps of vexillationes (VEXIL TRES and VEXILLATIO III; Szilágyi 1952, 203). As no such stamps were found in the small areas excavated in 1989 and 2023, we cannot say whether these troops are related to Ad Mures or not. It is important to point out that the stamps of the two main legions that built the nearby legionary fortress of Brigetio, the *legio I Adiutrix* and the *legio XI Claudia*, are completely missing from Ad Mures.

The excavations of the nearby fort of Ad Statuas have brought a higher number of stamped tiles to light. Based on the stamped tiles, D. Gabler concluded that after 214 CE Ad Statuas was subjected to Carnuntum and not to Brigetio, because the stamps of the *legio I Adiutrix* were missing from the site.²⁰ As we have seen the same in the case of Ad Mures, we can assume that this fortress was also under the military administration of Carnuntum, or at least of Pannonia Superior after the border reform. The stamped tile of the *cohors I Aelia sagittariorum* also confirms this hypothesis. The stamps of this troop are known from Quadrata and Arrabona from the 4th century CE (Lőrincz 1981, 31), which again leads to the observation that Ad Mures was administratively linked to other forts and fortifications in Pannonia Superior (= Pannonia I) in the Late Roman period. The importance of these observations is that they revise the statements of D. Gabler, and they seem to affirm the assumption of P. Kovács (Kovács 2003, 293), who places the border of the provinces east of Ad Mures. D. Gabler observed, that on the two Pannonias' northern limes, from Carnuntum to Brigetio, the stamps of Brigetio's legion were entirely missing, except for Ad Mures, and therefore assumed that the post-214 CE boundary was between Ad Statuas and Ad Mures (Gabler 1977, 309; Gabler et al. 1989, 653). Unfortunately, D. Gabler did not publish any finds that would confirm that he had authentic information about the legion's stamped tiles from Ad Mures. On the contrary, B. Lőrincz reported in his opponent review of the doctoral dissertation of P. Kovács that only stamped tiles of units belonging to Pannonia Superior were found on the excavation in 1989.²¹

The tile stamps of Brigetio are not yet fully published, but according to the literature, the *legio X Gemina* has only four occurrences from the settlement complex, all of which are fragmentary and/or not well legible (Szilágyi 1933, 48–60). The presence of these stamps does not weaken the previous argument, since Brigetio was part of Pannonia Superior before 214 CE, so the supply of these tiles could have taken place before then. In summary, however, the meagre number of stamped tiles does not seem to support that the legion of Vindobona supplied Brigetio with large quantities of roof tiles in any period of Roman times.

²⁰ Only one piece was found as a stray find in the Danube, so statistically this has no meaning (Gabler et al. 1989, 653).

²¹ Despite our efforts, in the Kuny Domokos Museum (Tata, Komárom-Esztergom County), where all the other archaeological material is kept, we have not been able to find the stamped tiles that B. Lőrincz probably saw. However, his observations are in line with the results of the excavation in 2023.

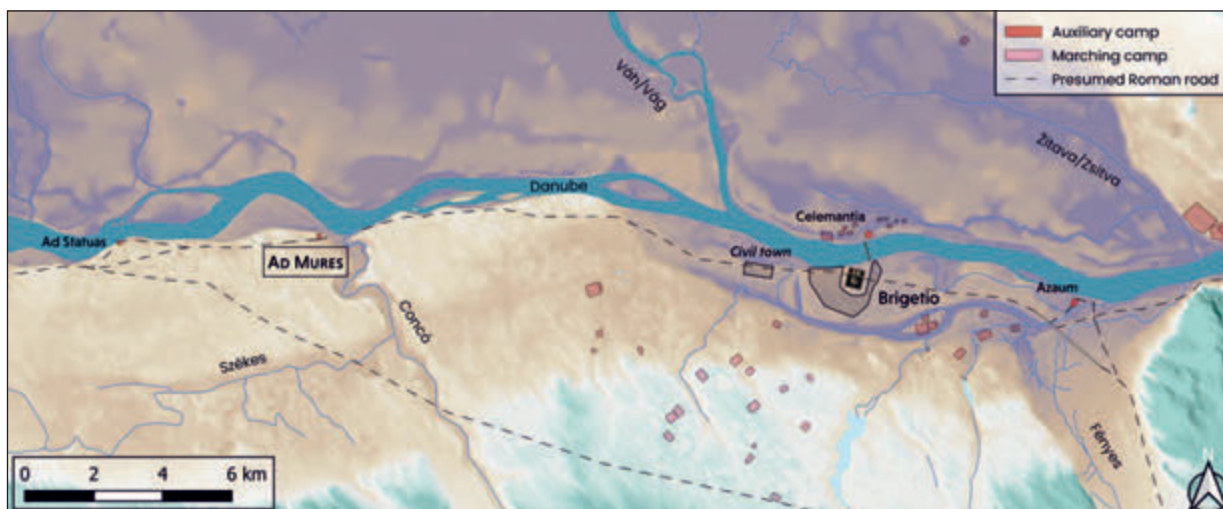


Fig. 5. Map of the limes section between Ad Statuas and Azaum (map B. Simon).

TOPOGRAPHY OF THE LOCATION AND THE QUESTION OF THE PANNONIAN BORDER

The Roman auxiliary fort of Ad Mures (Ács-Bumbumkút) is located on the lowest alluvial terrace of the Győr–Tata terrace region, on a bluff of the Danube, 1 km west of the estuary of the Concó Stream. The neighbouring military camps are the fort of Ad Statuas (Ács-Vaspuszta), less than 6 km to the west, and the legionary fortress of Brigetio (Komárom-Szőny), 15.5 km to the east (Fig. 5). As presented above, despite the meagre data, the history and the dimensions of the neighbouring auxiliary forts seem to be quite similar. This is especially true in case of the late stone phase of the forts, which produced not only archaeological, but epigraphic parallels. From the 2nd century CE onwards, the auxiliary forts appear to have been regularly spaced at a distance of about 15–25 km along the northern Pannonian ripa – only Ad Statuas and Ad Mures deviate from this pattern.²² What could have been the importance of this location that two garrisons were stationed here at the same time? We have demonstrated the close epigraphic and archaeological parallels of the two forts and this, probably more than geographic closeness is also emphasised in the *Itinerarium Antonini*, where they are mentioned together between Brigetio and Arrabona *in medio* (*Itin. Ant.* 1848, 246, 5, 6).

Ad Statuas and Ad Mures control a frontier region, the natural borders of which extend from the Cuhai-Bakony Stream to the Concó Stream from east to west, and from the Danube to the Székes Stream in the south. The area is dominated by the alluvial dunes of the Danube, and it is not rich in fresh surface waters (Dövényi 2010, 335, 336), except for the mentioned streams and the marshes in their valleys. There is no direct data regarding the natural environment in the Roman Period, but there is no reason to doubt that the valley of the Concó Stream was also a significant natural barrier in those times. The Concó has one of the most extensive water catchment areas besides the Rába (Raab) and the Cuhai-Bakony Stream on the ripa from Arrabona (Győr, Győr-Moson-Sopron County, Hungary) to Aquincum (Óbuda, Budapest, Hungary) and its valley also cuts deep around its lower course (Fig. 4; 7; VKKI 2010, 2, 3). At its estuary the stream's valley spreads out meandering, creating a broad water body, which is difficult to cross (this is emphasised on the Second Military Survey of the Habsburg Empire). Accounts from the 19th century also highlight how strong and dangerous in spring the stream and the ice can be (Gyulai 1886), but floods during summer are also typical (VKKI 2010, 6).

It is probably because of these strategic advantages, that along the eastern bank of the Concó Stream a chain of fortifications was erected against the French forces during the Napoleonic Wars in 1809 (Nováki/

²² The fort of Azaum for its closeness to the legionary fortress of Brigetio could also be counted as an exception, although it was established in order to be the bridgehead of the 'Brigetio island' (Viczián et al. 2013).



Fig. 6. The crop-mark of the Roman road in the direct neighbourhood of Ad Mures on a satellite image taken 20. 03. 2020 (Google Earth, Image © 2023 Maxar Technologies, graphic design B. Simon).

Tolnai 2010). The redoubts were placed on the high ground for the sake of a good firing position for the artillery. This only highlights that getting through the stream was not easy: on one side a low, marshy, at some places broad, watery land, then a quite steep slope was to be crossed.

Because of these difficulties, some roads passed through the stream further from the estuary. Regarding the oldest maps from the 18th century (*HU-MNL-OL-S 91-6*; *HU-MNL-OL-S 91-7* – year 1764), one postal road crossed the Concó near the estuary, one postal road where the stream has a west meander, and one road crossed not far from the confluence of the Székes and the Concó. The Roman road system around Ács cannot be reconstructed with certainty, as there is no definite data regarding their age, but similar considerations as in the Modern period have led to their evolution. The main difference is that a branch of the *limes* road crossed the Concó just around the estuary, and led to the southern gate of *Ad Mures*, then further to the west. The road is clearly visible on archival aerial photographs and also satellite images (Fig. 6; *Visy 2003*, fig. 27; *Map Collection of the Institute and Museum of Military History: HI69394*) but could not be detected with a magnetometer survey in 2022. The reason for the latter is probably a geological issue that needs further investigation. The road's course highlights that the local topography around the river confluence was different in the Roman period and that the Danube has probably heavily eroded the area (*Visy 2003*, 26; on the Danube's erosion and building activity around the site see: *Ádám 2020*, 48–50). The road in question was probably the main one leading from Ad Statuas to Brigetio, as more watchtowers were identified along its course, on both sides of the Concó (Fig. 7).

However, another road was originally dated to the Roman period based on aerial archaeological data (*Map Collection of the Institute and Museum of Military History: HI9724, HI9727*; *Visy 2003*, 27, fig. 26; generally on local roads see: *Visy 2003*, 25–27). This road branches off the *limes* road near Ad Statuas, it takes a turn to the southeast, and crosses the Concó somewhere near present-day Ács and heads towards Tata. If it was indeed a Roman road, then it was a shortcut from the *limes* road to the Savaria-Aquincum road (*Bödőcs 2008*, 352, 354, 355), bypassing Brigetio from the south. It is noteworthy, that according to earlier maps, the northern section of this road was the postal road between Gönyű and Ács in 1805 (*HU-MNL-OL-S 12-XIII.-351*), proving its historic origin. Unfortunately the Concó crossing and the middle section cannot be reconstructed, but the southern section from Csémpusztá to Tata can be traced on historic maps (e.g. First and Second Military Survey of the Habsburg Empire).

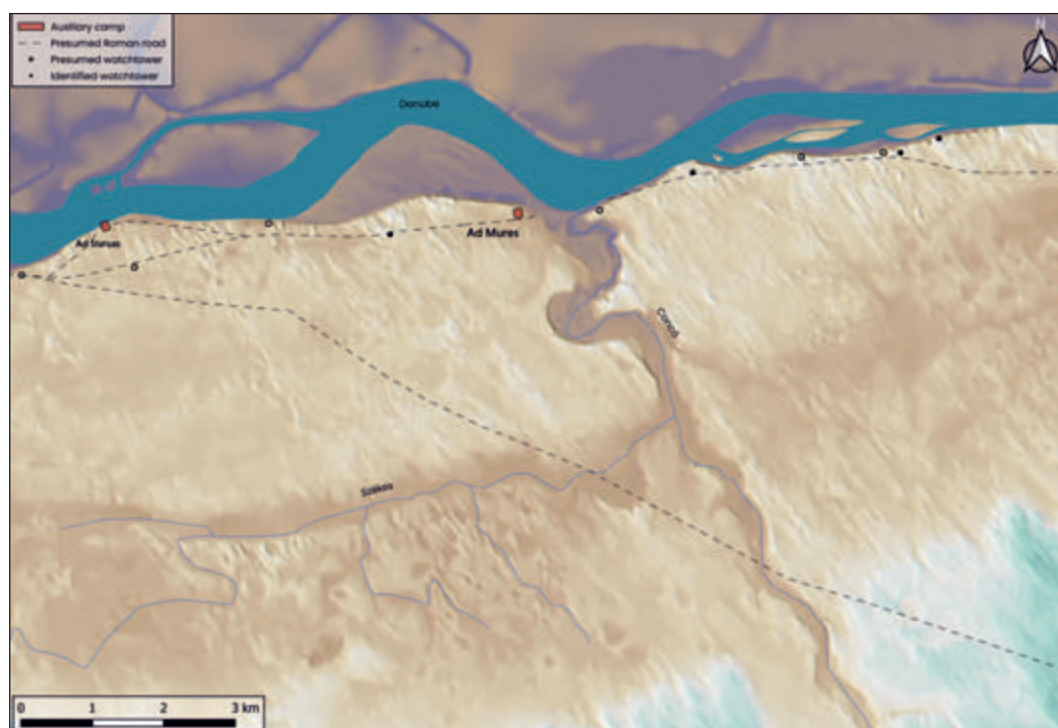


Fig. 7. Map of the limes in the neighbourhood of Ad Statuas and Ad Mures (map B. Simon).

We stressed that it was more advantageous to fortify the eastern bank of the Concó, however the auxiliary forts were placed directly on the Danube. The possible reason for this is that these encampments were primarily responsible for controlling and protecting the main east-west road and especially the riverbank (Sommer 2009), not safeguarding the line of the stream. Therefore, we need to pay attention to the area on the northern side of the forts, where geographical topography helps again in assessing the strategic situation. It has been stated on many occasions that the hinterland of Brigetio between the Váh/Vág and the Žitava/Zsitva was a military gathering area during the Marcomannic Wars (Komoróczy *et al.* 2020, 174–202) and that the northern area of the Quadi could be reached from this direction. However, west of the Váh/Vág extends the largest island of the Danube: the Veľký Žitný ostrov (Csallóköz/Große Schüttinsel), which, just like the southern Szigetköz (Malý Žitný ostrov/Kleine Schüttinsel) can only be traversed along the highest lying area in the middle (Bátky 1918, 331–335; HU-MNL-OL-S 12-X.-54). At the western end of the Veľký Žitný ostrov is the area around Bratislava, while on the eastern end is Komárno (Nitra Region, Slovakia). Local topography, the map of the Second Military Survey (Col. XXVII. Sec. 48, Col. XXVIII. Sec. 48) certain road maps (HU-MNL-OL-S 101-164) and the elevation map of the area (cf. Fig. 5) prove, that the dry areas were narrower between Nová Stráž (Örsújfalu) and Komárno, while broader from the area of Zlatná na Ostrove (Csallóköz-aranyos). This is where the Modern and contemporary main road turns northwest, to cross the island. Although the Germanic settlement network of the island is poorly studied, except for the settlement in Veľký Meder (Nitra Region, Slovakia; Varsík 2003), the geography of the region strongly suggests, that this was also the main route along the island in the Roman era (cf. Krekovič 1981, 369, fig. 22).

Although the question of Roman fords or crossings, or harbours on this section of the Danube hasn't been studied, it seems important that the riverbank between Ad Statuas and Ad Mures faced the broadest tip of the island. This area was logically the one, through which the Romans could interact best with the Germanic population of the island, as it probably took longer and harder first to cross the Danube around Brigetio (on a bridge) and then the Váh/Vág around Komárno. Therefore, one must assume that there was some kind of access over the Danube, possibly a ferry (or a bridge), which can also be historically attested from the 19th century (HU-MNL-OL-S 12-XIX.-44). The Germanic settlements' connection with this region is also attested through the imported provincial Roman pottery, especially Pannonian grey ware (Varsík

2005, 284). The proportion of imported pottery also shows a more prosperous commercial activity between the 2nd–4th century CE, compared to the western regions of the Quadi (*Varsik* 2005, 284, 291, Abb. 6).

The regional and local topography as well as the archaeological data highlight the strategic importance of the northern frontier between Ad Statuas and Ad Mures, which leads to the question about the border between Pannonia Superior and Pannonia Inferior. From the whole territory of Ad Statuas, only one tile came to light out of 200, which bore the stamp of a unit from the territory of Pannonia Inferior after Caracalla, namely the *legio I Adiutrix* (Gabler *et al.* 1989, No. 138, 163, 207). Since this tile was found somewhere in the Danube, perhaps this has led D. Gabler to assume that the border between the two provinces was east of Ad Statuas (see above). We already mentioned that according to B. Lőrincz's account, P. Kovács also suggested that the border was even east of Ad Mures, therefore the only possible candidate as a border here is the Concó Stream, because Brigetio was undoubtedly already in Pannonia Inferior.

The new epigraphic material collected for this publication also corroborates that Ad Mures was in Pannonia Superior after Caracalla's revision, and the presented topographic study gives reasons why the Concó became the border. However, this has multiple historic implications, which needs to be briefly addressed. If Ad Mures was a Roman fort in Pannonia Superior after the border revision, then the Concó was originally not a border of provinces, but the border of two tribal territories (Boii and Azali), then of two municipal territories (Mursella, Mogionibus; Kovács 2003). This also suggests that the forts were originally not established to watch and guard a border within the Roman Empire, as tribal territories have existed already before them, but were placed against the people of the opposite bank of the Danube.

Besides these implications, the late Roman troop and garrison history and the names of the forts also need to be reconsidered. The stamped tiles of the *legio II Italica* and *Ursicinus dux*, and the ones of the *legio X Gemina* from the destruction layer of the fan-shaped tower affirm, that the province border did not change here after the division of the Pannonias during Diocletian; Ad Statuas and Ad Mures became (or remained) the garrisons of Pannonia Prima.

The problem is that the names of the forts are not listed in the Notitia Dignitatum, but it does identify three previously unmentioned places, Quadriburgium (*Not. dign. occ.* 1876, XXXIV, 17), Ad Herculem (*Not. dign. occ.* 1876, XXXIV, 20) and Arrianis (*Not. dign. occ.* 1876, XXXIV, 29) and the *tribunus gentis Marcomannorum* without naming the location (*Not. dign. occ.* 1876, XXXIV, 24). Based on the excavation results of D. Gabler, T. Nagy believed that the fort of Ad Statuas has to be the garrison of the *gens Marcomannorum* (Nagy 1984). He based his argument on the Valentinian finds and absence of the location's name (Nagy 1984, 116, 117). However, it seems more logical to accept that instead of Ad Statuas, the fortress of Keszthely-Fenekpuszta was the station of the *tribunus*. The idea originates from S. Soproni (Soproni 1978, 176), but Á. Szabó provided new insights and arguments to support it (Szabó 2022, 13–16). He highlights that each inner fortifications of Valeria (and Pannonia I) were probably governed by a *tribunus cohortis*, who were entrusted with special tasks in the province hinterland and the *tribunus gentis Marcomannorum* could have also been such a military officer. The archaeological data is also in line with this theory (Szabó 2022, 16).

Two other tribunes are named from Pannonia I, the *tribunus cohortis Caratensis* (*Not. dign. occ.* 1876, XXXIV, 30) and the *tribunus cohortis Arrianis* (*Not. dign. occ.* 1876, XXXIV, 29). It is now communis opinio, that the first one names Scarbantia (Soproni 1978, 146), but the identification of the latter is still problematic. B. Lőrincz among others suggested that Arrianis could have been the name of the fort located in Klosterneuburg (Lőrincz 1980, 268, 269; Ubl 1975, 152), which E. Tóth tried to refute (Tóth 1981). Although the name of the fort of Klosterneuburg is not mentioned in the itineraries, its 2nd–4th century garrisoning unit, the *cohors I Aelia sagittariorum* is well known (Spaul 2000, 480–482). Like the *cohors VII Breucorum* in Pannonia Inferior (Lőrincz 1977, 17–20), this unit was also specialised in tile production (Lőrincz 1980, 268), which were used throughout the northern Pannonian ripa (Mosser *et al.* 2010, 850, 851, Tab. 615). From this perspective, it is noteworthy that an archaeometric study proved a similarity between the material of the tiles with the stamp of the unit and one type of the late Roman OFARN- group (Mosser *et al.* 2010, 851). The latter stamped tiles are scattered around the same area as the tiles of the *legio X Gemina*, but also come from Roman built structures on Barbarian territory (e.g. Göd-Bócsaújtelep; Mosser *et al.* 2010, 852, Tab. 619). The possible readings of this group were recently published again and it is possible that the stamps name Arrianis, i.e. the fort of Klosterneuburg in an abbreviated form (Lehenbauer *et al.* 2021). It would make sense that the special task of the *tribunus cohortis* at Arrianis was to supply tiles for the military construction works, which is in continuation with the task of the *cohors I Aelia sagittariorum*. It is also noteworthy that some tiles with the

stamp ARRIANIS are known from the same northwestern area of Pannonia I (Lőrincz 1981, 52; Tóth 1981, 225).²³

The last two unidentified places are mentioned just like the other forts, where cavalry units were garrisoned (*Not. dign. occ.* 1876, XXXIV, 16, 18, 19, 21–23). But can Quadriburgium and Ad Herculem be identified with Ad Statuas and Ad Mures? It is known from Valeria that some fort names were changed during the late Roman period for some reason, especially because of their pejorative or pessimistic meaning (Mócsy 1965). The same could have happened in the case of Ad Mures, as the name is derived from *mūs*, *mūris m.*, mouse (on the antique reception of mice see: Carroll 2015, 57–68). As in antiquity mice were also connected to pestilence and the underworld (Carroll 2015, 58, 64), it seems to be logical that the fort of Ács-Bumbumkút was renamed after the mighty, Cerberus-defeating Hercules after the 280's CE, when the *Itinerarium Antonini* was composed (Tóth 1982, 57). The name could have been given already at the time of the tetrarchy referring to the divine ancestry of Maximianus. The renaming may have coincided with the major building works, during which the corner towers of the fort were erected (cf. Ad Statuas: Gabler *et al.* 1989, 74–80).

It is still not clear why the name of Ad Statuas was changed, but it seems less likely that Quadriburgium would be the name of an undiscovered late Roman fort in Pannonia I. The possible explanation is that the fort was so badly damaged during the attacks of the Quadi between 355–358 CE (on the reconstruction of the events see: Kovács 2016), when one of the corner towers was destroyed (Gabler 1972), that it needed to be re-established and was given a new name – Quadriburgium. Such a major rebuilding phase is attested in the southern part of the fort, where the foundations of a building do not match the walls of the earlier (before 354 CE) periods (Gabler 2009, 138, 139; Gabler *et al.* 1989, 95, 103).²⁴

According to the above, it is possible that a unit of *equites sagittarii* were garrisoned in Ad Statuas = Quadriburgium and a unit of *equites Dalmatae* in Ad Mures = Ad Herculem, around the turn of the 4th–5th century CE. This way Quadriburgium and Ad Herculem were the last two easternmost forts along the ripa of Pannonia I.

Acknowledgements

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CIL	<i>Corpus Inscriptionum Latinarum</i> . Berlin 1863.
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²³ However, the same situation does not always apply to stamped tiles with a place name, since, for example the late Roman Quadriburgium tiles were probably produced near Esztergom (Komárom-Esztergom County, Hungary), the fort Solva (Kelemen 2011). It seems important to launch new archaeometric studies which could identify where the Arrianis-type stamped tiles were produced.

²⁴ Despite the same place name, our view is the same as M. H. Kelemen's that the stamped tiles bearing the QVADRI B inscriptions cannot be directly connected with Ad Statuas, but rather with the area of Esztergom. However, the type of the stamp, which was discovered on a tile from Ad Statuas, has so far only been found outside Solva, i.e. in Intercisa (Dunaújváros) and Annamátia (Baracs; Kelemen 2011, 145, 154).

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Nové fakty o histórii a topografii Ad Mures (Ács-Bumbumkút, Maďarsko) na rípa Pannonica a otázka panónskej hranice (3.–4. storočie n. l.)

Bence Simon – Melinda Szabó

Súhrn

Napriek tomu, že rímske ruiny sú v oblasti Ács, v blízkosti potoka Concó, známe už od konca 19. storočia, vedomosti o histórii pevnosti sú príliš podrobné a nesúvislé. Bolo potrebné uskutočniť nový, komplexný výskum, ktorý zhromaždil staršie, fragmentárne výsledky a rozšíril naše poznatky prostredníctvom geofyzikálnych prieskumov a archeologických výskumov.

S cieľom identifikovať úlohu hradiska na rípa Pannonica sa uskutočnil epigrafický a topografický výskum. Naša hlavná úloha vychádzala zo skutočnosti, že pevnosti Ad Statuas a Ad Mures sa nachádzali oveľa bližšie k sebe, ako je obvyklá vzdialenosť medzi fortifikáciami v regióne. V prípade epigrafických údajov existuje príliš veľa nejasností o ich nálezových okolnostiach, preto niektoré objavené názvy vojenských jednotiek (ala III Thracum Severiana a ala I Augusta Ituraeorum) nemôžeme priamo spájať s pevnosťou Ad Mures. Ukázalo sa, že dôležité informácie nám poskytujú kolky na tehlách. Konkrétne kolky légie X Gemina, kohorty I Aelia milliaria sagittariorum a Ursicinus dux (legio II Italica) dokazujú, že tieto západopanónske jednotky sa podieľali na výstavbe a rekonštrukčných prácach na pevnosti v neskorej dobe rímskej.

Tábor Ad Mures bol postavený 1 km západne od ústia riečky Concó, ktorého údolie tvorilo hlavnú prírodnú bariéru v regióne. Kvôli meandrovaniu rieky bolo ťažké prekonať nielen jej strmý východný breh, ale aj vodnú plochu v jej údolí. Ad Mures a Ad Statuas sa nachádzali na brehoch Dunaja a dominovali v oblasti oproti najširšiemu cípu Veľkého Žitného ostrova (Csallóköz/Große Schüttinsel). Je logické, že tu musel existovať nejaký prístup pre obchod s germánskymi kmeňmi na druhej strane Dunaja, pretože podiel importovanej rímskej keramiky svedčí o čulých kontaktoch Rimanov s barbarmi v tejto oblasti.

Naše pozorovanie presnej hraničnej línie po roku 214 n. l. je založené na dvoch hlavných argumentoch. Po prvé, medzi mestami Ad Statuas a Ad Mures existuje veľká podobnosť na základe nálezov kolkov na tehľách. Obe pevnosti sa nachádzali oveľa bližšie k Brigetiu ako ku Carnuntu, ale ako bolo opísané vyššie, pečiatky legie I Adiutrix, hlavnej posádky Brigetia, na oboch lokalitách úplne chýbajú. Väčšina kolkov nesie nápis legio X Gemina, ktorá sídlila v Pannonii Superior, neskôr Pannonii I. Na základe týchto údajov už D. Gabler dospel k záveru, že Ad Statuas zostala súčasťou Pannonie Superior aj po posunutí hraníc v roku 214 n. l. Predpokladal, že hranica musela byť niekde medzi Ad Statuas a Ad Mures. Ako ukazujú najnovšie vykopávky, situácia v Ad Mures je podobná ako v Ad Statuas. Legio I Adiutrix nie je na tehlových kolkoch vôbec zastúpená, ale kolký légie X Gemina sa našli za rovnakých nálezových okolností ako v Ad Statuas. Tieto údaje podporujú argument, ktorý už predložili B. Lőrincz a P. Kovács (Kovács 2003, 293), že nová hranica medzi Pannonia Inferior a Pannonia Superior bola umiestnená na východ do Ad Mures. Podľa topografických pozorovaní je jedinou možnou, a zároveň prirodzenou hranicou východne od Ad Mures a západne od Brigetio riečka Concó. Je dôležité zdôrazniť, že pevnosť Ad Mures patrila k Pannonii Superior (a neskôr k Pannonii I), čo znamená, že administratívne a stavebné činnosti pravdepodobne vykonávali vojská pridelené do tejto provincie. Môžeme však predpokladať, že ak si to vyžadovala nevyhnutnosť, jednotky najbližšej legionárskej pevnosti, aj keď sa nachádzali v inej provincii, mohli nejakým spôsobom pomáhať jednotkám Ad Statuas a Ad Mures v ich bojoch s barbarskými kmeňmi.

Obr. 1. Mapa vykopávok z roku 1989 na hradisku Ad Mures s vyznačenými stavebnými obdobiami na základe dokumentácie S. Petényiho, B. Simona.

Obr. 2. Súhrnná mapa pevnosti Ad Mures s identifikovanými stavebnými obdobiami (mapa B. Simon).

Obr. 3. Kresba nedávno objavených kolkov na tehľách z Ad Mures. Bez mierky (kresba B. Simon).

Obr. 4. Fotografie nedávno objavených kolkov na tehľách z Ad Mures (foto I. Koós, M. Szabó, B. Simon; grafická úprava B. Simon).

Obr. 5. Mapa limitného úseku medzi Ad Statuas a Azaum (mapa B. Simon).

Obr. 6. Vyznačenie rímskej cesty v bezprostrednom susedstve Ad Mures na satelitnej snímke z 20. 3. 2020 (Google Earth, obrázok © 2023 Maxar Technologies, grafická úprava B. Simon).

Obr. 7. Mapa limesu v oblasti okolo Ad Statuas a Ad Mures (mapa B. Simon).

Bence Simon, PhD
ELTE Eötvös Loránd Tudományegyetem
 Régészettudományi Intézet
 Ókori Régészeti Tanszék
 Múzeum krt. 4/B
 HU – 1088 Budapest
 simon.bence@btk.elte.hu
 <https://orcid.org/0000-0002-6701-439X>

Melinda Szabó, PhD
ELTE Eötvös Loránd Tudományegyetem
 Régészettudományi Intézet
 Ókori Régészeti Tanszék
 Múzeum krt. 4/B
 HU – 1088 Budapest
 szabo.melinda@btk.elte.hu
 <https://orcid.org/0000-0003-4334-9117>

RE-EVALUATION OF THE “VANDAL GRAVE” FROM MUHI-KOCSMADOMB (NORTHEAST HUNGARY)

Eszter Soós

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Keywords: Przeworsk culture, burial remains, Marcomannic wars, spurs, Roman military

Abstract: The site of Muhi-Kocsmadomb in Northeast Hungary has been cited as a Vandal grave in archaeological literature since the first half of the 20th century. However, based on the re-evaluation of the original documentation, no trace of Roman Period burial can be identified at the site. A silver denarius of Traian and a bronze spur type Ginalski E7 were found as scattered finds from the territory of the Iron Age cemetery. The Muhi-Kocsmadomb site is located in the Roman-Sarmatian-Germanic contact zone, with Sarmatian sites in its immediate vicinity. In contrast to the Danube Germanic territories, where bronze spurs of Ginalski E types are well known from both side of the Pannonian limes, no bronze specimens were found in the area of the Inner-Carpathian Przeworsk culture. In the northern foreland of Dacia, Ginalski E type bronze spurs were found only in provincial sites associated to military environment and as scattered finds, presumably from the Sarmatian zone. Based on these, the Muhi specimen could have been associated with Roman military activities.

INTRODUCTION

In the northeastern part of the Carpathian Basin a new archaeological material had appeared in the middle of the 2nd century AD, that can be associated with the Przeworsk culture had spread contemporary in Poland.¹ Research has long correlated this migration wave with the arrival of the so-called Hasding Vandal, Victofal and Lacring groups, mentioned among the events of the Marcomannic-Sarmatian Wars (*Andrzejowski 2010*, 19, 20, fig. 19; *Godłowski 1994*, 70–73, Abb. 2).

The vast majority of the characteristic Przeworsk-type cremation burials including those with weapons can be dated to period B2/C1–C1a, that is, between the second half of the 2nd century and the first decades of the 3rd century AD. The artefacts from these burials correspond with the weapon group of *Godłowski 5* and partly *6* (*Godłowski 1994*, 72, 73; *Hullám 2012*, 85, 92). From the second half of the 3rd century, the Przeworsk-type cremation graves disappeared from the archaeological record, and no burial remains can be found in the region until the appearance of skeletal burials in the early Hunnic Period, which marked a new cultural era (*Soós 2019a*, 697–700). The phenomenon is likely not attributable to demographic factors, such as population replacement, but more likely due to changes in burial customs. This is supported by data from settlements that were continuously inhabited, showing that the population lived without interruption until the end of the 4th century AD (*Soós 2019b*, 239–241). Most of the settlement remains, similar to the graves, can be dated from the periods B2/C1–C1a. However, based on the analysis of large-scale excavated sites, numerous settlements were continuously inhabited even after the abandonment of the province of Dacia (Fig. 1; *Gindele/Istvánovits 2009*; *Soós 2019b*, 229–233).

In the Carpathian Basin, the Przeworsk-type archaeological material was primarily outlined based on the remains of cremation graves contained iron weapons from the 19th century (*Diculescu 1923*; *Jahn 1921*; *Török 1934*). Despite the traces of several hundred settlements, until recently, the remains of only about 50 burials were known from barely 40 sites (*Hullám 2012*).²

¹ The writing of this paper was supported by the research project no. PD 147993 of the National Research, Development and Innovation Office, Hungary.

² The Rankovce site in eastern Slovakia has been known since the 2010s. The evaluation of the almost fifty graves discovered there will greatly enhance our knowledge of the Przeworsk-type burials of the era (*Rákoš 2019*).

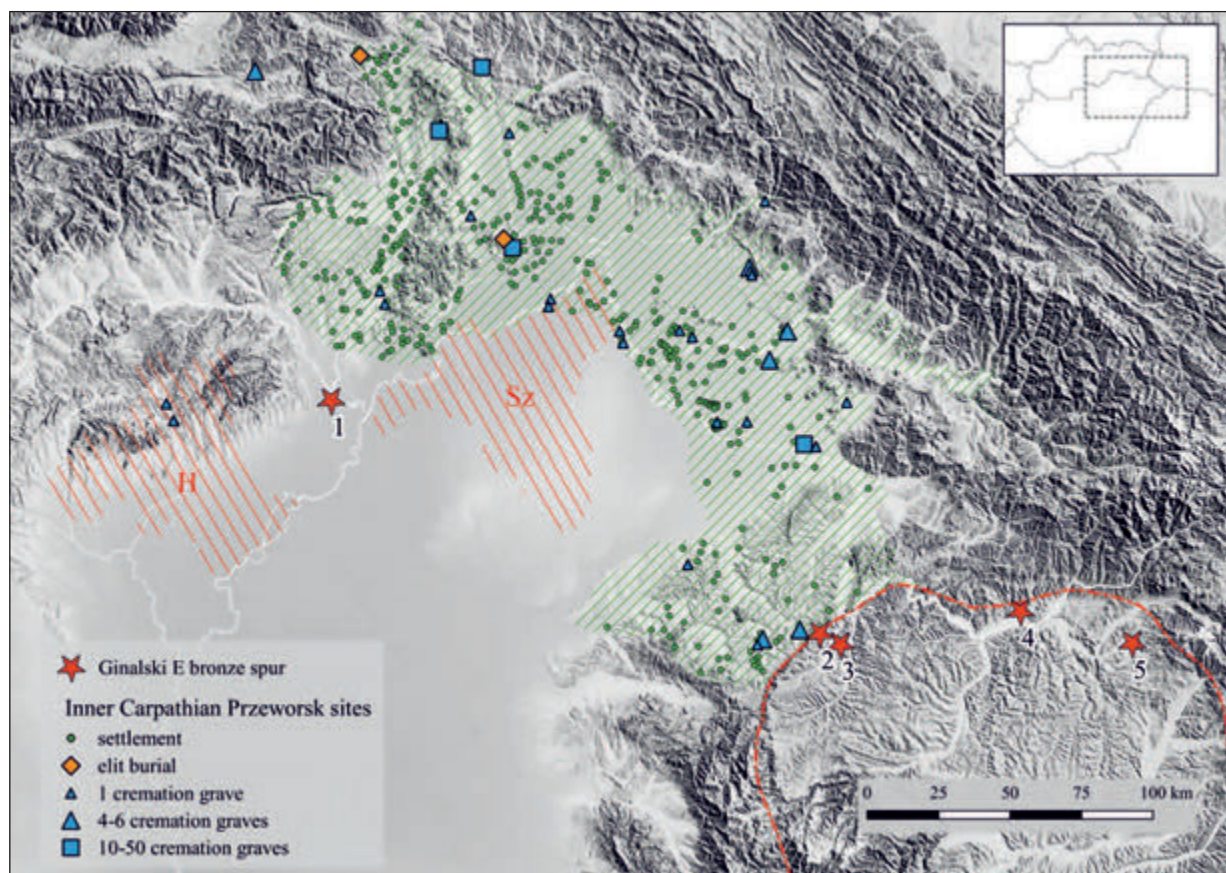


Fig. 1. Sites of the Inner-Carpathian Przeworsk culture and the location of the Ginalska E bronze spurs by the northern border of Dacia province. 1 – Muhi-Kocsmadomb; 2 – Porolissum; 3 – Jac; 4 – Ilișua; 5 – Orheiul Bistriței. H – Heves County; Sz – the former Szabolcs county (map E. Soós).

However, the informational value of this funerary remains is low. A minuscule percentage of the artefacts have been uncovered during archaeological excavations; thus, their original context is unknown, and the association of the finds is often questionable.

There have been several attempts in the literature to collect grave remains identified as Vandal. The early summaries were mainly territorial collections, in which, without reconstructing the original context of the finds, sites not related to burial activities and the era were also included.³ In recent decades, collections have focused more on the find types, disregarding whether they were grave or settlement finds (Ardeleanu 2009; Istvánovits/Kulcsár 1992). A comprehensive, critical processing of the inner Carpathian Przeworsk burials is still missing.

The site of Muhi-Kocsmadomb also appears as a Przeworsk grave in the collections and maps that compile Vandal burials until the most recent times (Ardeleanu 2009, 61; Godłowski 1994, 71, 72, Abb. 2; Istvánovits/Kulcsár 2017, 257, fig. 203; Soós 2019b, fig. 1; Végh 1975, 76, XVIII. t. 1).

THE SITE MUHI-KOCSMADOMB

The village Muhi, located in Borsod-Abaúj-Zemplén county, is situated on the western bank of the Sajó River, approximately one and a half kilometres south of the former mouth of the Hernád. The surrounding region is a low-relief alluvial cone plain, divided into low ridges by the Sajó and Hernád rivers and smaller watercourses

³ In the first half of the 20th century, research was strongly influenced by a source from Jordanes, which mentioned the Vandals between the Körös and the Maros rivers in the 4th century AD. As a result, assemblages from the Sarmatian and Gepidic periods were included among the Vandal artefacts (Nagy 1994; Török 1934).

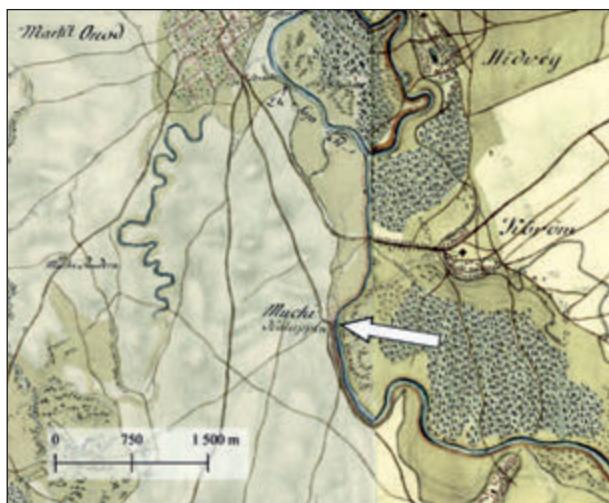


Fig. 2. The Muhi-Kocsmadomb site on the map of the First Military Ordnance Survey (map E. Soós).

(Dövényi 2010, 214). The Muhi settlement was established barely 50–100 meters from the former bed of the Sajó. The present-day Nagycséc–Ónod highway which runs along a high bank following the watercourse could have also been a route used in previous historical periods. The part of the village called Kocsmadomb is a low hill extending towards the floodplain, located on the eastern side of the today's highway (Fig. 2; Leszih 1939, 70).

The site has been well-known by the prehistoric research due to the Iron Age cemetery. Excavations were conducted as early as the 1870s by János Szendrei. Since the beginning of the 20th century, prehistoric artifacts from the site have been continuously added to museum collections (Hellebrandt 1997, 125). In 1929–1930 Sándor Husz, the teacher of the village, submitted artifacts from Kocsmadomb to the Miskolc Museum. Among the Iron Age grave finds, a bronze spur and a Roman

silver coin were also mentioned (Leszih 1939, 70).

Excavations were conducted in the cemetery's territory during the 1930s by Andor Leszih, and these investigations were later continued by Magdolna Hellebrandt in 1972–1974 and again in 1977. From the site of Muhi-Kocsmadomb, in addition to numerous Iron Age scattered finds, we know about fifty Scythian and Celtic graves up to now, of which the latest ones can be dated to the La Tène B2 period (Hellebrandt 1997, 125, 126, 156; Leszih 1939).

In 1930, Andor Leszih uncovered a total of 22 burials, which he classified into the Iron Age Scythian culture with two exceptions. He identified the burials number 9 and 10/a as Vandal graves, based on the swastika decoration of the urn from burial number 9 (Leszih 1939, 70). Leszih had sent a part of the unearthed artefacts to Martin Jahn to Wrocław/Breslau who was based in Schlesisches Museum für Kunstgewerbe und Altertümer. He defined the urn and the large iron knife of the 10/a grave as early Germanic. He also linked the bronze spur to the Vandals but dated it to the 3rd century AD (Banner 1932, 144, note 7; Leszih 1939, 70). The interpretation mirrors the research trend prior to World War II, which associated the Bastarna migration in the late Iron Age with the earliest southeastern Germanic expansion. Based on this approach, the traces of the Germanic horizon were sought in Iron Age sites also in the Carpathian Basin (Richthofen 1930a; Tackenberg 1930).⁴

In grave number 9, the urn turned upside down was covered with a stone slab, among the ashes laid three spindle whorls. The hand-formed biconical urn was decorated with dotted motifs: triangles in two rows below and swastikas above (Kemenczei 2009, Taf. 37: 1; Leszih 1939, 73, 3. kép, III. t: 4–7). In grave 10/a, according to the record, a shorter, broken iron knife and a whetstone lay next to two small vessels with plastic decoration. Alongside these, a long, single-edged knife (Streitmesser), and another whetstone were found (Leszih 1939, 73, III. t: 17–20, 22, 24).

Based on the burial customs, as urn covered with a stone slab, ceramics, knives and whetstone placed together in the grave (Kemenczei 2009, 26) and the find types, these two graves belong to the Scythian horizon of the cemetery. The analogies of the asymmetrical, biconical shape of the decorated urn can be found at numerous sites in the early phase of the Scythian period (Csalog/Kisfaludi 1985, Abb. 2: 1; 6: 15; Kemenczei 2009, 96, Taf. 36: 7; Párducz 1966, XXX. t: 13; XLVII. t: 4; LVII. t: 19), as can the incised, figurative decoration of the vessels. The triangle standing on its base and the swastika motif are characteristic decorations of early Scythian objects, occurring mainly in the northeastern part of the Carpathian Basin and its eastern foreland, similar to Muhi (Kemenczei 1983, 57, 65, 66). The large, single-edged knife of grave 10/a is also a common inventory of the Scythian burials (Kemenczei 2009, 37, 179, liste 1). In his summary work, Tibor Kemenczei clearly classified the graves number 9 and 10/a with the Scythian horizon (Kemenczei 2009, 96, 126, 127, Taf. 37; 38).

⁴ At the same time, the Scythian cemetery of Békéscsaba-Fényes in Southeast-Hungary was also considered Vandal site (Banner 1932). The chronological tension between the Iron Age archaeological material and the historical sources of Jordanes referring to the 4th century has not been resolved.

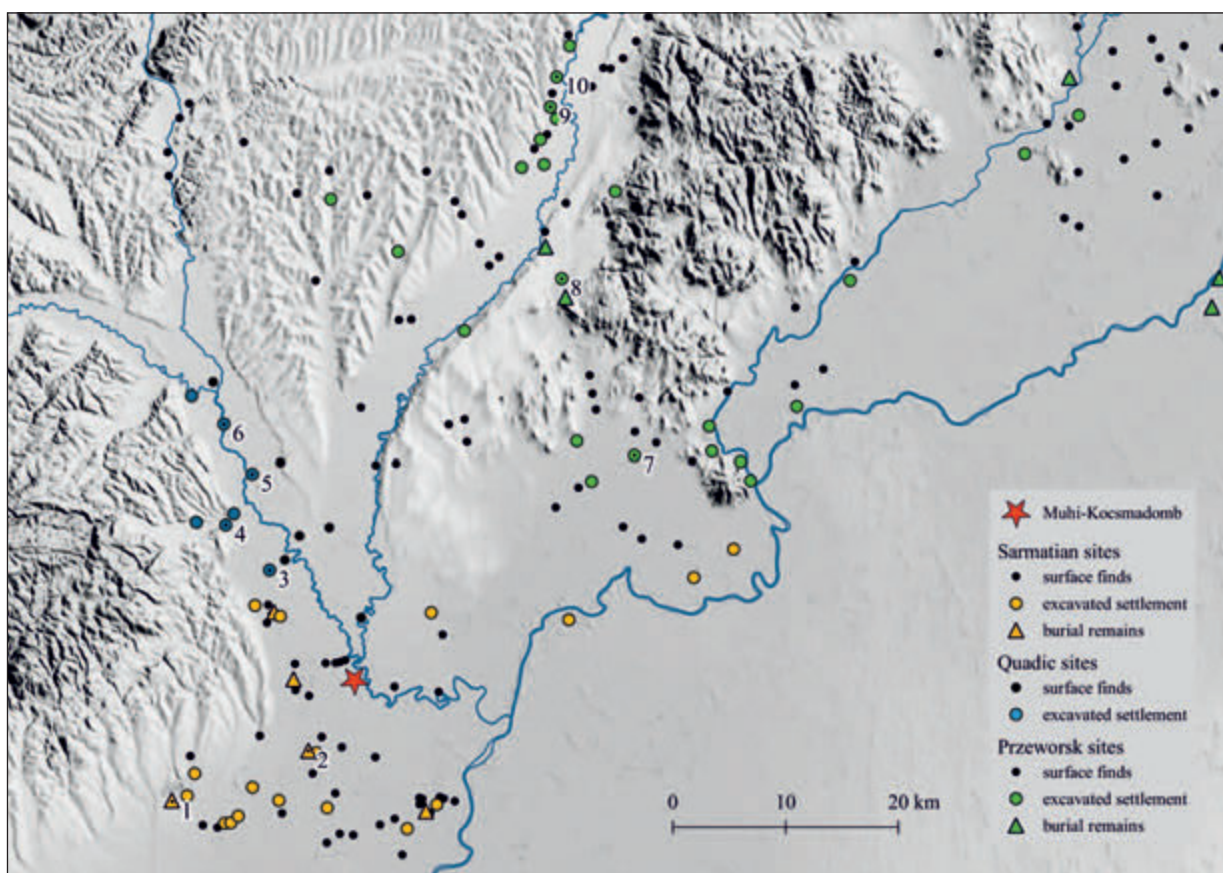


Fig. 3. Roman Period sites in the Sajó-Hernád plain. 1 – Bükkábrány-Bánya, XI/A; 2 – Hejőpapi-Heves county landfill; 3 – Miskolc-Szirma; 4 – Miskolc-Sötétkapu; 5 – Szirmabesenyő-Homokbánya; 6 – Sajókeresztúr-Homokbánya; 7 – Mezőzombor-Temető; 8 – Abaújszántó-Gyűr-tető alja; 9 – Garadna-Kovács tanya; 10 – Hernádvécse-Nagy rét (map E. Soós).

The use of the site in the Roman Period is indicated only by the Roman silver coin and the bronze spur, which can be treated as scattered finds.

Muhi-Kocsmadomb site is located on the fringes of the Sarmatian, Quadic and Przeworsk settlement zones. In its immediate vicinity there were Sarmatian sites (Fig. 3).

The Inner-Carpathian Przeworsk settlement zone extended southwest to the Hernád valley and the southwestern foothills of the Zemplén Mountains. Excavated settlement remains, dated from the end of the 2nd century AD, are known from Hernádvécse-Nagy rét (Soós 2019b, 233–235, fig. 4; 5), Garadna-Kovács tanya (Soós 2019b, 229–233, fig. 2, 3), Abaújszántó-Gyűr-tető alja and Mezőzombor-Temető (Csengeri 2015, 39–41, 1–3. kép).

In the valley of the Sajó river, up to the area of Miskolc-Szirma, the settlement remains show a Quadic character. The finds known so far do not indicate the Roman Period settlement of the territory before the middle third of the 2nd century AD. Most of the sites can be dated to the end of the 2nd – beginning of the 3rd century AD. This is strengthened by the results of the Slovakian research that dates the Quadic expansion in the Northern Hungarian Range from the Severan period (Beljak *et al.* 2012; Soós/Tankó 2018, 292, 293).

Based on the available data, the Sarmatian and Przeworsk sites show a sharp separation along the Tisza River. A similar phenomenon can also be expected on the Sajó-Hernád plain, where Sarmatian material sharply replaces the Germanic settlements on the west side of the Sajó, south of Kistokaj. However, the beginning of the Sarmatian settlement is questionable there. One of the earliest sites is Bükkábrány-Bánya, XI/A, where a small Sarmatian cemetery with richly equipped burials was excavated. The community's strong connections to the Germanic territories from the end of the 2nd century AD are evidenced by a silver brooch with silver filigree decoration of Almgren ser. V type 8 found in one of the women's graves (Tutkovics 2015, 248–250, 7. kép 1, 8. t. 1). A heavily disturbed Sarmatian cemetery with 52 graves was excavated on the outskirts of

Hejőpapi. The presence of shield, sword, and spears as weapons, along with horse harnesses as grave goods, links the site to the so-called Hortobágy-Poroshát type cemeteries. These were likely in use in the first third of the 3rd century AD (Gregóczy 2011; Makoldi 2011, 242). The other sites are known from field surveys (Fig. 3).

Weapon cremation graves, such as those found in Sirok, Terpes (Hullám 2012, 11, 12. ábra), and Levoča/Lőcse-Novoveská cesta (Tamaškovič et al. 2019) also deposited outside the designated settlement zones of the Inner-Carpathian Przeworsk area (Fig. 1). One possible explanation for this phenomenon is that during the Marcomannic wars, the areas under the military supervision of the Przeworsk groups were more extensive than the zones of their later settlements. This explanation is supported by the Pócspetri site, where a single burnt-out building containing exclusively hand-formed Przeworsk type pottery was found. This area was Sarmatian region from the end of the 2nd century/2nd–3rd century AD until the late Roman period (Masek 2012, 254–255; 37. t: 8–14; 39. t: 1–3).

Another explanation suggests that military reasons justified the presence of weapon graves in the border zone of the Przeworsk settlement territory. Cemeteries and grave groups with larger number of burials are known only from the interior of the Inner-Carpathian Przeworsk area. In contrast, single weapon graves are located on the southern and eastern borders, in front of the plainy Sarmatian areas. These graves could have served to mark the border and maintain control over the Tisza fords, even during the Severan era. The Kékcsse assemblage, found on the southern bank of the Tisza and dated to the C1b–C2 period, likely represents a later horizon than the early occupation period (Hullám 2012, 89, 10. ábra; Istvánovits/Kulcsár 2017, 255, fig. 202). For a more detailed evaluation of the phenomenon, we cannot refine the chronology of the sites.

However, the Roman period finds from Muhi-Kocsmadomb do not indicate a burial context, suggesting that they may need to be interpreted differently.

THE FINDS FROM MUHI-KOCSMADOMB

The probable mintage of Traian's silver denarius is 114–117 AD (Huszár 1954, 90, XIX, 142; Leszih 1939, 70).⁵ Roman coins, minted before the Marcomannic wars, are rare in the Upper Tisza region. Eszter Istvánovits dated the circulation of Roman coins in the region to the Domitian-Traian period, linking it to the Roman-Sarmatian alliance during the Dacian wars. It is noteworthy, however, that the majority of coins earlier than the middle of the 2nd century AD were found outside the Sarmatian settlement zone, in Przeworsk area (Istvánovits 2002, 277, 278). However, silver coins could remain in circulation in Barbarian territory until the end of the Roman era. The Muhi piece has no dating value for the site.⁶

The bow-shaped spur can be classified as Ginalski E7 type (Tejral 2003, 255, Abb. 1: 9; Végh 1975, 76, XVIII. t: 1).⁷ Its strongly curved bows ended in small, round knobs folded back, and their cross-section is roof-shaped. The large, conical prick is wide, massive, hollow inside, separated from the bow by a double engraved line. A narrower line under the prick can also be observed. The upper part of the bow is angular in one side, there the root of a further hook can be seen. It has broken off, there the surface has become rounded from use. Noticeable traces of wear can be observed at the tip of the prick and the lower edge of the bow. Dimensions: length: 7.4 cm, knobs diameter: 0.7 cm, maximum width: 3.6 cm, prick diameter: 2.8 cm, height: 3.7 cm (Fig. 4).

The spurs of type Ginalski E, characterized by curved bow and broad prick, were widespread in the central and southeastern zones of the Przeworsk culture and the northeastern part of the Carpathian Basin during the B2/C1–C1a periods. The iron specimens were placed in pairs as grave goods in weapon male graves (Ginalski 1991, 61, 62, Ryc. 12). Most of the iron spurs found in Inner-Carpathian Przeworsk burials were Ginalski E2, E5b and E6 types. Some differences can be observed in their forms, but their use and chronological position were the same (Ardeleanu 2009, 56–58).

The Ginalski E7/Jahn 58 type spurs can be distinguished from the above pieces based on the extra knob or hook placed in one side of the upper part of the bow, which presumably served for a more secure fastening. The technical solution already points towards the Ginalski G types, but their asymmetrical form can be clearly

⁵ http://barbaricoin.elte.hu/AFE_HU/show_coin?coin_id=3099 (29. 02. 2024)

⁶ The appearance of Roman denarii in the northern Przeworsk area is also not connected with the political events of the Dacian wars (Dymowski 2019).

⁷ M. Ardeleanu defined it as Ginalski E2 type (Ardeleanu 2009, 61).

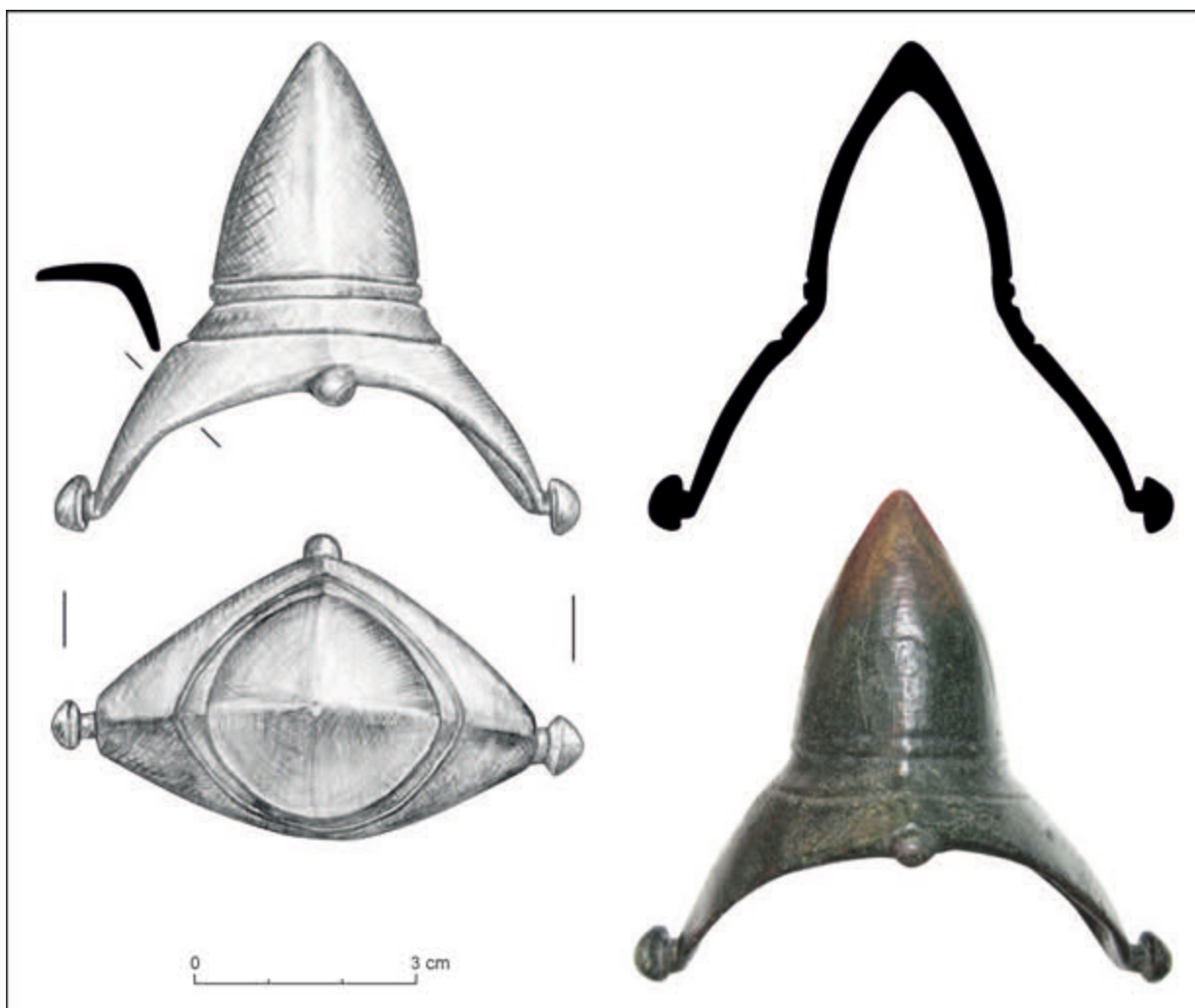


Fig. 4. The bronze spur from Muhi-Kocsmadomb (drawing Zs. Varga, photo E. Soós).

distinguished from the E series. Ginalskei E7 spurs are rare, the collection revealed only two specimens from Greater Poland (Ginalskei 1991, 63, 64, Ryc. 11: 23; 12; Jahn 1921, 52). The Muhi spur is distinguished from the contemporary heels by its material and particularly large size.

The Ginalskei E bronze spurs are concentrated in the border zone of the Danube provinces during the Marcomannic wars and the following decades. In Pannonia, they are typically found in the limes section between Carnuntum and Brigetio from military environment or as scattered finds.⁸ There are many more, with over 57 Ginalskei E5 and E6 bronze specimens found north to the Danube, mainly along the lower Morava region as scattered finds, dated to the end of the 2nd and beginning to the 3rd century AD (Jílek *et al.* 2023, 7, fig. 5; Tejral 1999, 160–167; 2002, 171).

In this period, bronze versions of artefacts and wear items appeared in both side of the Danube limes, which were typical to the Przeworsk and Wielbark cultures and originally made of iron. In addition to brooch types of northern origin, which were foreign to the local milieu, Roman-Barbarian hybrid forms can also be observed. Research has been dealing with the background of this phenomenon for a long time. Jaroslav Tejral linked the distribution of these find types in the Danube Germanic territories with archaeological sites connected to the Roman military presence, thus explaining their appearance as a direct Roman influence. The distribution of these bronze artefacts can be associated with Germanic groups alien to the Danube Barbarian territory, which were temporarily under Roman administration (Tejral 1999, 189–193).

⁸ Arrabona, Edelstál, Pér-Mindszentpuszta, Brigetio but also from East-Pannonia: Intercisa, Sárszentlőrinc (Bóna 1963, 293, 296; Masek 2013; Tejral 2003, 252, fig. 7).

Based on our data so far, it cannot be decided whether these artefacts were products of a Roman or Barbarian workshop. A semi-finished Ginalski E6 bronze spur has come to light in Ruhhof in Austria, from the territory of a Roman camp (Groh/Sedlmayer 2015, 136, Abb. 98:1). A bronze mould of a spur was recently published from the Barbarian area, discovered by metal detector survey in site Luleč around Vyškov. The authors considered the find to be evidence of local production of the find type (Jílek *et al.* 2023). While previous research emphasized the role of the Roman industry in the origin of these bronze items, nowadays data indicating their production in Barbaricum can also be provided. Since semi-finished pieces and moulds of Barbarian brooches have been found recently in the Danube Germanic area, it is also worth considering the local development of Barbarian metalwork. The background of the procession could have been the large amount of bronze raw material left as scrap metal in Germanic territory after the Roman military presence during the Marcomannic Wars (Jílek *et al.* 2023, 9; Vích/Kmošek 2020, 101).

CONCLUSIONS

Returning to the Muhi site, in the northern foreland of Dacia province there are far fewer similar sites, and the archaeological context of the spurs also differs from the Pannonian border zone (Ardeleanu 2009, 72, fig. 7; Tejral 2003, 255, Abb. 10). The Ginalski E bronze spurs found in archaeological context are known there only from provincial territory (Fig. 1). The sites of Ilişua, Jac, Moigrad/Porolissum, Orheiul Bistriței and Toarcia (except for the first one) are all places where presence of Roman auxiliary troops can be identified (Tejral 2003, 255, Abb. 7: 2, 4, 5; 10). According to Coriolan Horatiu Opreanu, the spurs could also belong to Roman military equipment. He did not rule out the Germanic origin of their users, because the concentration of other, typically Germanic ceramic and brooch types (Almgren 43 and Almgren 129) can also be observed in the mentioned sites (Cociş/Opreanu 1998, 198–200, fig. 6: 39–43; 9: 58–61; tip. 5 d, 1–5; 6–8; Opreanu/Cociş 2002, 236, 241, Abb. 17: 4–6).

Between the limes of Dacia Porolissensis and the site of Muhi-Kocsmadomb stretched a wide settlement zone of the Inner-Carpathian Przeworsk culture. Bronze spurs have not been found there, despite the fact that iron specimens are known not only as grave goods, but also as settlement finds (Gindele 2010, Abb. 63: 1–3). In the Inner-Carpathian Przeworsk area, there is no evidence of non-ferrous metallurgy up to now. Besides, there is no evidence of a temporary Roman military presence outside of Dacia province as well. Considering the results and interpretations of the Central European research, the bronze heels, and also the Muhi specimen, can be connected more to the Roman military milieu in the periphery of Dacia.

Bronze spurs of Ginalski E type are also known from the Sarmatian-Germanic contact zone, but their context is uncertain. An E6 heel with a square cross-section prick has been published for a long time from Szabolcs County (Jahn 1921, 122; Jóna 1899, no. 28, 97; Richthofen 1930b, 239). A Ginalski E5 and a decorated E6 specimen were also reported from the area of Heves County (Szabó 1969, 47, 22. kép). It is worth considering that the territory of the former Szabolcs county, as well as the largest part of the present-day Heves county, belonged to the Sarmatian settlement zone in the Roman Period. The above mentioned Ginalski E5 and E6 bronze spurs could be linked to Sarmatian environment, similar to the Muhi specimen (Fig. 1).

The uncertain data may indicate that the Ginalski E bronze spurs, originally evolved as a result of a complex Roman-Germanic interaction, may have been connected to the Sarmatian environment in the fringes of Dacia in the turn of the early and late Roman Period.

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Prehodnotenie „vandalského hrobu“ z lokality Muhi-Kocsmadomb (severovýchodné Maďarsko)

E s z t e r S o ó s

Súhrn

Archeologický horizont vnútrokarpatskej przeworskej kultúry bol vymedzený od 19. storočia najmä na základe spálených pozostatkov uložených spolu so železnými zbraňami, ktoré sme datovali do stupňov B2/C1 a C1. V zbierkach a na mapách, na ktorých sa uvádzajú pohrebiská przeworského typu, sa však nachádzajú aj lokality, na ktorých nie je možné preukázať existenciu pohrebiska z tohto obdobia.

Na skýtskom pohrebisku v Muhi-Kocsmadomb Andor Lešich identifikoval dva hroby, ktoré vykopal v roku 1930, ako vandalské a spojil ich s Trajánovým strieborným denárom a veľkou bronzovou ostrohou typu Ginalski E7 nájdenou na tejto lokalite. Na lokalite nie sú žiadne doklady o pochovávaní v dobe rímskej, ostrohu a mincu možno považovať za ojedinelé nálezy. Lokalita Muhi-Kocsmadomb sa nachádza v rímsko-sarmatsko-germánskej kontaktnej zóne, v jej bezprostrednej blízkosti sa nachádzajú sarmatské lokality.

Bronzové ostrohy Ginalski E sa vyvinuli ako výsledok zložitej rímsko-barbarskej vojenskej a kultúrnej interakcie počas markomanských vojen v pohraničnej oblasti podunajských provincií. Na rozdiel od podunajských germánskych oblastí, kde poznáme veľké množstvo bronzových ostroh Ginalski E, z územia vnútrokarpatskej przeworskej kultúry nie sú publikované žiadne bronzové exempláre. V severnej Dácii sa bronzové ostrohy typu Ginalski E našli len na provinciálnom území vo vojenskom prostredí, prípadne ako roztrúsené nálezy v pravdepodobne sarmatskej sídelnej zóne. Na základe týchto zistení by ostroha z Muhi mohla súvisieť s rímskou vojenskou činnosťou v období markomanských vojen.

Obr. 1. Lokality vnútrokarpatskej przeworskej kultúry a distribúcia bronzových ostroh Ginalski E pri severnej hranici provincie Dácia. 1 – Muhi-Kocsmadomb; 2 – Porolissum; 3 – Jac; 4 – Ilișua; 5 – Orheiul Bistriței. H – Hevešská župa; Sz – bývalá župa Szabolcs (mapa E. Soós).

Obr. 2. Lokalita Muhi-Kocsmadomb na mape prvého vojenského mapovania (mapa E. Soós).

Obr. 3. Lokality z doby rímskej na planine Sajó-Hernád. 1 – Bükkábrány-Bánya, XI/A; 2 – Hejőpapi-Heves okresná skládka odpadu; 3 – Miskolc-Szirma; 4 – Miskolc-Sötétkapu; 5 – Szirmabesenyő-Homokbánya; 6 – Sajókeresztúr-Homokbánya; 7 – Mezőzombor-Temető; 8 – Abaújszántó-Gyűr-tető alja; 9 – Garadna-Kovács tanya; 10 – Hernádvécse-Nagy rét (mapa E. Soós).

Obr. 4. Bronzová ostroha z Muhi-Kocsmadomb (kresba Zs. Varga, foto E. Soós).

Eszter Soós, PhD.

ELTE Research Centre for the Humanities

Institute of Archaeology

Tóth Kálmán utca 4

H – 1097 Budapest

soos.eszter@htk.elte.hu

<https://orcid.org/0000-0003-2442-2323>

EIN RÖMISCH-GERMANISCHES ARRANGEMENT DER SPÄTANTIKE

Andreas Thiel

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Keywords: 4th century, Late Roman period, secondary use, bath accessory, bronze suspension device

Abstract: **Roman-Germanic Combined Device from Late Antiquity.** From the finds of a Germanic hamlet of the 4th century in Stuttgart, Germany, comes an originally Roman piece that was combined with a Germanic embossed fitting in secondary use. The small find was originally an elaborately crafted bronze suspension device, presumably for bath accessories. A pivoting double hook, decorated with bird and dolphin heads, was attached around a central axis that ended in an eyelet. The few comparable pieces date the item to the Middle Imperial period. The find may have come from a Roman estate in the Stuttgart valley basin, which preceded the Germanic settlement. This double hook was secondarily combined with a simple solid fitting for attachment to a leather belt. Significant signs of wear indicate that this arrangement was used intensively. Even if a use as a bridle or similar seems possible, the function of this singular arrangement must remain open.



Abb. 1. Stuttgart, D, Hauptbahnhof 2014. Bronzener Doppelhaken mit eingehängtem Ösenbeschlag (Photo YAM, LAD Ba-Wü).

Das wissenschaftliche Interesse unseres Jubilars gilt der Interaktion römischer Kultur mit den einheimischen, in unserem Fall germanischen, Kulturen. Der hier vorgestellte Kleinfund aus Bronze symbolisiert diese Verbindung der beiden antiken Kulturkreise (Abb. 1). Er stammt von dem Gelände des neuen Hauptbahnhofs in Stuttgart, Baden-Württemberg. Hier zeugen verschiedene Baubefunde von einem landwirtschaftlichen Betrieb der mittleren Kaiserzeit, dessen Ruinen in der zweiten Hälfte des 4. Jahrhunderts von germanischen Neusiedlern aufgesucht wurden.

FUNDPLATZ

Nach der Gründung eines Auxiliarkastells zur Überwachung des sog. Neckarlimes in Südwestdeutschland spätestens um das Jahr 100 n. Chr. entwickelte sich Stuttgart - Bad Cannstatt zu einem zentralen Handelsplatz im Süden der Provinz Germania Superior. Im Schutz der Grenze entstanden in der fruchtbaren Talweite des Neckars in der Folgezeit zahllose landwirtschaftlich geprägte Einzelhofsiedlungen, mehrere davon auch in Sichtweite des ursprünglichen Kastellvicus von Bad Cannstatt. Im Stuttgarter Talkessel, auf dem Areal des heutigen Hauptbahnhofs entstand in dieser Zeit eine nur in Ausschnitten bekannte römische Gutsanlage. Ihr Hauptgebäude und ein Gutteil der Nebengebäude dürften direkt unter den zu Anfang des 20. Jahrhunderts errichteten Bahngleisen gelegen haben. Zu den gesicherten Baubefunden etwas hangabwärts zählen Fundamentreste der Hofmauer, eines mehrphasigen Badegebäudes, sowie insbesondere mehrere Töpfer- und Ziegelöfen. Wasserzu- und -abführung, ebenso wie die mechanische Aufbereitung der Töpfertone machten eine Positionierung dieser Anlagen im damals offenkundig hochwassergefährdeten Talbereich des Nesenbaches notwendig. Alle genannten Baulichkeiten nahmen bereits in römischer Zeit bei Hochwasserereignissen Schaden. Allein das Badegebäude musste trotz seiner soliden und aufwendigen Ausführung mehrfach repariert und zumindest einmal von Grund auf neu errichtet werden. Ursache hierfür waren insbesondere massive Einschwemmungen von Flutlehm in das Gebäude. Ein wesentliches Element der Wirtschaft dieses Gutsbetriebes dürfte die Produktion von Dachziegeln für die nur 5 km entfernte stadtartige Ansiedlung des römischen Bad Cannstatt gewesen sein (Thiel/Thoma 2017).

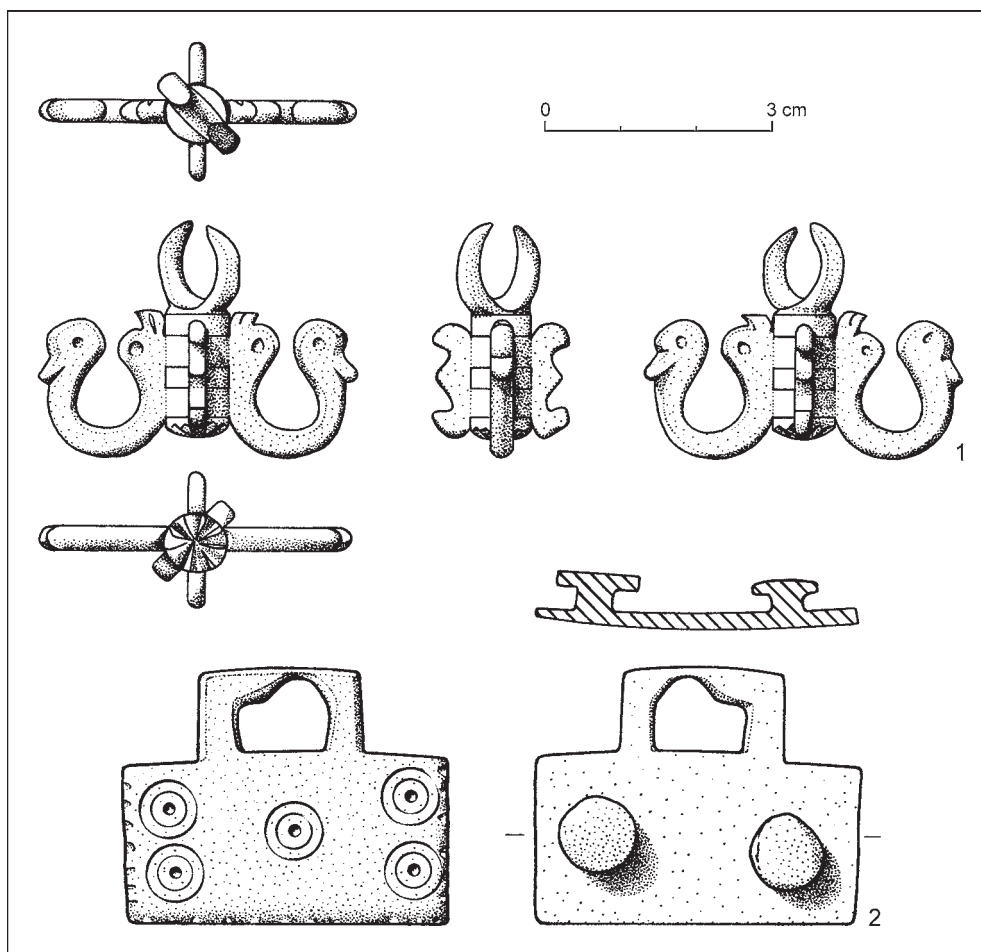


Abb. 2. Stuttgart, D, Hauptbahnhof 2014. 1 – mittelkaiserzeitlicher Doppelhaken mit drehbarer Zentralachse; 2 – spätantiker Beschlag mit Rechtecköse (Zeichnung H. Kaulfersch, LAD Ba-Wü).

Rund einhundert Jahre nach dem „Limesfall“ um 260 n. Chr. und damit dem Ende der Römerzeit in Südwestdeutschland errichteten neue Siedler Gebäude aus Holz und Fachwerk am Ufer des Bachlaufs. Pfostensetzungen und Gruben belegen eine kleine, weilerartige Siedlung, zu der auch ein mindestens 14 m langer und 5,8 m breiter einschiffiger Wohnbau mit zentraler Feuerstelle gehörte. Nordöstlich dieser Holzgebäude konnte eine hölzerne Uferbefestigung dokumentiert werden. Die dendrochronologische Bestimmung ihrer Eichenpfosten weist auf ein Fälldatum im frühen 4. Jahrhundert n. Chr. Diese Zeitstellung passt zu den weiteren Funden, wie handgemachter Keramik, Armbrustspiralfibeln mit dreieckigem Fuß und anderer Metallobjekte, darunter insbesondere zweier 352 n. Chr. in Trier geprägten Bronzemünzen des Magnentius, die kaum Umlaufspuren zeigen. Zusammengenommen sprechen die angetroffenen Funde und Befunde damit für ein Gehöft germanischer Neusiedler, die das Areal des mittelkaiserzeitlichen Gutshofs gut einhundertfünfzig Jahre nach dessen Aufgabe in Besitz genommen haben. Innerhalb der römischen Gebäude konnte keine germanischen Einbauten o.ä. festgestellt werden. Vermutlich wählte man eher zufällig den Platz der einstigen römischen Villa. Es ist nicht anzunehmen, dass die Überreste der Steinhäuser noch bewohnt oder anderweitig genutzt werden konnten. Zumindest der Bereich der Niederung, aus dem der vorgestellte Fund stammt, scheint vielmehr durch Lehmschichten von Hochwasserereignissen weitgehend überformt. Siedlungsspuren des 4. Jahrhunderts sind aus dem Stadtgebiet Stuttgarts verschiedentlich bekannt geworden (Luik/Schach-Döriges 1993, 421 f.). Innerhalb des ehemaligen römischen Stadtareals von Bad Cannstatt fand sich beispielsweise bereits 1910 ein Körpergrab, das durch Beigabe von drei Terra-nigra Gefäßen und einer Bügelknopffibel mit konischem Kopf ebenfalls gut ins ausgehende 4. Jahrhunderts datiert werden kann (Goeßler 1910; Koch 1984, 28 f.).

BESCHLAG UND DOPPELHAKEN

Das hier vorgestellte Arrangement aus zwei Einzelobjekten dürfte ursprünglich nicht zusammengehört haben, sondern wurde wohl eher „ad hoc“ kombiniert. Dafür sprechen der unterschiedliche Charakter und die Verzierung der beiden einzelnen Objekte. Zentrales Element bildet ein bronzener Doppelhaken, der im Überfangguss mit einer drehbaren Achse verbunden ist (Abb. 2: 1).

Diese Achse besitzt in ihrer Mitte eine mitgegossene Scheibe und endet auf einer Seite in einem flachen Knopf, auf der anderen Seite in einer Öse, die wiederum auf einer Scheibe sitzt. Damit besitzt die Achse insgesamt drei starr angebrachte Scheiben (obere Öse, Mitte und unterer Abschlussknopf) zwischen der sich scharnierartig die beiden Scheiben des Doppelhakens drehen. Achse bzw. Doppelhaken, waren gegeneinander ursprünglich vollständig drehbar, sind heute jedoch in einem Winkel von etwa 45 Grad (bzw. 135 Grad) zueinander festkorrodiert. Die ursprünglich kreisrunde, geschlossene Öse, die den Abschluss der Achse bildete, ist heute wohl durch intensive Abrieb eines hier einst befestigten zweiten Ringes o.ä. oben ausgebrochen. Ansonsten weist der Doppelhaken keine sichtbaren Beschädigungen oder Abnutzungsspuren auf.

Die beiden gegenständig liegenden Haken sind Omega-förmig geformt und lassen eine 2 mm weite Lücke, sodass in diese dünne Ringe oder Kettenglieder eingeführt werden konnten. An ihren zur Achse weisenden Enden sind beide Haken mit stilisierten Delphinköpfen, auf ihrer äußeren Seite mit Köpfen von (Wasser-)Vögeln verziert.

In einem dieser U-Haken des Doppelhakens war zum Auffindungszeitpunkt ein in einem Stück gegossener flacher Rechteckbeschlag aus Bronze eingehängt (Abb. 2: 2). Seine Oberseite zeigt fünf Kreisaugen aus je zwei konzentrischen Kreisen um einen stark ausgeprägten Mittelpunkt. Eine der Längsseiten und die beiden Schmalseiten an den Rändern weisen unregelmäßigen, flachen Kerbschnitt auf. Die Unterseite besitzt zwei flache Knopfnieten. Mit einer unverzierten Rechtecköse, die das Rechteck an einer seiner Längsseiten erweitert, war der Beschlag in den Doppelhaken eingehängt. Der nach außen weisende Steg dieser Rechtecköse ist etwa bis zu Hälfte seiner Stärke bogenförmig abgenutzt.

FUNKTION UND DATIERUNG DES DOPPELHAKENS

Ein gut vergleichbares Gerät eines „Wirbels“ an einer drehbaren Achse, der ebenfalls mit Delphinen verziert war, stammt aus Dörveden, Kreis Verden. Diesen hatte W. H. Zimmermann bereits 1969 vorgelegt und 1977 anhand von Vergleichsfunden schließlich in die römische Kaiserzeit datiert (Zimmermann 1969; ders. 1977). Neben diesem Einzelfund, der außerhalb des Römischen Imperiums zu Tage kam, führte er fünf Parallelen an (Passau-Innstadt, Mainz, Woodeaton, London(?) und Cambridge (ohne Fundort), bei denen es sich mit einer Ausnahme leider ebenfalls um isoliert gemachte Funde handelt. Zwei weitere, allerdings einfacher

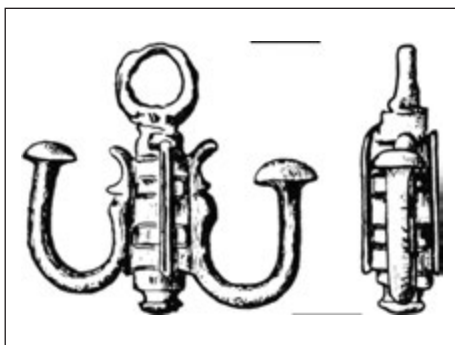


Abb. 3. Passau, D. Doppelhaken aus dem mittelkaiserzeitlichen Kastell Boiodurum (nach Schönberger 1965, 60).

gestaltete Haken sind aus dem Kastell von Mertingen-Burghöfe an der oberen Donau in Bayern bekannt (Franke 2009, 62 mit Taf. 52, 1089 f.). Das mit dem Doppelhaken aus Stuttgart am besten vergleichbare Exemplar (Abb. 3) stammt aus dem mittelkaiserzeitlichen Auxiliarkastell von Boiodurum (Passau-Innstadt in Bayern, D). H. Schönberger gibt folgende Beschreibung: „Anhängsel aus Bronze, unten möglicherweise abgebrochen... Am ehesten möchte man an einen ankerähnlichen Haken von einer Waage denken, wie er an Stelle der einfacheren Omega-Schleife ... manchmal am Lastende des Balkens hängt...“ (Schönberger 1965, 60 f.). Da das Kastell Boiodurum nur bis Mitte des 3. Jahrhunderts belegt war, bestätigt dieser Fundplatz gleichzeitig die Datierung unseres Stückes noch in die mittlere Kaiserzeit.

Schon Zimmermann stellte fest, dass es sich bei diesen aufwendig hergestellten Doppelhaken oder Wirbeln um eine recht seltene Fundgruppe handelt. Hinzu kommt, dass nur die

Exemplare aus Dörveden, Passau und Cambridge und nun Stuttgart eine vergleichbare drehbare Konstruktion mittels einem bzw. im Falle von Dörveden zweier Zwischenringe aufweisen, die starr auf der Achse mitgegossen wurden und in welche die beiden bzw. drei Ringe des Doppelhakens greifen. Die Stücke aus Woodeaton und Mainz bestehen zwar ebenfalls aus vergleichbaren Doppelhaken, doch sind ihre Ober- und Unterteile jedoch lediglich auf einer zentralen Achse montiert und so gegeneinander drehbar.

Auch wenn alle genannten Funde eine vergleichbare Funktion gehabt haben dürften, gleicht doch keines der genannten Stücke dem anderen. Alle Doppelhaken sind in Ausformung und Dekor verschieden. Bei den Stücken aus Döberden und Stuttgart, andeutungsweise auch bei dem aus Passau wiederholt sich das Motiv der beiden antithetisch dargestellten Delphine. Zusammen mit der komplizierten Herstellung, deren Überfangguss sowohl eine dauerhafte Befestigung, als auch vollständige Beweglichkeit der beiden Einzelteile gewährleisten musste, dürfte dies für Einzelanfertigungen sprechen.

Der im Museum Cambridge aufbewahrte Doppelhaken dürfte nun die ursprüngliche Funktion dieser Stücke anzeigen: an beiden Hakenenden hängen hier Bronzeketten, an deren Ende ein bronzenes Fläschchen bzw. dessen Deckel befestigt sind. Dies bestätigt auch der Blick in die einschlägigen Kataloge des Kunsthandels, wo allerdings zur Aufhängung der *aryballoi/unguentaria* meist einfacher gestaltete Omega-Haken finden. Ebenso gut kann man sich aber auch sechseckige Büchsen (*pyxides*) vorstellen, die als Behälter für Seife in Pulverform (*sapo*) gebräuchlich waren. Gerade solche, oft reich verzierten Stücke wären ein würdiges „Anhängsel“ für unseren aufwendigen Haken. In jedem Fall ist Zimmermanns Aussage von 1977 Nichts hinzuzufügen: „Es ist die spielerische Ausgestaltung des die Trageketten von Salbfläschchen zusammenfassenden Ringes, der z.B. mit den Strigiles am Palästritenring hing. Es gehört also zu dem Gerätschaftssatz, wie er im Badehaus und auf dem Turn- und Ringplatz benötigt wurde“ (Zimmermann 1977, 464). Gleichzeitig stellt er klar, dass „Aufhänger dieser Art ... natürlich auch für andere an Ketten hängende Luxusgegenstände verwendet worden sein (können). So sind Lampen teilweise drehbar aufgehängt worden“ (ebd.). Auszuschließen scheint dagegen eine Verwendung an Waagen, woran Schönberger noch für den Fund aus Passau dachte (Schönberger 1956, 60 f.). Nach freundlicher Auskunft von J. Büttner, MPIWG Berlin, weisen Schnellwaagen aus römischer Zeit keine vergleichbaren Hakenkonstruktionen auf.

Zwei sich ergänzende Umstände zeigen nun, dass der Stuttgarter Doppelhaken ein Nachleben außerhalb des Bades bzw. des gehobenen Hausstandes besitzt. Zum einen der massive rechteckige Bronzebeschlag, der in einem der Hakenenden befestigt war und zum anderen die Beschädigung des ursprünglichen Ringes am Abschluss der Zentralachse. Dessen vollständiges Durchscheuern ist nur durch intensiven Gebrauch bzw. starker Belastung zu erklären, eine Beanspruchung, die man sich bei der Nutzung als Tragekette von Salbfläschchen o.ä. so nicht vorstellen kann.

DER ÖSENBESCHLAG

Der Doppelhaken fand sich kombiniert mit dem oben beschriebenen langrechteckigen Beschlag aus Bronze. Exakte Parallelen zu dem nach Aussage der beiden Stifte mit Gegenknöpfen auf der Unterseite wohl auf einen 2–3 mm dicken Ledergurt befestigten Stück fanden sich in Südwestdeutschland bislang nicht. Unter dem von J. Oldenstein als „Sogenannte Waffenschildchen“, korrekter wohl als Gürtelbeschläge, zusammengestellten Funden der obergermanischen und raetischen Limeskastelle finden sich nur vage vergleichbare Elemente, die Rechteckform mit zwei rückseitig angebrachten Stiften vereinen (Oldenstein 1976, 190 ff. Kat. Nr. 475 f.). Zur möglichen Funktion der Rechtecköse des Stuttgarter Fundes als Teil einer Hakenverbindung sei auf Oldensteins Rekonstruktion eines durchbrochen gearbeiteten Gürtelverschlusses verwiesen (Oldenstein 1976, 196 mit Abb. 5).

Ein Vergleich seiner Verzierungselemente lässt eine Datierung im spätrömischen Kontext zu. Bereits die rechteckige Beschlagplatte erinnert in ihrer Massivität an die gegossenen Beschläge spätrömischer Militärgürtel (s.u.). Die stark ausgeprägte Kreisaugenzier findet sich in dieser Form ebenfalls häufig auf spätrömischen Trachtbestandteilen aus Metall sowie auch noch im Fundgut völkerwanderungszeitlicher Höhensiedlungen Südwestdeutschlands, wie beispielsweise auf dem Runden Berg bei Urach und dem Geisskopf bei Berghaupten (Hoepfer 2003, C9 und 57; Koch 1984). In der Kombination mit Kreisaugenzier und Scharnierachse finden sich derartige Beschläge beispielsweise bei den Schnallen der sog. Propellergürtel der zweiten Hälfte des 4. Jahrhunderts, wie das Beispiel der von M. Martin (Martin 1968; Sommer 1984, Taf. 34) vorgelegten Gürtelgarnituren aus Augst zeigt (Abb. 4). Die Beschlagplatte beider Schnallen aus Augst endet in einem Perlstab, dessen gezackter Abschluss „durch eingefeilte Kerben

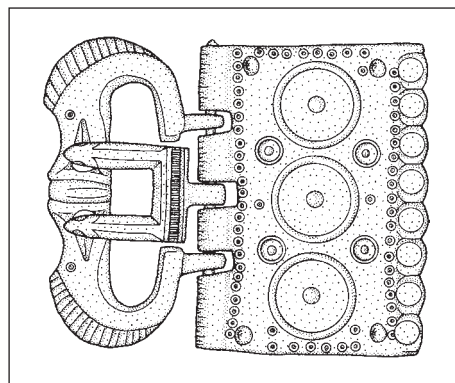


Abb. 4. Augst, CH, Gürtelverwahrfund. Schnalle mit Kreisaugenzier und Bügel mit beifenden Tierköpfen (nach Sommer 1984, Taf. 34).

zustande gekommen“ ist (Martin 1968, 4). Im Ansatz wird dies durch den Kerbschnitt unseres Stückes imitiert. Aufbauend auf die Typologie von Martin hat H.W. Böhme das Verschlusselement dieser Gürtelgarnituren sogar als „einfache Delphinschalen“ zusammengefasst, da hier neben Löwenköpfen auch gegenständliche Delphinpaare erscheinen (Böhme 1974, 82 f. 86 Abb. 31; ders. 2020, 22 ff). Bewusst ausgewählt oder zufällig findet sich hier eine Verbindung zu dem Zierelement des Doppelhakens?!

Das Fehlen typologisch vergleichbarer massiver Bronzebeschläge mit Knöpfen und angegossener Rechtecköse von anderen Fundplätze überrascht hingegen nicht. Die überwiegende Masse unseres Fundmaterials dieser Epoche stammt aus Grabfunden, weshalb Schmuck- und Trachtbestandteile dementsprechend überrepräsentiert sind. Der Bronzebeschlag aus Stuttgart dürfe hingegen eine andere Funktion gehabt haben bzw. zu einem Gegenstand gehört haben, der nicht aus Grabkontexten überliefert ist.

ÜBERLEGUNGEN ZUR FUNKTION

Aufgrund der Filigranität des Doppelhakens gegenüber der Massivität des Ösenbeschlags mutet ihre Kombination bei ästhetischer Betrachtung unpassend an, zumal Kraft angewendet worden sein muss, um die Rechtecköse in die schmale Öffnung zwischen Vogel- und Delphinkopf zu zwängen. Kratzer oder Unterschiede in der Bonzepatina fehlen jedoch. Das Schmuckteil ist zudem lange mit dem Beschlag verbunden in Gebrauch gewesen, wie der bogenförmige Abrieb des nach Außen gewandten Stegs der Rechtecklasche zeigt. Der Vogelhals hingegen zeigt fast keinen Abrieb, was in der größeren Härte der Bronze begründet sein könnte, aus der der Doppelhaken besteht.

Riemenverteiler, wie sie von römischem Pferdegeschirr bekannt sind, besitzen offenbar regelhaft runde Ösen (Ortisi 2014, 58 ff.). Massive gegossene rechteckige Riemendurchlässe finden sich hingegen als Riemenschlaufen bei Trensen. Zumindest funktional wäre es wohl auch möglich, den Doppelhaken als Zügelring zu nutzen. Mangels der Möglichkeit einen Knebel o.ä. zu befestigen, hätten wir dann eine Verwendung nach Art einer einfachen Ringtrense vor uns, wie sie im Frühmittelalter belegt ist (Oexle 1992, 17ff.). Vergleichbar wäre auch die Kombination mit einem (Metall-)Zaum oder auch einem Maulkorb der römischen Kaiserzeit (Simon 2014, 37 ff. u. 55 ff). Bei dem vorgelegten Fund hätte sich so noch einer der beiden Beschläge erhalten, an denen Kehlriemen oder die Zügel befestigt waren. Durch die heute durchgescheuerte ehemalige Rundöse des Doppelhakens müsste dann das Mundstück des Gebisses geführt worden sein. Wenn die Gebissstange aus Eisen gefertigt war, wie dies in der Antike und Frühmittelalter offenbar die Regel war, könnte dies erklären, warum sich der weichere Bronzering des Doppelhakens so rasch durchrieb und das Stück unbrauchbar machte. Diese Spekulation über eine mögliche Funktion sei hier erlaubt, da der Fund ein Einzelstück darstellt, das offenbar aus einer pragmatischen „ad hoc“-Verwendung stammt

Der hier vorgestellte Kleinfund fand sich als Streufund im Areal eines germanisch geprägten Weilers. Da das Fundmaterial hier mit dem aus der mittellkaiserzeitlichen Gutsanlage vermischt ist, könnte der Doppelhaken ursprünglich durchaus aus dem Badegebäude des mittellkaiserzeitlichen Gutshofes stammen und von einem germanischen Siedler des 4. Jahrhunderts aufgesammelt und wiederverwendet worden sein. Einschränkung ist jedoch festzustellen, dass auch das übrige Fundgut des Weilers anzeigt, dass dessen Bewohner im 4. Jahrhunderts intensiven Kontakt zum spätrömischen Reich jenseits des Rheins hatten. Daher ist eine sichere Zuweisung der römischen Kleinbronze zu dem Inventar dieses Gutshofes nicht möglich. In jedem Fall belegt das Arrangement sehr schön und ganz konkret die römisch-germanische Mischkultur auf dem Gebiet der ehemaligen römischen Provinz in der Spätantike.

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Rímsko-germánske kombinované zariadenie z obdobia neskorej antiky

Andreas Thiel

Súhrn

Z nálezov germánskej osady zo 4. storočia v Stuttgarte (Nemecko) pochádza pôvodne rímsky predmet, ktorý bol sekundárne skombinovaný s germánskym tepaným kovaním. Išlo o bohato zdobený bronzový predmet na zavesenie, pravdepodobne určený pre kúpeľné potreby. Okolo stredovej osi, ktorá končila očkom, bol pripevnený otočný dvojité háčik zdobený vtáčimi a delfínmi hlavami. Niekoľko podobných exemplárov je datovaných do stredného cisárskeho obdobia, na základe čoho sme datovali aj tento predmet. Nález mohol pochádzať z rímskeho sídliska v údolnej kotline Stuttgartu, ktoré predchádzalo germánskemu osídleniu. Tento dvojité háčik bol následne skombinovaný s jednoduchým pevným kovaním na upevnenie ku koženému opasku. Výrazné stopy opotrebenia naznačujú, že toto usporiadanie sa intenzívne používalo. Zároveň môžeme predpokladať, že predmet slúžil ako zubadlo alebo niečo podobné. Zdá sa však, že otázka skutočného účelu tohto unikátneho predmetu zostáva otvorená.

Obr. 1. Stuttgart, Nemecko, hlavná železničná stanica 2014. Bronzový dvojité háčik so závesným kovaním s očkom (foto YAM, LAD Ba-Wü).

Obr. 2. Stuttgart, Nemecko, hlavná stanica 2014. 1 – dvojité háčik s otočnou stredovou osou zo stredného cisárskeho obdobia; 2 – neskoroantické kovanie s obdĺžnikovým očkom (kresba H. Kaulfersch, LAD Ba-Wü).

Obr. 3. Pasov, Nemecko. Dvojité háčik z rímskeho kastela Boiodurum (podľa Schönberger 1965, 60).

Obr. 4. Augst, Švajčiarsko, depot súčastí opaska. Pracka s dekoráciou v tvare koncentrických kruhov (očí) a prackou v tvare dvoch hryzúcich zvieracích hláv (podľa Sommer 1984, tab. 34).

Dr. Phil. and M.A. Andreas Thiel

Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart

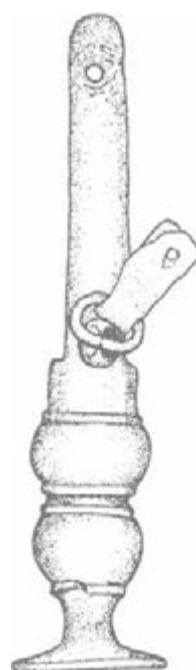
Berliner Straße 12

D – 737 28 Esslingen am Neckar

andreas.thiel@rps.bwl.de

<https://orcid.org/0000-0003-1582-9260>

Varia



RAETIEN UND DER MITTLERE DONAURAUM – GERMANISCHE ANTEILE AN DER FRÜHEN PROVINZBEVÖLKERUNG RAETIENS¹

Thomas Fischer

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Keywords: Noricum, Raetia, Elbe Germanic tribes, Germanic migrants, mixed population of the province Raetia

Abstract: **Raetia and the Central Part of the Danube Region – Germanic Elements Among the Early Inhabitants of the Province of Raetia.** In contrast to the neighbouring province of Noricum to the east, where the Roman-period provincial population consisted mainly of the descendants of indigenous Celts and immigrant Romans, the situation in Raetia is much more complicated. Raetia is apparently less densely populated than Noricum. This can also be seen from the considerably lower level of urbanisation. The descendants of the Rhaetian-Vindelician population from pre-Roman times apparently played only a minor role in the formation of the Roman provincial population of Raetia. In archaeological terms, they can be categorised in the ‘Heimstetten group’ in the early Imperial period. The old Late La Tène oppida civilisation of the La Tène D1 level had long since been replaced by the Germanic ‘Southeast Bavarian Group’ in the Danube region and eastern Bavaria by the time of the Roman occupation in 15 BC. But even this no longer existed in 15 BC. The Rhaetian provincial population consisted to a large extent of immigrant Italics (military personnel, civil servants, traders) and people from Gaul, who mainly came to the country as members or ‘camp followers’ of auxiliary troops. However, new finds in particular have now also revealed a group of Elbe Germanic people of eastern Bohemian-Slovakian origin who settled in western Raetia around Augsburg in the early Imperial period from the Tiberian period onwards, but archaeologically soon merged with the general provincial population. This Elbe-Germanic immigration continued in the 2nd and 3rd centuries AD. It is possible that some of these immigrants were the Hermunduri mentioned by Tacitus.

EINFÜHRUNG

Seit Beginn der Römerforschung in Bayern war man sich klar, dass die Bevölkerung des römischen Bayern eine Mischung aus Einheimischen und Zuwanderern darstellte.² Trotz unverkennbarer Fortschritte, die die Forschung seither erzielt hat, ist die genauere Herkunft und Zusammensetzung dieser heterogenen Bevölkerung in Details immer noch weitgehend unklar. Die Beantwortung dieser Fragen und die Bestimmung der Anteile der einzelnen Gruppen an der Provinzbevölkerung, die schließlich zur Bildung von einheitlichen und unterscheidbaren norischen und raetischen Provinzkulturen auf heute bayerischem Boden führten (Dietz/Fischer/Fischer 2025, 99–107; Fischer 2002, 53–61; von Schnurbein 1982), stellt nach wie vor eine wichtige Herausforderung für die Forschung dar. Dabei zeichnen sich für die Genese und Zusammensetzung der Provinzbevölkerungen in den beiden Provinzen Noricum und Raetien, auf deren Gebieten das römische Bayern (Abb. 1) größtenteils liegt, gänzlich verschiedene Modelle ab (Faber et al. 2022; Mackensen 1978; Ortisi 2016; RiB 1995, 90–94; von Schnurbein 1982).

NORICUM

Für Noricum, also das Gebiet östlich des Inn, kann man davon ausgehen, dass hier zum Zeitpunkt der römischen Okkupation 15 v. Chr. überwiegend einheimische Kelten siedelten, die, wie in Gallien, der kulturellen

¹ Dieser Aufsatz geht aus dem Vortrag „Raetien und der mittlere Donauraum – Germanische Anteile an der Provinzbevölkerung Raetiens“ hervor, der am 16. 11. 2023 beim 33. Int. Symposium „Grundprobleme der frühgeschichtlichen Entwicklung im Mittel-donauraum“ unter dem Motto „Römische Provinzen und frühgeschichtliche Grenzkulturen“ gehalten wurde. Für Hinweise und Hilfe danke ich K. Dietz, S. Ortisi und B. Steidl. Gewidmet sind diese Zeilen Jan Rajtár in langjähriger kollegialer Freundschaft.

² So geht die ältere Literatur, etwa Wagner 1928, für Raetien immer wieder von dem etwas schlichten Bild einer Bevölkerung aus, die aus alteingesessenen Kelten und römischen Zuwanderern gebildet wurde. Dabei überschätzt man den kulturellen Einfluss einer einheimisch-keltischen Bevölkerung erheblich.

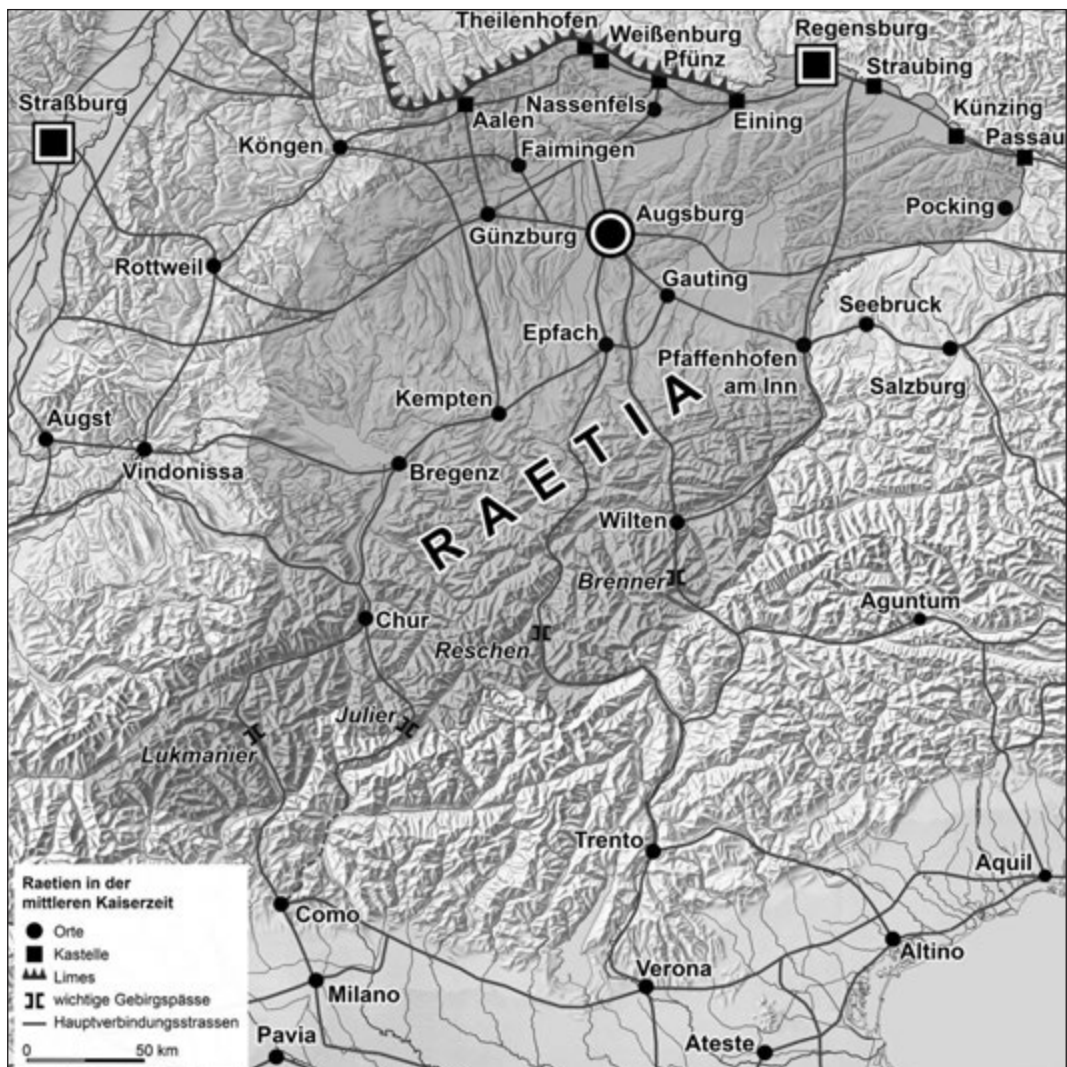


Abb. 1. Das römische Bayern in der Zeit um 200 n. Chr. (Entwurf Th. Fischer, Zeichnung R. Röhl).

Überprägung durch die römische Kultur („Romanisierung“) aufgeschlossener gegenüberstanden. Die Provinz war aus dem Königreich Noricum hervorgegangen und 15 v. Chr. anscheinend ohne größere Probleme von Rom okkupiert worden (Steidl 2024). Die Einheimischen bildeten dann die Basis für die römische Provinzbevölkerung, ergänzt durch Zuwanderer aus Italien und anderen Gegenden des römischen Reiches. Auf der Basis älterer keltischer Verwaltungs- bzw. Stammeseinheiten konnte Rom nach und nach den größten Teil der Provinz in 9 Städtische Territorien (*municipia*) gliedern, was – gerade im Vergleich zu Raetien eine durchaus stattliche Bevölkerungszahl voraussetzt (Fischer 2002, 66–94).³

RAETIEN

Ganz anders sieht es in Raetien aus, wo ganz offensichtlich bei der Zusammensetzung der römischen Provinzbevölkerung wesentlich kompliziertere Verhältnisse als in Noricum zu beobachten sind. Hier haben sich beim Übergang Spätlatènezeit – Römerzeit bzw. der römischen Okkupation im Alpen- und Voralpenraum, im östlichen Raetien und im bayerischen Donauraum regional ganz unterschiedliche Vorgänge abgespielt, die noch nicht überall in ausreichendem Maße zu überblicken sind.

³ Raetien dagegen war kaum urbanisiert, das einzige *municipium Augusta Vindelicum* (oder *Augusta Vindelicorum* bzw. *Aelia Augusta*) Augsburg wurde erst unter Hadrian (117–138 n. Chr.) zur Stadt erhoben (Gairhos et al. 2022).

Auf jeden Fall aber spielt hier in der frühesten Kaiserzeit das einheimisch-vorrömische Element in der provinzialrömischen Bevölkerung auch zahlenmäßig anscheinend eine wesentlich geringere Rolle, als in Noricum.

Archäologisch ist jedenfalls eine Bevölkerungskontinuität nur im Alpenraum und im unmittelbaren Voralpenland, vor allem im westlichen Teil der Provinz zu beobachten. Trotz intensiver Betreuung durch die bayerische Landesarchäologie präsentieren sich dagegen in der frühesten Kaiserzeit weite Teile der Provinz im Donauraum und im östlichen Raetien weitgehend siedlungsarm bzw. siedlungsleer. Allenfalls im Donauraum zwischen Donaumoos und Strom um Ingolstadt sind einige elbgermanische Grab- und Siedlungsfunde zu beobachten, deren Einordnung in ein historisches Gesamtbild momentan noch kaum möglich ist (Hüssen 2001).

Offensichtlich war Rom in der nach der Okkupation 15 v. Chr. relativ dünn besiedelten Provinz stets auf Zuwanderung angewiesen, um durch eine Mindestzahl an Einwohnern eine lebensfähige Wirtschafts- und Verkehrsstruktur und damit auch die angestrebten Steuerzahlungen zu erreichen. Während Noricum Roms Fiskus durch reiche Bodenschätze und eine florierende Wirtschaft (z.B. *ferrum Noricum*) erfreute, war Raetien hier an Bodenschätzen und produzierendem Gewerbe weniger gesegnet. Es blieb eine reine Grenz- und Militärprovinz im Vorfeld und zum Schutz Italiens. Durch seine hohen Aufwendungen für das Militär stellte es wohl eher für Rom einen „Zuschussbetrieb“ dar. Über seine O-W- Verbindungen im Rhein-Bodensee-Donauraum war es aber auch für Rom eine verkehrstechnisch überregional wichtige Region.

ZUR ZUSAMMENSETZUNG DER RAETISCHEN PROVINZBEVÖLKERUNG IN DER FRÜHEN KAISERZEIT

Keltisch-römische Kontinuität in Raetien?

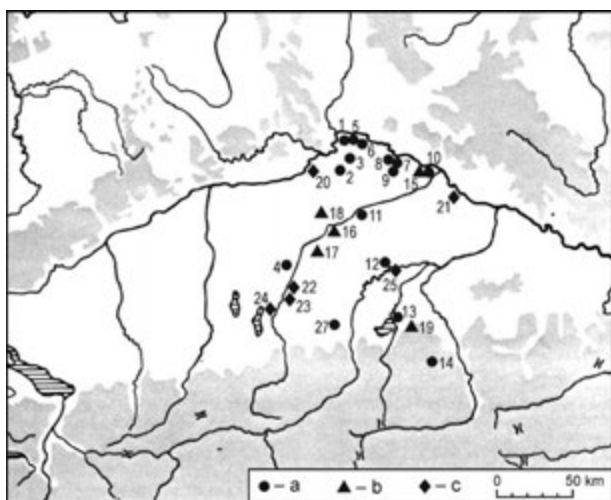


Abb. 2. Karte der Südostbayerische Gruppe (nach Rieckhoff 1995).
Legende: a – Siedlung; b – Grab; c – Einzelfund.

Der Übergang von der keltisch geprägten Latènekultur zur römischen Herrschaft in Raetien ist noch keineswegs ganz überschaubar, hier herrscht in der Forschung immer noch eine lebhafte Diskussion. Im Donauraum und im östlichen Teil der Provinz sind kaum archäologische Indizien für das Fortleben einer vorrömisch-einheimischen Bevölkerung zu fassen, nachdem die klassische Oppidakultur der Stufe La Tène D1 um 80 v. Chr. endete (Schußmann 2019, 41–45; 385–388).

Es folgt im Osten Bayerns eine eher dünne Besiedlung der aus keltischen und mitteldeutsch-germanischen Elementen zusammengesetzte „südostbayerische Gruppe“ (Abb. 2; „Protogermanen“ nach Steidl 2022b). Wichtige spätkeltische Kulturelemente, wie größere Zentralorte oder die Graphittonkeramik hörten auf zu bestehen. Diese „südostbayerische Gruppe“ ist aber bereits vor der römischen Okkupation 15 v. Chr. wieder

verschwunden. Wohin, ist unklar, es gibt z.B. Vermutungen, in dieser „südostbayerischen Gruppe“ Teile der Sueben zu sehen, die um die Mitte des 1. Jahrhunderts v. Chr. nach Gallien abzogen und von J. Caesar erwähnt werden (Rieckhoff 1995, 185–188). Im ehemaligen Siedlungsgebiet dieser Gruppe fehlen bis zur frühen römischen Kaiserzeit intensivere archäologische Spuren, sieht man von vereinzelt germanischen Grab- und Siedlungsfunden im mittleren Donauraum Bayerns um Ingolstadt ab (Hüssen 2001).

„Einheimische“ – die Gruppe Heimstetten

Im Gebiet zwischen Iller und Isar existierte in der 1. Hälfte des 1. Jahrhunderts n. Chr. eine archäologisch nachweisbare Bevölkerung, die sich vor allem durch besondere Bestattungs- und Trachtsitte deutlich von den übrigen Bewohnern des Alpenvorlandes abhebt. Sie zeigt sich vor allem in Nekropolen aus kleinen Gruppen

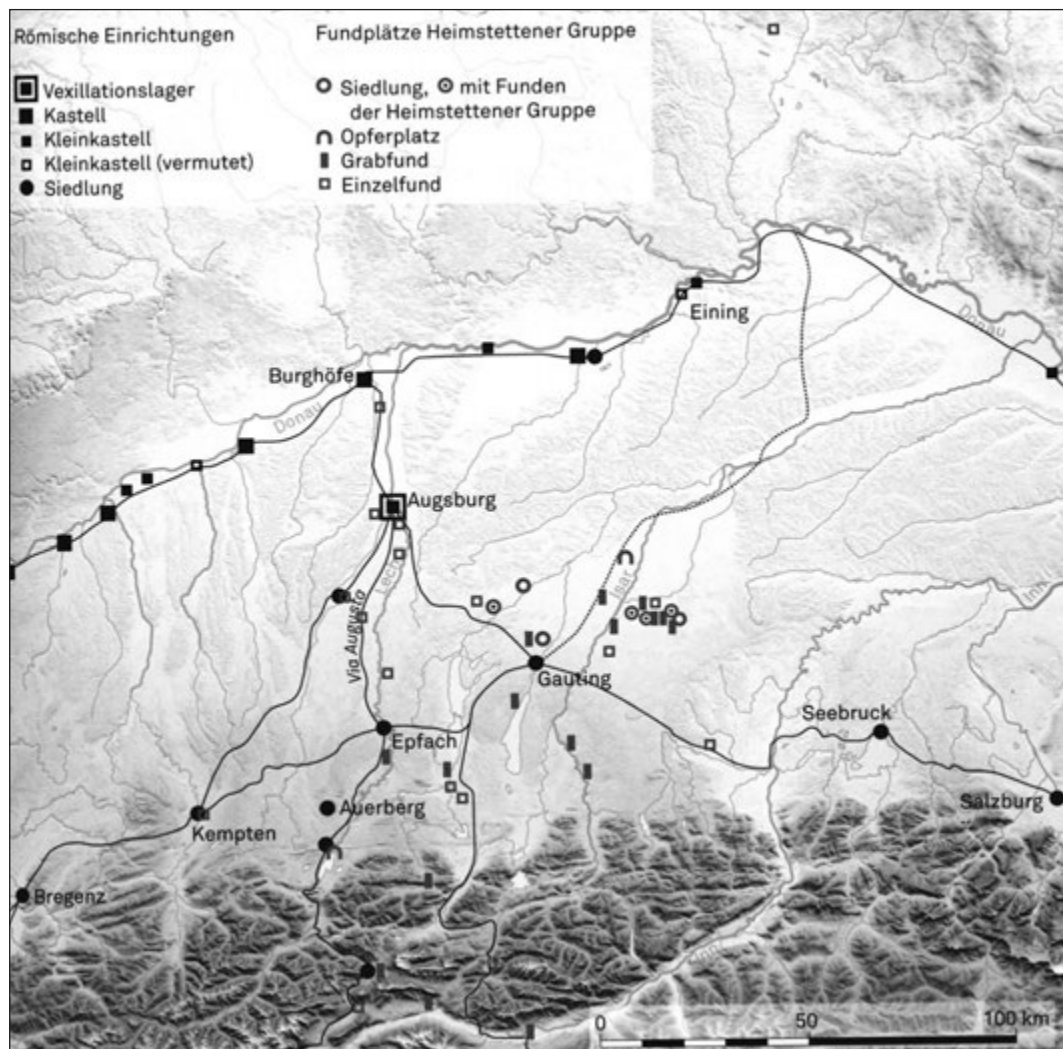


Abb. 3. Karte Gruppe Heimstetten (nach Steidl 2015).



Abb. 4. Raetien in der frühen Kaiserzeit (nach Gschwind 2015).

von Körperbestattungen, die damit auffällig von dem zu dieser Zeit üblichen Brauch der Brandbestattung abweichen. Die Beigaben setzen z.T. vorrömisch-alpine Merkmalstraditionen fort, deren Herkunft bisher vor allem in Alpenraum gesucht worden sind, aber auch germanische und provinzialrömische Sachaltertümer, wie Fibeln kommen vor. An diese Körpergräber lassen sich auch einige Brandbestattungen mit ähnlichen Trachtbestandteilen, Siedlungs-, Einzel- und Moorfunde sowie Fundgut aus Brandopferplätzen anschließen. Nach einer gut beobachteten Nekropole bei München spricht die Forschung jetzt von der „Gruppe Heimstetten“, nachdem die ältere Forschung durch Wolfgang Krämer die von Paul Reinecke als Stufe La Tène D bezeichnete Spätphase der Latènekultur dreigeteilt und die jüngste Phase in Südbayern, eben die „Gruppe Heimstetten“, als Stufe La Tène D3 bezeichnet hatte (Keller 1984; Rieckhoff 1995, 16, Steidl 1919).

Die Verbreitung dieser Gruppe (Abb. 3) deckt sich in claudischer Zeit auffällig mit der Ausdehnung der frühen römischen Militärstationen und Zivilsiedlungen im Westen Raetiens. Ihre offenen Siedlungen aus reinen Holz-Lehm-Bauten (Steidl 1919) wurden offenbar erst angelegt, als das römische Straßennetz schon weitgehend ausgebaut war. Dies weist darauf hin, dass die Träger der Gruppe Heimstetten ähnlich den späteren *villae rusticae* landwirtschaftliche Anwesen mit Überschussproduktion betrieben und auf den Straßen die nächstgelegenen Abnehmer in Militärstationen und größeren Zivilsiedlungen erreichen konnten.

Gegenwärtig sieht Bernd Steidl wieder in der „Heimstettener Gruppe“ die Nachfahren der alten vorrömischen rätisch-vindelikischen Bevölkerung. Diese habe dann nach ihrer Eingliederung in die Provinz Raetien aus ökonomischen Gründen, weniger aufgrund von römischem Zwang, ihr Siedlungsverhalten an das neue römische Straßensystem angepasst (Steidl 2019; 2022b).

Zuwanderer aus Italien und Gallien

Was wir ab der Mitte des 1. Jahrhunderts sonst an raetischer Bevölkerung kennen, besteht in größeren Teilen aus Zuwanderern, die epigraphisch und archäologisch zu fassen sind. Mengenmäßig kaum zu überschätzen sind die Italiker, die seit der Okkupation 15 v. Chr. vor allem als Militärs und Kaufleute ins Land kamen (Mackensen 1978, 179 f.). Diese prägten vor allem die neue materielle römische Provinzkultur. Einen ganz wichtigen Anteil an Einwanderern in die Provinz stellt aber – vor allem im Limesgebiet und an der Donaugrenze – ein beträchtliches Kontingent aus zugewanderten romanisierten Kelten, vor allem aus den westlich benachbarten Gebieten Galliens. Dieses wurde vor allem von den Veteranen gallischer Hilfstruppen nebst Anhang gebildet, die ebenfalls, etwa bei der Keramik oder bei Fibeln, Raetiens materielle Provinzkultur wesentlich beeinflusst haben. Nach neueren Erkenntnissen gehen auf diese keltisch-gallischen Zuwanderer offensichtlich viele der „keltischen“ Erscheinungen in der Sachkultur Raetiens, etwa in der streifenbemalten Keramik, zurück (Faber et al. 2022), die sicherlich nicht – wie früher angenommen – im Lande kontinuierlich seit der Stufe La Tène D1 überliefert worden sind.

DER GERMANISCHE ANTEIL AN DER RÖMISCHEN PROVINZBEVÖLKERUNG RAETIENS IN DER FRÜHEN UND MITTLEREN KAISERZEIT

Verstärkt durch überraschende Neufunde tauchten in den letzten Jahren immer mehr Befunde und Funde auf, die belegen, dass im Westen der römischen Provinz Raetien – mit unterschiedlicher lokaler Verteilung – in der frühen Kaiserzeit (Abb. 4), mindestens seit der tiberisch-claudischen Zeit, auch Menschen elbgermanischer Abstammung Anteil an der frühen römischen Provinzbevölkerung hatten. Hier sind vor allem die Forschungen von B. Steidl zu nennen (Dietz/Fischer/Fischer 2025, 101–105; Steidl 2019; 2022b). Offensichtlich fassen wir mit all diesen sich langsam verdichtenden elbgermanischen Funden Zuwanderer aus dem ehemaligen Marbod-Reich Böhmens und Mährens und seiner Nachfolgestaaten. Zusammen mit schon länger bekannten isolierten germanischen Funden sind diese aber noch nicht in ausreichendem Maße einer angemessenen zusammenfassenden Interpretation gewürdigt worden sind, das soll mit den folgenden Zeilen versucht werden.

14 n. Chr. „imminentes Suebi“

Beginnen in dieser Frage mit einer schriftlich überlieferten Episode: Für das Jahr 14 n. Chr. erwähnt Tacitus (Tac., Ann. 44, 4) in Zusammenhang mit Raetien die Sueben (Castritius/Rübekeil/Scharf 2005; Hartung 2024,

52–67; Krüger *et al.* 1976, 45–49).⁴ In diesem Jahr war Augustus gestorben und am Rhein kam es zu gefährlichen Meutereien der römischen Germanienarmee. Einer der Hauptkritikpunkte der Meuterer war die Tatsache, dass man sie über die üblichen 20 Jahre aktiven Dienstes hinaus bei den Fahnen gehalten hatte und ihnen so ihren verdienten Abschied verweigert hatte.

Germanicus als Oberbefehlshaber konnte die gefährlichen Meuterer ruhigstellen: Er zahlte Geld und ersetzte eine größere Anzahl dieser „Überständigen“ als *veterani sub vexillo* in den üblichen „Vorruhestand“ von fünf Jahren. Denn gerade diese Veteranen galten offenbar am Rhein als besonders gefährlicher Unruheherd. Doch Germanicus fand einen Ausweg, um sie ruhig zu stellen: Er versetzte sie umgehend aus dem Rheinland an das am Weitesten entfernte Ende seines Kommandobereichs – nach Raetien. Laut Tacitus hatte Germanicus ihren Marschbefehl damit begründet, sie sollten Raetien gegen die drohenden Sueben verteidigen (*specie defendendae provinciae ob imminetis Suebos*). Tacitus deutet zwischen den Zeilen diese Aktion eher als Vorwand, denn als Reflex auf eine wirklich ernsthafte Bedrohung. Aber so konnte man diese für die Disziplin der wichtigen Rheinararmee als gefährlich eingestuften Veteranen der meuternden Rheinlegionen loswerden. Dabei erhebt sich eine ganze Reihe von Fragen: Wohin genau wurden die rheinischen Veteranen in Raetien beordert? Und wer waren diese angeblich so gefährlichen Sueben?

Der keineswegs in seinem Ursprung geklärte Suebennamen wurde immer etwas schillernd gebraucht (Castritius/Rübekeil/Scharf 2005; Hartung 2024, 52–67; Krüger *et al.* 1976, 45–49). Höchstwahrscheinlich tauchen die Sueben in ihrem Siedlungsgebiet in Mähren und der Slowakei unter dem Namen Quaden auf. Aber auch die Markomannen könnten gelegentlich als Sueben in der Überlieferung vorkommen. Wie auch immer – bei den Sueben des Jahres 14 n. Chr. muss es sich um elbgermanische Gruppen gehandelt haben, die aus uns unbekannten Gründen das Marbod-Reich, das ja ohnehin politisch nie ganz stabil war, oder dessen Umfeld verlassen haben. Sie sind dann nach Raetien vorgedrungen, dessen politisch-militärische Struktur in tiberischer Zeit ja auch noch keinesfalls gefestigt war. Diese von den Römern als Sueben wahrgenommenen Gruppen haben sich dann offenbar, nachdem sie zunächst als Gefahr registriert worden sind, mit Rom geeinigt und sind – wie die archäologischen Indizien nahelegen – wohl in der Provinz geblieben.

Rheinische Veteranen und Sueben am Auerberg?

Für diese Vorgänge gibt es in zunehmendem Maße archäologische Indizien: Beide Gruppen – Sueben und rheinische Veteranen – zusammen könnte man mit den Befunden und mit dem Fundspektrum auf dem im 2. Jahrzehnt n. Chr. ausgebauten Auerberg⁵ in Verbindung bringen.

Der Auerberg, Gde. Bernbeuren, Lkr. Weilheim-Schongau im Allgäuer Voralpenland ist ein markantes 1055 m hohes Bergsystem, das eine mit einem Wallsystem befestigte römische Höhengsiedlung (Abb. 5) in etwas abseitiger und klimatisch ungünstiger Lage trägt. Trotz dieser für eine Siedlung wenig einladenden Lage wurde hier nach Aussage der Kleinfunde im 2. Jahrzehnt n. Chr. eine für die Gegend und die Zeit beachtlich große Ansiedlung offenbar von Siedlern aus Italien gegründet, ein frühes Dendrodatum weist auf das Frühjahr 14 n. Chr. hin. Bereits um 40 n. Chr. wurde die Ansiedlung aber wieder planmäßig von ihren Bewohnern geräumt, ohne dass es zu einer gewaltsamen Zerstörung o. ä. gekommen war. Wohin die Bewohner zogen (Kempten oder Augsburg?) ist noch in der Diskussion. Betrachtet man die Lage und das unfreundliche Klima verwundert einen dieser Vorgang eher nicht.

Die offensichtlich anfangs noch offene Siedlung wurde bald nach ihrer Gründung in einer 2. Bauphase mit einer Rasensodenmauer umgeben. Rasensodenmauern sind an Rhein und Donau, aber auch in Britannien ganz überwiegend militärische Bauwerke (Johnson 1987, 70–81; Ulbert 1994, 104–109), zivile Ansiedlungen mit dieser Art von Befestigung sind mir jedenfalls nicht bekannt. Im Inneren der Siedlung dominieren Streifenhäuser in Lehmfachwerktechnik, militärische Bauten sind bisher nicht bekannt (Allerdings ist durch die Grabungen nur ein geringer Teil der besiedelten Fläche erkundet!). Nachgewiesen sind Töpfereien und Werkstätten für die Verarbeitung von Eisen, Buntmetall und Glas (Ulbert/Zanier 1997). Zahlreiche Militaria

⁴ Bei der Erwähnung der Sueben durch Tacitus für das Jahr 14 n. Chr. handelt es sich übrigens um die letzte Erwähnung dieses Stammes in der früh- und mittelkaiserzeitlichen Überlieferung, soweit es sich Sueben aus dem Barbaricum handelt. Eine Ausnahme bilden die epigraphischen Zeugnisse für die Suebi Nicrenses („Neckarsueben“) aus ihrer obergermanischen *civitas* um Ladenburg im 1. bis 3. Jahrhundert. Erst in der Spätantike tauchen die Sueben im mittleren Donaauraum wieder in der Überlieferung auf.

⁵ Zum Auerberg: Flügel 1999; Ulbert 1994; 1995, 417–419; Ulbert 2015; Ulbert/Zanier 1997.

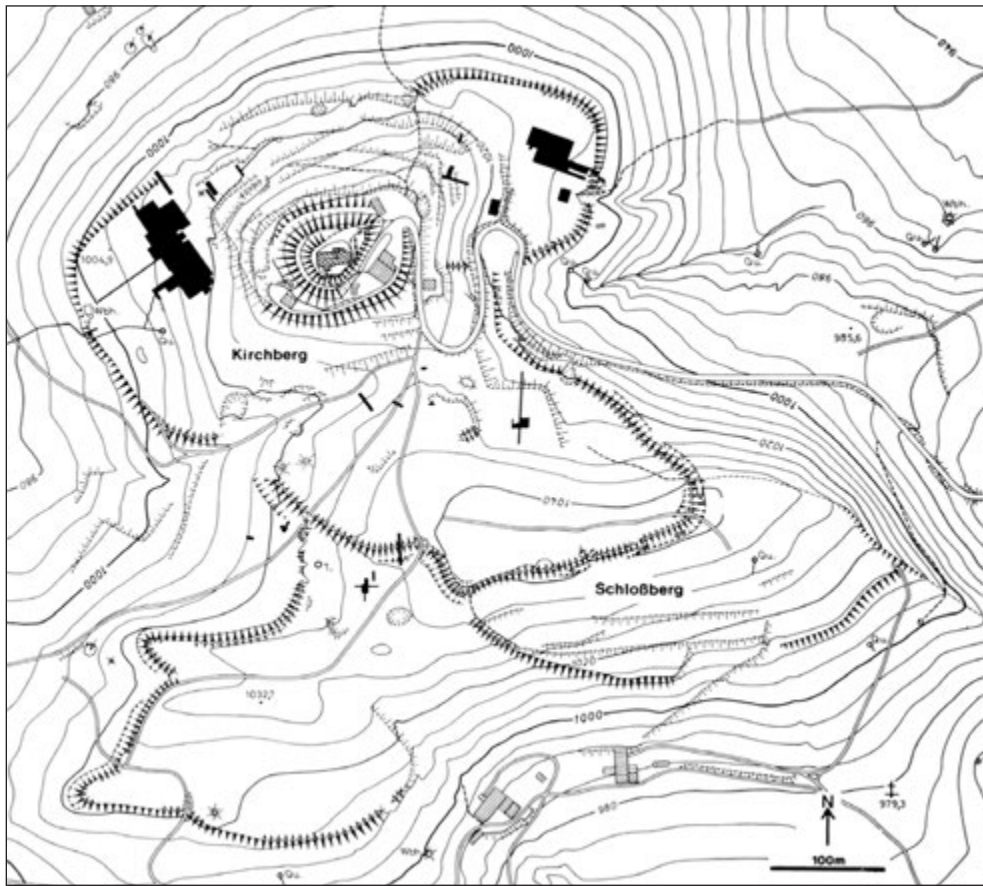


Abb. 5. Auerberg, Plan mit den Grabungsflächen 1968–1979 (schwarz; nach Ulbert 1995).

sprechen für die Anwesenheit von Legionssoldaten (oder Veteranen?)⁶. Möglicherweise kann man hierin die archäologischen Zeugnisse der von Tacitus für das Jahr 14 n. Chr. erwähnten rheinischen Veteranen sehen, die zunächst einmal mit dem Bau der Rasensodenmauer um die Siedlung beschäftigt und damit „ruhig gestellt“ wurden (so etwa auch Sommer 2015).

Am Auerberg sind neben rein römisch-italischen bzw. gallischen Sachaltertümern durch Keramik und Fibeln auch elbgermanisch – suebische Bevölkerungsteile nachgewiesen, so etwa 2 von 22 Fibeln: eine geschweifte Fibel, eine Augenfibel (Ulbert 2015, 13–33). Bei der Keramik elbgermanisch-böhmischer Machart und Formgebung (Abb. 6) gibt es zwei deutlich unterscheidbare Gruppen: Die dekorierte Feinkeramik ist durch die Formgebung und die mineralogische Zusammensetzung des verwendeten Tons gesichert böhmischer Herkunft. Einfache handgemachte Töpfe mit einziehendem Rand (sog. „suebische Töpfe“) in offensichtlich germanischer Formgebung und Verzierung sind nachweislich lokaler Produktion (Flügel 1999, 107–115).

Wie diese so nachgewiesenen Elbgermanen böhmischer Herkunft auf den Auerberg gelangten, ist noch nicht geklärt, es muss sich nicht unbedingt um freiwillige Zugewanderte gehandelt haben. So könnte man z.B. als mögliche Interpretation des Siedlungsgeschehens auf dem Auerberg auch annehmen, dass nach einer rein zivilen römisch-italischen Siedlungsphase rheinische Veteranen auf dem Berg stationiert wurden: Dort könnte eine Zeitlang auch zu ihren Aufgaben gehört haben, eine suebische Bevölkerungsgruppe (etwa einen einflussreichen (?) suebischen Häuptling samt Gefolge), die als Teil der *Suebi imminentes* zwangsweise auf dem Berg angesiedelt bzw. interniert waren, unter militärische Bewachung zu stellen.

Der Auerberg war sicherlich nicht der einzige Ort im frühen Raetien, wo rheinische Veteranen angesiedelt worden sind. So könnten etwa die frühen Militaria von Kempten, wie dies schon Michael Mackensen erkannt hat, mit den rheinischen Veteranen zusammenhängen (Mackensen 1987, 156–171; bes. 158 f. mit Anm. 17).

⁶ Belegt etwa durch Funde von Dolchen, Pila und Reste von Gussformen zur Herstellung von Torsionsgeschützen. Vgl. Baatz 1994, 173–187; Drescher 1994, 113–171 (Gussformen für Katapult – Spannbuchsen); Ulbert 2015, 51–90 (militaria).

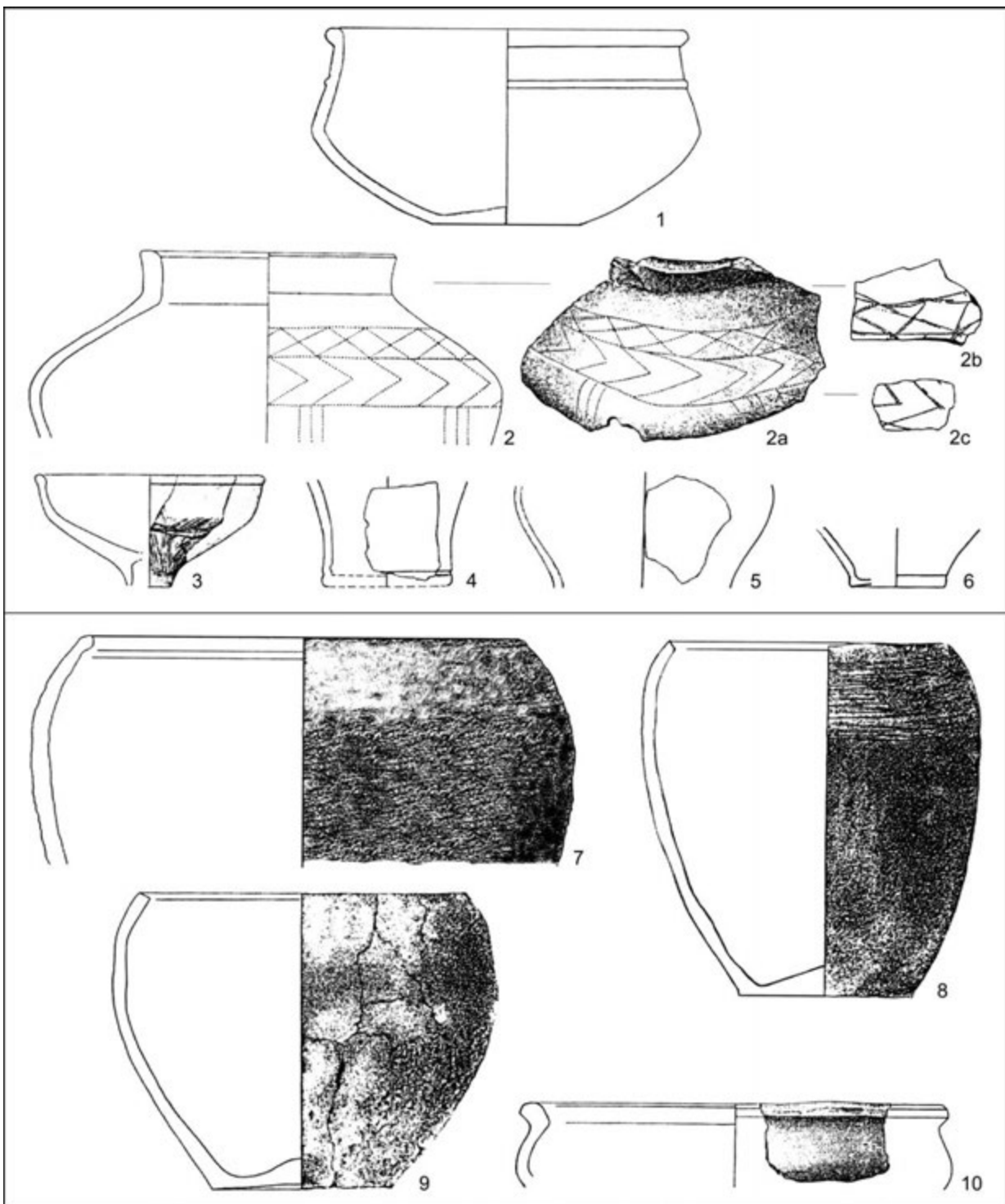


Abb. 6. Auerberg, elbgermanische Keramik (ohne Maßstab; nach Flügel 1999).

WEITERE HINWEISE AUF FRÜHE ELBGERMANISCHE BESIEDLUNG IN RAETIEN

„Sueben“ böhmischer Herkunft sind in der Folgezeit in Raetien immer wieder durch archäologische Funde elbgermanisch-böhmischen Charakters belegt. Man sollte sich allerdings grundsätzlich vor dem Versuch hüten, diese Siedler unbedingt allzu eng mit der ohnehin schütterten historischen Überlieferung im Zusammenhang mit dem Marbod-Reich, dessen Zerfall und seinen Nachfolge – Staaten in Zusammenhang bringen

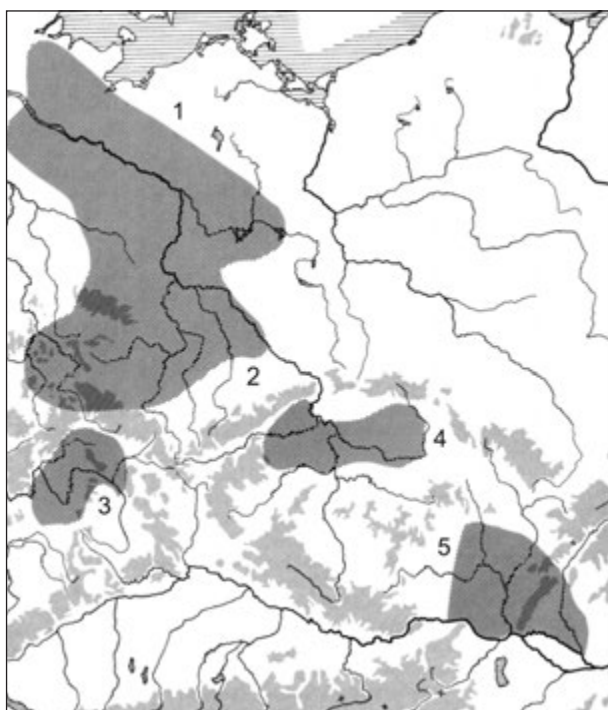


Abb. 7. Elbgermanische Siedlungsgebiete im 1. und 2. Jahrhundert (nach Lenz-Bernhard 2002, 120; Abb. 81). 1 – Niederelbe, westliches Mecklenburg und nördliches Brandenburg; 2 – Mittel-Elbe-Saale-Gebiet; 3 – Main-Tauber Gebiet; 4 – Böhmen; 5 – Slowakei. Außerhalb des Rahmens Siedlungsgebiete am Rhein: 6 – Pfalz; 7 – Elsaß; 8 – Starkenburg.

zu wollen (vgl. nur Hartung 2024, 84–171; Lenz-Bernhard 2002, 132 f.; Nagy 1989; Salač/Bemmann 2009). Elbgermanische Siedler, offenbar vor allem aus Böhmen stammend, kommen im römischen Reichsgebiet für die frühe Kaiserzeit, bis in das Oberrhein-Neckarmündungsgebiet hinein, vor. Sie sind dort seit der augusteischen Zeit in mehreren Einwanderungswellen belegt und bildeten z.T. geschlossene Siedlungsgebiete (Abb. 7). Im Falle der Neckarsueben, der *Suebi Nicrenses*, entstand um ihren Hauptort *Lopodunum*/Ladenburg sogar eine eigene römische Verwaltungseinheit (*civitas*; Lenz-Bernhard 2002, 123 f.).

Im archäologischen Material des westlichen Raetiens, beginnend am Auerberg und in der Region um Augsburg, zeichnen sich derzeit immer wieder Gruppen von germanisch-suebischem Fundmaterial als Indikatoren für elbgermanische Siedler unter römischer Herrschaft seit der tiberischen bis in die flavische Zeit ab. Soweit sich dies momentan überblicken lässt, sind aber in Raetien Siedlungsgebiete früher Elbgermanen (Sueben?) in vergleichbarer Dichte, wie im Neckarmündungsgebiet nicht nachweisbar. Daher ist eher davon auszugehen, dass sie sich – ähnlich, wie weitere elbgermanischen Zuwanderer in späteren Zeiten – offenbar immer wieder rasch in die ohnehin heterogene Provinzbevölkerung Raetiens integriert und sich so durch die Übernahme römischer

Sachaltertümer (etwa Keramik, Fibeln) der archäologischen Nachweisbarkeit entzogen haben.

Man sollte davon ausgehen, dass diese Germanen keineswegs unkontrolliert in die Provinz Raetien geströmt sind – im Gegenteil: Man muß hier vor strengen Kontrollmechanismen durch das römische Militär auch in der Auswahl der Siedlungsplätze dieser Zuwanderer ausgehen. Denn dass diese Hinweise auf elbgermanische Siedler sich im Westen der Provinz um die spätere Provinzhauptstadt konzentrieren, ist sicherlich kein Zufall: In Augsburg sind bereits in der 1. Hälfte des 1. Jahrhunderts n. Chr. die stärksten römischen Truppenkontingente stationiert, darunter Legionstruppen und Reiterei. Diese konnten die Zuwanderer sicherlich stärker unter Kontrolle halten (Ortisi 2022). Die eingewanderten Germanen lebten zunächst – so sieht es im Moment nach dem neuen Befund von Sand (s.u.) aus – nicht nur in römischen Siedlungen, sondern auch in geschlossenen kleineren Siedlungseinheiten.

Elbgermanische Siedlung und Gräberfeld von Sand

Der neueste und auch überraschendste Beleg dafür sind die Grabungsergebnisse von Sand, die jüngst B. Steidl in einem Vorbericht vorgelegt hat (Steidl 2022a). Im östlichen Lechtal, ca. 15 km nördlich der Provinzhauptstadt Augsburg, bei Aindling-Sand, Lkr. Aichach-Friedberg fand sich eine kleine Nekropole mit ausschließlich elbgermanischen Bestattungen, elf Brandschüttungsgräber und ein Körpergrab eines jungen Mädchens (Abb. 8), das in einem Baumsarg bestattet worden war. Quadratische Pfostenstellungen um die Gräber zeigten rituelle Markierungen der Bestattungen an (Abb. 9). Die reichen Beigaben der Toten stammen aus zwei Welten: Keramik, Scheren, Trinkhörner und ein Teil der Fibeln sind der elbgermanischen Kultur zuzuordnen und lassen sich am besten mit Grabfunden des Elberaumes in Böhmen bis hin zur Slowakei vergleichen. Wie auch dort sind zudem römische Elemente vertreten, vor allem Bronzegefäße in einer Auswahl, wie sie bei Trinkgelagen in Gebrauch standen (Abb. 10). In Frauengräbern fanden sich ferner römische Kästchen. Auch ein Teil der Fibeln und Terra Sigillata war gallischer bzw. raetischer Herkunft. Hier zeigt sich der Beginn der Akkulturation dieser



Abb. 8. Sand, Gde. Todtenweis, Lkr. Aichach-Friedberg. Mädchengrab im Baumsarg. Römischer Taschenspiegel und römischer Riegel eines Kästchens aus Buntmetall, Spinnngarnitur aus Glas (Spinnrocken und zwei Spinnwirtel; ohne Maßstab; nach Steidl 2022a).

Germanen, die wohl wenige Jahrzehnte später sich mit rein römischen Sachgütern umgaben und so für den Archäologen innerhalb der römischen Provinzbevölkerung unsichtbar werden.

Kaum 300 m von dem Gräberfeld entfernt fand sich auch die dazugehörige Siedlung mit Pfostenbauten und anderen Installationen, die man als einen klassisch germanischen Baubestand interpretieren könnte: Steidl erwähnt in seinem Vorbericht ein Wohnstallhaus, ein Grubenhaus, Speicherbauten und ein Brunnen. Diese lieferte durch Feuchtbodenerhaltung ein Dendrodatum um die Mitte des 1. Jahrhunderts n. Chr., was mit der Datierung der Gräber voll übereinstimmt. Bei der endgültigen Bewertung der Situation muss man freilich die Endpublikation abwarten. Lesefunde von einschlägigem Fundmaterial in der Umgebung zeigen inzwischen, dass die Siedlung von Sand wohl nicht die einzige elbgermanische Ansiedlung im Lechtal war. Chronologisch anknüpfend an ältere Funde, wie etwa vom Auerberg, scheinen hier in claudischer Zeit weitere elbgermanische Siedler sesshaft geworden zu sein.

Der Ausgräber Bernd Steidl bringt die Germanen von Sand mit dem Ende des Vannius-Reiches um 50 n. Chr. in Verbindung, das dem Marbod-Reich nachgefolgt war (Hartung 2024, 164–171; Nagy 1989; Salač/Bemmann 2009). Dass man seitens der römischen Administration diesen germanischen Migranten ausgerechnet als Siedlungsgebiet die Gegend um Augsburg zuwies, kommt sicherlich nicht von ungefähr: Hier lag damals die größte Truppenkonzentration der Provinz mit einem

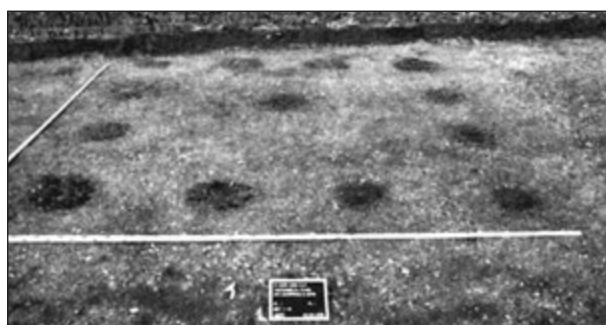


Abb. 9. Sand, Gde. Todtenweis, Lkr. Aichach-Friedberg. Erdverfärbungen von Pfosten (Geviert von fünf Meter Seitenlänge aus 12 Pfosten) um Grab 13 (nach Steidl 2022a).



Abb. 10. Sand, Gde. Todtenweis, Lkr. Aichach-Friedberg. Urnengrab 35, z.T. verschmolzene Metallbeigaben im Messbild eines Hochenergie-Computertomographen: u. a. Trinkhornbeschlag, römische Bronzegefäße, Fibel, Eisenmesser, Eisenschere (nach Steidl 2022a).

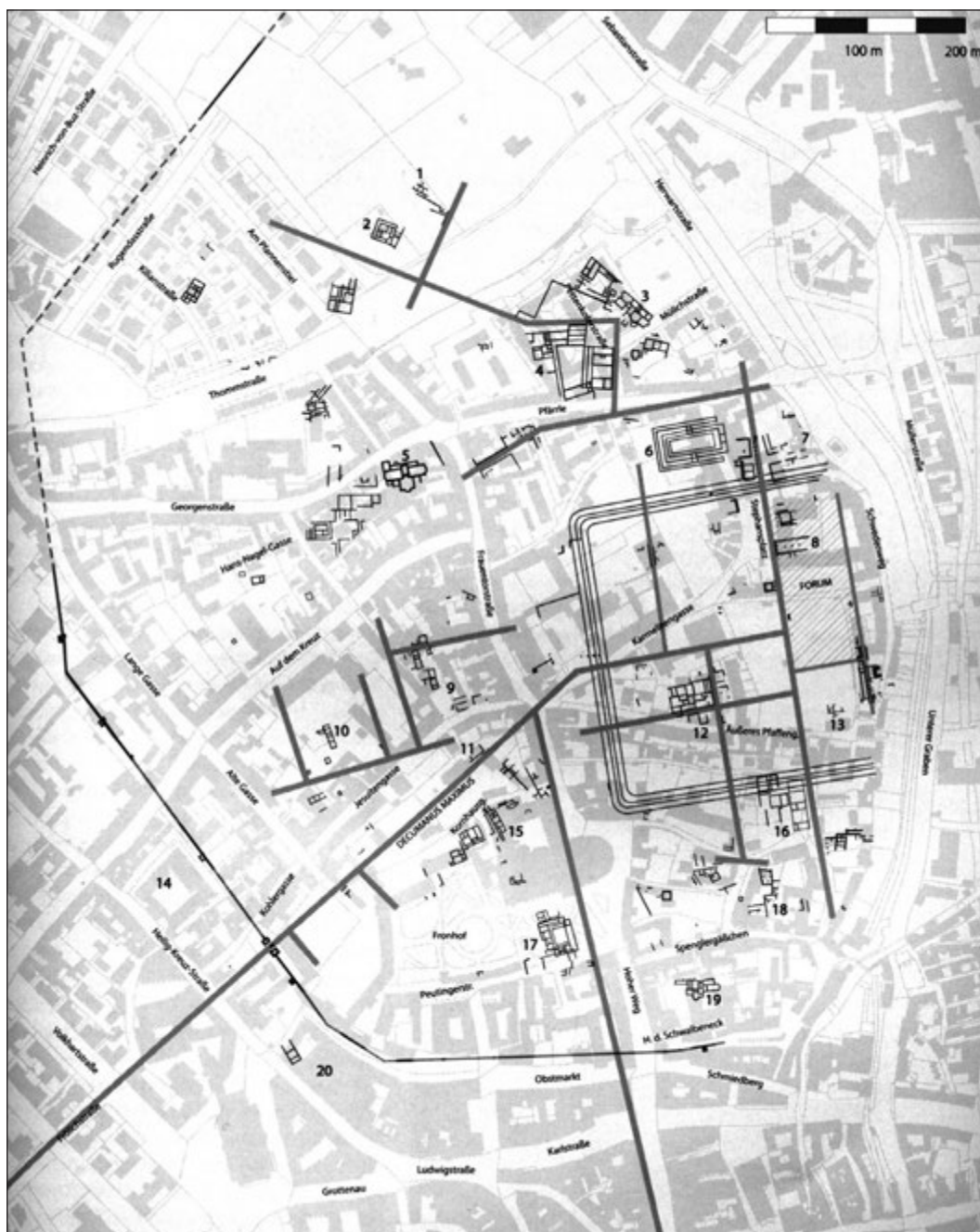


Abb. 11. Augsburg, Stadtplan (nach Gairhos et al. 2022).

hohen Kavallerieanteil. Und so konnten bei den sicherlich anfangs nicht nur als harmlos eingeschätzten germanischen Kriegern mit ihren Familien regelmäßig Reiterpatrouillen vorbeischaun und nach dem Rechten sehen. Andererseits könnten aber auch jüngere Männer unter den Zuwanderern für den Dienst in der römischen Armee interessiert haben und so der Romanisierung dieser Gruppe weiteren Vorschub geleistet haben.

Frühe elbgermanische Funde in Augsburg

Auch in Augsburg selber, bis zum Dreikaiserjahr 68 n. Chr. dem größten militärischen Stützpunkt Roms in Raetien, gibt es inzwischen gewichtige Belege für einen frühen germanischen Bevölkerungsanteil im Vicus des Vexillationslagers (Abb. 11). Hier wurden etwa typisch germanische Fibeln, sog. preußische Augenfibeln,

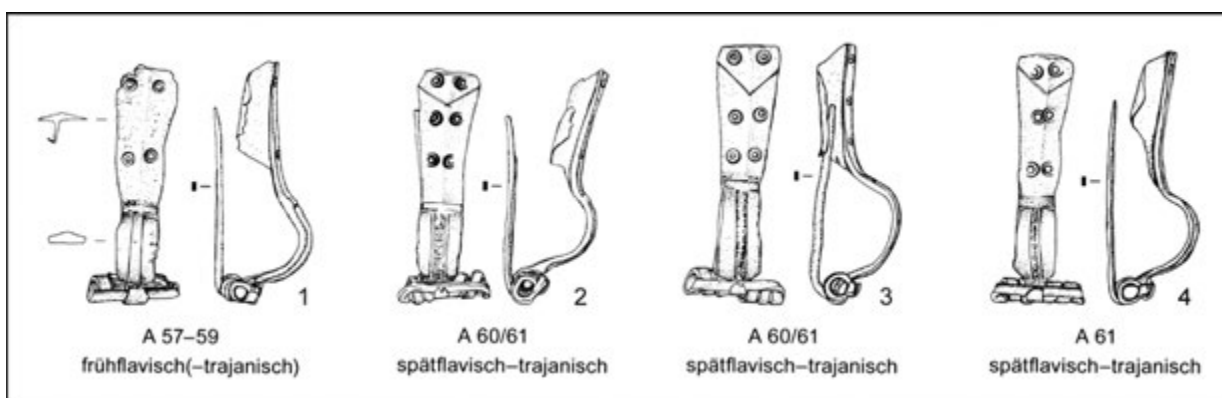


Abb. 12. In Augsburg hergestellte preußische Augenfibeln (ohne Maßstab; nach *Pauli 2021*).

in größerer Menge in einem metallverarbeitenden Betrieb hergestellt (Abb. 12). Sie datieren in die flavisch-trajanische Zeit (*Pauli 2021*). Man hat lange gerätselt, warum diese sonst in großer Menge in der Germania Magna verbreiteten und dort auch hergestellten Fibeln ausgerechnet auch in Augsburg produziert wurden. Man mutmaßte sogar, dass sie dort für den Export in die Germania Magna hergestellt worden seien. Eine solche Annahme ist aber im Lichte der sich vermehrenden Indizien für elbgermanische Siedler in und um Augsburg nun unnötig; es scheint hierfür genügend Abnehmer elbgermanischer Herkunft in der Provinz selber gegeben zu haben. Schlaglichtartig geht dies auch in Augsburg aus dem Vorkommen von rollrädchendekorierte, handgemachte elbgermanische Keramik des 1. Jahrhunderts aus der Grabung „im Pfärrle“ hervor, die von Andreas Schaub und Lothar Bakker vorgelegt worden ist (Abb. 13; *Schaub/Bakker 2001*, 188). Die Autoren haben sie noch mit Handelsbeziehungen interpretiert, etwa mit den von Tacitus erwähnten Hermunduren (s.u.). Aber dies ist nicht die einzige Möglichkeit – man muss sich langsam mit dem Gedanken anfreunden, dass sich unter den Bewohnern des frühen Augsburger Kastellvicus auch ein gewisses Kontingent germanischer Siedler befunden hat. Hierfür – und da muss man kein Prophet sein – dürfte eine Durchsicht der Magazinbestände der Augsburger Stadtarchäologie, insbesondere nach einschlägiger Keramik, sicherlich noch weitere Überraschungen liefern.

Betrachtet man nun die besser datierbaren germanischen Funde des 1. Jahrhunderts in Raetien, so lässt die etwas jüngere Zeitstellung der Augsburger Fibeln im Vergleich mit dem elbgermanischen Material vom Auerberg und aus Sand den Schluß zu, dass die Zuwanderung germanischer Elemente aus Böhmen und dem angrenzenden norddanubischen Provinzvorland nicht auf zeitlich begrenzte konzentrierte Einwanderungswellen zurückgeht, sondern offenbar ein kontinuierlicher Vorgang war. Dieser Zuzug wurde sicherlich von der römischen Provinz- und Militärverwaltung kontrolliert und gesteuert (s.u.).

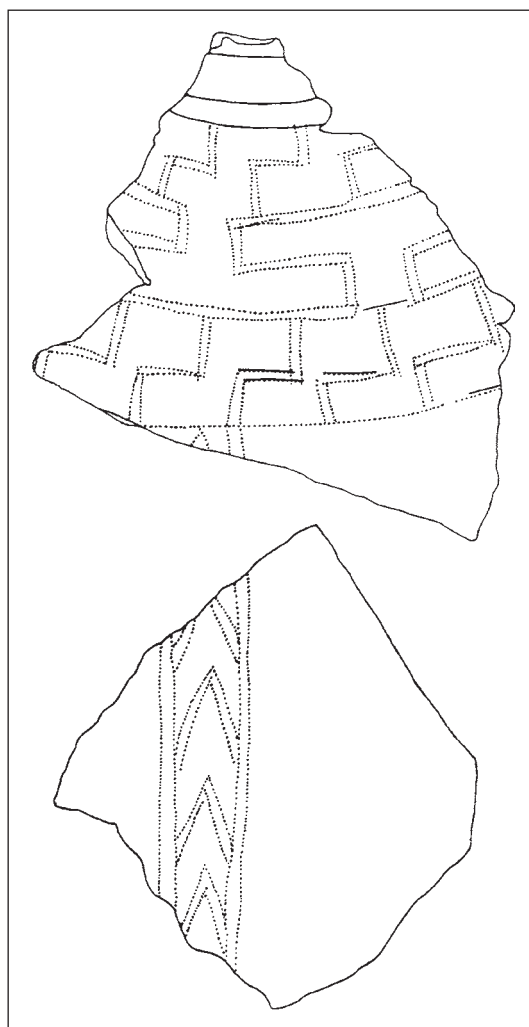


Abb. 13. Augsburg, Grabung „Pfärrle“, elbgermanische Keramik (ohne Maßstab; nach *Schaub/Bakker 2001*).

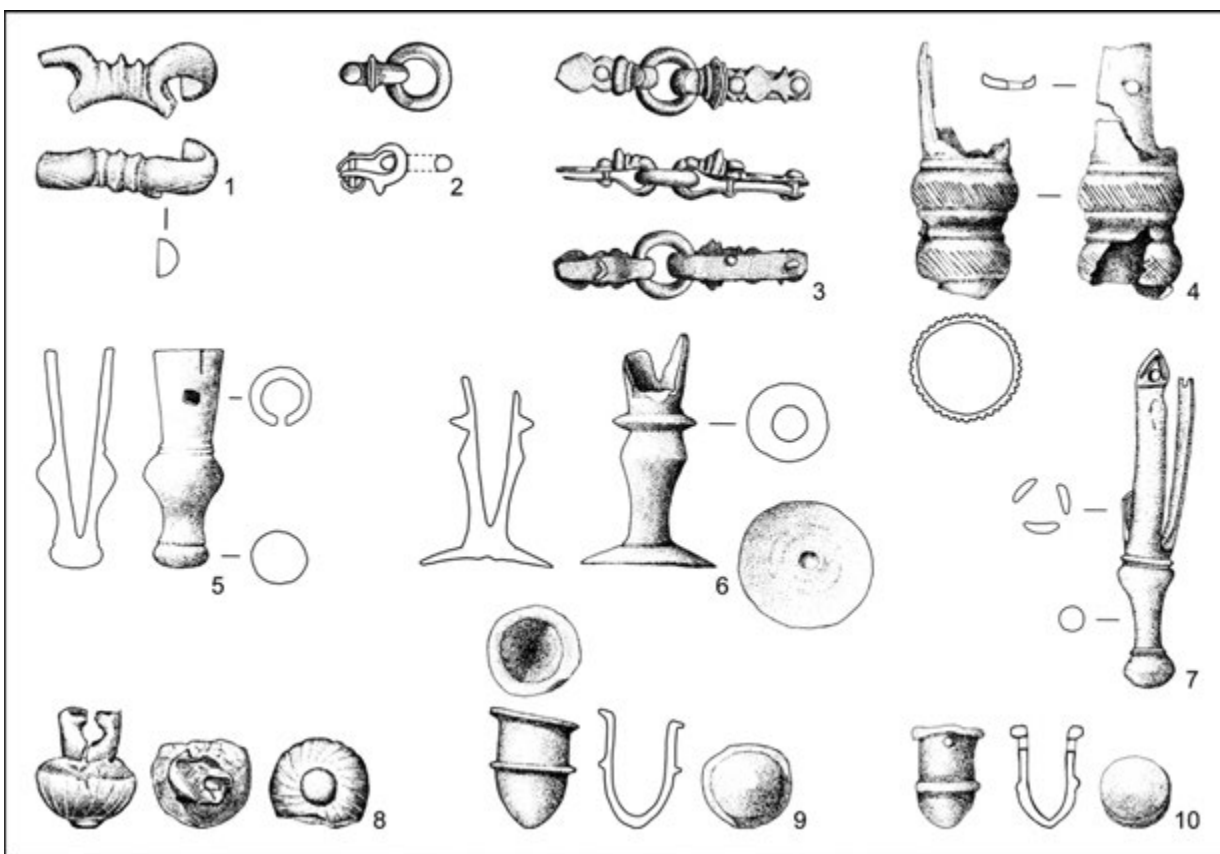


Abb. 14. Burghöfe, Gde. Mertingen Lkr. Donau-Ries. Germanische Funde aus Buntmetall. 1 – Glied einer Zügelkette; 2–7 Trinkhornbeschläge; 8–10 – Endbeschläge (ohne Maßstab; nach Franke 2009).

Frühe elbgermanische Funde aus Burghöfe

Auch an anderen Orten des westlichen Raetien kamen immer wieder Spuren früher germanischer Siedler zum Vorschein und auch hier könnte der Bestand durch systematische Suche wohl noch erheblich vermehrt werden. Als Beispiel hier nur Burghöfe an der Mündung des Lech in die Donau, wo es inzwischen erstaunliche Mengen an frühen Metallfunden germanischer bzw. elbgermanischer Herkunft gibt. Da es sich bei der Masse des Materials um Detektorfunde handelt, ist Keramik stark unterrepräsentiert. Aus Lesefunden und Grabungsmaterial stammende Keramik wurde in dieser Hinsicht wohl noch kaum systematisch durchgesehen. Nur bei den neueren Grabungen des Instituts für provinzialrömische Archäologie 2001–2007 sind gelegentlich Exemplare handgemachter Keramik erwähnt, allerdings nicht näher kommentiert (Schimmer/Selke 2013, 47–119).

In Kastell und Vicus von Burghöfe dominieren einschlägige Buntmetallfunde (Detektorfunde!). Es fanden sich immerhin 31 Augenfibeln als germanischen Trachtenbestandteile des 1. Jahrhunderts (Ortisi/Pröttel 2002, 16–18). Daneben tauchen dort ein Glied einer Zügelkette, Trinkhornbeschläge und germanische Riemenendbeschläge auf (Abb. 14; Franke 2009, Taf. 53, 1091–1100).

Eching „Garchinger Heide“

Von den großen mit dem Metalldetektor geborgenen Fundmassen von Eching „Garchinger Heide“, die sich in der Archäologischen Staatssammlung München und in Privatbesitz befinden, sind bisher nur wenige in Auswahl publiziert. B. Steidl, der das Material zumindest durchgesehen hat, vermutet aufgrund germanischer Funde (Fibeln, Trinkhornbeschläge) einen tiberisch-claudischen Militärposten mit germanischen Milizen. Er fährt fort: „Ein Schleier (elb)germanischer Funde kann als geradezu charakteristisch für die Frühzeit der Provinz Raetien gelten“ (Steidl 2002).

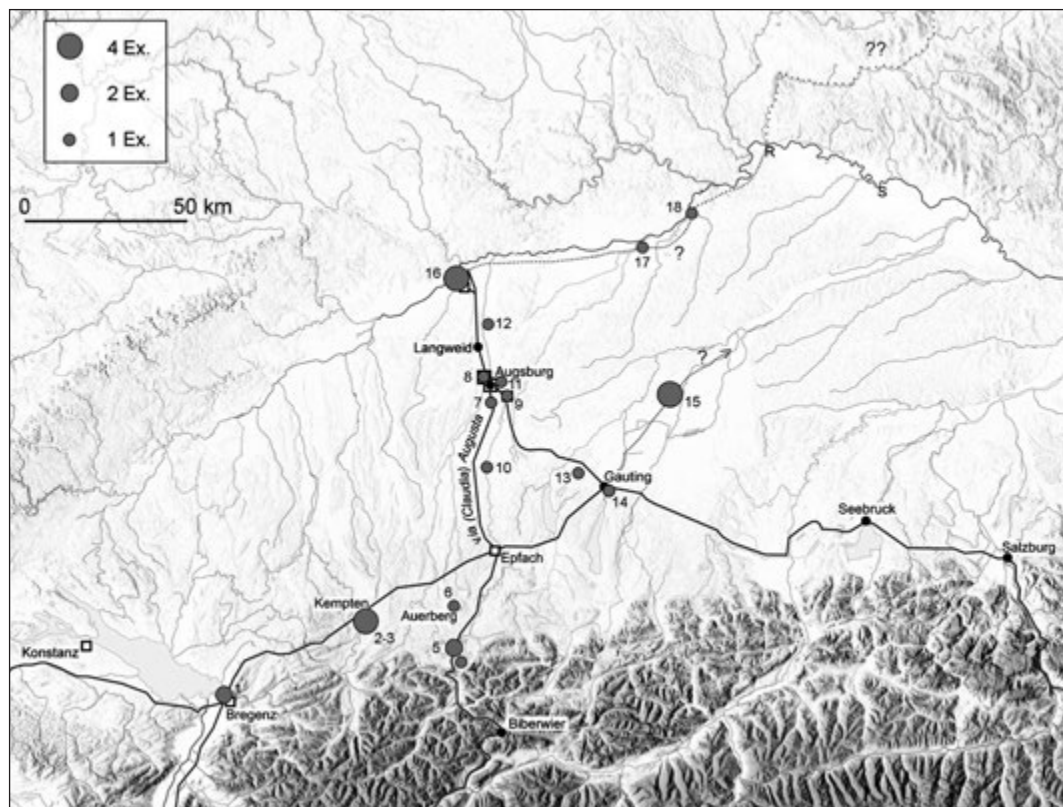


Abb. 15. Karte der Augenfibeln Almgren 45–46 in Raetien. 1 – Bregenz; 2, 3 – Kempten; 4 – Brunnen; 5 – Dietringen; 6 – Auerberg; 7 – Göggingen; 8 – Augsburg-Oberhausen; 9 – Rederzhausen; 10 – Prittriching; 11 – Derching; 12 – Bach; 13 – Wessling; 14 – Gaufing; 15 – Echting; 16 – Burghöfe; 17 – Manching; 18 – Eining; R – Regensburg; S – Straubing (nach Steidl 2013; Ergänzungen Th. Fischer).

WEITERE FRÜHE GERMANISCHE FUNDE IM WESTLICHEN RAETIEN

Salvatore Ortisi (*Ortisi/Pröttel* 2002, 16, 46 f.) erwähnt für weitere Orte Raetiens ältere germanische Fibeln, vor allem Augenfibeln, seit der tiberischen Zeit: etwa in Kempten, Aislingen, Rißtissen, Oberpeiching, Friedberg-Rederzhausen, Gaufing und Bregenz.

Augenfibeln

Die inzwischen in beträchtlich vorhandener Anzahl der germanischen Augenfibeln aus Raetien hat B. Steidl zusammengefasst und historisch interpretiert (*Steidl* 2013). Er sieht in ihnen zu Recht klare Indikatoren für immer wieder erfolgte Zuwanderung elbgermanischer Gruppen vor allem aus Böhmen im Rahmen der Zerfallsprozesse des Marbod-Reiches. Interessant auch seine Beobachtung, dass Augenfibeln nicht nur in dem westraetischen Gebiet um Augsburg vorkommen, sondern dass Stücke aus Manching und Eining das westraetische Verbreitungszentrum der Augenfibeln mit dem Osten der Provinz verbinden (Abb. 15). Dort sind ja die natürlichen Passagen vom Donautal in Regensburg und Straubing über das Regental und die Cham-Further Senke nach Böhmen (s.u.).

Mögliche Routen der germanischen Einwanderung nach Raetien

Das unmittelbare Vorland der raetischen Donaugrenze bzw. des raetischen Limes wies in der frühen und mittleren Kaiserzeit kaum eine nennenswerte germanische Besiedlung auf, diese setzt konzentriert erst im Maingebiet ein. Aus dem unmittelbaren Vorfeld der Reichsgrenze können so die germanischen Einwanderer kaum stammen.

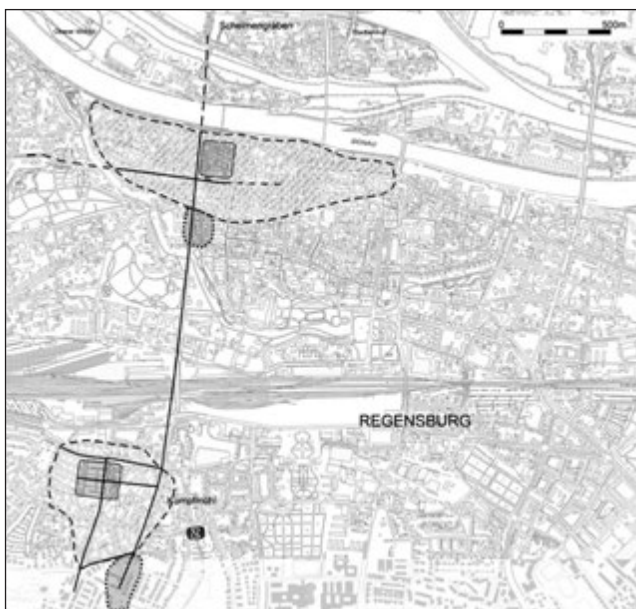


Abb. 16. Regensburg in der Zeit vor ca. 180 n. Chr. Oben – an der Donau „Donaukastell mit Vicus und Gräberfeld“; unter – Kastell Regensburg-Kumpfmühl mit Vicus und Gräberfeld (Entwurf Th. Fischer, Zeichnung R. Röhl).

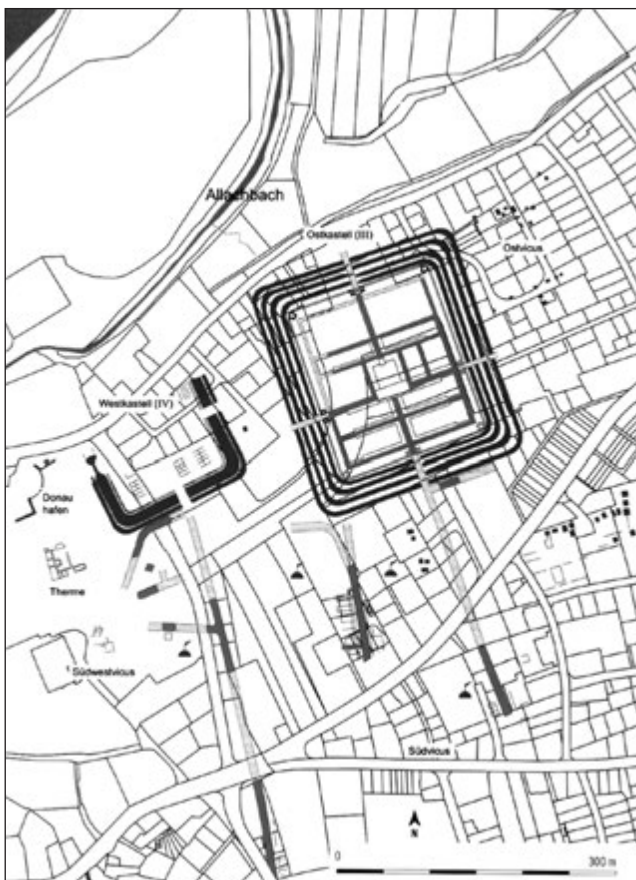


Abb. 17. Straubing in der Zeit vor ca. 180 n. Chr. Westkastell der coh. II Raetorum; Ostkastell der coh. I Flavia milliaria sagittariorum Canathenorum equitata, Vicus und Gräberfelder (nach Fischer 2015).

Fragt man sich unter Berücksichtigung dieser Tatsache, welchen Weg die böhmisch – elbgermanischen Zuwanderer nach Raetien genommen haben, so gibt es eine plausible Lösung.

Die Bedeutung von Regensburg und Straubing für die elbgermanisch-römischen Kontakte

Im Zusammenhang mit der germanischen Zuwanderung aus Böhmen in die Provinz Raetien gewinnt nun die schon länger bekannte Tatsache an Bedeutung, dass an zwei Orten im östlichen Raetien natürliche Verkehrswege aus Böhmen auf die Donaugrenze (Abb. 15) und damit auf das römische Provinzgebiet treffen: In Regensburg und in Straubing (s.u.). An beiden Orten ist spätestens seit der flavischen Zeit die römische Grenzsicherung an der Donaugrenze, der *ripa Danuvii Raetiae*, außergewöhnlich verstärkt worden. Man trifft hier als große Ausnahme an der raetischen Grenze (Limes und Donaugrenze) auf jeweils zwei gleichzeitig existierende Kastelle.⁷

In Regensburg sind es die Kastelle von Regensburg-Kumpfmühl und das Donau-Kastell mit Vici und Gräberfeldern, die mindestens seit der 2. Hälfte des 1. Jahrhunderts n. Chr. dort im Bereich der Regenmündung existieren (Abb. 15; 16). Das Tal des Regen stellt die natürliche Verbindung über die Cham-Further Senke nach Böhmen dar. Beide Kastelle gehen in den Markomannenkriegen gewaltsam zu Grunde, weil die nun feindlich gesinnten Markomannen natürlich die alten Verbindungswege in die Provinz für ihre Einfälle und Plünderungszüge nutzen. An die Stelle der beiden niedergebrannten Kastelle trat ab 179 n. Chr. das Lager der 3. Italischen Legion (*Codreanu-Windauer/Fischer 2018; Dietz/Fischer 2018*).

Auch in Straubing existierten seit der frühflavischen Zeit zwei gleichzeitige Kastelle: Das Westkastell der coh. I Raetorum und im Westen mehrere aufeinander folgende kleinere Kastelle, die um die Mitte des 2. Jahrhunderts n. Chr. vom Kastell der coh. I Canathenorum milliaria equitata sagittariorum abgelöst wurde (Abb. 15; 17). Diese war vorher in Regensburg-

⁷ Damit wären in Regensburg und Straubing vor der Stationierung der 3. Italischen Legion die stärksten Grenzgarnisonen Raetiens am raetischen Limes bzw. an der *ripa Danuvii*. Dann folgt in Heidenheim bzw. ab der Mitte des 2. Jahrhunderts in Aalen, die ala II Flavia milliaria (Scholz 2009).

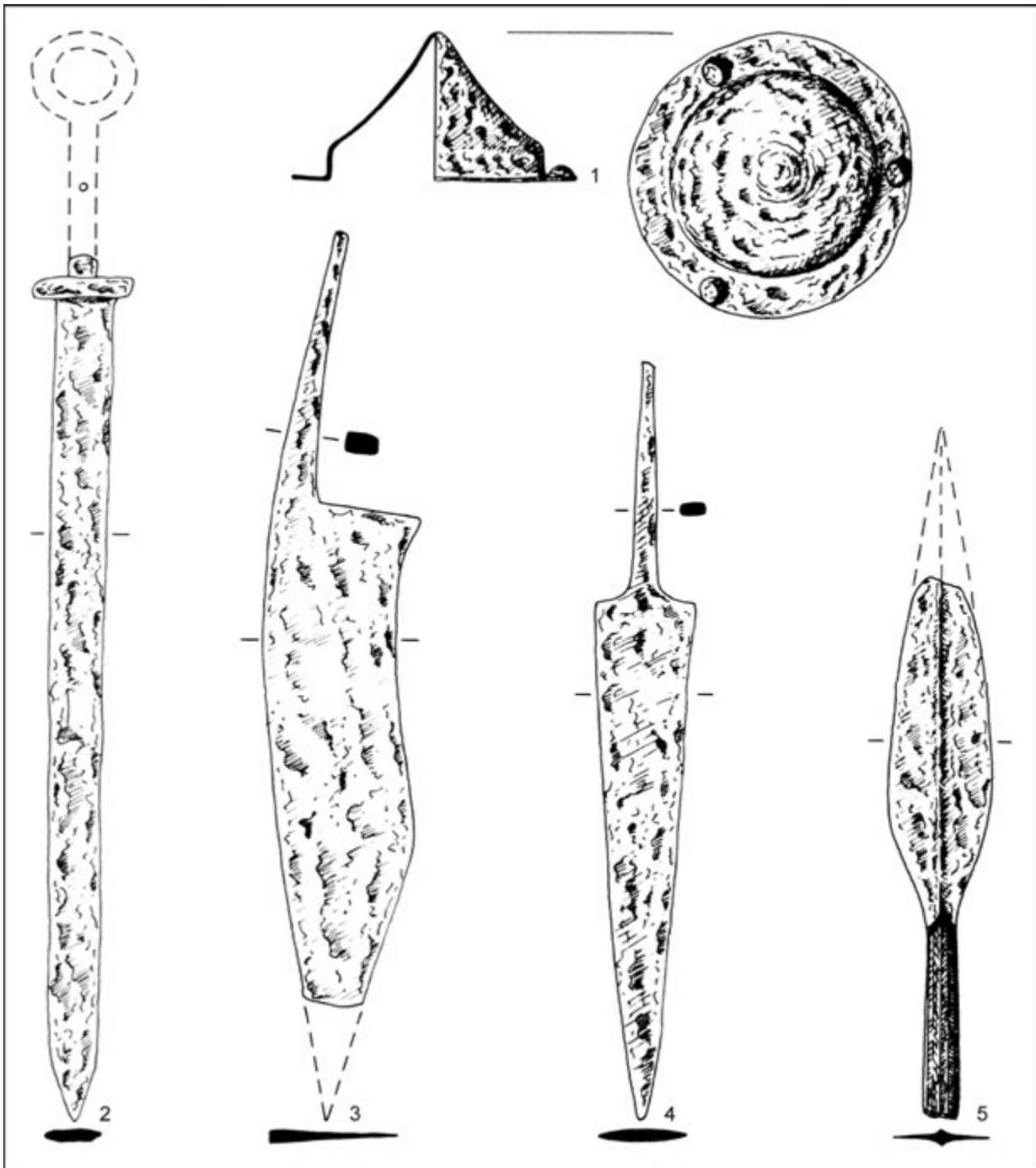


Abb. 18. Wehringen, Lkr. Augsburg. Eiserne Waffen aus einer Gruppe von Brandgräbern. 1 – germanischer Schildbuckel; 2 – Ringknaußschwert; 3 – einschneidiges Hiebmesser; 4 – Dolch; 5 – germanische Lanzenspitze mit facettierter Tülle. Grab 15 (2–4); Grab 17 (1, 5; ohne Maßstab; nach Nuber 1985).

Kumpfmühl stationiert. In den Markomannenkriegen gingen das Westkastell und der gemeinsame Vicus beider Kastelle im Feuer zu Grunde, nur das Ostkastell hat offenbar den Markomannensturm überlebt (Fischer 2022).⁸ Nördlich von Straubing mündet die Stallwanger Senke in das Donautal, die wiederum über die Cham-Further Senke eine natürliche Verbindung nach Böhmen darstellt.

⁸ Die Schäden der Markomannenkriege waren in Straubing offenbar rasch beseitigt. Durch die Truppenmassierung der 3. Italische Legion in Regensburg und die Tatsache, dass die verbliebene Truppe, die 1000 Mann starke coh. I. Canathenorum milliaria sagittariorum equitata erübrigte sich in Straubing die Stationierung einer zweiten Truppe nach den Markomannenkriegen.

Diese am ganzen raetischen Limes und an der ripa (Flussgrenze) aus dem Rahmen fallende Existenz zweier Kastelle am gleichen Ort zur gleichen Zeit kann man nur mit einem außergewöhnlich starken Verkehr von Waren und Personen im ersten und zweiten Jahrhundert begründen, den es Seiten Roms intensiv militärisch zu überwachen galt. Denn hier trafen die aus Böhmen stammenden elbgermanischen Zuwanderer im Donautal auf das Gebiet des römischen Reiches, von wo aus sie offensichtlich nach Westen in den Großraum Augsburg zogen.

AUSBLICK – GERMANEN IN RAETIEN IM 2. UND FRÜHEN 3. JAHRHUNDERT

Nur ansatzweise und ohne Absicht auf Vollzähligkeit seien hier einige Beispiele für germanische Funde in Raetien während des 2. und frühen 3. Jahrhunderts n. Chr. angeführt, die für stetige Kontakte der Provinz zum germanischen Siedlungsgebiet bzw. für Zuwanderung sprechen. Zwar steht auch hier der mittlere Donauraum im Focus, doch auch andere Herkunftsgebiete, etwa Mitteldeutschland und der untere Elbe-Raum kommen in Frage. Die Markomannenkriege in der zweiten Hälfte des 2. Jahrhunderts n. Chr. und die verheerenden Germaneneinfälle in die Provinz ab 254 n. Chr. haben zwar auf römischer Seite erhebliche archäologische Spuren hinterlassen,⁹ die germanischen Angreifer selber sind aber im archäologischen Fundgut kaum zu greifen. Allerdings kommen danach vermehrt Personen germanischer Herkunft in die Provinz, vor allem wohl über den römischen Militärdienst.

Wehringen

Im (nur fragmentarisch erfassten!) Gräberfeld von Wehringen (Nuber 1985), wo sich um die Tumuli von Angehörigen der provinziellen Oberschicht der Zeit um 200 weitere Gräber gruppierten, fand sich eine ältere Gruppe von Brandgräbern mit Waffengräbern aus der trajanisch-hadrianischen Zeit. In diesen nur als knapper Vorbericht vorgelegten Gräbern sind Bestattungssitte und Teile der Beigaben, etwa die Keramik, römisch, doch ist alleine schon die Beigabe von Waffen (Abb. 18) als typisch germanische zu werten, daneben gibt es Trinkhornbeschlüge und Pferdegeschirr, leider ohne Abbildung oder nähere Ansprache. Ein Schildbuckel und eine Lanzenspitze mit facettierter Tülle aus Grab 17 stellen charakteristische germanische Stücke. Ringknaufschwerter (Grab 15 und 17) und der Dolch (Grab 15) können auch beim römischen Militär vorkommen, das Hiebmesser aus Grab 15 indes stellt keine Militärwaffe dar. Nach dem Bearbeiter H. U. Nuber handelt es sich bei der Wehringer Grabgruppe um die Bestattungen weitgehend romanisierter Germanen, die auch auf römischem Gebiet auf die zeitgleich in der Germania Magna übliche Waffenbeigabe nicht verzichten wollten.

Es muss sich bei den Germanen von Wehringen nicht unbedingt um die direkten Nachfahren der Sueben von 14 n. Chr. handeln: Man kann auch von späteren Zuwanderern aus dem germanischen Siedlungsgebiet, etwa aus Böhmen und Mähren ausgehen. Ob hier, wie Nuber meinte „Flüchtlinge oder Zwangsinternierte“ vorliegen, ist nicht so sicher. Da gäbe es auch andere Möglichkeiten: So könnten hier einfach die frühen Bewohner des Gutshofes vorliegen oder aber auch die private germanische Leibwache einer reichen Gutsbesitzerfamilie.

WEITERE ZEUGNISSE FÜR GERMANISCHE ZUWANDERUNG NACH RAETIEN IM 2. UND FRÜHEN 3. JAHRHUNDERT

Ohne Anspruch auf Vollständigkeit seien hier noch weitere germanische Funde aus dem mittelmittelalterlichen Raetien angeführt, die in der Regel als Beleg für die Zuwanderung von Personen, weniger als Resultat von Handelsaktivitäten zu werten sind.

Es handelt sich nun nicht mehr ausschließlich um Funde aus Böhmen bzw. dem norddanubischen mittleren Donauraum, auch andere Herkunftsgebiete aus der Germania Magna, etwa aus dem Elberaum oder aus dem Bereich der Przeworsk-Kultur kommen nun in Betracht.

⁹ Zu den Markomannenkriegen allgemein jetzt Hartung 2024, 367–502. Zu den Zerstörungen der Markomannenkriege Fischer 2009; 2012. Zu den archäologischen Zeugnissen der Germaneneinfälle des 3. Jahrhunderts Cyszcz et al. 1995; Fischer 1999.

Dies gilt etwa die Fibel Almgren 144 – Variante Gupte Gruppe I, Form 2 aus Grab 1506/2 aus Günzburg (Riedl 2022, 112–115). Diese Fibel aus Eisen mit silbernem Perldraht und Silbertauschierung dekoriert gehört dem 2. Jahrhundert n. Chr. an und ist schwerpunktmäßig im Elbe-Havel – Gebiet verbreitet. Vereinzelt streut sie auch nach Böhmen und in den mittleren Donaauraum. Die Fibel Almgren 101 aus Eining stellt eine elbgermanische Form dar, die vom späten 1. Jahrhundert bis zur Mitte des 2. Jahrhunderts datiert. Ihre Ausführung in Silber spricht eher für eine Herstellung im Bereich der Germania Magna, weniger im römischen Reich (Böhme-Schönberger 1998; Fischer 2016, 66, Abb. 43). Diese Fibeln haben einen Verbreitungsschwerpunkt im unteren und mittleren Elbegebiet, häufen sich aber auch am obergermanischen Limes in der Wetterau.

Salvatore Ortisi hat Fibeln aus dem norischen Anteil des römischen Bayern bzw. aus Raetien aus der Zeit der Markomannenkriege und danach zusammengestellt (Ortisi 2016). Es ergibt sich hieraus ein eindrucksvolles Bild der Zuwanderung von „Römern“ und „Barbaren“ vor allem in das östliche Raetien aus dem mittleren Donaauraum aus Gebieten beiderseits der Donaugrenze. Unter den germanischen Funden sind nicht nur elbgermanische, sondern auch solche der Przeworsk – Kultur zu nennen. Ortisi sieht hier ein Resultat der Markomannenkriege, vor allem im Gefolge des Zuzugs der 3. Italischen Legion nach Regensburg (Dietz/Fischer 2018). Etwas anders ist das kleine Brandgräberfeld von Günzenhausen bei Eching, Lkr. Freising zu werten, das P. Fasold vorgelegt hat (Fasold 1989). Seit der traianischen Zeit bis in die Zeit nach der Mitte des 2. Jahrhunderts (numismatischer t. p. 161/162) siedeln hier Menschen mit germanisch-norischen Wurzeln aus dem mittleren Donaauraum, das Gräberfeld bricht anscheinend während der Markomannenkriege ab. Germanische Funde der Zeit nach ca. 180 n. Chr. tauchen dann in Grabfunden in Regensburg (von Schnurbein 1977, etwa bei den Fibeln 76–78 oder Riemenzungen 92 f.) bzw. in Regensburg Großprüfening (Fischer 1990, 85–87) auf.

Aus dem Vicus des Kastells Dambach stammen zwei germanische Fibeln: eine Tierfibel in Form einer Hirschkuh (Selke 2014, 98; Steidl 1999), die bereits dem 3. Jahrhundert zuzurechnen ist. Diese Datierung gilt auch für eine Armbrustfibel des Typs Almgren VI 2 (Selke 2014, 100).

Ebenfalls ins dritte Jahrhundert n. Chr. gehören germanische Tensen des Typs Donauwörth/Nydam aus Buntmetall und Eisen (Pauli/Wilbers 1985), die aus einer Kiesgrube bei Donauwörth und aus Eichenau, Lkr. Fürstenfeldbruck stammen. In diesen Stücken sehe ich eher archäologische Belege für einen Bevölkerungszug der besonderen Art gegen Ende der mittleren Kaiserzeit: Im Gegensatz zu Pauli/Wilbers, die sie eher germanischen Angehörigen des römischen Heeres zuordnen wollen, halte ich diese Tensen mit größerer Wahrscheinlichkeit für archäologische Relikte der verheerenden germanischen Einfälle ab 254 n. Chr., die zur Räumung des raetischen Limesgebietes durch Rom und zur weitgehenden Verheerung der Provinz führten. Auch eine eiserne Przeworsk – Lanzen spitze aus Geisenfeld, Lkr. Pfaffenhofen a. d. Ilm möchte ich eher in diesem Zusammenhang zu sehen (Ortisi 2016, 527).¹⁰

ZUSAMMENFASSUNG

Die vorhergehenden Zeilen haben gezeigt, dass die Zuwanderung germanischer Bevölkerungsteile aus dem germanischen, speziell elbgermanischen Raum, vor allem dem markomannisch-quadischen Gebiet Böhmens, Mährens und der Slowakei, während der frühen und mittleren Kaiserzeit nach Raetien doch wesentlich bedeutender und kontinuierlicher gewesen zu sein scheint, als man dies bisher angenommen hat. Hier folge ich für die Frühzeit vor allem den Ausführungen Bernd Steidls (Steidl 2002; 2013; 2022a; 2022b). Natürlich ist es bisher kaum möglich, aufgrund des sicherlich lückenhaften Fundmaterials einen auch nur ungefähren Anteil der germanischen Siedler an der römerzeitlichen Provinzbevölkerung der frühen und mittleren Kaiserzeit festzulegen.

Dieses sich langsam verdichtende Bild von Germanen als kaum zu unterschätzendem Bestandteil der römischen Provinzbevölkerung in Raetien setzt sich bis hin zur Mitte des 3. Jahrhunderts fort, nun aber über Westraetien hinaus auch am Limes und im Osten der Provinz. Besonders die Markomannenkriege bringen offenbar weitere germanische Zuwanderung, auch durch vermehrte Aufnahme von Germanen in das römische Militär bis hin zur Spätantike mit der Gruppe Friedenhain-Prešovice im 5. Jahrhundert (Fischer 2018).

Die im 4. und 5. Jahrhundert n. Chr. stark zunehmenden germanischen Funde bei den Grenzkastellen und im Hinterland Raetiens (Vgl. nur Fischer 1995, 396–398; Haberstroh 2019, 523–572) sind aber weitgehend anders zu bewerten, als die in der Frühzeit. Sie sollen daher hier nicht mehr berücksichtigt werden.

¹⁰ Das dort in Anm. 29 angegebene Zitat: Bayer. Vorgesch. Bl. 13, 2000 ist nicht ganz korrekt. Es muss Bayer. Vorgesch. Bl. Beih. 13, 2000, 126; 141 Abb. 70 lauten.

Wer waren diese Zuwanderer?

Bei der zunehmenden Verdichtung der Kenntnis von germanischen Anteilen in der raetischen Provinzbevölkerung aufgrund archäologischer Quellen stellt sich natürlich auch die Frage, inwieweit diese Germanen, vor allem Elbgermanen, mit Angehörigen historisch überlieferter Stämme in Verbindung zu bringen sind. Vom archäologischen Material selber her ist außer eher vagen Aussagen („böhmisches Raum“, „mittlerer Donaauraum“, „Elbe-Gebiet“) zur schwerpunktmäßigen Verbreitung und Herkunft des Fundmaterials kaum etwas Konkretes beizutragen.

Hermunduren?

Eine mögliche Hypothese zu einem Teil der Zuwanderer sei hier aber dennoch gewagt, auch wenn sie momentan natürlich nicht anhand des archäologischen Materials beweisbar ist. Man könnte möglicherweise in dem elbgermanisch-böhmischen Material im Raetien des 1. Jahrhunderts z.T. teilweise auch Belege für die Hermunduren sehen, bei denen eine Ansiedlung im nordböhmischen Raum gelegentlich erwogen wird (s.u.).

Die Hermunduren gelten ja laut Tacitus (*Tac.*, Germ. 41, 1) an der Wende vom 1. zum 2. Jahrhundert (nach 96 n. Chr.) als Muster an Romtreue und hatten – im Gegensatz zu den Angehörigen anderer germanischer Stämme – nach Raetien freien Zugang. Damit nehmen sie an der Germanengrenze an Rhein und Donau eine absolute Sonderstellung ein, der sie ja schließlich auch die relativ ausführliche Nennung bei Tacitus verdanken:

“eoque solis Germanorum non in ripa commercium, sed penitus atque in splendissima Raetia provinciae colonia. passim sine custode transeunt; et, cum ceteris gentibus arma modo castraque nostra ostendamus, his domos villasque patefecimus non concupiscentibus.”

„Deshalb haben sie allein unter den Germanen mit uns Handelsverkehr nicht nur an der Flussgrenze (ripa, wörtlich Ufer, hier im Sinne der Donaugrenze; s.u.) sondern tief bis ins Landesinnere und besonders in der so prächtigen Kolonie der Provinz Raetien. Ohne Auflagen und ohne Aufsicht überschreiten sie die Grenze. Während wir den übrigen Völkern nur unsere Waffen und Lager weisen, haben wir diesen unsere Häuser und Landgüter geöffnet, ohne dass sie Verlangen danach zeigten.“

Die „splendissima Raetia provinciae colonia“ war nach früher allgemeiner Ansicht Augsburg, aus neuester Sicht der Dinge aber eher Kempten. „ripa“ ist hier aus der Sicht der Zeit um 100 n. Chr., wo Tacitus seine „Germania“ abfasst, ganz offensichtlich die Flussgrenze der Donau, die ab der flavischen Zeit in *Abusina*/Eining beginnt (Gschwind 2004, Fischer/Riedmeier-Fischer 2017, 75–77, Fischer 2016). Tacitus legt als erster römischer Autor großen Wert darauf, zwischen „limes“ (Landgrenze) und „ripa“ (Flussgrenze) präzise zu unterscheiden¹¹. Als markantes Beispiel sei hier nur die Stelle (*Tac.*, Agricola 41, 2) genannt, wo Tacitus das angebliche militärische Versagen des von ihm so verhassten Domitian an der mittleren Donaufront anprangert:

“... tot militares viri cum tot cohortibus expugnati et capti; nec iam de limite imperii et ripa, sed de hibernis legionum et possessione dubitatum.”

„... so viele höhere Offiziere und so viele Kohorten in den befestigten Plätzen zur Kapitulation gezwungen und gefangen genommen worden; schon waren nicht nur die Landgrenzen (limes) und die Flussgrenzen (ripa, hier konkret die Donau), sondern die Winterlager der Legionen und der gesamte Besitz gefährdet.“

Insofern wird man die Anspielung des Tacitus auf den grenzüberschreitenden Handel mit den Germanen (vgl. nur Wolters 1991, 81 f.) an der „ripa“ (Donaugrenze) in Raetien doch sehr präzise fassen müssen. Diese Bemerkung ist sicherlich nicht auf die gesamte Länge des Stroms beziehen, wo er nur in vorflavischer Zeit die Reichsgrenze Raetiens bildete, sondern, wie schon oben gesagt, nur auf jenen Abschnitt östlich des raetischen Limes, wo er der Zeit um 100 n. Chr., in der Tacitus seine „Germania“ abfasste, östlich von Eining die Nordgrenze Raetiens (ripa) bildete (Abb. 15). So gewinnt man gute Argumente, diese Handelszentren auf den östlichen Teil der Provinz, in diesem Fall auf Regensburg und Straubing beziehen, wo ja um 100 n. Chr. nicht nur größere Vici unter der außerordentlich starken militärischen Überwachung durch jeweils zwei Auxiliareinheiten existierten, sondern auch die direktesten natürliche Verbindungen zwischen Böhmen und der römischen Provinz ins Donautal einmündeten (s. o.).

Offensichtlich waren die Angehörigen anderer germanischer Stämme aus dem böhmischen Raum, die in Raetien Handel treiben wollten, gezwungen, ihre geschäftlichen Transaktionen in den Vici beider Kastellorte

¹¹ Zum Begriff *ripa* als Flussgrenze des Reiches im Gegensatz zum *limes* als Landgrenze ab Tacitus vgl. nur Dietz 1993, 321 f.

durchzuführen. Auch die Kontrolle über einwanderungswillige Gruppen durch das römische Militär dürfte spätestens seit flavischer Zeit hier stattgefunden haben. Nur die Hermunduren genossen, zumindest bis in das frühe 2. Jahrhundert hinein, hier Privilegien – warum auch immer.

In der nicht allzu dichten historischen Überlieferung und der historischen Forschung werden die Wohnsitze der Hermunduren in der frühen und mittleren Kaiserzeit immer noch vage zwischen dem Untermaingebiet, Thüringen und Nordböhmen lokalisiert. Eine solche Mobilität wäre ja für einen germanischen Stamm dieser Zeit im Prinzip nicht verwunderlich. Allerdings gibt es bisher keine wirklich stichfeste Belege, wann genau der Stamm wo gesiedelt hat.¹² Immerhin wird, wie gesagt eine Ansiedlung des Stammes im nordböhmisches Raum zur Zeit um 100 erwogen, was zum oben Gesagten gut passen würde. Darauf weist ja die recht präzise Aussage von Tacitus (*Tac.*, *Germ.* 41, 2) hin:

„in Hermunduris Albis oritur, flumen inclutum et notum olim: nunc tantum auditur.“

(„Im Gebiet der Hermunduren entspringt die Elbe, einst ein uns vom Augenschein wohlbekannter Fluß; jetzt kennt man ihn nur noch vom Hörensagen“).

Allerdings wird es auch in Zukunft aus grundsätzlichen methodischen Gründen kaum möglich sein, dieses Siedlungsgebiet der Hermunduren mit archäologischem Material sicher nachzuweisen.

SCHLUSSBEMERKUNG

Wie auch immer – mit der wachsenden Erkenntnis einer offenbar gar nicht so geringen germanischen Zuwanderung in die römische Provinzbevölkerung Raetiens während der frühen und mittleren Kaiserzeit kann man nun auch ein Phänomen erklären, mit dem die Forschung lange Zeit nichts so Rechtes anzufangen wusste:

Das relativ häufige Vorkommen von germanischen Trinkhornbeschlägen (Abb. 19) in der Provinz während des 1. bis 3. Jahrhunderts (*Maier 1985; Uenze 2006*). Die Deutungen schwankten bisher zwischen: Man nahm als Erklärung für die doch relativ häufigen Überresten von germanischen Trinkhörnern in Raetien eine Funktion als Beutegut, als Trophäen, oder als eingehandelttes Souvenir an. Nur an Benutzer germanischen Ursprungs innerhalb der Provinz, die sich als römische Provinzbewohner assimiliert hatten, dachte man bisher weniger.

Im Lichte des oben Aufgeführten sollte man dies aber überdenken: In Raetien sind diese Trinkhörner wohl eher als letzte archäologisch fassbare Reminiszenz einer ansonsten in ihrer archäologischen Zeugnissen völlig romanisierten Bevölkerungsgruppe an ihre ursprünglich germanische Herkunft werten. Denn wenigstens in ihren Trinksitten waren sie den aus dem mittleren Donaauraum eingewanderten Vorvätern doch noch verbunden (*Steidl 2013, 162 f.; 2022a, 27*).

Einen wichtigen Punkt möchte ich zum Schluss noch anfügen: Was hier aus der Literatur zusammengestellt worden ist, stellt sicherlich nur die sprichwörtliche Spitze des Eisbergs dessen dar, was in Bayern tatsächlich in öffentlichen und privaten Sammlungen an germanischen Funden der frühen und mittleren Kaiserzeit vorhanden ist. Diese verstreuten archäologischen Zeugnisse von Germanen der frühen und mittleren Kaiserzeit in Raetien in Museen, Denkmalämtern und in Privatbesitz systematisch zu sammeln und auszuwerten, wäre gewiss eine lohnende Aufgabe für die zukünftige Forschung.

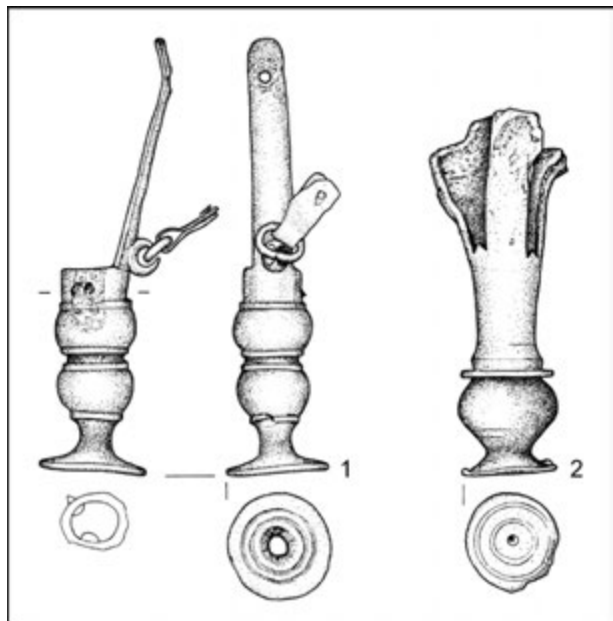


Abb. 19. „Römerposten“ bei Altjoch, Gde. Kochel a. See, Lkr. Bad Tölz-Wolfratshausen. Trinkhornbeschläge der 1. Hälfte des 3. Jahrhunderts n. Chr. aus Buntmetall (ohne Maßstab; nach *Uenze 2006*).

¹² Die historischen Zeugnisse zu den Hermunduren sind bei *Schmidt 1970* zusammengestellt, die dort erwähnten archäologischen Thesen sind als zeitbedingt und nicht mehr aktuell zu werten. Vgl. auch *Dietz 1998*.

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Raetia a stredné Podunajsko – podiel germánskej zložky vo včasnej populácii provincie Raetia

Thomas Fischer

Súhrn

Na rozdiel od susednej východnej provincie Noricum, kde tvorili obyvateľstvo provincie v dobe rímskej hlavne potomkovia pôvodných Keltov a prisťahovalcov z Rímskej ríše, bola situácia v Raetii bola oveľa zložitejšia. Raetia bola pravdepodobne menej husto osídlená ako Noricum. Môžeme to vidieť aj na oveľa nižšej úrovni urbanizácie. Potomkovia raetsko-vindelického obyvateľstva z predrímskych čias zrejme zohrávali len malú úlohu pri formovaní rímskeho provinčného obyvateľstva Raetie.

Z archeologického hľadiska ich možno zaradiť do „skupiny Heimstetten“ z obdobia ranného cisárstva. Spoločnosť a kultúra oppid z neskoršej doby laténskej (LTD1) bola v čase rímskej okupácie v roku 15 pred n. l. už v podunajskej oblasti a vo východnom Bavorsku nahradená germánskou „juhovýchodobavorskou skupinou“. Ale ani tá už v roku 15 pred n. l. neexistovala. Provinčné obyvateľstvo tvorili do veľkej miery prisťahovalci z Itálie (vojaci, úradníci, obchodníci) a ľudia z Galie, ktorí prišli do krajiny hlavne ako členovia alebo „nasledovníci“ rímskych vojsk. Nové archeologické nálezy však teraz odhalili aj skupinu polabskej germánskej populácie východného pôvodu (z územia dnešných Čiech a Slovenska), ktorá sa usadila v západnej Raetii v okolí Augsburgu v ranom cisárskom období počas vlády Tibéria, ale archeologicky sa čoskoro zlúčila s ostatným obyvateľstvom provincie. Táto polabská germánska migrácia pokračovala v 2. a 3. storočí n. l. Je možné, že niektorí z týchto prisťahovalcov boli Hermunduri, ktorých spomína rímsky historik Tacitus.

Obr. 1. Bavorsko v dobe rímskej okolo roku 200 n. l. (návrh Th. Fischer, kresba R. Röhl).

Obr. 2. Mapa juhovýchodnej bavorskej skupiny (podľa Rieckhoff 1995). Legenda: a – sídlisko; b – hrob; c – náhodný nález

Obr. 3. Mapa skupiny Heimstetten (podľa Steidl 2015).

Obr. 4. Raetia v ranom cisárskom období (podľa Gschwind 2015).

Obr. 5. Auerberg, plán s vyznačenými plochami vykopávok v rokoch 1968–1979 (čierne; podľa Ulbert 1995).

Obr. 6. Auerberg, labsko-germánska keramika (bez mierky; podľa Flügel 1999).

Obr. 7. Polabské germánske osídlenie v 1. a 2. storočí (podľa Lenz-Bernhard 2002, 120; obr. 81): 1 – Dolná Labe, západné Meklenbursko a severné Brandenbursko; 2 – oblasť strednej Labe a Sály; 3 – oblasť Main-Tauber; 4 – Čechy; 5 – Slovensko. V kontexte osídlenia na Rýne: 6 – Falcko; 7 – Alsasko; 8 – Starkenburg.

Obr. 8. Sand (Todtenweis, okres Aichach-Friedberg). Dievčenský hrob: rímske vreckové zrkadielko a rímsky zámok rakvy z farebného kovu, súprava na pradenie skla (podľa Steidl 2022a).

Obr. 9. Sand (Todtenweis, okres Aichach-Friedberg). Znečistenie „stĺpovitou“ zeminou (štvorec s dĺžkou strany päť metrov pozostávajúci z 12 stĺpov) okolo hrobu 13 (podľa Steidl 2022a).

Obr. 10. Sand (Todtenweis, okres Aichach-Friedberg). Urnový hrob 35, čiastočne spojené kovové hrobové predmety v meraní vysokoenergetického počítačového tomografu, vrátane kovania pitného rohu, rímskych bronzových nádob, spony, železného noža a železných nožníc (podľa Steidl 2022a).

Obr. 11. Augsburg, mapa mesta (podľa Gairhos et al. 2022).

Obr. 12. Očkovité spony vyrobené v Augsburgu (bez mierky; podľa Pauli 2021).

Obr. 13. Augsburg, „Pfärrle“, labsko-germánska keramika (bez mierky; podľa Schaub/Bakker 2001).

Obr. 14. Burghöfe (Mertingen, okres Donau-Ries). Germánske nálezy z farebných kovov. 1 – článok uzdy, 2–7 kovania picích rohov, 8–10 koncové kovania (bez mierky; podľa Franke 2009).

Obr. 15. Mapa nálezísk očkovitých spôn Almgren 45–46 v Raetii. 1 – Bregenz; 2, 3 – Kempten; 4 – Brunnen; 5 – Dietringen; 6 – Auerberg; 7 – Göggingen; 8 – Augsburg-Oberhausen; 9 – Rederzhausen; 10 – Prittriching; 11 – Derching; 12 – Bach; 13 – Wessling; 14 – Gauting; 15 – Eching; 16 – Burghöfe; 17 – Manching; 18 – Eining; R – Regensburg; S – Straubing (podľa Steidl 2013; doplnil Th. Fischer).

Obr. 16. Regensburg v období pred 180 n. l. Hore – na Dunaji „dunajské hradisko s vikierom a pohrebiskom“; dole – hradisko Regensburg-Kumpfmühl s vikierom a pohrebiskom (návrh Th. Fischer, kresba R. Röhl).

Obr. 17. Straubing v období pred 180 n. l. Západná pevnosť kohorty II Raetorum; východné hradisko kohorty I Flavia milliaria sagittariorum Canathenorum equitata, vicus a pohrebiská (podľa Fischer 2015).

Obr. 18. Wehringen, okres Augsburg. Železné zbrane zo skupiny žiarových hrobov. 1 – germánska záštitná hlavica; 2 – meč s krúžkovým trňom; 3 – jednosečný nôž; 4 – dýka; 5 – germánsky hrot kopije s fazetovou tuľajkou. Hrob 15 (2–4), hrob 17 (1, 5; bez mierky; podľa Nuber 1985).

Obr. 19. „Rímsky stĺp“ pri Altjochu, (Kochel a. See, okres Bad Tölz-Wolfratshausen). Kovanie picieho rohu z 1. polovice 3. storočia n. l. vyrobené z farebného kovu (bez mierky; podľa Uenze 2006).

Prof. Dr. Thomas Fischer
Universität zu Köln
Archäologisches Institut
Albertus-Magnus-Platz
D – 509 23 Köln

Postanschrift:
Köglmüllerweg
D – 840 48 Mainburg
th.fischer@uni-koeln.de

DIE ERSTEN UND ANDERE GERMANEN IN BÖHMEN, MÄHREN UND DER SLOWAKEI

Vladimír Salač

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Abstract: **The First and Other Germanic Tribes in Bohemia, Moravia, and Slovakia.** The paper begins by presenting a brief overview of sources that are available on the arrival of the first Germans in the territory of Bohemia, Moravia and Slovakia and sums up the current interpretations. Subsequently, it asks the question of how we know that certain types of monuments actually belonged to the Germans. It states that the term Germans is usually understood as an ethnic term, but linguistic, anthropological or archaeological sources cannot tell anything about the ethnicity of the population generally, let alone in the given territory at the turn of the eras. What remains is a few historical sources, which mention the Germans in this region only at the very turn of the eras. However, even the designation Germans in ancient texts cannot be understood as a description of an ethnic group in the modern sense of the word because historians of antiquity concur that the Germans never denoted themselves with this word and never regarded themselves as Germans. Yet self-identification precisely is the decisive criterion when determining ethnicity for modern scholars who deal with this phenomenon. Nevertheless, archaeologists cannot do without the term German both as a noun and as an adjective and are forced to continue using them. However, they must admit that they are not ethnic terms but purely archaeological expressions denoting certain categories of material culture.

Das Thema der Ankunft der ersten Germanen in Böhmen, Mähren und der Südwestslowakei wird seit dem 19. Jahrhundert untersucht und diskutiert. In der Regel wird es mit Hilfe archäologischer Quellen angegangen, weil schriftliche Quellen selten sind und sich nur auf bestimmte Gebiete und bestimmte Zeiträume beziehen. Im Allgemeinen stehen für die Rekonstruktion der alten Geschichte der Germanen etwa vier Arten von Quellen zur Verfügung - historische, sprachliche, archäologische und anthropologische. Beachten wir, was sie über die Einwanderung der Germanen im böhmisch-mährisch-slowakischen Raum aussagen können.

HISTORISCHE QUELLEN

Für Böhmen ist in zeitgenössischen schriftlichen Quellen (*Strabo* 7, 1, 3 und *Velleius Paterculus* 2, 108, 2) überliefert, dass die Markomannen und andere Stämme von Marbod nach Boiohaemum gebracht wurden, wo laut Strabo schon die Quaden siedelten, wobei Boiohaemum bereits um die Zeitenwende eindeutig mit dem Böhmischen Becken identifiziert werden kann (Salač 2015; 2016). Nach J. Dobiáš (1964, 90, 113, 114) dürfte dies zwischen 9 und 1 v. Chr. geschehen sein, höchstwahrscheinlich zwischen den Jahren 9 und 6 v. Chr. Dieses Ereignis und diese Jahre wurden lange als Zeitpunkt der Ankunft der Germanen in Böhmen und als Zeit des Untergangs der Latènekultur angesehen. Kurz gefasst, Marbod und seine Markomannen sollten die Oppida erobern und die Latènezivilisation in Böhmen zerstört haben (z.B. Pleiner/Rybová et al. 1978, 623, 624), was sich gut mit der Behauptung von Tacitus (*Tac. Germania* 42) deckt, dass die Markomannen die keltischen Boii aus dem Land vertrieben. Die Quaden tauchen gerade bei Strabo zum ersten Mal in schriftlichen Quellen auf, während die Markomannen bereits zum Jahr 58 v. Chr. von *Caesar* (*BG* 1, 51, 2) unter den germanischen Stämmen erwähnt werden, die unter Ariovistus in Gallien einfielen.

Die Stellung Mährens in den schriftlichen Quellen ist einfacher und eindeutiger – keine der Quellen bezieht sich direkt auf sein Gebiet. Lediglich die Erwähnung des Flusses Marus im Zusammenhang mit dem Gefolge Marbods könnte mit Mähren in Verbindung gebracht werden, aber dies bezieht sich wahrscheinlich nur auf das Gebiet bei dessen Zusammenfluss mit der Donau (vgl. unten). Manchmal wird auch angeführt, dass die Markomannen zusammen mit den Quaden unter Marbods Führung aus dem Maingebiet auswanderten,

wobei sich erstere in Böhmen und letztere in Mähren ansiedelten (z.B. *Pleiner/Rybová et al.* 1978, 683), aber diese Annahme findet in den schriftlichen Quellen keine Unterstützung (*Salač* 2013a).

Die Ankunft der Germanen in der Slowakei wird meist mit dem Bericht in Verbindung gebracht, dass Marbod nach seinem Sturz durch Catualdas mit seinem Gefolge aus Böhmen ins Römische Reich zog, um dort Hilfe und Unterstützung zu suchen. Während er selbst in Ravenna Asyl erhielt, wurde seinem Gefolge der Zutritt ins Reich verweigert. Ein ähnliches Schicksal ereilte bald auch seinen Bezwiner Catualda und dessen Gefolgsleute. Tacitus (*Tac. Annales* 2, 63, 6) berichtet, dass diese Barbaren in das Gebiet zwischen den Flüssen Marus (March) und Cusus (Waag) verbannt wurden. Nach Ansicht der Althistoriker fand das erste Ereignis im Jahr 18 oder 19 statt, das zweite folgte kurz danach, und bereits im Jahr 20 wurde Vannius vom Stamm der Quaden von Rom als König für die im genannten Gebiet angesiedelten Leute eingesetzt (z.B. *Dobiáš* 1964, 140–150; *Kolník* 1977; 1991; 2003; alle mit weiterführender Literatur).

Aufgrund schriftlicher Quellen ging man lange davon aus, dass die Besetzung des riesigen Gebiets vom Erzgebirge bis zum Fluss Waag durch die Germanen um die Zeitenwende innerhalb von höchstens 30 Jahren erfolgte.

LINGUISTISCHE QUELLEN

Eines der Hauptmerkmale der Germanen ist eine germanische Sprache, für Sprachwissenschaftler ist sie sogar das entscheidende Kriterium für ihre Anerkennung und Identifizierung. Das Problem besteht jedoch darin, dass man nicht feststellen kann, welche Sprache die Bevölkerung Böhmens, Mährens oder der Slowakei in den Jahrhunderten um die Zeitenwende gesprochen hat, geschweige denn in der engeren Zeitspanne von ca. 100 v. Chr. bis 50 n. Chr. Die Linguistik verfügt nämlich über keine Mittel, die Sprache der Bevölkerung Böhmens, Mährens oder der Slowakei in dieser Zeitspanne zu bestimmen, nicht zuletzt, weil sie die Entwicklung der Sprache nicht so genau datieren kann. Daran ändert auch die Tatsache nichts, dass es nach Ansicht einiger Sprachwissenschaftler im Untersuchungsgebiet Toponyme gibt, die aus der germanischen Sprache stammen (vgl. *Blažek* 2000; 2020).

Die Kraftlosigkeit der Linguistik bezüglich der ersten Germanen, die sich auch auf unser Untersuchungsgebiet beziehen lässt, wurde sehr deutlich von A. A. Lund (1998, 36) ausgedrückt: „*Zum einen setzt man dabei stillschweigend voraus, daß die frühesten historisch greifbaren Germanen auch germanisch sprachen. Dies läßt sich ohne Zirkelschluß (petitio principii) nicht nachweisen; denn das Eintreten der ersten germanischen Lautverschiebung, auf die man sich dabei gern bezieht, wird nun einmal chronologisch subjektiv angesetzt.*“

ANTHROPOLOGISCHE QUELLEN

Mit der Entwicklung der Genetik hat sich ein Raum für die Diskussion über ihre Verwendung bei der Bestimmung der ethnischen Zugehörigkeit von Individuen und Bevölkerungsgruppen in vergangenen Epochen eröffnet (*Venclová ed.* 2013, 11, 12), d.h. auch bei der Feststellung der germanischen Herkunft bestimmter Populationen oder deren Teile. Häufiger wird die Genetik bei der Bestimmung der Kelten eingesetzt (z.B. *Koch/Cunliffe* 2010/2016/2017), aber gelegentlich wird sie auch als Mittel zur Erforschung der alten Germanen angeführt (z.B. *Harland/Friedrich* 2020).

Leider muss man feststellen, dass die Genetik uns nicht dabei helfen kann, die Ankunft der alten Germanen in Böhmen, Mähren und der Slowakei zu erläutern, und zwar aus zwei wesentlichen Gründen. Erstens, weil es fast keine anthropologischen Überreste aus dem entsprechenden Zeitraum gibt, die dies ermöglichen würden, und zweitens, weil die Genetik von ihrem Wesen aus nicht in der Lage ist, die ethnische Zugehörigkeit zu bestimmen.

Was die anthropologischen Quellen betrifft, so ist festzustellen, dass es im Untersuchungsgebiet keine Skelettbestattungen aus der Spätlatènezeit gibt und überhaupt nicht bekannt ist, wie die als keltisch geltende hiesige Bevölkerung die Verstorbenen behandelt hat. Aus der behandelten Zeit der Ankunft der Germanen, also etwa 10 v. Chr. – 20 n. Chr., sind die Skelettgräber nur in Böhmen bekannt. Sie sind aber sehr selten und zudem ist die Beziehung der auf diese Weise bestatteten Individuen zu den in den Brandgräbern begrabenen Verstorbenen nicht ganz klar (z.B. *Droberjar* 2011). Auch die bescheidenen Funde menschlicher Knochen in latènezeitlichen oder frühkaiserzeitlichen Siedlungen tragen nicht dazu bei, den Mangel an Quellen zu ergänzen (*Droberjar* 2010; *Salač* 2014, 441, 442).

Doch selbst wenn es genügend Skelettfunde aus den Jahrzehnten um die Zeitenwende gäbe, könnte die Genetik nichts zur Lösung der Frage beitragen, wann und woher die Germanen als ethnische Gruppe angekommen sind. Dem steht eine fundamentale allgemeine Tatsache entgegen. Ethnizität ist unter allen Umständen eine rein soziale Angelegenheit (näher dazu unten) und kann daher nicht naturwissenschaftlich untersucht werden. So wie die DNA die Sprache, Religion, politische Ansicht usw. einer Bevölkerung nicht bestimmen kann, kann sie auch nicht die ethnische Zugehörigkeit bestimmen.

ARCHÄOLOGISCHE QUELLEN

Die häufigsten Quellen, die zur Rekonstruktion der Einwanderung der Germanen in Böhmen, Mähren und der Slowakei genutzt werden, sind archäologische Quellen. Das erste Vordringen der Germanen nach Böhmen wurde in Verbindung mit den Funden der Bodenbacher Gruppe schon in der Frühlatènezeit angenommen (z.B. *Mähling 1944; Reinecke 1915; vgl. Venclová 1973*). In den 1980er und 1990er Jahren wurde auch diskutiert, ob nicht bereits in der mittleren Latènezeit sich germanische Völker in Nordwestböhmen niederließen (*Venclová 1987; 1988; Waldhauser 1984; 1991*). Heute ist die These eines so frühen und massiven Eindringens der Germanen in das latènezeitliche Böhmen nicht mehr aktuell und als früheste Erscheinung der Germanen im Böhmisches Becken wird die Kobylar-Gruppe der Stufe LT D1 aufgrund ihres Brandritus und der Verwendung von Przeworsk-Keramik angesehen (vgl. *Droberjar 2006a; Salač 2013b*). Angesichts der Verschiebungen in der absoluten Chronologie könnten sich diese Menschen bereits Ende des 2. Jahrhunderts v. Chr. in den Randgebieten Nordböhmens niederlassen haben (z.B. *Rieckhoff 1995; 2012; 2018*).

Als früheste germanische Denkmäler zählten und zählen auch Siedlungsobjekte mit der Przeworsk- oder przeworskartiger Keramik aus dem böhmischen Binnenland, und die Keramik mit facettierten Rändern wurde dabei zum entscheidenden Kriterium für die Identifizierung der ersten Germanen (*Droberjar 2019b; Peschel 1978; Salač 1995; Waldhauser 1992*). Zunächst wurden diese Funde auf das Ende der alten Zeitrechnung datiert. Später, mit der erhöhten absoluten Chronologie der Spätlatènezeit und der Przeworsk-Kultur selbst, erhöhte sich auch die Datierung der Expansion und der Einflüsse dieser Kultur nach Westen und Süden (*Droberjar 2016; Rieckhoff 1995; 2012; 2018; Salač/Kubálek 2015*). Heute können diese Denkmäler, wie auch die Kobylar-Gruppe, in die Jahrzehnte um 100 v. Chr. datiert werden. Diese Przeworsk-Leute stellten jedoch nicht viele Einwanderer im Latènemilieu oder in den Gebieten an dessen Peripherie dar.

Ein Wendepunkt in der Diskussion über die Datierung des massiven Zustroms von Germanen nach Böhmen war die Studie von *J. Waldhauser (1983)*, der überzeugend darlegte, dass der Untergang (nicht nur) der böhmischen Oppida früher als zwischen 9–6 v. Chr. erfolgte, d. h. vor dem Einzug Marbods, der damit von der Verantwortung für ihren Untergang befreit wurde. Die frühere Datierung des Endes der latènezeitlichen Zivilisation öffnete somit den Weg für eine frühere Datierung der germanischen Besiedlung des gesamten böhmischen Beckens, die mit der Großromstedter Kultur in Verbindung gebracht wird, deren Denkmäler sich praktisch im gesamten ehemals von der Latènekultur, d. h. den Kelten, besiedelten Gebiet befinden. Die Ankunft der Träger der Großromstedter Kultur, die ausnahmslos für Germanen gehalten werden, hat sich in den letzten fünfzig Jahren um die ganzen Jahrzehnte fast bis zur Mitte des ersten Jahrhunderts v. Chr. verschoben (z.B. *Droberjar 2006a; 2016; Salač 2006; Salač ed. 2013; Waldhauser 1992*).

Auch in Mähren werden die Funde der Przeworsk-Kultur aus der Latènezeit den Germanen zugeschrieben, dabei scheint es, dass keine Form dieser Kultur hier ein kompaktes Gebiet besetzt hat. Die wenigen Gegenstände dieser Kultur und damit auch ihre nicht zahlreiche Träger drangen in das Latènegebiet ein, wie die Przeworsk-Funde in den Latènesiedlungen oder in einigen wenigen Brandgräbern im Bereich der Latènekultur zeigen belegen. Daher ist es nicht ungewöhnlich, dass über germanische Funde in den keltischen Siedlungen oder Gebieten geschrieben wird (z.B. *Droberjar 2019a; Horáková 1993; Kalábek 1999; Meduna 1968*). Da es in Mähren nur vereinzelte Funde der Stufen A und B1a der Römischen Kaiserzeit gibt, wird angenommen, dass die eigentliche Besetzung des Landes durch die Germanen, bzw. Elbgermanen (meistens werden Markomannen und Quaden genannt) erst im dritten Jahrzehnt nach Christi stattfand (zusammenfassend z.B. *Tejral 2009; Zeman 2017*). Hinsichtlich dessen, dass in Mähren keine Belege für eine spätlatènezeitliche Besiedlung der Stufe LT D2 vorhanden sind (z.B. *Čížmář 2003, 65*), wird angenommen, dass sie in ein leeres, verlassenes Land eingetroffen waren.

In der Slowakei werden die ersten Germanen auch im Zusammenhang mit den Funden der Przeworsk-Keramik oder der Keramik der Stufe RKZ A in Erwägung gezogen, die hier jedoch vereinzelt vorkommen

(Čambal/Kovár/Hanuš 2013). Die eigentliche germanische Migrationswelle wird in die Stufe RKZ B1b datiert, also in die 20er Jahre des 1. Jahrhunderts n. Chr., was mit den historischen Berichten über Vannius' Königreich übereinstimmt (Kolník 1977; 1991; Krekovič 2009). Aus archäologischer Sicht wurde die Südwestslowakei von den Germanen zur gleichen Zeit oder mit einer minimalen zeitlichen Verzögerung wie Mähren besiedelt.

WAREN DIE ERSTEN GERMANEN WIRKLICH GERMANEN?

Die Forschung über die ersten Germanen in Böhmen, Mähren und der Slowakei konzentriert sich in erster Linie auf die Identifizierung und Datierung der frühesten archäologischen Funde, die ihnen in diesem Gebiet zugeschrieben werden können, ob es sich um Przeworsk-Artefakte und deren Derivate, um Funde der Großromstedter Kultur oder um Funde vom Beginn der Stufe B der Kaiserzeit handelt. Große Aufmerksamkeit gilt ihrer absoluten und relativen Datierung, der Frage, woher sie stammen, wie sie in unser Gebiet kamen und nicht zuletzt des möglichen Zusammenhangs ihres Vorkommens mit historischen Ereignissen. Beträchtliche Anstrengungen wurden auch der Typologie von Artefakten, Gräbern und Siedlungsgruben, ihrer Klassifizierung und Einordnung in die feinsten typologischen Kategorien und chronologischen Stufen gewidmet (z.B. Dobiáš 1964; Droberjar 1999a; 1999b; 2006a; 2006b; Kolník 1977; 1980; Motyková-Šneidrová 1965; Motyková 1976; Salač 2006; 2009; 2013a; Salač/Kubálek 2015, 63–65; Tejral 2009; Waldhauser 1983; 1992; Zeman 2017). In der Flut von Teilfragen entgeht der Aufmerksamkeit jedoch die grundsätzliche Frage: Woher wissen wir eigentlich, dass die untersuchten Funde den Germanen gehörten? Welche Belege haben wir für diese Identifikation, die am häufigsten als eine ethnische verstanden wird? Die übliche allgemeine und traditionelle Ansicht über die alten Germanen im sgn. Barbarikum (z.B. Kolník 1977; Motyková-Šneidrová 1965; Pleiner et al. 1978; Salač 1995; 2013a; Tejral 2009) wurde sehr präzise in einem archäologischen Lehrbuch über die römische Kaiserzeit von E. Droberjar zum Ausdruck gebracht: „Die wichtigste ethnische Gruppe der Barbaren waren die Germanen, die in schriftlichen Quellen bereits im 2. Jahrhundert v. Chr. (Poseidonios von Apameia) und in archäologischen Quellen mindestens seit der älteren Eisenzeit (Jastorf-Kultur) bekannt sind“ (Droberjar 2019b).

Doch welche Quellen bezeugen eine solche Behauptung? Aus den oben skizzierten Quellenarten geht klar hervor, dass linguistische und anthropologische (DNA) Quellen nicht verwendbar sind. Erstere können nicht datiert werden und letztere haben mit der Ethnizität nichts zu tun. Es bleiben also historische Quellen, d. h. Texte antiker Autoren, und archäologische Quellen. Wollen wir sie jedoch für die ethnische Interpretation nutzen, müssen wir uns zuerst mit dem Begriff der Ethnizität selbst auseinandersetzen, zumindest in elementarer Weise.

Leider gibt es keine allgemein anerkannte Definition von Ethnizität, obwohl sie in den letzten Jahrzehnten viel Aufmerksamkeit gewidmet wird. Die Ethnizität ist Gegenstand der Forschung vor allem in den Sozialwissenschaften, die sich mit ihr befassen und nach Methoden suchen, um sie zu bestimmen, ihr Entstehen, ihre Entwicklung, ihren Untergang usw. zu verfolgen. Im Prinzip kann man sagen, dass es in diesen Wissenschaften zwei Hauptströmungen der Wahrnehmung von Ethnizität gibt. Die ältere, primordialistische Strömung geht davon aus, dass die Zugehörigkeit zu einer ethnischen Gruppe angeboren und einer Person ein für alle Mal gegeben und durch traditionelle Werte wie Sprache, Mythos über einen gemeinsamen Ursprung, gemeinsames Territorium, Kultur, Religion usw. gekennzeichnet ist. Dagegen leugnet modernistische Strömung, die auch als konstruktivistisch bezeichnet wird, die Bedeutung dieser Attribute der ethnischen Zugehörigkeit zwar nicht, betont aber, dass es sich in erster Linie um eine situationsbedingte Angelegenheit handelt, d. h. dass jeder Einzelne die ethnische Zugehörigkeit selbst bestimmt, sie ändern kann bzw. dass er mehrere Ethnizitäten besitzen kann. Diese Sichtweise, welche die Selbstbestimmung der Individuen und ganzer sozialer Gruppen bevorzugt, herrscht heute vor und wird vor allem auf theoretischer Ebene als richtiger angesehen (siehe z.B. Barth 1969; Brather 2004; Jenkins 1997; Stack et al. 1986). Grundsätzlich lässt sich also sagen, dass für die Modernisten/Konstruktivisten in den Sozialwissenschaften ein Kelte oder ein Germane derjenige ist, der sich als solcher fühlt und identifiziert.

Akzeptieren wir diese Ansicht, ergibt sich ein eher unerfreuliches Bild von den Möglichkeiten der Archäologie, die Ethnizität alter Völker, u. a. auch der Germanen, zu bestimmen. Wir müssen zugeben, dass sich Gefühle der Menschen, einschließlich ihrer Selbstidentifikation, nicht in archäologischen Quellen widerspiegeln und daher von Archäologen nicht untersucht werden können. Aber auch der primordialistische Ansatz zur Ethnizität bietet den Archäologen keine besseren Aussichten, da die meisten Attribute (Sprache, Religion,

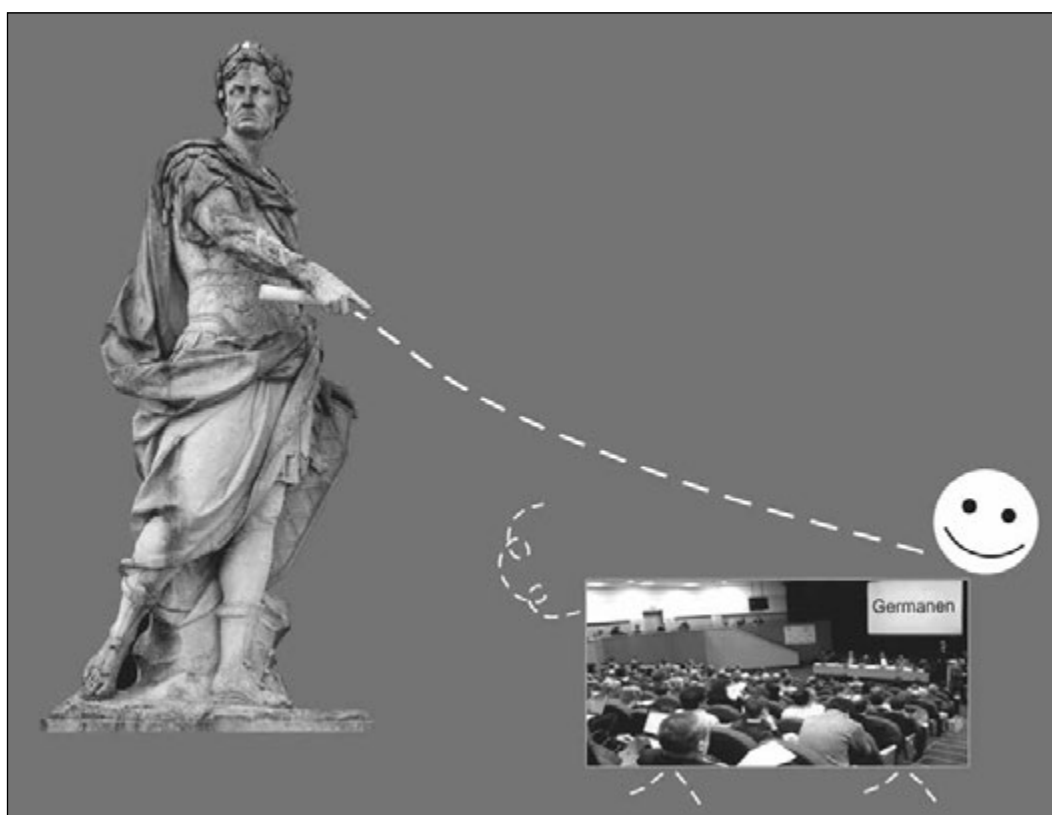


Abb. 1. Gelehrte verschiedener wissenschaftlicher Fächer, die sich mit den Germanen in der 1. Hälfte des 1. Jahrhunderts v. Chr. und kurz danach beschäftigen, sind vollständig auf Caesars Informationen angewiesen und forschen de facto unter seiner Aufsicht.

Mythen usw.) einer so verstandenen Ethnizität von ihnen nicht untersucht werden können und ihnen nur ein materieller Aspekt der Kultur übrigbleibt, der nach der archäologischen Theorie die Ethnizität nicht widerspiegelt (zusammenfassend z.B. Jones 1997; Květina 2010). Erschwerend kommt hinzu, dass die materielle Kultur der vermeintlichen Germanen nicht einheitlich ist, die Archäologen schreiben ja den Germanen die Jastorf-, Großromstedter, Przeworsk-, Oksywie-, Wielbark- und andere Kulturen und Gruppen zu, was an sich schon beweist, dass archäologische Kulturen die Ethnizität nicht wirklich widerspiegeln. Schließlich kann nur festgestellt werden, dass die ethnische Deutung der archäologischen Funde aus den Jahrhunderten um die Zeitenwende vollständig von den schriftlichen Quellen abhängt, die allein über die ethnische Zugehörigkeit aussagen können.

Die Zuordnung von Funden zu den Germanen beruht immer direkt oder indirekt auf der Behauptung eines antiken Autors (Abb. 1), dass in einem bestimmten Gebiet zu einer bestimmten Zeit Germanen lebten. Das Attribut germanisch bei Keramik, Fibeln, Gürtelhaken und anderen Funden ist darauf zurückzuführen, dass irgendwo in den schriftlichen Quellen steht, dass in einem Gebiet in der Zeit dieser Funde die Germanen lebten. Falls schriftliche Berichte über ein bestimmtes Land fehlen, dann sucht man nach dem nächstgelegenen Gebiet mit den gleichen Funden, für das solche Berichte vorhanden sind. Anschließend wird eine einfache Argumentation angewandt: Werden in einem Gebiet mit einer bestimmten materiellen Kultur Germanen erwähnt, sind sie überall dort, wo diese Kultur vorkommt, was natürlich der archäologischen Theorie widerspricht (z.B. Brather 2004; Jones 1997; Květina 2010).

Die erste Erwähnung darüber, dass in Böhmen (Boiohaemum) die Germanen leben, stammt von *Velleius Paterculus* (2, 108, 109), der sie irgendwann nach 6 n. Chr. aufzeichnete. Etwa aus der gleichen Zeit stammt auch Strabos (*Strabos* 7, 1, 3) Information über germanische Quaden und Markomannen bzw. über die Ankunft Marbods in Böhmen. Weitere Berichte über die Germanen in Böhmen stammen erst von Tacitus (*Tac. Annales* 2, 44–46; 62, 63; *Tac. Germania* 42). Daraus ergibt sich eindeutig, dass mittels schriftlicher Quellen die Germanen im böhmischen Becken vor dem Einzug der Markomannen nicht nachweisbar sind.

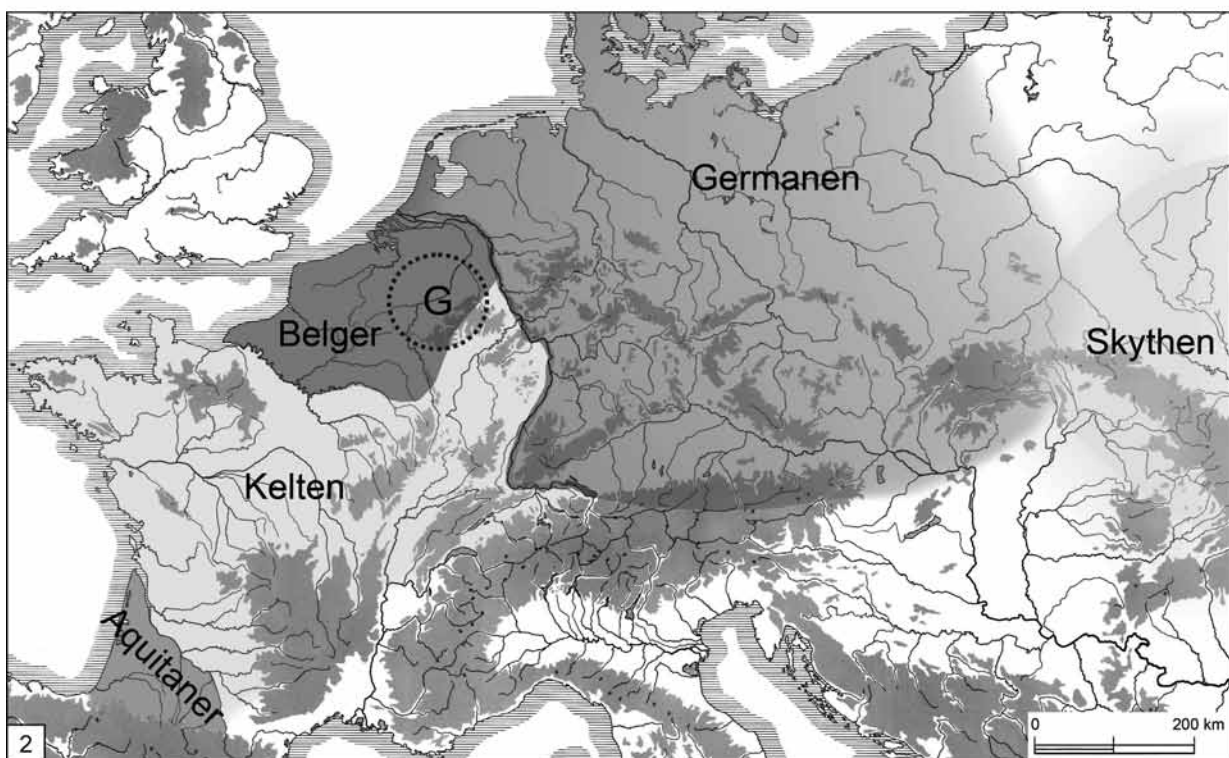
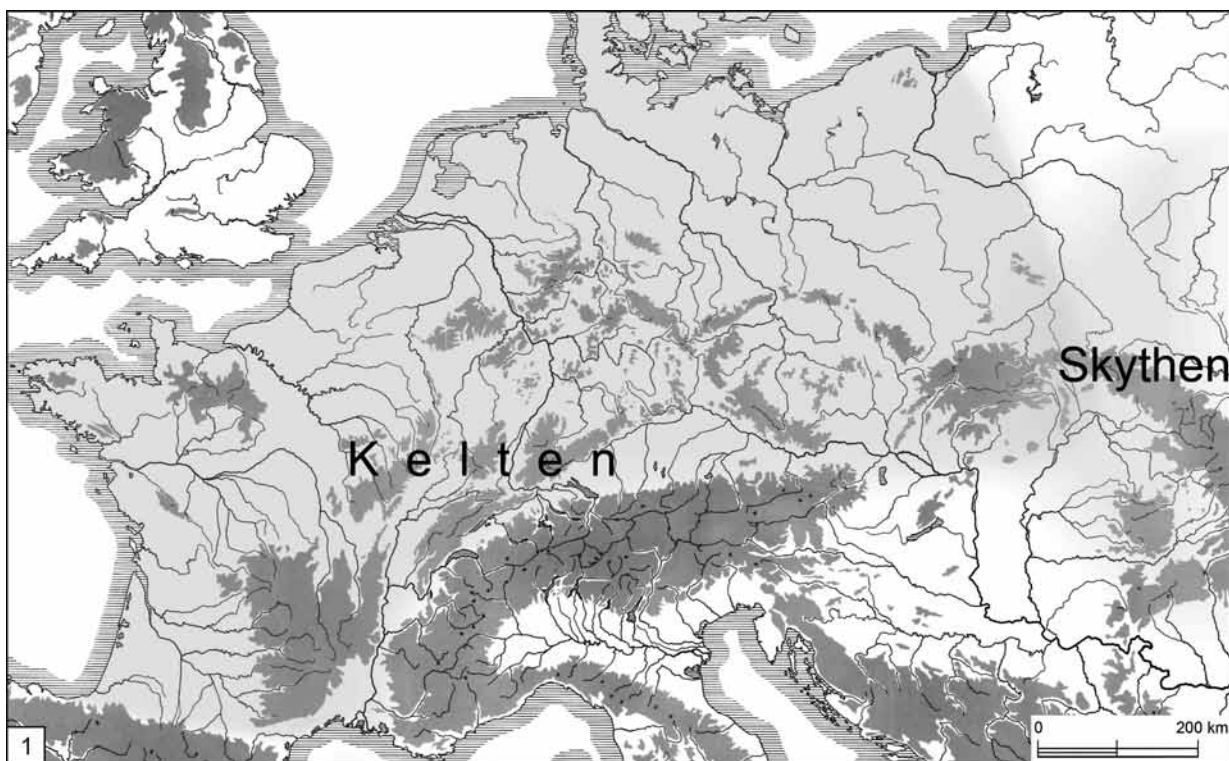


Abb. 2. Nach der Veröffentlichung von Caesars Gallischem Krieg wurde die Bevölkerung Mitteleuropas in Rom nicht mehr als Kelten, sondern als Germanen bezeichnet. 1 – vor 52/51 v. Ch.; 2 – nach 52/51 v. Ch.

Da das böhmische Becken aber schon vor ihrer Ankunft, also vor 9 v. Chr., von der Großromstedter Kultur besiedelt war, bedienen wir uns bei deren germanischen Deutung dessen, dass sie aus dem Main- oder Saalegebiet zu uns kam (z.B. *Droberjar* 2006a, 2006b; *Peschel* 1978; 1997; *Salač* 2013a), d. h. aus Gebieten, in denen laut *Caesars* (z.B. *BG* 1, 1, 3) die Germanen mindestens schon in den 50er Jahren des 1. Jahrhundert v. Chr. leben sollten. In Wirklichkeit erwähnt Caesar weder Main, noch Saale, sondern er schreibt allgemein über Germanen „hinter dem Rhein“. In diesem Zusammenhang muss eingeräumt werden, dass die Germanen vor Caesar als eigenständiges Volk nicht direkt belegbar sind (vgl. *Salač* 2023).¹

Die germanische ethnische Deutung der Besiedlung Mährens im 2. bis 3. Jahrzehnt des 1. Jahrhunderts n. Chr. beruht, der oben gezeigten Denkkonstruktion nach, auf der rein archäologischen Feststellung, dass sich dort zu dieser Zeit dieselbe Kultur (RKZ B1b) ausbreitete, die wir aus Böhmen und anderen Gebieten entlang der Elbe kennen und diese Gebiete sind in zeitgenössischen Schriftquellen als germanisch bezeichnet (z.B. *Velleius Paterculus* 2, 106–110). In der Slowakei ist die Quellenlage ähnlich wie in Böhmen, nur mit einer zeitlichen Verschiebung von zwei bis drei Jahrzehnten. Die schriftlichen Quellen erwähnen die Ansiedlung der Gefolgschaften von Marbod und Catualda im Gebiet zwischen den Flüssen March und Waag sowie die Tatsache, dass diesen Leuten der Quade Vannius als König eingesetzt wurde. Diese Berichte stimmen gut mit den archäologischen Erkenntnissen überein, dass die Funde aus dieser Zeit vollständig mit den Funden in Böhmen übereinstimmen, woher die beiden Gefolge und also die Germanen allgemein, in die Südwestslowakei gelangen sollten, natürlich über Mähren, ob nur die Quaden oder auch die Markomannen.

Die oben angedeuteten, von den schriftlichen Quellen ausgehenden Konstruktionen, die dazu führen, die Funde der kaiserzeitlichen Stufen A–B1 auf dem Gebiet Böhmens, Mährens und der Slowakei als germanisch zu bezeichnen, sind logisch und richtig. Sie sind jedoch nur so lange richtig und logisch, bis wir sie ethnisch interpretieren wollen. Denn es ist offensichtlich, dass auch die in den schriftlichen Quellen enthaltenen ethnischen Festlegungen nicht immer objektiv und richtig sind. Heute sind die Althistoriker davon überzeugt, dass die Germanen östlich des Rheins in erster Linie ein Produkt Caesars sind, der es für seine privaten machtpolitischen Ziele geschaffen hat (Abb. 2). Das heißt vor allem, um seinen Missbrauch der römischen Legionen in den Kriegen in Gallien zu rechtfertigen. Zu diesem Zweck musste er in Rom ein Gefühl der Bedrohung durch einen mächtigen und bis dahin unbekannten Feind, nämlich Germanen, erzeugen (z.B. *Schauer* 2016). Dies ist ihm zweifellos gelungen und nach der Veröffentlichung seines im Winter 52/51 v. Chr. abgeschlossenen Gallischen Krieges wird die bis dahin als Kelten bezeichnete Bevölkerung der Gebiete jenseits der Alpen, östlich des Rheins und westlich der Skythen, als germanisch angesehen, obwohl die meisten griechischen Autoren weiterhin von Kelten in diesem Gebiet schreiben (z.B. *Steinacher* 2010; *Wolters* 2020).

Daraus folgt, dass die Bezeichnung Germanen der Bevölkerung Mitteleuropas von außen, ohne Rücksicht auf ihre Sprache(n), ohne Rücksicht auf ihre geistige und materielle Kultur, ohne Rücksicht auf ihre eigenen Meinungen und Empfindungen, sogar ganz ohne ihr Bewusstsein gegeben wurde. Kurz gesagt, mit Ausnahme von einigen Zehntausend Teilnehmern am Feldzug des Ariovistus nach Gallien und der von Caesars beiden Rheinüberquerungen betroffenen Menschen hatte die große Mehrheit der Bevölkerung Mitteleuropas keine Ahnung, dass sie zu Germanen wurden. Den Althistorikern zufolge benutzte *Caesar* (*BG* 6, 2, 3) den Namen einer kleinen Gruppe von Stämmen, die um die Ardennen herum lebten (die so genannten *germani cisrhenani* siehe schraffierter Kreis mit dem Symbol G in Abb. 2: 2; z.B. *Dobesch* 2001), um alle Bewohner des Gebiets östlich des Rheins zu bezeichnen. Es ist aber sehr wahrscheinlich, dass diese Menschen in Mitteleuropa das Wort Germanen bis zur Mitte des 1. Jahrhunderts v. Chr. nie gehört hatten. Das Paradox dieser Tatsache wird noch deutlicher, wenn man sich der Meinung einiger Sprachwissenschaftler anschließt, die meinen, dass diese von ihrer Umgebung als solche bezeichneten und sich wohl als Germanen fühlenden Leute, die damit als einzige die modernen Kriterien für die Zugehörigkeit zum germanischen Ethnikum erfüllen würden, keine germanische Sprache gesprochen haben. Übrigens soll das Wort Germanen keltischen Ursprungs sein (z.B. *Pohl* 2000, 46, 52–54, 58).

Entscheidend für unsere Interpretationen muß also die Überzeugung der überwiegenden Mehrheit der heutigen Althistoriker sein, dass sich die Germanen nie als Germanen fühlten, sich nie als eine einzige germanische Einheit verstanden und sich auch nie so bezeichneten, obwohl Tacitus das Gegenteil behauptet (*Tac. Germania* 2). Die Meinung der heutigen Forscher kommt in folgenden Zitaten gut zum Ausdruck: „Die germanischen Stämme waren vor der Varusniederlage keine Einheit und wurden es auch nicht danach (Eck

¹ Der oben zitierte Poseidonios zählte nach Ansicht der Althistoriker die Germanen zu den keltischen Stämmen ebenso wie die Kimbern (*Dobesch* 1995, 61–63, 90; 2001; *Wolters* 2020, 455).

2013, 23)“; „... kein ernstzunehmender Wissenschaftler ist heute der Meinung, die Germanen hätten sich selbst mit dem Ethnonym bezeichnet...“ (Reichert 2000, 146). Mit anderen Worten: Die in den antiken Quellen als Germanen genannten Menschen bildeten nach dem aktuellen Stand der Ethnizitätsforschung nie eine germanische Ethnie im modernen Sinne des Wortes (z.B. Brather 2020; Burmeister 2020; Pohl 2000; 2004; Lund 1998; Steinacher 2009; Wolfram 2018; Wolters 2020). Diese Situation lässt sich treffend mit den Indianern vergleichen (Lund 2009), die von Europäern benannt wurden, die glaubten, sie seien in Indien gelandet. Die so bezeichneten Menschen haben sich das Ethnonym Indianer nie zu eigen gemacht, haben sich nie als solche bezeichnet und haben nie eine soziale Einheit gebildet, die von Feuerland bis Nordkanada ansässig war, wie es ihrer in Europa gebräuchlichen Bezeichnung entsprechen würde.

Überträgt man diese Feststellungen auf die archäologischen Gegebenheiten in den hier untersuchten Gebieten, so wird deutlich, dass die Bezeichnung der Träger der Jastorf-Kultur, deren Anklänge wir in der Bodenbacher Gruppe in Nordwestböhmen finden, als Germanen in den Quellen keine Stütze findet. Ebenso können die Träger der Kobylar-Gruppe und anderer Przeworsk-Funde in Böhmen, Mähren und der Slowakei nicht als Germanen angesehen werden. Diese Menschen wussten nicht einmal von der Existenz der Germanen in den Ardennen, geschweige denn, dass sie sich auch als Germanen betrachteten und mit ihnen und den Trägern der Jastorf-, aber auch der Oksywie- oder Wielbark-Kultur eine Einheit bildeten. Bei den Trägern der Großbromstedter Kultur, ob sie nun aus dem Main- oder Saalegebiet nach Böhmen kamen, ist die Situation offensichtlich nicht viel besser. Auch die Quaden und Markomannen bzw. die Angehörigen anderer Stämme, die das böhmische Becken unter Marbod bewohnten, haben das Wort Germanen kaum je gehört. Sie hielten sich sicher nicht für das einzige von der Nordsee bis zur Weichsel siedelnde germanische Volk, an ihrer Stammeszugehörigkeit zweifelten sie jedoch nicht. Und offenbar wussten nur Marbod und sein engster Kreis, dass die Römer ihn und seine Stammesgenossen als Germanen bezeichneten.

Obwohl wir aus schriftlichen Quellen nichts über Mähren wissen, gibt es keinen Grund, daran zu zweifeln, dass sich auch hier die Bevölkerung mit kaiserzeitlicher Kultur der Stufe Blb nicht als Germanen identifizierte. Die Situation in der Slowakei, in der der Einfluss des nahen römischen Milieus mit dem etablierten Begriff Germanen schon dadurch deutlich wird, dass ein Teil der Bevölkerung im Jahre 20 n. Chr. von den Römern selbst hierher vertrieben wurde und von ihnen sogar einen König erhielt, lädt zu der Vorstellung ein, dass es sich tatsächlich um ethnische Germanen handelte. Glauben wir jedoch den Althistorikern, und haben wir keine andere Wahl, so haben sich auch diese Menschen nicht als Germanen bezeichnet und betrachtet. Ganz zu schweigen von der Bezeichnung Elbgermanen, die in der Archäologie und Sprachwissenschaft für sie und ihre nordwestlichen Nachbarn verwendet wird.

Es könnte vorkommen, dass in späteren Zeiten eine andere Situation herrschte und die Germanen ihre Bezeichnung von den Römern übernommen haben. Das Gegenteil ist der Fall. Althistoriker behaupten nicht nur, dass die Germanen einen solchen Namen nie als ihren eigenen betrachtet haben, sondern sie fügen hinzu, dass die Römer selbst ab dem 3. Jahrhundert n. Chr. dieses Wort nicht mehr zur Bezeichnung der zeitgenössischen Bevölkerung des Gebiets östlich des Rheins verwendeten und es durch die Namen der großen Stämme Alamannen, Franken, Goten usw. ersetzten. Sie verwenden den Begriff Germanen nur noch für die Schilderung der Vergangenheit, z.B. der Ereignisse in der Zeit des Caesar, Augustus oder Tiberius (z.B. Wolters 2020). R. Steinacher (2012, 86) stellt streng fest: „Der Germanen- und der Suebennamen hatten aber tatsächlich nur ein kurzes Gastspiel in unseren Quellen. Bereits im 3. Jahrhundert wurde diese Kategorie Caesars retrospektiv und meist in Anspielung auf Tacitus oder eben Caesar selbst gebraucht. Streng genommen ist der Germanenname eine kurzlebige und offenbar wenig brauchbare ethnographische Kategorie des Tacitus und des Caesar gewesen.“

Der Begriff Germanen verschwindet also ab dem 3. Jahrhundert auch im römischen Milieu, was an sich schon beweist, dass es sich in der Zeit seiner aktiven Verwendung durch die Römer zur Bezeichnung der nördlichen Barbaren um eine künstlich geschaffene Kategorisierungseinheit handelte, die kurz nach den Markomannenkriegen ihre Bedeutung bzw. ihren Sinn verlor. Die Funde der folgenden Jahrhunderte bis zum Eintreffen der Slawen werden in der Archäologie jedoch weiterhin als germanisch angesehen. In diesem Zusammenhang ist jedoch zu erwähnen, dass auch der ethnische Gehalt der Begriffe „Slawen“ und „slawisch“ langsam revidiert wird (z.B. Courta 2021).

Dies wirft die Frage auf, ob der Begriff Germanen in Archäologie, Geschichte oder Linguistik überhaupt verwendet werden sollte. Zu diesem Thema sind bereits viele Überlegungen publiziert worden (z.B. Brather 2004; 2020; Burmeister 2020; Jarnut 2004; Lund 1998; Pohl 2000; 2004; Steinacher 2010; 2022), die u.a. zeigen, dass die Begriffe Germanen und germanisch in Abhängigkeit von Zeit, Fachgebiet, Nationalität der Autoren

und anderen Faktoren unterschiedliche Bedeutungen haben. Ihr Inhalt hat sich verändert und variiert, und es ist klar, dass die Bezeichnung *germanisch* in der Antike eine andere Bedeutung hatte und heute unter Historikern eine andere Bedeutung hat, eine andere unter Archäologen, noch andere unter Linguisten, usw. So weist beispielsweise der Sprachwissenschaftler E. Seebold (1986, 168, 169) darauf hin, dass die Bezeichnung *Germanisch* (Sprache) heute einen neuen, auf der Grundlage wissenschaftlicher Überlegungen und Regeln gebildeten Inhalt hat, der die alte Bedeutung dieses Wortes verfehlen kann. A. A. Lund (1998, 27) fügt hinzu, dass die von den Sprachwissenschaftlern rekonstruierten Sprachen, wie z.B. die (ur-)germanische Sprache, moderne linguistische Extrapolationen sind, die von den damaligen Bevölkerungen nicht als eine bestimmte Einheit wahrgenommen wurden. Es besteht kein Zweifel daran, dass die Wörter Germane und germanisch in der Geschichte und Archäologie noch eine andere Bedeutung haben.

Die Begriffe Germanen, germanisch werden (nicht nur) in der Archäologie weiterhin verwendet werden, weil es erforderlich ist. Sie sind unersetzlich. Wenn sich die antiken Autoren auf die Bewohner in den Zeiten und Gebieten beziehen, mit denen wir uns befassen, d.h. in unserem Fall in Böhmen, Mähren und der Slowakei um die Zeitenwende, können wir diesen Begriff nicht vermeiden und so tun, als beträfe er unser Fach nicht. Wir müssen jedoch zugeben, dass unsere Germanen und unsere Bezeichnung germanisch ein archäologisches Konstrukt darstellen, eine archäologische Kategorisierung der materiellen Kultur, die keine ethnische Bedeutung hat.

Der Wandel im Denken der Archäologen der letzten Forschergenerationen über die Germanen demonstriert schön das Buch von H. Steuer (2021) „Germanen“ aus Sicht der Archäologie und seine Rezension mit dem Titel *Ein Buch über die, die es nie gab...* (Rau 2022). Die Archäologen scheinen sich langsam mit der alten Aussage von P. J. Geary (1988, VI) auseinanderzusetzen: „*The Germanic world was perhaps the greatest and most enduring creation of Roman political and military genius.*“ – indem sie ihre eigene archäologische germanische Welt aufbauen, in der aber kein Platz mehr für Ethnizität im modernen Sinne sein sollte.

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QUELLEN

G. I. Caesar

Strabo

Tac. Germania

Tac. Annales

Velleius Paterculus

Commentarii de bello Gallico

Geographika

P. C. Tacitus – De origine et situ Germanorum liber

P. C. Tacitus – Annales

Historia Romana

První a další Germáni v Čechách, na Moravě a na Slovensku

V l a d i m í r S a l a č

Souhrn

Článek nejprve předkládá stručný přehled pramenů, které jsou k problematice příchodu prvních Germánů na území Čech, Moravy a Slovenska k dispozici a shrnuje jejich aktuální interpretace. Konstatuje se, že rekonstrukce i chronologie posunu archeologických kultur připisovaných Germánům v závěru starého letopočtu do prostoru rozpadající se laténské kultury v Čechách, na Moravě a na Slovensku je v podstatě vyřešena. Nastolena je ovšem otázka, na jakém principu jsou archeologické kultury (jastorfská, przeworská, großromstedská, kultura starší doby římské) přisouzeny Germánům. Jaké prameny tuto interpretaci vlastně umožňují? Je při tom shledáno, že pojem Germáni je sice zpravidla chápán jako pojem etnický, ovšem ani lingvistický, ani antropologický či archeologický prameny o etnicitě obyvatelstva obecně, natož v uvedeném prostoru na přelomu letopočtu vypovídat nemohou. Zbývají pouze nečetné prameny historické zmiňující zde Germány, ovšem na samém přelomu letopočtu. Autor dospívá k názoru, pro přisouzení jastorfské, przeworské a zčásti großromstedské kultury Germánům chybí v pramenech jakákoliv přímá opora. V těchto případech se jedná o archeologický konstrukt, který nemůže mít etnickou náplň. Ovšem ani samotné pojmenování Germáni v antických textech nelze chápat jako označení etnika v současném chápání tohoto pojmu. Především proto, že historikové starověku se shodují v názoru, že Germáni sami sebe nikdy tímto slovem neoznačovali a nikdy se za Germány nepovažovali. Přitom právě sebeidentifikace je pro dnešní badatele zabývající se etnicitou rozhodujícím kritériem při jejím určování. Archeologové se ovšem bez pojmů Germáni a germánský neobejdou a jsou nuceni je dále užívat, musí však připustit, že se nejedná o pojmy etnické, ale o výrazy v rámci oboru ryze archeologické označující určité kategorie materiální kultury.

Obr. 1. Vědci z různých oborů, kteří se zabývají studiem Germánů v první polovině 1. století př. n. l. a krátce poté, jsou zcela závislí na informacích Caesara a ve skutečnosti provádějí svůj výzkum pod jeho dohledem.

Obr. 2. Po vydání Caesarovy knihy Poznámky o válce v Galii se obyvatelstvo střední Evropy v Římě již neoznačovalo jako Keltové, ale jako Germáni. 1 – před 52/51 př. K.; 2 – po 52/51 př. K.

doc. PhDr. Vladimír Salač, CSc.

Západočeská univerzita v Plzni

Filozofická fakulta

Katedra archeologie

Sedláčkova 15

CZ – 301 00 Plzeň

vladimir.salac@email.cz

<https://orcid.org/0009-0002-6366-5838>

LATE ROMAN PERIOD STAMPED POTTERY FROM THE NORTH-EASTERN SLOVAKIA

Some Remarks Regarding Northern Carpathian Group and Its Contacts

Kamil Švaňa – Peter Fecko

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Keywords: Late Roman period, Early Migration Period, Blažice-Bereg culture, Northern Carpathian group, Przeworsk culture, Germanic stamped pottery

Abstract: The article presents and analyses mostly new and/or unpublished or only partially published finds of the Late Roman period stamped pottery from the various areas of the North-Eastern Slovakia, namely Middle Torysa region, Upper Spiš and Upper Šariš. Most of the presented finds seemingly date to the later phase of the Late Roman period and the beginning of the Migration period (stages C3–D1) based on the presented analogies and analysis of the accompanying pottery finds. Article also discusses the spreading of this decoration in the North-Eastern Slovakia and bordering areas. It proposes the different view on the contacts of the Northern Carpathian group and areas of Middle Torysa and Hornád Valley. Particularly in the case of settlements in the Middle Torysa region such as Prešov, Ražňany, Ostrovany and others their assignment to Northern Carpathian group is questionable and should be re-evaluated.

INTRODUCTION

Phenomenon of the Late Roman stamped ware from the Eastern Slovakia and bordering regions has been studied since several decades (e.g. *Jurečko 1981; Lamiová-Schmiedlová 1969*). The discussion regarding the subject continues with the publication of new assemblages (*Soós 2019b*) or re-evaluation of the older excavations (*Luščíková/Rákoš 2018*). Yet, the finds of stamped pottery in the North-Eastern Slovakia have not been addressed so far. Present article aims not only to publish new finds of this ceramic group from the area but also to talk about possible implications connected to its appearance.

CURRENT STATE OF RESEARCH IN THE NORTH-EASTERN SLOVAKIA AND BORDERING AREAS

Topography of North-Eastern Slovakia is rugged with several mountain ranges that separate valleys and river basins. It can be divided into several regions which are also important for the topic not only because of differences such as presence of the resources (e. g. iron ore in Spiš) or position on trading routes but also based on current stage of research. For the Roman period Upper and Lower Spiš, Topľa Basin and Middle Torysa regions (Fig. 1) are the most relevant. Late Roman period settlement of Upper Spiš is concentrated in Sub-Tatra Basin with most of the sites situated around the river Poprad. As for the Lower Spiš Middle Hornád left-bank terrace between Smižany and Spišské Vlachy is where the most of the Roman period settlements were identified. Middle Torysa region has the most sites of all the analysed region with two important concentrations – one on the right-bank terrace of the river between Ražňany and Medzany and the other one situated in Prešov. Topľa Basin is named after river Topľa that flows through hilly terrain of Ondavská Highlands and Beskydy Foothills in the north-south direction.

Northern Carpathian group of Spiš and Polish Carpathians

Finds of Northern Carpathian group in Upper Spiš were summarily published by M. Giertlová and M. Soják. Recognized scale of the stamps is rather narrow and is almost exclusively constrained to rosettes and circles.

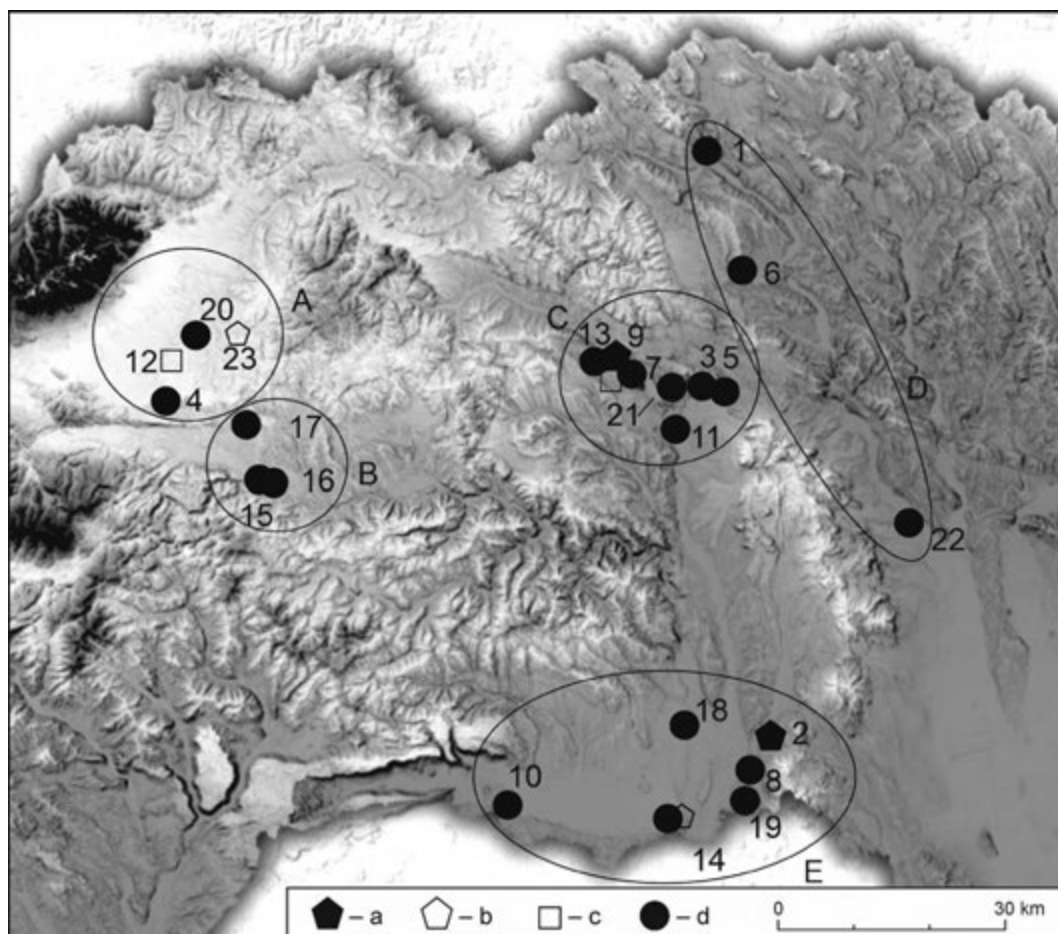


Fig. 1. Map of sites with finds of stamped pottery mentioned in the text, pottery workshops and other important sites in the Eastern Slovakia. 1 – Bardejov; 2 – Blažice; 3 – Fintice; 4 – Gánovce; 5 – Kapušany; 6 – Koprivnica; 7 – Medzany; 8 – Nižná Myšľa; 9 – Ostrovany; 10 – Peder; 11 – Prešov; 12 – Poprad-Matejovce; 13 – Ražňany; 14 – Seňa; 15 – Smižany; 16 – Spišská Nová Ves; 17 – Spišský Štvrtok; 18 – Šebastovce-Barca; 19 – Trstené pri Hornáde; 20 – Veľká Lomnica; 21 – Veľký Šariš-Kanaš; 22 – Vranov nad Topľou-Čemerné; 23 – Vrbov. A – Upper Spiš; B – Lower Spiš; C – Middle Torysa; D – Topľa Basin; E – Lower Hornád and Olšava Basin. Legend: a – pottery workshops producing stamped pottery; b – other pottery workshops; c – princely grave; d – site with the finds of the Late Roman stamped pottery mentioned in text.

Short slanted rouletted lines are also present. Stamped decoration was often combined with incised wavy pattern or impressed dots (*Giertlová/Soják* 2005, 122, obr. 2; 7: 6; 8: 7; 9: 1, 2). In comparison to the Upper Spiš the Roman period settlement of the Lower Spiš is not properly understood. Yet the stamped pottery is registered at a few sites in the vicinity of Spišská Nová Ves (Pl. I: 1, 4, 5; *Javorský* 1977, 142, 143, 149, obr. 69: 4; 71: 11; 1984, 101, obr. 56: 8; 1986, 111, obr. 43: 6).

Vessels decorated with stamped decoration are registered at several sites in the Polish Carpathians. Some of the patterns are shared with Upper Spiš region (*Madyda-Legutko/Tunia* 2020, 292, fig. 8: 8, 9), others must be traced directly to the production centres in Hornád Valley (*Bulas* 2019, fig. 2: 1a).

Upper Košice Basin and Middle Torysa region

Settlements in the region are relatively well excavated and published compared to other areas of the North-Eastern Slovakia. Assemblages from Ostrovany, Medzany (Pl. I: 3; *Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, 21, obr. 4) and Prešov (Pl. I: 6–9; *Budinský-Krička* 1963) are the most important for the knowledge of the stamped ware in the area. Individual finds of stamped pottery appear at other sites as well (Pl. I: 2; *Budinský-Krička* 1982a, 49; 1982b, obr. 36: 5).

Topľa Basin

Roman period settlements of the region are poorly documented even though it probably served as transit route in the south-north direction during the period. Stamped pottery is known from the settlements at Koprivnica (Pl. I: 10; *Budinský-Krička* 1970, tab. 2: 8) and Vranov nad Topľou-Čremošné, site Pri lazoch (Pl. I: 11; *Budinský-Krička* 1976, 57, 58, obr. 34: 2).

Lower Košice Basin, Olšava Valley and North-Eastern Hungary

Stamped pottery from the southern part of Eastern Slovakia is best known from Blažice, Dorina. Results of the excavation in 1958 were recently fully published and re-evaluated (*Luštková/Rákoš* 2018). Decorated ware from the end of Late Roman period/beginning of Migration period is known from Nižná Myšľa (*Lamiová-Schmiedlová* 2000). Finds of stamped pottery found within the settlement area of Przeworsk culture in the Northeastern Hungary were published and evaluated by E. Soós (*Soós* 2019b).

Przeworsk culture in Poland

Stamped decoration appears in area of the Przeworsk culture at the end of the stage C2 and is especially typical for the stage D (based on the chronology proposed by T. Kolník – *Kolník* 1980, 199, which is used in the article), yet its use is rather scarce compared to other types of decoration. Scale of motifs is rather limited as well (*Gajewski* 1959, 131, ryc. 8; *Machajewski/Pietrzak* 2008, 237, ryc. 5: 3, 9: A1–4).

Sites with new finds of stamped pottery

Sites presented in this article belong to the various parts of the North-Eastern Slovakia: Upper Spiš (Gánovce, Veľká Lomnica), Middle Torysa region (Fintice, Ražňany, Veľký Šariš-Kanaš) and Upper Šariš (Bardejov).

Bardejov, site Nad papierňou (Fig. 1: 1; Pl. II: 1, 2)

Site is situated in the south-western part of the town in the vicinity of the two nameless right-bank tributaries of River Topľa. Several dozens of features dated to the Late Bronze age and Northern Carpathian group of Late Roman period belonging to the Northern Carpathian group were excavated during the rescue excavation in 2021. Pottery assemblage is rather small (56 pcs.) but includes two fragments decorated by stamped decoration (Pl. II: 1, 2).

Fintice, site Povrazy (Fig. 1: 3, Pl. II: 4–11; III: 1–9; IV: 1–11)

Site Povrazy (“Nagy Ketel”) lies east of the village at the right-bank terrace of River Sekčov. Small stream flows in the vicinity of the site. Finds originate from the field survey conducted around 2002. Roman period finds include both thin-walled vessels, pots and storage vessels. Several sherds were decorated by stamps (Pl. II: 4–11; III: 1–9). Based on oral information, originally a biconical bead made of black glass and decorated by a yellow band with red wavy pattern was part of the assemblage. Small number of finds attest to the use of site during the Medieval period (11th/12th century) and probably Paleolithic as well.

Gánovce, site Hrádok (Fig. 1: 4; Pl. II: 3)

One fragment of pot decorated with stamp is deposited in Podtatranské múzeum in Poprad, presumably from the site of Gánovce, Hrádok, without known finding context. Use of the site in the Neolithic, Eneolithic, Bronze Age, Iron Age and Early Medieval period was previously identified (*Novotný/Kovalčík* 1977).

Ražňany, site Farské (Fig. 1: 13; Pl. V–VIII¹)

Polycultural archaeological site Farské is located on the right-bank fluvial terrace of River Torysa and was excavated and surveyed in years 2009, 2011–2016. Site was settled in several periods including Palaeolithic,

¹ Thanks to A. Karabinoš for granting me the possibility to publish finds from the excavation in Ražňany.

Neolithic, Bronze age, La Tène period and Roman period. The results were only partially published in several articles (*Karabinoš/Vizdal 2022; Švaňa/Karabinoš/Vizdal 2018; etc.*).

Veľká Lomnica-Na rovni (Fig. 1: 19; Pl. IX: 1–6)

The site is situated at the western edge of the right-bank terrace of River Poprad at the southern edge of the village. A small stream flows in the western vicinity of the site. During the trenching phase of excavation in 2023, up to eighty of Late Roman features, including pits, post-holes and possible production features were identified. Pottery assemblage (Pl. IX: 1–6), despite being scarce (65 pcs.), was rather typical for the Northern Carpathian group, consisting of mostly hand-made ware, sometimes decorated with wavy pattern and fragments of large storage vessels. Two of the sherds were decorated with stamps, one found in feature No. 35 (Pl. IX: 1) and the second one was a stray find (Pl. IX: 2). Other finds included possible fragments of iron fibulae. Numerous finds of slag attest to the iron production at the site.

Veľký Šariš-Kanaš (Fig. 1: 20; Pl. IX: 7)

Four Roman period features, dated to the stages C1a–C1b/C2, were excavated during rescue excavations in Veľký Šariš-Kanaš on the slope above the northern bank of the stream. Three settlement features were excavated at the site. Fragment of a bowl with stamped decoration (Pl. IX: 7) was found in the feature 3/2015, a storage pit which was dated to the later stages of the settlement (*Švaňa/Šimčík 2021, 71, obr. 6: 2*). Assemblage found in the feature included twenty-nine pottery sherds, two reconstructible vessels, animal bones, daub and slag.

TYPES OF THE STAMPED DECORATION

Sixteen types of the stamped decoration, each with its own unique characteristics, were recognized among the findings from the published sited (Pl. X). Some of them have numerous parallels, while others are quite unique lacking known analogies. The distinction between stamps used for wheel-made and hand-made pottery is evident, yet the simple patterns were prevalent among both groups.

Circular stamp patterns (Pl. X: 1–4) were the most common and they were used for the decoration of both wheel-turned and hand-formed pottery. Use of such decoration is attested among the products of workshops at Ostrovany (*Lamiová-Schmiedlová/Lušítková/Tomášová 2017, obr. 4: A, B*) and Blažice (*Lušítková/Rákoš 2018, obr. 5: A–E*). Stamps in the form of larger circles with hollow middle parts found in Ražňany, both at wheel-made (Pl. V: 7, 11) and hand-formed pottery (Pl. V: 10), have close parallels not only in the nearby Šarišské Michaľany (Pl. I: 3, *Lamiová-Schmiedlová 1983, obr. 103: 2*) but in the Polish Carpathians (*Madyda-Legutko/Tunia 2020, fig. 8: 8*) and Nižná Myšľa (*Lamiová-Schmiedlová 2000, obr. 1: 1*) as well. A more complex circular motif on a wheel-made vessel from Bardejov (Pl. II: 1) has good parallels in Blažice (*Lušítková/Rákoš 2018, obr. 5: 6, 8–11*). Circular stamps were sometimes combined with other types of stamped decoration (Pl. I: 3; II: 3, 9; III: 5), occasionally also to create more complex patterns (Pl. I: 7, 10). Such stamps also appear in combination with other forms of decoration, often with plastic horizontal ribs, incised lines, or wavy patterns (Pl. I: 9; II: 6, 7; III: 2, 7; V: 10; VI: 3). Combination of stamped circle with burnished band is known from the Early Migration period finds from Nižná Myšľa (*Lamiová-Schmiedlová 2000, 16, obr. 1: 3*).

Rosette-shaped stamps (Pl. X: 5) were also very popular for decorating both wheel-turned and hand-formed pottery. This decoration is widespread and evidenced in Northern Carpathian group both in Upper (*Giertlová/Soják 2005, obr. 2: 2–5; 7: 6; 8: 7*) and Lower Spiš (Pl. I: 1; *Javorský 1977, obr. 69: 4*), also at settlements in Prešov (Pl. I: 8; *Budinský-Krička 1963, tab. XIV: 7*) and among products of Blažice workshop (*Lušítková/Rákoš 2018, obr. 4A*). It is also represented in the milieu of Przeworsk culture in Poland (*Gajewski 1959, 131, ryc. 8a*) and North-Eastern Hungary (*Soós 2019b, Fig. 3: 1; 8: 7; 11: 1, 2, 3, 14*). Rosette motifs were combined with other types of stamped decoration (Pl. V: 8), sometimes to create more complex patterns (Pl. I: 8; V: 6; *Lušítková 2017, tab. 7: 11, 12; Soós 2019b, fig. 8: 2*).

Use of serrated ovals and circles (Pl. X: 6) is attested in Veľká Lomnica (Pl. IX: 2) and possibly also in Fintice (Pl. II: 10; III: 6). In the second case the motif is almost unidentifiable possibly due to the use of an old stamping die. Both examples come from hand-formed vessels, unlike the ones on the wheel-made vessels from

Šebastovce-Barca (*Luštková 2013*, tab. VIII: 15), Arka-Fónyi patak in the North-Eastern Hungary (*Soós 2019b*, fig. 3: 2) and Rytro in Polish Carpathians (*Madyda-Legutko/Tunia 2020*, fig. 8: 8) decorated with vaguely similar patterns.

Vegetation motifs such as branch or corn (Pl. X: 7) and leaf (Pl. X: 8) appear regularly. The branch/corn pattern is attested in Ražňany (Pl. V: 4; VI: 10), and based on material characteristics (very fine ware), it is possible that it belongs to C1b–C2 stages. A similar pattern combined with circular motif is known from Koprivnica south of Bardejov (Pl. I: 10; *Budinský-Krička 1970*, tab. II: 8). Corn pattern combined with rosettes is attested on hand-made vessels from Peder (*Luštková 2017*, 120, tab. IX: 17) and Šebastovce-Barca (*Luštková 2013*, 101, tab. IV: 5), which have its wheel-made counterpart from Seňa (*Lamiová-Schmiedlová 1969*, Abb. 42: 30). Stamps in the form of leaves are present in the material from Ražňany (Pl. V: 9; VI: 7), Prešov (Pl. I: 6; *Budinský-Krička 1963*, obr. 17: 1) and as product of local pottery workshops in Blažice (*Luštková/Rákoš 2018*, obr. 4: J3, 4, 7, 8) and Ostrovany (*Schmiedlová/Luštková/Tomášová 2017*, obr. 4: D2). The motif is also known from Nižná Myšľa (*Lamiová-Schmiedlová 2000*, 16, obr. 1: 5).

Various forms of arches (Pl. X: 9) appear on the bowls from Veľký Šariš-Kanaš (Pl. IX: 7) and Fintice (Pl. II: 5, 8, III: 4, 8). Use of the pattern was seemingly limited to the wheel-made pottery as evidenced by the products of Ostrovany workshop dated to the C1–C2 stages (*Schmiedlová/Luštková/Tomášová 2017*, obr. 4: E) and settlement finds in Šebastovce-Barca (*Luštková 2013*, tab. VIII: 14) and Northeastern Hungary (*Soós 2019b*, fig. 11: 6, 9, 11, 12).

Composite stamp consisting of double arch and circles (Pl. X: 10) was decorating a bowl found in Veľká Lomnica (Pl. IX: 1). Similar patterns are known from Ostrovany (*Lamiová-Schmiedlová/Luštková/Tomášová 2017*, tab. VI: 28, 32; VIII: 2), Blažice (*Luštková/Rákoš 2018*, obr. 4: K4–6, 9), Peder (*Luštková 2017*, tab. VII: 11), Trstené pri Hornáde (*Jurečko 1983*, obr. 21: 5; 23: 1) and Vranov nad Topľou-Čremošné (Pl. I: 11; *Budinský-Krička 1976*, obr. 34: 2). It is also represented in Garadna in the North-Eastern Hungary (*Soós 2019b*, fig. 8: 2).

Rouletting represents a specific type of stamped decoration. It was used in several different decoration motifs (Pl. X: 11–15). Simple rouletted lines or curves (Pl. X: 11) are attested for both hand-formed and wheel-turned pottery in Ražňany (Pl. V: 8; VI: 2) and Fintice (Pl. II: 11; III: 3), but also in Ostrovany workshop (*Luštková/Rákoš 2018*, obr. 4: N2). Short and thick slanted rouletted lines (Pl. X: 12) were used on both wheels turned and hand-formed pottery from Ražňany (Pl. V: 1, 2, 5; VI: 1, 6), Fintice (Pl. II: 4; III: 1), Šarišské Michaľany (Pl. I: 3; *Lamiová-Schmiedlová 1983*, obr. 103: 2) and Prešov (*Budinský-Krička 1963*, tab. XV: 9). Use of this pattern is especially numerous in the context of Northern Carpathian group (Pl. I: 4, 5; *Giertylová/Soják 2005*, obr. 8: 1; *Madyda-Legutko/Tunia 2020*, fig. 8: 9). It is also known from the North-Eastern Hungary (*Soós 2019b*, fig. 3: 3). Unique composite pattern from the sherd found at Ražňany, with rouletted lines creating rhombuses which were combined with vertical band of rosettes (Pl. V: 6; VI: 4; X: 13), has no known direct analogies. Slightly similar composition, but without rosettes, appears on a sherd from Trstené pri Hornáde (*Jurečko 1983*, obr. 18: 5). Horizontal bands of rouletted decoration (Pl. X: 14, 15) are known mainly within the hand-made ware from Ražňany (Pl. V: 13; VI: 11), Fintice (Pl. II: 9; III: 5) and Nižná Myšľa (*Lamiová-Schmiedlová 2000*, obr. 1: 6). Rouletted decoration on the wheel-made bowl from Ražňany (Pl. V: 3; VI: 5) has a possible parallel in a sherd found in the Migration period feature at Čelovce in Eastern Slovak Lowland (*Vizdal 1986*, 241, obr. 130: 4).

Stamps of type 16 (Pl. X: 16) represent a heterogeneous group of unusual stamps generally without analogies. A vessel from Bardejov (Pl. II: 2) and a sherd from Ražňany, both with rectangular stamp (Pl. V: 12), are probably to be dated to the stages C3 or C3/D1 based on their material characteristics. Pattern from an S-shaped pot found at Gánovce (Pl. II: 3) might be connected to the egg-and-dart (“bear paw”) decoration that has some parallels from settlement Arka-Fónyi patak in the North-Eastern Hungary dated to the end of the 2nd and the 3rd century (*Soós 2019b*, 381, 382, fig. 3: 4). It also appears on the vessels from Šebastovce and Seňa (*Lamiová-Schmiedlová 1969*, Abb. 43: 27, 28, 31) and from Prešov (*Budinský-Krička 1963*, tab. XIV: 7; XV: 5). Interestingly, this decoration is also known from Detva-Kalamárka, where it is probably connected with the refugium dated to the second half of the 4th century or even early half of the 5th century (*Šalkovský 2002*, 113, 123, obr. 13: 4, 5). Examples from the Quadic settlements of the South-Western Slovakia are dated to the C2–C3/D1 phases (*Kolon 2017*, 184, tab. 11, 7, 64; 11, 7, 1098; *Varsik 2011*, 164, 165). Seemingly, fragment from Gánovce should be given the same dating and attests to the hitherto unknown settlement phase on the site.

CHARACTERISTICS AND FORMS OF STAMPED POTTERY

The stamped decoration was in North-Eastern Slovakia used for both wheel-made and hand-formed pottery, seemingly some of the patterns are more typical for one group more than for the other (Pl. X). Material of the wheel-made pottery is generally fine, but unlike the production of Blažice (*Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, tab. LV: 1, 2) and Ostrovany (*Lušítková/Rákoš* 2018, tab. XIX; XX; XX: 1–5, 7) workshops which is made of the material with almost no impurities, sherds from the presented sites often contain visible admixture of sand and/or small pebbles and mica (e. g. Pl. II: 1; III: 3, 7; VI: 4; IX: 1, etc.). The difference between these two groups might be chronologically relevant and it is possible that fragments made of fine clay (Pl. III: 2; VI: 10) might belong to this older group. Of note is black or reddish coating that sometimes appears among stamped sherds both wheel-made (Pl. III: 7) and hand-formed (Pl. III: 1; VI: 3, 9, 11), as well as accompanying pottery material (Pl. IX: 4). Vessels with dark reddish or black coating appear in Northern Slovakia during the final phase of the Late Roman settlements (*Hudák et al.* 2022, 102).

Use of white incrustation on the bowl from Veľká Lomnica (Pl. IX: 1) has analogy in two sherds with the same stamped decoration from Ostrovany. Interestingly, those are linked to the local workshop working during the second phase of the settlement (stages C1–C2). This workshop also produced vessels of similar form (*Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, 21, 27, 28, tab. IV: 22; VI: 1). Based on the current knowledge it seems that bowl from Veľká Lomnica might have been some kind of memorabilia or, based on material differences, namely admixture of fine sand that makes it closer to the later wheel-made pottery, product of yet unknown workshop that continued to produce vessels within the same tradition.

Above-mentioned bowls, with flaring rim and cylindrical or almost cylindrical upper part of body, were one of the most popular forms of wheel-made stamped pottery produced during C1–C2 stages. Outside of Ostrovany they are also attested in Blažice (*Lušítková/Rákoš* 2018, tab. I–III: 3–9). They occasionally appear in Fintice (Pl. II: 5, 8), Prešov (Pl. I: 7, *Budinský-Krička* 1963, obr. 17: 3) and Veľký Šariš-Kanaš (Pl. IX: 7), but they are absent from the material from Ražňany. Interestingly, vessel of this form from Smižany is decorated with short rouletted lines (Pl. I: 4), which are typical for the late phase of the Late Roman period attesting the survival of the form to the second half of the 4th century.

Bowls from Ražňany with rouletted decoration (Pl. V: 1, 3) have a slightly different form. A vessel with a broadly opened upper part (Pl. V: 3) has parallel in the find from the third phase of settlement of Ostrovany (*Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, tab. XXVI: 5). Bowl with slightly inwardly thickened vertical rim and cylindrical upper part of the vessel (Pl. V: 1) has an analogy in Trstené pri Hornáde (*Jurečko* 1983, obr. 26: 5). Vessel with a richly profiled upper part from Ražňany (Pl. V: 5) should be dated to the late phase of the Late Roman period as attested by similar finds from Ostrovany (*Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, 19, obr. 3: E).

As for the pottery made in hand, only two fragments could be identified as pots (Pl. II: 3, 10). S-profiled pots, such as the one from Gánovce (Pl. II: 3), are common in the milieu of Northern Carpathian group (*Giertylová/Soják* 2005, 122). It is safe to assume that some of the sherds with thinner walls and treated surface like one from Ražňany (Pl. V: 10; VI: 3) belonged to the other forms of pottery.

ACCOMPANYING POTTERY FINDS

There are very few dateable finds from the above-mentioned sites outside of the pottery. The two biggest pottery assemblages come from Fintice, site Povrazy and Ražňany, site Farské. It should be noted that the site at Ražňany was settled repeatedly, if not continually, during the Roman period and the presented assemblage consists of stray finds, thus making the chronology even more difficult. Some of the conical bowls of Dacian origin and sharply profiled bowls made in the Przeworsk tradition (Pl. VII: 9, 12) might indicate that the beginnings of the settlement in Ražňany belonged to the late phase of the Early Roman period or the early phase of the Late Roman period (stages B2–C1, *Švaňa/Karabinoš/Vizdal* 2018, 110, 111). Imitation of terra sigillata Dragendorf 37 (Pl. VIII: 1) might belong to this earlier phase of occupation (C1b–C2?). It should be noted however that in Ostrovany sharply profiled bowls continued to be used also during the second and third phase of the settlement (*Lamiová-Schmiedlová/Lušítková/Tomášová* 2017, 16).

Importance of the site seems to have peaked during the late phase of the Late Roman period where most of the pottery material was dated. It is around the same time when Fintice, site Povrazy was inhabited as no hitherto available finds point at earlier Roman period occupation of the site. Burnished pottery appears at both sites (Pl. IV: 9; VII: 2, 3, 5). Its presence has parallels at Ostrovany, mainly during the third phase of the settlement (*Lamiová-Schmiedlová/Lušítková/Tomášová 2017, 28*). Other type of the decoration, that has parallels mainly at Late Roman period sites (*Budinský-Krička 1963, 36, tab. IV: 1, 8, 13*), are horizontal incised lines found at vessels from Ražňany (Pl. VIII: 5) and Veľká Lomnica (Pl. IX: 6). Bowl from Poznaň with the same decoration is dated to the stages C2–D (*Machajewski/Pietrzak 2008, 239, ryc. 5: 6*). In the case of the upper part of the vessel from Fintice, incised lines are combined with rouletting (Pl. II: 4; III: 1). Incised wavy patterns were also often used to decorate bodies of larger vessels, both wheel-made (Pl. IV: 3, 4, 10) and formed in hand (Pl. VIII: 9, 10; IX: 3), similarly to the material from Prešov (*Budinský-Krička 1963, tab. II: 4; III: 1, 2, 10, 12; IV: 9, 13, 14*). Indented decoration of the sherd from Fintice (Pl. III: 9; IV: 5) has some parallels within the ceramic material of Carpathian group of Upper Spiš (*Giertlová/Soják 2005, obr. 11: 7; 12: 13*). But most specific type of decoration is one from rim of the storage vessel found in Ražňany, in the form of incised rhombuses (Pl. V: 14). It has close parallels from Nižná Myšľa (*Lamiová-Schmiedlová 2000, 16, obr. 1: 8*) and especially in the decoration of a jug found at Migration period cemetery in Lipnica Murowana (*Biborski/Zagórska-Telega 2008, 92, fig. 17*).

Wheel-made, sharply profiled bowls found both in Ražňany (Pl. VII: 1) and Fintice (Pl. IV: 1) can be dated to the C3–C3/D1 stages based on analogies from Dobrodzień group finds from Vávrovice (*Stuchlík 2005, obr. 16: 1*), but also from the North-Eastern Hungary (*Soós 2019a, Abb. 11: 3*). Production of the larger wheel-made vessels, like the ones from Ražňany (Pl. VIII: 4) and Fintice (Pl. IV: 3, 11), seems also to be indicative of later dating (*Lamiová-Schmiedlová 2000, 18; Lamiová-Schmiedlová/Lušítková/Tomášová 2017, 28*). Some finds, like bowl from Ražňany, with a broadly opened upper part (Pl. VIII: 7), seem to have good analogies among the Late Roman pottery products (*Ottományi 2021, tab. 9: 1, 2*). Same seems to apply to the jug from Fintice (Pl. IV: 2; *Ottományi 2021, tab. 13: 4*) which has also analogy from Šebastovce-Barca (*Lušítková 2013, 95, tab. VI: 3*). Grooved handle of a jug (Pl. VII: 10) from Ražňany belongs to the forms that are influenced by Hunnic milieu (*Madyda-Legutko/ Tunia 2020, 292, fig. 8: 1–6*). Fragment of a jug with a faceted body and burnished decoration was also discovered at the site (*Vizdal/Karabinoš 2010, 22, tab. II: 2*). Appearance of this form can also be attributed to the Southeastern influences during C3–C3/D1 (*Lamiová-Schmiedlová/Lušítková/Tomášová 2017, 28*).

It is also hand-formed pottery that presents us with good dating material. Broad and low conical bowls, such as one from Ražňany (Pl. VII: 7), have parallels in the Late Roman and Early Migration period material not only in Eastern Slovakia (*Lamiová-Schmiedlová/Lušítková/Tomášová 2017, 17, tab. XIX: 13; XXXI: 8*), but also in other regions of Central Europe (*Tejral 1982, 41, obr. 14: 2–4*). Bowl from Ražňany (Pl. VII: 6) seems to have its form based directly on the late glazed mortaria (*Ottományi 2021, tab. 10: 3, 4*). So far, there are no Late Roman glazed mortaria known from the Middle Torysa region, but they are already attested in Upper Spiš (*Rodzińska-Nowak 2021*).

CONCLUSIONS

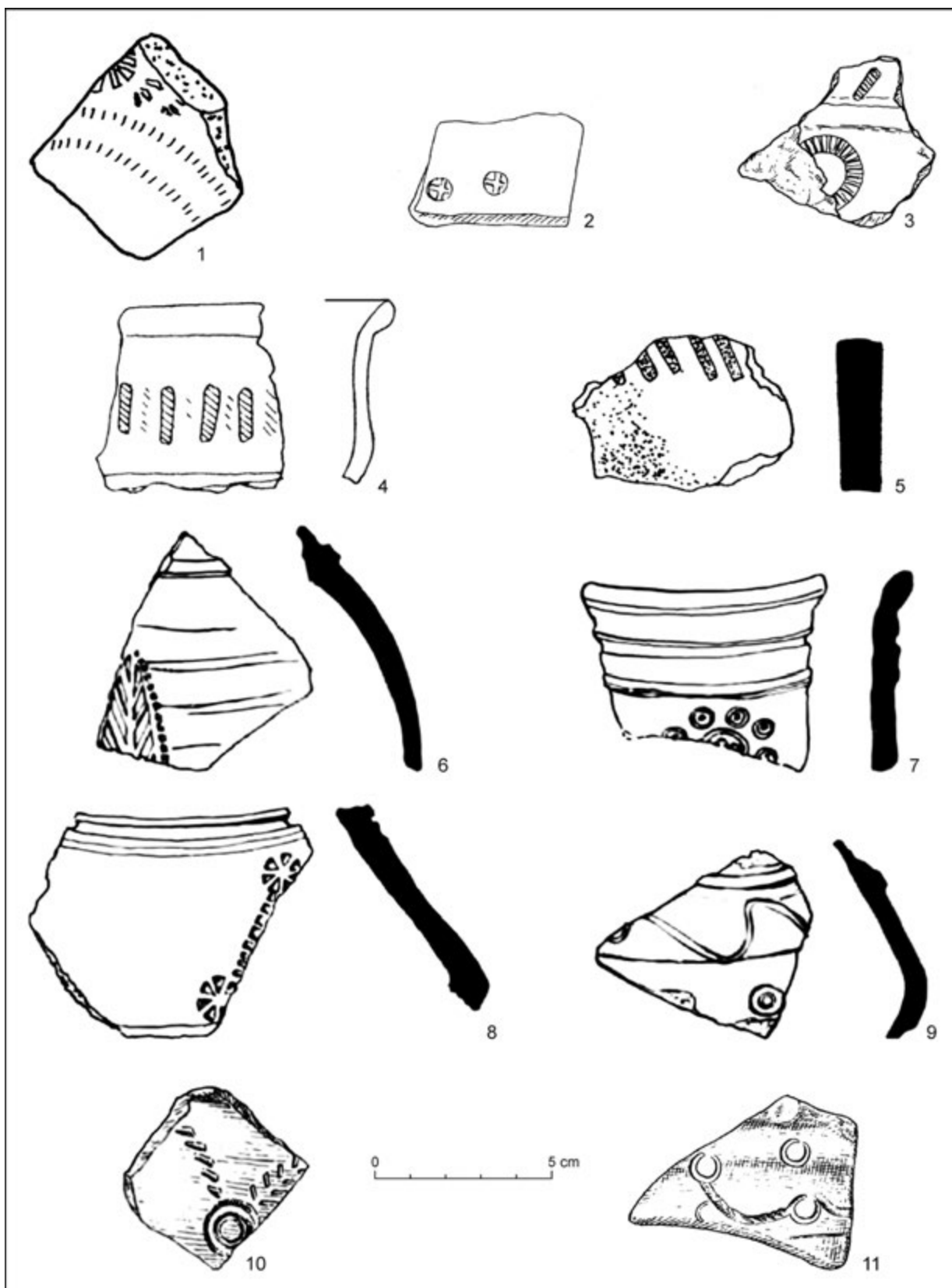
Several conclusions can be drawn from the presented material. As for chronology of the finds, it seems that dating to early phase of the Late Roman period (stages C1b–C2) is probable for the bowls found in Veľký Šariš-Kanaš (Pl. IX: 7) and Fintice (Pl. III: 2), fragment from Ražňany (Pl. VI: 10) and possibly, though rather problematic, for the vessel from Veľká Lomnica (Pl. IX: 1). All the other examples of the stamped pottery from the sites mentioned above seem to belong to the late phase of the Late Roman period and the beginning of the Migration period (stages C3–C3/D1).

Variety of the stamped decoration on the vessels found at sites of Middle Torysa region (Prešov, Ražňany and Fintice) indicates at least one workshop producing stamped ware during the late phase of the Late Roman period and early Migration period in the vicinity of these sites. In striking contrast with the sites in Middle Torysa region assemblages north (Slovak and Polish Carpathians) and west (Spiš) of it contain at most few stamped sherds and the variety of the patterns is limited as well. As demonstrated above, patterns of stamped decoration of Northern Carpathian group are to be directly linked to the production

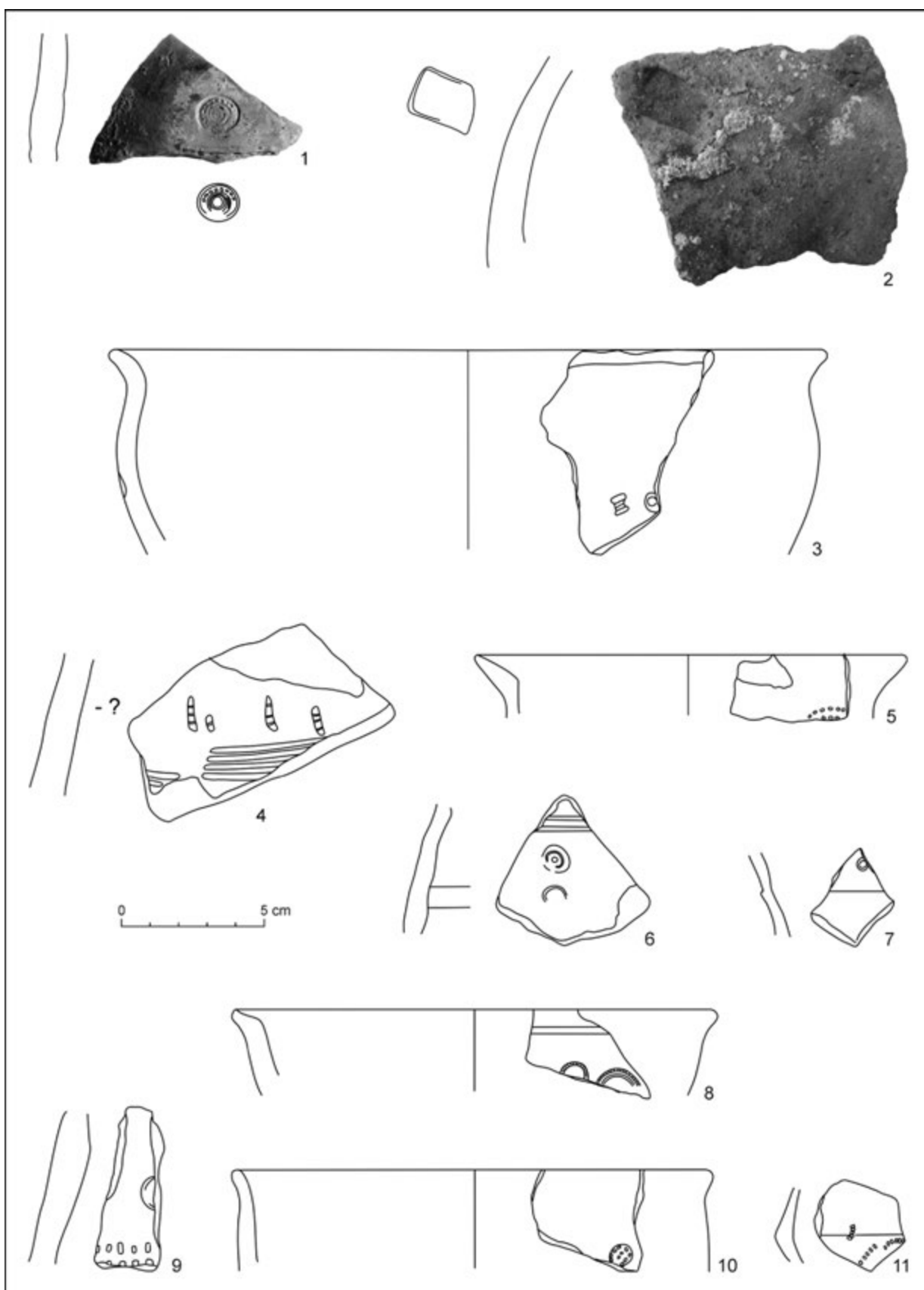
centres located in the Hornád Valley and Middle Torysa region, while quite a few of them show similarity to pottery known from the wider production area of “Blažice type” pottery. Some of those were probably produced under their influence in the local workshops within the milieu of Northern Carpathian group but the majority was likely imported from the above-mentioned areas. This conclusion is further strengthened by the character of pottery assemblages from Northern Slovakia west of Spiš, which generally lack wheel-turned pottery and stamped decoration (*Lofajová Danielová/Furman 2019*, tab. 1; 5: 1–5; *Pieta 1999*, Abb. 10). To elaborate on this, relations with Dobrodzień group and presence of the Eastern elements (*Pieta 1997*, 182) are often emphasized in connection with Northern Carpathian group. The presence of stamped pottery in parts of its area makes strong case for re-evaluation of importance of its ties to the regions of Middle Torysa and Košice Basin.

Still, it is debatable whether the settlements around Prešov should be considered as belonging to Northern Carpathian group. This is especially true for the larger settlements with longer continuity (Ostrovany, Prešov, Ražňany), which still produced a wide scale of pottery based on the older forms (grey wheel-turned pottery, stamped decoration). It is obvious that based on the comparison of the spread of stamped decoration these sites have much more in common with North-Eastern Hungary than with the area of southern Poland or even Spiš. The prevalence of S-formed pots that are often connected with Northern Carpathian group (*Vizdal/Karabinoš 2010*, 26) is not culturally important as they appear in much broader area during the period (*Pieta 1999*, Abb. 7: 8; *Tejral 1982*, obr. 4). Therefore, it seems logical to consider the final phase at these settlements as a late continuation of the longer cultural tradition, whether we call it Przeworsk or Blažice-Bereg culture, bearing foreign influences similarly to the Zlechov phase in Moravia.

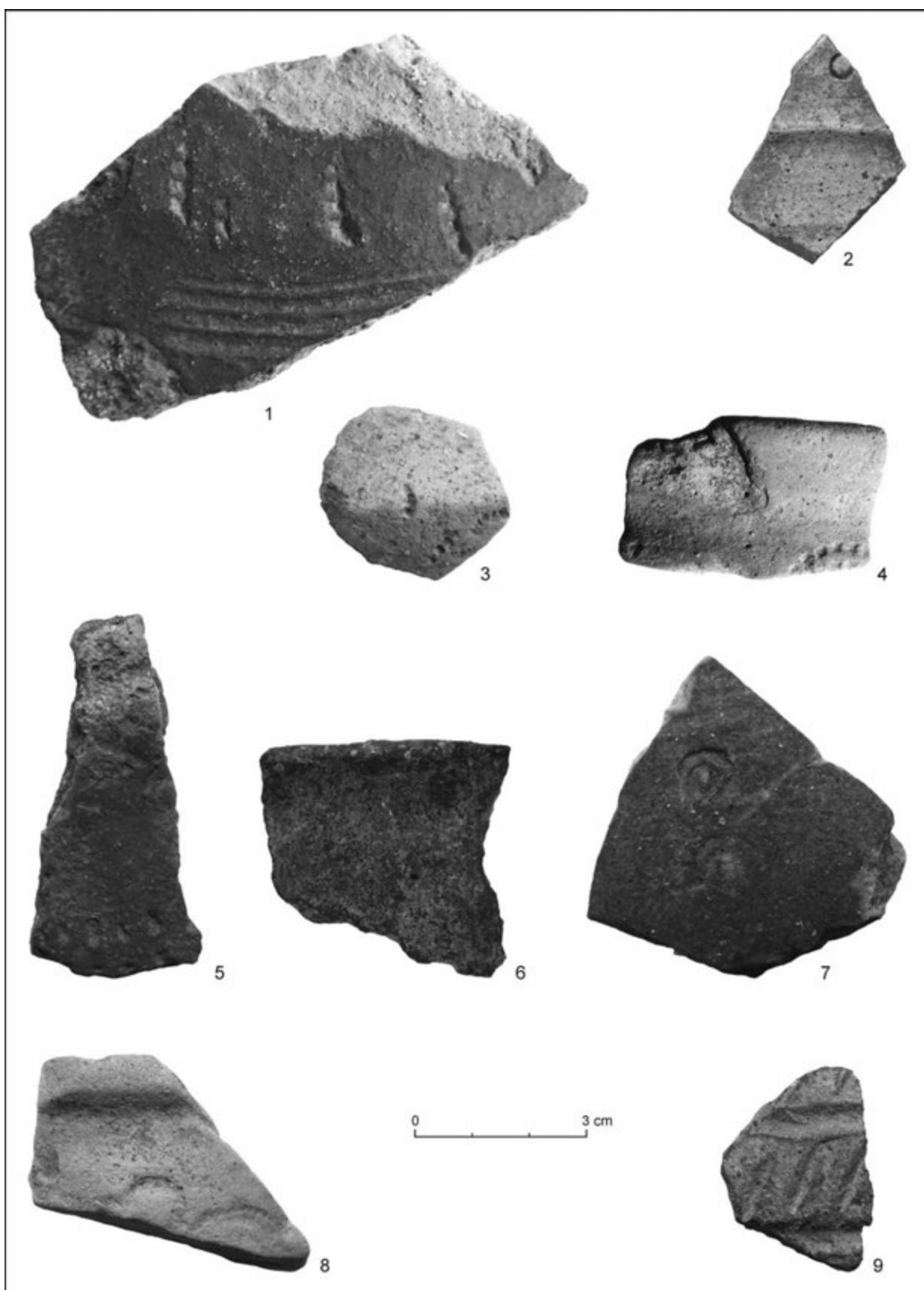
Considering the spreading and use of stamped pottery areas of Košice Basin, Northeastern Hungary and adjacent regions differ from the Przeworsk culture in Poland. Author thus considers the term Blažice-Bereg culture useful despite probable ethnic closeness of the populations inhabiting both areas. It is also worth noting that, except for few familiar patterns, stamped decoration from sites situated in Eastern Slovak Lowland like Čičarovce-Velká Moľva (*Kaminská 2010*, tab. XXIV: 3; XXVI: 1–4, 6, 8–10) is distinctively different from the one from the above-mentioned area. This might hold some significance regarding the intensity of contact between various regions of Eastern Slovakia.



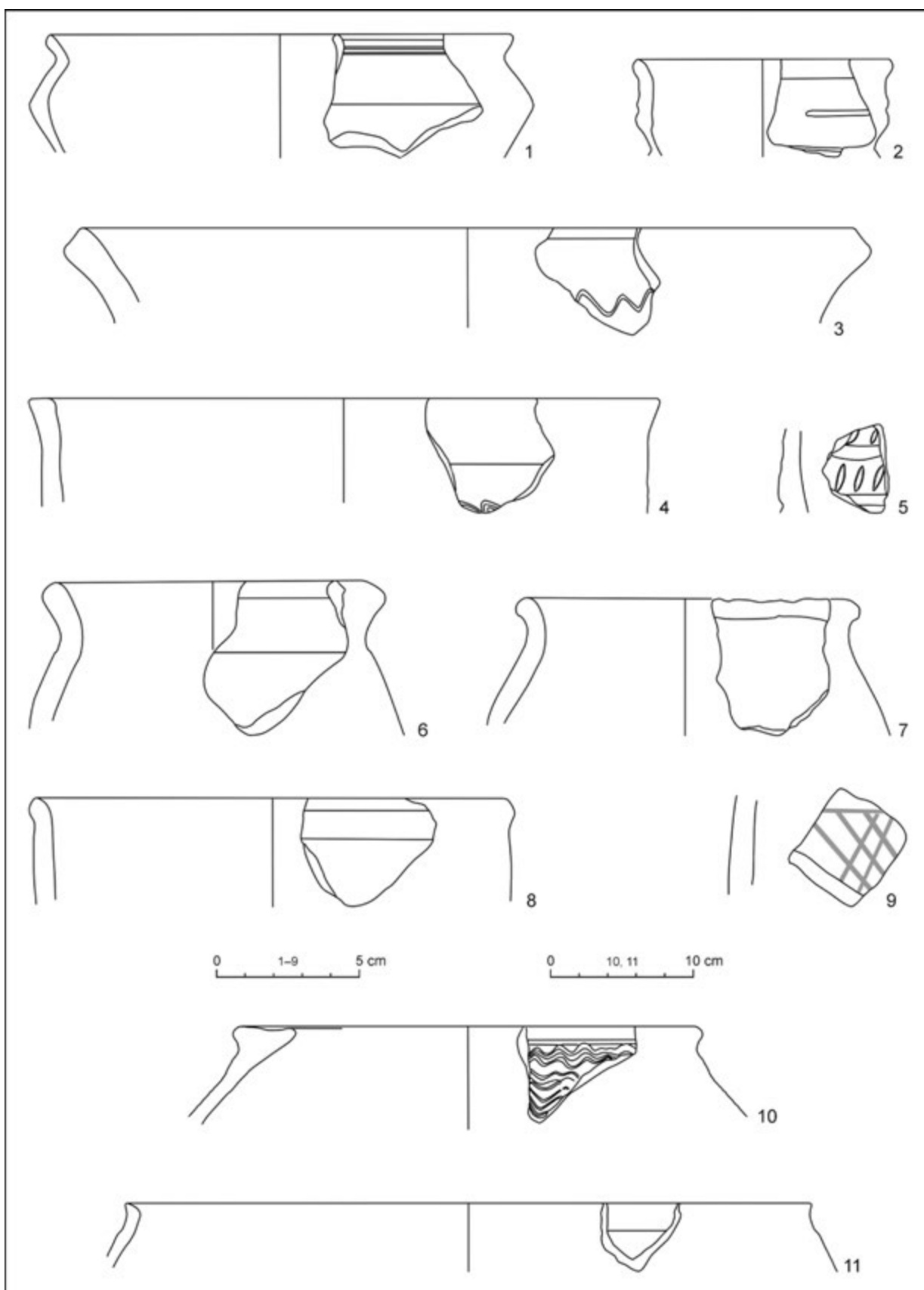
Pl. I. Late Roman stamped pottery. 1 – Spišský Štvrtok (based on Javorský 1977); 2 – Kapušany (based on Budinský-Krička 1982b); 3 – Šarišské Michaľany (based on Lamiová-Schmiedlová 1983); 4 – Smižany (based on Javorský 1984); 5 – Spišská Nová Ves (based on Javorský 1986); 6–9 – Prešov (based on Budinský-Krička 1963); 10 – Koprivnica (based on Budinský-Krička 1970); 11 – Vranov nad Topľou-Čemerné (based on Budinský-Krička 1976).



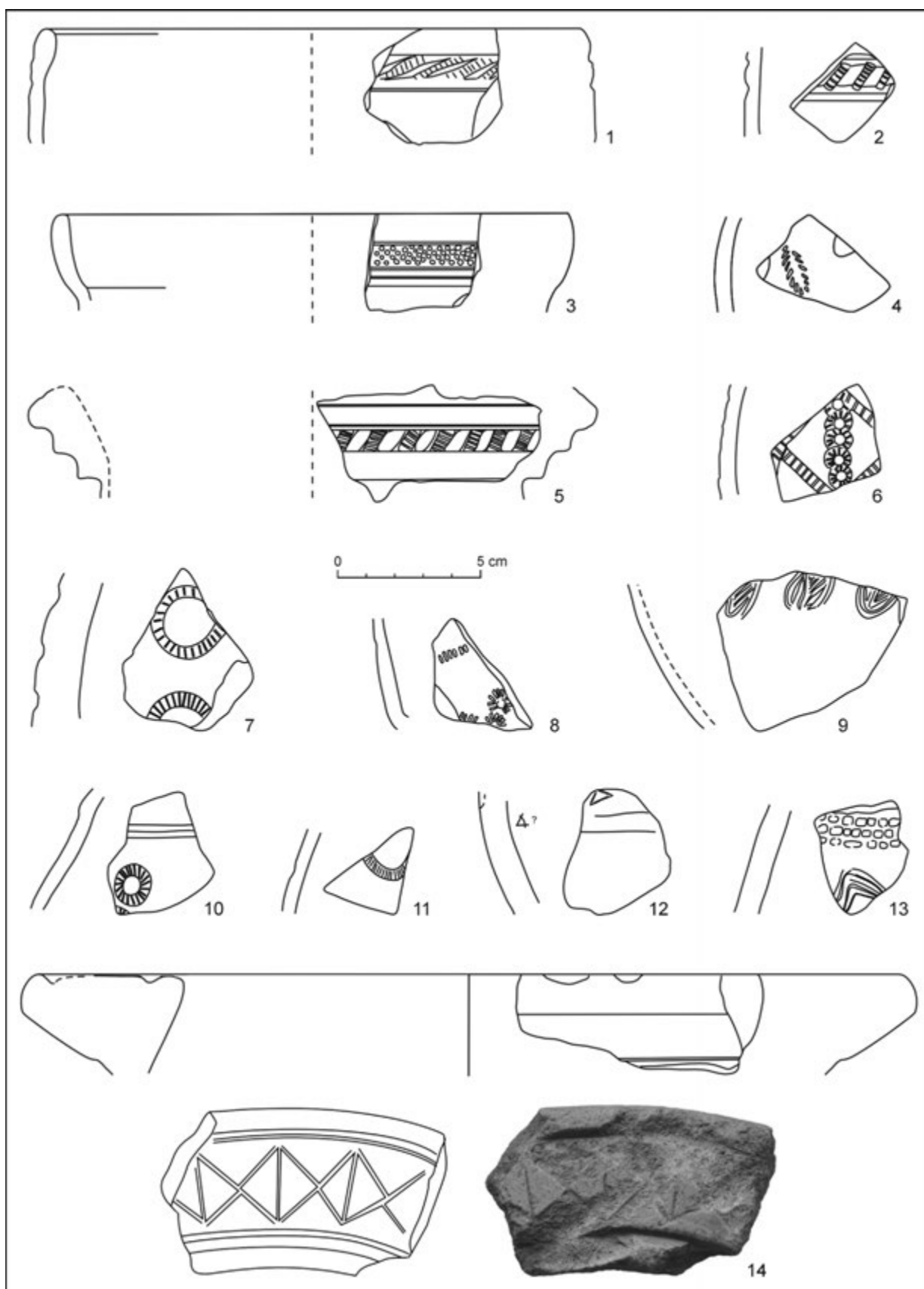
Pl. II. Stamped Late Roman pottery. 1, 2 – Bardejov; 3 – Gánovce; 4–11 – Fintice.



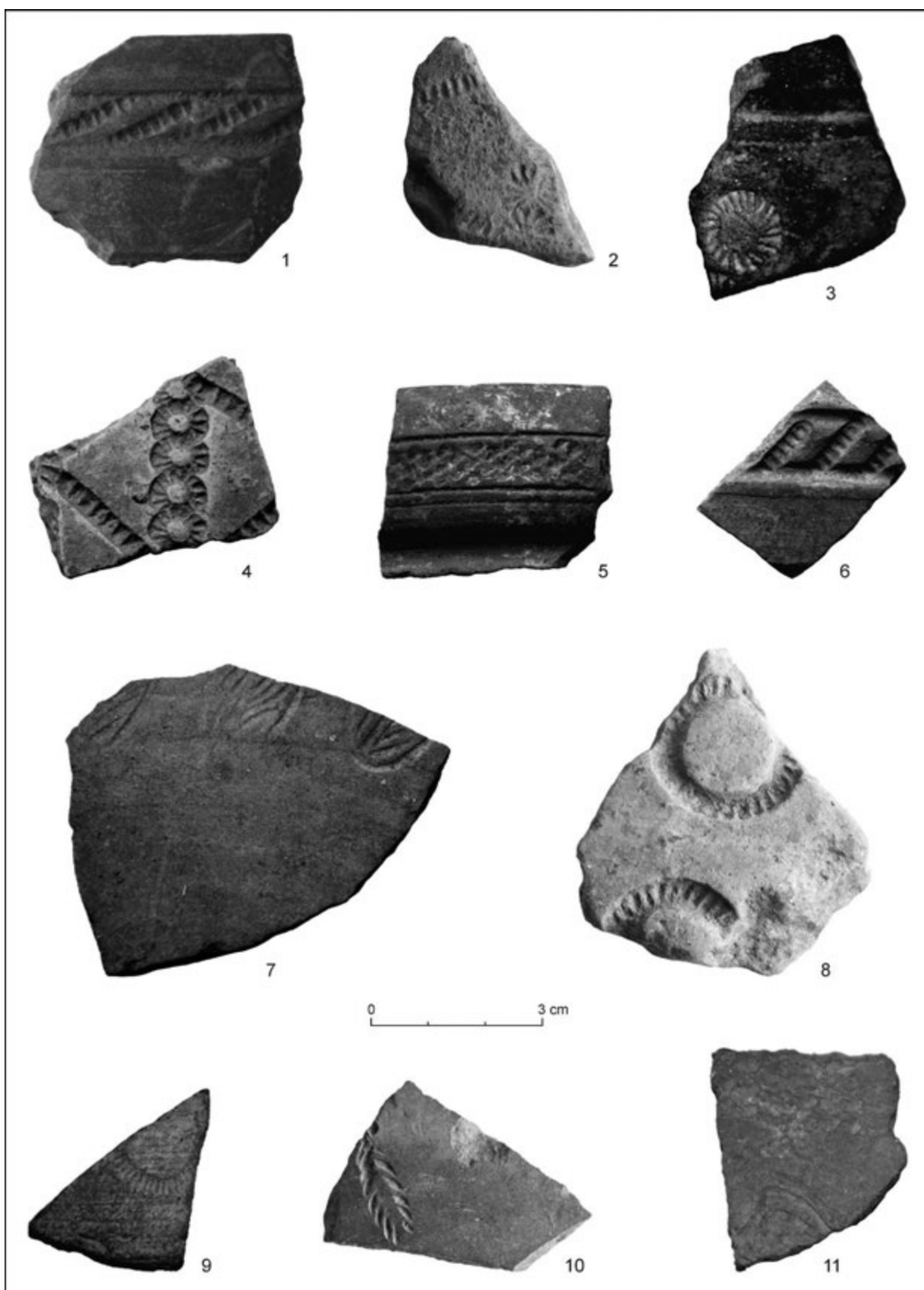
Pl. III. Stamped (1–8) and decorated (9) Late Roman period pottery from Fintice.



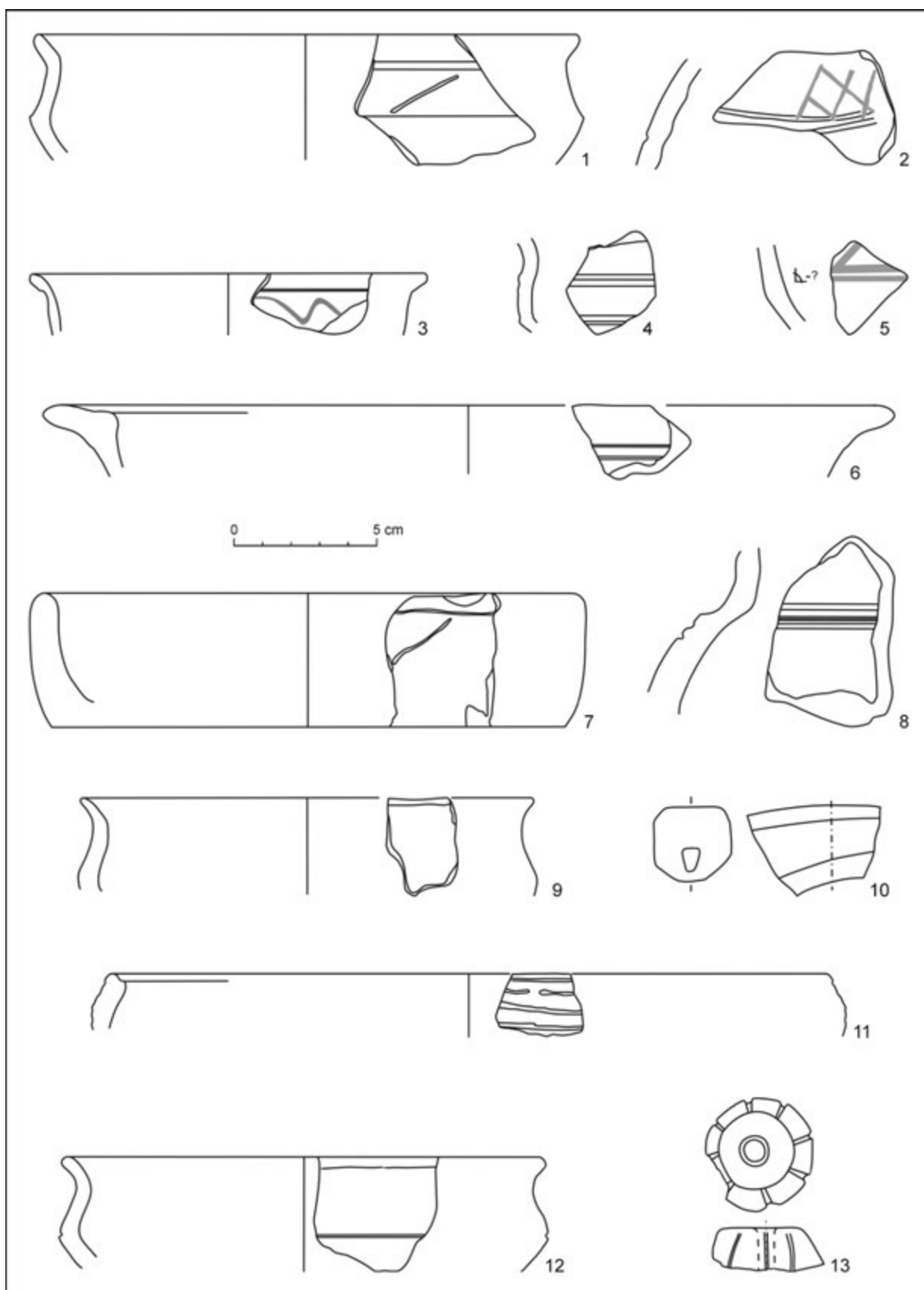
Pl. IV. Late Roman pottery from Fintice.



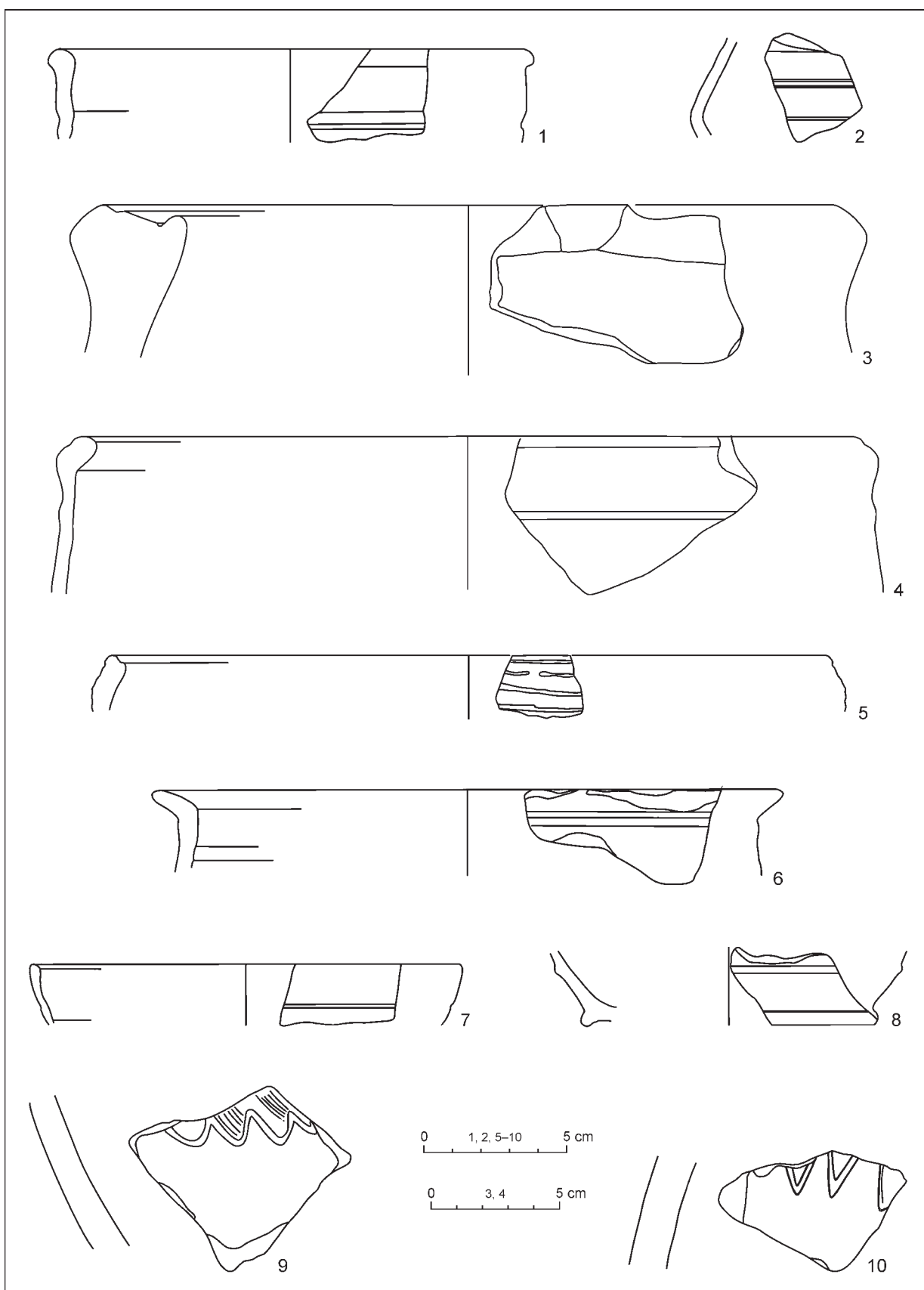
Pl. V. Stamped (1–13) and incised (14) Late Roman pottery from Ražňany.



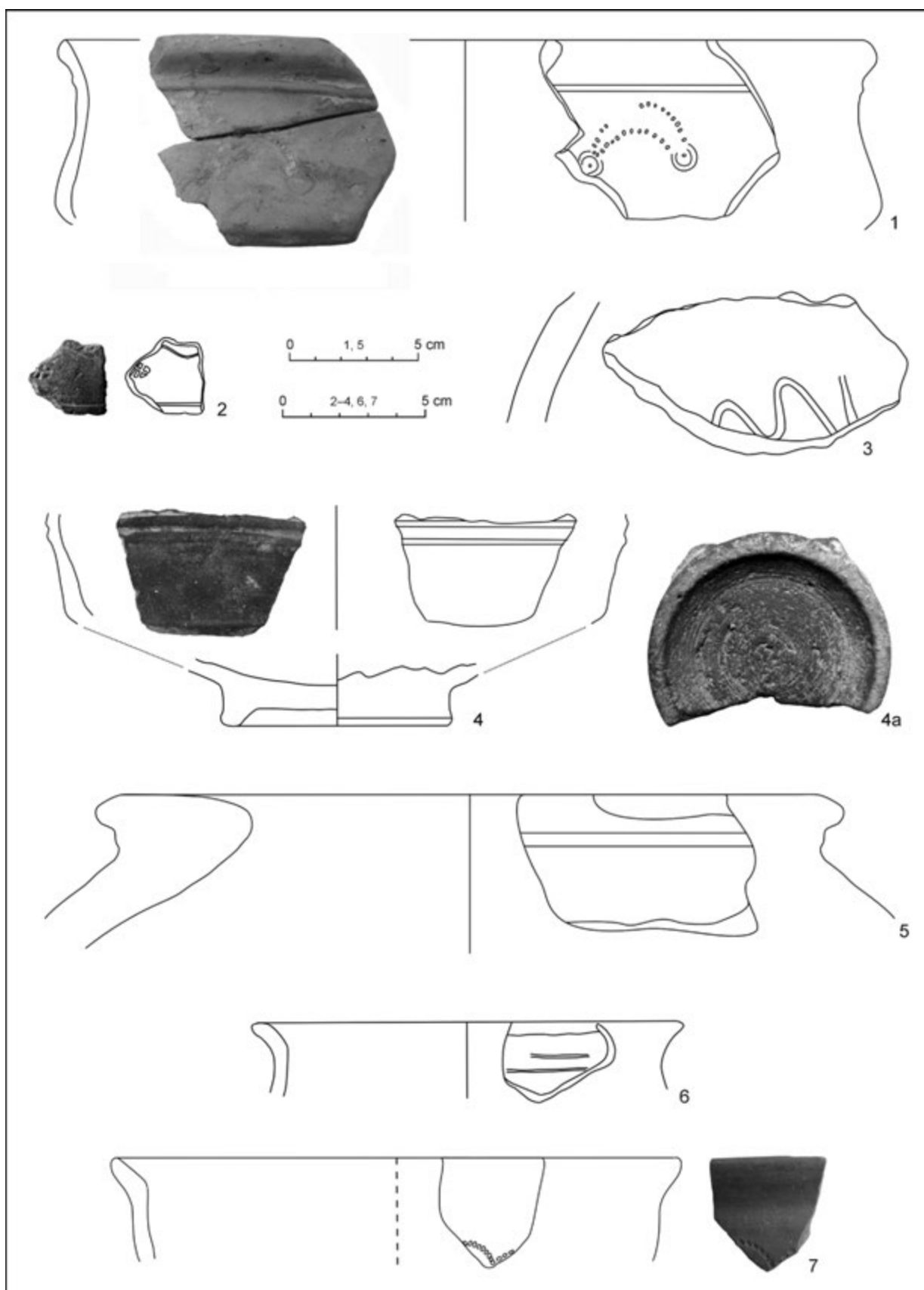
Pl. VI. Stamped Late Roman pottery from Ražňany.



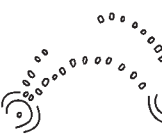
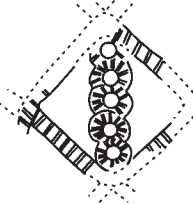
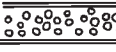
Pl. VII. Late Roman pottery (1–12) and whorl (13) from Ražňany.



Pl. VIII. Late Roman pottery from Ražňany.



Pl. IX. Late Roman pottery from Velká Lomnica (1–6; 1, 2 stamped pottery); stamped pottery from Velký Šariš-Kanaš (7).

Type		Bardejov	Fintice	Gánovce	Ražňany	V. Lomnica	Blažice	N. Myšľa	Ostrovany	Prešov	Lower Spiš	Upper Spiš	Northern-Carpathian group Poland	NE Hungary	Σ
1			w	h			w	x	w	w				w	7
2							w								1
3					wh		w	x				h	w		5
4		w					w							w*	3
5					h		w		w	wh	w	h		wh	7
6			h			h							w*	w*	4
7					w										1
8					w		w*	w	w	w*					5
9			w					x	w	w				w	5
10						w	w*		w*					w*	4
11			w		h		w			h					4
12			w		w					h	w	h	h	w	7
13					w										1
14			h		h			x							3
15					w										1
16		h		h	h									h*	4
n		2	6	2	10	2	8	5	5	6	2	3	3	8	62

Pl. X. Occurrence of stamped decoration patterns at various sites of North-Eastern Slovakia and adjacent areas. W – wheel made pottery; h – hand-formed pottery; x – information not disclosed; * – parallel is not exact, only approximate.

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Neskororímska kolkovaná keramika zo severovýchodného Slovenska

Niekoľko poznámok ku severokarpatskej skupine a jej kontaktom

K a m i l Š v a ň a – P e t e r F e c k o

Súhrn

Článok predstavuje predovšetkým nové a nepublikované nálezy kolkovanej keramiky z obdobia mladšej a neskorej doby rímskej, ktoré sa našli pri výskumoch a prieskumoch sídlisk na území severovýchodného Slovenska (obr. 1). Ide hlavne o nálezy z Ražňan, Fintíc, Bardejova a Veľkej Lomnice, pričom z prvých dvoch menovaných lokalít pochádza aj pomerne bohatý sprievodný keramický materiál. Nálezy sa dali do kontextu publikovaných súborov nielen na dotknutom území, ale aj v jeho širšom susedstve (Hornádska kotlina, poľské Karpaty, severovýchodné Maďarsko).

Na základe dostupného materiálu sa vyčlenilo 16 základných skupín kolkov (tab. X), ktoré sa používali na sledovanom území. Možno konštatovať, že väčšina jednoduchších kolkov (tab. X: 1–6) sa doložila rovnako tak na kruhu vytočených nádobách ako aj na keramike formovanej v ruke. Naopak komplexnejšie kombinácie sú charakteristické pre na kruhu vytočenú keramiku (tab. X: 8–10). Z chronologického hľadiska možno konštatovať, že radielková výzdoba (tab. X: 11–15) a zvlášť typ 12 zodpovedajúci krátkym hrubším líniami sú charakteristické pre obdobie konca neskorej doby rímskej a začiatku doby sťahovania národov.

Tvarovo sa podarilo v prezentovanom súbore medzi na kruhu vytočenými nádobami spoľahlivo identifikovať len misy. Obvyklý tvar predstavovali misy s okrajom šikmo nasadeným na približne hornú valcovitú tvar nádoby (tab. I: 4, 7; II: 5, 8; IX: 1, 7). Tieto majú početné analógie v produkcii blažickej a ostrovianskej dielne. Dve radielkom zdobené misy z Ražňan (tab. V: 1, 3) patria naopak k zriedkavejším formám. Z rovnakej lokality pochádza aj horná časť nádoby z výrazne profilovaným telom (tab. V: 5), ktorú možno s ohľadom na dostupné paralely zaradiť do neskorej doby rímskej, prípadne na počiatok doby sťahovania národov (stupne C3–C3/D1). Medzi v ruke formovanou keramikou boli z tvarového hľadiska identifikované iba hrnce (tab. V: 3, 10), hoci niektoré z tenkostenných črepov s upraveným povrchom (tab. VI: 3) pravdepodobne pochádzajú z iných foriem.

Na základe podobných materiálových charakteristík (veľmi jemne plavený materiál) možno niektoré z fragmentov na kruhu vytočených nádob zaradiť do obdobia mladšej doby rímskej (stupne C1b–C2) a snáď i priamo priradiť k produkcii dielni v Blažiciach alebo pravdepodobnejšie v Ostrovnoch (tab. III: 2; VI: 10; IX: 1, 7). Veľká časť prezentovaného súboru sa však odlišuje istou prímiesou piesku alebo i drobných kamienkov, hoci hrubozrnná na kruhu vytočená keramika (v poľštine označovaná ako szorstka) sa priamo nedoložila. Zaujímavá je časť misy z lokality severokarpatskej skupiny vo Veľkej Lomnici. Tvarom nádoby, užitým kolkom i jeho bielou inkrustáciou predstavujú pre neho priamu analógiu črepy, ktoré sú spojené s produkciou ostrovianskej dielne datovanej do mladšej doby rímskej. Je otázne či možno nálež z Veľkej Lomnice interpretovať ako akýsi upomienkový predmet, alebo ide, aj s ohľadom na prítomnosť ostriva v keramickej hmote, o produkt nejakej neznámej dielne, ktorá pokračovala v tradícii ostrovianskej produkcie.

Práve s ohľadom na rozmanitosť kolkov i samotnú početnosť nálezov neskororímskej kolkovanej keramiky na lokalitách v priestore stredného toku rieky Torysy (Fintice, Prešov, Ražňany) je potrebné v tomto priestore predpokladať nejaké ďalšie produkčné centrum. To pravdepodobne sčasti zásobovalo a sčasti ovplyvňovalo produkciu na územiach severokarpatskej skupiny západne (Spiš) a severne (severný Šariš, poľské Karpaty) od neho. Nálezy kolkovanej keramiky v prostredí severokarpatskej skupiny totiž jednoznačne poukazujú na vzťahy s územiaми na juhu, keďže v prostredí przeworskej kultúry na území Poľska je produkcia takto zdobenej keramiky skôr zriedkavá. V kontexte severokarpatskej skupiny sa často vyzdvihuje vplyv dobrodzienkej skupiny i prítomnosť juhovýchodných elementov. S ohľadom na vyššie uvedené je potrebné zdôrazniť význam kontaktov s germánskym osídlením v povodiach riek Torysa a Hornád, cez ktoré pravdepodobne prúdil i vplyv uvedených juhovýchodných elementov.

Pri lokalitách ako Ostrovany, Prešov, Ražňany a možno i Fintice je badať kontinuitu osídlenia ako i archeologickej kultúry s predchádzajúcim obdobím. Keramické súbory z týchto lokalít sa od sídlisk severokarpatskej kultúry odlišujú variabilitou tvarov i spôsobov výzdoby, ale aj samotnou početnosťou. Aj preto je otázne či je ich, v literatúre ustálené, zaradenie k severokarpatskej skupine správne.

Obr. 1. Mapa lokalít s nálezmi vypichovanej keramiky spomínaných v texte, keramických dielni a ďalších významných lokalít na východnom Slovensku. 1 – Bardejov; 2 – Blažice; 3 – Fintice; 4 – Gánovce; 5 – Kapušany; 6 – Koprivnica; 7 – Medzany; 8 – Nižná Myšľa; 9 – Ostrovany; 10 – Peder; 11 – Prešov; 12 – Poprad-Matejovce; 13 – Ražňany; 14 – Seňa; 15 – Smižany; 16 – Spišská Nová Ves; 17 – Spišský Štvrtok; 18 – Šebastovce-Barca; 19 – Trstené pri Hornáde; 20 – Veľká Lomnica; 21 – Veľký Šariš-Kanaš; 22 – Vranov nad Topľou-Čemerné; 23 – Vrbov. A – Horný Spiš; B – Dolný Spiš; C – Stredná Torysa; D – Topľanská kotlina; E – Dolný Hornád a Olšavská kotlina. Legenda: a – hrnčiarske dielne vyrábajúce vypichovanú keramiku; b – ďalšie keramické dielne; c – kniežací hrob; d – lokalita s nálezmi neskoro rímskej vypichovanej keramiky uvedenej v texte.

Tab. I. Neskoro rímska vypichovaná keramika. 1 – Spišský Štvrtok (podľa *Javorského* 1977); 2 – Kapušany (podľa *Budinského-Kričky* 1982b); 3 – Šarišské Michaľany (podľa *Lamiovej-Schmiedlovej* 1983); 4 – Smižany (podľa *Javorského* 1984); 5 – Spišská Nová Ves (podľa *Javorského* 1986); 6–9 – Prešov (podľa *Budinského-Kričky* 1963); 10 – Koprivnica (podľa *Budinského-Kričky* 1970); 11 – Vranov nad Topľou-Čemerné (podľa *Budinského-Kričky* 1976).

Tab. II. Vypichovaná keramika z neskorej doby rímskej. 1, 2 – Bardejov; 3 – Gánovce; 4–11 – Fintice.

Tab. III. Vypichovaná (1–8) a zdobená (9) keramika z neskorej doby rímskej z Fintíc.

Tab. IV. Keramika z neskorej doby rímskej z Fintíc.

Tab. V. Vypichovaná (1–13) a vrezávaná (14) keramika z neskorej doby rímskej z Ražňan.

Tab. VI. Vypichovaná keramika z neskorej doby rímskej z Ražňan.

Tab. VII. Keramika z neskorej doby rímskej (1–12) a kolkovaná keramika (13) z Ražňan.

Tab. VIII. Keramika z neskorej doby rímskej z Ražňan.

Tab. IX. Neskoro rímska keramika z Veľkej Lomnice (1–6; 1, 2 – vypichovaná keramika); vypichovaná keramika z Veľkého Šariša-Kanaša (7).

Tab. X. Výskyt vzorov razenej výzdoby na rôznych lokalitách severovýchodného Slovenska a priľahlých oblastí. W – keramika vyrobená na kruhu; h – ručne tvarovaná keramika; x – informácie nezverejnené; * – paralela nie je presná, len približná.

Mgr. Kamil Švaňa, PhD.
Univerzita Pavla Jozefa Šafárika v Košiciach
Filozofická fakulta
Katedra histórie
Moyzesova 9
SK – 040 01 Košice
kamil.svana@upjs.sk
<https://orcid.org/0000-0002-1621-1334>

Mgr. Peter Fecko
ARCHEO, s. r. o.
Šarišské Bohdanovce 115
SK – 082 05 Šarišské Bohdanovce
feckop@gmail.com

RÖMISCHE BECHER AUF GERMANISCHEM TISCH¹

Vladimír Varsík

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Abstract: **Roman Cups on a Germanic Table.** Drinking feasts played an important role in social communication within the Germanic communities of the Roman Period. This fact found archaeological reflection in the sets of Roman bronze, glass and ceramic vessels in cremation and inhumation graves. In the Suebian environment in the territory of present-day western Slovakia, they are especially numerous in the early Roman Period. They are mostly associated with the consumption of wine according to Roman customs. However, the paper focuses its attention on the occurrence of drinking vessels in some large excavated settlements of the Roman Period. The set of 52 Roman ceramic beakers and cups documents the occurrence of even rarer types of ceramics and the changing intensity of its influx.

„Für Gelage und Bewirtungen zeigt kein anderes Volk so hemmungslose Neigung.
... je nach Vermögen rüstet jeder dem Fremden das Mahl.
Wenn das Seine verzehrt ist, weist der Gastgeber den Weg zu einem anderen Gastfreund und gibt dahin das Geleit...“
Tacitus, *Germania* 21

„Ihr Getränk ist ein Saft aus Gerste oder Weizen, zu einer Art von Wein vergoren.“
Tacitus, *Germania* 23

„An der Ufergrenze erhandeln sie auch Wein.“
Tacitus, *Germania* 23

„Tag und Nacht durchzuziehen, bringt keinem Schande.“
Tacitus, *Germania* 22

Die kurzen Notizen von Tacitus zeugen davon, dass auch die Germanen zu Gemeinschaften gehörten, in denen Trinkgelage eine wichtige Rolle im sozialen Kontakt spielten. Gemeinsame Festmähler und Trinkgelage waren ein wichtiges Phänomen in der Organisation des Häuptlingstums, bei diesen feierlichen Gelegenheiten wurden soziale Beziehungen gestärkt, neue geschlossen und alte Vereinbarungen und Partnerschaften bestätigt (Tacitus, *Germania* 22). Festmähler und Trinkgelage werden als wichtiges soziales Phänomen auch in den antiken Hochkulturen durch eine Anzahl illustrativer Szenen aus der Vasenmalerei oder auf Fresken aus dem weltlichen sowie dem funeralen Bereich bestätigt. In der barbarischen Germanenwelt der römischen Kaiserzeit, die bis auf wenige Ausnahmen keine figürlichen Darstellungen kannte, sind wir nur auf archäologische Artefakte angewiesen. In germanischen Gräbern der römischen Kaiserzeit handelte es sich dabei um bestimmte Gefäße römischen Ursprungs, die mit dem Weintrinken in Verbindung gebracht werden können (z.B. Metalleimer, Garnituren von bronzenen Schöpfkellen und Sieben, tönerner oder gläserne Tassen und Becher). In der slowakischen Literatur behandelte sie aus dieser Hinsicht vor allem E. Krekovič (2008, 113–116; 2016, 283–286; alternative Interpretationsmöglichkeiten präsentiert Hrnčiarik 2013, 40, 42–44). Wie sieht es aber in Siedlungen aus, wo das Vorkommen von Metallgefäßen eher selten ist und Glasbecher oft in kleine und schwer zu identifizierende Fragmente zerbrochen sind? Dort bleibt nur noch Keramik übrig – tönerner Tassen und Becher – das Thema dieses Beitrags. Auch daraus konnten die Schmausteilnehmer verschiedene Getränke trinken. Von Tacitus wissen wir bereits, dass zu ihnen auch hausgebrautes Gerstenbier (wahrscheinlich auch Met) und in den Grenzgebieten römischer Wein gehörten.

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DIE METHODIK UND AUSWAHLKRITERIEN

Trinkgefäße – Becher und Tassen – gehören zum Tafelgeschirr und zeichnen sich durch kleinere Ausmaße aus. Aufgrund der starken Fragmentierung der Siedlungskeramik sind ganze oder zumindest im ganzen Profil rekonstruierbare Gefäße selten zu finden. Im Allgemeinen werden bei der Veröffentlichung von Keramik aus archäologischen Kontexten gewöhnlich verzierte Fragmente oder Randscherben abgebildet. Daher wurde als Größenkriterium der Raddurchmesser herangezogen. In unserem Fall wurde seine Obergrenze eigenmächtig auf 12 cm festgelegt. Dieses Maß wird teilweise damit begründet, dass keines der Gefäße, die in der provinzialrömischen Forschung traditionell als Becher/Tasse gelten (z.B. Faltenbecher, Tasse Drag. 33) mit seinem Mündungsdurchmesser die genannten 12 cm überschritt. In den Auswahl fielen nicht die Gefäße, die zwar einen Raddurchmesser von bis zu 12 cm hatten, bei denen das Trinken aufgrund der Mündungsform jedoch eher unpraktisch wäre – Gefäße mit deutlich einziehender Mündung (z.B. Bratislava-Dúbravka – *Elschek* 2017, Taf. 81: 3, 4; oder Branč – *Kolník/Varsík/Vladár* 2007, tab. 47: 11; 146: 9), Gefäße mit horizontal ausladendem Rand (z.B. Branč – *Kolník/Varsík/Vladár* 2007, Taf. 23: 4; 89: 10) oder Gefäße mit Deckelfalz (z.B. Bratislava-Dúbravka – *Elschek* 2017, Taf. 77: 10, Petznek Typ 8.4, 8.5 – *Petznek* 1998, Falttaf. 2). Die gewählten Kriterien garantieren nicht, dass alle ausgewählten Gefäße ausschließlich zum Trinken verwendet wurden. Andererseits ist es sicher, dass sogar einige Gefäße mit einem Durchmesser von mehr als 12 cm zum Trinken verwendet worden sein könnten. Darüber hinaus waren Gefäße aus der römischen Kaiserzeit – römische und noch mehr germanische – wahrscheinlich nicht dermaßen funktional profiliert, dass sie nicht vielfältigen Verwendungsmöglichkeiten dienen konnten, sei es beim Essen und Trinken oder in der Küche zum Aufbewahren oder Zubereiten von Speisen.

ZIELE UND ALLGEMEINE CHARAKTERISTIK
DES BEWERTETEN FUNDSATZES

Das Ziel des vorliegenden Beitrags war es, die Tischkultur in den Siedlungen der Donausueben in der Westslowakei zu erfassen und ihre Veränderungen aus zeitlicher und möglicherweise auch sozialer Sicht aufzufangen. Aus diesem Grund wurden vor allem die Gefäße aus archäologischen Objekten (Gruben, Grubenhäuser usw.) einbezogen, die zumindest einen ungefähren chronologischen Kontext bieten. Bei den Funden aus Schichten wurden nur einige außergewöhnliche Solitäre berücksichtigt. Der bewertete Satz von Bechern/Tassen stammt aus mehreren monografisch veröffentlichten subeischen Siedlungen: Branč (*Kolník/Varsík/Vladár* 2013), Bratislava-Dúbravka und Umgebung (*Elschek* 2017), Bratislava-Trnávka und Umgebung (*Varsík* 2011), Chotín (*Repka/Romsauer* 2019). In der Hoffnung einer Aussage aus sozialer Sicht wurden auch die Töpfererzeugnisse aus Cífer-Pác in die Auswahl einbezogen (*Varsík/Kolník* 2021).

Unter Berücksichtigung der oben erwähnten Kriterien konnten aus den genannten Fundstellen 362 Becher und Tassen gewonnen werden. Davon waren 52 Gefäße (14 %) römischen Ursprungs und 310 Exemplare (86 %) repräsentierten die heimische Töpferproduktion (Diagramm 1). Ein derart großer Satz ging über den Rahmen einer sinnvollen Analyse im Rahmen dieses kurzen Artikels hinaus und wird an anderer Stelle bewertet. Das Thema des vorliegenden Beitrags wurde daher auf 52 Gefäße eingegrenzt, die aus dem Gebiet des Römischen Reiches importiert wurden (Tabelle 1).

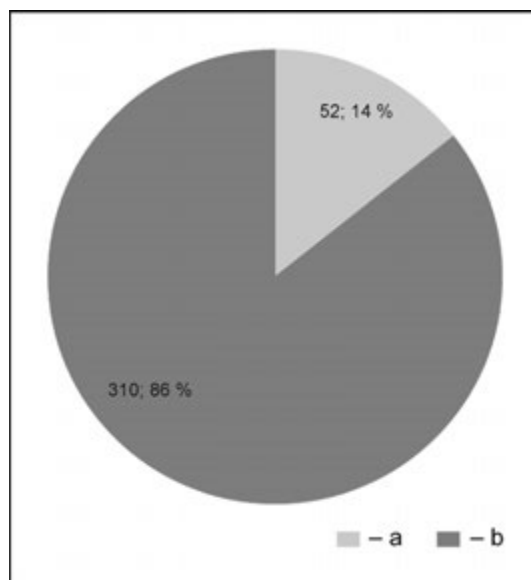


Diagramm 1. Becher und Tassen aus ausgewählten germanischen Siedlungen in der Westslowakei. Die Anteile von einheimischen germanischen und römischen Exemplaren. Legende: a – römisch; b – germanisch.

Tabelle 1. Römische Becher und Tassen aus den ausgewählten suebischen Siedlungen in der Westslowakei. Legende: A = Almgren (*Almgren 1923*); FW = Feinware; Pf = Pfaffenhofen; Randdm. = Randdurchmesser; Rh = Rhein Zabern; TS = Terra Sigillata; W = Westerdorf; Fibeln Almgren Gr. VI (A VI,1 = Fibeln mit umgeschlagenem Fuß; A VI,2a = Fibeln mit festem Nadelhalter und spitzigem Fuß; A VI,2b = Fibeln mit festem Nadelhalter und rechteckigem Fuß).

Fundort	Objekt	Randdm.	Wichtige Kleinfunde	Stufe/Datierung	Literatur	Ker. Kategorie	Anmerkung
Branč	3	10	TS Rh, W	C1	Kolnik/Varsik/Vladár 2007, 65, tab. 2: 9	TS	Drag. 33
Branč	4	?	Fibel A 84	B2-B2/C1	Kolnik/Varsik/Vladár 2007, 66, tab. 5: 6	gelbtonig	–
Branč	5	11	TS Rh, W	C1	Kolnik/Varsik/Vladár 2007, 67, tab. 7: 6	FW	rätisch Drexel 2
Branč	12	6,5	Fibel A VI,1; TS Lezoux, Rh/W	C1	Kolnik/Varsik/Vladár 2007, 69, tab. 11: 6	gelbtonig	–
Branč	12	?	Fibel A VI,1; TS Lezoux, Rh/W	C1	Kolnik/Varsik/Vladár 2007, 69, tab. 11: 8	grau glatt	Faltenbecher
Branč	20A-H	8,5	TS Banassac	B2	Kolnik/Varsik/Vladár 2007, 75, tab. 23: 5	gelbtonig	–
Branč	25B	9	–	B2-B2/C1 (–C1)	Kolnik/Varsik/Vladár 2007, 79, tab. 31: 13	graukörnig	Faltenbecher
Branč	56	?	–	C2–C3 (–C3/D1)	Kolnik/Varsik/Vladár 2007, 94, tab. 68: 14	graukörnig	Faltenbecher
Branč	80A	10,5	–	B2–B2/C1	Kolnik/Varsik/Vladár 2007, 101, tab. 84: 6	gelbtonig	–
Branč	82	8	TS Rh; Kamm Thomas I	C2–C3 (–C3/D1)	Kolnik/Varsik/Vladár 2007, 102, tab. 87: 4	grau glatt	Faltenbecher
Branč	83	6,5	TS Rh, Pf	C1	Kolnik/Varsik/Vladár 2007, 103, tab. 89: 7	gelbtonig	–
Branč	83	9,5	TS Rh, Pf	C1	Kolnik/Varsik/Vladár 2007, 103, tab. 89: 9	gelbtonig	–
Branč	121	?	TS W	C1	Kolnik/Varsik/Vladár 2007, 108, tab. 100: 5	graukörnig	Faltenbecher
Branč	170	9	–	C1	Kolnik/Varsik/Vladár 2007, 122, tab. 130: 1	FW	rätisch
Branč	172	8	–	C1	Kolnik/Varsik/Vladár 2007, 123, tab. 131: 2	grau glatt	Faltenbecher
Branč	189	6,5	römische Kniefibel	B2–B2/C1	Kolnik/Varsik/Vladár 2007, 132, tab. 152: 5	gelbtonig	–
Bratislava-Devínska Nová Ves	3/96	?	Münzen Sept. Severus, Claudius II., Diocletianus; TS Rh	C2	Elschek 2017, 166, Taf. 124: 4, 5	graukörnig	Faltenbecher
Bratislava-Devínska Nová Ves	3/96	9,5	Münzen Sept. Severus, Claudius II., Diocletianus; TS Rh	C2	Elschek 2017, 166, Taf. 124: 8	graukörnig	–
Bratislava-Dúbravka	22/88	11,3	–	B1(–B2a)	Elschek 2017, 142, Taf. 18: 2	FW	Netzwerkschale
Bratislava-Dúbravka	6/88	?	Fibel A VI,2b; TS W	C3–C3/D1	Elschek 2017, 146, Taf. 36: 11	gelbtonig	Faltenbecher
Bratislava-Dúbravka	14/88	9,9	–	C3–C3/D1	Elschek 2017, 146, Taf. 38: 2	glas.	Skyphos
Bratislava-Dúbravka	15/88	?	Fibeln A VI,2b und A VI,1	C3–C3/D1	Elschek 2017, 147, Taf. 40: 1	glas.	Skyphos
Bratislava-Dúbravka	34/89	?	Fibel A VI,2b; TS Rh	C3–C3/D1	Elschek 2017, 147, Taf. 42: 13	glas.	Skyphos
Bratislava-Dúbravka	85/90	?	Münze Constans; Kamm Thomas II; TS Rh	C3–C3/D1	Elschek 2017, 149, Taf. 49: 19	FW	Faltenbecher, rheinisch
Bratislava-Dúbravka	85/90	8,6	Münze Constans; Kamm Thomas II; TS Rh	C3–C3/D1	Elschek 2017, 149, Taf. 50: 2	graukörnig	–
Bratislava-Dúbravka	125/92	?	Kämme Thomas I, II, III; TS	C3–C3/D1	Elschek 2017, 155, Taf. 77: 7	graukörnig	Faltenbecher

Tabelle 1. Weiterführung.

Fundort	Objekt	Randdm.	Wichtige Kleinfunde	Stufe/Datierung	Literatur	Ker. Kategorie	Anmerkung
Bratislava-Dúbravka	135/93	9,2	–	C3–C3/D1	<i>Elschek 2017</i> , 156, Taf. 84: 10	graukörnig	–
Bratislava-Trnávka, Zadné	19	11,5	Fibel A 84	B2–B2/C1	<i>Varsík 2011</i> , 244, tab. 16: 8	graukörnig	–
Bratislava-Trnávka, Zadné	30	8	–	B2–B2/C1	<i>Varsík 2011</i> , 247, tab. 21: 11	FW	rätisch Drexel 2b
Bratislava-Trnávka, Zadné	33/34/53	–	Münze Aurelianus; TS Rh	C2–C3 (–C3/D1)	<i>Varsík 2011</i> , 250, tab. 25: 1	grau glatt	Faltenbecher
Bratislava-Trnávka, Zadné	43	8	–	B2–B2/C1	<i>Varsík 2011</i> , 255, tab. 30: 21a–c	FW	rätisch Drexel 1 (?)
Bratislava-Trnávka, Zadné	44	5,5	Münze Tacitus; 4 Fibeln A VI,2a	C2–C3 (–C3/D1)	<i>Varsík 2011</i> , 258, tab. 33: 10	graukörnig	Faltenbecher
Bratislava-Vajnory	1	?	Fibel A VI,2a; Kamm Thomas I; TS Rh	C2–C3 (–C3/D1)	<i>Varsík 2011</i> , 283, tab. 65: 5	graukörnig	Faltenbecher
Bratislava-Vajnory	1	7,5	Fibel A VI,2a; Kamm Thomas I; TS Rh	C2–C3 (–C3/D1)	<i>Varsík 2011</i> , 283, tab. 65: 6	grau glatt	Faltenbecher
Cífer-Pác	71	?	–	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 50, Taf. 80: 2	glaz	Skyphos
Cífer-Pác	1	10,5	–	C1–C2	<i>Varsík/Kolník 2021</i> , 21, Taf. 16: 7	graukörnig	Faltenbecher
Cífer-Pác	1-vrstva	9	–	C1–C3/D1	<i>Varsík/Kolník 2021</i> , 23, Taf. 18: 18	graukörnig	Faltenbecher
Cífer-Pác	13-vrstva	8	–	C1–C3/D1	<i>Varsík/Kolník 2021</i> , 27, Taf. 24: 9	grau glatt	Faltenbecher
Cífer-Pác	58	11,5	Münze Const. Gallus; 2 Fibeln A VI,2a	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 32, Taf. 32: 7	glas.	Skyphos
Cífer-Pác	58	?	Münze Const. Gallus; 2 Fibeln A VI,2a	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 32, Taf. 32: 13	graukörnig	Faltenbecher
Cífer-Pác	60	15	Zwiebelknopffibel; Fibeln A VI,2a und A VI,2b; Kamm Thomas I	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 40, Taf. 57: 7	glas.	Skyphos
Cífer-Pác	60	6,5	Zwiebelknopffibel; Fibeln A VI,2a und A VI,2b; Kamm Thomas I	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 40, Taf. 57: 8	grau glatt	Faltenbecher
Cífer-Pác	136	6,5	Münze Constantinus I.; Fibeln A VI,2a; Kamm Thomas I	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 58, Taf. 95: 8	grau glatt	Faltenbecher
Cífer-Pác	166	?	Fibel A VI,1	C1–C2	<i>Varsík/Kolník 2021</i> , 61, Taf. 101: 5	grau glatt	Faltenbecher
Cífer-Pác	194	8,1	Münze Alex. Severus; 2 Fibeln A VI,2a; TS Rh	C1–C2	<i>Varsík/Kolník 2021</i> , 63, Taf. 103: 22	TS	Drag. 41
Cífer-Pác	194	?	Münze Alex. Severus; 2 Fibeln A VI,2a; TS Rh	C1–C2	<i>Varsík/Kolník 2021</i> , 64, Taf. 104: 1	FW	rheinisch
Cífer-Pác	194	9	Münze Alex. Severus; 2 Fibeln A VI,2a; TS Rh	C1–C2	<i>Varsík/Kolník 2021</i> , 64, Taf. 104: 2	gelbtonig	–
Cífer-Pác	194	?	Münze Alex. Severus; 2 Fibeln A VI,2a; TS Rh	C1–C2	<i>Varsík/Kolník 2021</i> , 64, Taf. 104: 6, 7	graukörnig	Faltenbecher
Cífer-Pác	279	8	–	C3–C3/D1	<i>Varsík/Kolník 2021</i> , 66, Taf. 109: 8	grau glatt	Faltenbecher
Chotín	109	10	TS Rh, W	C1	<i>Repka/Romsauer 2019</i> , tab. L: 16	graukörnig	Faltenbecher
Ivanka pri Dunaji	1	?	–	C2–C3 (–C3/D1)	<i>Varsík 2011</i> , 286, tab. 71: 4	graukörnig	Faltenbecher
Plavecký Štvrtok	3/2002	9,5	TS	C1	<i>Elschek 2017</i> , 169, Taf. 143: 7	TS	Drag. 33

RÖMISCHE BECHER UND TASSEN IM GERMANISCHEN HAUSHALT

Von der Gesamtzahl von 52 römischen Bechern und Tassen aus den untersuchten suebischen Siedlungen in der heutigen Westslowakei ist der Großteil – insgesamt 40 Exemplare – in den Abbildungen 1 und 2 gezeigt.

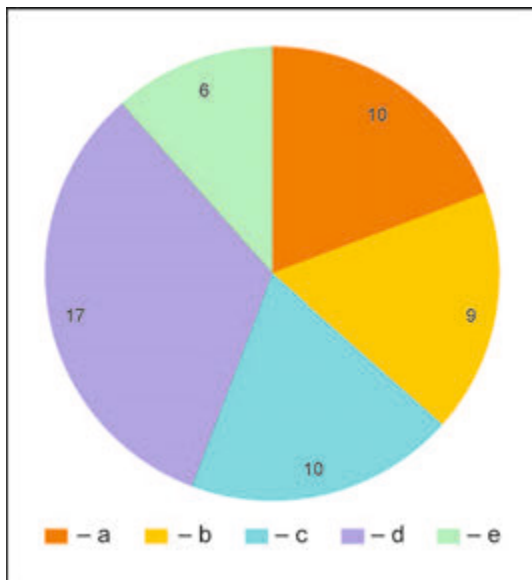


Diagramm 2. Römische Becher und Tassen aus germanischen Siedlungen. Zusammensetzung nach keramischen Kategorien. Legende: a – FW+TS; b – gelb; c – grau glatt; d – graukörnig; e – glasiert.

Römische Becher und Tassen können hauptsächlich anhand der Randfragmente mit einem Durchmesser von bis zu 12 cm identifiziert werden. Nur eine spezifische und beliebte Form – der sog. Faltenbecher – ist auch Dank den gefalteten Wänden leicht zu erkennen (z.B. Abb. 1: 9, 10; 2: 3), daher dürfte sein Vorkommen in dem gesamten Fundsatz häufiger und in seiner Bedeutung überbewertet sein. Hinsichtlich der Herkunft tauchen Exemplare aus Italien (Abb. 1: 3) oder aus den westlichen Provinzen (Terra Sigillata, sogenannte rätische und rheinische Ware – Abb. 1: 1, 2, 4–9) auf. In die quadische Umgebung nördlich der Donau gelangten sie vermutlich nicht direkt, sondern über die pannonischen Handelsmärkte. Die Gefäße aus pannonischen Töpfereien sind verständlicherweise am zahlreichsten (Abb. 1: 10–22; 2: 1–18). Weiter unten werden die römischen Tassen und Becher im Rahmen von fünf Kategorien beschrieben und bewertet: 1 sog. Feinware und Terra Sigillata; 2 gelbtonige Ware; 3 graue Keramik mit glatter (eventuell überzogener) Oberfläche; 4 graukörnige Ware; 5 glasierte Keramik. Diese fünf Kategorien sind in der Kollektion von 52 römischen Tassen und Bechern relativ gleichmäßig vertreten, graukörnige Ware ist leicht überwiegend (Diagramm 2).

Terra Sigillata und die sogenannte Feinware

Terra Sigillata wird durch drei Gefäße repräsentiert: zwei konische, glatte Tassen Drag. 33 (Branč und Plavecký Štvrtok – Abb. 1: 1) und eine Tasse Drag. 41 (Cífer-Pác – Abb. 1: 2). Alle drei Exemplare wurden im zeitgenössischen Fundkontext der Stufen C1 bzw. C1–C2 gefunden. Im Grubenhaus 194 in Cífer-Pác wurde die Tasse Drag. 41 von einem Denar des Alexander Severus aus dem Jahr 231 begleitet (*Varsik/Kolník 2021*, Tabelle 6). Gefäße der Form Drag. 33 gehörten zu den beliebten Formen und sie stellen einen der drei am häufigsten vorkommenden Typen glatter Terra Sigillata im Vorfeld des nordpannonischen Limes dar. Im Jahr 1997 verzeichnete K. Kuzmová 51 Exemplare aus quadischen Siedlungen, überwiegend Oberflächenfunde (*Kuzmová 1997*, 33, Diagramm 10). Die Tasse Drag. 41 ist viel seltener und die genannte Autorin erwähnt sonst nur ein weiteres Bruchstück aus Bratislava-Dúbravka (*Kuzmová 1997*, 45).

Zum Bereich der italischen Feinkeramik bekennt sich eine beige- oder braunfarbene sog. Netzwerkschale mit braunem Überzug aus Bratislava-Dúbravka (Abb. 1: 3). Im Barbaricum an der mittleren Donau handelt es sich hierbei um einen recht einmaligen Fund, worauf bei seiner Veröffentlichung K. Elschek (2017, 41) hingewiesen hat. Aufgrund der Analogien aus Carnuntum und dem Magdalensberg datierte er das Gefäß in die claudische Zeit (*ebd.*). Gleichzeitig weisen die beiden Fundstellen im heutigen Österreich auf einen Weg hin, über den das seltene Gefäß aus Italien bis ins Barbaricum nördlich der Donau gelangt sein könnte.

Neben der Terra Sigillata stammen aus den westlichen Provinzen auch Becher der sogenannten rätischen und rheinischen Ware. Zu dem rätischen Bereich gehören zwei Becherpaare aus Bratislava-Trnávka (Abb. 1: 4, 6) und aus Branč (Abb. 1: 5, 7). Sie sind mit einem qualitätvollen glänzenden dunkelbraunen und bis grauschwarzen Überzug versehen. Sie repräsentieren alle drei Verzierungsstile der rätischen Keramik, von den Barbotine-Fäden (Stil Drexel 1 – Abb. 1: 4) über die Barbotine-Hufeisen in Kombination mit Rädchenbändern (Stil Drexel 2 oder 2b – Abb. 1: 5, 6) bis hin zu Gefäßen mit dem einfachen Rädchen Dekor (Stil Drexel 3 – Abb. 1: 7). Die Chronologie und zeitliche Abfolge einzelner Stile nach F. Drexel sind nicht ganz klar. An manchen Fundstellen, wie z.B. Carnuntum (*canabae* und Auxiliarkastell), kommt der ältere Stil 1 nur bis zum Horizont

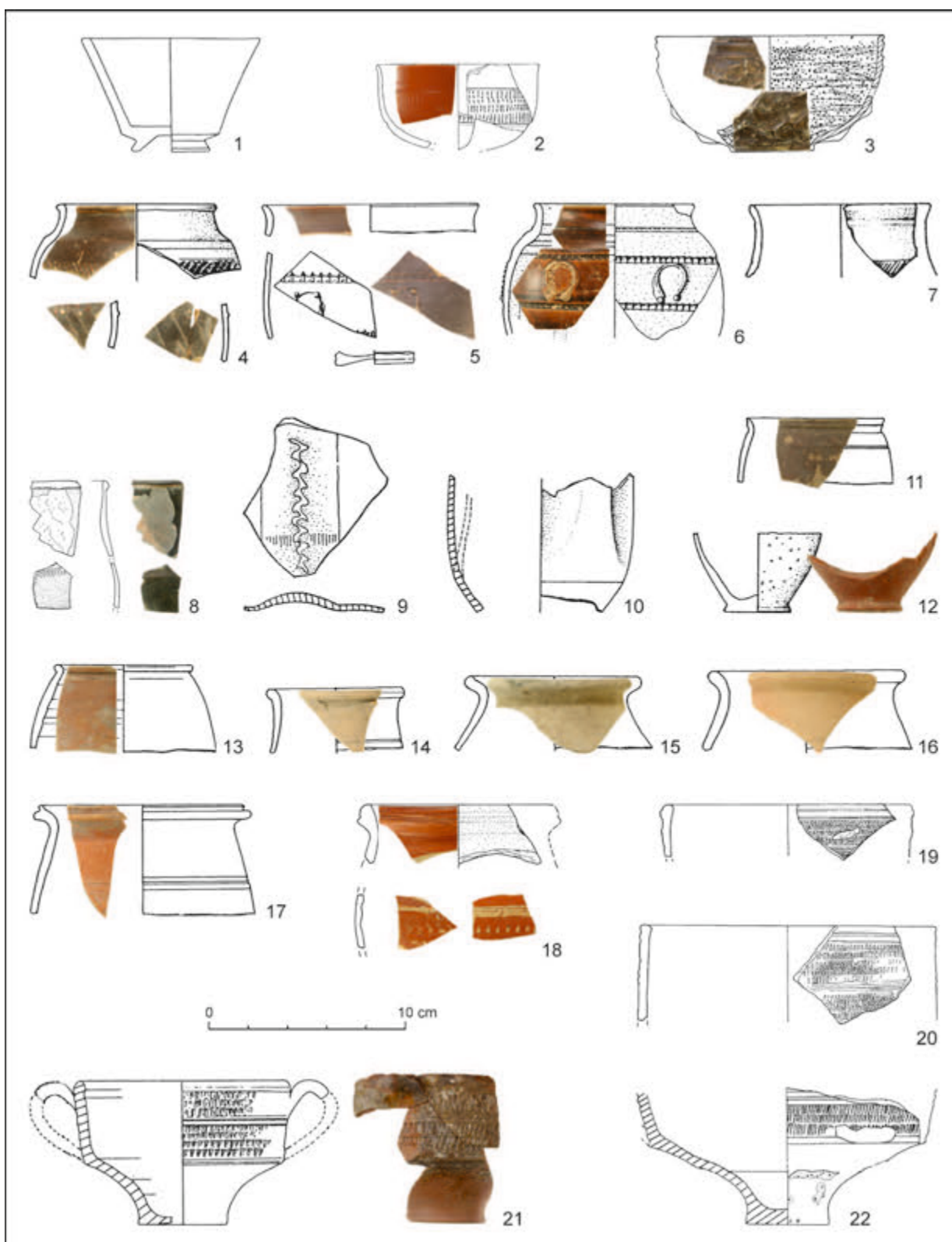


Abb. 1. Römische Becher und Tassen aus germanischen Siedlungen in der Westslowakei. 1, 2 – Terra Sigillata; 3 – italische Feinware; 4–7 – sog. rätische Ware; 8, 9 – rheinische Ware; 10–18 – gelbtonige Ware; 19–22 – glasierte Keramik. 1 – Branč, Objekt 3; 2 – Cífer-Pác, Objekt 194; 3 – Bratislava-Dúbravka, Objekt 22/88; 4 – Bratislava-Trnávka, Objekt 43; 5 – Branč, Objekt 5; 6 – Bratislava-Trnávka, Objekt 30; 7 – Branč, Objekt 170; 8 – Cífer-Pác, Objekt 194; 9, 10 – Bratislava-Dúbravka, Objekte 85/90, 6/88; 11–17 – Branč, Objekte 189, 4, 12, 83, 20A-H, 83, 80A; 18–20 – Cífer-Pác, Objekte 194, 58, 60; 21, 22 – Bratislava-Dúbravka, Objekte 14/88, 34/89.

der Markomannenkriege vor, wann er durch die jüngeren Stile 2 und 3 ersetzt wurde (*Gassner 1991*, 271, 272; *Kronberger 1997*, 87, 88). In anderen römischen Kontexten an der Donau erscheinen die Stile Drexel 1 und 2 zusammen bereits in der antoninischen Zeit (Beispiele und Literatur – *Varsik 2011*, 52). Ein Becher des Stils 2 aus Grube 5 in Branč (Abb. 1: 5) wurde zusammen mit Terra Sigillata aus Rheinzabern und Westerndorf (Comitalis) gefunden, was auf die severische Zeit hinweist (*Kolník/Varsik/Vladár 2007*, 67, tab. 7: 4–6). Mehrere Autoren (z.B. *Krekovič 1998*, 10; *Kronberger 1997*, 88) weisen darauf hin, dass nicht alle Gefäße im rätischen Stil unbedingt aus Rätien stammen müssen, sondern dass ihre Imitationen auch von pannonischen Töpfern hergestellt wurden. Eine Antwort auf die Frage nach der Herkunft ist ohne naturwissenschaftliche Analysen von Töpferton sehr problematisch. Alle unsere Gefäße zeichnen sich durch dünne Wände und einen qualitativ glänzenden Überzug aus, was für den Ursprung aus Rätien sprechen würde, aber beispielsweise bei dem Becher aus Grubenhaus 30 in Bratislava-Trnávka (Abb. 1: 6) handelt es sich, der visuellen Beurteilung von E. Krekovič nach, um eine pannonische Imitation (mündliche Konsultation).

Nur sehr selten kommt auf dem Gebiet nördlich der Donau die rheinische Schwarzfirniskeramik vor. In der Westslowakei wurden solche Gefäße bisher nur in Bratislava-Dúbravka und in Cífer-Pác erkannt, was auf eine Verbindung zu den sozial besser gestellten Kreisen barbarischer Gemeinschaften schließen lässt. In Bratislava-Dúbravka wurde im Grubenhaus 85/90 ein Fragment eines schwarzen Faltenbechers mit weißer Barbotine-Welle (Abb. 1: 9) zusammen mit einer Münze des Constans aus der ersten Hälfte des 4. Jahrhunderts gefunden (*Elschek 2017*, 67, 149, Taf. 49: 19).² Im Grubenhaus 194 in Cífer-Pác wurden Fragmente eines bauchigen Bechers mit konischem Hals (Typ Niederbieber 33 – Abb. 1: 8) in Vergesellschaftung mit einem Denar des Alexander Severus (Prägung aus dem Jahr 231) und einer relativ reichen Kollektion der severischen Terra Sigillata aus Rheinzabern, bzw. aus Rheinzabern/Westerndorf gefunden (*Varsik/Kolník 2021*, 250, 251, Abb. 187: 1). Das Grubenhaus 194 gehört zur Phase A (zu dem sogenannten Protogehöft) und wurde bereits vor der Errichtung des Herrenhofs am Anfang des 4. Jahrhunderts zugeschüttet. Die Produktion von rheinischer Schwarzfirniskeramik dauerte relativ lange, beliebt war sie jedoch vor allem im 3. Jahrhundert (*Gassner 1991*, 279). Großer Beliebtheit erfreuten sich die sogenannten Trierer Spruchbecher mit Trinksprüchen, die sich auf das Thema Weintrinken beziehen. Sie wurden in der Töpfermanufaktur der römischen Stadt *Augusta Treverorum* hergestellt und befriedigten teilweise den Bedarf an hochwertigem Tafelgeschirr nach der Einstellung der Terra Sigillata-Produktion nach der Mitte des 3. Jahrhunderts (*Künzl 1997*, 9, 129).

Pannonische Töpferproduktion – gelbtonige Ware

Die oxidierend gebrannte Keramik von gelber oder ziegelroter Farbe pannonischer Herkunft wird durch neun Gefäße vertreten (Abb. 1: 10–18). Die zwei oberen und ein unterer Gefäßteil aus Branč (Abb. 1: 11–13) könnten Faltenbecher darstellen, obwohl die charakteristische Wandfaltung nicht erhalten ist. Der sandige Griesbewurf (wie bei den Gefäßen auf Abb. 1: 11, 12) kommt bei Bechern aus Carnuntum in Befunden vom mittleren Drittel des 2. Jahrhunderts bis zu den Markomannenkriegen vor (*Gassner 1991*, 275, Taf. 7: 76–78; *Kronberger 1997*, 88, 62–65). Eine ähnliche Datierung wurde auch für Gerulata von E. Krekovič postuliert (*Krekovič 1998*, 9, 10, Taf. 1: 12–15). Dies deckt sich mit der Datierung der kräftig profilierten Fibel A 84 aus Grube 4 in Branč mit dem Unterteil eines Bechers mit dem Griesbewurf (Abb. 1: 12). Die beiden anderen Becher aus Branč (Abb. 1: 11, 13) sind durch die Begleitfunde in die Zeitspanne B2–B2/C1 (Grubenhaus 189 mit römischer Kniefibel) und C1 datiert (Grubenhaus 12 – eiserne Fibel mit umgeschlagenem Fuß „ungarischen“ Typs, Terra Sigillata aus Lezoux und Rheinzabern/Westerndorf). Ein relativ großes Fragment (Abb. 1: 10) stammt aus der spätkaiserzeitlichen Grube 6/88 in Bratislava-Dúbravka, die allerdings auch ältere Keramikfragmente enthielt (Terra Sigillata aus Westerndorf – *Elschek 2017*, Taf. 36: 8, 11).

Eine andere Gruppe gelbtoniger Gefäße besitzt einfache ausgebogene Ränder (Abb. 1: 14–16), in zwei Fällen ist die Mündung durch eine umlaufende Rille geteilt (Abb. 1: 17, 18). In der Literatur werden sie meist als „Töpfchen“ bezeichnet, ihre kleinen Ausmaße schließen jedoch nicht aus, dass sie neben anderem auch zum Trinken verwendet worden sein könnten. In den untersuchten Siedlungen kommen sie von der Stufe B2 (Branč, Grube 20A–H, Terra Sigillata aus Banassac – Abb. 1: 15) über B2–B2/C1 (Branč 80A – Abb. 1: 17) bis zur Stufe C1, bzw. C1–C2 vor (Branč 83, Cífer-Pác 194 – Abb. 1: 14, 16, 18).

² Im Katalog wird das Fragment unter den Funden aus dem oben erwähnten Grubenhaus 85/90 aufgeführt, obwohl der Autor an einer anderen Stelle schreibt, es handle sich um einen „Lesefund“ (*Elschek 2017*, 67).

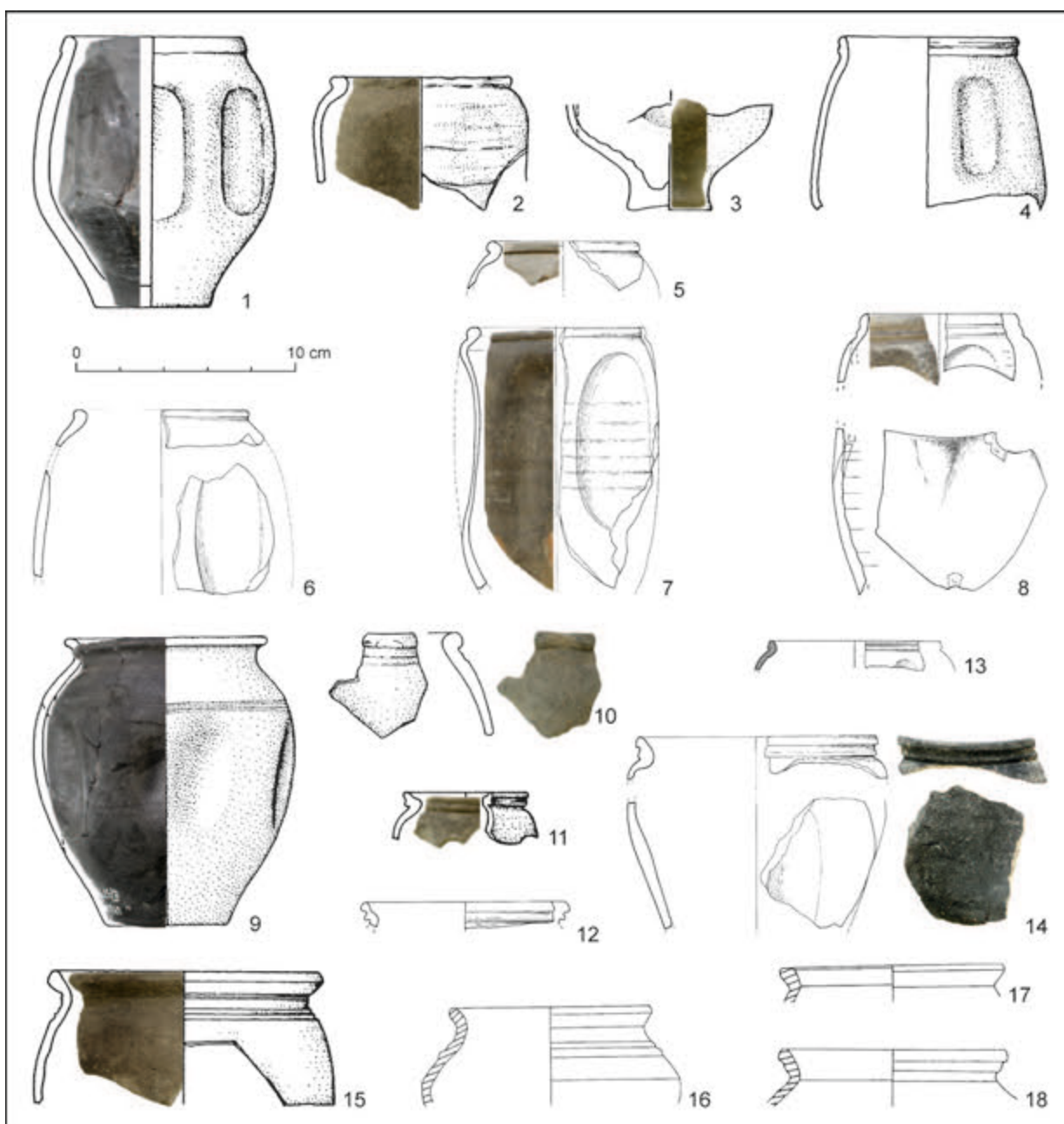


Abb. 2. Römische Becher und Tassen aus germanischen Siedlungen in der Westslowakei. 1–8 – graue glatte Keramik; 9–18 – graukörnige Ware. 1 – Branč, Objekt 172; 2 – Bratislava-Vajnory, Objekt 1; 3 – Bratislava-Trnávka, Objekt 33/34/53; 4 – Branč, Objekt 82; 5–8 – Cífer-Pác, Objekte 136, 13, 279, 60; 9, 10 – Branč, Objekte 25B, 121; 11 – Bratislava-Trnávka, Objekt 44; 12 – Cífer-Pác, Objekt 1; 13 – Chotín, Objekt 109; 14 – Cífer-Pác, Objekt 1; 15 – Bratislava-Trnávka, Objekt 19; 16, 17 – Bratislava-Dúbravka, Objekte 85/90, 135/93; 18 – Bratislava-Devínska Nová Ves, Objekt 3/96.

Pannonische Töpferproduktion – graue Keramik mit glatter Oberfläche

Die Produktion von pannonischen Bechern/Tassen in der Kategorie der grauen Feinkeramik wird durch zehn Faltenbecher repräsentiert, von denen acht abgebildet sind (Abb. 2: 1–8). Die besser erhaltenen Exemplare sind eiförmig (Abb. 2: 6, 8), zylindrisch (Abb. 2: 7) und wahrscheinlich konisch und nach unten hin sich verjüngend (Abb. 2: 2). Die Keramikforschung in Carnuntum charakterisierte für das 3. Jahrhundert die Tendenz eines allmählichen Übergangs von Formen, die durch Oxidationsbrand hergestellt wurden, zu reduzierend gebrannten graufarbigem Gefäßen (Kronberger 1997, 95). In gewisser Weise lässt sich eine solche Tendenz auch auf römischen Bechern aus quadischen Siedlungen beobachten, denn nach einer Zeit parallelen Vorkommens

in der Stufe C1 (Branč 12 und 172 – Abb. 2: 1) bzw. C1–C2 (*Varsik/Kolník 2021*, 61, Taf. 101: 5) erfreuten sich die grauen Becher erst in der fortgeschrittenen jüngeren bis späten römischen Kaiserzeit (Stufen C2–C3/D1 – Abb. 2: 2–8) großer Beliebtheit. Der Rand unserer Becher ist gewöhnlich nur leistenförmig verdickt (Abb. 2: 1, 2, 5–7). Ein vereinfachter, eher nachlässig ausgeführter Karniesrand (Abb. 2: 4, 8) kommt ebenfalls vor. Da römische Töpfer gleichzeitig unterschiedliche Randformen hergestellt haben, gehören die Faltenbecher zu den Gefäßen, die sich typo-chronologisch kaum einordnen lassen (*Gassner 1991*, 275).

Pannonische Töpferproduktion – graukörnige Ware

Faltenbecher wurden auch in einer Variante mit rauer Oberfläche hergestellt. In unserem Fundverband stellen sie mit 13 Exemplaren die zahlreichste Gruppe dar (abgebildet sind 6 Exemplare – Abb. 2: 9–14). Dazu fügen wir noch vier graue Gefäße mit einfach ausgebogenem Rand (Abb. 2: 15–18) und der Mündung bis 12 cm hinzu. Es lässt sich nicht mit Sicherheit ausschließen, ob die kleineren Fragmente ebenfalls Faltenbecher einer ähnlichen Form wie in Branč (Abb. 2: 9) nicht darstellen könnten. *E. Krekovič* (1998, 35, Taf. 20: 3, 5, 6, 8) schreibt die Funktion von Bechern auch den kleinen Töpfchen mit ausladendem Rand aus Gerulata zu. In unserer Kollektion kamen sie im Fundkontext aus dem 2. (Bratislava-Trnávka – Abb. 2: 15) und dann aus dem späten 3. bzw. aus dem 4. Jahrhundert vor (Bratislava-Devínska Nová Ves und Bratislava-Dúbravka – Abb. 2: 16–18).

In der Gruppe der Faltenbecher sind wiederum eiförmige (Abb. 2: 9) und konische (Abb. 2: 14) Formen belegt. Das letztgenannte Exemplar aus Cífer-Pác entspricht in der Form und dem scharfen Karniesrand dem Typ Petznek 20.1. Der genannten Autorin zufolge sind solche Becher in Carnuntum relativ lange, vom 2. bis zum 4. Jahrhundert vorgekommen (*Petznek 1998*, 254, 255, Faltafel 4: Typ 20.1; ähnlich in Gerulata – *Krekovič 1998*, 36, Taf. 27: 7–9).

Die Faltenbecher aus Fundkontexten ab dem 2. Jahrhundert bis zu den zahlreichen Exemplaren aus den ausgesprochen späten Schichten des 4. Jahrhunderts im Legionslager Carnuntum wurden bereits von *M. Grünwald* veröffentlicht (1979, 63, Taf. 56: 15–19; 57: 1–3). In unseren Siedlungen erscheinen graukörnige Exemplare in der Stufe C1 in Vergesellschaftung mit der Terra Sigillata aus Rheinzabern und Westerndorf (Branč 121, Chotín 109 – Abb. 2: 10, 13). Manche Gefäße dokumentieren deren Import bis zur Schlussphase der römischen Kaiserzeit. Heute scheint es, dass sie später – in der nachvalentinianischen Zeit und in Begleitung von Keramik mit eingeglätteter Verzierung – weder am pannonischen Limes noch nördlich davon mehr vorkommen (*Varsik 2011*, 133).

Pannonische Töpferproduktion – glasierte Keramik

Glasierte zweihenkelige Tassen wurden nur in zwei der beobachteten suebischen Siedlungen gefunden – in Bratislava-Dúbravka (Abb. 1: 21, 22 + ein nicht abgebildetes Fragment des Gefäßkörpers) und in Cífer-Pác (Abb. 1: 19, 20 + ein nicht abgebildetes Fragment des Gefäßkörpers). Die Gefäße haben einen zylindrischen Oberteil, der im scharfen Umbruch in einen sich verjüngenden Fuß übergeht. Zusätzlich zur Glasur wird der obere Teil auch mit einem flächig aufgetragenen Rädchendekor bedeckt. In der ungarischen Forschung werden sie auch mit dem Begriff Skyphos bezeichnet und ins 4. Jahrhundert, insbesondere in seine zweite Hälfte datiert (z.B. *Bánki 1992*, 42, 44, Abb. 6). Als eine Stütze für die Datierung wird häufig das Grab 11 in der Nekropole I in Bratislava-Rusovce/Gerulata mit einer Münze des Kaisers Valens angeführt (*Kraskovská 1974*, 19, tab. XVII: 4; *Krekovič 1998*, 40, Taf. 31: 2). Nördlich der Donau erscheint der glasierte Skyphos in der letzten Phase der Existenz der suebischen Siedlungen, die an der Wende vom 4. zum 5. Jahrhundert aufgegeben wurden. Ihr charakteristischer Vertreter ist neben Bratislava-Dúbravka und Cífer-Pác auch Zlechov in Südmähren (*Zeman 2007*, 295, Abb. 13: 7). In Pannonien und auch in Noricum blieben sie noch länger beliebt, wie die Beispiele aus den valentinianischen und nachvalentinianischen Schichten in Begleitung von Tongefäßen mit eingeglätteter Verzierung bezeugen (*Ottományi 1989*, 511, fig. 120: 57; andere Beispiele bei *Varsik/Kolník 2021*, 269, 271).

Römische Becher und Tassen aus germanischen Siedlungen in chronologischer Reihenfolge

Aus den wenigen Siedlungsobjekten der ältesten Phase germanischer Besiedlung der Westslowakei im 1. Jahrhundert (Stufe B1–B2a) stammt eine einzige römische Tasse, ein Erzeugnis aus dem Bereich der sogenannten italischen Feinware (Bratislava-Dúbravka, Objekt 22/88 – Abb. 3: 1). Das Gefäß stammt ursprünglich aus

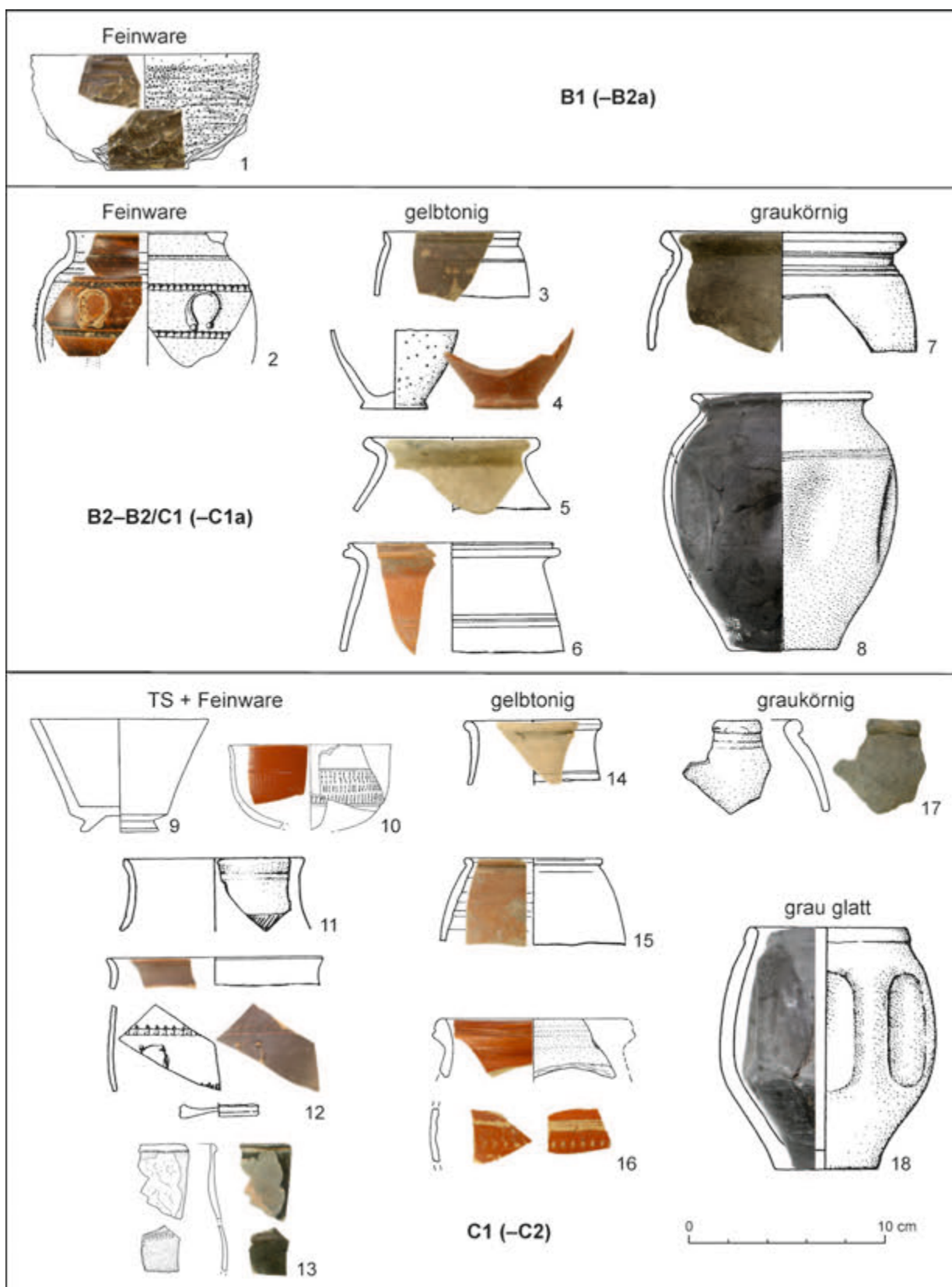


Abb. 3. Römische Becher und Tassen in chronologischer Reihenfolge. 1 – Bratislava-Dúbravka, Objekt 22/88; 2 – Bratislava-Trnávka, Objekt 30; 3–6 – Branč, Objekte 189, 4, 20A–H, 80A; 7 – Bratislava-Trnávka, Objekt 19; 8, 9 – Branč, Objekte 25B, 3; 10 – Cífer-Pác, Objekt 194; 11, 12 – Branč, Objekte 170, 5; 13 – Cífer-Pác, Objekt 194; 14, 15 – Branč, Objekte 83, 12; 16 – Cífer-Pác, Objekt 194; 17, 18 – Branč, Objekte 121, 172.

Italien und ist eine Art Siedlungspendant zu den glasierten Skyphoi und Kantharoi, ebenfalls italischer Herkunft, aus suebischen Brandgräbern (ihre vorerst letzten Funde stammen aus dem Brandgräberfeld in Sekule – Iván/Ölvecký/Rajtár 2019, 242, Abb. 5: 1, 2). Das Vorkommen von seltenen italischen Importen unterstreicht die Bedeutung der suebischen Gemeinschaften nördlich der Donau zur Zeit des sogenannten *regnum Vannianum* und in den Jahrzehnten kurz nach seinem Zerfall. Bei der Beurteilung dieser Gefäße muss jedoch berücksichtigt werden, dass Pannonien, eine unter Kaiser Claudius (41–54) administrativ und militärisch etablierte römische Provinz, im 1. Jahrhundert noch nicht über das wirtschaftliche Potenzial verfügte, das einen Export eigener Produkte (einschließlich der Töpfererzeugnisse) über ihre nördlichen Grenzen hinaus ermöglicht hätte.

Erst nach dem Ende der sogenannten Suebenkriege während der Regierungszeit von Kaiser Domitian (81–96), bzw. seinem Nachfolger Nerva (96–98), und nach der Fertigstellung der militärischen Infrastruktur am Limes in der spätflavischen und der trajanischen Zeit, haben sich im pannonischen Grenzgebiet mehrere Handwerkszweige rasch entwickelt. Dies spiegelt sich auch im erhöhten Vorkommen römischer Töpfererzeugnisse auf suebischem Gebiet jenseits der Donau wider. Im 2. Jahrhundert (Stufe B2–B2/C1/C1a – Diagramm 3) dominieren gelbtonige Becher/Tassen (Abb. 3: 3–6). Bereits in dieser Zeit erscheinen auch die ersten grauen Faltenbecher (Abb. 3: 8). Durch die pannonische Handelsmärkte gelangten in die Hände der Quaden auch Becher der sogenannten rätischen Keramik der Drexels Stile 1 und 2 (beziehungsweise deren pannonische Imitationen – Abb. 1: 4; 3: 2).

In der nächsten Periode der Stufe C1 (mit der zeitlichen Überschneidung zur Stufe C2), also nach den Markomannenkriegen, ab Ende des 2. und im folgenden 3. Jahrhundert, registriert man die höchste Anzahl römischer Becher und Tassen in den untersuchten suebischen Siedlungen. Gleichzeitig steigt auch der Anteil grauer Ware zulasten der gelben oxidierend gebrannten Keramik (Diagramm 3). Diese positive Entwicklung ist günstig von den wirtschaftlichen Aufschwung Pannoniens in der severischen Zeit und den Charakter der dortigen Töpferproduktion beeinflusst. Relativ hoch ist auch die Anzahl der Becher und Tassen aus rätischen und rheinischen Produktionszentren – Terra Sigillata und rätische Keramik (Abb. 3: 9–12). Möglicherweise gelangten bereits in dieser Zeit auch die Gefäße der rheinischen Schwarzfirniskeramik (Abb. 3: 13).

Für die quadischen Siedlungen in der Westslowakei wurde vorerst nur in groben Zügen der Siedlungshorizont charakterisiert, der sich nach dem Ausklingen des Terra Sigillata-Zustroms zu entwickeln begann (Siedlungshorizont IV – Varsik 2011, 194–199). In den Siedlungsobjekten erschien damals die erste germanische Drehscheibenkeramik und wichtig für die Datierung ist das Vorkommen römischer Münzen aus dem letzten Drittel des 3. Jahrhunderts (vor allem minderwertige Antoniniane). Der Siedlungshorizont IV geht chronologisch dem sogenannten Zlechover Horizont vom Ende der römischen Kaiserzeit (Stufe C3/D1) voraus, der an mehreren Stellen J. Tejral charakterisierte (z.B. 1999, 220–229). Aus Sicht der Chronologie von H. J. Eggers würde Siedlungshorizont IV daher vor allem den Stufen C2 und C3 zuzuordnen sein. Für diesen Zeitraum wurden neun Becher und Tassen erfasst. Die Tendenz des Übergangs zu graufarbigem reduzierend gebrannten Gefäßen erreicht ihren Höhepunkt, alle Becher/Tassen gehören zu diesem Bereich (Diagramm 3). Die mit Abstand beliebteste Form waren Faltenbecher – acht Exemplare (z.B. Abb. 4: 1–4) von insgesamt neun Stücken.

Das Vorkommen römischer Tassen und Becher hörte auch in der Endphase der römischen Kaiserzeit nicht auf, d. h. im Zeitraum etwa von der zweiten Hälfte des 4. bis zur Wende vom 4. zum 5. Jahrhundert (Stufen C3–C3/D1). Im Gegenteil, es ist relativ intensiv und liegt zahlenmäßig (insgesamt 15 St.) an zweiter Stelle (Diagramm 3). Alle römischen Gefäße stammen nur aus zwei der untersuchten Siedlungen, nämlich Bratislava-Dúbravka und Cífer-Pác. Mit insgesamt sieben Exemplaren dominieren graue „Töpfchen“ (Abb. 4: 11, 12) und graue Faltenbecher (Abb. 4: 8–10). Nur ein Faltenbecher aus Bratislava-Dúbravka gehört zu

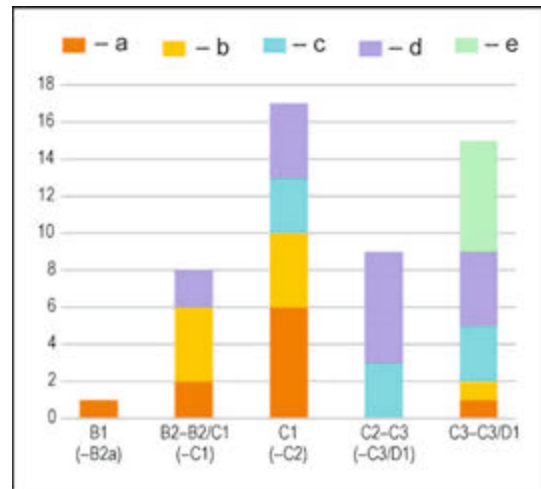


Diagramm 3. Römische Becher und Tassen aus germanischen Siedlungen. Die Vertretung von keramischen Kategorien in chronologischer Reihenfolge. Legende: a – FW+TS; b – gelb; c – grau glatt; d – graukörnig; e – glasiert.

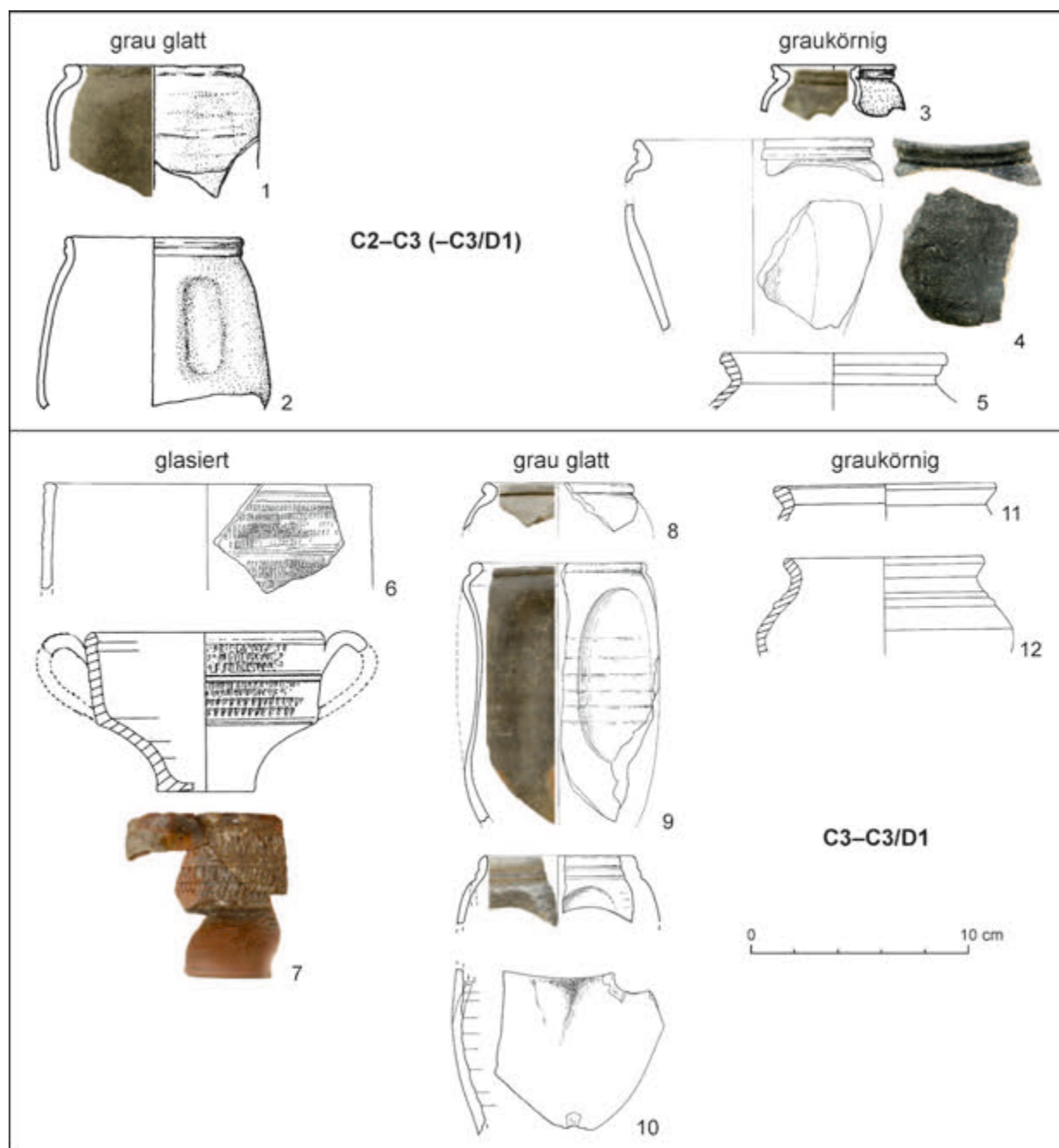


Abb. 4. Römische Becher und Tassen in chronologischer Reihenfolge. 1 – Bratislava-Vajnory, Objekt 1; 2 – Branč, Objekt 82; 3 – Bratislava-Trnávka, Objekt 44; 4 – Čífer-Pác, Objekt 1; 5 – Bratislava-Devínska Nová Ves, Objekt 3/96; 6 – Čífer-Pác, Objekt 60; 7 – Bratislava-Dúbravka, Objekt 14/88; 8–10 – Čífer-Pác, Objekte 136, 279, 60; 11, 12 – Bratislava-Dúbravka, Objekte 135/93, 85/90.

der gelbtonigen Keramik (Abb. 1: 10). Gefaltete Wände besaß auch ein Becher mit weißer Barbotine-Welle aus dem Kreis der rheinischen Schwarzfirniskeramik aus Grubenhaus 85/90 an derselben Fundstelle (Abb. 1: 9). Die Kollektion römischer Tassen und Becher aus der ausgehenden römischen Kaiserzeit wird durch zweihenkelige glasierte Tassen (Skyphoi – Abb. 4: 6, 7) ergänzt.

Zum Schluss, vor allem für den Jubilar.

Lieber Ján, römische Becher gibt es also auch hier, nördlich der Donau, wähle daraus und für die kommenden Jahre... viel Gesundheit und Freude!

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Rímske poháre na germánskom stole

Vladimír Varsík

Súhrn

Hostiny spojené s pitím hrali dôležitú úlohu pri sociálnej komunikácii vnútri germánskych spoločností doby rímskej. Archeologickým odrazom tejto skutočnosti sú súbory rímskych bronzových, sklenených a keramických nádob v žiarových hroboch. Vo svébskom prostredí na území dnešného západného Slovenska sú početné najmä v staršej dobe rímskej. Väčšinou bývajú spájané s konzumáciou vína podľa rímskych zvyklostí. Príspevok svoju pozornosť však zameriava na výskyt nádob na pitie na niektorých dobre preskúmaných sídliskách doby rímskej.

Cieľom malo byť jednak podchytenie stolovej kultúry v osadách naddunajských Svébov na západnom Slovensku a jednak zaznamenanie jej zmien z časového a prípadne aj sociálneho hľadiska. Z tohto dôvodu boli do výberu zaradené predovšetkým nádoby z archeologických objektov, ktoré ponúkajú aspoň približný chronologický kontext. Hodnotený súbor pochádza z niekoľkých v poslednej dobe monograficky publikovaných svébskych sídlisk: Branč (*Kolník/Varsík/Vladár 2013*), Bratislava-Dúbravka a okolie (*Elschek 2017*), Bratislava-Trnávka a okolie (*Varsík 2011*), Chotín (*Repka/Romsauer 2019*) a Cífer-Pác (*Varsík/Kolník 2021*). Celkovo sa podarilo identifikovať 362 pohárov a šálok. Z nich 52 nádob (14 %) bolo rímskeho pôvodu a 310 exemplárov (86 %) reprezentovalo domácu hrnčiarsku produkciu (graf 1). Predložený príspevok hodnotí len rímsku zložku kolekcie.

Z celkového počtu 52 rímskych pohárov a šálok zo sledovaných sídlisk na území západného Slovenska je väčšina – spolu 40 exemplárov – zobrazených na obrázkoch 1 a 2. Rímske poháriky a šálky sa dajú identifikovať najmä podľa okrajových fragmentov s priemerom do 12 cm. Len jeden špecifický a obľúbený tvar – pohár s prehýbanými stenami (tzv. *Faltenbecher*) možno ľahko rozoznať aj podľa prehýbaných stien (napr. obr. 1: 9, 10; 2: 3), preto jeho výskyt môže byť v celom súbore početnejší a svojím významom nadhodnotený. Z hľadiska pôvodu sa medzi rímskymi nádobami objavujú exempláre z Talie (obr. 1: 3) alebo zo západných provincií (terra sigillata, tzv. raetska a porýnska keramika – obr. 1: 4–9). Do kvádského prostredia severne od Dunaja sa pravdepodobne nedostali priamo ale prostredníctvom panónskych obchodných trhov. Nádoby z panónskych hrnčiarskych dielní sú medzi dovozovou keramikou najpočetnejšie (obr. 1: 10–22; 2: 1–18). Rímske šálky a poháre sú opísané a hodnotené v rámci piatich keramických okruhov: 1 tzv. jemný tovar a terra sigillata; 2 keramika tehlovej farby; 3 sivá keramika s hladkým povrchom (často aj s potahom); 4 sivá keramika so zrnitým (drsným) povrchom; 5 glazovaná keramika. Päť okruhov je v súbore 52 rímskych šálok a pohárov pomerne rovnomerne zastúpených, mierne prevažuje sivý hrnčiarsky riad so zrnitým povrchom (graf 2).

Z nepočetných sídliskových objektov z najstaršej etapy germánskeho osídlenia na západnom Slovensku v 1. storočí (stupeň B1–B2a) pochádza jedna jediná rímska šálka, výrobok z okruhu tzv. italského jemného tovaru (Bratislava-Dúbravka, objekt 22/88 – obr. 3: 1). Nádoba má pôvod v Talii a je akýmsi sídliskovým protipólom glazovaných skyfov a kantarov, tiež italského pôvodu, zo svébskych žiarových hrobov. Výskyt vzácných italských importov podčiarkuje význam svébskych komunít na západnom Slovensku v čase existencie tzv. *regnum Vannianum* a v desaťročiach krátko po jeho rozpade. Pri posudzovaní týchto nádob treba mať však na pamäti skutočnosť, že Panónia, rímska provincia administratívne a vojensky etablovaná za cisára Claudia (41–54), nedisponovala v 1. storočí ešte hospodárskym potenciálom, ktorý by umožnil vyvážať vlastné výrobky (vrátane hrnčiarskej produkcie) za svoje severné hranice.

Až po ukončení tzv. svébskych vojen za vlády cisára Domitiana (81–96), resp. jeho nástupcu Nervu (96–98) a po dobudovaní vojenskej infraštruktúry na severopanónskom limite v neskorofláviovskom a trajánovskom období sa v panónskom pohraničí udomácnili a rozvíjali viaceré remeselné odvetvia. Prejavuje sa to aj zvýšeným výskytom rímskych hrnčiarskych produktov na svébskom území za Dunajom. V 2. storočí (stupeň B2–B2/C1/C1a – graf 3) dominujú poháre/šálky z okruhu tehlovej keramiky (obr. 3: 3–6). Už v tomto období sa objavujú aj prvé sivé poháre s prehýbanými stenami (obr. 3: 8). Prostredníctvom panónskeho obchodného sveta sa do rúk naddunajských Kvádov dostali aj poháre tzv. raetskej keramiky Drexelových štýlov 1 a 2 (resp. ich panónske imitácie – obr. 1: 4; 3: 2).

V nasledujúcom období stupňa C1 (s možným presahom do stupňa C2), teda v období po markomanských vojnách, od záveru 2. a v nasledujúcom 3. storočí zaznamenávame najvyšší počet rímskych pohárov a šálok zo sledovaných svébskych osád (spolu 17 kusov). Zároveň sa zvyšuje podiel sivého riadu na úkor žltej oxidačne vypaľovanej keramiky (graf 3). Tento vývoj priaznivo ovplyvnil hospodársky rozmach Panónie v severovskom období a charakter tamojšej hrnčiarskej produkcie. Pomerne vysoký je aj počet pohárov a šálok z raetských a porýnskych produkčných centier – terra sigillata a raetska keramika (obr. 3: 9–12). Možno už v tomto období sa na územie Slovenska dostali aj nádoby porýnskej keramiky s čiernym firnisom (obr. 3: 13).

Pre kvádské sídliská na západnom Slovensku bol zatiaľ len v hrubých rysoch charakterizovaný sídliskový horizont, ktorý sa začal rozvíjať po doznení prílevu terry sigillaty (sídliskový horizont IV – *Varsík 2011*, 194–199). V sídliskových objektoch sa vtedy objavuje prvá germánska na kruhu točená keramika a pre datovanie má význam výskyt rímskych mincí z poslednej tretiny 3. storočia, najmä tzv. devalvačné antoniniány. Pre toto obdobie – z pohľadu Eggersovej chronológie stupne C2 a čiastočne aj C3 – bolo na hodnotených sídliskách zaznamenaných deväť pohárov a šálok. Tendencia prechodu k redukčné

vypaľovaným nádobám sivej farby vrcholí, všetky poháre/šálky patria do tohto okruhu (graf 3). Suverénne najobľúbenejším tvarom boli poháre s prehýbanými stenami – osem exemplárov (napr. obr. 4: 1–4).

Výskyt rímskych šálok a pohárov neustal ani v záverečnom období doby rímskej, teda v časovom úseku zhruba druhej polovice 4. až prelomu 4. a 5. storočia (stupne C3–C3/D1). Naopak je pomerne intenzívny a početnosťou (spolu 15 ks) je na druhom mieste (graf 3). Všetky tieto nádoby pochádzajú len z dvoch zo sledovaných sídlisk, a síce z Bratislavy-Dúbravky a z Cífera-Pácu. Dovedna so siedmimi exemplármi dominujú sivé „hrnčeky“ (obr. 4: 11, 12) a sivé poháre s prehýbanými stenami (obr. 4: 8–10). Len jeden pohár s prehýbanými stenami z Bratislavy-Dúbravky patrí do okruhu tzv. tehlovej keramiky (obr. 1: 10). Prehýbané steny mal aj pohár z okruhu porýnskej keramiky zdobenej bielou barbotinovou vlnovkou zo zemnice 85/90 na tom istom nálezisku (obr. 1: 9). Súbor rímskych šálok a pohárov zo záveru doby rímskej dopĺňajú dvojuché glazované šálky (skyfosy – obr. 4: 6, 7).

Obr. 1. Rímske poháre a šálky z germánskych sídlisk na západnom Slovensku. 1, 2 – terra sigillata; 3 – italský jemný tovar; 4–7 – tzv. raetska keramika; 8, 9 – porýnska keramika; 10–18 – keramika tehlovej farby; 19–22 – glazovaná keramika. 1 – Branč, objekt 3; 2 – Cífer-Pác, objekt 194; 3 – Bratislava-Dúbravka, objekt 22/88; 4 – Bratislava-Trnávka, objekt 43; 5 – Branč, objekt 5; 6 – Bratislava-Trnávka, objekt 30; 7 – Branč, objekt 170; 8 – Cífer-Pác, objekt 194; 9, 10 – Bratislava-Dúbravka, objekty 85/90 a 6/88; 11–17 – Branč, objekty 189, 4, 12, 83, 20A-H, 83 a 80A; 18–20 – Cífer-Pác, objekty 194, 58 a 60; 21–22 – Bratislava-Dúbravka, objekty 14/88 a 34/89.

Obr. 2. Rímske poháre a šálky z germánskych sídlisk na západnom Slovensku. 1–8 – sivá keramika s hladkým povrchom; 9–18 – sivá keramika s drsným povrchom. 1 – Branč, objekt 172; 2 – Bratislava-Vajnory, objekt 1; 3 – Bratislava-Trnávka, objekt 33/34/53; 4 – Branč, objekt 82; 5–8 – Cífer-Pác, objekty 136, 13, 279 a 60; 9, 10 – Branč, objekty 25B a 121; 11 – Bratislava-Trnávka, objekt 44; 12 – Cífer-Pác, objekt 1; 13 – Chotín, objekt 109; 14 – Cífer-Pác, objekt 1; 15 – Bratislava-Trnávka, objekt 19; 16, 17 – Bratislava-Dúbravka, objekty 85/90 a 135/93; 18 – Bratislava-Devínska Nová Ves, objekt 3/96.

Obr. 3. Rímske poháre a šálky v chronologickej sekvencii. 1 – Bratislava-Dúbravka, objekt 22/88; 2 – Bratislava-Trnávka, objekt 30; 3–6 – Branč, objekty 189, 4, 20A-H a 80A; 7 – Bratislava-Trnávka, objekt 19; 8, 9 – Branč, objekty 25B a 3; 10 – Cífer-Pác, objekt 194; 11, 12 – Branč, objekty 170 a 5; 13 – Cífer-Pác, objekt 194; 14, 15 – Branč, objekty 83 a 12; 16 – Cífer-Pác, objekt 194; 17, 18 – Branč, objekty 121 a 172.

Obr. 4. Rímske poháre a šálky v chronologickej sekvencii. 1 – Bratislava-Vajnory, objekt 1; 2 – Branč, objekt 82; 3 – Bratislava-Trnávka, objekt 44; 4 – Cífer-Pác, objekt 1; 5 – Bratislava-Devínska Nová Ves, objekt 3/96; 6 – Cífer-Pác, objekt 60; 7 – Bratislava-Dúbravka, objekt 14/88; 8–10 – Cífer-Pác, objekty 136, 279 a 60; 11, 12 – Bratislava-Dúbravka, objekty 135/93 a 85/90.

Graf 1. Poháre a šálky z vybraných germánskych sídiel na západnom Slovensku. Podiel domácich germánskych a rímskych exemplárov. Legenda: a – rímska keramika; b – germánska keramika.

Graf 2. Rímske poháre a šálky z germánskych sídiel. Zloženie podľa základných keramických skupín. Legenda: a – tzv. jemná keramika + TS; b – tehlová keramika; c – sivá hladká keramika; d – sivá drsná keramika; e – glazovaná keramika.

Graf 3. Rímske poháre a šálky z germánskych sídiel. Zastúpenie základných keramických skupín v chronologickej sekvencii. Legenda: a – tzv. jemná keramika + TS; b – tehlová keramika; c – sivá hladká keramika; d – sivá drsná keramika; e – glazovaná keramika.

Tabela 1. Rímske poháre a šálky z vybraných germánskych sídiel na západnom Slovensku. Legenda: A = Almgren (*Almgren* 1923); FW = jemný tovar; Pf = Pfaffenhofen; Randdm. = priemer okraja; Rh = Rheinzabern; TS = terra sigillata; W = Westerndorf; spony Almgrenovej skupiny VI (A VI,1 = spony s podviazanou nôžkou; A VI,2a = spony s pevným zachycovačom a hrotitou nôžkou; A VI,2b = spony s pevným zachycovačom a obdĺžnikovou nôžkou).

prof. PhDr. Vladimír Varsík, CSc.
Trnavská univerzita v Trnave
Filozofická fakulta
Katedra klasickej archeológie
Hornopotočná 23
SK – 918 43 Trnava
vladimir.varsik@truni.sk

und

Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra
vladimir.varsik@savba.sk
<https://orcid.org/0000-0002-7533-1838>

CONTACT DETAILS OF EDITORS

doc. Mgr. Miroslava Daňová, PhD.
Trnavská univerzita v Trnave
Katedra archeológie
Hornopotočná 23
SK – 918 43 Trnava
miroslava.danova@truni.sk
<https://orcid.org/0000-0002-1324-566X>

Mgr. Katarína Hladíková, PhD.
SNM – Archeologické múzeum
Žižkova 12
SK – 810 06 Bratislava
katarina.hladikova@snm.sk
<https://orcid.org/0000-0002-9689-7419>

Mgr. Branislav Kovár, PhD.
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 94921 Nitra
brano.kovar@gmail.com
<https://orcid.org/0000-0001-9261-7005>