

SLOVENSKÁ ARCHEOLÓGIA

ROČNÍK LXX

2022

ČÍSLO 1



ARCHEOLOGICKÝ ÚSTAV SAV
NITRA 2022

SLOVENSKÁ ARCHEOLÓGIA
ČASOPIS ARCHEOLOGICKÉHO ÚSTAVU SLOVENSKEJ AKADEMIE VIED

HLAVNÝ REDAKTOR GABRIEL FUSEK

Redakcia: Archeologický ústav Slovenskej akadémie vied, Akademická 2, 949 21 Nitra

SLOVENSKÁ ARCHEOLÓGIA
JOURNAL OF THE ARCHAEOLOGICAL INSTITUTE OF THE SLOVAK ACADEMY OF SCIENCES

GENERAL EDITOR GABRIEL FUSEK

Publisher: Institute of Archaeology of the Slovak Academy of Sciences, Akademická 2, SK – 949 21 Nitra

SLOVENSKÁ ARCHEOLÓGIA

Recenzovaný časopis / Peer-reviewed journal

Hlavný redaktor / General editor
Gabriel Fusek

Predseda redakčnej rady / Editorial board chairman
Matej Ruttkay

Redakčná rada / Editorial board
Václav Furmánek, Luděk Galuška, Milan Hanuliak, Joachim Henning, Ivan Cheben,
Pavel Kouřil, Elena Miroššayová, Michał Parczewski, Ján Rajtár, Alexander Ruttkay,
Claudia Theune-Vogt, Ladislav Veliačik

Technická redaktorka / Technical editor
Kristína Sedliaček

Počítačové spracovanie / Layout
Beáta Jančíková

Vychádza dvakrát ročne. Príspevky sú indexované a evidované v databázach WoS, Scopus, EBSCO, ERIH PLUS a CEJSH.

Published twice a year. Articles are indexed and covered in WoS, Scopus, EBSCO, ERIH PLUS, and CEJSH databases.

Za znenie a obsah príspevkov zodpovedajú autori. / Authors are responsible for their contributions.



Toto dielo je licencované podľa Creative Commons Attribution 4.0 International License.
This work is licensed under a Creative Commons Attribution 4.0 International License.

<http://archeol.sav.sk/index.php/sk/slovenska-archeologia/>
<http://archeol.sav.sk/index.php/en/publications/the-slovenska-archeologia-journal-2/>

Rozširuje / Distributed by
Archeologický ústav SAV, v. v. i., Akademická 2, SK – 949 21 Nitra
e-mail: nraukniz@savba.sk

Tlač / Printed by
VEDA, vydavateľstvo SAV, Centrum spoločných činností SAV, v. v. i., Bratislava

© Archeologický ústav SAV, v. v. i., Nitra 2022

ISSN 1335-0102 (print)
ISSN 2585-9145 (online)

OBSAH

Eva Horváthová – Maria Lityńska-Zajac – Anna Rauba-Bukowska –
Jarosław Wilczyński – Albert Zastawny

Results of Natural Science Analyses of the Baden Culture Materials in the Šariš Region, North-Eastern Slovakia	1
Výsledky prírodovedných analýz nálezov badenskej kultúry v Šarišskom regióne, severovýchodné Slovensko	31

Eszter Fejér

Early Bronze Age Settlement in the Vicinity of Süttö	33
Sídlisko zo staršej doby bronzovej v blízkosti Süttö	60

Fynn Wilkes – Henry Skorna

The Dawn of the Early Bronze Age in South-Western Slovakia. A Re-Evaluation of the Social Structure and Chronology of Výčapy-Opatovce	63
Úsvit staršej doby bronzovej na juhozápadnom Slovensku. Prehodnotenie sociálnej štruktúry a chronológie pohrebiska Výčapy-Opatovce	79

Rudolf Kujovský

Notes on Development of the Lusatian Culture in Slovakia	81
Poznámky k vývoju lužickej kultúry na Slovensku	102

Andrej Vrtel

Technologické aspekty mincovníctva bratislavského keltského oppida	105
Technological Aspects of Coinage at the Bratislava Celtic Oppidum	117

Aurel Dragotă – Monica-Elena Popescu – † Mihai Blăjan

Graves Belonging to the First Horizon from Alba Iulia-Stația de Salvare. Discoveries Made during the Archaeological Research from 1980 and 1981	119
Hroby z prvého horizontu pochovávaní na lokalite Alba Iulia-Stația de Salvare Objavy počas archeologického výskumu v rokoch 1980 a 1981	151

Zbigniew Robak

Early or Late Medieval? Metal Strap-Decorations That Caused Some Confusion	153
Včasno alebo neskorostredoveké? Kovové ozdoby opaskov, ktoré spôsobili nejeden zmätok	158

Diskusia

Andrej Botek

Great Moravian Elites from Mikulčice – niekoľko poznámok 161

Great Moravian Elites from Mikulčice – Few Notes 167

Jubileum

K jubileu PhDr. Kristiana Elscheka, CSc.

(Vladimír Varsík) 169

Recenzie

Tanja Romankiewicz – Manuel Fernández-Götz – Gary Lock – Olivier Büchsenschütz (eds.):
Enclosing Space, Opening New Ground. Iron Age Studies from Scotland to Mainland Europe

(Branislav Kovár) 179

Michaela Lochner (Hrsg.): Brandbestattung und Bronzemetallurgie.
Die Urnenfelderkultur in Niederösterreich (1300–800 v. Chr.)

(Vladimír Mitáš) 181

RESULTS OF NATURAL SCIENCE ANALYSES OF THE BADEN CULTURE MATERIALS IN THE ŠARIŠ REGION, NORTH-EASTERN SLOVAKIA¹

EVA HORVÁTHOVÁ  – MARIA LITYŇSKÁ-ZAJĄC  –
ANNA RAUBA-BUKOWSKA  – JAROSŁAW WILCZYŃSKI  –
ALBERT ZASTAWNY 

The study presents a general characteristic of the Šariš agglomeration of the Baden culture (BaC) following from the data of archaeological and mostly natural science analyses (mineral-petrographic, archaeozoological, archaeobotanical, anthropological and radiocarbon). Representative find contexts from three settlement areas and one locality with burials were selected from the region for comparative analyses. The above-mentioned sites identify the BaC settlement period in the region from the horizon of the Boleráz/Early Classical BaC stage (Baden I/II) to its late classical development stage (Baden III/IV). The published data were excerpted from a more extensive information database containing results of analyses of BaC find contexts from Trans-Carpathian regions of Slovakia (Gemér, Košická kotlina basin, Zemplín, Spiš, Šariš) and Lesser Poland, which were integral parts of the north-eastern regional expansion of the Baden cultural complex.

Keywords: north-eastern Slovakia, Eneolithic, Baden culture, mineral-petrographic, archaeobotanical, archaeozoological, anthropological and radiocarbon analyses.

INTRODUCTION

The Carpathian zone and the adjacent areas of south-eastern Slovakia and western Lesser Poland were the furthest north-east situated territory of the Eneolithic Baden complex in the period 3400–2900 BC. Numerous traces of settlement from that time are known on both sides of the Carpathians and in the Carpathians itself. These mountains, latitudinally separating the Baden culture (BaC) settlement clusters from the basin of the upper Vistula and northern Tisza, were a zone of strong and diverse cultural influences, as well as displacement of population groups. The issues of cultural relations in the period of the development of the BaC, the genesis and chronology of individual settlement regions in eastern Slovakia and Lesser Poland became the subject of detailed research several years ago. They were carried out as part of a project financed by the National Science Centre Poland, with the international cooperation of the Archaeological Museum in Kraków and the Institute of Archaeology of the Slovak Academy of Sciences in Nitra. The issues raised in the project became the subject of several publications. They concerned the scope of research issues and methods (Zastawny/Horváthová 2016; 2017), radiocarbon chronology (Horváthová/Zastawny 2016; Zastawny/

Horváthová 2017), selected materials from settlement sites (Dobrzańska/Wilczyński/Zastawny 2016; Ďuriš 2021; Wilczyński 2017a; 2017b) and graves (Horváthová *et al.* 2017).

In research on the BaC in eastern Slovakia, the Šariš region plays an important role (Fig. 1). It is situated in the contact zone between Košická kotlina basin in the south, Zemplín in the south-east, Spiš in the west and further Lesser Poland on the northern side of the Carpathians. Convenient location on the line of cultural contacts influenced the development of BaC settlement, which can be noted here already from the transitional phase: Boleráz/Baden Early Classical. This region is distinguished by the presence of large excavated settlements (Šarišské Michaľany-Fedelema, Prešov-Solivar-Chmeľové-Tichá dolina), as well as the few sites with graves in the eastern part of Slovakia (Veľký Šariš-Kaplnka sv. Kunhuty, Veľký Šariš-Kanaš-Sordok).

This article presents the results of natural research of several categories of sources obtained from the objects of the BaC in the Šariš area. In addition to the general characteristics of the BaC settlement region, the results of archaeobotanical, archaeozoological, anthropological analyses, mineral-petrographic analysis of the ceramics and results of radiocarbon dating are presented here. The research materials came from four BaC sites:

¹ The study was written while the project by the National Science Centre Poland (NCN 2013/09/B/HS3/03401) and the project 2/0056/22 of VEGA scientific grant agency was being solved and the Slovak Research, Development Agency on the basis of contract no. APVV-18-0276.

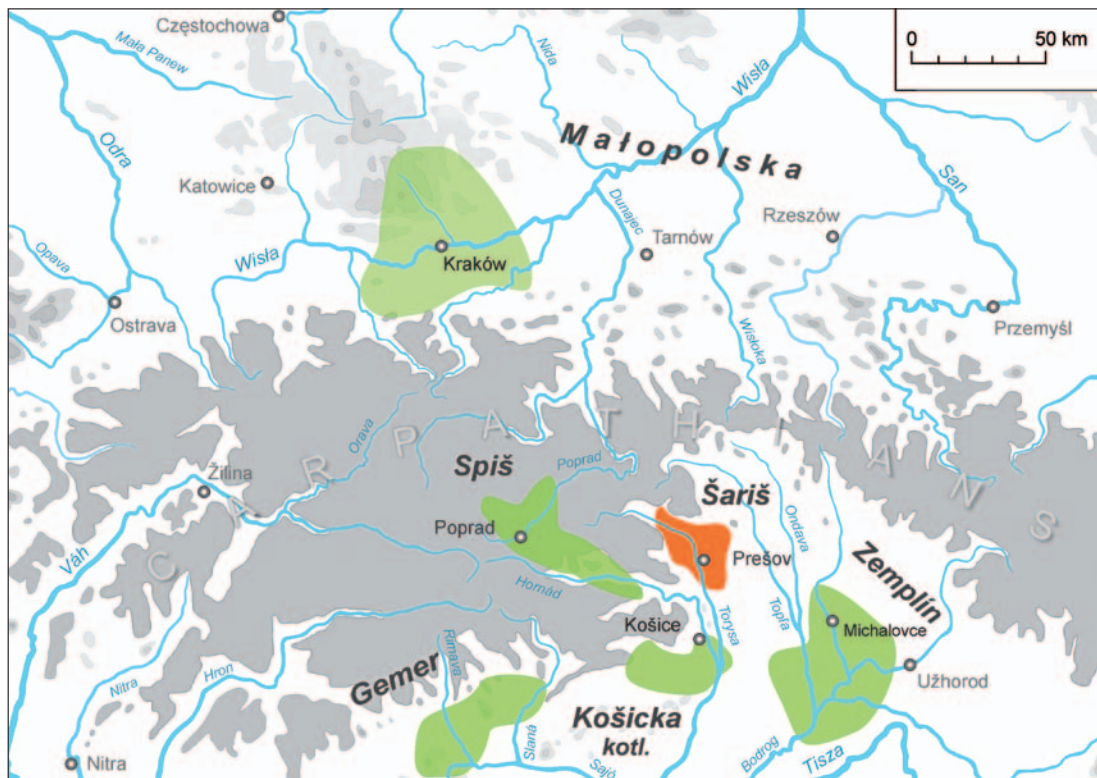


Fig. 1. The Baden culture settlement regions in eastern Slovakia and Lesser Poland (after Zastawny/Horváthová 2016).

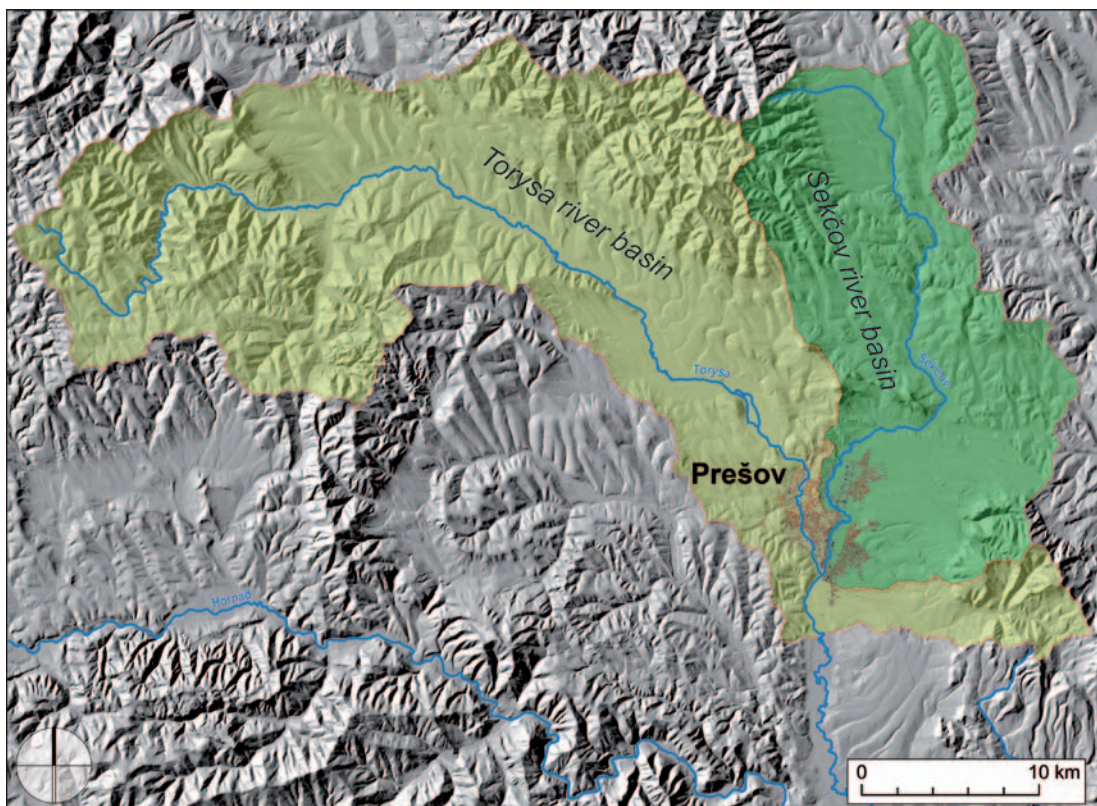


Fig. 2. Selected areas of the Šariš agglomeration of the Baden culture in the Torysa and Sekčov river basins. Author R. Malček.

Šarišské Michaľany-Fedelema, Prešov-Solivar-Chmeľové-Tichá dolina, Prešov-Solivar-Mestský cintorín, Veľký Šariš-Kaplnka sv. Kunhuty site.

GEOGRAPHICAL CHARACTERISTICS OF THE STUDY AREA

The Šariš agglomeration of the BaC shows strong association with the landscape near the main river corridor of the Torysa and its tributary Sekčov (Fig. 2). It is associated with the upper and middle stream of the Torysa river from its source in the Levočské vrchy hills,² with the territory of the Spišsko-šarišské medzihorie geomorphological unit and the northern periphery of the Košická kotlina basin. In the monitored section, the Torysa is 81.5 km long from its source to the confluence with the Záborský potok stream. The drainage basin of this territory covers 73,619.95 ha.³ As for the Sekčov, we considered the whole stream. It starts in the eastern part of the Čergov hills⁴ and flows further through the Ondavská vrchovina hills, Beskydské predhorie geomorphological unit, Spišsko-šarišské medzihorie unit and the northern part of the Košická kotlina basin, where the Sekčov flows into the Torysa. Sekčov is 44.3 km long and its drainage basin covers 35,648.19 ha. In the distinctly regionally divided eastern Slovakia, the Šariš agglomeration of the BaC neighbored with the Spiš agglomeration in the west and with the Abov and Dolný Zemplín agglomerations in the south and south-east.

STATE OF RESEARCH ON THE BADEN CULTURE IN THE ŠARIŠ REGION

26 sites with occurrence of BaC finds come from the area near both rivers. There are 18 of them in the Torysa basin and 8 others are in the Sekčov area (Fig. 3; Tab. 1). Other Eneolithic sites which cannot be culturally classified (18 altogether) can – apart from BaC settlement – belong to another settlement documented in the region and corresponding with the Lažňany group⁵, Nyírség-Zátin culture⁶ and the group of the East Slovak Tumulus culture with Corded Ware⁷ (Budinský-Krička 1953; Derfiňák/Vizdal 2007; Horváthová 2015; 2020; Horváthová/Lušítková

2013; Malček *et al.* 2018, tab. 2; Malček/Horváthová/Lušítková 2021, tab. 2; Repčák 1950).

In the current state of our knowledge of the BaC's development in eastern Slovakia, we consider the Šariš settlement agglomeration the best studied one. Our information follows mainly from results of systematic scientific as well as rescue researches carried out in Šarišské Michaľany, Fedelema site, and in Prešov-Solivar-Chmeľové-Tichá dolina site. Settlements of the BaC in the above-mentioned sites of promontory type were artificially fortified during the BaC settlement. In some places, they were only enclosed with a trough-shaped ditch combined with an earthen rampart. The site of Fedelema was studied by S. Šiška in 1981–1985 and 1987 (site no. 17; Fig. 4). Over the excavation area of 3,000 m², he documented a polycultural settlement from the Neolithic and Eneolithic with 41 settlement features of the BaC (Pl. I). Location of some sunken pits and their grouping with hearths/stoves detected at several spots of the situation plan of the excavation suggest that there might have been six to eight log structures in the settlement. There was a ditch in the southernmost part of the promontory. Its bottom reached 0.50–2.20 m deep. Width of the ditch was 4.20–5 m. Within the total width of the promontory, the studied length of the ditch was 27 m (Horváthová 2010, 15–30, tab. 2; Šiška 1995, 48). In Prešov-Solivar-Chmeľové-Tichá dolina site, the Institute of Archaeology of SAS carried out a series of rescue excavations in 2009–2019 (site 12; Fig. 5). During those excavations, settlement features from the Neolithic (Bükk culture), Eneolithic (BaC), Late Bronze Age and Late Roman period were studied (Horváthová 2016; 2017; *in print*; Horváthová/Lušítková 2013; 2015). Settlement of the BaC was concentrated in the naturally best protected western part of the promontory plateau, which rises above the surrounding terrain by 12–19 m in this area (Horváthová 2015). With regard to the importance of the contexts detected during the first excavation season, a geophysical survey was executed in the whole extent of the accessible western part of the plateau, over an area of 160 × 100 m (Horváthová/Tirpák 2012). Results of the field excavations together with data from geophysical prospecting confirmed the uniqueness of find context at the site with documented organized built-up area inside the settlement. Regular arrangement of features was

² In the village of Torysky (Levoča district), 1,080 m a.s.l.

³ The information on the monitored length of the Torysa river follows from the basic mapping from 1957–1971, scale 1 : 10,000.

⁴ In the village of Hertník (Bardejov district), 740 m a.s.l.

⁵ Number of sites near the Torysa – 3, near the Sekčov – 2.

⁶ Number of sites near the Torysa – 2, near the Sekčov – 1.

⁷ Number of sites near the Torysa – 1, near the Sekčov – 2.

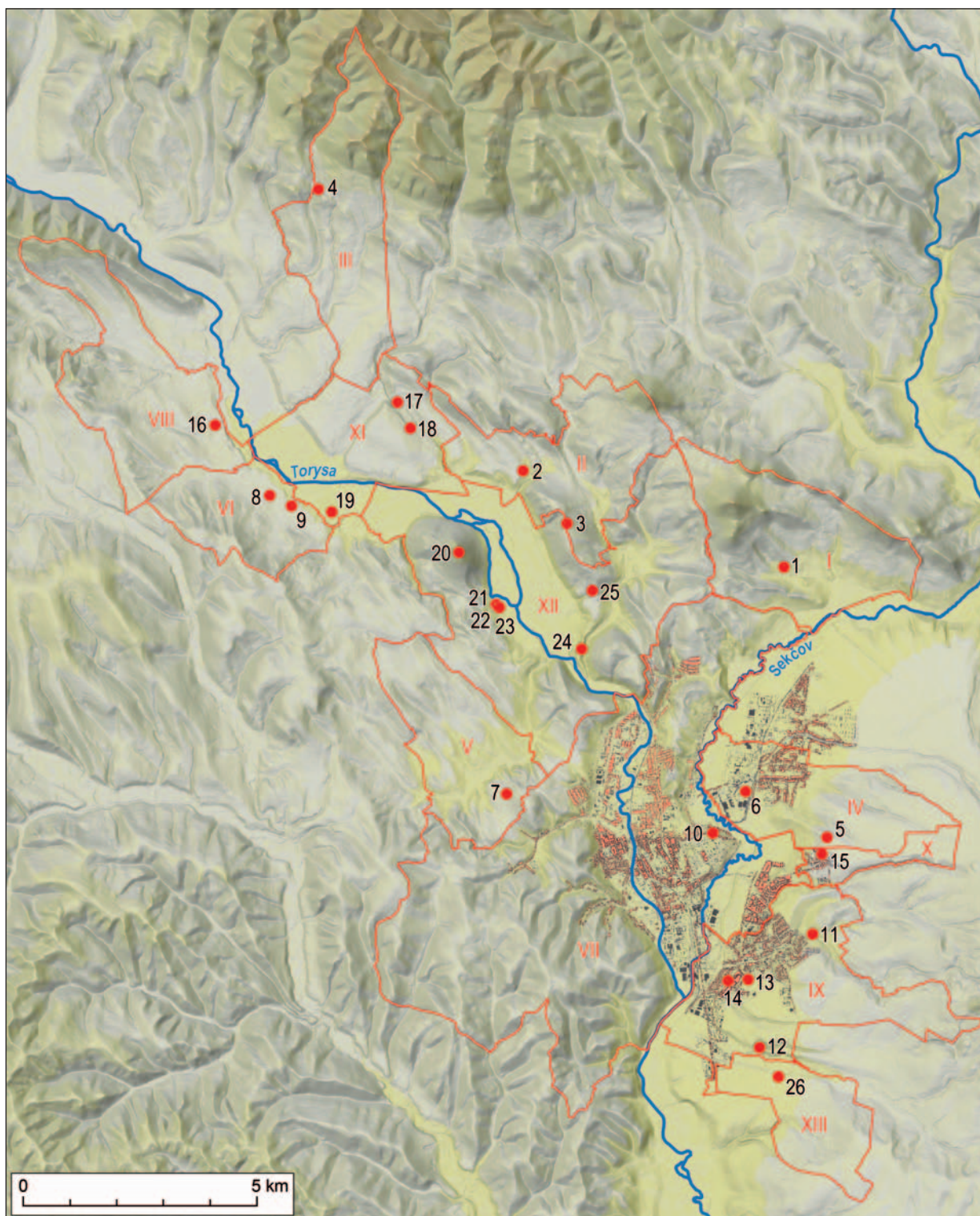


Fig. 3. Mapped sites of the Šariš agglomeration of the Baden culture in the Torysa and Sekčov river basins. Author R. Malček.

also recognized along the external circumference of the fortification. From the results of geophysical measuring and terrain configuration, we assume that the fortified settlement's dimensions were at least 55 m in the southwest-northeast direction and

75 m in the southeast-northwest direction. The total number of BaC features studied by the Institute of Archaeology of SAS by 2019 is 34. The total length of the ditch, excluding the entrance in the settlement (5.5 m wide), reaches 63.05 m in 2019 (Horváthová

Tab. 1. The Baden culture sites in the Šariš agglomeration.

Site number (on the maps)	Village	Part of the village	District	Name of site	Type of site	Literature
1	Fintice	Fisky-Tormáš	Prešov	Martinec	settlement	Šimčík 2014
2	Gregorovce	–	Prešov	Lány/Dlžiny (kóta 298)	settlement	Derfiňák/Vizdal 2013
3	Gregorovce	–	Prešov	Tanarok (pod Šarišským hradom, kóta 208)	settlement	Budinský-Krička 1948; Šiška 1966, 51
4	Jakubovany	–	Sabinov	Poloha 1	settlement	Béřeš 1993, 27
5	Ľubotice	–	Prešov	Vodojem	settlement	Blahuta 1961, 188
6	Ľubotice	Šarišské lúky	Prešov	Závod na spracovanie dreva	settlement	Šiška 1976, 96–98
7	Malý Šariš	–	Prešov	Na horu (Zibota)	settlement	Tomášová/Uličný/Miroššayová 1998, 3
8	Ostrovany	–	Sabinov	Intravilán	settlement	Kaminská 1983, 125; Tokárová/Vizdal 2013
9	Ostrovany	–	Sabinov	Za cestou naproti cintorínu	settlement	Šiška 1983
10	Prešov	–	Prešov	Táborisko (severovýchodné úbočie pod Okresným ústavom národného zdravia)	settlement	Blahuta 1961, 188
11	Prešov	Solivar	Prešov	Východne od Soľnej bane, južne od kóty 287,3 a cesty do Teriakoviec	settlement	Budinský-Krička 1979, 54
12	Prešov	Solivar	Prešov	Chmeľové pri Tichej doline	fortified settlement	Horváthová 2015; 2016; 2017; 2020, 13–21; in print; Horváthová/Lušíková 2013; 2015; Horváthová/Tirpák 2012
13	Prešov	Solivar, časť Šváby	Prešov	Mestský cintorín (Za cintorínom)	settlement	Šebesta et al. 2015
14	Prešov	Solivar, časť Šváby	Prešov	Šváby	settlement	Blahuta 1960, 103; Šiška 1966, 55
15	Prešov	Šalgovík	Prešov	Za kostolom (medzi ulicami Drozdia a Vrchná)	settlement	Kotorová-Jenčová 2017; Švaňa 2017
16	Ražňany	–	Sabinov	Juhovýchodne od obce	settlement	Kolektív 1966, 82
17	Šarišské Michaľany	–	Sabinov	Fedelemka (Pod lesom Giráš)	settlement	Horváthová 2010 (with other literature)
18	Šarišské Michaľany	–	Sabinov	Za verchom	settlement	Budinský-Krička 1980, 47, 48
19	Šarišské Michaľany	–	Sabinov	Imuna	settlement	Illášová 1990
20	Veľký Šariš	–	Prešov	Hradný vrch	settlement	Slivka 1980; Slivka/Olexa 1977
21	Veľký Šariš	–	Prešov	Ihrisko (park Rákocziho kaštieľa)	settlement	Čaplovič/Gašaj/Olexa 1978, 67; Slivka 1974
22	Veľký Šariš	–	Prešov	Na Harminy	settlement	Tomášová/Karabinoš 2006
23	Veľký Šariš	–	Prešov	Kaplnka sv. Kunhuty	cremation burials	Horváthová et al. 2017
24	Veľký Šariš	–	Prešov	Terasa nad Dzikovým potokom	settlement	Blahuta 1963, 169–171; Kolektív 1962, 294; Šiška 1966, 55; Vizdal/Derfiňák 2006
25	Veľký Šariš	Kanaš	Prešov	Sordok	cremation burial	Budinský-Krička 1967, 340; 1984, 56
26	Záborské		Prešov	Južne od mlyna	settlement	Budinský-Krička 1953

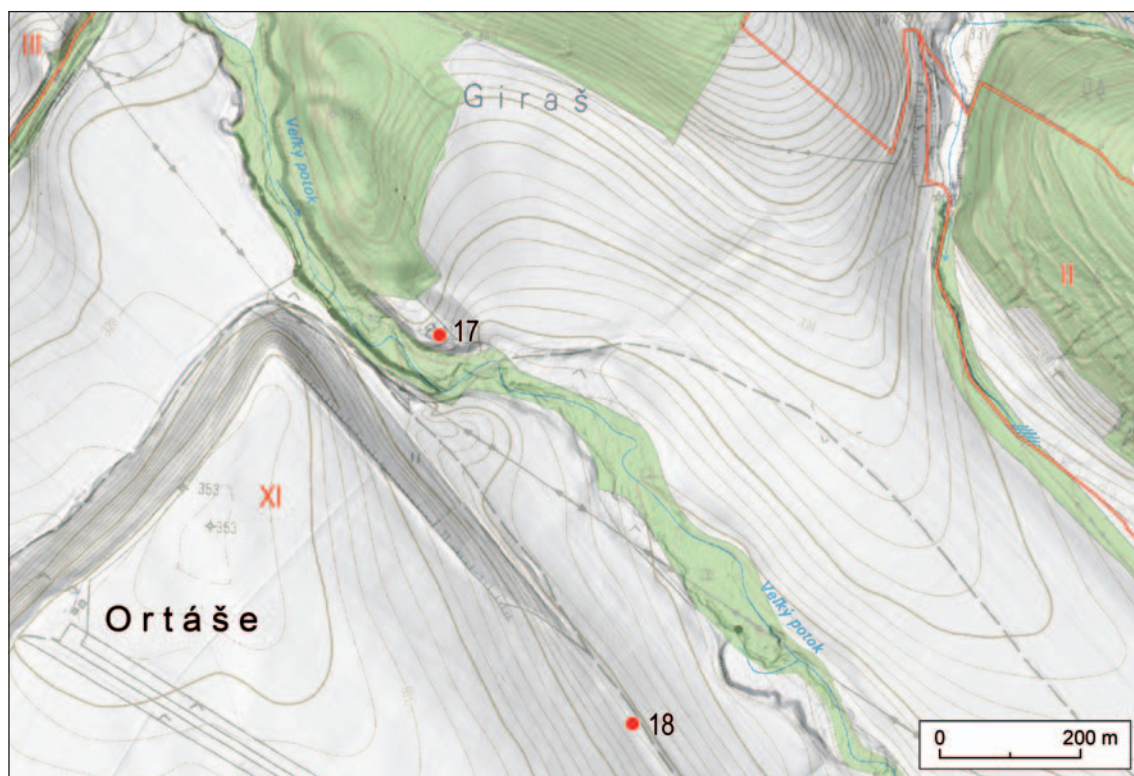


Fig. 4. Šarišské Michaľany-Fedeleňka (site no. 17). Location of the site on the map. Author R. Malček.

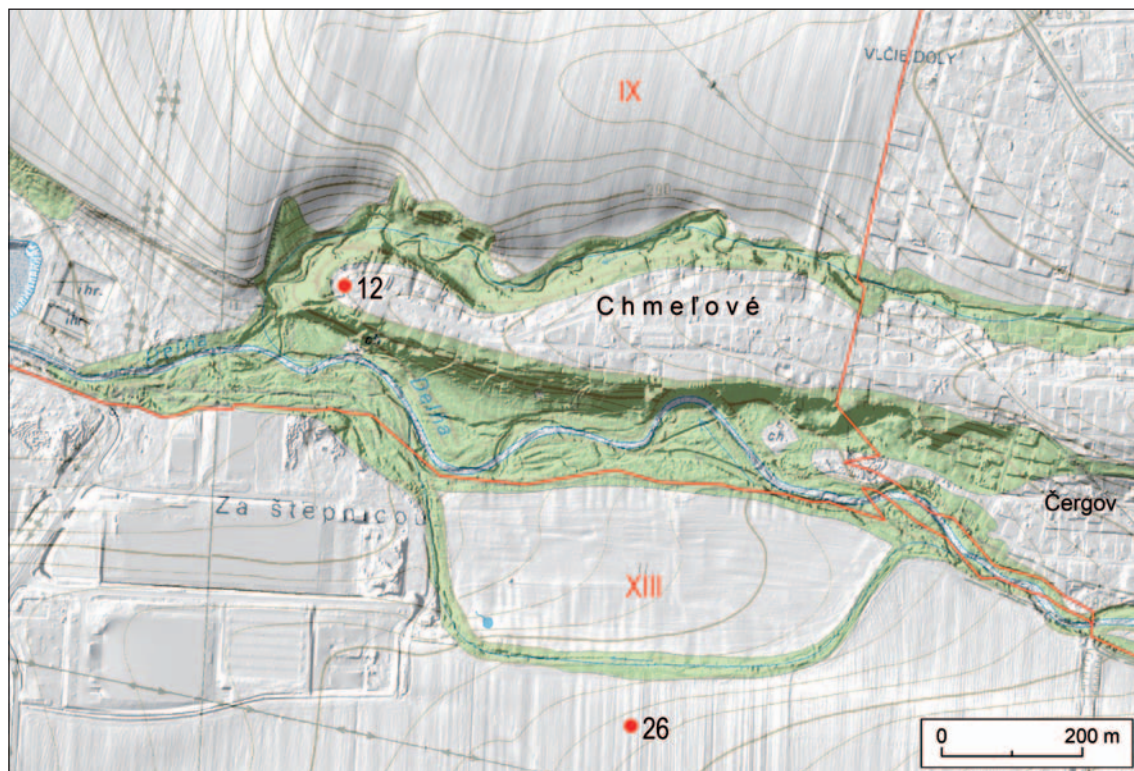


Fig. 5. Prešov-Solivar-Chmeľové-Tichá dolina (site no. 12). Location of the site on the map. Author R. Malček.



Fig. 6. Prešov-Solivar-Mestský cintorín (site no. 13). Location of the site on the map. Author R. Malček.

2020). Another section of the BaC ditch – 15.75 m long – was studied in 2018 by Archeovýskum, s. r. o. company.⁸

Rescue excavations which resulted in discovery of chronologically sensitive finds from the Middle Eneolithic were carried out also in Lubotice-Šarišské lúky, in the area of a wood-processing plant (site no. 6; Šiška 1976, 96–98), in Fintice-Martinec site (site no. 1; Šimčík 2014), Prešov-Solivar in Šváby, Mestský cintorín (Municipal cemetery) site, which is indicated on maps as Za cintorínom site (site no. 13; Fig. 6, Pl. II; Šebesta et al. 2015) and in Veľký Šariš-Kaplnka sv. Kunhuty (site n. 23; Fig. 7; Horváthová et al. 2017) and Terasa nad Dzikovým potokom (Blahuta 1963, 169–171; Kolektív 1962, 294; Šiška 1966, 55; Vizdal/Derfiňák 2006) sites.

Two recently published studies partly dealt with the BaC settlement near the upper and middle Torysa and Sekčov. The authors attempted to analyse the extent of the landscape's influence on the settlement using new methodologies with spatial analyses in

GIS environment (Malček et al. 2018, 35–37; Malček/Horváthová/Luštíková 2021, 26–35).⁹ It followed from the findings that BaC sites in the monitored section of the Torysa concentrated in three settlement zones. The first one includes the sites accumulated on the right bank of the Torysa river (sites no. 8, 9, 16, 19, 21, 22, 23). They are settlements and one site with occurrence of two cremation burials (no. 23). Altitude of these sites is between 268 and 311 m a.s.l. Their elevation above the valley's bottom and their nearest surroundings is indistinct (0–18 and 0–4 m). Distance of the studied sites from the current bed of the Torysa is also rather short (303–607 m). Their soil cover consisted of fluvisols, i.e. soils fertile in the local context, but waterlogged and flooded. The second zone contained settlements situated on slopes and juts of hills, mainly on the left bank of the Torysa river (sites no. 2, 3, 4, 12, 17, 18, 24, 25).¹⁰ Terrain's altitude at the sites reaches 284–362 m. Although the recorded sites rise above the Torysa's river bottom rather significantly (by 23–79 m), they

⁸ Unpublished.

⁹ In them, attention is focused on monitoring of the following factors: landscape relief (altitude, elevation above the main river stream, elevation above the surrounding area with diameter of 100 m, terrain slope, orientation), specification of distance (air distance to the main river stream and air distance to the local stream) and environmental conditions (composition of soils at the site).

¹⁰ For now, only one site (no. 7; Malý Šariš-Na horu/Žibota) located on the right-bank terrace of the Torysa in the valley of the Šarišský potok stream is an exception.

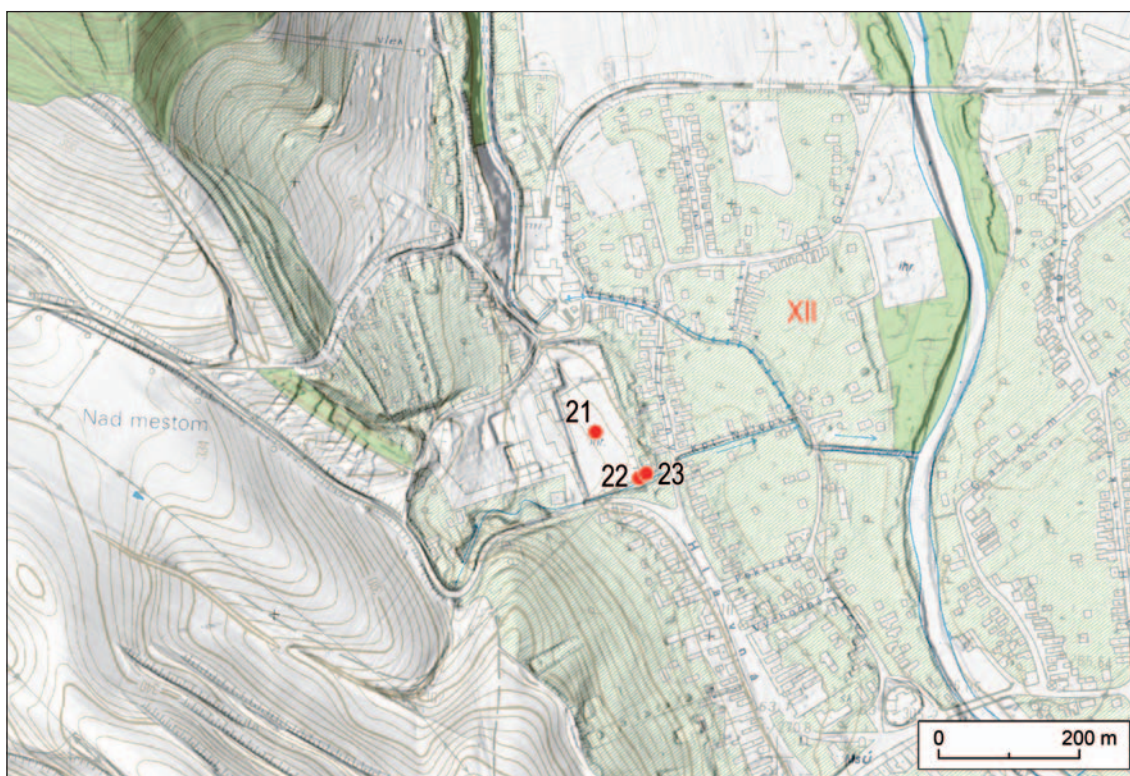


Fig. 7. Veľký Šariš-Kaplnka sv. Kunhuty (site no. 23). Location of the site on the map. Author R. Malček.

do not dominate the area (their elevation varies between 6 and 12 m) and they are rather remote from the central river corridor (1,295–2,475 m). Infertile soils occur at these sites. The third settlement zone is represented by the site of Hradný vrch located in the cadastral area of Veľký Šariš (site no. 20). It is an upland and central site up to 271 m above the main Torysa's basin, which it distinctly dominates. The altitude parameters of Šariš castle hill clearly suggest other than economic importance of this place.

Environmental data from the BaC sites obtained from the landscape context of the Sekčov basin, on the other hand, show signs of stereotypical exploitation of the land in two settlement zones. The remote third zone of the Eneolithic settlement of the Sekčov was located in the Ondavská vrchovina hills, where sites of the group of East Slovak Tumulus culture with Corded Ware were culturally identified (Klušov-Kobyľska hora, Oľšavce/Kochanovce-Roveňky). The first settlement zone of the BaC is represented by the settlements on the lower stream in the Sekčov's basin (sites no. 1, 6, 11, 13, 14). The settlements were situated on slightly declining slopes rising above the valley bottom. They are considerably rich in arable soils and they are also sites suitable for stockbreeding. Another advantage of this zone is control over the main trade route. The second zone contains only two sites near

the Šalgovický potok stream (sites no. 5, 15), which also suggest a strategy of searching for islands of more fertile soils despite the fact that fertile soils occur much less frequently in the surrounding hills. The fact that we do not know about any upland sites of the BaC – a typical expression of its final phase in the neighbouring regions – in the Sekčov basin so far might suggest the end of settlement in the Sekčov basin as early as the classical stage of the relevant cultural complex (Malček/Horváthová/Lušítková 2021, 33).

THE ŠARIŠ REGION ON THE BACKGROUND OF THE BADEN CULTURE SETTLEMENT IN EASTERN SLOVAKIA

Archaeological finds of the Šariš agglomeration rank among important sources for explanation of development of the Middle Eneolithic in the territory of eastern Slovakia. They reflect the transformation of the material culture, starting with the stage of the Boleráz/Early Classical horizon of the BaC (Baden I/II) and ending with its Late Classical development stage (Baden III/IV).

Relics of the BaC in eastern Slovakia were preceded by settlement of the Polgár cultural complex

represented by the Lažňany group in its latest stage. In the monitored section of the Torysa and Sekčov streams, we have recorded settlement finds from the sites in Ostrovany, Prešov, Lubotice-Šarišské lúky, Šarišské Michaľany, Fulianka and Dulová Ves (Budinský-Krička 1964, fig. 2; 1981, 43; Budinský-Krička/Mačala 1990, 42; Horváthová 2010, 14; Horváthová/Malec 2021; Kaminská 1983, 125; Lamiová-Schmiedlová 1964, 247; Šiška 1964, 74; 1976, 92–96). As for settlement of the Lažňany group, ^{14}C AMS data are available only from the Košická kotlina basin (Košice-Barca, burial ground at the site of Baloty, burial 18 – MAMS-14243, 5208 ± 27 BP; burial 18 – MAMS-14244, 5102 ± 24 BP; burial 21 – MAMS-14253, 5102 ± 26 BP; burial 17 – MAMS-14252, 5096 ± 27 BP; burial 22 – MAMS 14245, 5088 ± 27 BP; burial 21 – MAMS-14250, 5074 ± 27 BP; burial 18 – MAMS-14242, 5002 ± 29 BP; Brummack 2015, table 2–5). Their final values delimit the burying period at the site between 5208 ± 27 BP until 5002 ± 19 BP (i.e. 4012 $\pm$ 25 cal. BC to 3814 $\pm$ 80 cal. BC). As for settlement of the Hunyadihalom culture, available ^{14}C AMS data come from the site of Tiszalúc-Sarkad (burial 2 – Poz-36361, 5070 ± 40 BP; burial 8 – Poz-36363, 5050 ± 40 BP; burial 7 – Poz-36362, 5020 ± 40 BP; Raczký/Siklósi 2013, 561). Comparing them with the data from the Košice burial ground at the site of Barca-Baloty, the time span between 4000/3950 cal. BC and 3800/3750 cal. BC seems to be acceptable for the cultural complex of Hunyadihalom-Lažňany (Brummack 2015, 13).

If we confront the data with more ^{14}C AMS data corresponding with the earliest BaC settlement in the south of eastern Slovakia from the Východoslovenská rovina plain (Kašov, the lower backfill layer from feature 1/2011, 4575 BP–4480 BP, 3498 cal. BC–3029 cal. BC; Baden I/II; Horváthová/Zastawny 2016, 964), we find an unreasonably long hiatus of almost 300 years between demise of the previous and appearance of the new settlement in the transitional Boleráz/Early Classical horizon of the BaC (Baden I/II). On the contrary, the oldest radiocarbon chronological data from the sites of western Slovakia can be classified to the Proto-Boleráz stage of settlement (Červený Hrádok-Kopanice, feat. 7D/1970–GrN-11992, 4820 ± 70 BP, 3695 cal. BC–3520 cal. BC, 2σ 68.2%; Bratislava-Jiráskova ul. – GrN-11993, 4710 ± 100 BP, 3635 cal. BC–3370 cal. BC, 2σ 68.2%; Horváth/Svingor 2015, 50; Němejcová-Pavúková 1985, 25; Wild et al. 2001, 1061).

Between 2001 and 2016, seven ^{14}C AMS data of the BaC altogether were published from the sites in the region of Šariš. Five of them relate to the settlement in Šarišské Michaľany-Fedelemlka

(Horváthová/Zastawny 2016, 962, 963; Wild et al. 2001, 1061, pl. 1) and two to the settlement in Prešov-Solivar-Chmeľové-Tichá dolina site (Horváthová 2015, 392, fig. 5–8). High values of radiocarbon dating of one sample from Šarišské Michaľany – feature 61/1982 – Poz-71496, 4665 ± 35 BP, 3514 cal. BC–3371 cal. BC (68.2%), 3621 cal. BC–3364 cal. BC (95.4%) contradict the relative dating of the feature as well as dating of the BaC settlement at the site, which was limited by the period of its classical to late classical development (Baden III/IV; Horváthová 2010, 89; Horváthová/Zastawny 2016, 959, 962, 963). For purposes of further research, only four absolute data were accepted from the above mentioned site of Šarišské Michaľany-Fedelemlka – feature 241/1985, VERA-769, 4385 ± 35 BP, 3078 cal. BC–2925 cal. BC (62.2%) and 3096 cal. BC–2909 cal. BC (95.4%); feature 205/1985, Poz-41494, 4480 ± 35 BP, 3331 cal. BC–3096 cal. BC (68.2%), 3342 cal. BC–3029 cal. BC (95.4%); feature 28/1981, Poz-71497, 4425 ± 35 BP, 3264 cal. BC–2938 cal. BC (68.2%), 3327 cal. BC–2922 cal. BC (95.4%) and feature 48/1982, Poz-71495, 4285 ± 35 BP, 2916 cal. BC–2886 cal. BC (68.2%), 3013 cal. BC–2873 cal. BC (95.4%). Published radiocarbon data from the site of Prešov-Solivar-Chmeľové-Tichá dolina, suggest possible earlier settlement comparable with the older classical stage of the BaC (Baden III – feature 10/2009, Poz-46313, 4440 ± 35 BP, 3321 cal. BC–3018 cal. BC (68.2%), 3332 cal. BC–2929 cal. BC (95%); feature 18/2009, Poz-46312, 4550 ± 35 BP, 3365 cal. BC–3121 cal. BC (68.2%), 3370 cal. BC–3102 cal. BC (95.4%).

Apart from the exactly dated finds, obviously older pottery fragments bearing signs of the previous Boleráz/Early Classical pottery style of the BaC (Baden I/II, sites no. 6, 13) or its ending phase (Baden II, site no. 23) also come from Prešov and its surroundings. Analogies to these finds can be found at some sites in the Košická kotlina basin and Východoslovenská rovina plain or Dolný Zemplín (Horváthová/Gašaj 2021, 199; Šiška 1997). In the horizon of the BaC relics in eastern Slovakia, pottery of foreign shapes and decoration also occurs. It is usually associated with finds of the Coțofeni and Yamnaya cultures (Blahuta 1960, 103, fig. 2; Hájek 1961, 61–65; Horváthová/Gašaj 2021, 206–208; Horváthová/Chovanec 2006, 133, 134; Horváthová/Nezvánsky 2017, 70; Vladár 1966, 93–96; 2008). The final horizon of the BaC settlement in the region is unknown. Further development of the Eneolithic contains tumulus mounds of the group of East Slovak Tumulus culture with Corded Ware. In some excavations, fragments of older pottery with features of the Baden, Coțofeni and Funnel Beaker cultures occur.¹¹

¹¹ More details on this topic in Jarosz 2010, 281–284.

Tab. 2. List of analysed samples. The temperature of firing in degrees Celsius: redox – reducing atmosphere of firing with a small inflow of air; ox – oxidizing atmosphere of firing; firing; red – reducing atmosphere of firing.

Symbol	Number of thin section	Site	Localization on the site	Inv. Number	Form	Approx. firing temperature	Atmosphere of firing	Ceramic fabric type
Pre Ba1	13	Prešov-Solivar-Chmeľové-Tichá dolina	feature 10/2B, 37–63 cm	PRESol/154/09	pot	800	redox	Ilb
Pre Ba2	14	Prešov-Solivar-Chmeľové-Tichá dolina	feature 10/2B	PRESol/169/09	bowl	750	ox	Ilb
Pre Ba3	15	Prešov-Solivar-Chmeľové-Tichá dolina	feature 18, 0–60 cm	PRESol/1047/09	coarse vessel	750	redox	Ila
Pre Ba4	16	Prešov-Solivar-Chmeľové-Tichá dolina	feature 18, 0–60 cm	PRESol/1042/09	cup	750	red?	Ila
Sar Ba1	23	Šarišské Michalany-Fedeľemka	feature 28/1983/1	ŠM/28/1983/1	pot	800–850	redox	Ila
Sar Ba2	24	Šarišské Michalany-Fedeľemka	feature 28/1983/2	ŠM/28/1983/2	bowl	750	redox	Ila
Sar Ba3	25	Šarišské Michalany-Fedeľemka	feature 48/1983/1	ŠM/48/1983/1	cup	850	redox	Ila
Sar Ba4	26	Šarišské Michalany-Fedeľemka	feature 48/1983/2	ŠM/48/1983/2	jug	850	redox	Ila
Sar Ba5	27	Šarišské Michalany-Fedeľemka	feature 61/1982	ŠM/61/1982	amphora	850	redox	Ila
Sar Ba6	28	Šarišské Michalany-Fedeľemka	feature 205/1985	ŠM/205/1985	jug	750	ox	Ila
PreMC/1	43	Prešov-Solivar-Mestský cintorín	F8/2011, 1305/2014	s. 2, s. 452	bowl	750–800	red	Ic
PreMC/2	44	Prešov-Solivar-Mestský cintorín	F8/2011	s. 1	pot	850	redox	Iic
PreMC/3	45	Prešov-Solivar-Mestský cintorín	F8/2011	s. 1	cup	700–750	redox	Ic
VSK/1	46	Veľký Šariš-Kaplnka sv. Kunhuty	trench 2/10; 50–82 cm	59h	jug/amphora	700–750	ox	Ic
VSK/2	47	Veľký Šariš-Kaplnka sv. Kunhuty	trench 2/10; 76–82 cm	59o	bowl	750	redox	Ic

MINERAL-PETROGRAPHIC ANALYSIS OF THE CERAMICS

Materials

The following analysis is part of a broader study on the pottery of the BaC. The vessels were selected from archaeological sites located in Poland (17 sites) and Slovakia (15 sites). The samples come from settlements as well as caves and graves. All represent the BaC with its wide variety of vessel forms. This article presents the results of analyses of 15 vessel fragments from five archaeological sites located in the area of Šariš in Northeast Slovakia (Tab. 2). They are in various forms: bowls, pots, cups, amphoras, pitchers, and thick-walled vessels. Samples were labelled with site name abbreviations and sequential numbers, separate for each site. During the analysis, all samples were assigned a continuous numbering for ease of sample designation. Table 2 shows the selection of 15 pieces, considering the numbering previously assigned.

Methods and the aim of the study

Thin sections were made from the sherds for examination under a polarized transmitted light microscope. Point counting microscopic analysis was used for the percentage of, among others, clay minerals, quartz, potassium feldspar, plagioclase, muscovite, biotite, carbonates, fragments of sedimentary, igneous and metamorphic rocks, pieces of recycled ceramics, as well as organic material (*Bolewski/Żabiński 1988*). Petrographic descriptions of the ceramic sections were also made. The collected

Tab. 3. Results of analysis of ceramics samples of the Baden culture. Grain fractions (after *Polskie Towarzystwo Gleboznawcze 2009*).

Grain fractions	
Name	Value
Clay fraction	d < 0.002 mm
Silt fraction	0.002 < d < 0.05 mm
Fine silt	0.002–0.02 mm
Coarse silt	0.02–0.05 mm
Sand fraction	0.05 < d < 2 mm
Very fine sand	0.05 < d < 0.1 mm
Fine sand	0.1 < d < 0.25 mm
Medium sand	0.25 < d < 0.5 mm
Coarse sand	0.5 < d < 1 mm
Very coarse sand	1 < d < 2 mm

Tab. 4. Results of analysis of ceramics samples of the Baden culture. Mineral composition. Value in per cent.

Numbe of thin section	Symbol	Country	Clay minerals	Silt fraction	Quartz	Chalcedony	K-feldspars	Plagioclases	Fragments of sedimentary rocks	Fragments of igneous rocks	Fragments of metamorphic rocks	Muskovite	Biotite	Opaque minerals	Iron oxides and hydroxides	Grog	Clay pellet	Organic fragments	Voids	Carbonates	Others
13	PreBa-1	Slovakia	44.1	9	13.6	0.1	4	0.1	0	1.1	2.5	0.3	0	0.6	0.3	17.5	0.5	0	5.9	0	0.4
14	PreBa-2	Slovakia	45	10.2	12.5	0	3.8	0	0.8	0.1	0.4	1.5	0	0.8	0.8	16.8	0.5	0	6.4	0	0.4
15	PreBa-3	Slovakia	51.5	4	16.9	0.1	3.3	0	0.8	9.3	0.8	1.3	0	0	0.8	5.3	2	0	3.5	0	0.4
16	PreBa-4	Slovakia	53	7	17.5	0	4.4	0	1.2	0.5	1.2	1.6	0.3	1	0	7.5	0.6	0	3.4	0	0.8
23	Sar Ba-1	Slovakia	42	17.3	20	0	2.6	0	0	0	0.2	3	1.5	0.4	0.4	8.2	2.2	0	1.1	0	1.1
24	Sar Ba-2	Slovakia	48	9	16.2	0.3	2.4	0	0	0	1.4	1	0.7	0.5	0.5	15.2	0.3	0	3.8	0	0.7
25	Sar Ba-3	Slovakia	43.2	15.4	15.7	0.3	6.1	0	0	0	1	3	0.5	0	0.8	5.1	4.3	0	3.8	0	0.8
26	Sar Ba-4	Slovakia	46.2	14.8	18.5	1.3	3.6	0	0	0	0.1	2.6	0	0	0.3	5.7	2.3	0.3	3.9	0	0.4
27	Sar Ba-5	Slovakia	39.2	11.7	22.5	0	3.9	0.7	0	0	0.7	2	0.7	0.7	0.3	7.8	3.3	0.7	5.5	0	0.3
28	Sar Ba-6	Slovakia	56.8	11.5	14	0	3.7	0	0.3	0	1	0.9	0	0	0.6	3.4	3.4	0.3	4	0	0.1
43	PreMC/1	Slovakia	42.6	18.7	7	0	2.4	0	0	0	0	0	0	0.5	0	20.6	1.4	0.1	6.6	0	0.1
44	PreMC/2	Slovakia	53.7	16	9.5	0	3.7	0	0	0.5	0	0.8	0	1.6	0.8	0	7.6	0	4.2	0	1.6
45	PreMC/3	Slovakia	49.8	23	12.3	0	1.4	0	3.4	0.3	0	1	0.7	0.7	0	4.8	0.3	0.3	1.7	0	0.3
46	VSK/1	Slovakia	54.3	12.8	15.3	0	3.4	0	0.3	0	0.5	0	0.3	1	1.8	8.4	1.3	0	0.5	0	0.1
47	VSK/2	Slovakia	44.7	16.3	13.8	0.2	4.7	0	0.7	0	0.9	2.6	0.5	0.9	0.7	9.1	0.9	0.2	2.8	0	1

data was used for comparative studies and made it possible to divide the samples according to the technology of clay preparation and finished product firing. The approximate firing temperature was determined based on thermal transformations of clay minerals – observation of the degree of alteration into an amorphous, vitrified isotropic substance, and observation of biotite, hornblende, and glauconite minerals (Quinn 2013, 190–203). The research was aimed at describing the mineral composition of the ceramic masses. In addition, efforts were made to distinguish intentional admixtures that were added to the raw materials and thus establish trends in the preparation of ceramic fabrics. The descriptions take into account the percentage of individual components, the degree of mixing of the masses, as well as the conditions and temperature of firing. The study adopts the division into grain fractions according to the Polish Soil Science Society (Tab. 3).

Results

The studied series shows little differentiation in composition (Tab. 4). We can distinguish between homogeneous, fine-grained clays and poorly sorted, medium and coarse-grained clays. Pottery masses contain clay minerals (39.2–56.8%) and silt grains (4–23%). In addition, the masses include fine mica flakes, heavy minerals, opaque minerals, iron oxides and hydroxides. The coarser fraction (> 0.05 mm) consists of various mineral grains: quartz, feldspars, polycrystalline quartz, chalcedony, less often amphibole, pyroxenes, and rutile. There are metamorphic rock fragments in all samples, except those from the Prešov-Solivar-Mestský cintorín site (mainly slate and mica-slate). Less common are crumbs of magmatic rocks identified in samples from the Prešov-Solivar-Chmeľové-Tichá dolina and Prešov-Solivar-Mestský cintorín site. Fragments of extrusive rocks (e. g. andesites) were also recorded in samples from the sites of Prešov-Solivar-Chmeľové-Tichá dolina (PreBa-2, 3, 4, cuts no. 14, 15, 16) and Prešov-Solivar-Mestský cintorín (Fig. 8: c, d; PreMC-2, cut no. 44). There are also a few fragments of sedimentary rock in the examined masses, mainly in form clay pellets observed in samples from the sites Prešov-Solivar-Chmeľové-Tichá dolina, Prešov-Solivar-Mestský cintorín and Veľký Šariš-Kaplnka sv. Kunhuty.

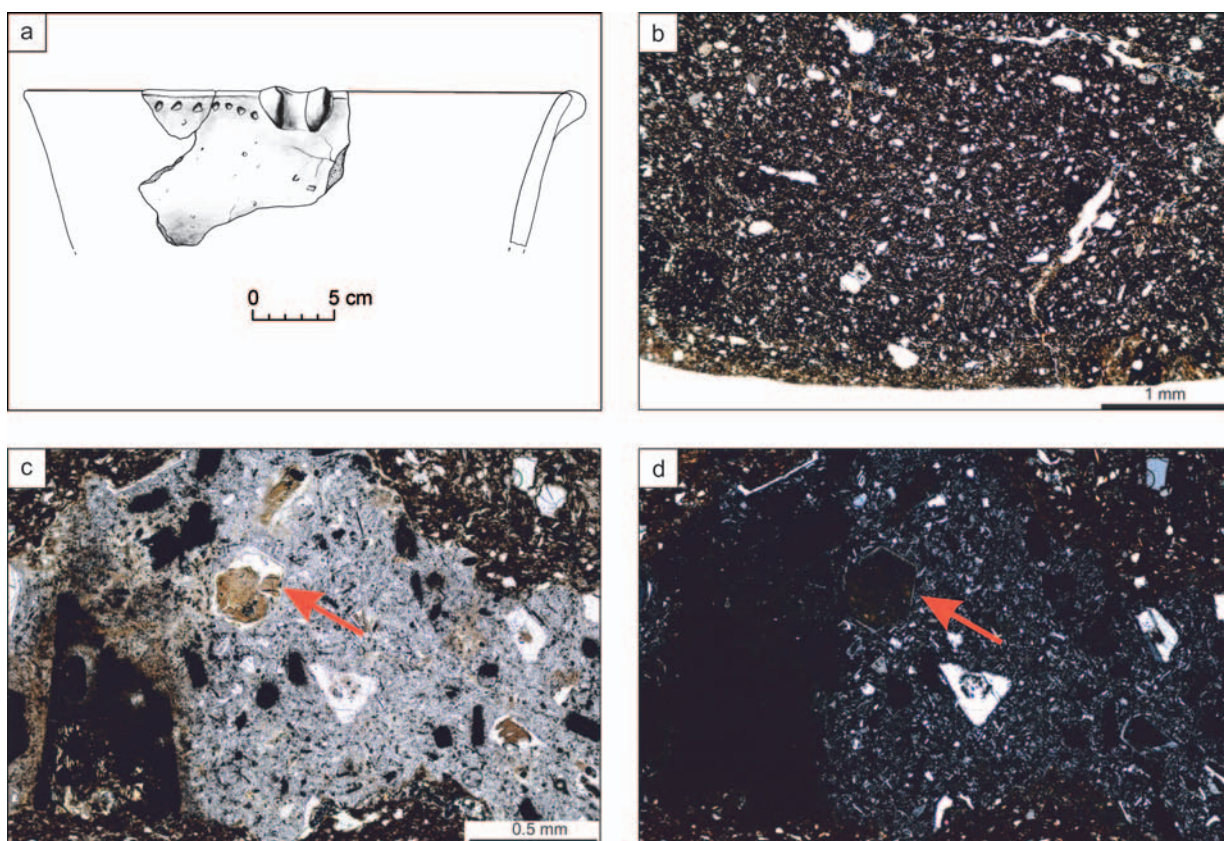


Fig. 8. Prešov-Solivar-Mestský cintorín site. Sample PreMC/2 (cut no 44), ceramic fabric type IIc. a – drawing of the vessel; b, c, d – photographs of the section; b – dark brown, fine-grained ceramic matrix; c, d – lithic inclusion of extrusive rock fragment in which six-sided phenocryst is visible (red arrow); b, c – plane-polarized light (PPL); d – crossed polarized light (XPL). Drawing by B. Grabowska, photo by A. Rauba-Bukowska.

Most of the samples show raw materials with a high content of fine grains ($> 10\%$). Only four vessels (Fig. 9; PreBa-1, 3, 4 and SarMich Ba-2, cuts no. 13, 15, 16, 24) are made of clay poor in silty grains. No carbonate components were found in the tested samples, only small chalcedony grains.

Admixtures

The common component of the studied pastes is fragments of older ceramic – grog. The fragments have various sizes (approx. 0.1–100 mm) and colours. Sometimes two-colour pieces of grog are visible (Fig. 9: c; cut 13). Two-colour grog fragments indicate a reducing atmosphere of firing with a little air inflow, which causes the outer wall layer to oxidize. Grog fragments show similar raw materials as the ceramic mass in which they are located. Only one fabric does not contain grog temper – PreMC-2, cut no. 44. Fragments of rocks present in ceramic fabrics cannot be treated as intentional additives. Most probably, they are a natural component of clays used. However, such

coarse-grained clays probably could have been used on purpose.

Firing

Most of the tested vessel fragments show traces of firing with limited air supply (Tab. 1). The vast majority of them were fired at temperatures of about 750–850 °C. Vessels fired with air supply have a lower firing temperature, approx. 700–750 °C.

Conclusions

Based on the analysis of the textures and composition of the ceramic masses, several types of ceramic fabrics were distinguished. Their diversity is influenced by the raw materials used, the preparation of clay, the admixtures used, and the preparation of the finished mass. Seven types and sub-types of ceramic fabrics were distinguished for the 90 fragments studied in the project. The selection of 15 ceramic fragments described in this

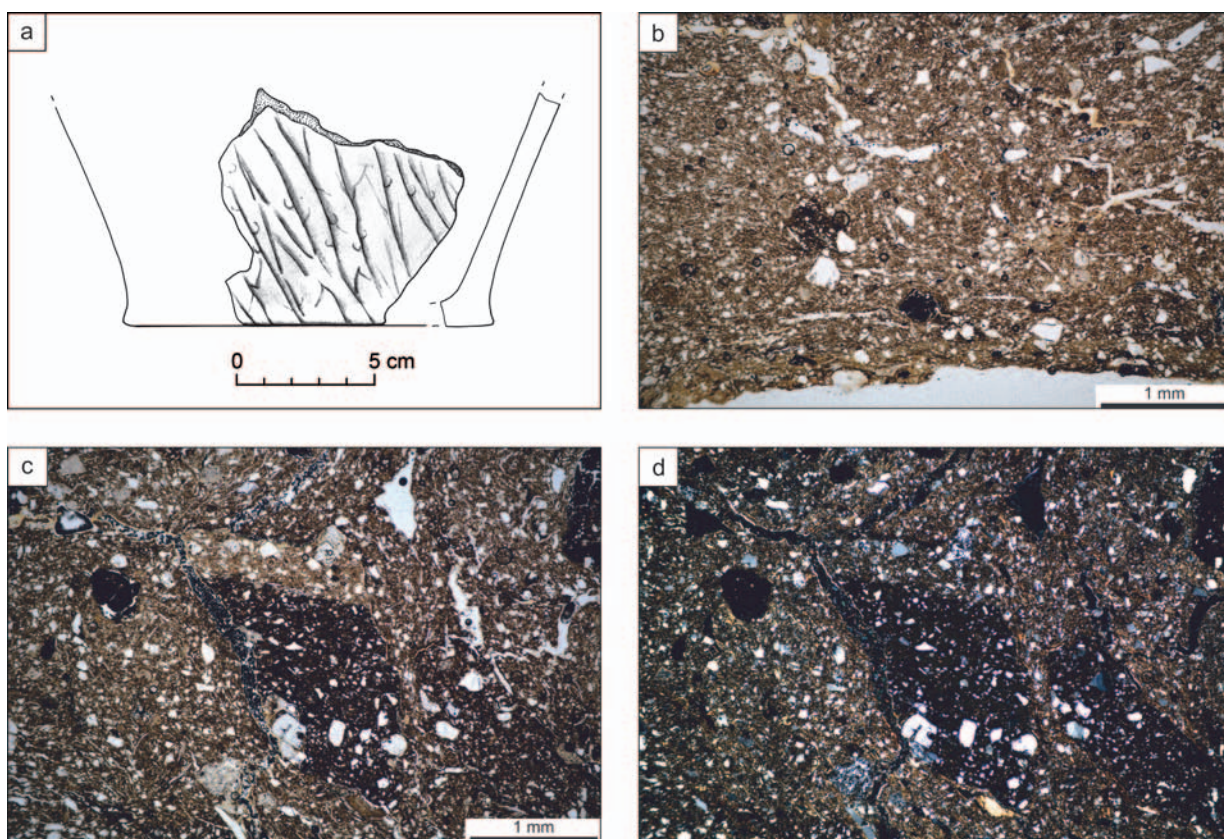


Fig. 9. Prešov-Solivar-Chmeľové-Tichá dolina site. Sample PreBa-1 (cut no 13), ceramic fabric type IIb. a – drawing of the vessel; b, c, d – photographs of the section; b, c, d – fine-grained matrix with grog admixture; c – two-colour grog crumb; b, c – PPL; d – XPL. Drawing by B. Grabowska, photo by A. Rauba-Bukowska.

article presents four types of ceramic masses: Ic, IIa, IIb, and IIc.

- Type Ic consists of fine-grained masses with a significant amount of silty fraction grains with an intentional admixture of grog and a small content of coarse grains (samples from the sites of Prešov-Solivar-Mestský cintorín and Veľký Šariš-Kaplnka sv. Kunhuty, cuts no. 43, 45, 46, 47; Fig. 10; 11).
- Type IIa consists of medium and coarse-grained masses with a significant content of mineral grains and rock fragments with a deliberate admixture of a small amount of grog (samples from the sites of Prešov-Solivar-Chmeľové-Tichá dolina, Šarišské Michaľany-Fedelema, cuts no. 15, 16, 23–28; Fig. 12).
- Type IIb pottery pastes, like IIa, are characterized by coarser graining. Still, the admixture of chamotte is dominant over the mineral components (samples from the Prešov-Solivar-Chmeľové-Tichá dolina site, cuts no. 13 and 14; Fig. 9).
- Type IIc masses are fine-grained mixtures with single larger crystalline grains without any additions of grog (sample from the Prešov-Solivar-Mestský cintorín site, cut no. 44; Fig. 8).

Sample 44 stands out in the whole set. The ceramic mass does not contain the intentional admixture of grog, which is present in the other tested preparations. Furthermore, it contains coarse volcanic rock fragments. The ceramic material from the Šarišské Michaľany-Fedelema site is characterized by the most significant technological homogeneity. The dishes, despite the various forms, present a compact technology. They are also fired at slightly higher temperatures than the other tested vessels – up to approx. 850 °C. At the Prešov-Solivar-Chmeľové-Tichá dolina site, the vessels were made of medium and coarse-grained ceramic mass (type IIa and IIb of the ceramic fabrics). In Veľký Šariš-Kaplnka sv. Kunhuty and Prešov-Solivar-Mestský cintorín site, on the other hand, technology based on fine-grained, silty clays with a significant admixture of grog dominates.

The composition of the ceramic masses of the tested series of dishes was determined by the available raw material and the local tradition. The examined group of monuments shows a homogeneous collection in terms of the method of preparation of the raw material. There are no clear correlations between the vessel shapes and the ceramic masses

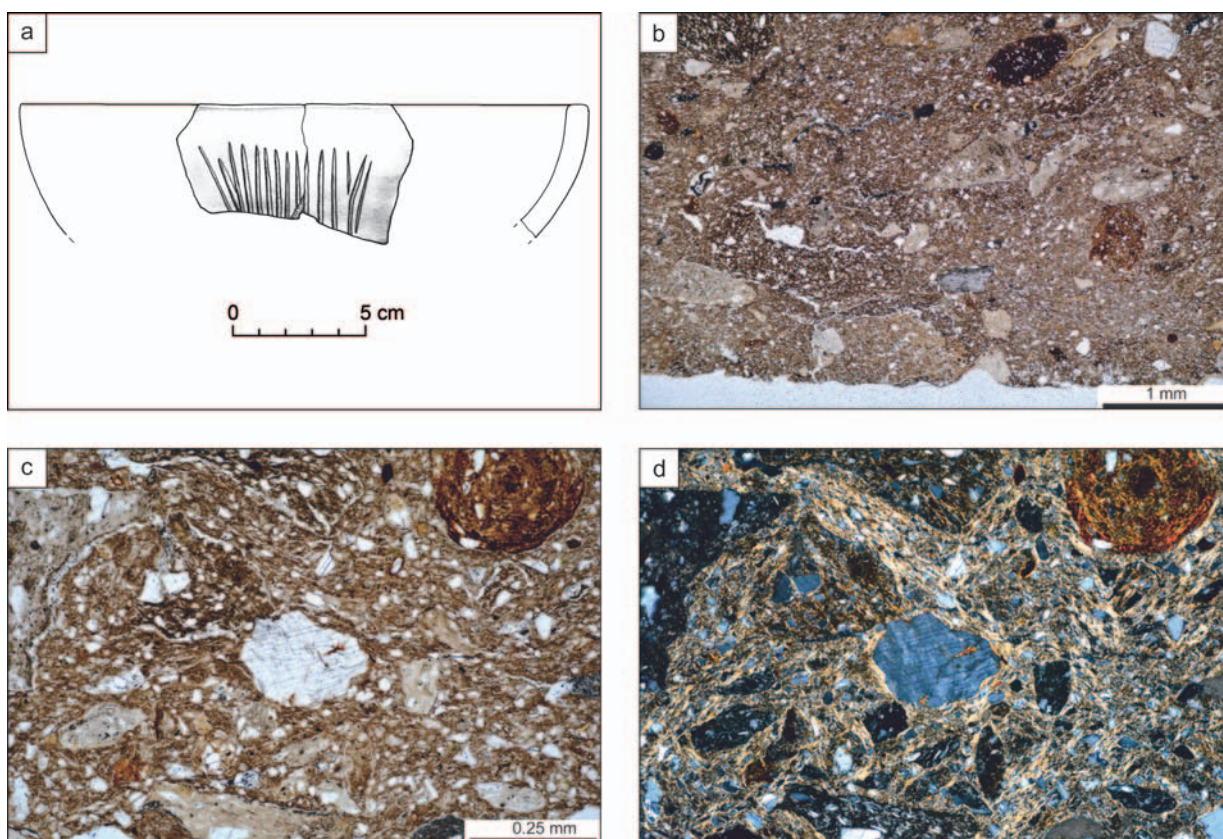


Fig. 10. Prešov-Solivar-Mestský cintorín site. Sample PreMC/1 (cut no 43), ceramic fabric type Ic. a – drawing of the vessel; b, c, d – photographs of the section; b – fine-grained fabric with grog admixture; c, d – different sizes of grog in clay mass, in the centre feldspar grain; b, c – PPL; d – XPL. Drawing by B. Grabowska, photo by A. Rauba-Bukowska.

used. This may indicate a high standardization and homogeneity in the technology of ceramic cookware production. The form of the pots was a priority, but not the physical properties of individual containers. It can be cautiously assumed that the form of the vessel or its purpose was not a priority in choosing the ceramic mass, although such deliberations require in-depth study.

What is interesting is the observation of the domination of fine-grained masses only in pottery from the sites in Prešov-Solivar-Mestský cintorín and Veľký Šariš-Kaplnka sv. Kunhuty. Both sites represent the oldest horizon of the BaC in the Šariš region. The indicated technological feature may therefore have a chronological basis.

Compared to the neighbouring areas to the north-west and south, i.e. the area of Spiš ($n = 16$) and Zemplín ($n = 10$), the structure of the ceramics technology in Šariš resembles that of Spiš (unpublished results). Fine and coarse masses occur equally in both regions, although Šariš has more coarse masses. In the Zemplín region ($n = 10$), coarse-grained masses with abundant mineral admixture, mainly quartz, feldspar, and crumbs of various

rocks (type IIa), predominate. Fine-grained masses or with a predominantly admixture of fireclay are single here.

ARCHAEOBOTANICAL ANALYZES

Archaeobotanical analyses were carried out on a small number of burnt clay preserved at two archaeological sites of the BaC: Šarišské Michaľany-Fedelemlka and Prešov-Solivar-Chmeľové-Tichá dolina. From the first of them, only two pieces of daub from feature 61/1982 were examined, while from the second one, 37 fragments excavated from three features Nos. 10/2B, 14 and 18 were studied. The examined lumps were orange in colour, and some of them were black inside. They were very different on account of their size of size and structure. Some of them were relatively well fired, light and brittle, while other chunks had a compact structure with a small admixture of the large-grained clastic admixture.

In order to identify possible plant traces in the reflected light microscope, using magnification

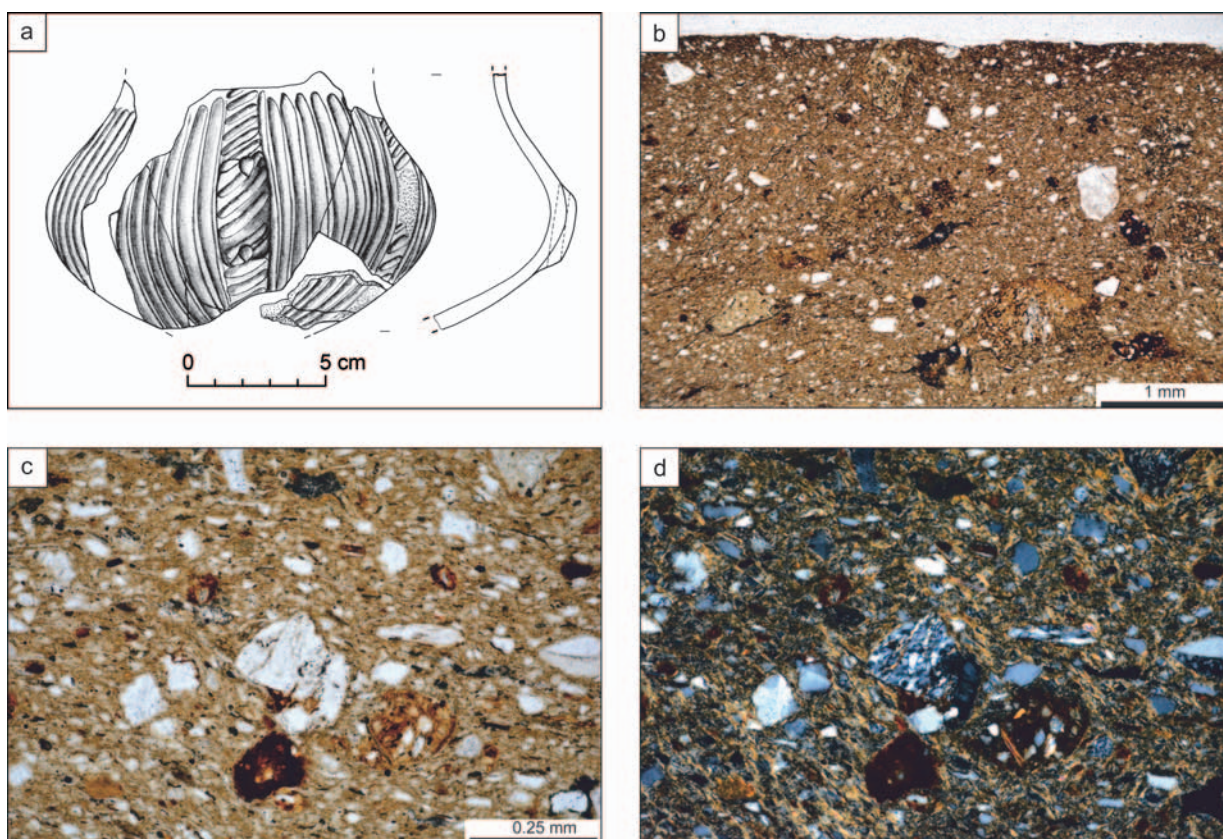


Fig. 11. Veľký Šariš-Kaplnka sv. Kunhuty. Sample VSK/1 (cut 46), ceramic fabric type Ic. a – drawing of the vessel; b, c, d – photographs of the section; b – fine-grained fabric with a little grog admixture; c, d – different inclusion including slate fragment, clay pellet, and iron oxides and hydroxides; b, c – PPL; d – XPL. Drawing by B. Grabowska, photo by A. Rauba-Bukowska.

up to 40×, the cleaned surface of the burnt clay pieces and its fresh fractures were observed. Plant prints were determined with the morphological-comparative method, characteristic for this type of botanical sources (Lityńska-Zajac/Wasylikowa 2005, 295–300).

Burnt clay, from the point of view of archaeobotanical studies, is a kind of material that can provide a lot of interesting data on the charred and dried remains of plants and the imprints of plant organs or tissues (e.g. Lityńska-Zajac/Wasylikowa 2005, 295–300; Moskal-del Hoyo et al. 2017; Tolar/Jacomet/Valušček 2016). In the case of the discussed sites, plant remains were found in some of the daub pieces, which were preserved in the form of negative caryopsis impressions, as well as reflections as well as burnt and dried vegetative parts of herbaceous plants, wild or cultivated. Imprints of laths or branches were visible on the surface of several pieces.

From the site at Šarišské Michaľany-Fedelemla a construction imprint was noted on the surface of one analysed piece of daub in the form of a branch reflection. In the second one, there were

impressions of three straw fragments belonging to grasses family *Poaceae* indet. Many more remains have been preserved in the materials from the Prešov-Solivar-Chmeľové-Tichá dolina site. Negative grain impressions, impressions, dried and charred spikelets or their basal parts (the so-called spikelet forks) belonging to emmer wheat *Triticum diccocon* (Tab. 5) were noted here. Some of the preserved specimens, with less pronounced distinctive features, have been described as belonging to one of the two (or both) species of emmer or einkorn wheat *Triticum diccocon* vel *T. monococcum*. In a few daub clumps from features 10/2B and 18, they were very numerous and formed layers. The reflections of not fully developed caryopses or their fragments belonged to undetermined cereals. There were also many traces of pieces of straw classified generally as *Cerealia* indet and for cereals and/or wild grasses *Cerealia* indet. vel *Poaceae* indet. There have also been not many reflections of taxonomically undetermined branches and/or laths. Finally, in feature 10/2B there were dozen specimens that could not be assigned to any taxonomic unit. They

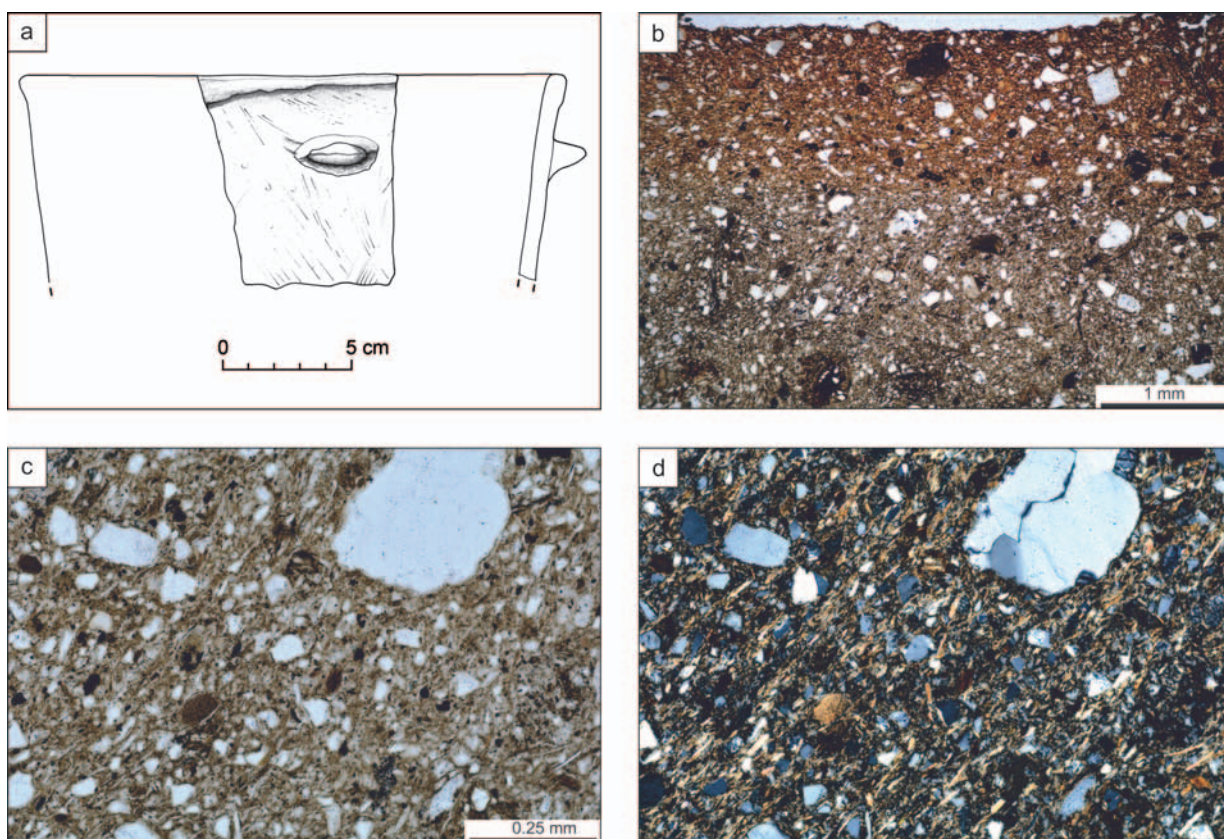


Fig. 12. Šarišské Michaľany-Fedeleňka site. Sample SarBa1 (cut no. 23), ceramic fabric type IIa. a – drawing of the vessel; b, c, d – photographs of the section; b – an outer oxidizing layer of wall section; c, d – micaceous clay matrix with evenly distributed silty grains, one coarse quartz grain is visible (upper right); b, c – PPL; d – XPL. Drawing by B. Grabowska, photo by A. Rauba-Bukowska.

Tab. 5. Šarišské Michaľany-Fedeleňka site and Prešov-Solivar-Chmeľové-Tichá dolina site. Results of analysis of plant materials of the Baden culture. State of preservation: im – imprint, dr – dried remains inside the imprint, ch – charred remains inside the imprint; kind of remains: ca – caryopsis, bsp – basal part of spikelet, sp – spikelet, d – wood, con – constructional (branches and/or laths); number of specimens: # – branches or laths imprints, * – numerous imprints, ** – accumulation of specimens.

Taxa name	State of preservations	Kind of remains	Šarišské Michaľany	Prešov-Solivar-Chmeľové-Tichá dolina			Total
			61/1982	10/2B	14	18	
<i>Triticum diocococon</i>	im	ca	–	11	4	7	22
	im	sp, bsp	–	2	1	8	11
	ch	bsp	–	–	2	3	5
	dr	sp	–	1	–	–	1
	dr	bsp	–	–	1	5	6
<i>Triticum diocococon</i> vel <i>T. monococcum</i>	dr	sp, bsp	–	**	–	**	**
	im	sp	–	**	–	–	**
	ch	bsp	–	–	–	**	**
<i>Cerealia</i> indet.	im	ca	–	19	–	–	19
	im	chaff	3	28	4. *	17. *	51. *
<i>Cerealia</i> indet. vel <i>Poaceae</i> indet.	im	chaff	–	8	*	*	8. *
Not signet	ch	tissue	–	11	–	–	11
	im	con	1	#	#	–	1. #
Total			4	79	12	40	135

were remains preserved in form of charred thin, amorphous tissues of plants.

The analyses indicate large qualitative and quantitative disproportions in the obtained results of botanical studies for both discussed sites. This condition is influenced, on the one hand, by the number of preserved and examined daub pieces from the Šarišské Michaľany and Prešov, and, on the other hand, the degree of supersaturation of lumps with plant material. The preservation of significant amounts of prints of spikelets, basal part of spikelet, larger or smaller pieces of straw and chaff clearly indicates that fragments of threshing waste were added to the constructional clay as the tempering admixture and were probably intentionally used as such (e.g. Kohler-Schneider 2007; Lityńska-Zajac/Czekaj-Zastawny 2021; Lityńska-Zajac/Wasylikowa 2005; Moskal-del Hoyo et al. 2017; Tolar/Jacomel/Valušček 2016).

The developed plant material yields important data on the cultivated plants. It found the remains of one or two species of hulled wheats, emmer and possibly einkorn. Emmer was probably dominant in the crops of the time. The caryopsis of these cereals could be used for groats or ground into flour. It could also be used as animal feed. Straw could be used, for example, to cover roofs (Gluza 1994 and cited therein) and with other threshing waste was undoubtedly added to clay.

Identification of plant material ascribed to the BaC in Central Europe is relatively poor (e.g. Endrődi/Gyulai 2002; Hajnalová 2007; Kenéz/Pető/Gyulai 2014; Kohler-Schneider/Caneppele 2009; Lityńska-Zajac 2019; Nowak et al. 2019). From the territory of Slovakia, botanical data come only from a dozen archaeological sites (Hajnalová 2007, 304, 305). At these sites, soil samples containing charred remains, plant impressions on daub and ceramics as well as charcoal were examined. Recognized crop remains indicate that the population of the BaC sowed mainly hulled wheat – emmer *Triticum dicoccon* and einkorn *T. monococcum*, which confirms the results obtained for the sites of Šarišské Michaľany and Prešov-Solivar-Chmeľové-Tichá dolina. Common barley *Hordeum vulgare* (Hajnalová 2007, 304, 305; Lityńska-Zajac 2019), and spelt *T. spelta* and free-threshing wheat, millet *Panicum miliaceum* and plants from the family *Fabaceae* *indet.*, including pea *Pisum* and bitter vetch *Vicia cf. ervilia* were probably sown as well (Hajnalová 2007, 304, 305).

Recognized remains of crops from the sites of Šarišské Michaľany-Fedelemlka and Prešov-Solivar-Chmeľové-Tichá dolina indicate that mainly hulled wheat was sown, including frequently occurring emmer *Triticum dicoccon* and possibly einkorn *T. monococcum*. However, this does not correspond

to the entire spectrum of cultivated species known from other sites of the Baden culture in Slovakia, which also include barley, spelt wheat, free-threshing wheat, millet and, moreover, plants from the pulses family *Fabacea eindet.*, including pea *Pisum* and bitter vetch *Vicia cf. ervilia*. This picture is undoubtedly influenced by the kind of the examined material, which were the remnants of plant preserved in the daub pieces.

ARCHAEOZOOLOGICAL ANALYZES

At the BaC sites in the Šariš region, animal bone remains from three settlement sites were analysed: Šarišské Michaľany-Fedelemlka, Prešov-Solivar-Mestský cintorín and Prešov-Solivar-Chmeľové-Tichá dolina. Since from both sites in Prešov we have four pieces of unidentified bones altogether, the Šariš region is in practice represented only by animal remains from the Šarišské Michaľany site. At the same time, this assemblage including total of 726 animal remains is the most numerous osteological collection among all the BaC sites known from the entire eastern Slovakia.

Material and method

During archaeological fieldworks at Šarišské Michaľany-Fedelemlka (Horváthová 2010), 27 anthropogenic features that bear animal remains were discovered. All animal remains included in this study come from features in which recovery methods included hand-collection but not wet-sieving. The sites with bone remains were identified based on comparative material stored in the collection of the Institute of Systematics and Evolution of Animals, the Polish Academy of Sciences in Kraków, Archaeological Research Collection, Tallinn University, and publications concerning animal bone identifications (Hillson 1992; Schmid 1972). Two quantified calculations were made of the remains – NISP (Number of Identified Specimens) and MNI (Minimum Number of Individual Animals; Klein/Cruz-Urbe 1984; Lee Lyman 1994; Reitz/Wing 1999). The MNI value was calculated globally for whole site, and not, as it is done in some studies, for each object separately. Due to significant fragmentation and lack of characteristic features, part of the bone remains has been generally assigned to three size of animal categories: large (cattle/horse size), medium (pig/goat/sheep size) and small mammals (hare size). Further, bone fragments without visible morphological features were classified as undetermined. All the bone remains were subjected to

Tab. 6. Šarišské Michaľany-Fedelemlka site. Number of identified bones (NISP) of particular animal species discovered in particular features.

Feature number	Clams (<i>Unio</i> sp.)	Roman snail (<i>Helix pomatia</i>)	Birds (<i>Aves</i>)	Cattle (<i>Bos taurus</i>)	Goat/sheep (<i>Capra hircus/Ovis</i>)	Pig (<i>Sus scrofa</i> f. <i>domestica</i>)	Dog (<i>Canis familiaris</i>)	Wild horse (<i>Equus ferus</i>)	Red deer (<i>Cervus elaphus</i>)	Roe deer (<i>Capreolus capreolus</i>)	Wild boar (<i>Sus scrofa</i>)	Beaver (<i>Castor fiber</i>)	European hare (<i>Lepus europaeus</i>)	Large mammal	Medium mammal	Unidentified	Total
28	1	62	–	2	5	2	–	–	–	–	1	–	–	–	–	–	73
34	–	–	–	12	8	7	–	–	3	–	1	1	–	2	–	2	36
37	–	–	–	4	1	9	–	–	–	–	–	–	–	1	1	–	16
40	–	–	–	–	1	9	–	–	–	–	–	–	–	–	1	–	11
41	–	–	–	10	1	3	–	–	–	–	–	–	–	–	–	–	14
42	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
48	–	22	–	124	34	38	4	27	4	1	–	–	1	28	6	–	289
49	–	–	–	1	8	5	–	–	–	–	–	–	–	–	–	–	14
61	–	–	–	8	13	8	–	–	2	–	2	–	2	2	–	–	37
70	–	–	–	3	4	–	1	–	–	–	–	–	–	1	–	–	9
71	–	–	–	–	1	3	–	–	–	–	–	–	–	–	–	–	4
120	–	–	–	1	1	–	–	1	–	–	–	–	–	1	–	–	4
161	–	–	–	4	8	6	–	–	1	1	–	3	–	1	–	–	24
172	–	–	–	1	–	4	–	–	–	–	–	–	–	1	–	–	6
186	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
192	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
197	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
205	–	–	–	–	5	15	–	–	–	1	–	–	–	–	–	–	21
211	–	–	–	1	2	–	–	–	–	–	–	–	–	–	–	–	3
241	–	–	–	–	1	2	–	–	–	–	–	–	–	–	–	–	3
253	–	–	–	–	–	3	–	–	–	–	–	–	–	1	–	–	4
264	–	–	–	–	3	2	–	–	–	–	–	–	–	–	5	2	12
265	–	–	1	2	12	2	–	–	–	–	–	–	–	2	11	–	30
271	–	–	–	2	2	14	–	–	–	–	–	–	–	3	5	6	32
278	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1
283	–	–	–	4	3	–	25	–	–	–	–	–	–	4	3	7	46
287	–	–	–	2	9	16	–	–	–	–	–	–	–	1	5	–	33
Total	1	84	1	181	123	151	30	28	10	4	4	4	3	48	37	17	726

detailed observations in order to identify the marks left by humans, carnivores and rodents, or root plant activity.

In this study, horse remains were included into wild species, despite the fact that on the basis of morphometric features of the skeleton it is not possible to determine whether the animal belonged to a domestic or wild animals. However, this solution is supported by the fact that the remains of the horse discovered on this site are present in Funnel Beaker culture whose absolute age precedes the moment of appearance of a domesticated horse in this area (Benecke 1994; Levine 2005). Although at the territory of the Czech Republic presence of domesticated horse during TRB culture is sug-

gested (Kyselý/Peške 2016), according to recent a DNA studies, this assumption seems less likely (Librado et al. 2021).

Results – animal bone assemblage

Animal remains discovered at Šarišské Michaľany-Fedelemlka site are generally well preserved. Bones are compact, slightly fossilized and yellow or waxy in colour. Signs of strong weathering are visible only on six bones. Only the presence of relatively numerous traces of root etching and carbonate cover, visible at ca. 5% of the whole bone assemblage (around 10% if we take into considera-

Tab. 7. Šarišské Michaľany-Fedelemlka site. Number of identified bones (NISP) and minimal number of individuals (MNI) of particular animal species.

Species	NISP	% NISP	MNI
Clams (<i>Unio</i> sp.)	1	–	1
Roman snail (<i>Helix pomatia</i>)	84	–	84
Bird (<i>Aves</i>)	1	0.2	1
Cattle (<i>Bos taurus</i>)	181	33.6	5
Goat/sheep (<i>Capra hircus/Ovis aries</i>)	123	22.8	7
Pig (<i>Sus scrofa</i> f. <i>domestica</i>)	151	28	10
Dog (<i>Canis familiaris</i>)	30	5.6	8
Total domestic mammals	484	90	30
Wild horse (<i>Equus ferus</i>)	28	5.2	1
Red deer (<i>Cervus elaphus</i>)	10	1.9	1
Roe deer (<i>Capreolus capreolus</i>)	4	0.7	1
Wild boar (<i>Sus scrofa</i>)	4	0.7	1
Beaver (<i>Castor fiber</i>)	4	0.7	1
European hare (<i>Lepus europaeus</i>)	3	0.6	1
Total wild mammals	53	9.8	6
Total identified mammals	539	100	36
Large mammal	48	–	–
Medium mammal	37	–	–
Unidentified	17	–	–
Total	726	100	36

tion only bones determinate to the taxon), impeded the archaeozoological analysis.

During the excavations, more than seven hundred remains of different groups of animals altogether were found. All animal remains including land snails can be undoubtedly considered as collected by humans. The most numerous animal remains belong to mammals, which dominate both in terms of the amount of bones and the number of species. Discovered mammal remains belong to a minimum of 10 species, representing both domestic and wild animals (Tab. 6; 7).

Domestic mammals represent typical spectrum of species, dominated by cattle *Bos taurus*, pig *Sus scrofa* f. *domestica*, and goat/sheep *Capra hircus/Ovis aries* (Tab. 6; 7). Among domestic mammals' goat/sheep and pig remains are numerous, equally in terms of NISP and MNI. This clearly shows that the livestock economy of BaC population of Šarišské Michaľany-Fedelemlka was based on alike cattle, small ruminants and omnivorous pig. High share of dog *Canis familiaris* remains in this assemblage is

connected with discovery in feature no. 283 – numerous dog teeth used for production of a necklace (22 pieces).

Wild mammals represent typical spectrum of game species like wild horse *Equus ferus*, roe deer *Capreolus capreolus*, red deer *Cervus elaphus* and wild boar *Sus scrofa*. Among them, the most numerous are wild horse (Fig. 13: 3), although according to calculated minimal number of individuals share of all wild species is similar (Tab. 7). Among remains of roe and red deer, antler fragments are the most numerous, some of them were used as a raw material for tool production. The assemblage of wild mammals is complemented by remains of beaver *Castor fiber* and hare *Lepus europaeus* (Tab. 6; 7).

Most of the identified animal remains collected during excavation can be connected with human activity, and should be seen as consumption waste. This observation does not concern osseous tools and ornaments. The animals whose bone remains were discovered in the settlement were probably slaughtered within the site, as evidenced by the presence of remains having low consumption value, such as skull fragments and distal parts of limbs. This information relates especially to domestic animals as well as some wild species e.g. wild horse and beaver. Only antler fragment of red deer and roe deer overrepresented in this material can be an effect of shed collecting from immediate vicinity of the site. Processing of carcasses, i.e. skinning and dismembering (traces of human activity in the form of cut marks), as well as consumption (traces of fileting, breaking, and burning of bones) most likely took place within the settlement as well. The cut marks are especially numerous on remains belonging to domestic animals (Fig. 13: 1) like cattle [N = 11], sheep/goat [N = 7], and pig [N = 5], but are also recorded on wild horse [N = 3] and beaver [N = 1]. We can consider the presence of numerous Roman snail *Helix pomatia* shells that were discovered in two features at the site as a curiosity (Fig. 13: 2, Tab. 6). Possibly, their presence may testify gathering of this species by the BaC societies for consumption as a supplement to the human and/or animal diet. Unfortunately, these shells are devoid of obvious traces of direct human use that could confirm this assumption, and as such are part of the few finds of this type known from the Central Europe (Kurzawska 2019).

In materials discovered from Šarišské Michaľany-Fedelemlka site (Fig. 14), many tools, waste products from their production and teeth adornments were discovered [N = 46]. Among tools, awls are the most numerous [N = 10]. Other osseous tool types like spatulas [N = 3], chisels [N = 3] and antler axe [N = 1] are less frequent. For awl production, bones

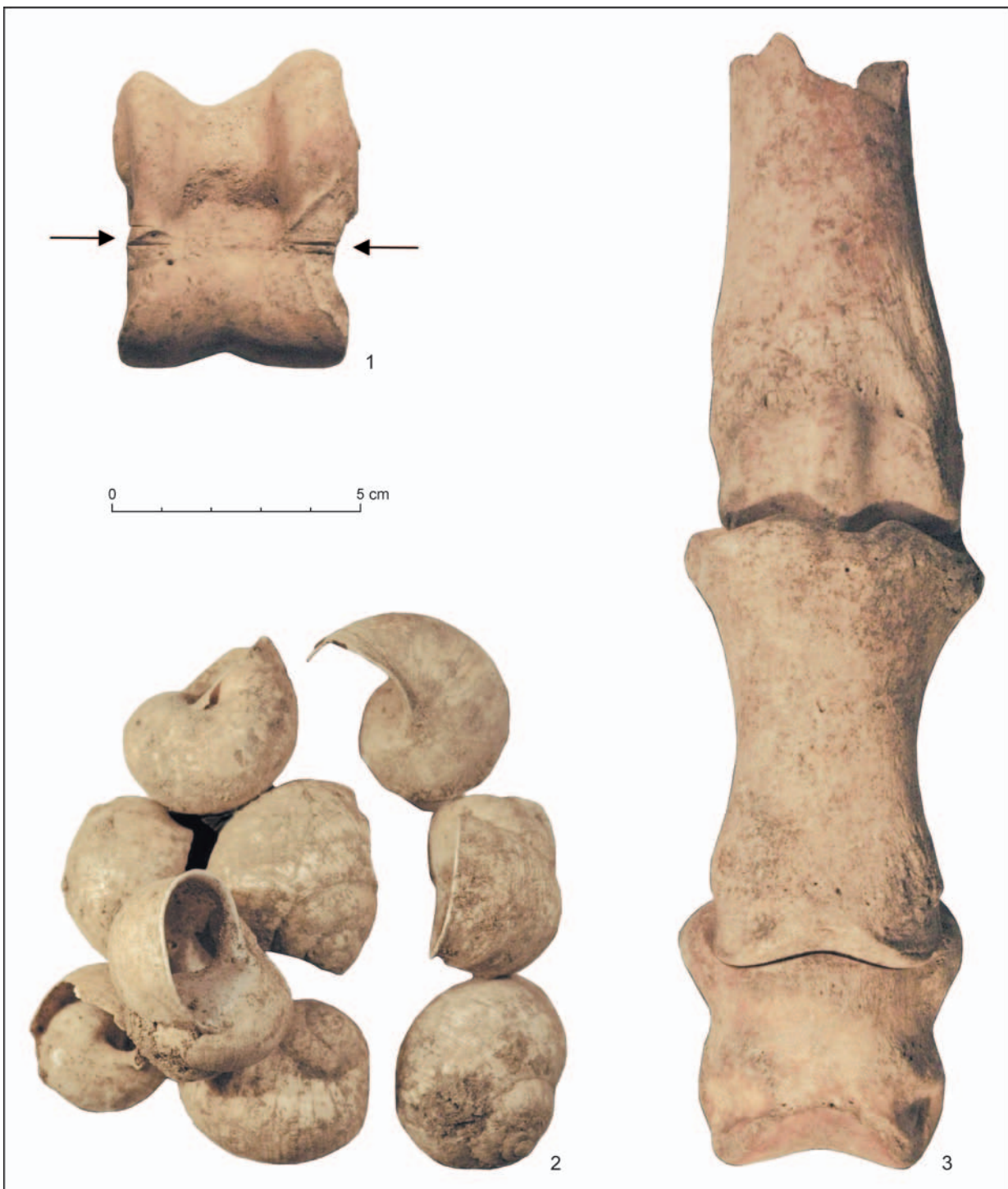


Fig. 13. Šarišské Michaľany-Fedeleňka site. 1 – cattle astragalus with transversal cut marks created during dismembering (feature 48); 2 – Roman snail shells (feature 28); 3 – wild horse metapodial bone and phalanges in anatomical order (feature 48). Photo by J. Wilczyński.

from small ruminants [goat/sheep N = 5, medium mammal N = 3] were used in most cases (Fig. 14: 2–5). The remaining pieces were made on large mammal bone fragments, probably cattle [N = 2]. Spatulas were made only on shafts of large mammal ribs [N = 3]. Chisels represent a diverse tool

group for production of which different materials were used. Red deer antler, goat horn core and bone of a large mammal. Additionally, a single fragment of an axe made of red deer antler was noted (Fig. 14: 1). In the animal material, semi-products of tools or waste from their production

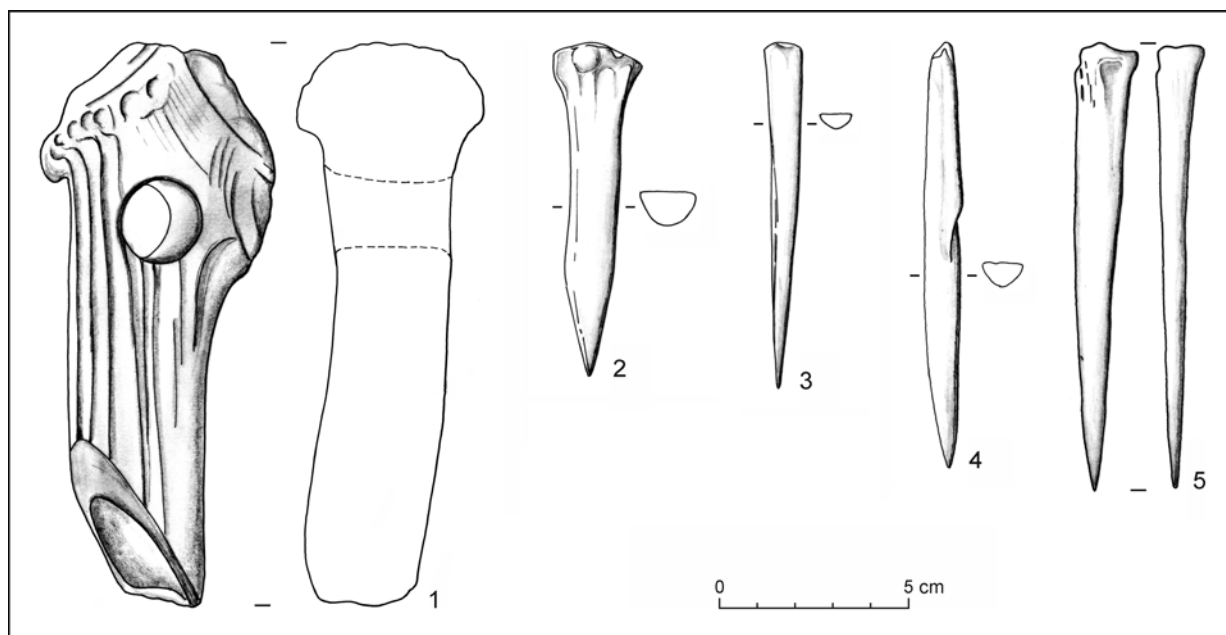


Fig. 14. Šarišské Michaľany-Fedeleemka site. Osseous tools. 1 – hammer adze made of red deer antler (feature 48); 2–5 – bone awls (2–4 – feature 48, 5 – feature 28). Drawing by B. Grabowska.



Fig. 15. Šarišské Michaľany-Fedeleemka site. Dog canines pendants discovered in feature 283. Photo by A. Zastawny.

were also identified [N = 7]. We can consider the set of 22 teeth pendants discovered in feature number 283 unique (Fig. 15). For their production, dog's canine (10 upper and 12 lower) that belonged to a minimum of 8 individuals were used. These

items are carefully made and show signs of polishing as a result of long-term use.

Faunal remains bearing traces of carnivore activity constitute a large part of animal bones. They account 7.7% of the total bone assemblage

[N = 56], which will constitute as much as 8.7% if we eliminate snail shells. The traces of dogs gnawing are visible not only on goat/sheep [N = 23], pig [N = 16] and cattle [N = 11] bones, but also on wild horse [N = 1], dog [N = 1], hare [N = 1] as well as general large mammal [N = 3]. All gnawing traces visible on animal bones were created by dogs who accompanied the human group, and probably they are the results of dog feeding.

Discussion

When trying to reconstruct stockbreeding practices of the Baden communities from the area of eastern Slovakia, we come across the problem of the availability of archaeological sources. From this area, only single sites containing osteological material are known. Furthermore, the number of animal remains discovered there usually does not exceed one hundred specimens, e.g. Veľká Lomnica-Burbrich 4, Brehov-Pod Veľkým vrchom 12, Zemplínske Hradište 16, Zemplínske Kopčany 66, Žehra-Dvojvchodová jaskyňa 68, Kašov-Šarkan 132, Stránska-Magyarós 239 (Wilczyński 2017a; unpublished data). The data provided above reflect the state of archaeozoological research, which we can consider as highly unsatisfactory, thereby the importance of the studied Šarišské Michaľany-Fedelemka site increases significantly.

The animal bone assemblage numbers 726 remains, primarily bones and teeth of four domesticated species: cattle, sheep/goat, and pig. Among them cattle remains dominate, although comparing the MNI value, share of pig and goat/sheep is higher. This may indicate that the significance of pigs and small ruminants for the Baden community was much higher than it would appear from a simple calculation of the number of remains (NISP). From that point of view, also the herding structure observed on the studied site differ from other Baden localities from eastern Slovakia, where cattle is the most numerous taxon, equally in terms of NISP and MNI (Wilczyński 2017a; unpublished data). In the studied material, wild animal remains are also numerous. They constitute a total of 9.8% of all vertebrate remains identified to species level [N = 53]. This allows us to conclude that herding was the basic mode of food supply strategies for Baden societies of Šarišské Michaľany-Fedelemka site, with important, but still supplementary role of hunting. Such a high proportion of wild species remains is unusual at Baden sites in eastern Slovakia. From the second most numerous assemblage known from Stránska, Magyarós site this share is only

2.5% (Wilczyński 2017a). This makes the Šarišské Michaľany-Fedelemka an exceptional site.

At the present stage of the research, it is difficult to clearly indicate the reasons for creation of such subsistence practices, which relied less on cattle breeding (for the benefit of pigs and small ruminants), as well as on high proportion of wild mammals. It was probably related to the specific environmental conditions that prevailed in the immediate vicinity of the site. However, to be considered probable, this statement should be supported by the results of paleoenvironmental studies, as well as analyses of the more numerous osteological collections discovered from the eastern Slovakia BaC.

ANTHROPOLOGICAL ANALYZES

We know only three BaC graves from the Šariš region, all of them cremated (Tab. 1). They were discovered at two sites. One cremation grave comes from Veľký Šariš-Kanaš- Sordok (Budinský-Krička 1967, 340; 1984, 56) and from Veľký Šariš-Kaplnka sv. Kunhuty there are two cremation graves (Grave A, Grave B). The finds from the site of Kaplnka sv. Kunhuty have been published (Horváthová et al. 2017). Burnt human bones were found in two vessels in Grave A. The results of the anthropological analysis are as follows (Horváthová et al. 2017, 8, 9).

The result of analysis was the determination of the extent to which the bones have been burned, the number of individuals buried in a given object and the age at death of the designated individual. On the basis of the colour of the bones, it was possible to estimate the temperature at which the remains were burned. Establishing the number of individuals buried in a single object is possible due to the presence of diagnostic components in human skeleton which come as single or paired. As archaeological feature usually contains only part of the remains burned at the pyre, anthropological analysis offers the possibility of determining the smallest possible number of the individuals buried inside a single grave (MNI – minimum number of individuals). Age at death was established based on anatomical and morphological criteria commonly applied in anthropology. In the case of child skeletons, the analysis also includes the ossification level of long bones.

Bones from a cup (Horváthová et al. 2017, pl. I: 1, 2). Bones strongly and evenly burnt, cream-white in colour, weight 7 g. The preserved elements include small fragments of cranial vault (the largest ones are 22 × 18 mm in size), all sutures are unfused. Postcranial skeleton is represented by small pieces of long bones' diaphyses.

Bones from a jug or small amphora (Horváthová *et al.* 2017, pl. I: 1, 4). Bones strongly and evenly burnt, cream-white and grey-white in colour, weight 40 g. The preserved elements include small fragments of cranial vault (the largest ones are 24 × 20 mm in size), one of them is a piece of squamous part of occipital bone with transversal sinus. All present sutures are unfused. Postcranial skeleton is represented by fragments of long bones' diaphyses (the biggest ones are 51 mm long) and epiphyses as well as small pieces of ribs shafts.

White colour of analysed bones indicates that the bone reached a temperature higher than 8,000 °C, meaning that the temperature at the cremation site was about 1,000–12,000 °C (Piontek 2002). The preserved elements of skeleton enable to conclude that the remains belong to an individual aged *Infans*, the sex was undetermined (Horváthová *et al.* 2017, 8, 9).

CONCLUSIONS

In the North Tisza region of Slovakia, the BaC is known for over 240 sites (Horváthová 2010, pl. 19; 2017, fig. 21). They form five distinct settlement regions, varied in terms of the size of the acreage and the number of sites (Horváthová 2010, 10–15; Malček 2013, 89–104). The Šariš region (Fig. 1) discussed in this article is one of the smallest of them, together with the Košice basin /Abov/. At present, 26 BaC sites are known from the area of Šariš. For comparison, Gemer represents 41 sites, Košice basin 32 sites, Zemplín ca. 60 sites and Spiš ca. 80 sites (Horváthová 2010, tab. 19). Despite the relatively small area and the number of traces of settlement discovered there, the Šariš region is the most studied and, above all, the most fully researched archaeological group of the BaC in Eastern Slovakia. There are two main sites here: Šarišské Michaľany-Fedelemlka – the largest settlement site in Eastern Slovakia (Horváthová 2010) and Prešov-Solivar-Chmeľové-Tichá dolina – a settlement site with traces of fortifications (Horváthová 2015; 2020). From both of these sites comes a series of seven radiocarbon dates (Horváthová 2015, 392; Horváthová/Zastawny 2016). They make it possible to date the settlement of the BaC in the time frame around 3350–2900 BC (Classical and Late Classical Baden: III–III/IV). It is supplemented by data on the relative chronology for the oldest stage of settlement development. Ceramics from the settlement site in Prešov-Solivar-Mestský cintorín and from the cremation graves from Veľký Šariš-Kaplnka sv. Kunhuty shows the characteristics of the transition phase: Boleráz/Baden Early Classical (before 3400 BC; Baden I/II). Materials from the sites of

the Šariš agglomeration are currently the best source for research on the relative and absolute chronology of the BaC in Eastern Slovakia. The long period of development of the BaC in the Šariš region is probably related to its location between the two most important and largest regions of the discussed culture in the Slovak part of the northern Tisza area: Zemplín and Spiš. It was along the SE – NW line that cultural contacts, as well as the chronological sequence of the development phases of the Baden culture (Zastawny/Horváthová 2017, 246–253). We also know a similar direction of contacts and movements of the population from the Lažňany group from the Pre-Baden horizon.

This article presents the results of natural analyses of materials from four BaC sites: Šarišské Michaľany-Fedelemlka, Prešov-Solivar-Chmeľové-Tichá dolina site, Prešov-Solivar-Mestský cintorín, Veľký Šariš-Kaplnka sv. Kunhuty. The materials were not very numerous, but it should be emphasized that the conducted analyses are the first studies of this kind for the BaC in eastern Slovakia.

The most numerous source of data was ceramics, which was subjected to mineralogical and petrographic analyses. Fifteen samples taken from various types of vessels (cups, amphorae, bowls, pots, jugs) from all four sites mentioned above were examined, i.e. from seven pits in three settlement sites and from one grave. The analyses showed a high homogeneity in the method of preparing pottery masses and a high standardization in the technology of pottery production. The composition of the pottery mass was determined by the available raw material and was not very diversified. The pottery masses mainly contain clay minerals and dust grains. An interesting observation is the domination of fine-grained masses only in pottery from the sites in Prešov-Solivar-Mestský cintorín site and Veľký Šariš-Kaplnka sv. Kunhuty. Both sites represent the oldest BaC horizon in the Šariš region. The indicated technological feature may therefore have a chronological basis. The structure of the ceramics technology in the Šariš region is similar to that of Spiš (unpublished results). Coarse-grained and fine-grained masses were found to be equally present in both regions, although in Šariš pottery, there are more coarse-grained masses.

Plant remains have been preserved in the daub originating from settlement pits in Prešov-Solivar-Chmeľové-Tichá dolina and in Šarišské Michaľany-Fedelemlka. In total, 39 pieces of daub were analysed, of which 135 plant remains and imprints were identified. The vast majority of them comes from three pits from the settlement site in Prešov, including the fill of the defensive ditch (site 10/B).

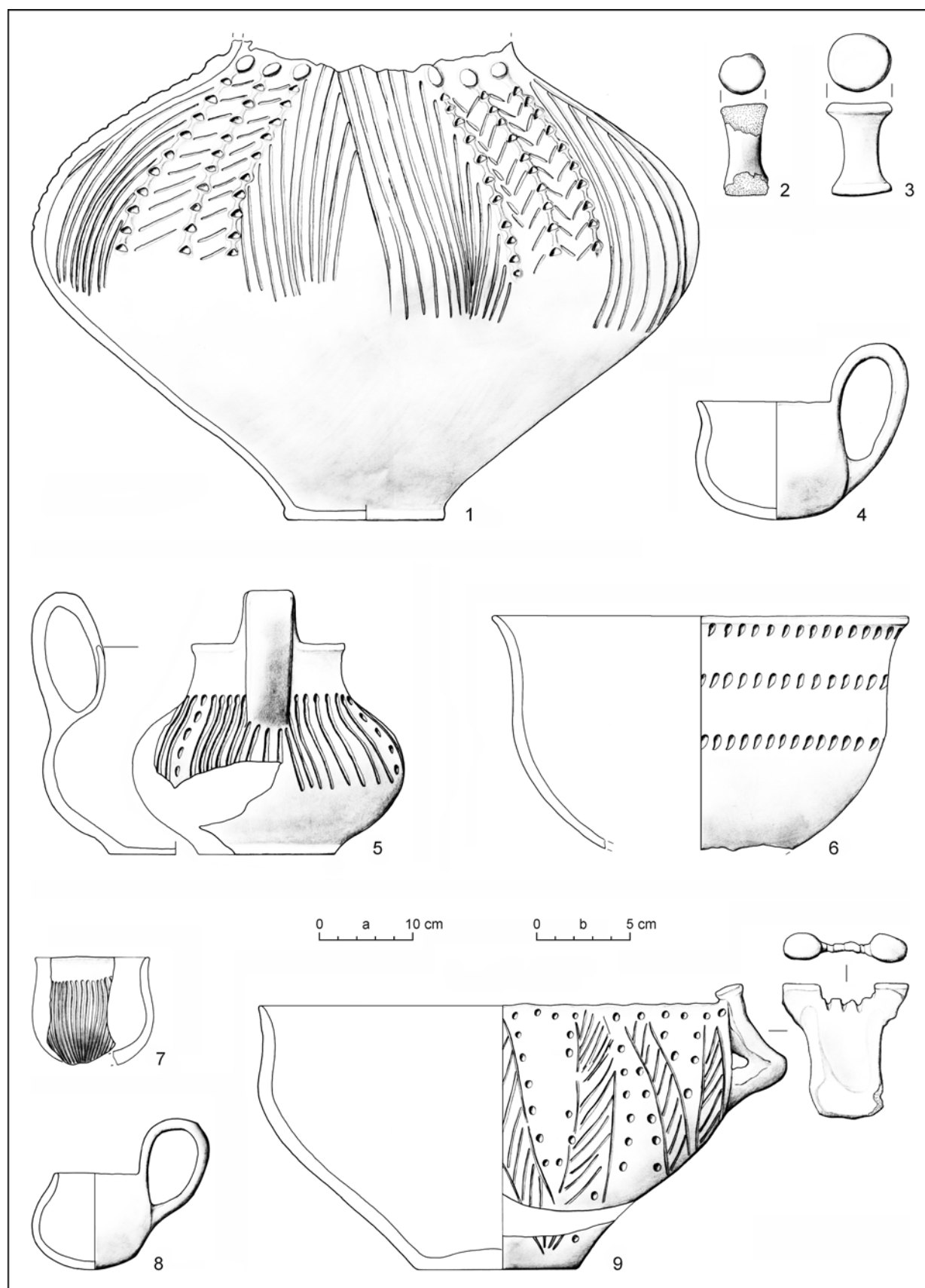
The identified plant specimens include, first of all, emmer wheat *Triticum dicoccon* and possibly einkorn wheat *Triticum dicoccon* vel *T. monococcum*. There were also many traces of pieces of straw classified generally as *Cerealia indet.* and for cereals and/or wild grasses *Cerealia indet.* vel *Poaceae indet.* There have also been not many reflections of taxonomically unmarked branches or laths. In the daub from the pit (no. 18) and from the defensive ditch from the settlement in Prešov-Solivar-Chmeľové-Tichá dolina, wheat remains were very numerous and formed layers. Discovered remains and traces of plants on BaC sites from the Šariš region do not constitute the entire spectrum of arable plant species identified in materials from other regions of this culture in Slovakia (Hajnalová 2007; Lityňska-Zajac 2019). In addition to emmer wheat *Triticum dicoccon* and emmer wheat or einkorn *Triticum dicoccon* vel *T. monococcum*, the list of plants also includes barley, spelt wheat, free-threshing wheat, millet, and also plants from the pulses family *Fabaceae indet.*, including pea *Pisum* and bitter vetch *Vicia cf. ervilia*.

Animal bone remains have been preserved in materials from three BaC sites (Šarišské Michaľany-Fedeleňka, Prešov-Solivar-Chmeľové-Tichá dolina, Prešov-Solivar-Mestský cintorín), although in practice only bones from Šarišské Michaľany were species-defined and were the subject of the analysis. From this settlement site, 726 bone and tooth fragments were examined. It is the largest collection of animal remains obtained from the BaC sites in eastern Slovakia. Out of 41 pits examined in Šarišské Michaľany, bones and teeth have been preserved in 27 features of various functions (utility pits, open hearths, kilns, above-ground buildings?). The analysis showed a similar proportion of cattle and pig remains and small mammals (goat/sheep),

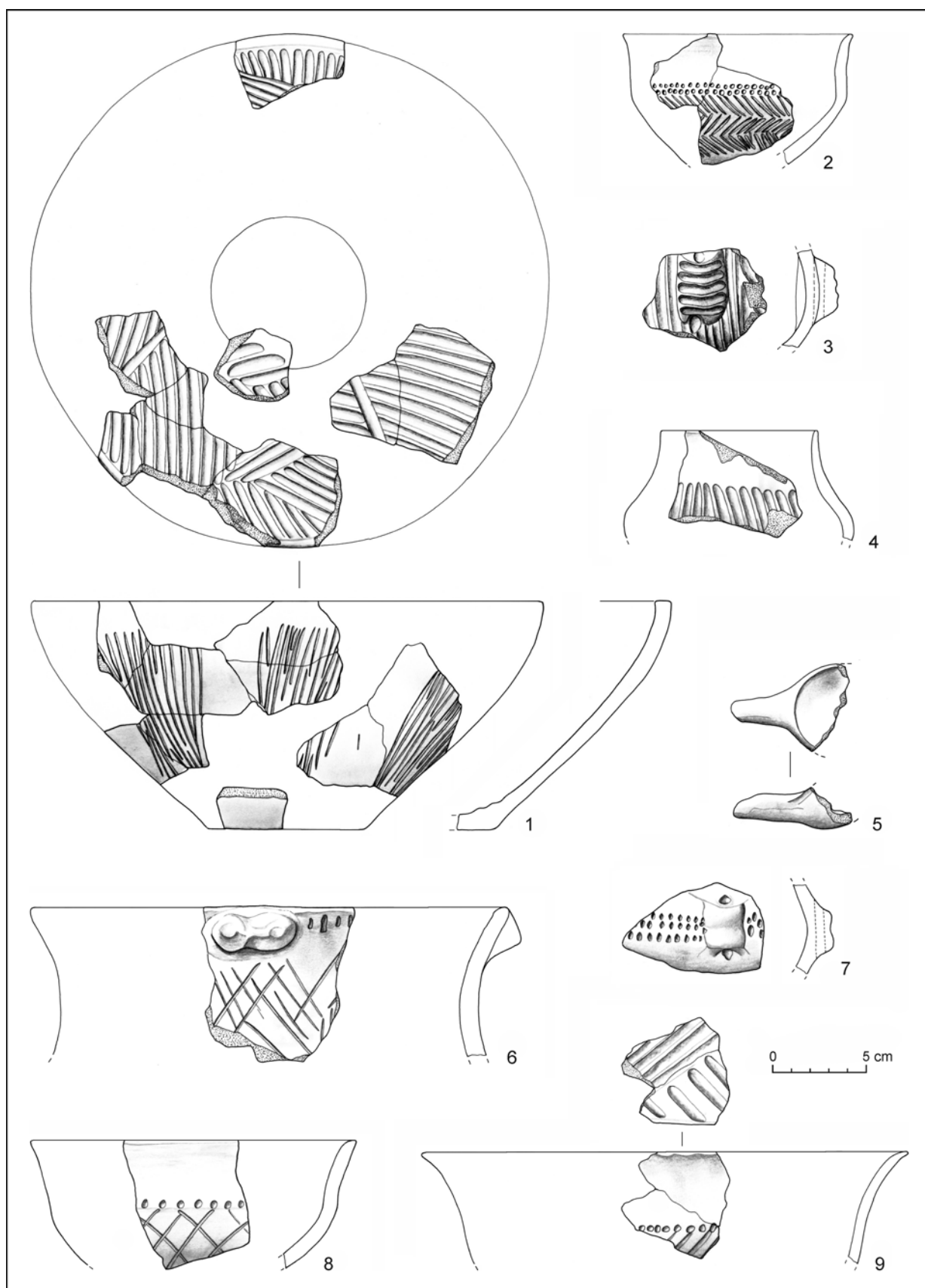
the presence of dog, and a high proportion of wild animals. Pigs and small mammals played a larger role in breeding, and cattle played a smaller role (comparing the MNI value). This regularity is different than in other regions of eastern Slovakia, where cattle clearly pre-dominate (Wilczyński 2017a, unpublished data). Even greater differentiation of Šarišské Michaľany compared to the sites in other regions is visible in the largest share of wild mammals (9.8%), represented by typical game species, such as wild horse (the most numerous), roe deer, red deer and wild boar (Wilczyński 2017a). All this may be evidence of the specific environmental conditions of the Šariš area during the BaC development period.

The BaC human burials are the least numerous sources of research material in eastern Slovakia, similarly to, for example, Lesser Poland. Thus, there are no actual anthropological analyses of human remains. The first expertise was made for the remains of the cremation grave in Veľký Šariš-Kaplnka sv. Kunhuty (Horváthová et al. 2017, 8, 9). On the basis of severely burned, small bones (including fragments of the cranial vault), it can be concluded that the buried was an individual of infans age (gender unspecified).

The obtained results of the analyses are an important source in the reconstruction of the BaC settlement in the Šariš region. They are especially interesting in comparison with other settlement regions in eastern Slovakia (Gemer, Košice basin, Zemplín, Spiš), and also in Lesser Poland. It will be possible to describe the differences in settlement and the environmental specificity of the above-mentioned regions after the publication of all the results of research on archaeological and natural sources.



Pl. I. Šarišské Michaľany-Fedeleňka site. Pottery vessels and clay spools of the Baden culture. Scale: a – 1; b – 2–9.
Drawing by B. Grabowska (after Horváthová 2010).



Pl. II. Prešov-Solivar-Mestský cintorín site. Pottery vessels and clay spoon of the Baden culture. Drawing by B. Grabowska.

BIBLIOGRAPHY

- Benecke 1994 – N. Benecke: *Archäozoologische Studien zur Entwicklung der Haustierhaltung in Mitteleuropa und Südskandinavien von den Anfängen bis zum ausgehenden Mittelalter*. Schriften zur Ur- und Frühgeschichte 46. Berlin 1994.
- Béres 1993 – J. Béres: Sídlskové nálezy z Jakubovian. *AVANS* 1992, 1993, 27, 28.
- Blahuta 1960 – F. Blahuta: Archeologický profil Šariša. *Nové obzory* 2, 1960, 95–119.
- Blahuta 1961 – F. Blahuta: Archeologický príspevok k dejinám vzniku a prvého rozvoja Prešova. *Nové obzory* 3, 1961, 181–199.
- Blahuta 1963 – F. Blahuta: Novšie archeologické objavy na severovýchodnom Slovensku. *Študijné zvesti AU SAV* 11, 1963, 169–178.
- Bolewski/Żabiński 1988 – A. Bolewski/W. Żabiński (red.): *Metody badań mineralów i skał*. Warszawa 1988.
- Brummack 2015 – S. Brummack: New Radiocarbon Dates from Eastern Slovakia. The Cases of Malé Raškovce and Barca Baloty. In: S. Hansen/P. Raczky/A. Anders/A. Reingruber (eds.): *Neolithic and Copper Age between the Carpathians and the Aegean Sea. Chronologies and Technologies from the 6th to 4th Millennium BC*. *International Workshop Budapest 2012*. Bonn 2015, 1–19.
- Budinský-Krička 1948 – V. Budinský-Krička: Výskum Štátného archeologického ústavu v Turčianskom Sv. Martine r. 1946 a 1947. *Historica Slovaca* 6–7, 1948, 274.
- Budinský-Krička 1964 – V. Budinský-Krička: Pohrebisko z neskoréj doby kamennej v Malých Zalužiciach-Lažňanoch. *Študijné zvesti AU SAV* 13, 1964, 87–110.
- Budinský-Krička 1967 – V. Budinský-Krička: Východoslovenské mohyly. *Slovenská archeológia* 15, 1967, 277–388.
- Budinský-Krička 1979 – V. Budinský-Krička: Nové nálezy na východnom Slovensku. *AVANS* 1978, 1980, 46–65.
- Budinský-Krička 1980 – V. Budinský-Krička: Nové nálezy na východnom Slovensku. *AVANS* 1979, 1980, 41–54.
- Budinský-Krička 1981 – V. Budinský-Krička: Nové nálezy na východnom Slovensku. *AVANS* 1980, 1981, 35–53.
- Budinský-Krička 1984 – V. Budinský-Krička: Nové nálezy na východnom Slovensku. *AVANS* 1983, 1984, 51–61.
- Budinský-Krička/Mačala 1990 – V. Budinský-Krička/J. Mačala: Nové nálezy na východnom Slovensku. *AVANS* 1988, 1990, 42–46.
- Čaplovič/Gašaj/Olexa 1978 – D. Čaplovič/D. Gašaj/L. Olexa: Archeologické prieskumy na stavbách socializmu na východnom Slovensku. *AVANS* 1977, 1978, 62–70.
- Derfiňák/Vizdal 2007 – P. Derfiňák/M. Vizdal: Výšinné hradisko badenskej kultúry v Brestove. *AVANS* 2005, 2007, 66.
- Derfiňák/Vizdal 2013 – P. Derfiňák/M. Vizdal: Výsledky povrchovej prospekcie v extraviláne Gregoroviec. *AVANS* 2009, 2013, 90.
- Dobrzańska/Wilczyński/Zastawny 2016 – H. Dobrzańska/J. Wilczyński/A. Zastawny: The settlement of the Baden culture at site 1 in Zofipole, Kraków district (results of excavations conducted in 1986). *Sprawozdania Archeologiczne* 68, 2016, 223–262.
DOI: <https://doi.org/10.23858/SA68.2016.012>
- Đuriš 2021 – J. Đuriš: Vyhodnotenie výberu mazanice zo sídlisk badenskej kultúry na východnom Slovensku. *Študijné zvesti AU SAV* 68, 2021, 193–226.
- Endrődi/Gyulai 2002 – A. Endrődi/F. Gyulai: Hearths and other finds from the late Copper Age Baden culture at Budapest-Cespel Island (Gynaecomorphic vessels, archaeobotanical remains). *Archaeologiai Értesítő* 125, 1998/2000, 2002, 9–44.
- Gluz 1994 – I. Gluz: Wstępne wyniki badań odcisków roślinnych ze stanowisk kultury ceramiki wstęgowej rytej w Gniechowicach i Starym Zamku, woj. wrocławskie. In: K. Wasylukowa (ed.): *Warsztaty Archeobotaniczne*. Polish Botanical Studies. Guide book Series 11. Kraków 1994, 55–69.
- Hajnalová 2007 – M. Hajnalová: Early farming in Slovakia: an archaeobotanical perspective Maria Hajnalová. In: S. Colledge/J. Conolly (eds.): *The Origins and Spread of Domestic Plants in Southwest Asia and Europe*. California 2007, 295–313.
- Hájek 1961 – L. Hájek: Zur relativen Chronologie des Äneolithikums und der Bronzezeit in der Ostslowakei. In: *Kommission für das Äneolithikum und die ältere Bronzezeit in Nitra 1958*. Bratislava 1961, 59–76.
- Hillson 1992 – S. Hillson: *Mammal Bones and Teeth. An Introductory Guide to Methods of Identification*. London 1992.
- Horváth/Svingor 2015 – T. Horváth/É. Svingor: The spatial and chronological distribution of the so-called 'Baden culture'. In: *Nowak/Zastawny* 2015, 19–74.
- Horváthová 2010 – E. Horváthová: *Osídlenie badenskej kultúry na slovenskom území severného Potisia*. *Archaeologica Slovaca Monographiae. Studia* 13. Nitra 2010.
- Horváthová 2015 – E. Horváthová: New data to the cognition of the Baden culture settlement in Prešov (north-eastern Slovakia, Šariš). In: *Nowak/Zastawny* 2015, 381–393.
- Horváthová 2016 – E. Horváthová: Tretia výskumná sezóna na lokalite Chmeľové-Tichá dolina v Prešove. *AVANS* 2011, 2016, 99, 100.
- Horváthová 2017 – E. Horváthová: Štvrtá výskumná sezóna v Prešove na lokalite Chmeľové-Tichá dolina. *AVANS* 2012, 2017, 78, 79.
- Horváthová 2020 – E. Horváthová: Aktuálny stav výskumu opevnenej osady badenskej kultúry v Prešove. In: M. Kotorová-Jenčová (zost.): *Stretnutie východoslovenských archeológov. Zborník príspevkov z 28. stretnutia. Krajské múzeum v Prešove – Kaštieľ Stropkov* 13. 11. 2019. Nitra 2020, 13–27.
- Horváthová, in print – E. Horváthová: Piata výskumná sezóna v Prešove-Solivare na lokalite Chmeľové-Tichá dolina. *AVANS* 2019, in print.
- Horváthová et al. 2017 – E. Horváthová/A. Zastawny/M. Čurný/A. Szczepanek: Burials of the Baden Culture from Veľký Šariš and their Importance for the Investigation of the Studied Culture in the Northern Tisza Region. *Slovenská archeológia* 65, 2017, 1–21.
- Horváthová/Gašaj 2021 – E. Horváthová/D. Gašaj: Eneolitické nálezy z lokality Nižná Myšľa, poloha Várhegy. *Slovenská archeológia* 69, 2021, 199–216.
- Horváthová/Chovanec 2006 – E. Horváthová/J. Chovanec: Nálezy kultúry Čotofeni v prostredí badenskej kultúry na východnom Slovensku. *Študijné zvesti AU SAV* 40, 2006, 129–140.
- Horváthová/Lušítková 2013 – E. Horváthová/L. Lušítková: Záchraný archeologický výskum v Prešove. *AVANS* 2009, 2013, 103, 104.
- Horváthová/Lušítková 2015 – E. Horváthová/L. Lušítková: Druhá výskumná sezóna v Prešove na lokalite Tichá dolina – Chmeľové. *AVANS* 2010, 2015, 106.

- Horváthová/Malec 2021 – E. Horváthová/J. Malec: Novoobjavené sídliskové objekty z mladšej fázy polgarskeho kultúrneho komplexu z Dulovej Vsi, okres Prešov. *Štúdijské zvesti AÚ SAV* 68, 2021, 1–31.
- Horváthová/Nezvánsky 2017 – E. Horváthová/G. Nezvánsky: *Stránska. Osada badenskej kultúry z obdobia eneolitu v kontexte vývoja severného Potisia*. Archaeologica Slovaca Monographiae. Studia 28. Bratislava – Nitra 2017.
- Horváthová/Tirpák 2012 – E. Horváthová/J. Tirpák: Predbežné výsledky archeologického výskumu a geofyzikálneho prieskumu na opevnenom sídlisku badenskej kultúry v Prešove. *Štúdijské zvesti AÚ SAV* 52, 2012, 119–130.
- Horváthová/Zastawny 2016 – E. Horváthová/A. Zastawny: Rádiouhlíkové datovanie ďalších lokalít badenskej kultúry z územia Slovenska. *Archeologie ve středních Čechách*, 2016, 959–966.
- Illášová 1990 – L. Illášová: Petrografické analýzy kamených artefaktov. *AVANS* 1988, 1990, 68, 69.
- Jarosz 2010 – P. Jarosz: Wýchodosłowenskie mogiły – kilka uwag w oparciu o analizę materiałów źródłowych. In: S. Czopek/S. Kadrow (red.): *Mente et rutro. Studia archaeologica Johanni Machnik viro doctissimo octogesimo vitae anno ab amicis, collegis et discipulis oblata – Myślą i łopatką. Studia archeologiczne dedykowane wybitnemu uczonemu Janowi Machnikowi w osiemdziesiątą rocznicę urodzin przez przyjaciół, kolegów i uczniów*. Rzeszów 2010, 275–287.
- Kaminská 1983 – L. Kaminská: Nové nálezy z východoslovenských lokalít. *AVANS* 1982, 1983, 124–126.
- Kenéz/Pető/Gyulai 2014 – Á. Kenéz/Á. Pető/F. Gyulai: Evidence of 'new glume wheat' from the Late Neolithic (Copper Age) of south-eastern Hungary (4th millennium cal. B.C.). *Vegetation History and Archaeobotany* 23, 2014, 551–566.
DOI: <https://doi.org/10.1007/s00334-013-0405-3>
- Klein/Cruz-Urbe 1984 – R. G. Klein/K. Cruz-Urbe: *The Analysis of Animal Bones from Archeological Sites*. Prehistoric Archeology and Ecology Series. United States of America 1984.
- Kohler-Schneider 2007 – M. Kohler-Schneider: Early agriculture and subsistence in Austria: a review of neolithic plant records. In: S. Colledge/J. Conolly (eds.): *The Origins and Spread of Domestic Plants in Southwest Asia and Europe*. New York 2007, 209–220.
- Kohler-Schneider/Caneppele 2009 – M. Kohler-Schneider/A. Caneppele: Late Neolithic agriculture in eastern Austria: archaeobotanical results from sites of the Baden and Jevišovice cultures (3600–2800 B.C.). *Vegetation History and Archaeobotany* 18, 2009, 61–74.
DOI: <https://doi.org/10.1007/s00334-007-0129-3>
- Kolektív 1962 – Kolektív pracovníkov Výskumného pracovného strediska AÚ SAV v Košiciach: Archeologický výskum na východnom Slovensku roku 1961. *Štúdijské zvesti AÚ SAV* 9, 1962, 288–304.
- Kolektív 1966 – Kolektív: *Pravek východného Slovenska*. Malá monografia východného Slovenska VIII/1. Košice 1966.
- Kotorová-Jenčová 2017 – M. Kotorová-Jenčová: Výskum v Prešove-Šalgove. *AVANS* 2012, 2017, 97, 98.
- Kurawska 2019 – A. Kurawska: Muszle ślimaków. In: P. Włodarczak (ed.): *Wilczyce, stanowisko 10. Norma i precedens w rytuale pogrzebowym małopolskiej kultury ceramiki sznurowej*. Ocalone Dziedzictwo Archeologiczne 9. Kraków – Niepołomice – Pękowice 2019, 143–145.
- Kyselý/Peške 2016 – R. Kyselý/L. Peške: Horse size and domestication: Early equid bones from the Czech Republic in the European context. *Anthropozoologica* 51/1, 2016, 15–39.
DOI: <https://doi.org/10.5252/az2016n1a2>
- Lamiová-Schmiedlová 1964 – M. Lamiová-Schmiedlová: Kontrolný výskum v Ostrovanoch roku 1963. *Štúdijské zvesti AÚ SAV* 13, 1964, 233–270.
- Lee Lyman 1994 – R. Lee Lyman: *Vertebrae Taphonomy*. Cambridge Manuals in Archaeology. Cambridge 1994.
DOI: <https://doi.org/10.1017/CBO9781139878302>
- Levine 2005 – M. A. Levine: Domestication and early history of the horse. In: D. S. Mills/S. M. McDonnell (eds.): *The Domestic Horse. The Origins, Development and Management of its Behaviour*. Cambridge 2005, 5–22.
- Librado et al. 2021 – P. Librado/N. Khan/A. Fages/M. A. Kusliy/T. Suchan/L. Tonasso-Calvière/S. Schiavinato/D. Alioglu/A. Fromentier/A. Perdereau/J.-M. Aury/Ch. Gaunitz/L. Chauvey/A. Seguin-Orlando/C. Der Sarkissian/J. Southon/B. Shapiro/A. A. Tishkin/A. A. Kovalev/S. Alquraishi/A. H. Alfarhan/K. A. S. Al-Rasheid/T. Seregély/L. Klassen/R. Iversen/O. Bignon-Lau/P. Bodu/M. Olive/J.-Ch. Castel/M. Boudadi-Maligne/N. Alvarez/M. Germonpré/M. Moskal-del Hoyo/J. Wilczyński/S. Pospuła/A. Lasota-Kuś/K. Tunia/M. Nowak/E. Rannamäe/U. Saarma/G. Boeskorov/L. Lõugas/R. Kyselý/L. Peške/A. Bălăşescu/V. Dumitraşcu/R. Dobrescu/D. Gerber/V. Kiss/A. Szécsényi-Nagy/B. G. Mende/Z. Gallina/K. Somogyi/G. Kulcsár/E. Gál/R. Bendrey/M. E. Allentoft/G. Sirbu/V. Dergachev/H. Shephard/N. Tomadini/S. Grouard/A. Kasparov/A. E. Basilyan/M. A. Anisimov/P. A. Nikolskiy/E. Y. Pavlova/V. Pitulko/G. Brem/B. Wallner/Ch. Schwall/M. Keller/K. Kitagawa/A. N. Bessudnov/A. Bessudnov/W. Taylor/J. Magail/J. O. Gantulga/J. Bayarsaikhan/D. Erdenebaatar/T. Kubatbek/E. Mijiddorj/B. Boldgiv/T. Tsagaan/M. Pruvost/S. Olsen/Ch. A. Makarewicz/S. Valenzuela Lamas/S. Albizuri Canadell/A. Nieto Espinet/M. P. Iborra/J. Lira Garrido/E. Rodríguez González/S. Celestino/C. Olària/J. L. Arsuaga/N. Kotova/A. Pryor/P. Crabtree/R. Zhumatayev/A. Toleubaev/N. L. Morgunova/T. Kuznetsova/D. Lordkipanize/M. Marzullo/O. Prato/G. Bagnasco Gianni/U. Tecchiati/B. Clavel/S. Lepetz/H. Davoudi/M. Mashkour/N. Ya. Berezina/Ph. W. Stockhammer/J. Krause/W. Haak/A. Morales-Muñiz/N. Benecke/M. Hofreiter/A. Ludwig/A. S. Grahodatsky/J. Peters/K. Yu. Kiryushin/T.-O. Iderkhangai/N. A. Bokovenko/S. K. Vasiliev/N. N. Seregin/K. V. Chugunov/N. A. Plasteeva/G. F. Baryshnikov/E. Petrova/M. Sablin/E. Ananyevskaya/A. Logvin/I. Shevnina/V. Logvin/S. Kalieva/V. Loman/I. Kukushkin/I. Merz/V. Merz/S. Sakenov/V. Varfolomeyev/E. Usmanova/V. Zaibert/B. Arbuckle/A. B. Belinskiy/A. Kalmykov/S. Reinhold/S. Hansen/A. I. Yudin/A. A. Vybornov/A. Epimakhov/N. S. Berezina/N. Roslyakova/P. A. Kosintsev/P. F. Kuznetsov/D. Anthony/G. J. Kroonen/K. Kristiansen/P. Wincker/A. Outram/L. Orlando: The origins and spread of domestic horses from the Western Eurasia steppes. *Nature* 598, 2021, 634–640.
DOI: <https://doi.org/10.1038/s41586-021-04018-9>
- Lityńska-Zajęc/Czekaj-Zastawny 2021 – M. Lityńska-Zajęc/A. Czekaj-Zastawny: Utilisation of plant materials in houses of the Linear Pottery Culture. A case study of Brzezie. *Journal of Archaeological Science: Reports* 35, 2021, 102710.
DOI: <https://doi.org/10.1016/j.jasrep.2020.102710>

- Lityńska-Zajac/Wasylikowa 2005 – M. Lityńska-Zajac/K. Wasylikowa: *Przewodnik do badań archeobotanicznych*. Poznań 2005.
- Malček 2013 – R. Malček: *Lieskovec-Hrádok. Výšinné sídlisko badenskej kultúry*. Archaeologica Slovaca Monographiae. Studia 17. Nitra 2013.
- Malček et al. 2018 – R. Malček/E. Horváthová/L. Luštíková/R. Hreha: Rekonštrukcia osídlenia v okolí hornej a strednej Torysy vo vybraných obdobiach praveku až včasného stredoveku. *Študijné zvesti AÚ SAV* 64, 2018, 21–53.
- Malček/Horváthová/Luštíková 2021 – R. Malček/E. Horváthová/L. Luštíková: Model osídlenia severovýchodného Slovenska v povodí Sekčova na podklade dát získaných z prostredia GIS. Paleolit, neolit, eneolit. *Slovenská archeológia* 69, 2021, 1–43.
- Moskal-del Hoyo et al. 2017 – M. Moskal-del Hoyo/A. Raulba-Bukowska/M. Lityńska-Zajac/A. Mueller-Bieniek/A. Czekaj-Zastawny: Plant materials used as temper in the oldest Neolithic pottery from south-eastern Poland. *Vegetation History and Archaeobotany* 26, 2017, 329–344. DOI: <https://doi.org/10.1007/s00334-016-0595-6>
- Němejcová-Pavůvková 1985 – V. Němejcová-Pavůvková: The Eastern influences upon the Carpathian basin in the Eneolithic – The problem of their dating and significance. In: J. K. Kozłowski/J. Machnik (eds.): *L'énéolithique et le début de l'âge du bronze dans certaines régions de l'Europe*. Kraków 1985, 21–29.
- Nowak et al. 2019 – M. Nowak/J. Wilczyński/J. Wróbel/M. Kapcia/M. Moskal-del Hoyo: The Baden Culture finds from Goszcza site 1 (Kielnik): new archaeological, anthropological, archaeozoological and archaeobotanical data. *Folia Quaternaria* 87, 2019, 27–58. DOI: <https://doi.org/10.4467/21995923FQ.19.002.11495>
- Nowak/Zastawny 2015 – M. Nowak/A. Zastawny (eds.): *The Baden culture around the Western Carpathians*. Via Archaeologica. Źródła z badań wykopaliskowych na trasie autostrady A4 w Małopolsce. Kraków 2015
- Piontek 2002 – J. Piontek: Wpływ procesu kremacji na morfologię kości szkieletu ludzkiego. Wyniki badań eksperymentalnych. In: J. Wrzesiński (red.): *Popiół i kość*. Funeraria Lednickie 4. Lednica 2002, 95–108.
- Polskie Towarzystwo Gleboznawcze 2009 – Polskie Towarzystwo Gleboznawcze: *Klasyfikacja uziarnienia gleb i utworów mineralnych PTG 2008*. *Roczniki Gleboznawcze* 60/2, 2009, 5–16.
- Quinn 2013 – P. S. Quinn: *Ceramic Petrography. The Interpretation of Archaeological Pottery & Related Artefacts in Thin Section*. Oxford 2013. DOI: <https://doi.org/10.2307/j.ctv1jk0jf4>
- Raczky/Siklósi 2013 – P. Raczky/Z. Siklósi: Reconsideration of the Copper Age chronology of the eastern Carpathian Basin: a Bayesian approach. *Antiquity* 87, 2013, 555–573.
- Reitz/Wing 1999 – E. J. Reitz/E. S. Wing: *Zooarchaeology*. Cambridge Manuals in Archaeology. Cambridge 1999.
- Schmid 1972 – E. Schmid: *Atlas of Animal Bones. For Prehistorians, Archaeologists and Quaternary Geologists – Knochenatlas. Für Prähistoriker, Archäologen und Quartärgeologen*. Amsterdam – London – New York 1972.
- Slivka 1980 – M. Slivka: Správa o výsledkoch výskumu na hrade Šariš. *AVANS* 1978, 1980, 247, 248.
- Slivka/Olexa 1977 – M. Slivka/L. Olexa: Ďalšia etapa systematického výskumu Šarišského hradu. *AVANS* 1976, 1977, 258, 259.
- Šiška 1964 – S. Šiška: Neolitické a eneolitické nálezy z Ostrovan. *Študijné zvesti AÚ SAV* 13, 1964, 71–76.
- Šiška 1966 – S. Šiška: K počiatkom kultúry s kanelovanou keramikou na východnom Slovensku. *Slovenská archeológia* 16, 1966, 49–76.
- Šiška 1976 – S. Šiška: Sídlisko z mladšej doby kamennej v Prešove-Šarišských lúkach. *Slovenská archeológia* 24, 1976, 83–117.
- Šiška 1995 – S. Šiška: *Dokument o spoločnosti mladšej doby kamennej (Šarišské Michaľany)*. Archeologické pamiatky Slovenska 2. Bratislava 1995.
- Šiška 1997 – S. Šiška: Nálezy boľerázskej skupiny na východnom Slovensku. *Sborník prací Filozofické fakulty brněnské univerzity. Řada archeologická* 46, M2, 1997, 125–133.
- Tokárová/Vizdal 2013 – L. Tokárová/M. Vizdal: Sídlisko badenskej kultúry v Ostrovanoch. *AVANS* 2009, 2013, 256.
- Tolar/Jacomet/Valušček 2016 – T. Tolar/S. Jacomet/A. Velušček: Cereal chaff used as temper in loom-weights: new evidence from a Slovenian Eneolithic pile-dwelling site (ca. 3100 cal BC). *Vegetation History and Archaeobotany* 25, 2016, 291–301. DOI: <https://doi.org/10.1007/s00334-015-0549-4>
- Tomášová/Karabinoš 2006 – B. Tomášová/A. Karabinoš: Objav Augustiniánskeho kláštora vo Veľkom Šariši. *AVANS* 2004, 2006, 195, 196.
- Vizdal/Derfiňák 2006 – M. Vizdal/P. Derfiňák: Ďalšie nálezy z Veľkého Šariša. *AVANS* 2004, 2006, 213.
- Wilczyński 2017a – J. Wilczyński: Animal Remains from the Baden Culture Site at Stránska, Mogyorós locality (Eastern Slovakia). In: *Horváthová/Nevizánsky* 2017, 243–249.
- Wilczyński 2017b – J. Wilczyński: Lithic Artefacts from the Baden Culture Site at Stránska, Mogyorós locality (Eastern Slovakia). In: *Horváthová/Nevizánsky* 2017, 231–242.
- Wild et al. 2001 – E. M. Wild/P. Stadler/M. Bondár/S. Draxler/H. Friesinger/W. Kutschera/A. Priller/W. Rom/E. Ruttikay/P. Steirer: New chronological frame for the young neolithic Baden culture in central Europe (4th millennium BC). *Radiocarbon* 43/2B, 2001, 1057–1064.
- Vladár 1966 – J. Vladár: Koniec doby kamennej. In: *Kolektív* 1966, 87–96.
- Vladár 2008 – J. Vladár: K problematike kultúrnej príslušnosti keramiky so šnúrovou ornamentikou z Košíc-Barce. (K nedožitej storočnici Ladislava Hájka 1909–2009.) *Studia Historica Nitriensia* 14, 2008, 75–91.
- Zastawny/Horváthová 2016 – A. Zastawny/E. Horváthová: Trans-Carpathian cultural relations of the Baden Culture from areas of Lesser Poland and eastern Slovakia. Polish-Slovak research project 2014–2016 – objectives and methodology. In: J. Kovárník (ed.): *Centenary of Jaroslav Palliardi's Neolithic and Aeneolithic Relative Chronology (1914–2014)*. Hradec Králové – Ústí nad Orlicí 2016, 253–262.
- Zastawny/Horváthová 2017 – A. Zastawny/E. Horváthová: Kultura badenska pomiędzy dorzeczem górnej Wisły i północnym Pociem. Polsko-słowacki projekt badań transkarpackich relacji kulturowych. In: J. Gancarski (red.): *Stan i potrzeby badań archeologicznych w Karpatach*. Krosno 2017, 245–268.

UNPUBLISHED SOURCES

- Budinský-Krička 1953* – V. Budinský Krička: *Záborské. Poloha Južne od mlyna*. Košice 1953. Výskumná správa 368/1953. Dokumentácia AÚ SAV, v. v. i.
- Lityňska-Zajac 2019* – M. Lityňska-Zajac: *Plant imprints in daub and charcoals at sites of the Baden culture from the upper Vistula river basin and Slovakian part of the Tisza river basin*. Kraków 2019.
- Repčák 1950* – J. Repčák: *Drienov, poloha Roveň*. Košice 1950. Správa z obhliadky z dňa 7. 11. 1950. Dokumentácia AÚ SAV, v. v. i.
- Slivka 1974* – M. Slivka: *Veľký Šariš. Poloha Park Rákocziho kaštiela*. Košice 1974. Výskumná správa 7049/74. Dokumentácia AÚ SAV, v. v. i.
- Šebesta et al. 2015* – B. Šebesta/L. Chmelo/D. Krajčiová/I. Kret/M. Šútor/P. Bobek/F. Žák Matyasowszky: *PO10 Mestský cintorín. Prešov-Šváby*. Nitra 2015. Výskumná správa. Dokumentácia AÚ SAV, v. v. i.
- Šimčík 2014* – P. Šimčík: *Fintice, časť Fisky-Tormáš. Poloha Martinec*. Košice 2014. Výskumná správa 3/2013–2014. Dokumentácia AÚ SAV, v. v. i.
- Šiška 1983* – S. Šiška: *Ostrovany. Poloha Za cestou naproti cintorínu*. Košice 1983. Výskumná správa bez uvedenia evidenčného čísla. Dokumentácia AÚ SAV, v. v. i.
- Švaňa 2017* – K. Švaňa: *Prešov-Šalgovík. Poloha Za kostolom*. Košice 2017. Výskumná správa 13/2017. Dokumentácia AÚ SAV, v. v. i.
- Tomášová/Uličný/Miroššayová 1998* – B. Tomášová/M. Uličný/E. Miroššayová: *Správa z archeologického prieskumu úseku diaľnice D1-Fričovce-Prešov*. Košice 1998. Dokumentácia AÚ SAV, v. v. i.

Manuscript accepted 25. 5. 2022

Translated by Viera Tejbusová and the authors

PhDr. Eva Horváthová, PhD.
Archeologický ústav SAV, v. v. i.
Oddelenie pre výskum východného Slovenska
Hrnčiarska 13
SK – 040 01 Košice
ehorvath@saske.sk

Dr hab. Maria Lityńska-Zajac
Ośrodek Archeologii Gór i Wyzyn
Instytut Archeologii i Etnologii Polskiej Akademii Nauk
Sławkowska 17
PL – 31-016 Kraków
marialitynska@gazeta.pl

Dr Anna Rauba-Bukowska
Ośrodek Archeologii Gór i Wyzyn
Instytut Archeologii i Etnologii Polskiej Akademii Nauk
Sławkowska 17
PL – 31-016 Kraków
a.rauba@yahoo.pl

Dr hab. Jarosław Wilczyński
Instytut Systematyki i Ewolucji Zwierząt
Polska Akademia Nauk
Sławkowska 17
PL – 31-016 Kraków
jaslov@wp.pl

Dr Albert Zastawny
Muzeum Archeologiczne w Krakowie
Senacka 3
PL – 31-002 Kraków
albertzastawny@gmail.com

Výsledky prírodovedných analýz nálezov badenskej kultúry v Šarišskom regióne, severovýchodné Slovensko

Eva Horváthová – Maria Lityńska-Zajac – Anna Rauba-Bukowska –
Jarosław Wilczyński – Albert Zastawny

SÚHRN

Zo severopotiskej oblasti Slovenska je badenská kultúra (BaC) známa z viac ako 240 lokalít. Pozostáva z piatich samostatných regiónov (Gemer, Košická kotlina, Zemplín, Spiš, Šariš), ktoré sú diferencované z hľadiska rozlohy a počtu nálezísk. Šarišská sídlisková aglomerácia, o ktorej pojednáva táto štúdia, patrí spolu s aglomeráciou v Košickej kotline medzi najmenšie z nich. V súčasnosti je z oblasti Šariša známych 26 archeologických lokalít BaC. Pre porovnanie, v regióne Gemera evidujeme približne 41 lokalít, v Košickej kotline 32 lokalít, na Zemplíne 60 lokalít a na Spiši 80 lokalít. Napriek relatívne malej rozlohe a počtu tu objavených sídlisk, považujeme šarišskú sídliskovú aglomeráciu BaC za najlepšie preskúmanú. K najvýznamnejším lokalitám v regióne patria dve sídliská ostrožného typu v Šarišských Michaľanoch v polohe Fedelemka a v Prešove-Solivar v polohe Chmeľové-Tichá dolina. Z nálezových kontextov oboch sídlisk máme k dispozícii spolu sedem rádiouhlíkových dát, ktoré vymedzujú osídlenie na lokalitách do obdobia rokov 3350–2900 BC (Baden III–III/IV). Dopĺňajú ich relatívne chronologické údaje z najstaršej fázy osídlenia. Keramika z Prešova-Solivar z polohy Mestský cintorín a žiarové hroby z Veľkého Šariša z polohy Kaplnka sv. Kunhuty vykazujú znaky prechodnej fázy boľarázsko-včasnoklasického horizontu BaC, ktorej datovanie predchádzalo rok 3400 BC (Baden I/II). Dlhé obdobie vývoja BaC v šarišskom regióne mohlo súvisieť s jeho výhodnou polohou medzi dvoma významnými a rozlohou veľkými regiónmi predmetnej kultúry v severnom Potísi (Zemplínom a Spišom), ako aj s jeho plynulým prepojením s Košickou kotlinou. Práve pozdĺž línie JV–SZ prenikali kultúrne kontakty, ako aj chronologická postupnosť vývojových fáz BaC.

V štúdií sú prezentované výsledky prírodovedných analýz reprezentatívnych nálezových kontextov vybraných zo štyroch lokalít BaC: Šarišské Michaľany-Fedelemka, Prešov-Solivar-Chmeľové-Tichá dolina, Prešov-Solivar-Mestský cintorín a Veľký Šariš- Kaplnka sv. Kunhuty.

Keramika bola podrobená mineralogicko-petrografickým analýzám. Na tento účel bolo vyselektovaných 15 vzoriek, odobratých z rôznych typov nádob, ktoré pochádzali zo siedmich jám troch sídlisk a z jedného hrobu. Analýzy ukázali vysokú homogenitu prípravy keramických hmôt a vysokú standardizáciu technológie výroby nádob. Zloženie keramických hmôt bolo dané dostupnou surovinou a výrazne sa nelíšilo. Zistilo sa, že keramické hmoty obsahujú najmä ílové minerály a prachové zrná. Zaujímavé je zistenie o dominancii jemnozrnej hmoty len v keramike z lokalít Prešov-Solivar-Mestský

cintorín a Veľký Šariš- Kaplnka sv. Kunhuty. Obe lokality predstavujú najstarší horizont šarišskej aglomerácie BaC. Uvedený technologický znak môže mať aj chronologický základ. Technológia výroby posudzovanej keramiky je veľmi podobná keramike zo Spiša (nepublikované výsledky). Hrubozrnná a jemnozrnná hmota sa vyskytovala rovnako v oboch regiónoch, hoci hrubozrnná hmota prevažovala v keramike zo Šariša.

Rastlinné zvyšky sa zachovali v mazanici zo sídliskových objektov z Prešova-Solivar-Chmeľového-Tichej doliny a zo Šarišských Michaľan-Fedelemky. Celkovo bolo analyzovaných 39 kusov mazanice, z ktorých máme identifikovaných 135 zvyškov a odtlačkov rastlín. Prevažná väčšina z nich pochádza z troch objektov z osady Prešov-Solivar-Chmeľové-Tichá dolina. Označené exempláre rastlín patria druhom pšenice *Triticum dicoccon* a *Triticum dicoccon* vel *T. monococcum*. Našlo sa aj pomerne veľa zvyškov slamy, ktoré sa všeobecne klasifikujú ako obilniny *Cerealia ident.* alebo obilniny, resp. trávy *Cerealia indet.* vel *Poaceae indet.* V mazanici z hospodárskej jamy (obj. 18) a z priekopy zo sídliska v Prešove-Solivar-Chmeľového-Tichej doliny boli pozostatky pšenice veľmi hojné a tvorili samostatné vrstvy. Pozostatky rastlín šarišskej aglomerácie BaC netvorí celé spektrum rastlinných druhov, aké poznáme z nálezových kontextoch ďalších regiónov predmetnej kultúry na Slovensku.

Zvieracie kostrové pozostatky sa zachovali v nálezových kontextoch troch lokalít BaC (Šarišské Michaľany-Fedelemka, Prešov-Solivar-Chmeľové-Tichá dolina, Prešov-Solivar-Mestský cintorín), avšak druhovo určené mohli byť len kosti zo Šarišských Michaľan-Fedelemky. Z tohto sídliska bolo preskúmaných 726 fragmentov zvieracích kostí a zubov. Ide o najväčšiu zbierku živočíšnych pozostatkov získaných z lokalít BaC na východnom Slovensku. Zo 41 preskúmaných objektov na sídlisku v Šarišských Michaľanoch sa kosti a zuby zachovali v 27 objektoch. Analýza odhalila podobný podiel pozostatkov hovädzieho dobytku, ako aj ošípaných a malých cicavcov (koza/ovca), prítomnosť psa a vysoký podiel voľne žijúcich cicavcov. Ošípané a malé cicavce zohrávali v chove väčšiu úlohu a hovädzí dobytok menšiu (porovnanie hodnoty MNI). Ide o odlišný model v porovnaní s ostatnými regiónmi východného Slovenska, kde jednoznačne prevažuje hovädzí dobytok. Ešte výraznejšiu odlišnosť Šarišských Michaľan v porovnaní s lokalitami iných regiónov sledujeme vo vysokom podiele voľne žijúcich cicavcov (9,8 %), zastúpených typickými druhmi zvierat, akými sú divý kôň (najpočetnejší), srnec, jeleň a diviak. Tento poznatok môže

poukazovať na špecifické environmentálne podmienky šarišského regiónu v období vývoja BaC.

Pohrebiská BaC sú na území východného Slovenska a Malopoľska takmer neznáme. Z tohto dôvodu neexistuje antropologická analýza ľudských pozostatkov. Prvý odborný posudok bol vyhodnotený z pozostatkov žiarového hrobu z Veľkého Šariša-Kaplnky sv. Kunhuty. Na základe silne prepálených drobných kostí (vrátane fragmentov lebečnej klenby) možno usudzovať, že pochovaný bol jedinec vo veku infans. Pohlavie nebolo špecifikované.

Získané výsledky analýz hodnotíme ako dôležitý prameň poznania pre rekonštrukciu osídlenia komunit BaC v oblasti Šariša. Ich význam vidíme najmä v možnosti porovnania s niektorými regiónmi v severnom Potisí (Gemer, Košická kotlina, Zemplín, Spiš) a v Malopoľsku. Rozdiely v osídlení a environmentálnych špecifikách uvedených regiónov bude možné charakterizovať až po zverejnení všetkých výsledkov výskumu archeologických a prírodných analýz.

EARLY BRONZE AGE SETTLEMENT IN THE VICINITY OF SÜTTŐ

ESZTER FEJÉR 

In 2018 the Archaeological Institute of the Eötvös Loránd University and the Archaeological Heritage Protection Directorate of the Hungarian National Museum carried out excavations at Süttő-Sáncföldek (North Transdanubia, Hungary) within the framework of the Interreg DTP Iron Danube Project. The site is located near to the prehistoric multiperiod fortified settlement of Süttő-Nagysánc-tető and it has already been known of two Early Iron Age cemeteries. Recent fieldwork has unearthed an Early Bronze Age feature, among others, which provided evidence of EBA settlement on the site. Although previous research by Éva Vadász and Gábor Vékony also discovered some EBA material from the area in the 1980's, that has remained unmentioned and unpublished.

This paper presents the EBA findings of Süttő-Sáncföldek and three other contemporary sites (Süttő-Tatai úti dűlő II, Lábatlan-Hosszúföldek, Lábatlan-Rózsa F. utca) in the region, which were found in the second half of the 20th century. The data provided here outline a dense network of EBA sites around Süttő, which consists of a possible fortified settlement, three open settlements and a burial ground. The findings represent the material culture of the Makó-Kosihiy-Čaka complex in North Transdanubia, but connections to South Transdanubia and to the pottery traditions of the Moravian Corded Ware culture can also be detected.

Keywords: North Transdanubia, Early Bronze Age, Makó-Kosihiy-Čaka culture, Corded Ware culture, settlement, burial.

INTRODUCTION

The multiperiod site complex on the loess plateau east of Süttő (North Transdanubia, Hungary) has been investigated since the late 1920's, focusing primarily on the Early Iron Age habitation of the area. The site is located on the right bank of the Danube at the foothills of the Gerecse Mountain Range, between the modern settlements of Süttő and Neszmély (Fig. 1). The site complex consists of a series of Bronze and Iron Age hilltop settlements (Nagysánc, Nagysánc-tető, Kissánc) which overlook the river and its alluvial plain, as well as of several prehistoric sites in the inner territories of the plateau (Sáncföldek).

Broadscale topographic research was carried out in the region between 1968 and 1972 in the framework of the Hungarian Archaeological Topographic Research Project (Horváth/H. Kelemen/Torma 1979, 311–320). In 1978, Éva Vadász and Gábor Vékony started excavations at Süttő-Sáncföldek targeting an Early Iron Age tumulus grave and a contemporary flat grave cemetery, as well as at the prehistoric fortified hilltop settlement of Süttő-Nagysánc-tető. Their fieldwork continued until 1990 and a number of short reports testified the significance of the site, however, the unearthed material has remained

unpublished (Czajlik/Novinszki-Groma/Horváth 2015; Vékony 1986a; Vékony/Vadász 1982).

The Eötvös Loránd University initiated field research at the site complex in the 2010's. In the framework of the Interreg DTP Iron Age Danube Project, they carried out excavations at the site of Süttő-Sáncföldek in 2018 in collaboration with the Archaeological Heritage Protection Directorate of the Hungarian National Museum, and under the direction of Zoltán Czajlik. Beside Late Bronze Age and Late Iron Age features, a pit of the Early Bronze Age¹ was revealed, which was thought to be the first evidence of inhabitation in the area at the end of the 3rd millennium B.C. (Czajlik *et al.* 2018; 2019).

This paper aims to draw an overview of the EBA settlement in the vicinity of Süttő by presenting the newly discovered finds from Süttő-Sáncföldek and several other unpublished contemporary materials from the microregion.

SÜTTŐ-SÁNCFÖLDEK

The Early Bronze Age feature excavated in 2018

The archaeological feature under discussion (feature no. 5.) was discovered as a rounded dis-

¹ The term Early Bronze Age (EBA) is used according to the Hungarian terminology throughout the paper. In the Slovak research, the period of the Makó-Kosihiy-Čaka (MKČ) culture (ca. 2800/2600–2300 BC) overlaps the end of the Late Eneolithic and the beginning of the Early Bronze Age according to the local terminology (see Heyd/Kulcsár/Szeverényi 2013; Kiss *et al.* 2019; Kulcsár 2009, 15, 46–52; Lichardus/Vladár 1997; Nevizánsky 2001).

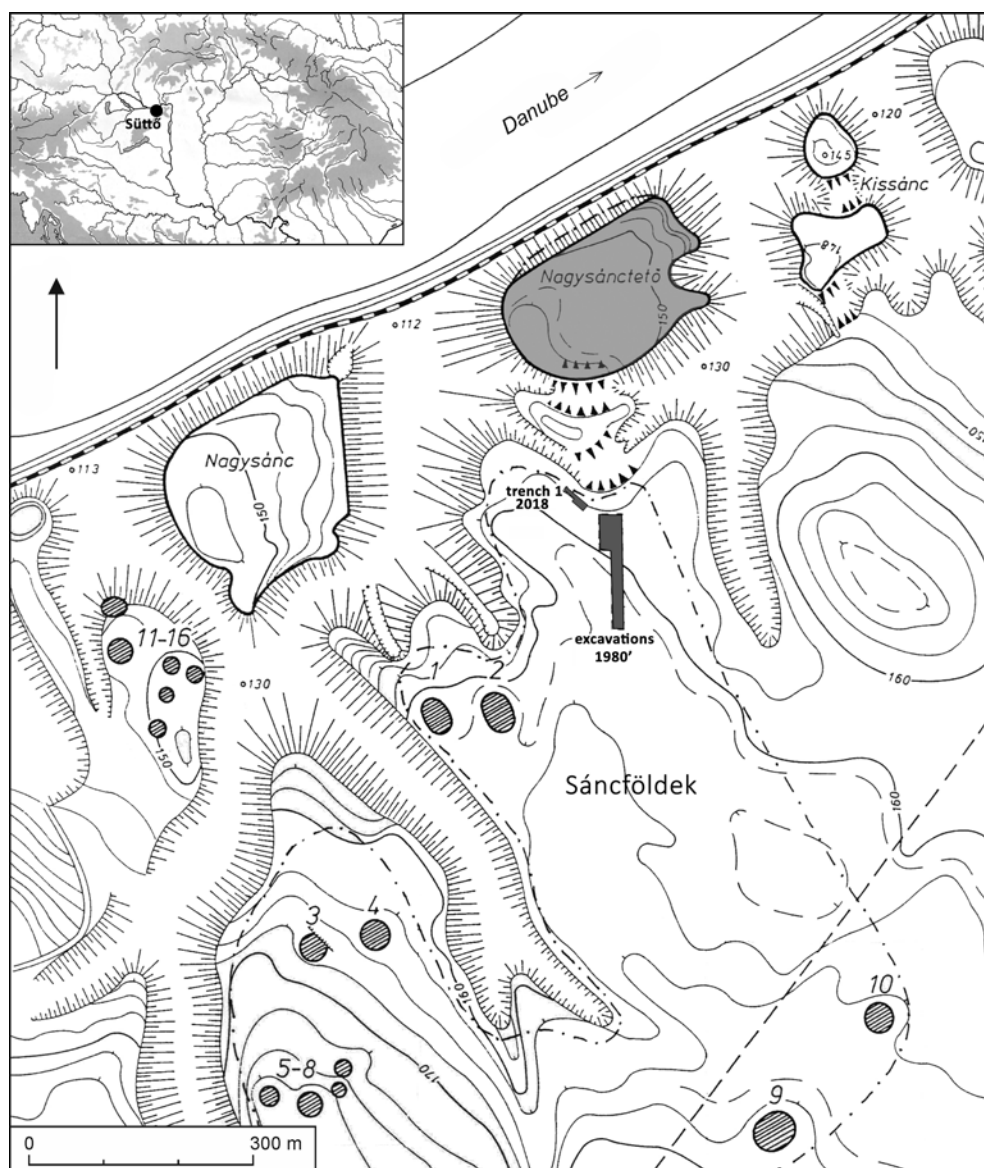


Fig. 1. The prehistoric site complex on the loess plateau east of Sütő. A map by Gy. Nováki (after Czajlik/Novinszki-Groma/Horváth 2015, fig. 7).

colouration with ceramic and bone fragments immediately after removing the topsoil in the first trench, ca. 25–30 cm below the recent surface. On the basis of the scattered burnt bone fragments spotted in the top layer and the proximity of the Early Iron Age cemetery, the feature was presumed to be a grave first, but its function remained uncertain until the material was processed. The nature of the finds associated with the feature suggests that it might not have been a grave but a settlement feature of the EBA (cf. Czajlik *et al.* 2018, 536; 2019, 201).

The shallow, heavily destroyed feature had a round-oval shape and a diameter of approximately 150 cm, although its outline was not

clearly visible everywhere in the soil. A detailed archaeobotanical examination was carried out in the feature: a 50 × 50 cm grid system was established over the pit (units were named from A to L) and soil samples were taken in each unit from every artificial layer that followed each other every 5 cm (Fig. 2). From a depth of 15 cm down to the bottom of the pit, as it became smaller, only four quarters were used to separate the sampling areas. If archaeological observation required, the units were divided into smaller areas to distinguish possible different phenomena. Southeast of the feature, a 50 × 50 cm control unit was opened which provided samples from the 0–5 cm, 5–10 cm, 10–15 cm, 15–30 cm layers. All together

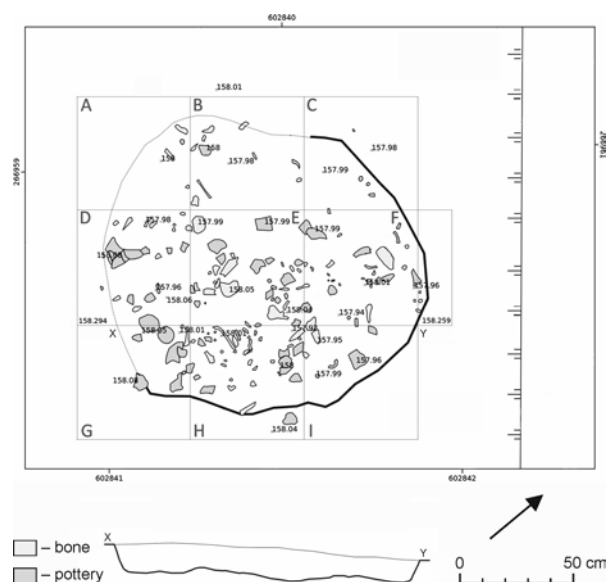


Fig. 2. The excavated feature no. 5 from Süttő-Sáncföldék in 2018. Graphic by A. Bödőcs, E. Fejér.

65 samples were collected from the pit and four control samples were taken.²

The pit contained a large amount of ceramic fragments, animal bones, some human remains, pebbles, daub and a small number of botanical finds.³ Some recent ceramic fragments that were found in the soil samples indicate that the shallow, disturbed pit had a mixed material. The finds were scattered in the pit, their distribution suggests, however, that the centre of the feature could have been in units D, E, G, H. The analysis of the heavy fraction of the soil samples shows a similar distribution. The fill of the feature was homogenous.

The archaeological material

The pit contained 1.7 kg ceramic fragments of which more than 100 fragments were analysed. Over 25 different vessels were identified in the material, none of them was intact.

1. Small, conical, slightly rounded bowl with straight rim and a flat horizontal knob below the rim, flat base. Partly preserved. Tempered with abundant coarsely crushed pebble and crushed pottery. No surface treatment, greyish colour with few reddish spots; dmrim 9 cm, dmbase 4.3 cm, h 3.2 cm, th 0.6 cm [2019.141.78] (Pl. I: 1).
2. Round footring possibly of an interior decorated bowl, no decoration is visible. Fragment. Tempered with finely sorted sand and crushed pebble. Smoothed surface (under later deposition), brownish grey colour; dmbase 7.5 cm, h 2.8 cm, th 0.9 cm [2019.141.85] (Pl. I: 2).

3. Several fragments of a biconical bowl with cylindrical, slightly indrawn neck, outwards thickened rim and flat bottom. Tempered with sand and crushed pebble. Inner surface is smoothed, outer surface on the neck is lightly burnished, otherwise no treatment (later deposition is visible). Grey, brownish grey colour; dmrim 12 cm, dmbottom 9 cm, h 9 cm, th 0.6–0.7 cm [2019.141.77, 2019.141.101, 2019.141.80, 2019.141.70, 2019.141.84, 2019.141.44, 2019.141.52, 2019.141.62] (Pl. I: 3).
4. Fragment of a small conical bowl with outwards thickened rim and a knob attached to the surface directly below the rim. Poor condition, badly preserved. Tempered with sand. Smoothed surface, brownish grey colour; dmrim 11 cm, th 0.4–0.5 cm [2019.141.22] (Pl. I: 4).
5. Neck and body fragments of a mug with tall, curved neck and conical body. Tempered with finely sorted sand and crushed pebble. Outer surface is smoothed, inside is without treatment. Greyish brown colour outside, reddish brown inside; dmbase 5 cm, dmneck 6 cm, h > 10 cm, th 0.4–0.5 cm [2019.141.86, 2019.141.89, 2019.141.91, 2019.141.57, 2019.141.34] (Pl. I: 5).
6. Fragments of a mug with tall, curved neck and slightly thickened rim and conical body. Tempered with sand and crushed pebble. Smoothed surface (under later deposition). Greyish brown colour outside, reddish brown inside; dmrim 8 cm, th 0.4 cm [2019.141.87, 2019.141.88, possibly 2019.141.92–96] (Pl. I: 6).
7. Base and lower fragments of a pot with finely brushed (combed) surface. Tempered with sand and crushed pebble. Outer surface is roughened with combed pattern, inner surface is without treatment. Yellowish brown colour both inside and outside, the core is dark grey; dmbase 10 cm, h > 10 cm, th 0.6 cm [2019.141.74, 2019.141.98] (Pl. I: 7).
8. Fragment of a slightly indrawn neck with finger-impressed cordon. Possibly part of the previously described pot. Tempered with sand. Outer surface is smoothed, inner surface is untreated. Yellowish brown colour both inside and outside, the core is dark grey; size 4 × 5 cm, th 0.6–0.7 cm [2019.141.76] (Pl. I: 8).
9. Fragments of a mug (?) with curved neck and slightly fluted shoulder. Tempered with sand and crushed pebble. Smoothed surface, brown, yellowish-brown colour both inside and outside (in spots with dark grey core); dmrim 9 cm, th 0.5 cm [2019.141.82, 2019.141.69] (Pl. II: 1).
10. Fragments of a funnel shaped neck with everted, thickened rim. Possibly part of a pot or an amphora. Tempered with sand and crushed pebble. No surface treatment/smoothed, homogenous greyish brown colour; dmrim 14 cm, th 0.5 cm [2019.141.81, 2019.141.27] (Pl. II: 2).
11. Body fragments of a large vessel of unknown shape with roughened surface. Tempered with sand and coarsely crushed pebble. There are traces of rough brushing on the outside, no surface treatment inside. Homogenous grey colour; size 2 × 5–6 × 8 cm, th 0.8–0.9 cm [2019.141.67, 2019.141.54, 2019.141.49, 2019.141.73, 2019.141.97, 2019.141.53, 2019.141.32, 2019.141.64] (Pl. II: 3).
12. Body fragments of a large vessel of unknown shape with roughened surface. Tempered with sand and crushed

² The archaeobotanical sampling process was developed by Mária Hajnalová (Constantine the Philosopher University, Nitra) and performed on site together by her and Katalin Novinszki-Groma (Eötvös Loránd University, Budapest).

³ The excavated material is in the inventory of the Balassa Bálint Museum, Esztergom, inv. no. 2019.141.1–103.

- pebble. There are traces of roughening on the outside smoothed surface inside. Yellow colour outside, dark grey inside; size 2 × 2–5 × 8 cm, th 0.8 cm [2019.141.43, 2019.141.36, 2019.141.1, 2019.141.5, 2019.141.100, 2019.141.48, 2019.141.47, 2019.141.53, 2019.141.31] (Pl. II: 4).
13. Large wide strap handle attached directly to the rim of an unknown type vessel. Tempered with sand and crushed pebble. No surface treatment, grey, brownish grey colour; size 5 × 6 cm, th 0.5–0.6 cm [2019.141.79] (Pl. II: 5).
 14. Fragment of the flat base of an unknown type vessel. Tempered with sand and coarsely crushed pebble. Surface is matte, no treatment, grey, brownish grey colour; dmbase 6 cm, th 0.6 cm [2019.141.63, 2019.141.99 (?)] (Pl. II: 6).
 15. Fragment of the flat base of an unknown type vessel. Tempered with sand and coarsely crushed pebble. Surface is matte, no treatment, yellow colour outside, brownish grey inside; dmbase 10 cm, th 0.9 cm [2019.141.83, 2019.141.28] (Pl. II: 7).
 16. Body fragments of a biconical vessel. Tempered with sand and crushed pebble and possibly with grog. Outer surface is smoothed, inner surface is matte without treatment, brown colour outside with reddish brown, greyish spots, dark grey inside; size 5.5 × 4 cm, th 0.5–0.8 cm [2019.141.11, maybe 2019.141.40, 2019.141.17 fragments as well] (Pl. II: 8).
 17. Curved fragment of an unknown type vessel. Tempered with sand and crushed pebble. Surface is matte without treatment, brownish grey colour outside, red inside; size 7 × 7 cm, th 1 cm [2019.141.15] (Pl. II: 9).
 18. Fragment of a secondary burnt (vitrified) rim. Tempered with crushed pebble. Surface is vitrified, grey colour; size 5 × 3.5 cm, th 1 cm [2019.141.20] (Pl. II: 10).
 19. Body fragment of a vessel with combed surface. Tempered with sand and crushed pebble. Outer surface is combed, inner surface is smoothed, homogenous dark grey colour; size 2 × 4 cm, th 0.8–1 cm [2019.141.75].
 20. Body fragment of a vessel with combed surface. Tempered with sand and crushed pebble. Outer surface is combed, inner surface is lightly burnished, yellowish-brown colour outside, dark grey inside; size 3 × 4 cm, th 1 cm [2019.141.79].
 21. Body fragments (3 pieces) of an unknown type vessel. Tempered with sand and crushed pebble. Outer surface is matte without treatment, inner surface is smoothed and lightly burnished, greyish brown colour outside, dark grey inside; size 3 × 3 cm, th 0.5–0.6 cm [2019.141.13, 18, 61].
 22. Body fragment of an unknown type vessel. Tempered coarsely with sand and crushed pebble. Surface is matte without treatment, greyish yellow colour outside, dark grey inside; size 4 × 7 cm, th 0.8 cm [2019.141.16].
 23. Body fragment. Tempered with sand and crushed pebble. Outer surface is matte without treatment, inner surface is lightly burnished, homogenous dark grey colour; size 2 × 4 cm, th 0.7 cm [2019.141.24].
 24. Fragment of a slightly everted rim. Tempered with sand and crushed pebble. Lightly burnished surface, brown-dark grey colour; dmrim 9–11 cm, th 0.5 cm [2019.141.90] (Pl. II: 11).
 25. Body fragment of an unknown type vessel with brushed surface. Tempered with sand and finely crushed pebble. Outer surface is brushed, inner surface is without treatment, brownish grey-grey colour; size 5 × 5 cm, th 0.6 cm [2019.141.54].
 26. Lightly curved body fragment of an unknown type vessel. Tempered with sand and crushed pebble. No surface treatment, yellow colour outside, greyish yellow inside; size 3.2 × 3.7 cm, th 0.6–0.7 cm [2019.141.65].
 27. Lightly curved body fragments of an unknown type vessel. Tempered with sand and crushed pebble. Smoothed surface, greyish brown colour; size 2 × 3–2 × 5 cm, th 0.6 cm [2019.141.49, 73, 55, 37].
 28. Small body fragments (3 pieces) of an unknown type vessel. Tempered with finely sorted sand. Smoothed surface, greyish brown colour; size 2 × 3 cm, th 0.5 cm [2019.141.72, 14].

Animal bones were also unearthed in large quantities: 111 bone fragments (0.7 kg) were documented in the feature. The archaeozoological material has been preserved in a very poor condition. Similarly, to the ceramic findings, the bones were found heavily fragmented. Regarding the species, the material consists mostly of caprines (*Ovis aries* L. – *Capra hircus* L., 58 pieces – 52.25%), and in a smaller amount of cattle (17 pieces – 15.31%) and pig (17 pieces – 15.31%) bones. One single fragment belonged to a horse (*Equus caballus* L.), a dog (*Canis lupus* L.), as well as the Galliformes. Furthermore, three shell fragments were also deposited in the pit.⁴

Some human remains were discovered in the feature: the non-cremated fragment of a rib, as well as of an unidentified long bone were unearthed. Some burnt bone splinters were found, too, but they were most probably not of human origin.

Despite the detailed sampling of the pitfill, very few archaeobotanical data was collected. Only three prehistoric carbonized grain were found: two seeds of wheat/barley (*Triticum/Hordeum*) and one millet seed (*Anicum miliaceum* L.).⁵ The samples from the pit contained large quantities of charcoal, but it was also present (although in smaller amount) in the control units of the sampling area.

Furthermore, the pit contained a few pebbles (sandstone, limestone), some daub fragments (320 g), and more importantly a small flint (2 × 1.5 cm).⁶

Evaluation of the finds

The ceramic material of the pit represents the EBA in Transdanubia. The characteristic features of the finds have parallels in the contemporary material culture of the Carpathian Basin. The footring which possibly belonged to an interior decorated bowl is a representative element of the EBA cultures of the region (Pl. I: 2; *Burger* 1980; *Kalicz* 1984, 96; *Kulcsár* 1998–1999; 2009, 121–141, 308–319; *Vladár* 1966, 285–292; *Vollmann* 2005, 33–87). The mugs with tall, curved neck and conical

⁴ The analysis of the archaeozoological material was carried out by Péter Csippán (Eötvös Loránd University, Budapest).

⁵ The analysis of the archaeobotanical samples was carried out by Máté Mervel (Eötvös Loránd University, Budapest).

⁶ The stone material was examined by Dóra Kürthy (Eötvös Loránd University, Budapest; Kuny Domokos Museum, Tata).

cal body (Pl. I: 5, 6) are usual components of the period's assemblages. They are frequently found in the context of the Somogyvár-Vinkovci culture, but they appear in the material of the Makó-Kosihy-Čaka culture too (Kulcsár 2009, 280–290, fig. 49: I/12; 51: II/7, 8; Vollmann 2005, 48, type Hg5, Gefäße, S1; for analogies see e.g. Esztergom: Bóna 1963–1964, pl. XII: 8, 9; Budapest-Aranyhegyi út: Kalicz-Schreiber 1994, fig. 3: 5, 7, 8). Biconical bowls with short neck and thickened rim (Pl. I: 3) are also common finds on the Makó-Kosihy-Čaka sites (Kalicz 1984, 96, pl. XXI: 11; Kulcsár 2009, 105–120, type VII/20–29; Vollmann 2005, 42, 43, Schüsseln, GS 2; for analogies see e.g. Üllő: Kővári/Patay 2005, fig. 28: 3; 29: 2; Iža: Beljak Pažinová/Beljak 2014, pl. 5: 5). Vessel fragments with slightly thickened rim (Pl. I: 3, 6; II: 2), pots and large storage vessels with roughened, brushed (Pl. II: 3, 4) or combed surface (Pl. I: 7) and with finger impressed cordons (Pl. I: 8) are all typical features of this period (Kalicz 1984, 96, 97, pl. XXII: 9–14; Kulcsár 2009, 90, 91, 141–163, types X–XIV; Vladár 1966, 279–283; Vollmann 2005, 57, pl. 15). Even the less characteristic, small conical bowls (Pl. I: 1, 4) have parallels in the contemporary material of the broader region (Kulcsár 2009, 113, type VII/14; Vollmann 2005, 41, 42, Schüsseln, GS 1, S 4; for analogies see e.g. Nové Zámky: Vladár 1966, fig. 20: 1; Üllő: Kővári/Patay 2005, fig. 29: 1; Iža: Beljak Pažinová/Beljak 2014, pl. 6: 2; or further Thunau: Ruttkay 1995, fig. 32: 11). Large open bowls which are frequently found in similar EBA contexts (Kalicz 1984, 96; Kulcsár 2009, 107–113; Vladár 1966, 278, 279, fig. 31: 1–4; Vollmann 2005, 41, 42) are missing from the pit's repertory. The large handle (Pl. II: 5) and the funnel shaped neck (Pl. II: 2) might have belonged to handled pots and/or an amphora (Kalicz 1984, 96, pl. XXII: 10, 11, 14; Kulcsár 2009, 141–163, types X–XIV; Vollmann 2005, 45–48).

The general characteristics of the excavated pottery are in accordance with the published material of the period. The clay was tempered with sand and crushed pebble, the vessels' surface is mostly matte and smoothed, the coarse ware was brushed or combed and they have brownish-dark greyish colour (Kalicz 1984, 96, 97; Kulcsár 2009, 90, 91; Machnik 1991, 67–74; Vladár 1966, 272–295).

Traditionally, the area around Süttő-Sáncföldék is considered to be part of the distribution area of Makó-Kosihy-Čaka culture (Kulcsár 2009, 16–57; Machnik 1991, 58–62; Vladár 1966, 250–254). However, the cultural attribution of such small EBA assemblages like the one discussed here is problematic in northern Transdanubia, where entanglement was a usual phenomenon in the material culture of the EBA communities (for a summary see Kulcsár 2009, 38–51). The analogies of the finds, neverthe-

less, show strong links with the Makó-Kosihy-Čaka culture.

The archaeozoological material can only be briefly evaluated in this cultural context. Since the data is limited to a single, disturbed feature, the results are not representative enough to give us a real overview about the subsistence strategies pursued on the site. In the EBA Carpathian Basin, the archaeozoological record is usually dominated by cattle finds, but sheep and goat remains also have a high proportion within the excavated material (Gál/Kulcsár 2012; Hajnalová 2012, 47; Kulcsár 2009, 67–69; in some cases results are restricted similarly to a single feature e.g. Balatonkenese-7 Kapuvári Street, Kompolt-Kistér). Although the available data is very scarce in general, some regional variations can still be observed. The dominance of caprines similar to Süttő-Sáncföldék was documented in Csongrád-Sertéstelep (Kulcsár 2009, 67, fig. 9; Vörös 2001) and in several features at Iža too (Beljak Pažinová/Beljak 2014, 120, fig. 5). Pig remains have been also found in various proportions in the settlements of the period. The appearance of dog and horse bones in the excavated feature is not an exceptional phenomenon among the contemporary finds (Csippán 2007, 84, 86; Gál/Kulcsár 2012; Kulcsár 2009, 67–69). Since the mixed ceramic material of the excavated pit indicates recent disturbances, it cannot be ruled out that those species that are represented in the pit by only a single fragment, entered the feature recently due to agricultural activities.

The little botanical evidence from the pit cannot be considered in its wider regional context, since only very limited EBA archaeobotanical data have been published from the Carpathian Basin, and none from the discussed region. The published data indicates that the cultivated species showed great variability depending on the regional environment. Wheat and barley have been grown in the Carpathian Basin since the Neolithic and they have also been found in the EBA assemblages in large quantities (Gyulai 2010, 93–95, Archaeobotanical Database; cf. also a single seed from Vráble-Fidvár: Schlütz/Bittmann 2016, 338). Contrarily, there are much less evidence of millet from this period. Millet was found in small quantity in the EBA sites of Szigetszentmiklós-Vízmű, Budakalász M0/12, Endrőd (Gyomaendrőd) 161 (Gyulai 2010, 416, Archaeobotanical Database). In Slovakia, the earliest remains of millet have been reported from the Middle Bronze Age (Hajnalová 2012, 161–163). The validity of the obtained botanical evidence from the EBA feature at Süttő is weakened by the possible disturbance of the pit. The grains were found in the flotation samples which originate from the upper layers of the feature and therefore they could have

been easily contaminated. The area was inhabited in the Neolithic, the Late Bronze Age, and the Early and Late Iron Age periods as well, and e.g. millet was found in very large quantity in a Late Iron Age feature excavated near the described EBA pit (Czajlik *et al.* 2019, 210).

The burnt bone splinters detected during the excavation are present in such a low amount, that they cannot be evaluated. The two small human bone fragments raise many questions. Although irregular burials, partial or complete human skeletons have been found quite frequently in prehistoric settlement features of the Carpathian Basin (Szeverényi *et al.* 2020; cf. Late Copper Age and Early Bronze Age examples), they have not been reported from the area of the MKČ culture yet. The most common burial practice of the culture is cremation, but inhumation burials also appeared during the younger phase of the culture. The archaeological material of the pit testifies against the interpretation of a burial and the find circumstances do not provide enough evidence for interpreting the human remains as proof of irregular treatment of human remains in the MKČ context. The fact that the shallow pit has been contaminated with high probability due to agricultural activity strengthen the assumption that the human bone fragments originate from a feature of a different period, perhaps from an Early Iron Age cemetery (containing both cremation and inhumation graves, cf. Novinszki-Groma 2017) which is located less than 100 m to the southeast to the excavated EBA pit.

Further Early Bronze Age finds from Süttő-Sáncföldek

In addition to the described EBA feature at Süttő-Sáncföldek, further important evidence is available on settlement activities in the area during this period. In the course of our systematic field surveys which were conducted at the site between 2017 and 2019, no EBA finds were discovered, notwithstanding that the area has been intensively ploughed. The only additional EBA finds which came into light during our fieldwork are some scattered sherds found in the first trench during the excavation in 2018. The most characteristic pieces are:

1. Two small (2 × 2.5 cm, 0.6 cm thick) body fragments of unknown type vessels. Tempered with crushed pebble and sand. Outer surface is combed, inside matte, yellow, greyish brown colour [BBM 2019.155.17; 2019.160.26].

2. A rim fragment of an interior decorated bowl. The top of the rim is decorated with an incised zig-zag line, while inside three parallel lines are visible under the rim. Tempered with sand and crushed pebble. Surface is matte, smoothed, yellowish-brown colour; size 3 × 3 cm, th 0.9 cm [2019.155.72] (Pl. II: 12).⁷

Beside the recent discoveries, further EBA finds have also been identified in the material of earlier excavations on the site. In the 1980's, research was carried out by Éva Vadász and Gábor Vékony in the territory of Süttő-Sáncföldek partly afterwards, partly parallel to the excavations on the hilltop settlement of Süttő-Nagysáncföld. They discovered a large Early Iron Age flat grave cemetery on the site. However, little data was mentioned about features of other periods: some Late Iron Age and Late Bronze Age material was only shortly reported (Vékony 1986b; 1987; for a summary Czajlik/Novinszki-Groma/Horváth 2015, 61, 62). Unfortunately, the excavated material has not been processed and inventoried and the documentation is almost completely missing which makes the reconstruction of the find circumstances almost impossible. Based on the available information, it can be concluded that (at least) two trenches (E30 and E34) which were opened in 1990 revealed EBA material. The position of the trenches can only be assumed. They were situated not more than 100 m, east of the 2018 excavation site (Fig. 1).⁸

From trench E34 various finds were collected in the depth of 0–60 cm which represent different prehistoric periods. The EBA ceramic fragments are the following:

1. Fragment of an interior decorated footed bowl. On the inside it is decorated with hatched triangles and an unhatched cross placed in a circle. The engraved lines are very thin and no traces of incrustation are visible. The vessel was constructed with coil technique: on the outer edge of the fragment the outline of a coil is visible. Tempered with sand and crushed pebble. The surface is lightly burnished both inside and outside, its colour is homogenous dark grey; size 11 × 4.5 cm, th 1 cm (Pl. III: 1).
2. Fragment of an interior decorated footed bowl. On the inside it is decorated with multiple parallel lines forming a large X shape (triangles facing each other). The engraved lines are very thin and no traces of incrustation are visible. The vessel was constructed with coil technique: on the outer edge of the fragment the outline of a coil is visible. Tempered with sand and crushed pebble. The surface is lightly burnished both inside and outside, its colour is homogenous dark grey; size 5.5 × 3 cm, th 0.9 cm (Pl. III: 2).
3. Fragment of an interior decorated footed bowl. The sherd possibly belonged to the central area of a bowl.

⁷ Its fabric is different from the one found in the pit and described above.

⁸ <https://www.fentrol.hu/hu/legifoto/165785?r=1&c=2050130.4530659998:6065041.013718501:8> [16. 5. 2022] – The location of the trench was estimated on the basis of an aerial photograph taken from the site in October 1990.

Its thickened and undecorated central part is bordered by an engraved line. Part of a hatched triangle is visible outside of this line. The engraved lines are very deep. Tempered with sand and crushed pebble. The surface is lightly burnished outside and very worn inside, its colour is dark grey inside and brownish grey outside; size 5 × 5.5 cm, th 0.8–1.3 cm (Pl. III: 3).

4. Fragment of the closed and hollow foot of an (interior decorated) footed bowl. No decoration is visible in the inside. The vessel was constructed with coil technique. Tempered with sand and crushed pebble. The surface of the foot is lightly burnished, the surface of the bowl is burnished. The outside colour of the foot is brown with grey patches, the inside of the bowl is dark grey; dm_{bottom} 7 cm, h 4.5 cm, th 1 cm (Pl. III: 4).
5. Two body fragments of an unknown type vessel with brushed surface. Tempered with sand, crushed pebble, and probably also with grog. No surface treatment inside, brushed and worn surface outside, brown-colour with grey patches both inside and outside; size 8 × 5.5 cm and 5 × 5 cm, th 0.8 cm (Pl. III: 5).
6. Fragment of a vessel with lightly indrawn neck and straight rim. The remains of a handle are visible between the rim and neck. Tempered with sand and crushed pebble. Smoothed surface both inside and outside, dark grey colour; size 6 × 4 cm, th 0.5 cm (Pl. III: 6).

Further EBA finds were unearthed in trench E30, probably from a pit. A box containing the label '1st pit' included several dozens of different ceramic fragments, most of which are not diagnostic but some belong undoubtedly to the EBA:

1. Fragment of an interior decorated footed bowl. The edge of the rim is decorated with a zig-zag line, while the interior area is bordered by three concentric lines. On the left side of the fragment, the detail of a small hatched area is visible, bordered on one side by the concentric lines and on another side by three oblique lines, a row of dots and three additional oblique lines. The outer side of the last line is supplemented with short notches. Similar short lines are visible at the bottom edge of the interior of the fragment too. The decoration was carried out by using jabs which are clearly visible on the worn surface. No traces of incrustation can be observed. Tempered with sand and crushed pebble. The surface is smoothed but worn both inside and outside, it has dark grey colour; size 7 × 5 cm, dm 18–22 cm, th 1.1 cm (Pl. III: 7).
2. Fragment of a vessel with slightly everted neck and straight rim. Tempered with sand and crushed pebble. Outer surface is smoothed/lightly burnished, no treatment inside, dark grey colour with brown patches; size 6 × 4 cm, th 0.8 cm (Pl. III: 8).
3. Fragment of a vessel with straight rim. Tempered with sand, crushed pebble and probably also with grog. Outer surface is smoothed/lightly burnished, no treatment inside, dark grey colour with brown patches; size 3 × 4 cm, th 0.8 cm (Pl. III: 9).
4. Two neck and shoulder fragments of a vessel with indrawn neck and spherical body. Tempered with sand and crushed pebble. Outer surface is burnished, no treatment inside, brownish grey colour; size 3 × 4, 4 × 4 cm, th 0.4–0.5 cm (Pl. III: 10).

5. Body fragment with a large wide handle. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, brown–grey patchy colour outside and reddish-brown inside; size 6 × 6 cm, th 0.7 cm (Pl. III: 11).
6. Fragment of a large wide handle. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, brown-grey patchy colour outside, reddish brown inside; size 6 × 5.5 cm (Pl. III: 12).
7. Body fragment of an unknown type vessel with brushed surface. Tempered with sand and crushed pebble. Outer surface is brushed, inner surface is smoothed, brown colour outside and dark grey inside; size 6 × 4 cm, th 0.6 cm (Pl. IV: 1). Several similar fragments of at least nine different vessels were also part of the material.
8. Fragment of a vessel with slightly indrawn neck and a horizontal knob under the rim. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, brown-grey patchy colour; size 5 × 3 cm, th 0.6 cm (Pl. IV: 2).
9. Fragment of a vessel with thickened out rim and slightly indrawn neck. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, yellow-grey patchy colour both on the inner and outer surface and dark grey in the core; size 4.5 × 4 cm, th 0.5 cm (Pl. IV: 3).
10. Body fragment of an unknown type vessel with a flat, oval knob. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, reddish brown colour outside and brown inside; size 2 × 3 cm, th 0.4–0.5 cm (Pl. IV: 4).

EARLY BRONZE AGE SITES AND ASSEMBLAGES IN THE AREA OF SÜTTŐ

The available information on EBA sites in the microregion around Süttő-Sáncföldek derives from various sources. Some short Hungarian archaeological reports and the systematic topographic research of the 1950–60's in Northeast Transdanubia provide the basic data on EBA finds from the region (*Horváth/H. Kelemen/Torma* 1979), which can be supplemented with the results of several rescue excavations in Southwest Slovakia (*Fig. 3; Beljak Pažinová/Beljak* 2014; *Nevizánsky* 2001; *Novotný* 1955; *Vladár* 1966). The material of these reported sites has remained unpublished in the majority of cases.

Süttő-Nagysáncstető

The nearest site with EBA finds has been reported from the prehistoric hilltop settlement of Süttő-Nagysáncstető, located next to Sáncföldek (*Fig. 1*). It was inhabited and (re)fortified several times throughout the Neolithic, Bronze Age and Early Iron Age. Excavations were carried out on

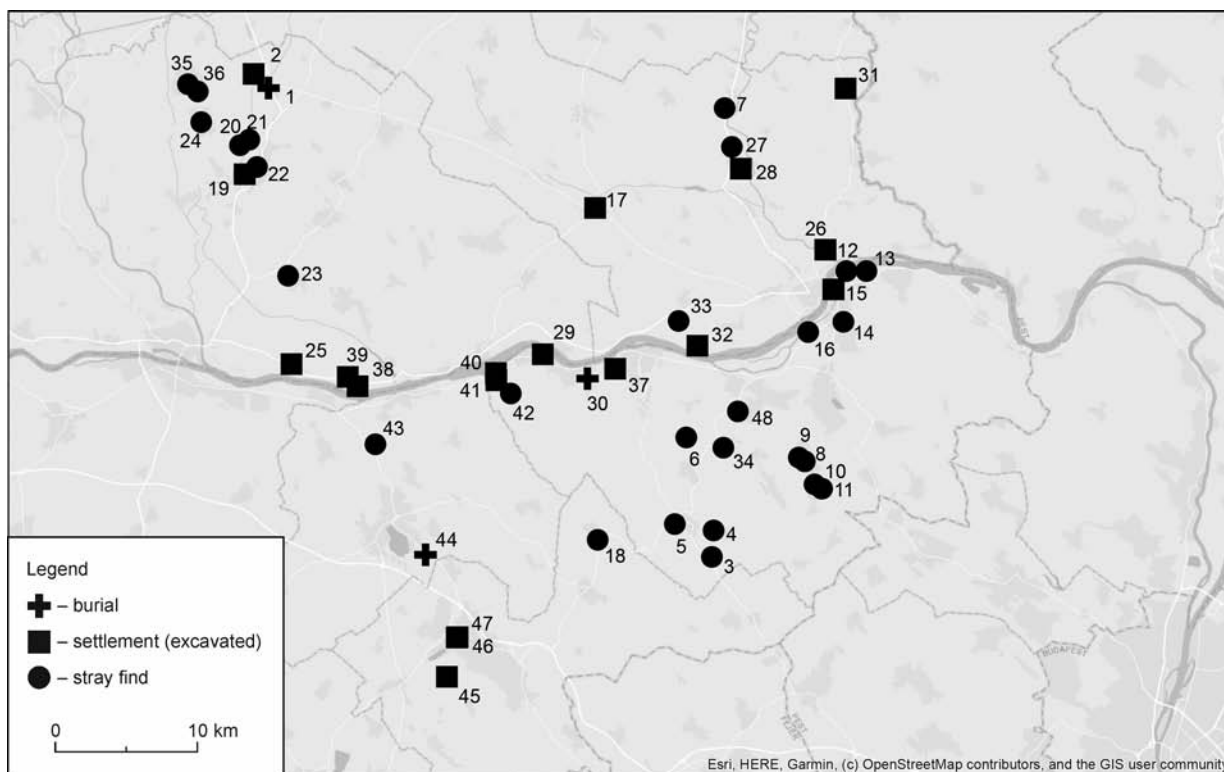


Fig. 3. Early Bronze Age sites in the broader region of Süttő. 1 – Bajč-Medzi kanálmi; 2 – Bajč-Vinohrady; 3 – Bajna-Kovácsi-hegy; 4 – Bajna-Öreglyuk; 5 – Bajna-TSz major; 6 – Bajót-Péliföldszentkereszt V; 7 – Bíňa; 8 – Csolnok-Annayölgyi út; 9 – Csolnok-Hinter den Garten; 10 – Csolnok-Szedres; 11 – Dág-Kiscsévpuszta; 12 – Esztergom-Duna-dűlő; 13 – Esztergom-Kistói-földek; 14 – Esztergom-Kovácsi; 15 – Esztergom-Szentgyörgymező; 16 – Esztergom-Szentkirályi I; 17 – Gbelce; 18 – Héreg-Fekete Gyémánt; 19 – Hurbanovo-Bacherov; 20 – Hurbanovo-Bohatá-Klempnerpart; 21 – Hurbanovo-Bohatá-Pálmajer; 22 – Hurbanovo-Sandmine; 23 – Chotín-Simitós; 24 – Imeľ-Betyárpuszta; 25 – Iža-Ďatelinová ulica; 26 – Kamenica nad Hronom; 27 – Kamenín; 28 – Kamenín-Kiskukoricás; 29 – Lábatlan-Hosszú földek; 30 – Lábatlan-Rózsa Ferenc utca; 31 – Malé Kosihy; 32 – Mužla-Čenkov; 33 – Mužla-Svätojurský vnútorný hon; 34 – Nagysáp-Esztergomi úti; 35 – Nesvady-Pethágó; 36 – Nesvady-Rókalyuk; 37 – Nyergesújfalu-Józsefpuszta; 38 – Patince-Danube bank; 39 – Patince-Teplica; 40 – Süttő-Nagysáncstető; 41 – Süttő-Sáncföldek; 42 – Süttő-Tatai úti dűlő II; 43 – Szomód-Felsőgyep; 44 – Tata-Tófarok; 45 – Tatabánya-Bikás rét; 46 – Tatabánya-Dózsakert; 47 – Tatabánya Réti út; 48 – Tokod-Két-Nyárfa-dűlő (after Beljak Pažinová/Beljak 2014; Kulcsár 2009; Kuzma 2011b; Nevizánsky 2001; Vladár 1966).

the site by G. Vékony and É. Vadász between 1979–1986⁹ (Vadász/Vékony 1980; 1981; Vékony 1982; 1983; 1984; 1986b; 1987), but detailed publication of the campaigns was not released and the available documentation is incomplete (not including all seasons and trenches) which make it difficult to reconstruct their results properly. Furthermore, a large part of the excavated material has been mixed, missing or still waiting to be identified in the deposit of the Balassa Bálint Museum (Esztergom). The excavators claimed in various publications that several features (buildings?) of the Makó culture were recorded on the site and the settlement was probably already fortified during this period (Vékony 1986a, 260; 1988, 71; 2000, 178;

Vékony/Vadász 1982). Currently, no EBA material can be identified among the finds from the site stored in the BBM.

Süttő-Tatai úti dűlő II

In the course of the fieldwork of the Hungarian Topographical Research Project in 1968, István Horváth and István Torma discovered some possible remains of EBA settlement approximately 1.5 km southeast of Süttő-Sáncföldek and Süttő-Nagysáncstető. The site called Süttő-Tatai úti dűlő II is located on a small elevation, close to the stream Bikol (Horváth/H. Kelemen/Torma 1979, 315, site no.

⁹ There is not any evidence suggesting that the excavations in the hilltop area continued after these years, although the territory of Sáncföldek had been researched until 1990 (cf. Vékony 2000, 178).

20/13; Kulcsár 2009, 202, site no. 230). Only survey finds indicated the inhabitation. The collected diagnostic material is the following:¹⁰

1. Fragment of an interior decorated footed bowl. The rim is rounded and undecorated. Below the rim on the interior of the vessel, three parallel concentric lines have been engraved, together with hatched triangles that were directly attached to them. The triangles are bordered with three oblique lines. Remains of white incrustation are visible in the deep engraved lines, where it is missing, jab-like (string?) imprints can be observed. On the outer side, remains of a knob can be observed. Tempered with sand and crushed pebble. The surface is lightly burnished both inside and outside, it has yellowish brown colour; size 6.5 × 5.5 cm, dm ca. 26 cm, th 0.9 cm [BBM 70.184.1] (Pl. IV: 5).
2. Fragment of an interior decorated footed bowl. The rim is rounded and undecorated. Below the rim on the interior, three parallel concentric lines have been engraved. Underneath three elongated hatched triangles are visible in a windmill-like pattern. Remains of brownish white incrustation can be observed in the lines. The concentric lines seem to be dashed due to the degradation of the surface. Tempered with sand and crushed pebble. The surface is heavily worn both inside and outside, it has brownish grey colour; size 5 × 3.5 cm, th 1 cm [BBM 70.184.1] (Pl. IV: 6).
3. Fragment of a vessel with distinctive shoulder, slightly flaring neck and thickened rim. Tempered with sand and crushed pebble. The surface of the neck is smoothed both inside and outside, below the shoulder no treatment is visible, its colour is brown, brownish grey both on the outer and inner surface and dark grey in the core; size 3.5 × 5 cm, th 0.4 cm [BBM 70.184.2] (Pl. IV: 7).
4. Fragment of a vessel with straight neck and thickened rim. Tempered with sand and crushed pebble. Outer surface is lightly burnished, inner surface is smoothed, it has dark grey colour; size 5.5 × 4 cm, dm ca. 15–17 cm, th 0.5–0.7 cm [BBM 70.184.3] (Pl. IV: 8).
5. Body fragment of an unknown type vessel with brushed surface. Tempered with sand and crushed pebble. Outer surface is brushed, inner surface is smoothed, its colour is dark brown and grey outside, brown-grey patchy inside; size 4.5 × 4.5 cm, th 0.6 cm [BBM 70.184.4] (Pl. IV: 9).
6. Body fragment of an unknown type vessel with brushed surface on the lower part and with a flat horizontal knob. Tempered with sand and crushed pebble. The lower part of the outer surface is brushed, the upper part of the outer surface and the entire inner surface are smoothed, dark grey colour; size 5 × 4 cm, th 0.7 cm [BBM 70.184.4] (Pl. IV: 10).
7. Base fragment of a large vessel with roughly brushed surface. Tempered with sand and crushed pebble. Outer surface is brushed, no treatment inside, its colour is brown-grey patchy on the outside and dark grey on the inside; dm 22 cm, th 1 cm [BBM 70.184.5] (Pl. IV: 11).

Lábatlan-Hosszú földek (formerly Süttő-Vasúti őrház)

Another nearby EBA site was excavated and reported from the eastern edge of the recent settlement of Süttő, at Lábatlan-Hosszú földek where Nándor Kalicz conducted excavations in June 1959. He discovered features both from the Neolithic, Copper Age, Early Bronze Age and Late Iron Age. EBA material was unearthed in three pits (in the second and fourth trenches, approx. 80 m apart from each other), however, diagnostic finds were discovered only in one of the features (Horváth/H. Kelemen/Torma 1979, 245, site no. 10/6; Kalicz 1960, 18; Kulcsár 2009, 195, site no. 165).¹¹

Feature II/γ was a round pit, which had a diameter of 140 cm, almost straight sides and a flat base in a depth of 49 cm. According to the excavation report, it contained a large quantity of non-diagnostic sherds and a fragment of a grinding stone. The inventoried ceramic material from this feature is the following:

1. Fragment of an interior decorated footed bowl. The rim is straight, slightly thickened and its upper part is decorated with a row of incised circles. In the interior, four approximately horizontal lines run parallel to the rim and three oblique lines are attached to the lowest one. On the outer side of the fragment, a horizontal knob can be observed below the rim. Tempered with sand, crushed pebble and grog. The surface is lightly brushed both on the inside and on the outside, its colour is brownish grey; size 3 × 3 cm, th 1.1 cm [BBM 71.37.56] (Pl. V: 1).
2. Fragment of a vessel with indrawn neck and thickened rim. Tempered with sand and crushed pebble. Outer surface is smoothed, no treatment inside, brownish grey colour; dm ca. 10 cm, th 0.5 cm [BBM 71.37.57] (Pl. V: 2).
3. Fragment of a narrow base with brushed surface. Tempered with sand, crushed pebble and grog. Outer surface is brushed and worn, inner surface is smoothed, its colour is yellowish brown on the inner and outer surface and dark grey in the core; dm ca. 10 cm, th 1 cm [BBM 71.37.59] (Pl. V: 3).
4. Body fragment of an unknown type vessel with combed surface and a crescentic rib placed on the shoulder. Tempered with sand and crushed ceramic. The lower part of the outer surface is combed, the upper part lightly burnished, the inner surface is smoothed, its colour is yellow-brown patchy on the outside and dark grey on the inside; size 8 × 8 cm, th 0.5 cm [BBM 71.37.58] (Pl. V: 4).
5. Spherical body fragment of a vessel with distinctive shoulder and the remains of a handle. Tempered with sand and crushed pebble. Surface is smoothed both on the inside and outside, colour is brown-grey patchy on

¹⁰ The finds are inventoried and stored in the Balassa Bálint Museum, Esztergom.

¹¹ Five trial trenches were opened. The documentation of the excavation is kept in the Archive of the Archaeological Institute in the Research Centre for the Humanities of the Eötvös Loránd Research Network. The finds are inventoried and stored in the Balassa Bálint Museum, Esztergom.

the surface and dark grey in the core; size 6 × 7 cm, th 0.6–0.7 cm [BBM 71.37.60] (Pl. V: 5).

- 6–9. Non-diagnostic body fragments of four different vessels of unknown type with brushed surface. Tempered with sand and crushed pebble. Outer surface is brushed, inner surface is without treatment or smoothed, colour is brown, brownish grey, in one case with dark core [BBM 71.37.59].

Feature IV/α had a similar shape with rounded, straight sides and flat base. Its diameter was 138 cm, its depth was 70 cm. It had been partially destroyed by the river Danube and contained only very few EBA sherds:

1. Fragment of a vessel with indrawn neck and thickened out rim. Tempered with sand and crushed pebble. Surface is smoothed both on the inside and outside, brownish grey colour; size 4 × 4 cm, th 0.6–0.7 cm [BBM 71.37.55] (Pl. V: 6).
2. Two fragments of a vessel of an unknown type with brushed surface. Tempered with sand and crushed pebble. The outer surface is brushed, the inner surface is smoothed, its colour is reddish brown both on the inside and outside and dark grey in the core; size 7 × 4.5 cm, 5 × 3.5 cm, th 0.8–0.9 cm [BBM 71.37.53, 71.37.54].

Feature IV/β also had a rounded outline, flat base and straight sides narrowing downwards. It had a diameter of 150 cm and a depth of 42 cm. The larger part of the pit was demolished by the river. In the depth of 20–25 cm, daub pieces were unearthed which, according to N. Kalicz's view, could have been secondarily deposited remains of an oven. The following EBA ceramic fragments were discovered in the pit:

1. Fragment of a vessel with curved, indrawn neck, everted, thickened rim and a double knob below the rim. Tempered with sand, crushed pebble, and possibly with crushed grog. Outer surface is smoothed, no treatment on the inside, reddish brown colour on the outside, dark brown on the inside; dm 18 cm, th 0.7 cm [BBM 71.37.63] (Pl. V: 7).
2. Fragment of an open bowl with straight, thickened rim. Tempered with sand, crushed pebble and grog. Outer surface is smoothed, inner surface is burnished, brown-grey patchy colour; size 3 × 4 cm, th 0.5–0.6 cm [BBM 71.37.61] (Pl. V: 8).
3. Non-diagnostic body fragment of a vessel of unknown type. Tempered with sand and crushed pebble. The outer surface is smoothed, no treatment on the inside, brown-grey patchy colour; size 7.5 × 2.5 cm, th 0.4–0.6 cm [BBM 71.37.64].
- 4, 5. Non-diagnostic body fragments (four pieces) of two different vessels with brushed surface. Tempered with sand and crushed ceramics. The outer surface is brushed, no treatment inside, dark grey and brownish red-grey patchy colour; size 3 × 4–5 × 10 cm, th 0.5–0.8 cm [BBM 71.37.65].

6. Fragment of a biconical vessel (mug). Tempered with sand, crushed pebble, and probably with crushed ceramics. Outer surface is lightly burnished, inner surface is smoothed, brownish grey colour on the outside, dark grey on the inside; size 5 × 2 cm, th 0.4 cm [BBM 71.37.62] (Pl. V: 9).
7. Three fragments of a vessel with slightly indrawn neck and straight, thickened rim. Tempered with sand, crushed pebble and grog. Surface is smoothed (but mostly broken off) both on the inside and outside, brownish red colour; size 5 × 4 cm (dm > 14 cm), th 0.6 cm [BBM 71.37.66] (Pl. V: 10).

Some ceramic fragments with brushed surface were collected from the first trench as well. The following sherds can be possibly dated to the EBA:

1. Body fragment of a large vessel with brushed surface. Reused probably as a loom weight: rounded shape with a perforation in the centre. Tempered with sand, crushed pebble and grog. Outer surface is brushed but heavily worn, inner surface is heavily worn, its colour is reddish brown on the outside, and greyish brown on the inside; dm 7 cm, th 1 cm, dm_{perforation} 1 cm [BBM 71.37.51] (Pl. V: 11).
2. Lower part of a vessel with straight, narrow bottom and widely opening base. Tempered with crushed pebble. Outer surface is roughly brushed, no treatment inside, yellowish brown colour on the outside, dark grey on the inside, and brownish yellow in the core; dm 11.5 cm, th 1.1 cm [BBM 71.37.52] (Pl. V: 12).
- 3–5. Three fragments of three different vessels of unknown types with brushed surface. Tempered with sand and crushed pebble. Outer surface is brushed, inner surface is smoothed, brown, red and grey colour; size 3.5 × 4–7 × 7.5 cm [BBM 71.37.52].

Lábatlan, Rózsa Ferenc utca

In 1969 Gábor Vékony collected a small prehistoric assemblage which had been found earlier by István Verbánszky in Lábatlan, Rózsa Ferenc Street, in a depth of 130 cm during sewerage constructions. Since the area was densely in-built, no rescue excavation could have been conducted (*Horváth/H. Kelemen/Torma* 1979, 247, site no. 10/17; *Kulcsár* 2009, 195, site no. 166; *Vékony* 1970a, 9).¹² The assemblage contained a large amphora-shaped urn with cremated human remains, two mugs and two bowls:

1. Large biconical vessel (fragmented, neck is missing) with a horizontal oblong knob in the centre and with V shaped ribs connected by four button-shaped knobs on the upper part. Tempered finely with sand. The outer surface is smoothed but worn, no treatment inside, grey-brown patchy colour; h 23 cm, dm_{neck} 9.7–10 cm, dm_{base} 13 cm, th ca. 0.7 cm [BBM 71.2.1] (Pl. VI).

¹² The documentation is kept in the Archive of the Hungarian National Museum. The finds are in the inventory of the Balassa Bálint Museum, Esztergom, with the exception of the human remains, which are missing.

2. Biconical mug with long neck and one handle connecting the shoulder and the neck directly below the rim (handle missing). Tempered with sand and crushed pebble. Outer surface is lightly burnished but worn, grey, grey-brown patchy colour; h 10 cm, dm_{rim} 5.1 cm, dm_{base} 3.5 cm, th ca. 0.4–0.5 cm [BBM 71.2.2] (Pl. VII: 1).
3. Biconical mug with long neck and one handle connecting the shoulder and the rim (handle missing). Tempered with sand and crushed pebble. Outer surface is lightly burnished but worn, grey, grey-brown patchy colour; h 9.5 cm, dm_{rim} 5.5 cm, dm_{base} 3.5 cm, th ca. 0.4–0.5 cm [BBM 71.2.3] (Pl. VII: 2).
4. Conical bowl with thickened rim and three horizontal knobs on the rim. Each knob is decorated with three vertical cuts. Tempered with sand and crushed pebble. Outer surface is lightly burnished but worn, inner surface is very worn, brownish grey colour; h 5.2–5.6 cm, dm_{rim} 13–13.5 cm, dm_{base} 5–5.5 cm, th 0.5–0.8 cm [BBM 71.2.4] (Pl. VII: 3).
5. Fragmented conical bowl with thickened rim and three knobs on the rim. Tempered with sand and crushed pebble. Outer surface is lightly burnished and worn, inner surface is smoothed but very worn. Its colour is brownish red with greyish patches; h 7.1 cm, dm_{rim} ca. 18 cm, dm_{base} 6 cm, th 0.6–1 cm [BBM 71.2.5] (Pl. VII: 4).

DISCUSSION

Material culture

The above-described small assemblages from the Süttő microregion fill a gap in our knowledge regarding the EBA history of the area, although several further finds are still waiting to be processed. Fig. 3 represents the location of the registered EBA sites around Süttő within a radius of ca. 25 km. It clearly shows how incomplete information we still have on this subject.

These sites are quite small, ranging from some surface finds to no more than three features per site, which corresponds with the situation in other areas where most of the excavated settlements of this period yielded similar number of features (Kulcsár 2009, 61, 62, fig. 8; Machnik 1991, 62–64; Tóth 2004; Vladár 1966, 254–266) and the burials were also usually solitary (Kulcsár 2009, 71–75; Machnik 1991, 64–66; Vladár 1966, 266–271).

The finds known to us from the Süttő region consist almost entirely of pottery; neither the settlement features nor the documented burial contained other types of objects. The only exceptions are a small flint blade from Süttő-Sáncföldék and a shaft-hole

axe which was reported as a stray find from Süttő. The later find, now missing, probably represents the Kömlöd type axes which could occur in MKČ contexts, and therefore it can be undoubtedly linked to the EBA (Dani 2013; Kővári/Patay 2005, 121; Kulcsár 2009, 168–169; Mozsolics 1967, 13–16).¹³ In general, metal artefacts, clay, bone and stone implements are rare in the assemblages of this period (Kulcsár 2009, 164–170; Vladár 1966, 295–298). In cases of some larger settlements, a selective deposition was suggested: e.g. at Mužla-Čenkov and Iža most of the pits contained only pottery in low amount. However, one feature had abundant finds, including different types of artefacts (Beljak Pažinová/Beljak 2014, pit no. 31; Kuzma 2011a, 82, feature no. 70).

A detailed typological analysis is hampered by the low amount and high fragmentation of the material, but the following vessel types could be identified during the typological classification of the settlement material.¹⁴

Storage jars and cooking pots were found in each mentioned assemblage, they are one of the most frequent wares in the MKČ area. This category is represented by large base or body fragments with roughened surface (Pl. I: 7; II: 4, 7; V: 3, 5–7), probably the large wide stripe handles (Pl. II: 5; III: 11, 12), the narrowing neck with thickened rim (Pl. IV: 2; cf. Beljak Pažinová/Beljak 2014, pl. VII: 6, 7; are described as flasks, however they are bigger as the category 'flask' determined by Kulcsár 2009, 103, 104, type IV), the funnel-shaped neck fragment with thickened rim (Pl. II: 2; cf. Kulcsár 2009, 144–154, type X/4; XIII/2) and some straight neck fragments with thickened rim belong also to such types of vessels (Pl. IV: 3, 8; V: 7; Beljak Pažinová/Beljak 2014, 97, 120, 121; Kővári/Patay 2005, 105–108; Kulcsár 2009, 141–154, types X–XIII; Vladár 1966, 279–283).

Biconical bowls are also present in the material: one almost complete vessel (Pl. I: 3) and several curved fragments (Pl. II: 8; IV: 4; V: 4) possibly represent this vessel type (Kalicz 1984, 96; Kulcsár 2009, 113–118, type VII). Conical bowls are usual element of EBA assemblages, however in this material they have only two small (Pl. I: 1, 4) and one larger (fragmented) specimen (Pl. V: 8; Kulcsár 2009, 107–113, 120, 121, type VII; VIII; Vollmann 2005, 41, 42, Schüsseln, GS 1).

Mugs can be identified in the material of only one site: two fragments represent a type with conical lower part and long, lightly curved neck (Pl.

¹³ The axe was purchased by the Hungarian National Museum from József Fejér in 1906. According to the seller, it was found in Süttő. Currently the object cannot be identified in the museum's collection. The only visual information on the axe is a small sketch in the inventory book of the museum (HNM, inv. no. 4/1906).

¹⁴ The typological classification is based mainly on Kulcsár (2009), but additional categories of Vladár (1966) and Vollmann (2005) were also considered. Vollmann's system cannot be properly applied to heavily fragmented materials.

I: 5, 6), while another fragment resembles a type with short neck and wider shoulders (Pl. II: 1; on the first type, see above, generally cf. *Kulcsár 2009*, 91–98, type I; *Vollmann 2005*, 45, 46, Hochgefässe: 48–50, Krüge).

Interior decorated footed bowls were discovered on each site, but only in heavily fragmented condition (Pl. I: 2; II: 12; III: 1–4, 7; IV: 5, 6; V: 1). They are widespread elements of the Late Eneolithic and EBA material culture in the Carpathian Basin. In western Slovakia and in Transdanubia they are frequently found on the settlements attributed to the MKČ culture (*Burger 1980*; *Kulcsár 1998–1999*; *2009*, 124–126, 308, fig. 26; 57).

Although these bowls are very fragmented (*Vollmann's* preservation categories 3–4–5; *Vollmann 2005*, 40), some limited typological observations can still be made. At Süttő-Sáncföldek and Lábatlan-Hosszúföldek two fragments were unearthed, which have decoration both in the interior side and at the rim of the bowls. This placement of the decorative pattern is a less common feature in the area of the MKČ culture. Rim decoration is more frequently found on the finds connected to the Somogyvár-Vinkovci culture. However, they are reported from several sites of the MKČ culture in Eastern Hungary and from Slovakia as well (*Kulcsár 2009*, 128, 132, 314, 315; cf. Branč: *Vladár 1966*, fig. 33: 3, 4; Patince: *Cheben 1998*, fig. 4: 8). In our material, the rims were incised with zig-zag lines in two cases (Pl. II: 12; III: 7; for similar finds see Debrecen-Szövetkezeti szőlőtelep: *Kulcsár 2009*, fig. 30: 9; Tápiószele: *Dinyés 1973*, pl. II: 8; Letenye: *Kulcsár 2009*, pl. 36: 1), and with small circles in a single case (Pl. V: 1; for similar finds see Dunaszentpál-Bolgányi út: *Figler 1996*, pl. I: 1; Somogyvár-Kupavárhegy: *Kulcsár 2009*, pl. 23: 2, 3; 24: 5). The fragments from Süttő-Tatai úti dűlő were decorated only on the interior side. In case of two specimen from Süttő-Tatai úti dűlő (Pl. IV: 5) and Lábatlan-Hosszúföldek (Pl. V: 1), flat knobs were placed below the rim on the outside, which is also a less frequent element among the culture's pottery repertoire (*Kulcsár 2009*, 128; but see some exceptions e.g. from Bajč: *Cheben 1998*, fig. 4: 5; Iža: *Beljak Pažinová/Beljak 2014*, pl. I: 1; Čaka: *Vladár 1966*, fig. 32). Foot fragments were found only at Süttő-Sáncföldek: they probably belonged to interior decorated bowls but none of them bear decoration. One of the fragments belongs to a round foot-ring (Pl. I: 2), the other is a rounded, closed, hollow foot (Pl. III: 4). The round foot-ring is generally known in this period, but the other foot shape is a unique solution (*Burger 1980*; *Kulcsár 2009*, 132–137, 315, 316; *Vollmann 2005*, 51, 73–75).

The interior side of the bowls were usually decorated with one to three horizontal lines under the rim and around the centre. The inner area is divided into four triangular sections, which were filled with various combination of hatched triangles or squares, leaving a star-shaped area empty (Čaka type: *Burger 1980*; *Kulcsár 2009*, 128; *Vollmann 2005*, 54–56, pl. 12–14). Although very few vessels have been published from Northeast Transdanubia and Southwest Slovakia, this decorative pattern seems to have been quite common in the area (e.g. Bajna-TSz major: *Horváth/H. Kelemen/Torma 1979*, site I/47, pl. 9: 8; Tata-Tófarok: *Kalicz-Schreiber 1994*, fig. 13: 7; Mužla-Čenkov: *Kuzma 2011a*, fig. 7: 1–4, 6; *Kuzma/Hanuliak 1990*, fig. 4: 4; Kamenín: *Novotný 1955*, fig. 2: 5; Kamenín-Kiskukoricás: *Nevizánsky 2001*, pl. I: 1–8; Nové Zámky: *Vladár 1966*, fig. 22). The horizontal lines below the rim are visible on several fragments (e.g. Pl. IV: 5), while one fragment possibly shows the central circle (Pl. III: 3). Hatched triangles can be observed on many pieces. However, the entire motif has not been preserved. Stripes with dots and small notches on the outer side of the lines (see a fragment from Süttő-Sáncföldek, Pl. III: 7) are less common elements (similar but not identical motifs are seen on some bowls from Branč: *Vladár 1966*, fig. 33: 4; Bajč: *Vladár 1966*, fig. 33: 6; Ivanka pri Nitre: *Novotný 1955*, fig. 8: 1). The unhatched cross inside a hatched circle from Süttő-Sáncföldek (Pl. III: 1) is not a popular pattern in the MKČ area, but it has parallels within the material of the Somogyvár-Vinkovci culture (*Kulcsár 2009*, 316; e.g. Somogyvár-Kupavárhegy: *Kulcsár 2009*, pl. 15: 8; 17: 1; 25: 1; 26: 10; Dombóvár: *Kulcsár 2009*, pl. 42: 2, 3).

The decorative patterns were created with various techniques: while some decorations were made with a *Furchenstich*-like ('stab-and-drag') method, others are simply incised lines. In some cases, lime-encrustation is still visible in the indentations.

Regarding the Lábatlan assemblage, the intact mugs, bowls and the amphora-like vessel from the grave are hard to be compared with the heavily fragmented settlement materials. Nevertheless, some attributes of the burial finds (fabric, surface treatment and colour) resemble the features of the above described settlement finds.

Although mugs of different size and shape have been often found in the burials of the MKČ culture (e.g. Tata-Tófarok: *Kalicz-Schreiber 1994*, fig. 13: 1–4; Budapest-Aranyhegyi út: *Kalicz-Schreiber 1994*, fig. 3: 3, 4; cf. *Kulcsár 2009*, 91–98), the mugs of the Lábatlan assemblage (Pl. VII: 1, 2; handled biconical mugs with cylindrical neck) belong to an uncommon type (*Kulcsár 2009*, 96, 97,

type I/14; cf. the Somogyvár-type mugs: *Kulcsár 2009*, 276–280, type I/8; I/9; for analogies from the MKČ area see e.g. Kajárpéc: *Figler 1996*, pl. III: 4; Budapest-Aranyhegyi út: *Kalicz-Schreiber 1994*, fig. 3: 3; Esztergom-Tóváros: *Bóna 1963–1964*, 11, pl. XII: 10). Conical bowls with thickened rim were frequently used vessel types during the EBA period and were discovered in various contexts including burials (*Kulcsár 2009*, 75–86, 105–113; *Vladár 1966*, 278, 279, type III.1–3; *Vollmann 2005*, 41, 42, Schüsseln, GS 1), the best parallels to the vessels from Lábatlan (Pl. VII: 3, 4; *Vollmann 2005*, 41, 42, Schüsseln, GS 1, S 3, A1–A2) are known from Kál-Legelő (*Kulcsár/Szabó 2000*, fig. 4: 4; 5: 1), however, the three horizontal knobs on their rim have no direct analogies in the archaeological material. Some fragments with a knob at the rim are published from e.g. Táp-Borbapuszta (*Figler 1994*, fig. 4: 2) and compare also the knobs on some bowls from Letenye-Szentkeresztomb (Somogyvár-Vinkovci culture; *Kulcsár 2009*, pl. 36: 2, 3).

Similarly, amphorae or amphora-like vessels were often placed in the burials of the EBA. They were unearthed in several inurned burials of the MKČ culture (*Kulcsár 2002*, 448–451; *2009*, fig. 13), but they are often found in their settlements as well (*Kulcsár 2009*, 154–160, type XIV). Similar vessel types are known from assemblages attributed to the Somogyvár-Vinkovci (*Kulcsár 2009*, 334–336, type XV), and other contemporary cultures in the region (*Dani/Nepper 2006*, 42; *Kalicz-Schreiber 1997*; *Vladár 1966*, 283, 284).

The rib pattern and the handle strip make the Lábatlan vessel (Pl. VI) a unique specimen in the Transdanubian material culture. Plastic decoration is rather rare in the material attributed to the MKČ culture. It appears more frequently in the northern distribution areas of culture on the Great Hungarian Plain, but the arrangement of the ribs there (usually three or four vertical ribs on the shoulder) differs from the above-described pattern from Lábatlan (*Kulcsár 2009*, 162). Cordon attachments can also be found on large vessels in the distribution area of the Somogyvár-Vinkovci culture, however, those ribs were placed almost always horizontally (*Kulcsár 2009*, 334–336, fig. 67). More complex rib motifs decorating the upper part of similar vessel types are known from the territory of the Corded Ware culture (*Buchvaldek 1967*, 27–36; *Kolář 2018*, 104–112, 226, tab. 79; *Kolář et al. 2011*, 87, 88, 98–100; *Neustupný 2013*, 141; *Šebela 1999*). The best – although not identical – analogy of the Lábatlan cordon arrangement can be seen in Grave no. 2 of Mouchnice in Moravia (*Šebela 1999*, pl. 64: 2), but the vessel from grave C in Nová Ves I-

Ohrada in Bohemia is also comparable (*Buchvaldek 1982*, fig. 9: C1).

The pair of elongated horizontal knobs on the belly is another atypical element of the vessel. Amphorae and amphora-like vessels of the period were usually produced either with strap handles which were mostly placed between the neck and the shoulder or on the widest part of the vessel, or without a handle. The horizontal knobs have only a few parallels among the contemporary finds: e.g. shorter variants are known from Šaľa (*Vladár 1966*, 283, fig. 30: 1), Kompolt-Kistér (*Gogáltan 1999*, pl. 16: 11), Sárrétudvari-Órhalom (*Dani/Nepper 2006*, fig. 4: 1; 5: 2), and from Somogyvár in southern Transdanubia (*Kulcsár 2009*, fig. 67, pl. XV: 2a).

Regarding the manufacturing techniques the ceramic vessels of the settlements and the grave are quite homogeneous in the whole area. The majority of the vessels were tempered with sand and finely (sometimes coarsely) crushed pebble, and occasionally with crushed ceramics. They usually have brownish grey or grey surface. Most of the excavated fragments have a smoothed surface, although several styles of roughening (fine combing and dense or loose brushing) can be also observed. The combination of such treatments on different parts of the same pot is usual during the EBA (*Kulcsár 2009*, 141, 142; *Vladár 1966*, 294, 295) and it can be discovered on the curved body fragments of two pots/biconical bowls (Pl. IV: 10; V: 4): the upper parts (neck, shoulder) are smoothed, while the lower parts are rusticated.

Some attached ribs and knobs are also present in the material, which have many analogies in the material of the MKČ culture (e.g. *Kulcsár 2009*, 113, 114, 118, 144, 147, 151, type VII/12, VII/20, X/3–4, X/5, XIII/1; *Vollmann 2005*, 50, 51). Elongated horizontal knobs can be observed on the body of different vessel types, mostly on conical bowls and on pots/jars (Pl. I: 1, 4; IV: 4, 10; V: 1), but they can also appear right below the rim (Pl. IV: 2; for analogies see e.g. Budapest-Aranyhegyi út: *Kalicz-Schreiber 1994*, fig. 4: 7; 5: 11). A crescent-shaped rib was placed on the shoulder of a pot/biconical vessel (Pl. V: 4), which is a frequent element in the contemporary EBA material (for analogies see e.g. Budaörs: *Kalicz 1984*, pl. XXII: 7; Budapest-Aranyhegyi út: *Kalicz-Schreiber 1994*, fig. 3: 1; Iža: *Beljak Pažinová/Beljak 2014*, pl. II: 1). A double knob below the rim of a pot (Pl. V: 7) is a less frequent feature, but it also has parallels among the contemporary finds (e.g. Čaka: *Vladár 1966*, fig. 14: 4; Esztergom-Szentgyörgymező: *Kövecses Varga 2004*, pl. XII: 1; and see also in the Bell Beaker grave from Budapest-Békásmegyér: *Kalicz-Schreiber 1997*, fig.

OxCal v4.4.4 Bronk Ramsey (2021); r:5 Atmospheric data from Reimer et al (2020)

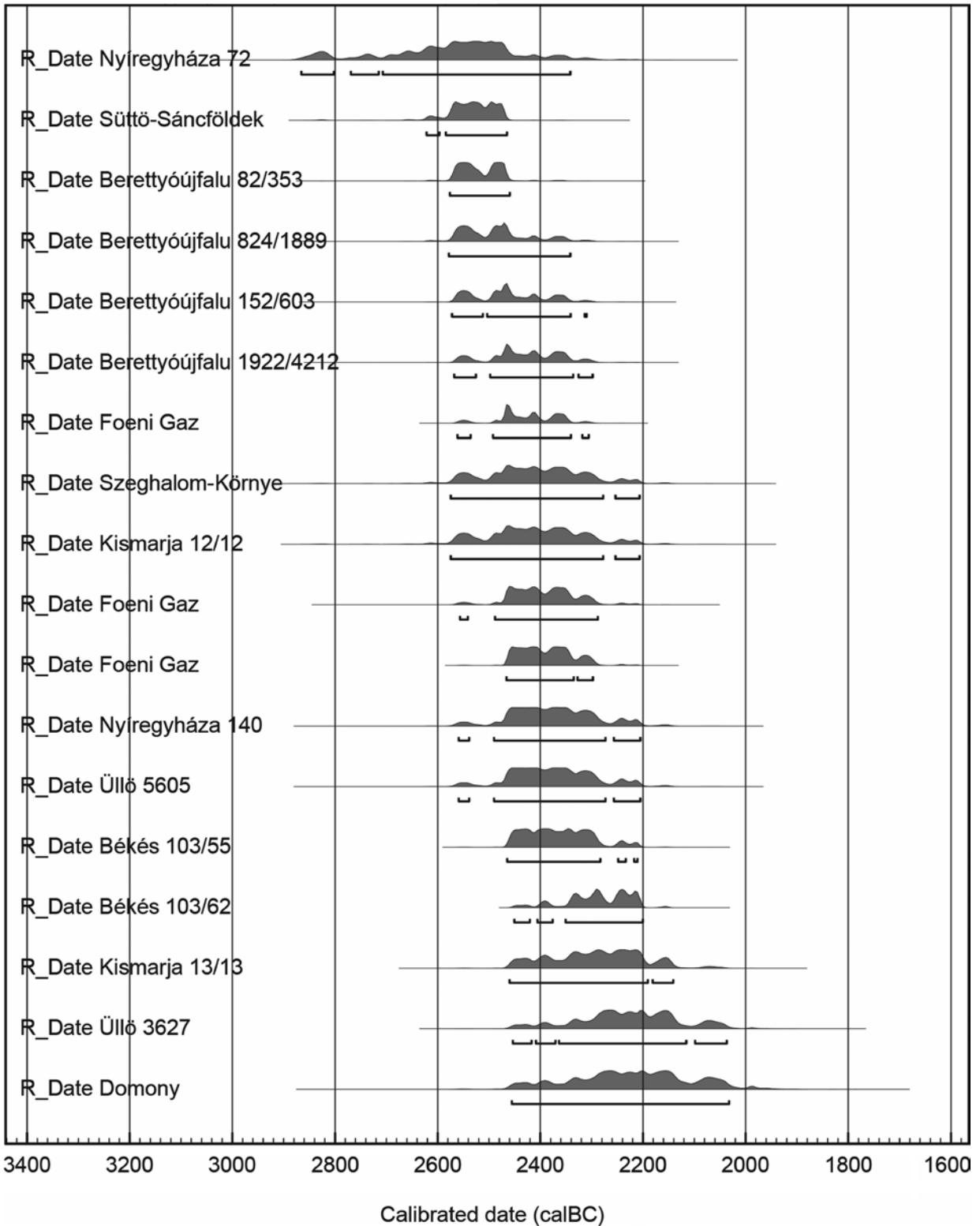


Fig. 4. Calibrated radiocarbon dates from Süttő-Sáncföldek feature no. 5 and other sites of the Makó-Kosihy-Čaka culture.

6: 4). The same can be said about finger-impressed horizontal cordons on the shoulder of storage jars or cooking pots (Pl. I: 8; for analogies see e.g. *Kalicz 1984*, pl. XXII: 13; *Kulcsár 2009*, 144, type X/3nc; *Vollmann 2005*, 57).

Settlements

The distribution of the known sites indicates a dense settlement network in the wider region around Süttő during the EBA (Fig. 3). Several site concentrations can be observed (e.g. around Esztergom, Csolnok, Süttő), but little is known about the size and lifespan of the sites.

On the settlements at Süttő and Lábatlan (see above) only 2–3 pits have been discovered, which is the average number of features per site in this period. Preliminary reports testify that one or two pits were excavated also on the sites of Tatabánya-Birkás rét (*László 2005*), Tatabánya-Réti út (*Vékony 1978*), Patince-Danube bank (*Cheben 1987*), Patince-Teplice (*Cheben 1984*), Gbelce-Pieskovňa (*Kuzma 2001*), Kamenín-Kiskukoricás (*Nevizánsky 2001*), Kamenica nad Hronom (*Vladár 1966*, 257), Malé Kosihy-Törökdomb and Malé Kosihy-Papföld (*Točík 1981*; *Vladár 1966*, 257). Six pits were found at Hurbanovo-Sandmine (*Paulík 1958*), eight pits at Esztergom-Szentgyörgymező (*Kövecses Varga 2004*) and ten pits at Iža (*Beljak Pažinová/Beljak 2014*). Some exceptionally large settlements have been reported from Mužla-Čenkov (approx. 36 pits; *Hanuliak/Kuzma 1990*; *1991*; *Kuzma 1982*; *1992*; *1993*; *Kuzma/Bátora 1981*; *Kuzma/Hanuliak 1990*, 123; *Kuzma/Ožďáni/Hanuliak 1983*; *Kuzma/Šalkovský 1984*; *1986*; cf. *Kulcsár 2009*, 215, site no. 346; for a summary *Kuzma 2011a*, 80–82) and Bajč-Vinohrady (32 pits; *Vladár 1966*, 254, 255).

Features other than pits have been rarely found in the settlements of the MKČ in the discussed region. Two exceptions are a round, sunken building from Nyergesújfalu-Józsefpuszta furnished with an oven and surrounded by postholes (*Horváth/H. Kelemen/Torma 1979*, 272, site no. 15/19; *Vékony 1970b*), and another sunken building from Tatabánya-Dózsakert (*Cseh/Vékony 2002*; *Kisné Cseh/Vékony 2002*, 10).

The layout of the settlements at Süttő and Lábatlan, the scattered distribution of the pits suggests non-intensive inhabitation. At Lábatlan-Hosszú földék, two features were found directly next to each other, but the third pit was situated approx. 100 m away (with some possible contemporary fragments in-between them). At Süttő-Sáncföldék, the two excavated features are located within a distance of 100 m from each other. Although the mentioned

features were discovered in separate trenches during different field seasons and no large-scale areas were investigated in neither case, it can be assumed that there were not any densely built-in settlements in this period. Evidence of built structures are only circumstantial: for instance, at Süttő-Sáncföldék some small amount of daub was documented. The settlements of the period show similarly dispersed layout in other regions too: single pits or small clusters of pits were usually scattered over a large area (*Kulcsár 2009*, 66, 67; *Tóth 2004*; *Mužla: Kulcsár/Szevevényi 2013*, 75, 76; *Kuzma 2011a*).

It is not clear at the moment how the hilltop area of Süttő-Nagysáncföldék was inhabited and used during the EBA. The site is located directly next to the site Sáncföldék at an almost entirely naturally protected plateau from where several features of the MKČ culture, including a small rampart were reported. Since these results have not been properly published and the finds and documentation are missing, no detailed picture can be drawn (*Vékony 1986a*, 260; *2000*, 178; *Vékony/Vadász 1982*). In general, very little is known about fortified hilltop settlements in this period, especially within the distribution area of the MKČ culture. Stray finds are known from several Copper Age (fortified) hilltop settlements in the Northern Mountain Range (*Kulcsár 2009*, 69; *Kulcsár/Szevevényi 2013*, 76), but excavations could not verify that they had EBA fortifications (e.g. Salgótarján-Pécskő: *Horváth 2017*). Fortifications (systems of ditches) have been documented so far only at two sites of the MKČ culture: at Mosonszentmiklós-Gyepföldék and Mosonszentmiklós-Gyártelep (*Aszt 2001*, 214, 215; *2004*; *Kulcsár 2009*, 65). Some hilltop sites have been reported from southern Transdanubia, e.g. from Oltárc-Márkihegy, Galambok-Öreghegy, Pécs-Nagyárpád (for a summary see *Bondár 2001*, 71; *Kulcsár 2009*, 263–266; *Tóth 2003*, 73, 74) but in many cases there are not enough data to date their fortifications precisely. At Nagygyőrő-Várhegy (*Nováki 1965*) and Kaposújlak-Várhegy (*Kulcsár 2012*, 353, 354; *Somogyi 2004*) excavations confirmed that the fortifications had been erected during the EBA.

In southern Transdanubia (Baranya county), systematic research has discovered a complex network of settlements consisting of a chain of fortified hilltop settlements possibly dated to the EBA and additional open settlements nearby (*Bertók/Gáti 2005–2007*). A similar settlement system can be suspected around the Süttő plateau too, where a possible fortified settlement (Nagysáncföldék) was surrounded by smaller open sites (at least one at Sáncföldék and a further one at Tatai úti dűlő II). However, these three sites' exact relation to each

other and their position within the regional settlement system are still unclear, since hardly no data are available either on their relative chronological position or on their inner structure (cf. *Bondár 2001, 70, 71; Kulcsár/Szeverényi 2013, 76*).

Regarding the subsistence strategies of the EBA inhabitants of the area, little information is available. From North Transdanubia previous research did not provide any evidence in this regard, only the recently collected archaeozoological and archaeobotanical material can be used as a starting point. The new data provide limited evidence of crop cultivation and clearly testify to animal husbandry. The archaeobotanical finds from Süttő indicate a sedentary life-style and confirm that the subsistence of EBA communities in the Carpathian Basin was not solely based on pastoralism (*Gál/Kulcsár 2012; Kulcsár 2009, 67–69; Pusztainé Fischl et al. 2015, 515, 516*).

Burials

The burials of the MKČ culture have been usually found alone as single graves or as parts of small burial clusters consisting of three-four but no more than ten graves. No large cemeteries have been discovered so far. In the discussed region four possible single graves were reported: the above described finds from Lábatlan, a scattered cremation grave from Tata-Tófarok (*Kalicz-Schreiber 1991, 9; V. Vadász/Vékony 1969*), a symbolic grave from Tatabánya-Dózsakert (*Cseh/Vékony 2002; Kisné Cseh/Vékony 2002, 10*), and an assemblage from Bajč-Medzi kanálmi (*Cheben 1998, 149, 150*).

Various patterns can be observed in terms of the spatial relation between burials and contemporary settlements. In most cases the burials were found solitary and separately from the settlements, in other cases, however, large-scale excavations yielded evidence of clear connection between settlements and graves (*Dani/Kisjuhász 2013, 683, 684; Kulcsár 2009, 71–89; Vladár 1966, 266–271*). The Lábatlan assemblage was a solitary find. The nearest settlement remains in the area were documented from Lábatlan-Hosszúföldek (3.5 km) and Nyergesújfalu-Józsefpuszta (2 km).

Most of the burials are cremation burials. They contain one to five vessels but rarely any other type of grave goods. The most common types of vessels include a large amphora or storage pot which generally served as the urn, as well as one-handled mugs and bowls (*Kalicz-Schreiber 1994, 39–41; Kulcsár 2009, 75–89; Vladár 1966, 266–271*).

Absolute chronology

The absolute chronology of the EBA in the Carpathian Basin and in Central Europe has been frequently discussed and re-evaluated in the past decade (*Kiss et al. 2015; 2019; Kulcsár 2013; Kulcsár/Szeverényi 2013; Pusztainé Fischl et al. 2015; Staniuk 2021; Stockhammer et al. 2015; Szabó 2017*). From the recently excavated pit from Süttő-Sáncföldek one animal bone was sent for radiocarbon dating. The result (4014 ± 33 BP, 2585–2466 cal BC, 90.8% cf. *Czajlik et al. 2019, fig. 19*) is in line with the previously known absolute dates of the Makó-Kosihy-Čaka culture (Fig. 4).

Similar dates have been published from the site of Berettyóújfalu-Nagy Bócs dűlő, where feature 82 (str. 353) yielded 3990 ± 30 BP results, feature 824 (str. 1889) 3970 ± 40 BP, and feature 152 (str. 603) 3955 ± 35 BP dates (*Dani/Kisjuhász 2013, 689, tab. 1*). The published date (4020 ± 70 BP) from feature 72 at Nyíregyháza-Császárszállás (*Dani/Kisjuhász 2013, 689, tab. 2*) is also close in time to the Süttő data. Further published radiocarbon dates from the area of the MKČ culture suggest that the site at Süttő-Sáncföldek belonged to the older phase of the culture, representing the EBA 1 transitional period according to Hungarian terminology (*Kulcsár/Szeverényi 2013; Pusztainé Fischl et al. 2015, fig. 1.a*). Most of the sites from where radiocarbon dates are available represent the younger period of the culture which lasted until ca. 2300/2200 BC (cf. Fig. 4; Berettyóújfalu-Nagy Bócs dűlő: *Dani/Kisjuhász 2013, 689; Foeni Gaz: Krauß/Ciobotaru 2013, 57; Szeghalom-Környe: Raczký/Hertelendi/Horváth 1992, 43; Kismarja-Nagymarja: Dani/Kisjuhász 2013, 689; Nyíregyháza-Császárszállás: Dani/Kisjuhász 2013, 689; Békés 103: Duffy et al. 2019, 71, tab. 3, HB 55, HB 62; Domony: Forenbaher 1993, 241; Üllő: Kővári/Patay 2005, 124*).

Several further sites are known from the Carpathian Basin which are dated to the same period but attributed to different material cultures. Győrszemere-Tóth tag has a mixed MKČ and Somogyvár-Vinkovci material which is dated to 3995 ± 56 BP (*Figler 1996, 8; Kulcsár 2013, 651, tab. 1*). From the territory of the Somogyvár-Vinkovci culture, the best parallels are known from Pince pri Lendavi (3980 ± 50 BP; *Kerman 2014, fig. 1.8*), Krog-Za Raščico (4020 ± 25 BP; *Jereb/Sankovič/Šavel 2014, fig. 7.3.18*), Čepinski-Martinci Dubrava (4020 ± 40 BP; *Črešnar/Teržan 2014, 666, fig. 10*) and Szava (*Raczký/Hertelendi/Horváth 1992, 43, no. 10*). In Vráble-Fidvár, a seed found in a core sample provided a contemporary date (4050 ± 35 BP; *Schlütz/Bittmann 2016, 334, tab. 1, core A1: 11*).

CONCLUSION

In the vicinity of Süttő several EBA archaeological finds have been revealed, however, the low number of the excavated sites and the unpublished status of the material strongly limit our knowledge of the settlement and society of this period.

The old and new discoveries presented here suggest a dense and stratified network of EBA settlements in the area with the existence of fortified hilltop sites on top of the settlement hierarchy. Unfortunately, the amount and condition of the finds do not allow us to establish subtle chronological differences between the sites of the network. The intra-site organization of the settlements is hardly known: the limited number of excavated sites shows dispersed layout. Little information is available also on the subsistence strategies of the communities living in this region.

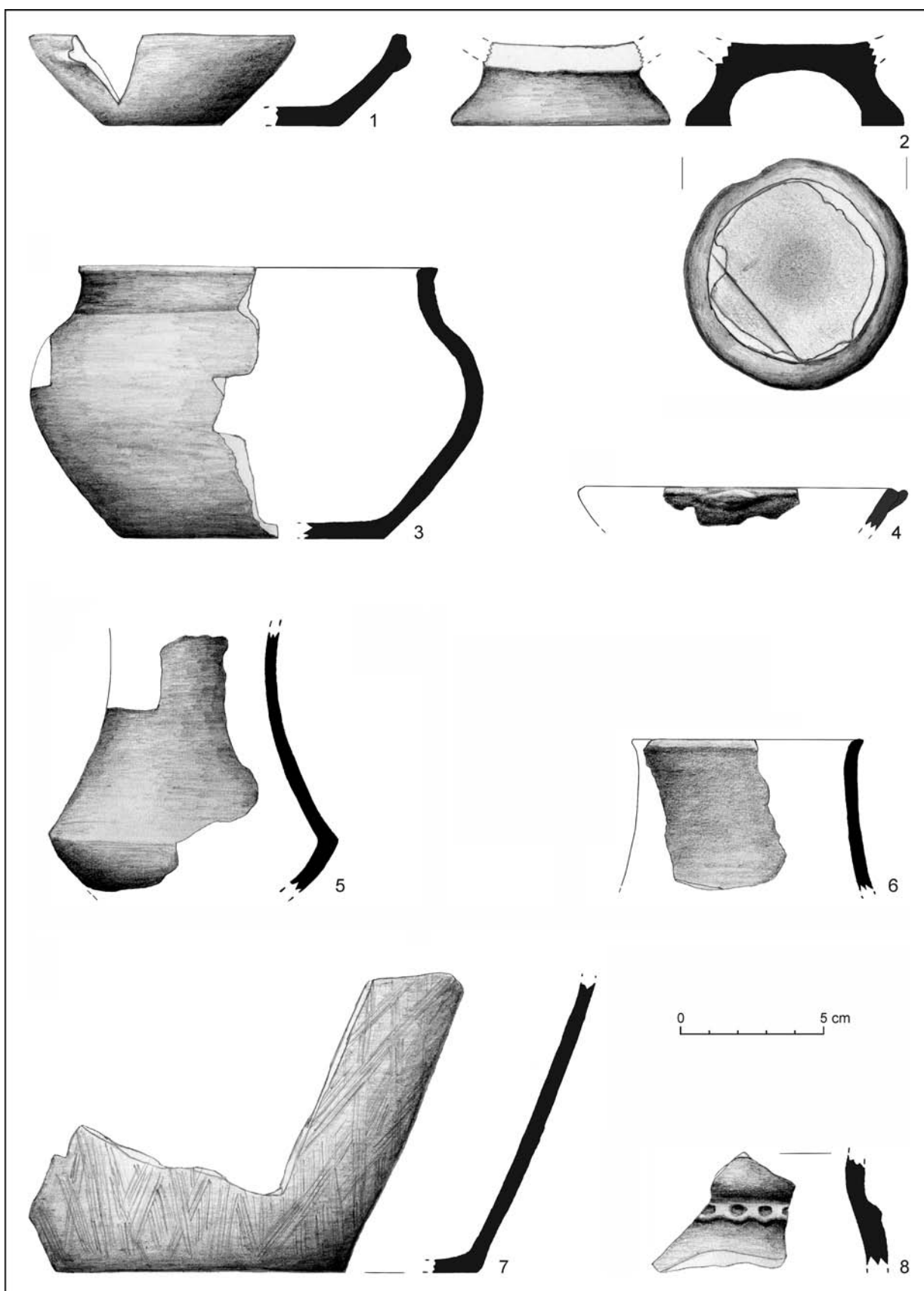
The material culture of the discussed sites shows great variability. Although there is no doubt about their relative chronological position,

the cultural attribution of these small EBA assemblages is not always obvious. The above discussed burial from Lábatlan indicate strong connections between the Moravian Corded Ware and the Makó-Kosihy-Čaka cultures, which network has been already described by previous studies too (Benkovsky-Pivovarová 2005; Kulcsár 2009, 46–57, 80–84, 176, 177). In contrast, some other finds, e.g. the interior decorated footed bowl with an unhatched cross motif, the mugs of the Lábatlan assemblage or from the newly discovered pit from Süttő-Sáncföldek, rather suggest strong ties to the Somogyvár-Vinkovci, or in case of the pot with double knob from Lábatlan-Hosszú földék, to the Bell Beaker material (see above detailed, to the intercultural networks described Buchvaldek 2002; Kalicz-Schreiber 1991; Kalicz-Schreiber/Kalicz 1997; Kulcsár 2009, 172–178). In general, the EBA in the Carpathian Basin is characterized by strong interregional interactions which resulted in notable entanglements in the material culture of different communities – as it is testified by the sites around Süttő.

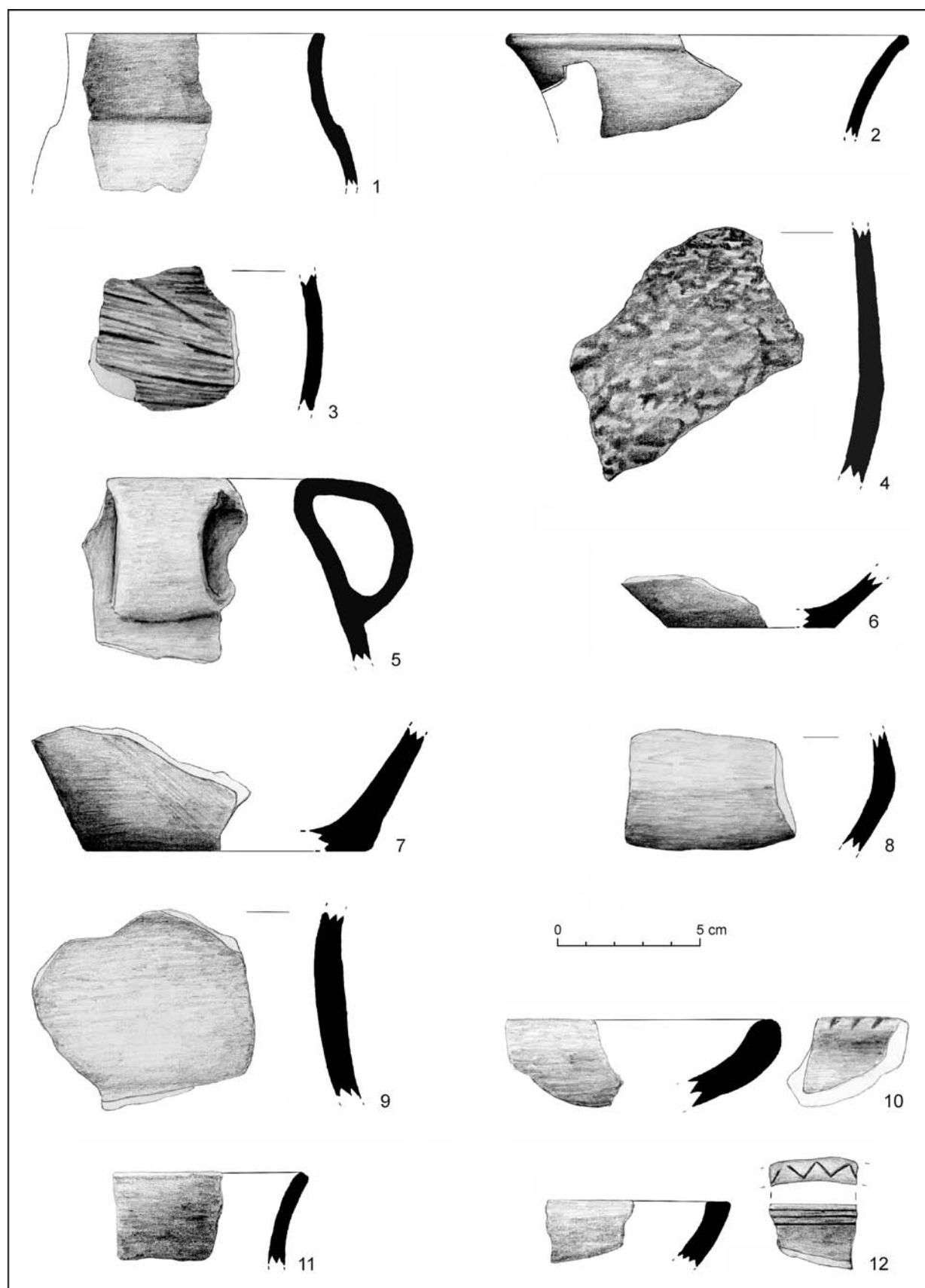
Acknowledgement

The excavation at Süttő-Sáncföldek in 2018 was directed by Zoltán Czajlik as part of the DTP-1-1-248-2.2 Interreg Iron-Age-Danube Project. The research was carried out within the frameworks of the Institutional Excellence Program for the Higher Education at the Eötvös Loránd University (2019-2021, workgroup of Tivadar Vida) and the NKFIH SNN 134635 fund (2021–2024, headed by Zoltán Czajlik).

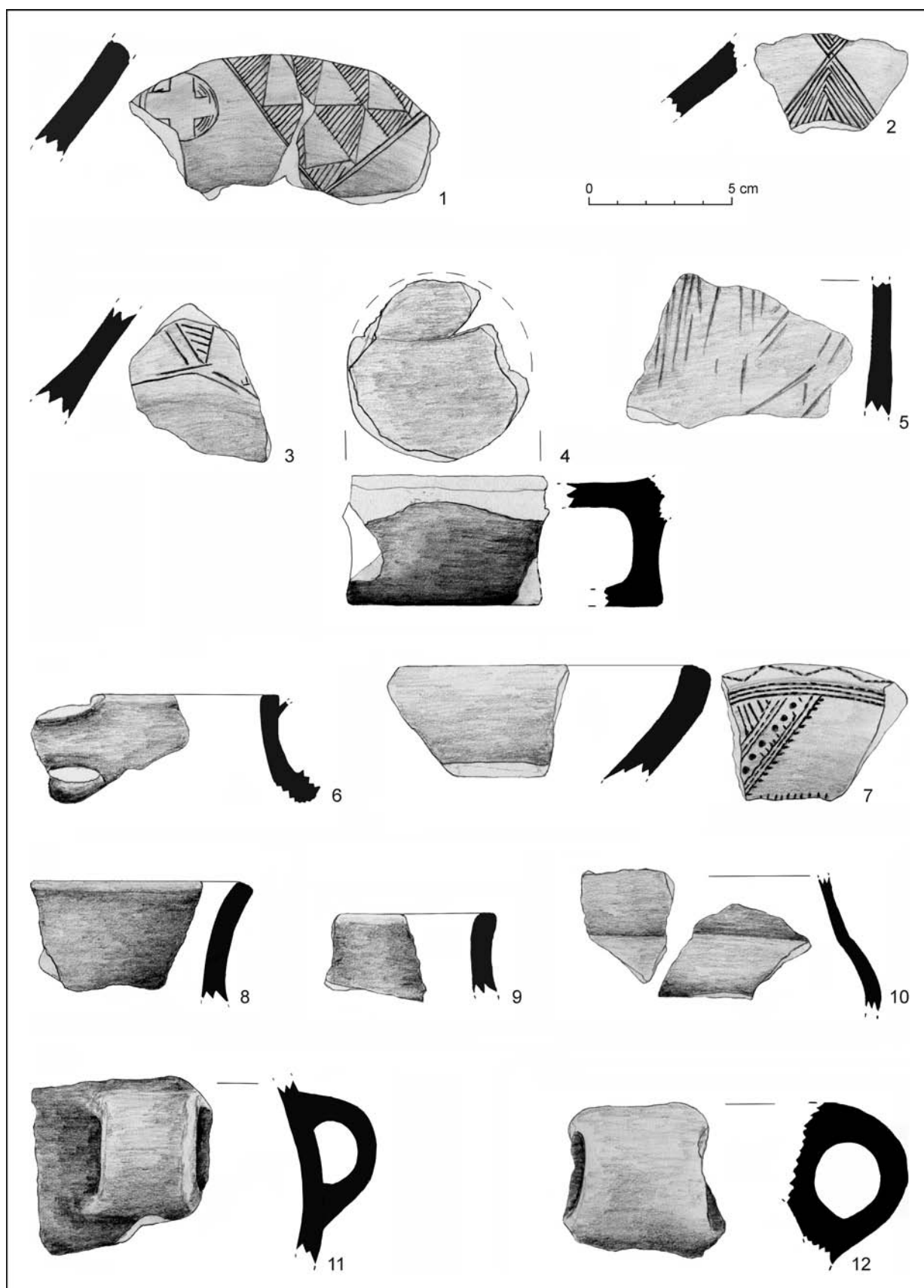
The archaeobotanical analysis was performed by Máté Mervel (ELTE), the archaeozoological analysis was carried out by Péter Csippán (ELTE). Mónika Merczi (BBM) assisted the research in Esztergom, while Zsuzsanna Tóth (HNM) lent a hand during the background research in the archives and in the museum collections. Csaba Bodnár (Museum of Fine Arts) gave advices during data processing and on the first version of the draft. I express my warm gratitude to all of them for their assistance.



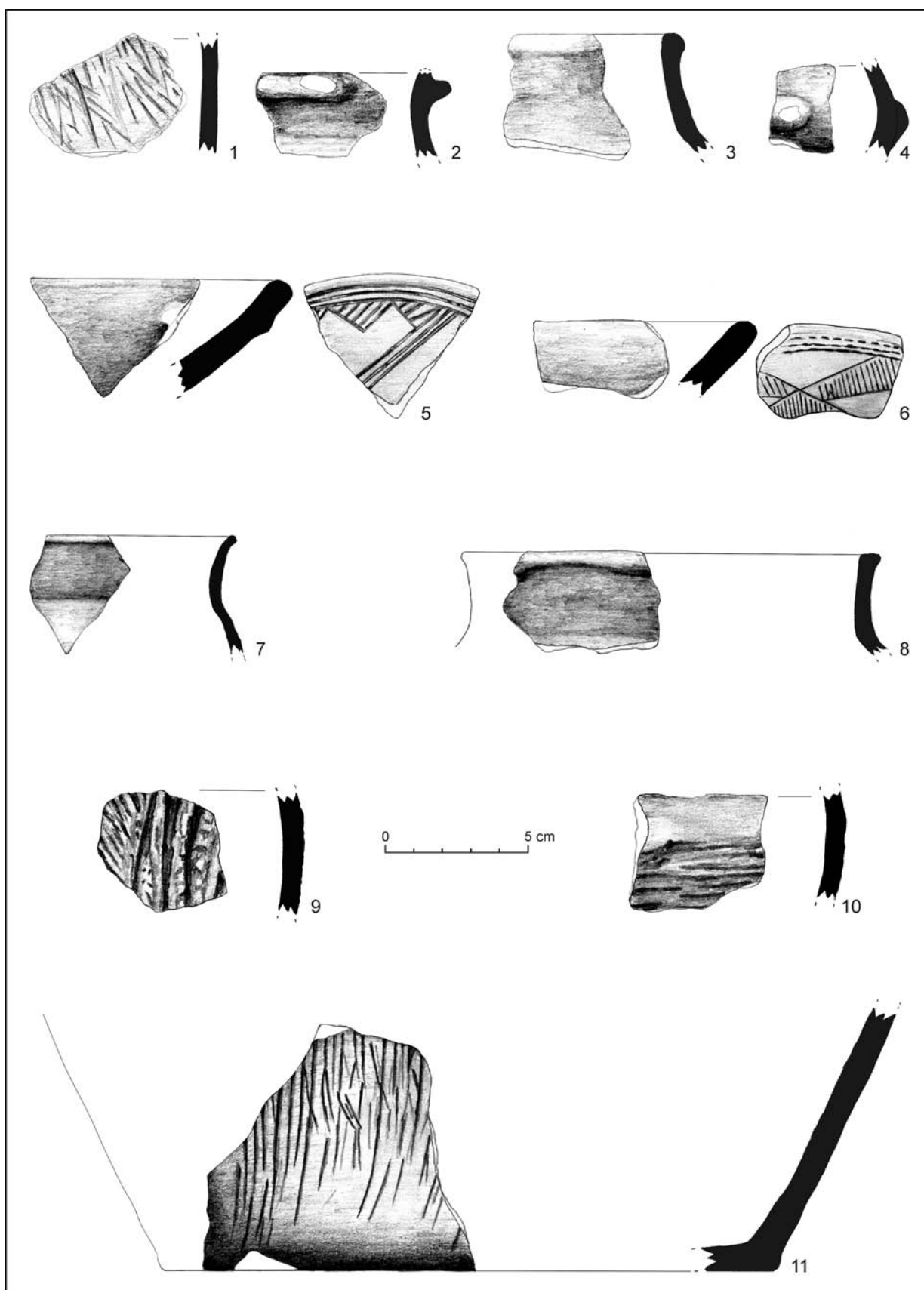
Pl. I. Süttö-Sáncföldek, feature no. 5. The ceramic material.



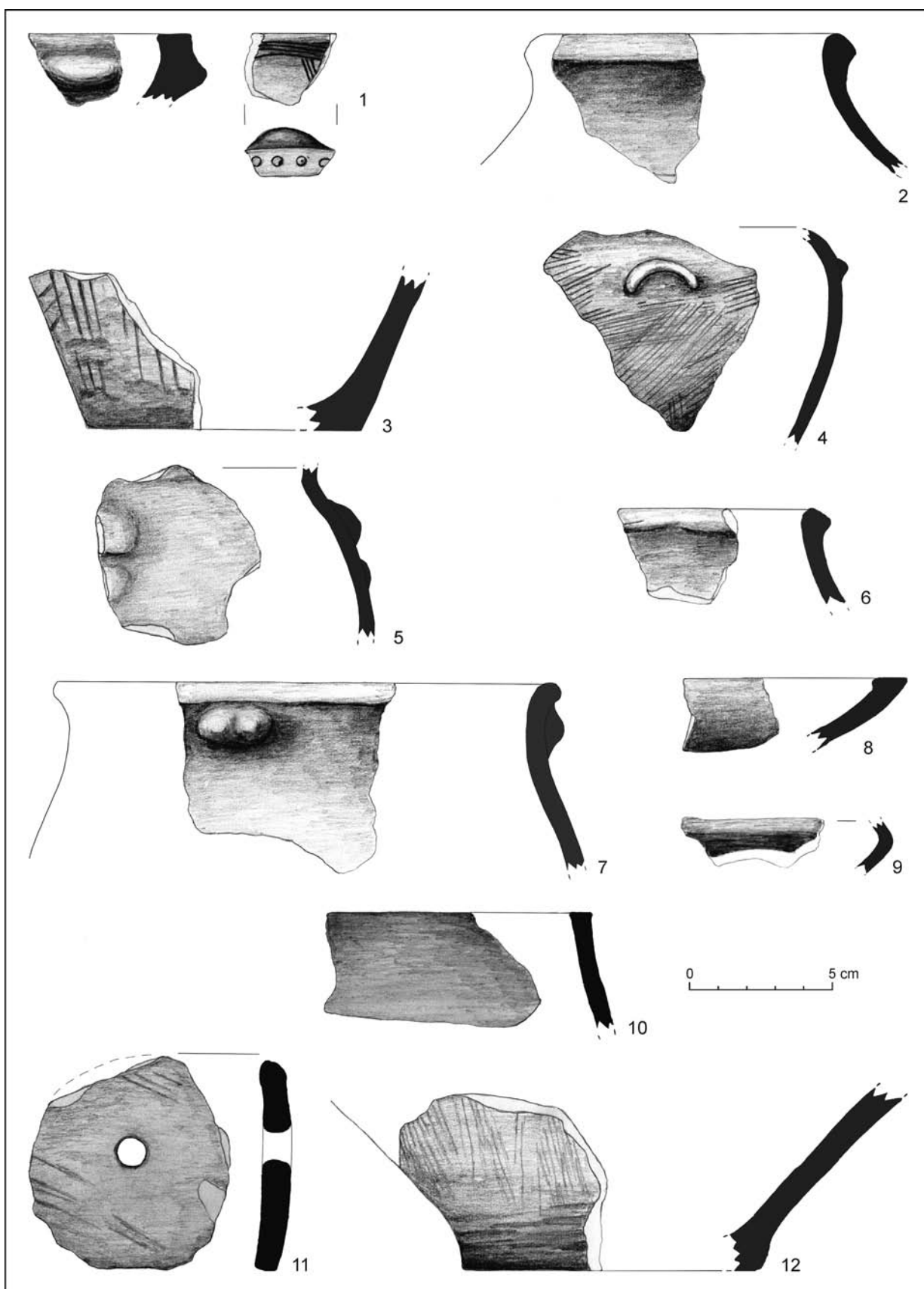
Pl. II. Süttő-Sáncföldék. The ceramic material. 1–11 – feature no. 5; 12 – stray find from trench no. 1.



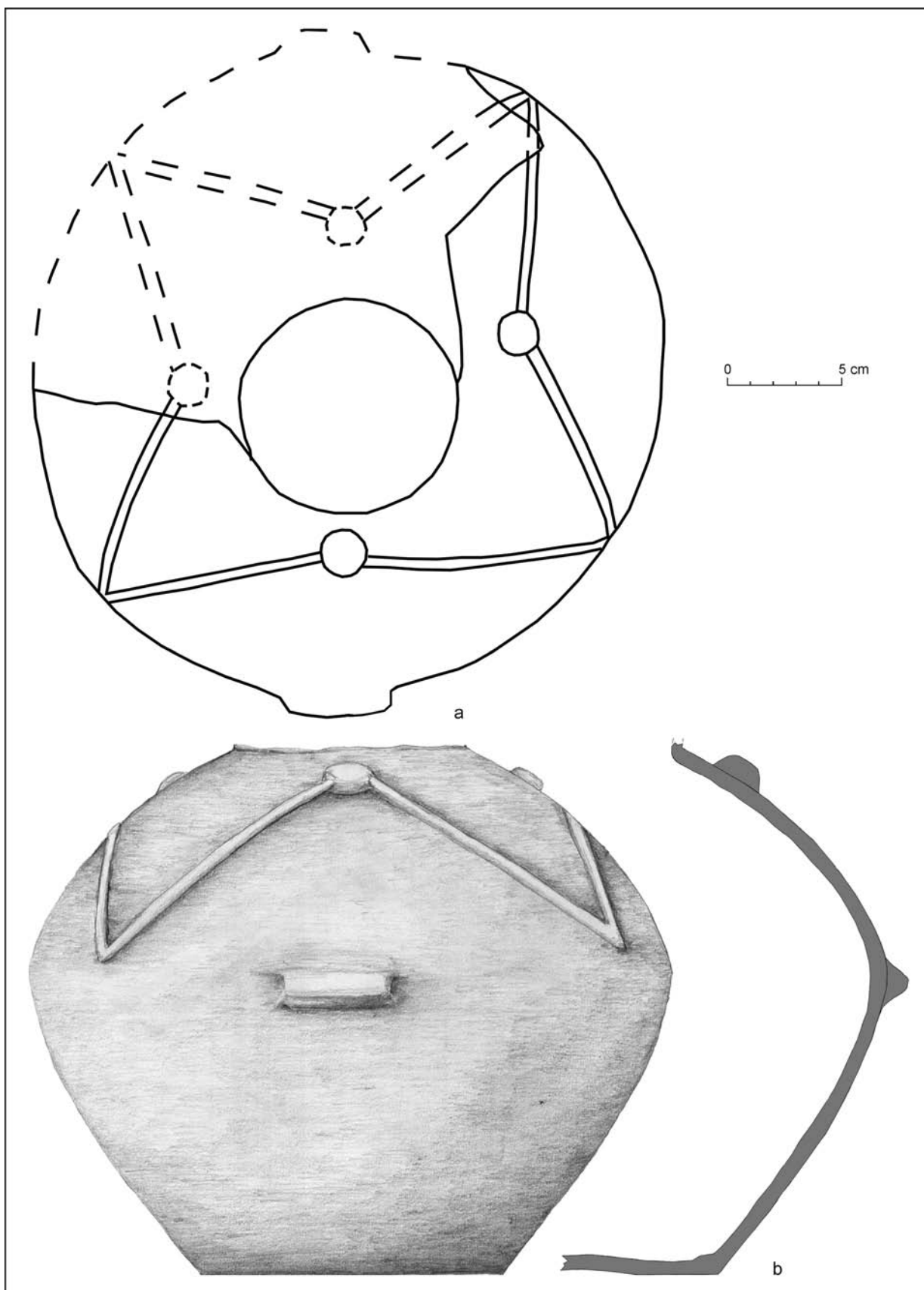
Pl. III. Süttő-Sáncföldék. The Early Bronze Age ceramic material. 1–6 – trench E34; 7–12 – trench E30, pit no. 1.



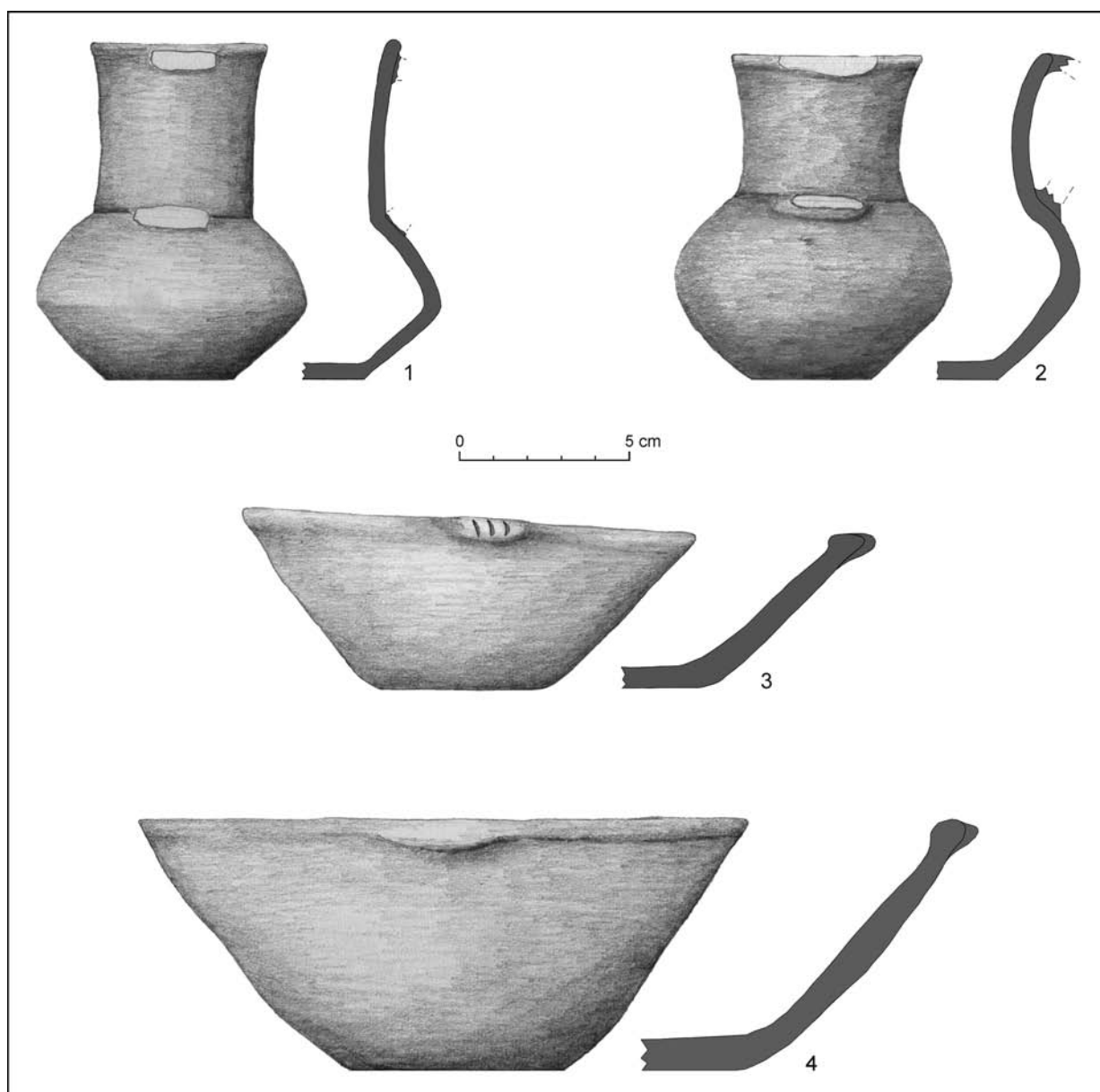
Pl. IV. The Early Bronze Age ceramic material. 1–4 – Süttő-Sáncföldek, trench E30, pit no. 1; 5–11 – Süttő-Tatai úti dúlóló II.



Pl. V. Lábatlan-Hosszú földek. The diagnostic Early Bronze Age ceramic material. 1–5 – feature II/γ; 6 – feature IV/α; 7–10 – feature IV/β; 11, 12 – stray finds from trench no. 1.



Pl. VI. Lábatlan-Rózsa Ferenc utca. The amphora-like vessel.



Pl. VII. Lábatlan-Rózsa Ferenc utca. The mugs and bowls.

BIBLIOGRAPHY

- Anders et al. 2013 – A. Anders/G. Kulcsár/G. Kalla/V. Kiss/G. V. Szabó (eds.): *Moments in Time. Papers Presented to Pál Raczky on His 60th Birthday*. Ősrégészeti Tanulmányok – Prehistoric Studies 1. Budapest 2013.
- Aszt 2001 – Á. Aszt: Előzetes beszámoló a Mosonszentmiklós-Gyepföldiek dűlő területén végzett régészeti kutatásokról. *Arrabona* 39, 2001, 213–223.
- Aszt 2004 – Á. Aszt: Mosonszentmiklós, Gyártelep. *Régészeti Kutatások Magyarországon 2002 – Archaeological Investigations in Hungary 2002*, 2004, 242, 243.
- Beljak Pažinová/Beljak 2014 – N. Beljak Pažinová/J. Beljak: Sídliskové objekty kultúry Makó-Kosihi-Čaka v Iže. *Slovenská archeológia* 62, 2014, 83–123.
- Benkovsky-Pivovarová 2005 – Z. Benkovsky-Pivovarová: Zur Grabkeramik der Kosihi-Čaka/Makó-Kultur. *Archaeologia Austriaca* 89, 2005, 133–143.
- Bertók/Gáti 2005–2007 – G. Bertók/C. Gáti: Adalékok Baranya megye kora bronzkori településszerkezetéhez. *Janus Pannonius Múzeum Évkönyve* 50–52, 2005–2007, 24–37.
- Bóna 1963–1964 – I. Bóna: The Peoples of Southern Origin of the Early Bronze Age in Hungary I–II. *Alba Regia* 4–5, 1963–1964, 17–63.
- Bondár 2001 – M. Bondár: Adatok a Délnyugat-Dunántúl kora bronzkori kutatási problémáihoz. *Zalai Múzeum* 10, 2001, 67–79.
- Buchvaldek 1967 – M. Buchvaldek: *Die Schnurkeramik in Böhmen*. Praha 1967.
- Buchvaldek 1982 – M. Buchvaldek: Katalog šňůrové keramiky v Čechách I. Kolínsko a Kutnohorsko. *Varia Archaeologica 3. Praehistorica* 10, 1982, 9–30.
- Buchvaldek 2002 – M. Buchvaldek: Zu den Beziehungen zwischen Böhmen, Mähren und Karpatenbecken in der Frühbronzezeit. *Budapest Régiségei* 36, 2002, 211–220.
- Burger 1980 – I. Burger: Die chronologische Stellung der Fußschalen in den endneolithischen Kulturgruppen Mittel- und Südosteuropas. In: K. Spindler (Hrsg.): *Vorzeit zwischen Main und Donau. Neue archäologische Forschungen und Funde aus Franken und Altbayern*. Erlanger Forschungen. Reihe A. Geisteswissenschaften 26. Erlangen 1980, 11–45.
- Cseh/Vékony 2002 – J. Cseh/G. Vékony: Tatabánya-Dózsakert. *Régészeti Kutatások Magyarországon 1999 – Archaeological Investigations in Hungary 1999*, 2002, 253, 254.
- Csippán 2007 – P. Csippán: Ökológiai módszerek a régészetben. Esettanulmány a Dunakeszi-Székes-dűlő őskori településeiről előkerült állatmaradványok kapcsán. *Archaeológiai Értesítő* 132, 2007, 83–110.
DOI: <https://doi.org/10.1556/ArchErt.132.2007.1.3>
- Czajlik et al. 2018 – Z. Czajlik/K. Novinszki-Groma/L. Rupnik/A. Bödöcs/E. Fejér/A. Jáky/S. Pusztá/Z. Sörös/B. Vass/S. Czifra: Archaeological investigations on the Süttő plateau in 2018. *Dissertationes Archaeologicae Ser. 3*, 6, 2018, 527–540.
DOI: <https://doi.org/10.17204/dissarch.2018.527>
- Czajlik et al. 2019 – Z. Czajlik/E. Fejér/K. Novinszki-Groma/A. Jáky/L. Rupnik/F. Z. Sörös/A. Bödöcs/P. Csippán/G. Darabos/R. Gergács/D. Györkös/B. Holl/G. Király/D. Kürthy/B. Maróti/M. Merczi/M. Mervel/B. Nagy/S. Pusztá/S. B. Szöllösi/B. Vass/S. Czifra: Traces of prehistoric land use on the Süttő plateau. In: M. Črešnar/M. Mele (eds.): *Early Iron Age Landscapes of the Danube Region*. Graz – Budapest 2019, 185–219.
- Czajlik/Novinszki-Groma/Horváth 2015 – Z. Czajlik/K. Novinszki-Groma/A. Horváth: Données relatives à la topographie de la microrégion de Süttő (Transdanubie, Hongrie) au Premier âge du Fer. In: L. Borhy/K. Dévai/K. Tankó (eds.): *Studia archaeologica Nicolae Szabó LXXV annos nato dedicata*. Budapest 2015, 59–74.
- Črešnar/Teržan 2014 – M. Črešnar/B. Teržan: Absolutno datiranje bronzaste dobe na Slovenskem – Absolute dating of the Bronze Age in Slovenia. In: *Teržan/Črešnar et al.* 2014, 661–702.
- Dani 2013 – J. Dani: The Significance of Metallurgy at the Beginning of the Third Millennium BC in the Carpathian Basin. In: *Anders et al.* 2013, 203–231.
- Dani/Kisjuhász 2013 – J. Dani/V. Kisjuhász: Bestattungen der Makó-Kultur in Berettyóújfalu, Nagy-Bócs-dűlő. In: *Anders et al.* 2013, 671–692.
- Dani/Nepper 2006 – J. Dani/I. M. Nepper: Sárrétudvari-Órhalom tumulus grave from the beginning of the EBA in Eastern Hungary. *Communicationes Archaeologicae Hungariae* 2006, 29–48.
- Dinnyés 1973 – I. Dinnyés: Blaskovich Múzeum régészeti gyűjteménye. *Studia Comitatus* 2, 1973, 37–70.
- Duffy et al. 2019 – P. R. Duffy/G. M. Parditka/J. I. Giblin/L. Paja: The problem with tells: lessons learned from absolute dating of Bronze Age mortuary ceramics in Hungary. *Antiquity* 93, 2019, 63–79.
DOI: <https://doi.org/10.15184/aqy.2018.179>
- Figler 1994 – A. Figler: Die Fragen der Frühbronzezeit in Nordwest-Transdanubien. *Zalai Múzeum* 5, 1994, 21–38.
- Figler 1996 – A. Figler: Adatok Győr környékének bronzkorához. Bronzkori kultúrák Győr környékén. *Acta Musei Papensis* 6, 1996, 7–29.
- Forenbaher 1993 – S. Forenbaher: Radiocarbon dates and absolute chronology of the central European Early Bronze Age. *Antiquity* 67, 1993, 218–256.
DOI: <https://doi.org/10.1017/S0003598X00045336>
- Gál/Kulcsár 2012 – E. Gál/G. Kulcsár: Változások a bronzkor kezdetén. A dél-dunántúli gazdálkodás jellege az átlatsont leletek alapján. In: A. Kreiter/Á. Pető/B. Tugya (szerk.): *Környezet – Ember – Kultúra. Az alkalmazott természettudományok és a régészet párbeszéde*. Magyar Nemzeti Múzeum Nemzeti Örökségvédelmi Központ 2010. október 6–8-án megrendezett konferenciájának tanulmánykötete – Environment – Human – Culture. Dialogue between applied sciences and archaeology. Proceedings of the conference held between 6th and 8th of October 2010 by the National Heritage Protection Centre of the Hungarian National Museum. Budapest 2012, 207–214.
- Gogáltan 1999 – F. Gogáltan: A bronzkori lelőhely értékelése. In: T. Petercsák/J. J. Szabó (szerk.): *Kompolt-Kistérség. Újkőkori, bronzkori, szarmata és avar lelőhely. Leletmentő ásatás az M3-as autópálya nyomvonalán – A Neolithic, Bronze Age, Sarmatian and Avar site. Rescue excavation at the M3 motorway*. Heves Megyei Régészeti Közlemények. Eger 1999, 171–178.
- Gyulai 2010 – F. Gyulai: *Archaeobotany in Hungary. Seed, Fruit and Beverage Remains in the Carpathian Basin from the Neolithic to the Late Middle Ages*. Archaeolingua 21. Budapest 2010.
- Hajnalová 2012 – M. Hajnalová: Archeobotanika doby Bronzovej na Slovensku. Štúdie ku klíme, prírodnému prostrediu, poľnohospodárstvu a paleoekonomii. Nitra 2012.

- Hanuliak/Kuzma 1990 – M. Hanuliak/I. Kuzma: Deviata sezóna výskumu v Mužle-Čenkove. *AVANS* 1988, 1990, 58, 59.
- Hanuliak/Kuzma 1991 – M. Hanuliak/I. Kuzma: Desiata sezóna výskumu v Mužle-Čenkove. *AVANS* 1989, 1991, 35–37.
- Heyd/Kulcsár/Szeverényi 2013 – V. Heyd/G. Kulcsár/V. Szeverényi (eds.): *Transitions to the Bronze Age. Interregional Interaction and Socio-Cultural Change in the Third Millennium BC Carpathian Basin and Neighbouring Regions*. Budapest 2013.
- Horváth 2017 – T. Horváth: Salgótarján-Pécs-kő: a nem(csak) badeni lelőhely. *A Dornay Béla Múzeum Évkönyve* 40, 2017, 413–438.
- Horváth/H. Kelemen/Torma 1979 – I. Horváth/M. H. Kelemen/I. Torma: *Komárom megye régészeti topográfiája. Esztergom és a dorogi járás. Magyarország régészeti topográfiája* 5. Budapest 1979.
- Cheben 1984 – I. Cheben: Sídlisto Želiezovskej skupiny v Patinciach. *AVANS* 1983, 1984, 88, 89.
- Cheben 1987 – I. Cheben: Výsledky záchranného výskumu v Patinciach. *Študijné zvesti AÚ SAV* 23, 1987, 307–329.
- Cheben 1998 – I. Cheben: Nálezy kultúry Kosiho-Čaka z juhozápadného Slovenska. In: *Otázky neolitu a eneolitu našich zemí. Sborník referátů z 16. pracovního zasedání badatelů pro výzkum neolitu a eneolitu Čech, Moravy a Slovenska. Lázňe Sedmihorky* 23.–25. září 1997. Turnov – Hradec Králové 1998, 149–154.
- Jereb/Sankovič/Šavel 2014 – M. Jereb/S. Sankovič/I. Šavel: 7.3. Za Rašćico. In: *Teržan/Črešnar et al.* 2014, 141–157.
- Kalicz 1960 – N. Kalicz: Süttő-Vasuti őrház. In: F. Fülep (f. k.): *Az 1959 év régészeti kutatásai. Régészeti Füzetek* 13. Budapest 1960, 18.
- Kalicz 1984 – N. Kalicz: Die Makó-Kultur. In: N. Tasić (Hrsg.): *Kulturen der Frühbronzezeit. Das Karpatenbeckens und Nordbalkans*. Beograd 1984, 93–108.
- Kalicz-Schreiber 1991 – R. Kalicz-Schreiber: A Somogyvár-Vinkovci kultúra dél-északi irányú közvetítő szerepe a korabronzkorban. *Budapest Régiségei* 28, 1991, 9–43.
- Kalicz-Schreiber 1994 – R. Kalicz-Schreiber: Siedlungsfunde und ein Brandgrab der Frühbronzezeitlichen Makó-Kultur in Budapest. *Zalai Múzeum* 5, 1994, 39–59.
- Kalicz-Schreiber/Kalicz 1997 – R. Kalicz-Schreiber/N. Kalicz: Die Somogyvár-Vinkovci-Kultur und die Glockenbecher in Ungarn. In: B. Fritsch/M. Maute/I. Matuschik/J. Müller/C. Wolf (Hrsg.): *Tradition und Innovation. Prähistorische Archäologie als historische Wissenschaft. Festschrift für Christian Strahm*. Internationale Archäologie. *Studia Honoraria* 3. Espelkamp 1997, 325–347.
- Kerman 2014 – B. Kerman: 1. Pince pri Lendavi – 1. Pince near Lendava. In: *Teržan/Črešnar et al.* 2014, 31–61.
- Kisné Cseh/Vékony 2002 – J. Kisné Cseh/G. Vékony: Régészeti kutatások Tatabánya-Dózsakertben (1993–1999). In: J. Kisné Cseh (szerk.): *Központok és falvak a honfoglalás és kora Árpád-kori Magyarországon. Tudományos konferencia Tatabánya, 2001. július 30–31. Tudományos füzetek* 6. Tatabánya 2002, 7–21.
- Kiss et al. 2015 – V. Kiss/S. Fábián/T. Hajdu/K. Köhler/G. Kulcsár/I. Major/G. Szabó: Contributions to the Relative and Absolute Chronology of the Early and Middle Bronze Age in Western Hungary Based on Radiocarbon Dating of Human Bones. In: R. E. Németh/B. Rezi (eds.): *Bronze Age Chronology in the Carpathian Basin. Proceedings of the International Colloquium from Târgu Mureș 2–4 October 2014*. Bibliotheca Musei Marisiensisseries Archaeologica 8. Târgu Mureș 2015, 23–36.
- Kiss et al. 2019 – V. Kiss/M. Csányi/J. Dani/K. P. Fischl/G. Kulcsár/I. Szathmári: Chronology of the Early and Middle Bronze Age in Hungary. New results. *Studia Hercynia* 23, 2019, 173–197.
- Kolář 2018 – J. Kolář: *Archaeology of Local Interactions. Social and Spatial Aspects of the Corded Ware Communities in Moravia*. Studien zur Archäologie Europas 31. Bonn 2018.
- Kolář et al. 2011 – J. Kolář/M. Dobisíková/G. Dreslerová/E. Drozdová/M. Fojtová/M. Hložek/M. Gregorová/A. Přichystal/K. Urbanová/M. Wagenknechtová: *Kultura se šňůrovou keramikou v povodí říčky Hané na střední Moravě. Pohřební areály z prostoru dálnice D1 v úseku Vyškov – Mořice a dalších staveb*. Pravěk. Supplementum 23. Brno 2011.
- Kovács/Kulcsár eds. 2011 – G. Kovács/G. Kulcsár (eds.): *Ten Thousand Years along the Middle Danube. Life and Early Communities from Prehistory to History*. Varia Archaeologica Hungarica 26. Budapest 2011.
- Kővári/Patay 2005 – K. Kővári/R. Patay: A settlement of the Makó culture at Űllő. New evidence for Early Bronze Age metalworking. *Communicationes Archaeologicae Hungariae* 2005, 83–142.
- Kövecses Varga 2004 – E. Kövecses Varga: Esztergom – Szentgyörgymező. Duna-part őskori leletei (neolitikum, rézkor, bronzkor). *Komárom-Esztergom Megyei Múzeumok Közleményei* 11, 2004, 5–32.
- Krauß/Ciobotaru 2013 – R. Krauß/D. Ciobotaru: Daten zum Ende des Badener Keramikstils und dem Beginn der Frühbronzezeit aus Foeni-Gaz im rumänischen Banat. Mit Beiträgen zur absoluten Datierung und zu den bronzezeitlichen Tierknochen von Bernhard Weninger und Georgeta El Susi. *Prähistorische Zeitschrift* 88/1–2, 2013, 38–113.
DOI: <https://doi.org/10.1515/pz-2013-0003>
- Kulcsár 1998–1999 – G. Kulcsár: Kora bronzkori belső díszes talpas tálak a Dunántúlon. *Savaria* 24/3, 1998–1999, 115–139.
- Kulcsár 2002 – G. Kulcsár: Die Makó-Kosiho-Čaka Kultur im Spiegel einiger Bestattungen. *Antaeus* 25, 2002, 441–475.
- Kulcsár 2009 – G. Kulcsár: *The Beginnings of the Bronze Age in the Carpathian Basin. The Makó-Kosiho-Čaka and the Somogyvár-Vinkovci cultures in Hungary*. Varia Archaeologica Hungarica 23. Budapest 2009.
- Kulcsár 2012 – G. Kulcsár: Siedlungen entlang des Kapos-Tals (Süd-Transdanubien) zu Beginn der Bronzezeit. In: P. Anreiter/E. Bánffy/L. Bartosiewicz/W. Meid/C. Metzner-Nebelsick (eds.): *Archaeological, Cultural and Linguistic Heritage. Festschrift for Erzsébet Jerem in Honour of her 70th Birthday*. Budapest 2012, 349–362.
- Kulcsár 2013 – G. Kulcsár: Glimpses of the Third Millennium BC in the Carpathian Basin. In: *Anders et al.* 2013, 643–659.
- Kulcsár/Szabó 2000 – G. Kulcsár/J. J. Szabó: A kora bronzkori Makó-Kosiho-Čaka-kultúra temetkezései Kál-Legelő-III. lelőhelyen (Heves megye). *Ősrégészeti Levelek* 2, 2000, 31–43.
- Kulcsár/Szeverényi 2013 – G. Kulcsár/V. Szeverényi: Transition to the Bronze Age: Issues of Continuity and Discontinuity in the First Half of the Third Millennium BC in the Carpathian Basin. In: *Heyd/Kulcsár/Szeverényi* 2013, 67–92.
- Kuzma 1982 – I. Kuzma: Druhá etapa výskumu v Mužle-Čenkove. *AVANS* 1981, 1982, 171–176.

- Kuzma 1992 – I. Kuzma: Jedenásta sezóna výskumu v Mužle-Čenkove. *AVANS* 1990, 1992, 61, 62.
- Kuzma 1993 – I. Kuzma: Dvanásta sezóna výskumu v Mužle-Čenkove. *AVANS* 1992, 1993, 73–75.
- Kuzma 2001 – I. Kuzma: Nálezy z Gbeliec. *AVANS* 2000, 2001, 101, 102.
- Kuzma 2011a – I. Kuzma: Multikulturelle Siedlung in Mužla-Čenkov. In: Kovács/Kulcsár eds. 2011, 71–90.
- Kuzma 2011b – I. Kuzma: Zur Besiedlung der Mikroregion Mužla. In: Kovács/Kulcsár eds. 2011, 61–70.
- Kuzma/Bátora 1981 – I. Kuzma/J. Bátor: Prvá sezóna výskumu v Mužle-Čenkove. *AVANS* 1980, 1981, 152–155.
- Kuzma/Hanuliak 1990 – I. Kuzma/M. Hanuliak: Bisherige Grabungsergebnisse in Mužla-Čenkov. In: B. Chropovský (Hrsg.): *Die Ergebnisse der archäologischen Ausgrabungen beim Aufbau des Kraftwerksystems Gabčíkovo-Nagymaros*. Nitra 1990, 119–131.
- Kuzma/Ožďáni/Hanuliak 1983 – I. Kuzma/O. Ožďáni/M. Hanuliak: Tretia sezóna výskumu v Mužle-Čenkove. *AVANS* 1982, 1983, 143–147.
- Kuzma/Šalkovský 1984 – I. Kuzma/P. Šalkovský: Štvrtá sezóna výskumu v Mužle-Čenkove. *AVANS* 1983, 1984, 131–135.
- Kuzma/Šalkovský 1986 – I. Kuzma/P. Šalkovský: Šiesta sezóna výskumu v Mužle-Čenkove. *AVANS* 1985, 1986, 136–140.
- László 2005 – J. László: Tatabánya-Bikás rét. *Régészeti Kutatások Magyarországon 2004 – Archaeological Investigations in Hungary 2004*, 2005, 293.
- Lichardus/Vladár 1997 – J. Lichardus/J. Vladár: Frühe und mittlere Bronzezeit in der Südwestslowakei. Forschungsbeitrag von Anton Točík (Rückblick und Ausblick). *Slovenská archeológia* 45, 1997, 221–352.
- Machnik 1991 – J. Machnik: *The Earliest Bronze Age in the Carpathian Basin*. Bradford 1991.
- Mozsolics 1967 – A. Mozsolics: *Bronzefunde des Karpatenbeckens. Depotfundhorizonte von Hajdúsámson und Kosziderpadlás*. Budapest 1967.
- Neustupný 2013 – E. Neustupný: The Corded Ware culture. In: E. Neustupný (ed.): *The Prehistory of Bohemia 3. The Eneolithic*. Praha 2013, 130–154.
- Nevizánsky 2001 – G. Nevizánsky: Príspevok k mladšiemu stupňu kultúry Makó(Kosihy)-Čaka na juhozápadnom Slovensku. *Slovenská archeológia* 49, 2001, 19–38.
- Nováki 1965 – Gy. Nováki: A Nagyörbő-Várhegy-i korabronzkori erődített telep. *Archaeológiai Értesítő* 92, 1965, 168–175.
- Novinszki-Groma 2017 – K. Novinszki-Groma: Inhumation graves at the Early Iron Age cemetery of Süttő. In: E. Mirošayová/Ch. Pare/S. Stegmann-Raktár (Hrsg.): *Das nördliche Karpatenbecken in der Hallstattzeit. Wirtschaft, Handel und Kommunikation in früheisenzeitlichen Gesellschaften zwischen Ostalpen und Westpannonien*. *Archaeolingua* 38, Budapest 2017, 471–497.
- Novotný 1955 – B. Novotný: Slavónska kultúra v Československu. *Slovenská archeológia* 3, 1955, 5–69.
- Paulík 1958 – J. Paulík: Výskum na pieskovisku v Hurbánove. *Archeologické rozhledy* 10, 1958, 481–487.
- Pusztainé Fischl et al. 2015 – K. Pusztainé Fischl/V. Kiss/G. Kulcsár/V. Szeverényi: Old and new narratives for Hungary around 2200 BC. In: H. Meller/H. W. Arz/R. Jung/R. Risch (Hrsg.): *2200 BC – Ein Klimasturz als Ursache für den Zerfall der Alten Welt? – 2200 BC – A climatic breakdown as a cause for the collapse of the old world? 7. Mitteldeutscher Archäologentag vom 23. bis 26. Oktober 2014 in Halle (Saale) – 7th Archaeological Conference of Central Germany October 23–26, 2014 in Halle (Saale)*. Tagungen des Landesmuseums für Vorgeschichte Halle 12/I. Saale 2015, 503–523.
- Raczky/Hertelendi/Horváth 1992 – P. Raczky/E. Hertelendi/F. Horváth: Zur absoluten Datierung der bronzezeitlichen Tell-Kulturen in Ungarn. In: W. Meier-Arendt (Hrsg.): *Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiss*. Frankfurt am Main 1992, 42–47.
- Ruttkay 1995 – E. Ruttkay: Endneolithikum. In: E. Lenneis/Ch. Neugebauer-Maresch/E. Ruttkay (Hrsg.): *Jungsteinzeit im Osten Österreichs*. St. Pölten – Wien 1995, 178–203.
- Schlütz/Bittmann 2016 – F. Schlütz/F. Bittmann: Dating Archaeological Cultures by Their Moats? A Case Study from the Early Bronze Age Settlement Fidvár near Vrable, SW Slovakia. *Radiocarbon* 58/2, 2016, 331–343. DOI: <https://doi.org/10.1017/RDC.2015.17>
- Somogyi 2004 – K. Somogyi: Előzetes jelentés a Kaposvár – 61-es elkerülő út 29. számú lelőhelyén, Kaposújlak-Várdomb-dűlőben 2002-ben végzett megelőző feltárásról. *Somogyi Múzeumok Közleményei* 16, 2004, 165–178.
- Staniuk 2021 – R. Staniuk: Early and Middle Bronze Age Chronology of the Carpathian Basin Revisited: Questions Answered or Persistent Challenges? *Radiocarbon* 63/5, 2021, 1525–1546. DOI: <https://doi.org/10.1017/RDC.2021.83>
- Stockhammer et al. 2015 – Ph. W. Stockhammer/K. Massy/C. Knipper/R. Friedrich/B. Kromer/S. Lindauer/J. Radosavljević/F. Wittenborn/J. Krause: Rewriting the Central European Early Bronze Age Chronology: Evidence from Large-Scale Radiocarbon Dating. *PLoS ONE* 10 (10), 2015, e0139705. DOI: <https://doi.org/10.1371/journal.pone.0139705>
- Szabó 2017 – G. Szabó: Problems with the periodization of the Early Bronze Age in the Carpathian Basin in light of the older and recent AMS radiocarbon data – A Kárpát-medencei kora bronzkor periodizációjának nehézségei a régi és az újabb AMS radiokarbon adatok tükrében. *Archeometriai Műhely* 14/2, 2017, 99–116.
- Szeverényi et al. 2020 – V. Szeverényi/T. Hajdu/A. Marcsik/V. Kiss: Sacrifice, warfare, or burial? Middle Bronze Age »mass graves« from Érd and Makó, Hungary. In: H. Meller/R. Risch/K. W. Alt/F. Bertemes/R. Micó (Hrsg.): *Rituelle Gewalt – Rituale der Gewalt. Ritual Violence – Rituals of Violence*. 12. Mitteldeutscher Archäologentag vom 10. bis 12. Oktober 2019 in Halle (Saale) – 12th Archaeological Conference of Central Germany October 10–12, 2019 in Halle (Saale). Tagungen des Landesmuseums für Vorgeschichte Halle 22/I. Saale 2020, 361–378.
- Šebela 1999 – L. Šebela: *The Corded Ware Culture in Moravia and in the Adjacent Part of Silesia (Catalogue)*. *Fontes archaeologiae Moraviae* 23. Brno 1999.
- Teržan/Črešnar et al. 2014 – B. Teržan/M. Črešnar s sodelavci – with contributors: *Absolutno datiranje bronaste in železne dobe na Slovenskem – Absolute dating of the Bronze and Iron Ages in Slovenia*. Katalogi in monografije – Catalogi et monographiae 40. Ljubljana 2014.
- Točík 1981 – A. Točík: *Malé Kosihy. Osada zo staršej doby bronzovej*. *Materialia Archaeologica Slovaca* 4. Nitra 1981.
- Tóth 2003 – K. Tóth: A kora bronzkor kutatásának helyzete Magyarországon. *A nyíregyházi Jósza András Múzeum Évkönyve* 45, 2003, 65–111.
- Tóth 2004 – K. Tóth: A Makó-Kosihy-Čaka-kultúra településeiről. In: E. G. Nagy/J. Dani/Z. Hajdú (szerk.):

- ΜΟΜΟΣ II. Őskoros Kutatók II. Összejövetelének konferenciakötete. Debrecen, 2000. november 6–8. Debrecen 2004, 79–92.
- V. Vadász/Vékony 1969 – É. V. Vadász/G. Vékony: Tata-Tófarok, Deritő. *Régészeti Füzetek I*, 22, 1969, 22, 23.
- Vadász/Vékony 1980 – É. Vadász/G. Vékony: Süttő-Nagysáncetető. *Régészeti Füzetek I*, 33, 1980, 20, 21.
- Vadász/Vékony 1981 – É. Vadász/G. Vékony: Süttő-Nagysáncetető. *Régészeti Füzetek I*, 34, 1981, 19, 20.
- Vékony 1970a – G. Vékony: Lábatlan-Rózsa Ferenc utca. *Régészeti Füzetek I*, 23, 1970, 9.
- Vékony 1970b – G. Vékony: Nyergesujfalu-Sörsztag-LCM homokbánya. *Régészeti Füzetek I*, 23, 1970, 11.
- Vékony 1978 – G. Vékony: Tatabánya – Réti ut. *Régészeti Füzetek I*, 31, 1978, 27.
- Vékony 1982 – G. Vékony: Süttő-Nagysáncetető. *Régészeti Füzetek I*, 35, 1982, 21.
- Vékony 1983 – G. Vékony: Süttő-Nagysáncetető. *Régészeti Füzetek I*, 36, 1983, 25.
- Vékony 1984 – G. Vékony: Süttő-Nagysáncetető. *Régészeti Füzetek I*, 37, 1984, 27.
- Vékony 1986a – G. Vékony: Zu einigen Fragen der Hallstattzeit des östlichen Transdanubiens. In: E. Jerem (Red.): *Hallstatt Kolloquium Veszprém 1984*. Antaeus. Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften. Beiheft 3. Budapest 1986, 259–265.
- Vékony 1986b – G. Vékony: Süttő-Nagysáncetető és Sáncföldek. *Régészeti Füzetek I*, 39, 1986, 27.
- Vékony 1987 – G. Vékony: Süttő-Nagysáncetető és Sáncföldek. *Régészeti Füzetek I*, 40, 1987, 26, 27.
- Vékony 1988 – G. Vékony: Őskori népek Komárom megyében a jégkorszak után. In: L. Barkóczi/E. Biró/L. Dobosi (szerk.): *Komárom megye története I*. Komárom 1988, 63–77.
- Vékony 2000 – G. Vékony: A korszaki korszak a Dunántúlon. *Komárom-Esztergom Megyei Múzeumok Közleményei* 7, 2000, 173–186.
- Vékony/Vadász 1982 – G. Vékony/É. Vadász: Őskori sáncok és halmok Süttőn – A Fortified Settlement and Cemetery of the Early Iron Age at Süttő. A Komárom Megyei Múzeumok és a Fejér Megyei Múzeumok régészeti kiállításai 2. Tata 1982.
- Vladár 1966 – J. Vladár: Zur Problematik der Kosihiy-Čaka Gruppe in der Slowakei. *Slovenská archeológia* 14, 1966, 245–336.
- Vollmann 2005 – D. Vollmann: *Studien zum Übergang von der Kupferzeit zur frühen Bronzezeit im östlichen Mitteleuropa*. Saarbrücker Beiträge zur Altertumskunde 77. Bonn 2005.
- Vörös 2001 – I. Vörös: Csongrád-Sertéstelep bronzkori állatsontleletei. *A Móra Ferenc Múzeum Évkönyve. Studia Archaeologica* 7, 2001, 161–175.

Manuscript accepted 26. 2. 2022

Súhrn preložila Kristína Sedláček

Eszter Fejér, PhD.

Faculty of Humanities, Institute of Archaeological Sciences
Eötvös Loránd University
Múzeum krt. 4/B
HU – 1088 Budapest
fejer.eszter@btk.elte.hu

Sídlisko zo staršej doby bronzovej v blízkosti Süttő

Eszter Fejér

SÚHRN

Cieľom predloženej štúdie je na základe rozboru novo nájdených artefaktov z lokality Süttő-Sáncföldek, a na základe analýzy ďalších, doteraz nepublikovaných súčasných nálezov z mikroregiónu v okolí Süttő, podať ucelený pohľad na osídlenie v staršej dobe bronzovej v tomto mikroregióne.

Východne od dnešného Süttő (Severné Zadunajsko, Maďarsko), na spráchovej plošine situovanej na pravom brehu Dunaja, na úpätí pohoria Gerecse, bolo zaevidovaných viacero pravekých lokalít. Nachádzajú sa tu výšinné sídliská z doby bronzovej a železnej (Kissánc, Nagysánc, Nagysáncetető), ako aj niekoľko ďalších nížinných lokalít

(Sáncföldek; obr. 1). Lokality boli skúmané od roku 1920, pričom archeologický výskum sa sústreďoval predovšetkým na osídlenie zo staršej doby železnej. Najvýraznejšie výsledky priniesli aktivity Maďarského archeologického topografického projektu (1968–1972) a výskumy É. Vadászovej a G. Vékonyho (1978–1990). Ich výsledky boli čiastočne prezentované, avšak objavený materiál zostal nepublikovaný. V roku 2010 Univerzita Loránda Eötvösa v Budapešti pokračovala v terénnom výskume a v roku 2018 v rámci projektu Interreg DTP Iron Age Danube Project uskutočnila vykopávky na lokalite Süttő-Sáncföldek. Počas výskumu bol okrem iného preskúmaný

objekt 5, datovaný do staršej doby bronzovej.¹⁵ Pôvodne sa považoval za prvý dôkaz osídlenia tejto oblasti na konci 3. tisícročia pred Kr.

Objekt 5 bol plytký, silne deštruovaný útvar nepravidelného okrúhleho tvaru, s priemerom približne 150 cm (obr. 2). Obsahoval veľké množstvo keramických fragmentov, zvieracích kostí, niekoľko ľudských pozostatkov, okruhlíky, mazanicu a sporadické archeobotanické nálezy, ako aj viac ako 25 fragmentárne zachovaných nádob (tab. I; II). Archeozoologický materiál pozostával predovšetkým z kostí ovce/kozy, v menšom množstve z kostí hovädzieho dobytku a ošipaných, ojedinele aj koňa, psa a hrabovca. Okrem už spomenutých nálezov boli v jame uložené aj tri úlomky mušlí a tri semená pravekého karbonizovaného obilia – dve semená pšenice/jačmeňa (*Triticum/Hordeum*) a jedno semeno prosa (*Panicum miliaceum* L.). Ľudské pozostatky reprezentovali dva fragmenty – nespálený fragment rebra a fragment neidentifikovanej dlhej kosti.

Nájdenný keramický materiál je typický pre staršiu dobu bronzovú v Zadunajsku. Charakteristickými sú nálezy fragmentu nôžky, pravdepodobne z misky zdobenej z vnútornej strany, šálky s vysokým zakriveným hrdlom a kónickým telom, dvojkónickej misky s krátkym hrdlom a zhrubnutým okrajom, dvoch malých kónických misiek, ale aj niekoľko ďalších fragmentov nádob so zhrubnutým okrajom a slamovaným/hrebeňovaným povrchom. Ako ostrivo boli do keramiky pridávané kamienky a piesok.

Región v okolí lokality Süttő-Sáncföldek sa tradične považuje za súčasť oblasti rozšírenia kultúry Makó-Kosihy-Čaka, s ktorou vykazujú prezentované nálezy silné väzby. Jednoznačné kultúrne zaradenie objektu je problematické, keďže v severnom Zadunajsku je typickým javom prelínanie sa kultúr.

Aj napriek intenzívnemu terénnemu výskumu v okolí Süttő sa predpokladalo, že materiál zo staršej doby bronzovej bol zachytený iba v objekte 5 a v sonde otvorenej v roku 2018, z ktorej pochádzajú zberové nálezy fragmentov nádob s hrebeňovaným povrchom a okraj misky zdobenej z vnútornej strany (tab. II: 12).

Okrem najnovších, vyššie spomenutých artefaktov, sa pri analýze starších výskumov z lokality Süttő-Sáncföldek podarilo identifikovať aj ďalšie nespracované a nepublikované nálezy zo staršej doby bronzovej. Počas výskumu É. Vadászovej a G. Vékonyho na spomínanej lokalite v roku 1990, najmenej dve sondy (E30 a E34) obsahovali materiál zo staršej doby bronzovej. Keďže dokumentácia z výskumu takmer úplne chýba, je skoro nemožné rekonštruovať náleзовé situácie. Dá sa však predpokladať, že objekty ležali nie viac ako 100 m východne od miesta výskumu z roku 2018. Zachovaný keramický materiál pozostáva z rôznych fragmentov – zvnútra zdobených misiek, zlomkov z tiel nádob so slamovaným a zdrsneným povrchom (tab. III; IV: 1–4).

Nálezy datované do staršej doby bronzovej sa identifikovali aj na pravekom výšinnom sídlisku Süttő-Nagysáncstető, ktoré sa nachádza v blízkosti polohy Sáncföldek (obr. 1). Terénny výskum vykonaný É. Vadászovou a G. Vékonym v rokoch 1979–1986 priniesol dôkazy o osídlení a o opevnení lokality v staršej dobe bronzovej. V súčasnosti však nie je s istotou možné z nálezových celkov identifikovať artefakty datované do staršej doby

bronzovej a ani výskumná dokumentácia nám o nich neposkytuje bližšie informácie.

Počas terénneho výskumu Maďarského archeologického topografického výskumného projektu v roku 1968 boli približne 1,5 km juhovýchodne od Süttő-Sáncföldek a Süttő-Nagysáncstető objavené ďalšie nálezy, patriace pravdepodobne do staršej doby bronzovej na lokalite Süttő-Tatai úti dűlő II. Nálezisko sa rozprestiera na malej vyvýšenine v blízkosti vodného toku Bikol. Osídlenie indikujú iba nálezy z povrchového zberu – fragmenty zvnútra zdobených misiek a fragmenty nádob so slamovaným povrchom (tab. IV: 5–11).

Ďalšia lokalita zo staršej doby bronzovej bola objavená na východnom okraji Süttő v oblasti Lábatlan-Hosszú (predtým Süttő-Vasúti őrház). Terénny výskum tu vykonal v júni 1959 N. Kalicz. Okrem nálezov z neolitu, eneolitu a z mladšej doby železnej tu objavil tri objekty zo staršej doby bronzovej. Objekt II/γ predstavoval okrúhlu jamu s priemerom 140 cm, s takmer rovnými stenami, plochým dnom a s hĺbkou 49 cm. Objekt IV/α bol podobného tvaru so zaoblenými rovnými stenami, s plochým dnom, s priemerom 138 cm a s hĺbkou 70 cm. Objekt IV/β mal taktiež zaoblený tvar, priemer 150 cm, hĺbku 42 cm a rovné steny, zužujúce sa smerom nadol (tab. V). Do staršej doby bronzovej možno datovať aj niektoré fragmenty keramiky so zdrsneným povrchom z prvej sondy.

V roku 1969 zhromaždil G. Vékony menší súbor nálezov, objavený v hĺbke 130 cm pri výkopoch kanalizácie na ulici Ferenca Rózsza v Lábatlane. Súbor obsahoval veľkú amforu-urnu so spopolnenými ľudskými pozostatkami, dva džbány a dve misky (tab. VI; VII), ktoré pravdepodobne patrili k hrobu.

Okrem vyššie spomenutých nálezov môžeme do staršej doby bronzovej zaradiť štiepanú čepeľ zo Süttő-Sáncföldek a náhodný nález sekery s otvorom zo Süttő. Pravdepodobne išlo o typ Kömlőd, avšak nález je dnes už stratený.

Podrobnejší typologický rozbor spomenutých nálezov sťažuje ich vysoká fragmentárnosť a nízka početnosť. K analyzovanému súboru patrili zásobnice, hrnce, bikónické a kónické misky, rôzne hrnce a niekoľko mis na nôžke. V prípade zvnútra zdobených misiek bolo identifikovaných niekoľko techník zdobenia a rôzne motívy. Vzor nešrafovaného kríža vo vnútri šrafovaného kruhu má paralely v hmotnej kultúre južného Zadunajska v kultúre Somogyvár-Vinkovci (tab. III: 1). Uzavretá dutá nôžka patriaca k miske (tab. III: 4) nemá analógie. V hrobe z Lábatlanu bola amforovitá nádoba s ojedinelým rebrovým vzorom (tab. VI), ktorá indikuje silné väzby na kultúru so šnúrovou keramikou.

Na obr. 3 sú znázornené doteraz registrované sídliská zo staršej doby bronzovej v okruhu približne 25 km okolo Süttő. Zväčša ide o malé lokality, určené na základe povrchových zberov alebo niekoľkých preskúmaných objektov, ale evidujeme tu aj väčšie sídliská (napr. Bajč-Vinohrady, Mužla-Čenkov) alebo ojedinelé hroby (Bajč-Medzi kanálmi, Lábatlan, Tata-Tófarok). Dispozícia sídlisk v Süttő a Lábatlane je podobná ako na iných lokalitách kultúry Makó-Kosihy-Čaka – menší počet objektov, vzdialených približne 100 m od seba. Ich usporiadanie naznačuje nízku intenzitu osídlenia sídlisk.

¹⁵ Pojem staršia doba bronzová sa v celom príspevku používa na základe maďarskej terminológie. Na Slovensku obdobie kultúry Makó-Kosihy-Čaka (cca 2800/2600–2300 BC) zachytáva koniec neskorého eneolitu a začiatok staršej doby bronzovej.

V práci prezentované staršie aj novšie objavy indikujú hustú a stratifikovanú sieť sídlisk v okolí Süttő, ktorých súčasťou boli výšinné opevnené sídliská na vrchole sídelnej hierarchie. Žiaľ, vzhľadom na množstvo a stav zachovania nálezov nie je možné určiť jemné chronologické rozdiely medzi jednotlivými lokalitami. Vo všeobecnosti je k dispozícii veľmi málo poznatkov o výšinných opevnených sídliskách, zvlášť v rámci rozšírenia kultúry Makó-Kosihy-Čaka, no v južnom Zadunajsku existujú oblasti, ktoré vykazujú podobnú sídelnú sieť v období staršej doby bronzovej.

Kultúrne zaradenie malých nálezísk v okolí Süttő zo staršej doby bronzovej nie je vždy jednoznačné. Dominujú tu prvky kultúry Makó-Kosihy-Čaka, ale nájdeme aj analógie s kultúrou so šnúrovou keramikou, kultúrou Somogyvár-Vinkovci a s kultúrou zvoncovitých pohárov. Lokality v okolí Süttő svedčia o silných nadregionálnych interakciách, ktoré sú charakteristické pre staršiu dobu bronzovú v Karpatskej kotline. Dáta získané analýzou C¹⁴ z lokality Süttő-Sáncföldek [4014 ± 33 BP, 2585–2466 cal BC (90, 8 %)] sú v súlade s doteraz známymi absolútnymi dátami včasnej fázy kultúry Makó-Kosihy-Čaka (obr. 4).

THE DAWN OF THE EARLY BRONZE AGE IN SOUTH-WESTERN SLOVAKIA

A Re-Evaluation of the Social Structure and Chronology of Výčapy-Opatovce

F Y N N W I L K E S  – H E N R Y S K O R N A 

This paper deals with the chronology and social structure of the Early Bronze Age cemetery of Výčapy-Opatovce (Slovakia/Nitra district). Six radiocarbon dates are presented for the Nitra culture cemetery, which date Výčapy-Opatovce to the very beginning of the Early Bronze Age (2300/2200–1500/1400 BCE), roughly contemporaneous with the first phases of the Branč cemetery (Nitra district). A small group of graves originally attributed to the Copper Age Ludanice group also seem to date at least partially to the Bronze Age. The results of the radiocarbon dating do not support a chronological division of the cemetery. Applying a burial index (Z-transformation), five grave clusters were identified within the cemetery. These concentrations of richly furnished graves are separated from each other by poor graves. Two of the clusters could be dated by the radiocarbon dates and demonstrated different areas at the burial ground were used at the same time. The authors conclude that in particular the chronological burial site model of Ch. Bernard, which she proposed in 2005 for Výčapy-Opatovce, should be rejected. The combination of the results of the analysis of the grave indices and radiocarbon dates for Výčapy-Opatovce argues for a division of the cemetery into social groups, as initially suggested by A. Točík.

Keywords: Western Slovakia, Early Bronze Age, Radiocarbon dating, Nitra culture, Ludanice group, social units, burial index.

INTRODUCTION

The Early Bronze Age in south-western Slovakia was a period of intense social and economic changes. Due to its position at the Carpathian basin's northern edge and next to the Moravian gate, the region is the scene of cultural transition and exchange between central and south-eastern Europe.

The prehistoric societies located here at the intersection between the Eneolithic Age and the Early Bronze Age are part of an intensive research discussion about chronology and forming of archaeological groups (for a summary *Bátora* 2018; *Peška/Králík* 2020). Closely intertwined in this dynamic development of Early Bronze Age societies are the areas of west and south-west Slovakia, Moravia, Lesser Poland and Silesia. The growing number of radiocarbon dates are help to further clarify existing chronologies and reshape our understanding of the dawn of the Early Bronze Age in south-western Slovakia. With this new set of radiocarbon dates from Výčapy-Opatovce (Nitra district), presented here, the authors hope to promote and contribute to further discussions about the chronology of the Nitra culture.

Since its discovery in the 1950s the Early Bronze Age cemetery of Výčapy-Opatovce is considered

one of the important cemeteries of the Nitra culture (*Točík* 1979, 65 ff.). From a total of 317 graves, about 300 are assigned to the Nitra culture (*Točík* 1979, 34), while only a few others were dated to the transitional phase from Nitra to Únětice culture (*Benkovský-Pivovarová/Chropovský* 2015b, 120; *Lichardus/Vladár* 1997; *Točík* 1979, 47). Additionally, a small number of graves dated to the Copper Age Ludanice group (*Lichardus/Vladár* 1964; *Točík* 1979, 65) were uncovered. Together with the cemeteries of Abrahám I¹ (*Benkovský-Pivovarová/Chropovský* 2015a, 13 ff.), Branč² (*Vladár* 1969; 1973; *Vladár/Lichardus* 1968) and Jelšovce³ (*Bátora* 2000a), Výčapy-Opatovce is the largest published assemblage of graves of the Nitra culture to date (Fig. 1).

Considering the intensive ongoing debates as briefly summarized in the following (*Bátora* 2018; *Furmánek/Veljačik/Vladár* 1999; *Peška/Králík* 2020) about the dating of the Early Bronze Age in southwestern Slovakia, ¹⁴C dating was overdue for Výčapy-Opatovce. Furthermore, only eight radiocarbon dates came from the Nitra culture are published so far. Four dates coming from the Branč cemetery (*Gerloff* 1993) and four from the Jelšovce cemetery (*Görsdorf* 2000).

In this paper, six new ¹⁴C dates from Výčapy-Opatovce are presented and contextualized alongside

¹ 186 graves of the Nitra and Únětice culture.

² 307 graves of which 237 are assigned to the Nitra culture.

³ 616 graves of which 176 are assigned to the Nitra culture.

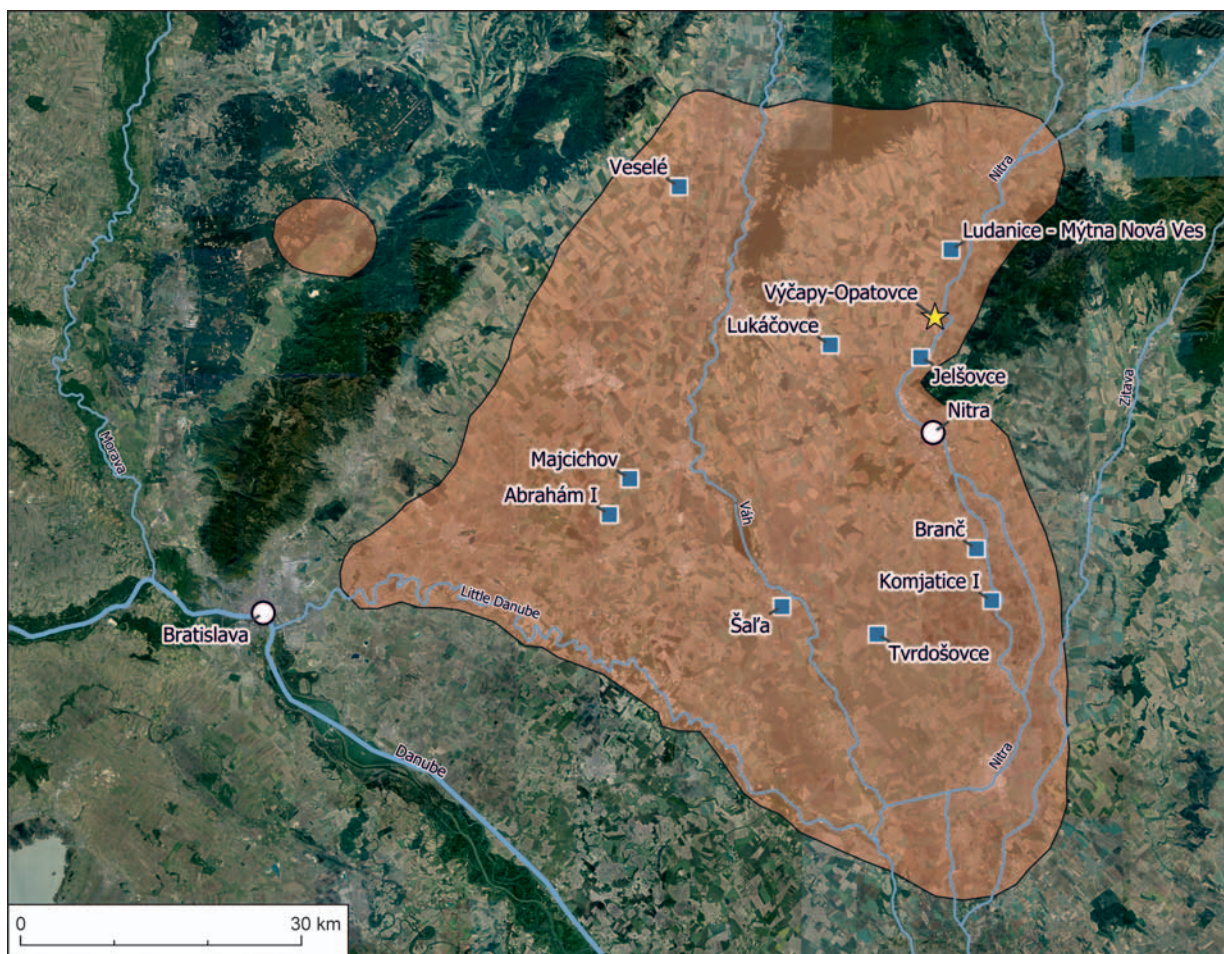


Fig. 1. Map of south-western Slovakia with the main site. Yellow star – Výčapy-Opatovce; Blue squares – sites mentioned in the text; Red area – the distribution area of the Nitra culture in south-western Slovakia (after *Furmánek/Veliačik/Vladár 1999*).

previously known Early Bronze Age dates, and their significance for the site's chronology is considered. Particular focus is put on the evaluation of the analysis of Christel Bernard, who in her dissertation in 2005 postulated a three-phase character with chronological relevance for Výčapy-Opatovce (*Bernard 2005*, 117 ff.).

Using the new ^{14}C data, the authors intend to discuss previous statements about the chronology of the cemetery. Further, this paper attempts to develop a model of social differentiation within the cemetery through a socio-economic analysis, using burial indices.

SPATIAL DISTRIBUTION OF THE NITRA CULTURE

The main distribution zones of Nitra culture in Slovakia are mainly the southern areas around and between the river valleys of the eponymous Nitra and the Váh (Fig. 1). The occurrence is limited in

the east by the heights of Hronská pahorkatina. In the area of the Váh valley, the northern border is approximately at Nové Mesto nad Váhom, in the area of the Nitra valley at Topoľčany. The southern border runs approximately at the level of the small Danube. In today's Czech Republic, the Nitra culture is mainly spread in Eastern Moravia, on the eastern side of the Morava river valley up to about the height of Olomouc (*Bátora 2018*, 78; *Furmánek/Veliačik/Vladár 1999*, 27 f.).

EMERGENCE AND APPEARANCE OF THE NITRA CULTURE

Due to the growing number of similar material from Early Bronze Age sites in the 1950s A. Točík (1956) was able to identify an independent archaeological culture (*Furmánek/Veliačik/Vladár 1999*, 27 f.), naming it after the biggest concentration of finds along the river Nitra – Nitra culture. Recognizing the similarities in the material of the archaeologi-

cal cultures and groups of the Epi-Corded Ware Carpathian cultural complex also in Moravia and Poland, he subsequently switched his terminology to Nitra group (detailed research history e.g. *Bátora* 2018, 71 ff.; *Furmánek/Veliáčik/Vladár* 1999, 22 ff.; *Lichardus/Vladár* 1997, 221 ff.).

The primary sources for research of the so-called Nitra culture are the numerous graves found in southern Slovakia. Especially the large burial grounds, of the 63 known so far, such as Abrahám I, Branč, Jelšovce, Ludanice-Mýtna Nová Ves and Výčapy-Opatovce form the backbone of research. So far, settlement sites have only been reliably verified in Lukáčovce, Nitra-Dolné Krškany, Nitra-Horné Krškany (*Bátora* 2018, fig. 69). In the Moravian area, in addition to larger cemeteries such as Holešov or Hulín, significantly more settlement sites are known than in Slovakia (*Bátora* 2018, 77 ff.).

The typical archaeological inventory of the Nitra culture consists of bowls, jugs, pots and cups (*Bátora* 2018, 79; *Furmánek/Veliáčik/Vladár* 1999, 32 f.). Other finds include copper jewellery such as willow leaf rings or simple wire – so-called ‘Noppen’ rings – sheet metal diadems and pins (also made of bone), necklaces consisting of beads (bone, antler, faience, dentalium and copper), bone slides, and finally, simple three-edged copper daggers and flint arrowheads (*Furmánek/Veliáčik/Vladár* 1999, 28 ff.; *Točík* 1978, 99 f.).

In south-western Slovakia, the so-called Chłopice-Veselé culture is traditionally regarded as the basis from which the so-called Epi-Corded Ware Carpathian cultural complex (EPCC) developed. Additionally, the Nitra culture, the eastern Slovak Košťany culture as well as the Mierzanowice culture, widespread in Lesser Poland, Upper Silesia and parts of Moravia, are belonging to that cultural complex (first *Machnik* 1967). According to *J. Bátora* (2018), the Chłopice-Veselé culture builds on the Eneolithic ‘substrates’ (Somogyvár-Vinkovci, Kosihy-Čaka-Makó culture, Corded Ware, Bell Beaker), components of which can be found in the Nitra culture (*Bátora* 2018, 71 ff.). In this context, he also refers to the Chłopice-Veselé culture as the Proto-Nitra phase, which he prefixes to his three developmental phases of the Nitra culture:

- early phase 2200–2150 cal. BC;
- classical phase 2150–1930 cal. BC;
- late phase (Nitra-Únětice phase) 1930–1870 cal. BC.

The late phase of the Nitra culture (Nitra-Únětice phase) is at the same time his early phase of the Únětice culture, with which he considers the increased influence of the Únětice culture, whose influences he notes in the classic phase of the Nitra culture (*Bátora* 2018, 87 ff.).

However, in more recent work, *J. Peška* and *M. Králík* (2020) argue for a new periodisation of the EPCC, at least for the Moravian and Moravian-Silesian regions. They assume that there is no chronologically uniform Chłopice-Veselé formation, but that two different time horizons exist. This division is based on the work of *S. Kadrow* and *J. Machnik* (1997), who postulate an older proto-Mierzanowice horizon with Chłopice material and a younger early Mierzanowice horizon with Veselé group material, based on ^{14}C data and stratigraphic observations. Based on this, *J. Peška* and *M. Králík* (2020, 224 ff.) analysed grave inventories in combination with ^{14}C dating using multivariate statistical methods and propose a new periodisation for the Epi-Corded Ware Carpathian cultural complex:

- proto Nitra phase (EPCC I), dating roughly on a par with the Chłopice group;
- early Nitra phase (EPCC IIa, IIb), which dates roughly on a level with the Veselé group;
- older Nitra phase (EPCC III), probably corresponds with the end of the Proto-Únětice culture and the second phase of the Únětice culture;
- classic Nitra phase, corresponds with the 2nd phase of the Únětice culture;
- postclassical Nitra phase, corresponding to the 3rd preclassical phase of the Únětice culture.

There are no clear division between the individual phases. The beginning and end of each phase are strongly interwoven. Based on typological and technological similarities with material from Lesser Poland and especially Upper Silesia, *J. Peška* and *M. Králík* (2020) propose a terminological designation of the finds north of the Moravian Gate as Mierzanowice. The finds from the Moravian Gate and south of it, as well as the finds from south-west of Slovakia, in view of their great similarities, they refer to as Nitra culture (*Peška/Králík* 2020, 249). It suggests that the earliest material from western Slovakia (e.g. from Kúty II), can be typo-chronologically located in the Proto-Mierzanowice stage (*Peška/Králík* 2020, 223 f.), so that the transfer of the results of the study for Moravia to Slovakia also seems possible. However, this periodisation system where Chłopice-Veselé is considered as proto-Mierzanowice and early Mierzanowice is contested by *J. Bátora*, who argues that this cultural sequence does not correspond to the developments in SW Slovakia (*Bátora* 2018, 72). Since the statistical evaluation of the graves of the Nitra culture in southern Slovakia is yet to be published, this problem is for the time being unresolved (*Peška/Králík* 2020). We believe that the ^{14}C dating analysed in this paper will contribute to this discussion.

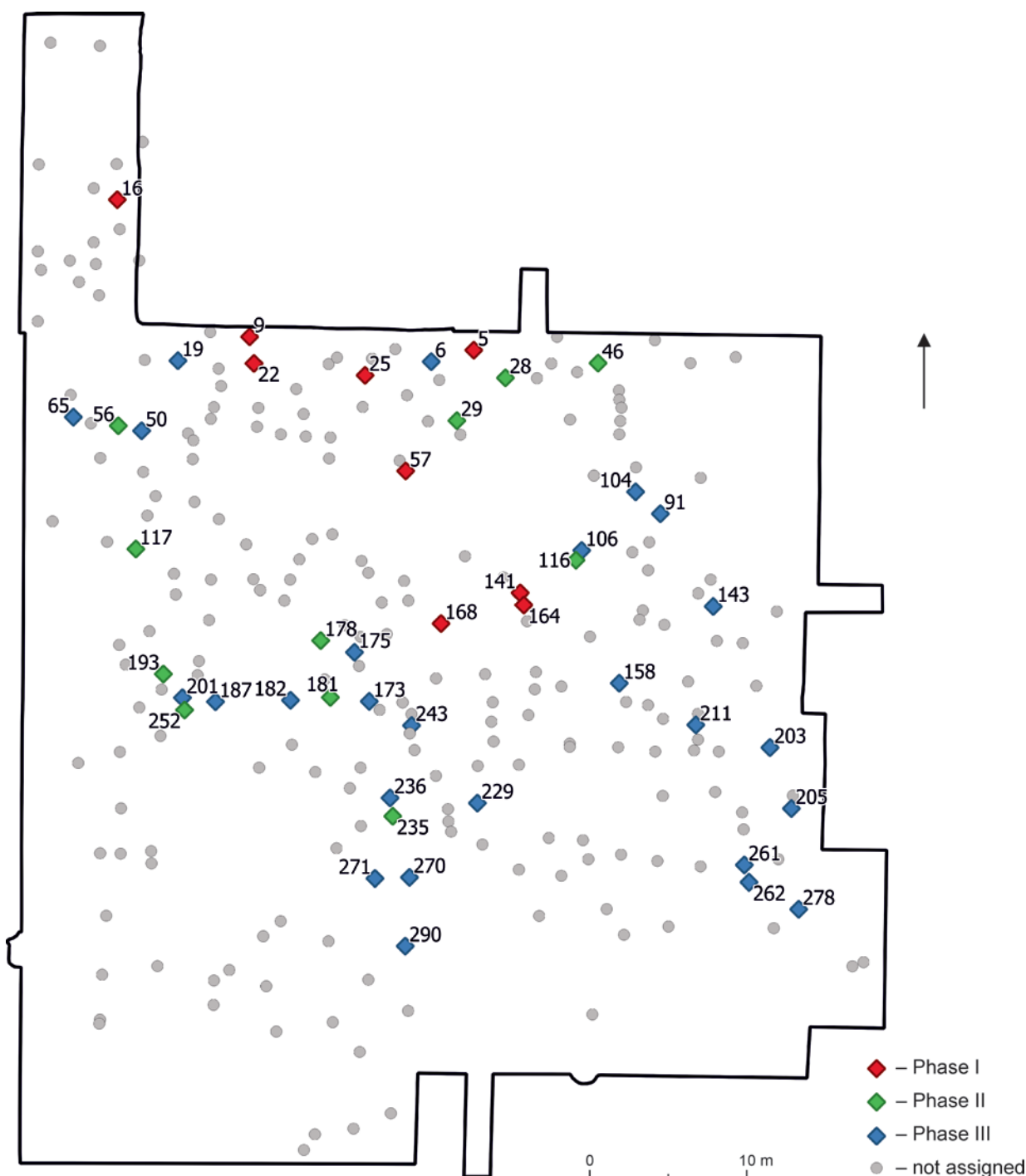


Fig. 2. Výčapy-Opatovce. Excavated area of the burial site. Highlighted are the phases based on Ch. Bernard's typochronological work (after Bernard 2005).

THE BURIAL SITE

Výčapy-Opatovce is located on the western bank of the Nitra river, c. 11 km north of the city of Nitra (Fig. 1; Bernard 2005, 117; Točík 1979, 65 ff.). Between 1951 and 1954 a total of 319 inhumation graves (330 individuals) were excavated

under the lead of A. Točík (1963; 1979). Due to its proximity to a brickyard and road construction work nearby, it is believed that more than 60–80 graves had been destroyed before the excavations (Točík 1979, 65 f.). Of the 319 graves 64 (21%) show signs of disturbance (Fig. 2; Bernard 2005, 133).

With a proportion of around 300 graves the site is mainly occupied by the Nitra culture (*Benkovský-Pivovarová/Chropovský 2015b*, 117–120; *Točík 1979*, 65). A small number of graves was assigned to the transition of the Nitra and Únětice culture (*Benkovský-Pivovarová/Chropovský 2015b*, 120; *Točík 1979*, 47) and the Eneolithic Ludanice group⁴ (*Lichardus/Vladár 1964*; *Porubský 1955*; *Točík 1979*, 65). The spectrum of grave goods represents the typical forms of the Early Bronze Age, mostly of the Nitra culture, mainly the large number of willow leaf rings is to be emphasised here.

The anthropological analysis of 205 individuals was conducted by E. Strouhal but never published in detail. The short overview dealing with sex determination of the buried individuals at the cemetery is available, where E. Strouhal (1978, 132) states that the sex determination via archaeological information (burial goods, orientation) is to 97% correct. In the published catalogue of Výčapy-Opatovce it remains unclear in which cases the sex determination is based on the anthropological or archaeological assessment (*Točík 1979*, 65).

THE CEMETERY ANALYSIS BY A. TOČÍK

A. Točík (1963) observed three different grave groups in Výčapy-Opatovce, each with approximately 100 graves. This is based on considerations of the spatial distribution of the graves, but it remains unclear which burials belong to which grave group. Neither in the first overview of the archaeological material (*Točík 1956*), nor in the contemporary overview of the Nitra group (*Točík 1963*) or in the final draft of the cemetery catalogue (*Točík 1979*) is an allocation apparent.⁵

In the three aforementioned groups, A. Točík (1963; 1979) proposed that extended family groups burying their dead simultaneously across all three phases of the Nitra culture.⁶ The (partial) statistical evaluation of the large and some small cemeteries by A. Točík (1979, 26), on which the phase classification is based, was not published, however. An overview of which graves belong to which phase is therefore not available.

The chronological phase division of the Nitra culture and the Výčapy-Opatovce cemetery has subsequently been repeatedly taken up and ex-

panded (e.g. *Bátora 2000b*; 2018; *Furmánek/Veljačik/Vladár 1999*). A. Točík (1979, 25) sees a similar spatial division according to extended families as in Výčapy-Opatovce in other large cemeteries of the Nitra culture in Branč, while an internal structure is not present in the smaller cemeteries.

THE CEMETERY ANALYSIS BY J. LICHARDUS AND J. VLADÁR

In their 1997 contribution, Ján Lichardus and Jozef Vladár synchronise the graves from Výčapy-Opatovce with the first five burial horizons from Branč and propose a chronological division into four horizons. Due to the poor quality of the published illustrations, they only refer to a limited selection of the most important graves and their characteristic furnishings:

Výčapy-Opatovce I – graves of the Veselé group (e.g. grave 8, 164). The willow leaf decoration without a midrib is characteristic;

Výčapy-Opatovce II – corresponds to the early Nitra culture (e.g. grave 25, 26, 32, 44, 65, 80, 83, 85, 87, 132, 141, 153). Early Nágyrev culture pottery, bone and shell ornaments and isolated willow leaf ornaments are characteristic;

Výčapy-Opatovce III – corresponds to the classical Nitra culture (e.g. grave 6, 116, 120, 168, 176, 178, 179, 182, 188). Willow leaf ornaments as well as bone and shell ornaments are characteristic;

Výčapy-Opatovce IV – corresponds to the late Nitra culture (e.g. grave 104, 165, 175, 183, 205, 235, 270, 271, 278).

Different to A. Točík's (1963, 761 ff.; 1979, 24 ff.) they make a clearer (chronological) distinction between of the graves with Veselé characteristic and graves with pottery of the early Nágyrev culture. Therefore, they are separating the earliest graves into two different phases (I, II).

THE CEMETERY ANALYSIS BY CH. BERNARD

In her doctoral thesis from 2005 at the Universität des Saarlandes, Ch. Bernard deals with the costume and burial customs within the Nitra culture. In addition to typological evaluations, she includes data from extensive metal analyses in her evaluation.

⁴ Ludanice burials are graves 1, 2, 3, 5, 7, 195, 202a, 259, 218, 225, 280 and 286 (*Lichardus/Vladár 1964*).

⁵ J. Lichardus and J. Vladár (1997) refer to a never published monograph by A. Točík (1960), in which the Nitra culture is described in detail. The basis for this is the evaluation of the material from Výčapy-Opatovce.

⁶ 1. Proto-Nitra or Early Nitra phase; 2. classical Nitra phase (older phase); 3. Nitra-Únětice phase (younger phase; *Točík 1979*, 26 ff.).

Her work is divided into two parts, with the aim of the work being to explore the development of chronological and social groups within the cemeteries. In the first part she deals with the typological and archaeological evaluation of the cemeteries of Branč, Komjatice I, Šaľa I, Tvrdošovce and Výčapy-Opatovce. The second part presents the results of the metal analyses.

Focusing on the undisturbed female burials, she elaborates several so-called 'costume groups' through combination statistics.⁷ However, she pointed out that already J. Lichardus and J. Vladár consider the possibility of a typological division of the material from Branč and Výčapy-Opatovce as difficult (Bernard 2005, 108; Lichardus/Vladár 1997, 282).

For Výčapy-Opatovce, Ch. Bernard elaborates on three costume groups each for female (group A–C) and male burials (group 0, a and b; Bernard 2005, 152 ff.). Next, she summarizes these groups into three chronological phases (Phase I–III⁸; Bernard 2005, 155 f., map. 82–88). In phase I typical objects for a buried female are willow leaf earrings and belts or necklaces made of bone beads. Male burials are characterized by pottery as grave goods. In phase II typical objects for a buried female are willow leaf earrings, wire rings, necklaces with faience beads and copper objects as well as bone and antler bead applications. Male burials are characterized by finger and/or ear rings made of wire. In phase III typical objects for a buried female are willow leaf ear rings, so called 'Noppenringe', ear rings made of wire, necklaces and applications made of beads of various materials (antler, bone, copper and faience), pins, arm- and finger rings, head bands and shell artefacts. Male burials are characterized by finger rings, 'Noppenringe', willow leaf knives, boar tusks and shell artefacts.

In her discussion of the material from Výčapy-Opatovce she concludes that the costume groups – and thus also the phases – are not social groups, but chronological groups. She states that in none of the groups is a concentration of wealth recognizable, since in every of the three groups there are graves with a high number of bronze rings and also burials with a high number of beads and therefore wealth is present in every group and no wealth disparities are visible, so these groups are not social groups (Bernard 2005, 158 f.).

Within the cemetery, from Ch. Bernard's point of view, the cemetery developed from the inside to the outside and thus neighbouring graves can

probably be assigned chronologically to the same group (Bernard 2005, 155). She briefly states the possibility that rich neighbouring burials from different phases, might indicate a family connection between them (Bernard 2005, 159 ff.), but does not elaborate on this idea. At this point, however, it should be stated that only 53 of about 300 graves of the Nitra culture could be classified into one phase by Ch. Bernard.

Since Ch. Bernard's model is the latest model of the historical and social development of the cemetery, we will use it as a baseline for the chronological and social analysis using radiocarbon dating and burial index.

METHODOLOGY AND RESULTS

¹⁴C dating

While consulting finds assemblages from Výčapy-Opatovce the question arose as to what extent the chronological phases of Ch. Bernard were correct. Basically, the selection of samples was limited to the available finds in the Malé Vozokany archive, access to the skeletal material was not possible. Due to a lack of access to the complete find's assemblages, the sampling strategy could not be constructed according to typology-chronology. Instead, ¹⁴C samples were limited to available fragments of antler beads. In order to achieve a good coverage of the cemetery with a small sample set, samples were taken from two areas of the cemetery. Of the graves sampled, one falls into Phase I, three into Phase II, and two into Phase III of Ch. Bernard. Consideration was given to possible temporal offset caused by material culture inheritance in the past, where some beads were passed on as family heirlooms. However, given the undocumented example of such practices in the study region, these initial reservations were dismissed.

From the available antler beads six samples were selected based on their assignment in Ch. Bernard's phases and their accompanying objects and sent to Curt-Engelhorn-Center Archaeometry gGmbH (CEZA) for analysis. Collagen was extracted at CEZA according to the Longin method, filtrated and freeze-dried. In the following step, samples were combusted and converted into graphite. The isotopic ratios were then measured with a MICA-DAS-type AMS-system.

For the calibration and analysis of the dating results the software OxCal version 4.4.4 (Bronk

⁷ The sex determination is based on the information provided by A. Točík (1979).

⁸ Phase I: grave 5, 9, 16, 22, 25, 57, 141, 164, 168; Phase II: grave 28, 29, 46, 56, 93, 96, 116, 117, 129, 178, 181, 193, 235, 252; Phase III: grave 6, 19, 50, 65, 91, 92, 104, 106, 118, 143, 155, 158, 170, 173, 175, 182, 187, 201, 203, 205, 211, 229, 236, 243, 261, 262, 270, 271, 278, 290.

Tab. 1. Výčapy-Opatovce. Results of the ^{14}C analysis on six samples. 1 and 2 sigma (σ) ranges are based on calibration with OxCal v4.4.4 (Bronk Ramsey 2009; Reimer et al. 2020).

Lab. Code	Grave	Phase after Bernard	^{14}C yr BP	Date (cal. BC.; 1 σ – 68%)	Date (cal. BC.; 2 σ – 95%)
MAMS-52297	5	I	3682 $\pm$ 23	2133–2029	2190–1977
MAMS-52298	6	III	3691 $\pm$ 23	2134–2034	2192–1981
MAMS-52299	181	II	3668 $\pm$ 21	2130–1981	2137–1961
MAMS-52300	252	II	3694 $\pm$ 23	2135–2035	2193–1982
MAMS-54235	19	III	3685 $\pm$ 22	2134–2031	2189–1978
MAMS-54236	178	II	3743 $\pm$ 23	2200–2061	2276–2038

OxCal v4.4.4 Bronk Ramsey (2021); r.5 Atmospheric data from Reimer et al (2020)

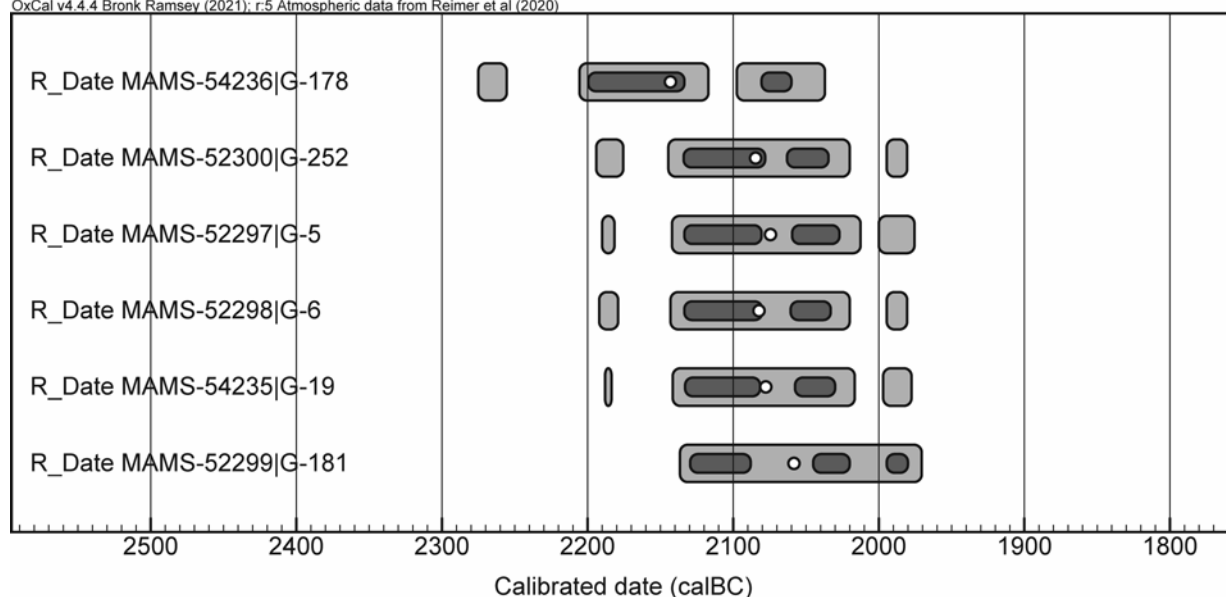


Fig. 3. Výčapy-Opatovce. Results of the sum-calibration of the six ^{14}C samples. Light grey – indicated the 2 σ calibrated range; dark grey – indicated the 1 σ calibrated range. Raw data in Tab. 1.

Ramsey 2009) with the IntCal20 (Reimer et al. 2020) calibration curve was used. In the first step the dates were put into a dating model based on the phases defined by Ch. Bernard. Additional sum and sequence models were used, to compare the model's agreements to the prior chronological assumptions. It should be noted here that no statistically binding statements can be made due to the small sample size ($n = 6$). For a consideration of the datings according to their geographical distribution on the cemetery (grave clusters), there is unfortunately too few data.

The results of the calibration with OxCal showed (Fig. 3; Tab. 1) that grave 178 (2 σ : 2276–2038 cal. BC, 1 σ : 2200–2061 cal. BC) is the oldest of the dated graves. Graves 5 (2 σ : 2191–1976 cal. BC, 1 σ : 2134–2028 cal. BC), 6 (2 σ : 2193–1981 cal. BC, 1 σ :

2134–2034 cal. BC), 19 (2 σ : 2189–1978 cal. BC, 1 σ : 2134–2031 cal. BC), and 252 (2 σ : 2195–1981 cal. BC, 1 σ : 2135–2035 cal. BC) date to the same period, and their calibrated radiocarbon dates are nearly coincident. The youngest of the graves examined is grave 181 (2 σ : 2137–1971 cal. BC, 1 σ : 2130–1981 cal. BC). The dates span a period from 2276 to 1971 cal. BC (2 σ).

Assuming a sequence of graves according to the phases of Ch. Bernard (Fig. 4; in the following Model 1), based on the available dating, the duration of occupation of the cemetery ranges from 0 to 118 years (2 σ), or 0 to 57 years (1 σ). The use of the cemetery begins between 2201 and 2040 cal. BC (2 σ) and ends in the period 2130 to 1973 cal. BC (2 σ).⁹ The sequence according to Ch. Bernard has a model

⁹ Model 1: 2161–2086 to 2096–2019 cal. BC (1 σ).

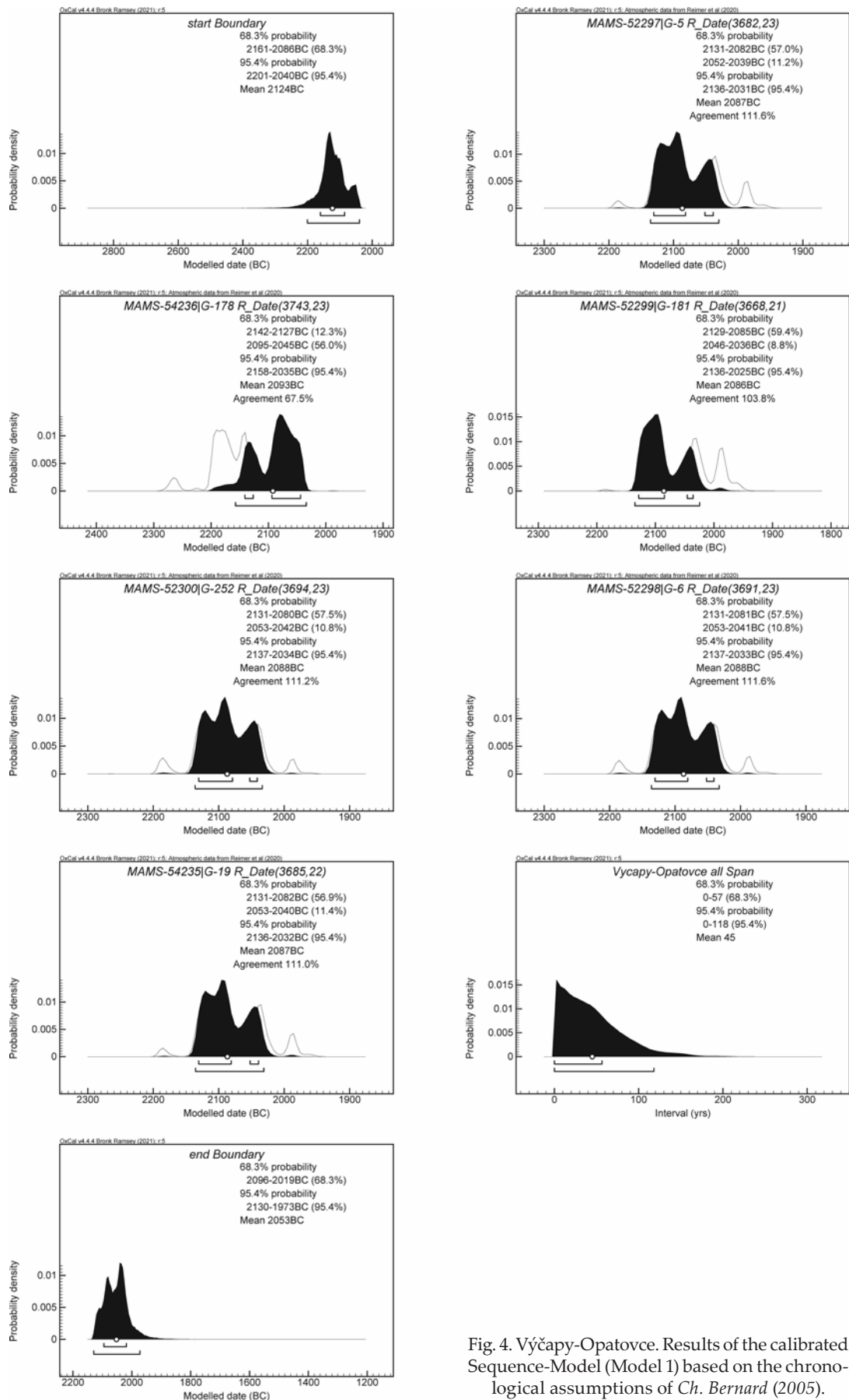


Fig. 4. Výchapy-Opatovce. Results of the calibrated Sequence-Model (Model 1) based on the chronological assumptions of *Ch. Bernard* (2005).

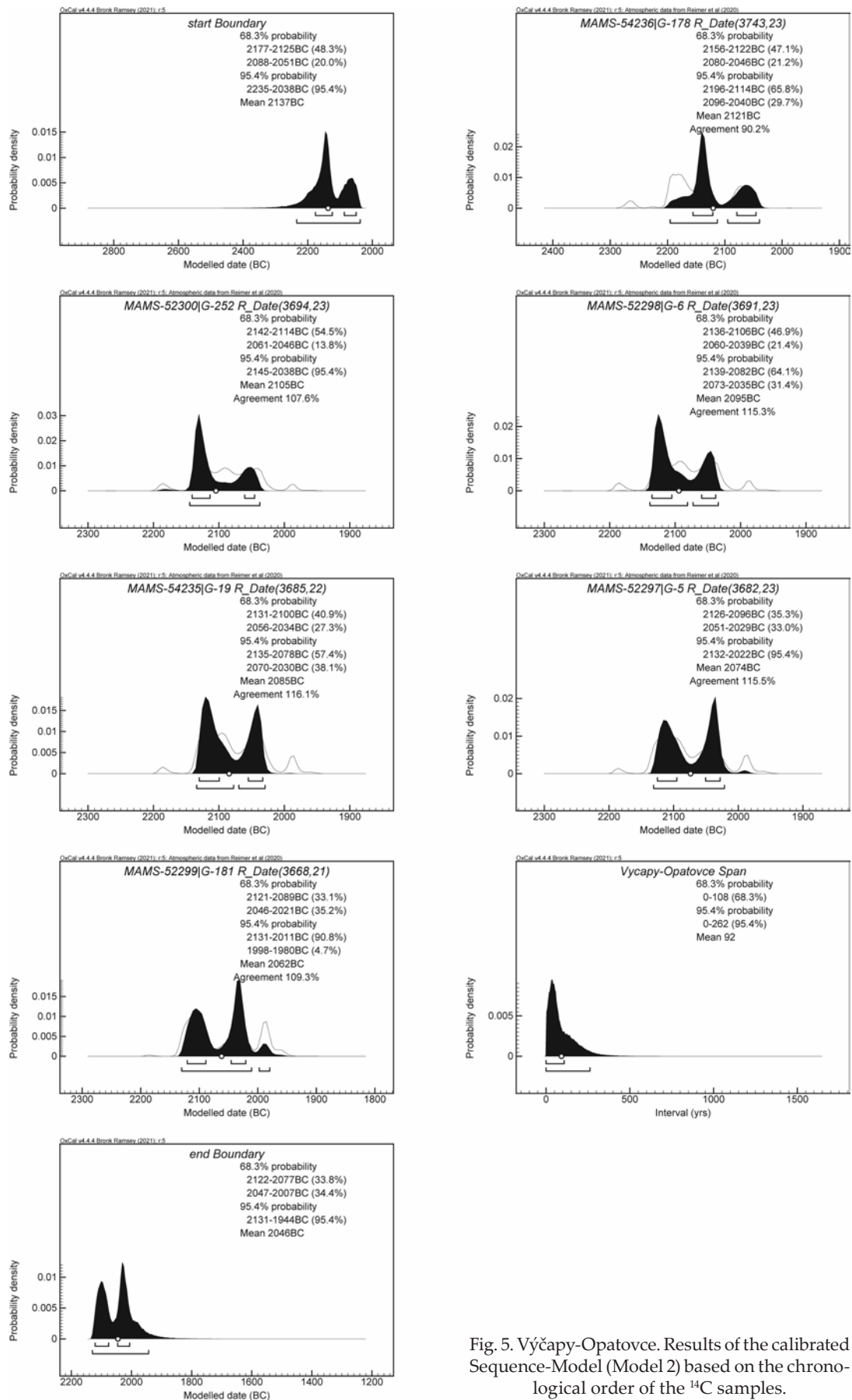


Fig. 5. Výchapy-Opatovce. Results of the calibrated Sequence-Model (Model 2) based on the chronological order of the ^{14}C samples.

agreement of 102%. Grave 178 in Phase II has the lowest value with an agreement of 68%.

If the graves were considered in a sequence from the oldest to the youngest dated grave (Fig. 5; in the following Model 2; agreement 125%), a possible Time Range of 0 to 262 years (2σ), or 0 to 108 years (1σ) is obtained. In this case, the occupation of the burial ground begins between 2235 and 2038 cal. BC (2σ) and ends in the period 2131 to 1944 cal. BC (2σ).¹⁰

The results show that a division of the cemetery into three phases – as outlined by *Ch. Bernard* (2005) – must be rejected. The ¹⁴C dates are mostly contemporaneous and only grave 178 stands out with an older date. For this reason, the cemetery can be regarded as single-phase, but at most as two-phase.

Burial index

The results of the radiocarbon dating show that the chronological relevance of the costume groups postulated by *Ch. Bernard* (2005) may not be given. Therefore, the question arose to what extent possible segmentation according to social groups existed on the cemetery and how this could be determined.

Instead of a typological approach, a quantitative methodology was chosen. At the centre of this approach is the question of the extent to which individual social groups can be separated from each other by their wealth and location in the cemetery – similar to *A. Točík's* family groups (1963; 1979). To compare the wealth of the graves as objectively as possible, a burial index was determined.

Since the value of an object from prehistoric contexts is unknown, this study uses with a grave or burial index. Generally, various burial index approaches were previously developed (*Beyer* 2020; *Bösel* 2008; *Endrigkeit* 2014; *Hedeager* 1980; 1990; *Holten* 1989; *Izquierdo-Egea* 2013; *Müller* 1994; *Rebay-Salisbury* 2006; *Windler/Thiele/Müller* 2013), with most building a set of sub-indices (grave volume, rarity of objects, number of objects) and combining them to a cumulative index. A common critique on most of these indices is, that they are often seen to be subjective and building on a set of sub-indices which are not statistically independent from each other. In most cases, it is unnecessary to use a set of sub-indices, since it is discussed, that there might be a positive correlation between sub-indices regardless (*Bösel* 2008, 51 f.; *Sprenger* 1999, 117).

This study uses the statistical method of standardization (Z-transformation) that was established as a burial index by *M. Bösel* (2008, 52 f.) and further used by *J. Laabs* (2010–2011). The method standardizes every observation within a sample, or in our case: of every object from a burial site, giving it the sample mean of 0 and the sample standard deviation of 1. The presence and absence of an object is considered. For this method, grave goods were assigned to individual object groups (e.g. object groups: small jewellery, tools, small ceramics).

To calculate Z-values, the average number of objects of a particular object type (e.g., willow leaf rings) within the cemetery is subtracted from the number of willow leaf rings in a single burial and the result is divided by the standard deviation of the object type.¹¹ The Z-values of each object type within each burial are summed and the value of an empty burial is subtracted from the summed values, yielding the burial index or burial value for each burial.

This calculation of the Z-values considers burial inventories of disturbed burials, since despite their disturbance they comprise a considerable part of the material quantity belonging to the society examined. However, in the later consideration on social groups, the disturbed burials were removed because their specific burial value can no longer be reconstructed due to the disturbance or robbery. The burial indices determined, are used below as a measure of the burial wealth.

Due to the rejected chronological model of *Ch. Bernard*, we decided to treat all undisturbed graves as a single phase (Fig. 2). Based on the burial indices, a normalized Gini index (*Marzian* 2021) was also calculated to provide an indication of the distribution of wealth within the graveyard.

A total of 272 graves were undisturbed. The burial indices range from 0 to 28.4, with a mean of 2.9. Wealth is relatively unequal distributed, or concentrated at the cemetery (Normalized Gini index 0.72, 2σ -confidence interval 0.69–0.78). There are no grave goods in 115 graves, so their burial index is 0. A burial index of 0.1 to 10 is present in 130 graves, and 27 graves have a value of 10 to 28.4.

The collected information on ¹⁴C dating, burial indices and costume groups according to *Ch. Bernard* were compiled in a GIS (QGIS v.3.12). For this purpose, in a first step, the cemetery plan of *A. Točík* was digitized. While the calibrated ¹⁴C data and the groups according to *Bernard* in the GIS only serve for a more precise visualization, it is possible to determine regions in the cemetery in which a con-

¹⁰ Model 2: 2177–2051 to 2122–2007 cal. BC (1σ).

¹¹ $Z = \frac{x - \mu}{\sigma}$; x: number of objects of a specific object type in a single burial, μ : mean of the specific object type on the cemetery, σ : standard deviation of the specific object type.

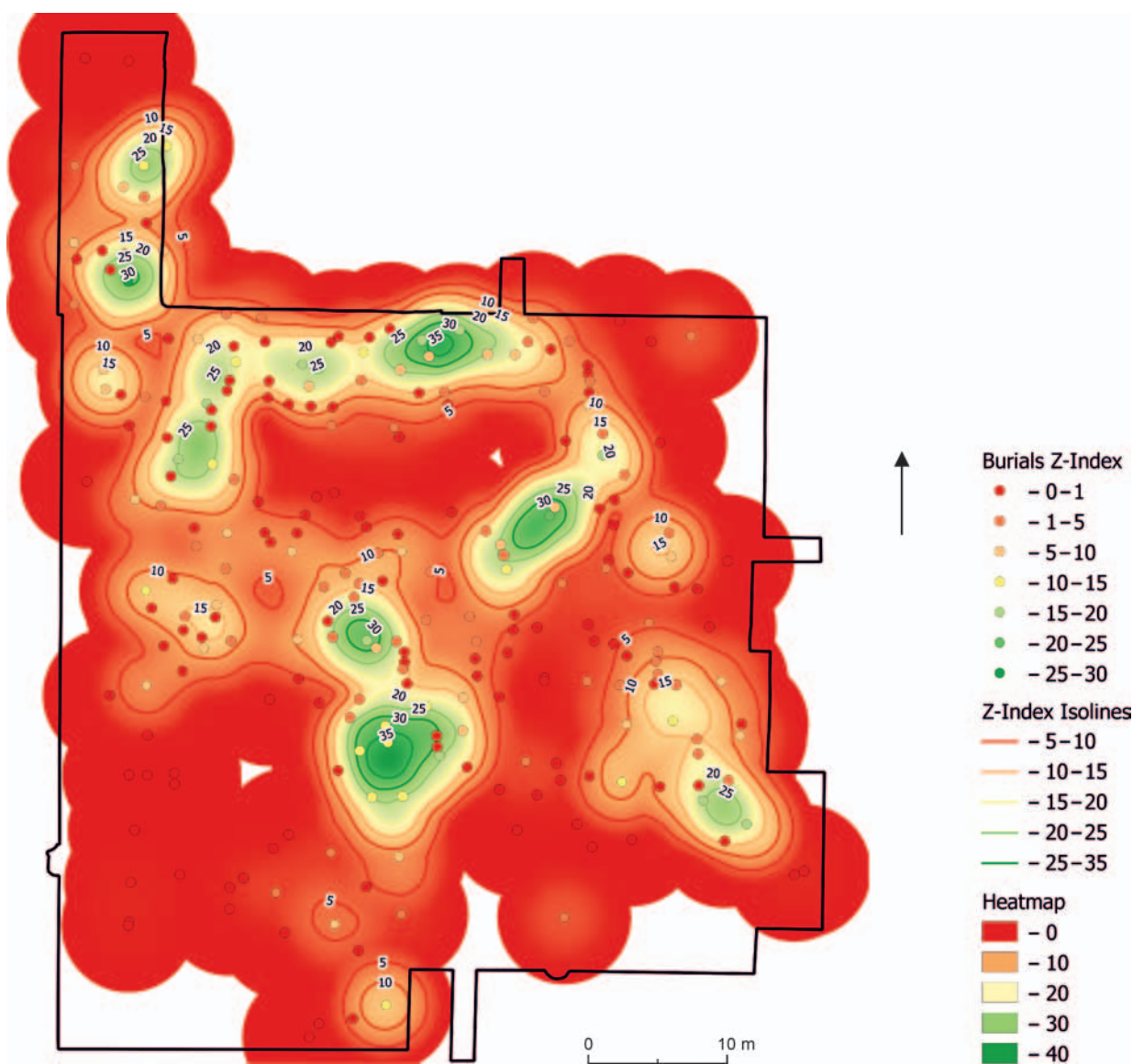


Fig. 6. Výčapy-Opatovce. Results of the Burial Index Analysis (Z-transformation) of undisturbed burials (dots). Heatmap weighted after Burial Index with a radius of 5 m.

centration of material or wealth occurs with the help of the grave goods indices.

First, a weighted kernel density estimation was performed, with a radius of 5 m around each grave and the burial indices as weight. Contour lines with an increment of 5 were determined from the resulting heatmap. In the resulting map, areas were coloured mapped based on the burial indices (Fig. 6–8).

The distribution of wealth in the burial ground demonstrated a clustering of wealthier graves (index 10–28) in five areas (Fig. 6; 7; Clusters A–E). The clusters are each separated by graves with a low burial index (index 0–5). Cluster borders are formed by the 10 Z-value line of the heatmap. Cluster E needs to be excluded from further discussions, given its position on a narrow part of the excavation trench.

DISCUSSION

The chronological position of Výčapy-Opatovce

Consulting both previous and new research on the Výčapy-Opatovce cemetery in conjunction with these new ^{14}C dates, aspects of the site need re-evaluation. Furthermore, the dating and the analysis of the grave inventories allow an alternative interpretation of the chronology and social structure of the cemetery.

Regarding the classification of the finds belonging to the Early Bronze Age, there is no doubt in view of the ^{14}C dating. Both the typological spectrum of the find material and the dated period of

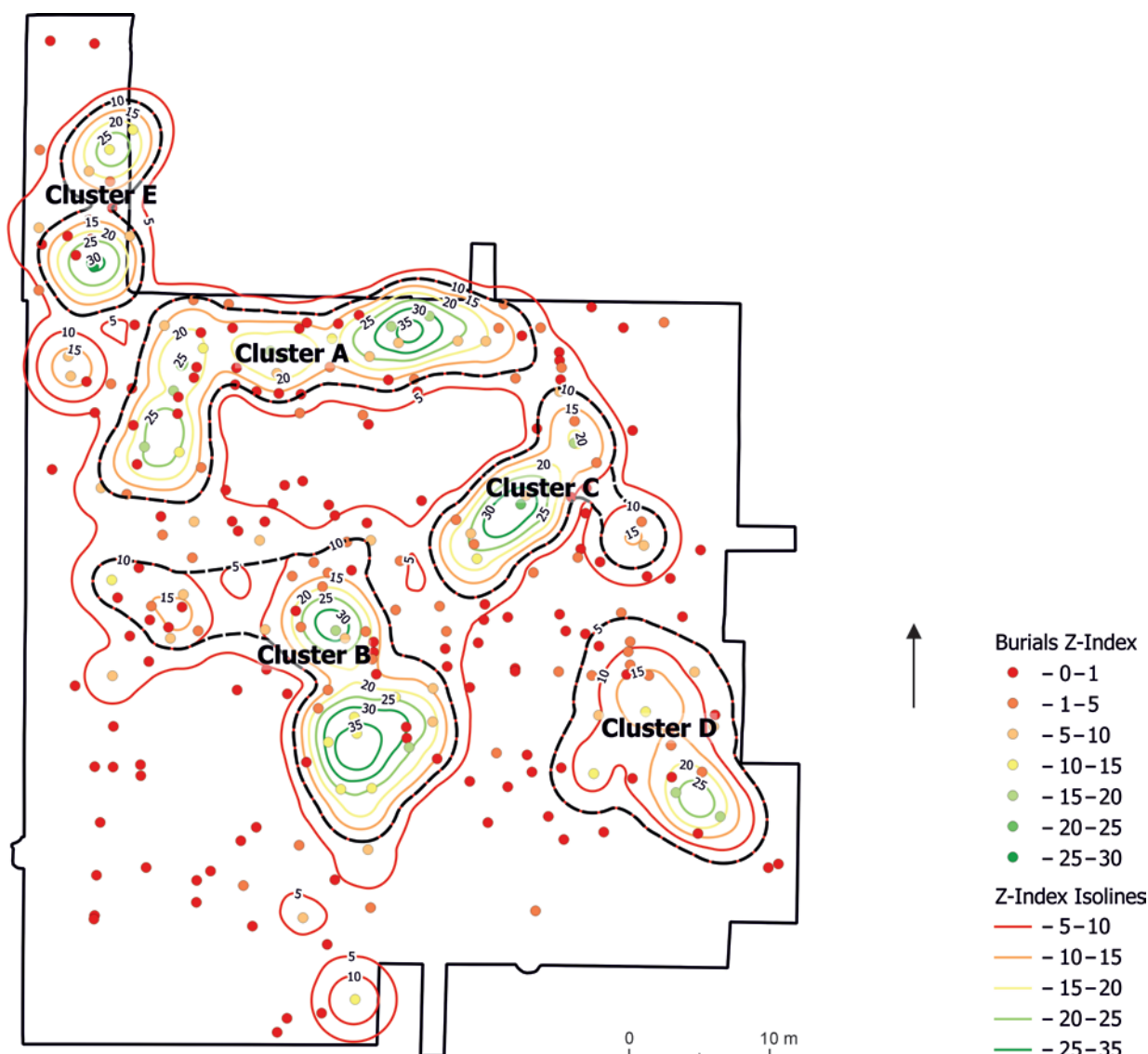


Fig. 7. Výčapy-Opatovce. Burial Clusters based on the concentration of burials with a high Burial Index as described in the text.

occupation (Model 2: 2235–2038 cal. BC), place the cemetery at the beginning of the Early Bronze Age. Based on the ^{14}C dates from Branč¹² and Jelšovce¹³ it appears that Výčapy-Opatovce is overlapping with the burials in Branč (2151–1961 cal. BC), but burial activity is starting slightly earlier (Fig. 9).

Based on the dating of grave 5, the assignment of eight to eleven graves to the Eneolithic Ludanice group is to be doubted (Lichardus/Vladár 1964; Porubský 1955; Točík 1979, 65). The calibrated date (2σ 2191–1976 cal. BC) for grave 5 clearly show its Bronze Age origin. An Eneolithic occupation of the cemetery cannot be ruled out. However, we like to

suggest that the assignment of individual graves to the Ludanice group have to be critically questioned and subjected to a new analysis.

Evaluation of Ch. Bernards chronological and social model

With regard to the chronological structure or the costume groups of the Early Bronze Age graves of Ch. Bernard, the ^{14}C dating allows several conclusions. Although Ch. Bernard does not specify a time frame for the development of the three occupation

¹² Branč GrN 12816-19 (Gerloff 1993).

¹³ Jelšovce Bln 4374, 4378, 4421, 4491 (Görsdorf 2000).

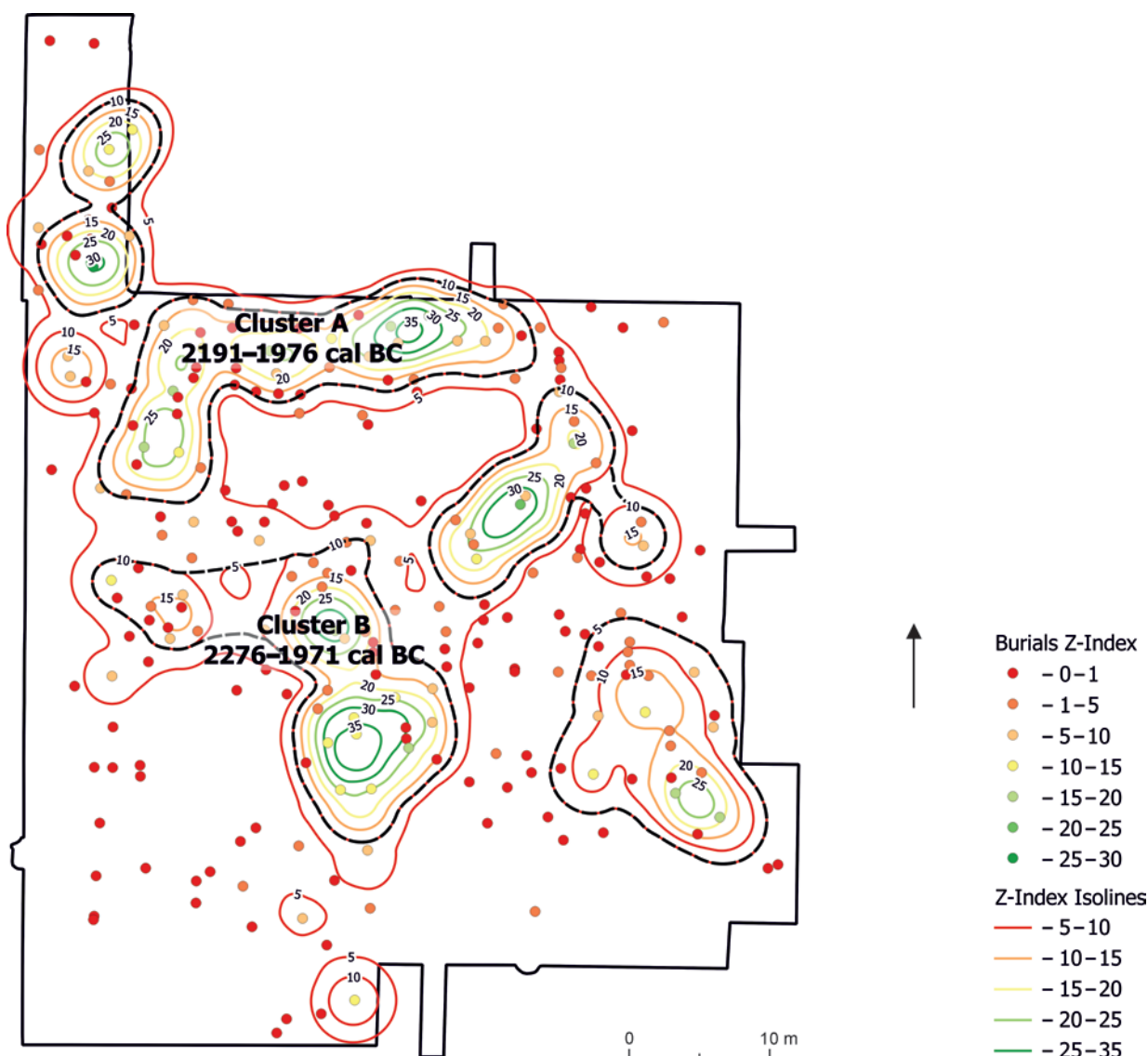


Fig. 8. Výchapy-Opatovce. Burial Clusters A and B and their possible time of use according to the ^{14}C samples presented in this study.

phases of the cemetery, a temporal separation (20–50 years) between the individual phases can be assumed. Overall, the three phases cannot be completely rejected based on the ^{14}C analysis, since at least theoretically a sequence as outlined by Bernard could exist (Fig. 4; Model 1; agreement 102%). This is primarily due to the strong temporal overlap of the ^{14}C data.

Considering the size of the cemetery, an occupation period of 0 to 58, or 118 years (2 to 4 generations) according to this model by Ch. Bernhard (Fig. 4) seems to be very short and unrealistic. The typological forms that Bernard places in phase II of the cemetery were found in a grave with the oldest calibrated ^{14}C -date. Phase II also includes the oldest (grave 178) and the youngest dated grave (grave 181).

Altogether, of the six dated graves, four show an almost identical dating result, which in turn fall into all three phases according to Ch. Bernhard.

Taking the size of the cemetery and the chronological sequence of the ^{14}C data into consideration, an occupation period of 0 to 108, or 262 years, seems more likely (Fig. 5; Model 2; 4–10 generations). This would mean that all typological forms, which Ch. Bernhard (2005) assigns to her individual phases (I–III), were in use over the entire duration of the cemetery and that only a limited chronological but possibly a social division can be deduced from the material. The existing analyses of the find material (Lichardus/Vladár 1997; Točík 1960; 1979) from Výchapy-Opatovce shows that a typo-chronological division within the cemetery is certainly present,

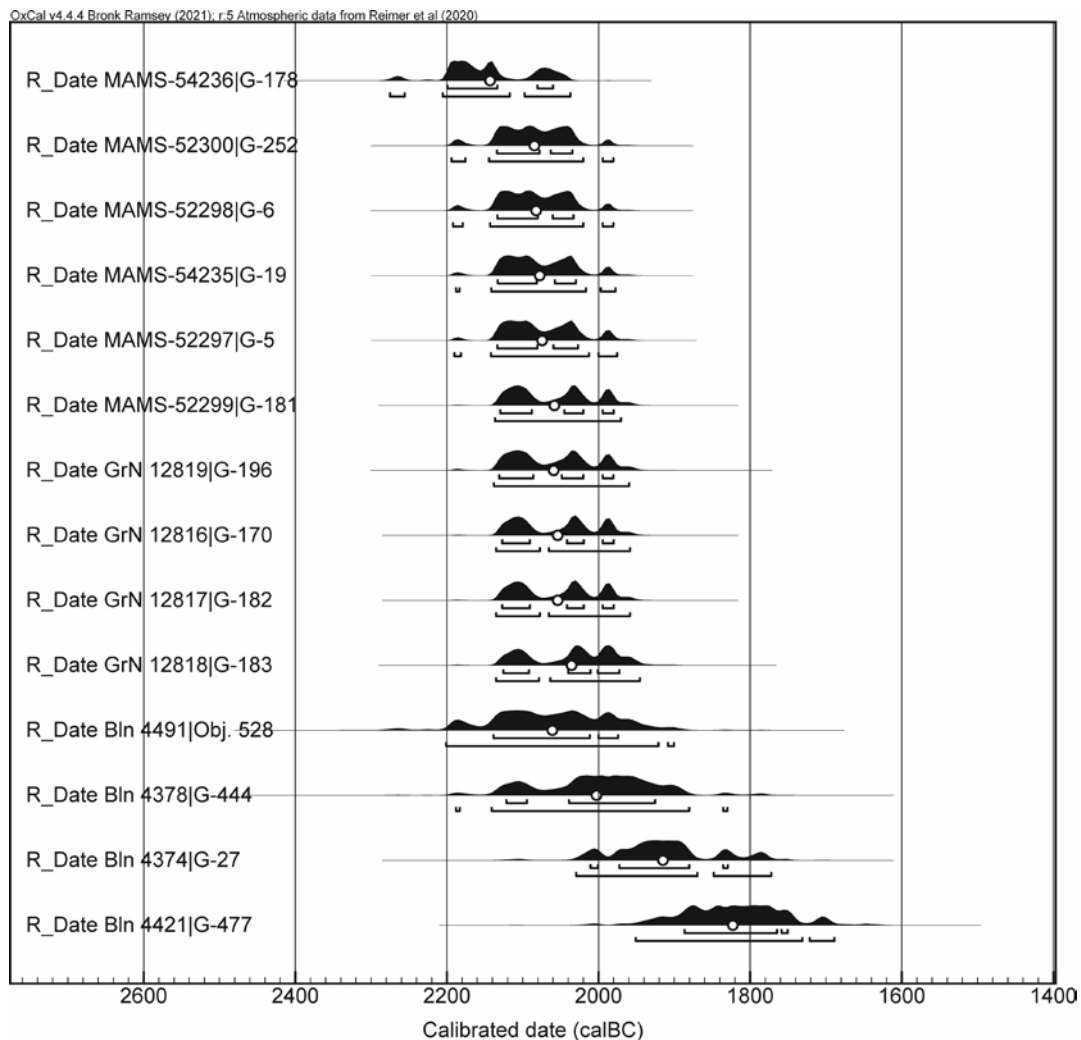


Fig. 9. All published ^{14}C samples of Nitra culture contexts from south-western Slovakia. Codes: MAMS – Výčapy-Opatovce; GrN – Branč; Bln – Jelšovce.

but this does not seem to be represented by Bernard's costume groups.

If Ch. Bernard's costume groups do not form chronological phases, there is still the possibility, also discussed by her, that they could be social groups (Bernard 2005, 158 ff.). Her final assumption – that they are not forming social groups – is based on the relatively high richness in individual graves of each of the three costume groups. She assumes that for social groups to exist, there must be a hierarchical structure between the groups, i.e. one group is rather poor and another rich. In doing so, she ignores the possibility that her costume groups could also be a different non-hierarchical type of social structure or that the groups could not even have been directly related to each other. Therefore, it is possible that the costume groups represent three different entities with their own, independent internal structure like occupational

groups, groups from different settlements or family units.

The spatial distribution of the costume groups shows that graves of the individual groups cannot be clearly spatially differentiated and also occur in direct proximity (Fig. 2). It would be expected that burials of social groups are concentrated in spatial proximity to each other, so that grave clusters with similar equipment or a similar dress group can be separated from each other. For this reason, the interpretation of the costume groups as closed social groups is unlikely.

To conclude our thoughts on Ch. Bernard's model: What statements can be made up to this point?

1. No clear chronological groups can be identified at the burial ground on the basis of the costume groups.
2. A social division according to typological groups is unlikely.

A new (old) social model of Výčapy-Opatovce burial site

Since both the chronological and the social model of Ch. Bernard (2005) have to be rejected, the question arises to what extent a social division is existing in the burial ground. If we look at the distribution of rich and poor graves on the cemetery (Fig. 6–8), we see a concentration of rich graves in clusters. In the centre of these clusters are graves with high Z-values, i.e. graves with relatively rich furnishings, which are spatially separated from poor graves.

From this it can be concluded that there is no horizontal (chrono-)stratigraphy between the clusters, but as already assumed by A. Točík (1963; 1979), there are different social units using the cemetery at about the same time. These social units each occupy a separate demarcated area, in the centre of which the members with the most extensive grave furnishings are buried and around which the burials of the other members of the community are grouped. The extent to which these groups are families, households or settlement groups will be left aside at this point, as further analysis is required.

An arrangement of graves according to social groups can also be found in other prehistoric cemeteries and only a few examples are listed in the following. One example is the Neolithic cemetery of Vedrovice (Moravia, Czech Republic), where grave clusters are also arranged around the graves of rich individuals (Zvelebil/Pettitt 2008, 201 ff.). In the Bronze Age cemetery of Neumarkt an der Ybbs (Lower Austria), the author speaks of economic associations (Reiter 2020, 225 ff.) which are arranged in clusters. In the case of the Early Bronze Age Nagycenk cemetery (north-western Hungary), a spatial proximity in connection with status groups is interpreted as a spatial differentiation of two households on the cemetery (Gömöri/Melis/Kiss 2018, 74). Burial grounds of the Bronze

Age Vátya culture also show clusters (10–20 graves), which are interpreted as family groups (Sørensen/Rebay-Salisbury 2009, 57 f.). Our observations for Výčapy-Opatovce thus fit into a broader framework of contemporary models.

CONCLUSION

The six ¹⁴C dates represent the first radiocarbon dating of Výčapy-Opatovce, and confirm that a typo-chronological order of costume groups, which were presented by Ch. Bernard in 2005, are likely not viable. Based on a quantitative approach to the burial inventories we propose a model of grave groups or clusters which represent contemporary social units instead and that the burial ground was in use for only the short duration of few generations.

While we think that a chronological depth is identifiable within the archaeological material, but the set of ¹⁴C dates alone are not enough to establish a chronology within our defined grave clusters. Due to restrictions to our sampling strategies as well as the not published statistical analysis from A. Točík (1960) and the poor quality of the published inventory from Výčapy-Opatovce (Lichardus/Vladár 1997, 282) a more refined analysis was not possible.

An announced analysis from J. Peška and J. Králík (2020) about transition between Eneolithic and Bronze Age in Moravia and southwestern Slovakia which will hopefully include Výčapy-Opatovce can maybe shed more light onto the chronology within our defined clusters. Advisable would be further radiocarbon dating using graves with burial inventories which include chronological relevant ceramics like vessels with corded impression or vessels where Únětice culture influence is visible. Further ¹⁴C-dates from parts of the burial ground we were not able to cover could also close the gaps in south-eastern and north-western part of the burial ground.

Acknowledgment

The authors would like to thank Matej Ruttkay, the director of the Institute of Archaeology of the Slovak Academy of Sciences in Nitra, for the support and access to the find material of Výčapy-Opatovce, as well as Johannes Müller (Institute for Pre- and Protohistoric Archaeology, Kiel University) for his help and advice conducting this research. Furthermore, we are very grateful for the help provided by Jozef Bátora, Zuzana Hukeľová, Mária Krošláková, Zuzana Felcanová, Michal Felcan during our research stay in Slovakia. A special thanks goes to Mária Mladá and Andrea Arpášová from the archive in Malé Vozokany whose support benefited our work very much. Further we would like to thank, Paweł Cembrzyński, Jakub Godiš, Robert Staniuk and Morgan Windle for the support during the writing process.

Cooperation Remark

This project is the result of the cooperation of the Archaeological Institute of the Slovak Academy of Sciences in Nitra and the Institute for Prehistory and Protohistoric Archaeology of the Christian-Albrechts-Universität zu Kiel.

Funding Remark

The project is funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) under Germany's Excellence Strategy – EXC 2150 – 390870439.

BIBLIOGRAPHY

- Bátora 2000a – J. Bátora: *Das Gräberfeld von Jelšovce/Slowakei. Ein Beitrag zur Frühbronzezeit im nordwestlichen Karpatenbecken. Teil 1. Prähistorische Archäologie in Südosteuropa* 16. Kiel 2000.
- Bátora 2000b – J. Bátora (ed.): *Das Gräberfeld von Jelšovce/Slowakei. Ein Beitrag zur Frühbronzezeit im nordwestlichen Karpatenbecken. Teil 2. Prähistorische Archäologie in Südosteuropa* 16. Kiel 2000.
- Bátora 2018 – J. Bátora: *Slovensko v staršej dobe bronzovej*. Bratislava 2018.
- Benkovský-Pivovarová/Chropovský 2015a – Z. Benkovský-Pivovarová/B. Chropovský: *Gräbfunde der frühen und der beginnenden mittleren Bronzezeit in der Westslowakei. Teil 1. Archaeologica Slovaca Monographiae. Studia* 21. Nitra 2015.
- Benkovský-Pivovarová/Chropovský 2015b – Z. Benkovský-Pivovarová/B. Chropovský: *Gräbfunde der frühen und der beginnenden mittleren Bronzezeit in der Westslowakei. Teil 2. Archaeologica Slovaca Monographiae. Studia* 21. Nitra 2015.
- Bernard 2005 – Ch. Bernard: *Die Nitragruppe in der Südwestslowakei. Eine archäologische und paläometallurgische Analyse ausgewählter Gräberfelder*. Saarbrücken 2005.
- Beyer 2020 – A. Beyer: *Soziale Diversität in Mittel- und Nordeuropa während der älteren Römischen Kaiserzeit – eine statistische und sozialarchäologische Analyse*. Berlin 2020.
- Bösel 2008 – M. Bösel: *Wandel durch Bronze? – Vergleichen- de Untersuchung sozialer Strukturen auf früh- und mittelbronzezeitlichen Gräberfeldern im Theißgebiet. Prähistorische Zeitschrift* 83, 2008, 45–108.
DOI: <https://doi.org/10.1515/PZ.2008.003>
- Bronk Ramsey 2009 – Ch. Bronk Ramsey: *Bayesian Analysis of Radiocarbon Dates. Radiocarbon* 51, 2009, 337–360.
DOI: <https://doi.org/10.1017/S0033822200033865>
- Endrigkeit 2014 – A. Endrigkeit: *Älter- und mittelbronzezeitliche Bestattungen zwischen Nordischem Kreis und süddeutscher Hügelgräberkultur. Gesellschaftsstrukturen und kulturhistorische Beziehungen. Frühe Monumentalität und soziale Differenzierung* 6. Bonn 2014.
- Furmánek/Veljačik/Vladár 1999 – V. Furmánek/L. Veljačik/J. Vladár: *Die Bronzezeit im slowakischen Raum. Prähistorische Archäologie in Südosteuropa* 15. Rahden/Westfalen 1999.
- Gerloff 1993 – S. Gerloff: *Zu Fragen mittelmeerländischer Kontakte und absoluter Chronologie der Frühbronzezeit in Mittel- und Westeuropa. Prähistorische Zeitschrift* 68, 1993, 58–102.
DOI: <https://doi.org/10.1515/prhz.1993.68.1.58>
- Gömöri/Melis/Kiss 2018 – J. Gömöri/E. Melis/V. Kiss: *A cemetery of the Gáta–Wieselburg culture at Nagycenk (Western Hungary). Acta Archaeologica Academiae Scientiarum Hungaricae* 69, 2018, 5–81.
DOI: <https://doi.org/10.1556/072.2018.69.1.1>
- Görsdorf 2000 – J. Görsdorf: *Interpretation der Datierungsergebnisse von Menschenknochen aus dem Gräberfeld Jelšovce. In: Bátora 2000b*, 565–570.
- Hedeager 1980 – L. Hedeager: *Besiedlung, soziale Struktur und politische Organisation in der älteren und jüngeren römischen Kaiserzeit Ostدانemarks. Prähistorische Zeitschrift* 55, 1980, 38–109.
DOI: <https://doi.org/10.1515/prhz.1980.55.1.38>
- Hedeager 1990 – L. Hedeager: *Danmarks jernalder. Mellem stamme og stat*. Aarhus 1990.
- Holten 1989 – L. Holten: *Slangehovedringene i yngre romersk jernalder i Østdanmark – en social analyse. In: L. Jørgensen (ed.): Simblegård – Trelleborg: Danske gravfund fra førromersk jernalder til vikingetid. Arkæologiske skrifter* 3. Copenhagen 1989, 72–130.
- Izquierdo-Egea 2013 – P. Izquierdo-Egea: *On the Contextual Valuation Method and the Economic Archaeology of Grave Goods. Advanced Archaeology* 1, 2013, 3–12.
- Kadrow/Machnik 1997 – S. Kadrow/J. Machnik: *Kultura mieszanowicka. Chronologia, taksonomia i rozwój przestrzenny. Prace Komisji Archeologicznej* 29. Kraków 1997.
- Laabs 2010–2011 – J. Laabs: *Ein Beitrag zur sozioökonomischen Differenzierung Aunjetitzer Bestattungssitten auf regionaler und überregionaler Ebene. Offa* 67/68, 2010–2011, 79–128.
- Lichardus/Vladár 1964 – J. Lichardus/J. Vladár: *Zu Problemen der Ludanice-Gruppe in der Slowakei. Slovenská archeológia* 12, 1964, 69–162.
- Lichardus/Vladár 1997 – J. Lichardus/J. Vladár: *Frühe und mittlere Bronzezeit in der Südwestslowakei. Forschungsbeitrag von Anton Točík. (Rückblick und Ausblick). Slovenská archeológia* 45, 1997, 221–352.
- Machnik 1967 – J. Machnik: *Stosunki kulturowe na przełomie neolitu i epoki brązu w Małopolsce (na tle przemian w Europie Środkowej). In: W. Hensel (ed.): Materiały do prehistorii ziem polskich. Część 3: Epoka brązu, Z. 1. Warsaw 1967.*
- Marzian 2021 – J. Marzian: *Measuring Wealth Inequality in Pre-Christian Europe Using Burial Mounds Data*. Master thesis. Christian-Albrechts-Universität zu Kiel. Kiel 2021.
- Müller 1994 – J. Müller: *Zur sozialen Gliederung der Nachbestattungsgemeinschaft vom Magdalenenberg in Villingen. Prähistorische Zeitschrift* 69, 1994, 175–221.
- Peška/Králík 2020 – J. Peška/M. Králík: *Periodizace epišňůrového příkaptaského kulturního komplexu na Moravě a ve Slezsku. Slovenská archeológia* 68, 2020, 219–252.
DOI: <https://doi.org/10.31577/slovarch.2020.68.11>
- Porubský 1955 – J. Porubský: *Hroby z mladšej doby kamennej vo Výčapoch-Opatoviach, okres Nitra. Archeologické rozhledy* 7, 1955, 437–443.
- Rebay-Salisbury 2006 – K. Rebay-Salisbury: *Das hallstattzeitliche Gräberfeld von Statendorf in Niederösterreich. Möglichkeiten und Grenzen der Interpretation von Sozialindexberechnungen. Universitätsforschungen zur prähistorischen Archäologie* 135. Bonn 2006.
- Reimer et al. 2020 – P. J. Reimer/W. E. N. Austin/E. Bard/A. Bayliss/P. G. Blackwell/Ch. Bronk Ramsey/M. Butzin/H. Cheng/R. L. Edwards/M. Friedrich/P. M. Grootes/T. P. Guilderson/I. Hajdas/T. J. Heaton/A. G. Hogg/K. A. Hughen/B. Kromer/S. W. Manning/R. Muscheler/J. G. Palmer/Ch. Pearson/J. van der Plicht/R. W. Reimer/D. A. Richards/E. M. Scott/J. R. Southon/Ch. S. M. Turney/L. Wacker/F. Adolphi/U. Büntgen/M. Capano/S. M. Fahrni/A. Fogtmann-Schulz/R. Friedrich/P. Köhler/S. Kudsk/F. Miyake/J. Olsen/F. Reinig/M. Sakamoto/A. Sookdeo/S. Talamo: *The IntCal20 Northern Hemisphere Radiocarbon Age Calibration Curve (0–55 cal kBP). Radiocarbon* 62, 2020, 725–757.
DOI: <https://doi.org/10.1017/RDC.2020.41>

- Reiter 2020 – V. Reiter: *Die frühbronzezeitlichen Bestattungen von Neumarkt an der Ybbs*. Österreichische Denkmaltopographie 3. Horn 2020.
- Sørensen/Rebay-Salisbury 2009 – M. L. S. Sørensen/K. Rebay-Salisbury: Landscapes of the body. Burials of the Middle Bronze Age in Hungary. *European Journal of Archaeology* 11, 2009, 49–74.
DOI: <https://doi.org/10.1177/1461957108101241>
- Sprenger 1999 – S. Sprenger: *Zur Bedeutung des Grabraubes für sozioarchäologische Gräberfeldanalysen. Eine Untersuchung am frühbronzezeitlichen Gräberfeld Franzhausen I, Niederösterreich*. Fundberichte aus Österreich. Materialheft A7. Wien 1999.
- Strouhal 1978 – E. Strouhal: Demography of the Early Bronze Age Cemetery at Výčapy-Opatovce (Southwest-Slovakia). *Anthropologie* 16, 1978, 131–135.
- Točík 1956 – A. Točík: Staršia a stredná doba bronzová na juhozápadnom Slovensku. In: *Referáty o pracovných výsledkoch československých archeológov za rok 1955. Časť II*. Liblice 1956, 24–46.
- Točík 1960 – A. Točík: *Juhozápadné Slovensko v staršej a strednej dobe bronzovej*. Kandidátska dizertácia. Archeologický ústav SAV. Nitra 1960.
- Točík 1963 – A. Točík: Die Nitra-Gruppe. *Archeologické rozhledy* 15, 1963, 716–774.
- Točík 1978 – A. Točík: Slovakia in the Early and Middle Bronze Ages (1700–1200 B.C.) *Anthropologie* 16, 1978, 97–105.
- Točík 1979 – A. Točík: *Výčapy-Opatovce a ďalšie pohrebiská zo staršej doby bronzovej na juhozápadnom Slovensku*. Materialia Archaeologica Slovaca 1. Nitra 1979.
- Vladár 1969 – J. Vladár: Frühäneolithische Siedlung und Gräberfeld in Branč. *Študijné zvesti AU SAV* 17, 1969, 497–512.
- Vladár 1973 – J. Vladár: *Pohrebiská zo staršej doby bronzovej v Branči*. Archaeologica Slovaca. Fontes 12. Bratislava 1973.
- Vladár/Lichardus 1968 – J. Vladár/J. Lichardus: Erforschung der frühäneolithischen Siedlungen in Branč. *Slovenská archeológia* 16, 1968, 263–352.
- Windler/Thiele/Müller 2013 – A. Windler/R. Thiele/J. Müller: Increasing inequality in Chalcolithic Southeast Europe. The case of Durankulak. *Journal of Archaeological Science* 40, 2013, 204–210.
DOI: <https://doi.org/10.1016/j.jas.2012.08.017>
- Zvelebil/Pettitt 2008 – M. Zvelebil/P. Pettitt: Human Condition, Life, and Death at an Early Neolithic settlement: Bioarchaeological Analyses of the Vedrovice Cemetery and their Biosocial Implications for the Spread of Agriculture in Central Europe. *Anthropologie* 46, 2008, 195–218.

Manuscript accepted 30. 5. 2022

Súhrn preložila Kristína Sedláček

Fynn Wilkes, M.Sc.
Institut für Ur- und Frühgeschichte
Cluster of Excellence ROOTS
Christian-Albrechts-Universität zu Kiel
Johannes-Mestorf-Straße 2–6
DE – 241 17 Kiel
fwilkes@roots.uni-kiel.de

Henry Skorna, M.A.
Institut für Ur- und Frühgeschichte
Cluster of Excellence ROOTS
Christian-Albrechts-Universität zu Kiel
Johannes-Mestorf-Straße 2–6
DE – 241 17 Kiel
hskorna@roots.uni-kiel.de

Úsvit staršej doby bronzovej na juhozápadnom Slovensku

Prehodnotenie sociálnej štruktúry a chronológie pohrebiska Výčapy-Opatovce

Fynn Wilkes – Henry Skorna

SÚHRN

V predložennom príspevku autori prezentujú šesť C¹⁴ meraní vykonaných na súbore nálezov z pohrebiska zo staršej doby bronzovej vo Výčapoch-Opatovciach, pričom z lokality neboli doposiaľ rádiouhlíkovou metódou skúmané žiadne vzorky. Po predstavení predchádzajúcich modelov pochovávaní a chronológie pohrebiska, prezentovaných

v minulosti A. Točíkom (1956; 1960; 1963; 1979), J. Lichardusom a J. Vladárom (1964; 1997), sa práca zameriava predovšetkým na výsledky obsiahnuté v diplomovej práci Ch. Bernardovej (2005). V príspevku autori preukázali, že chronológia založená na vyčlenení skupín hrobov na základe ich výbavy podľa Ch. Bernardovej pravdepodobne nie je správna.

V centre sociálnej analýzy bola otázka, do akej miery je možné navzájom oddeliť jednotlivé sociálne skupiny na základe bohatstva hrobu a jeho lokalizácie v rámci pohrebiska – podobne ako rodinné skupiny vyčlenené A. Točíkom (1963; 1979). Aby bolo možné čo najobjektívnejšie určiť bohatstvo hrobov, bol definovaný hrobový index. V príspevku je použitá štatistická metóda štandardizácie (Z-transformácia), ktorú stanovil ako hrobový index M. Bösel (2008, 52 f.) a ďalej ju používal J. Laabs (2010–2011). Pri tejto metóde sa zohľadňuje prítomnosť a neprítomnosť predmetu v hrobe, rovnako ako aj celkový výskyt rovnakého typu predmetu na pohrebisku. Výsledný hrobový index, ako aj informácie o datovaní metódou C¹⁴ a príslušnosť k skupinám podľa Ch. Bernardovej, boli vizualizované v GIS-e (QGIS 3.12).

Vďaka GIS-u je možné determinovať oblasti na pohrebisku, v ktorých sa vyskytuje koncentrácia predmetov alebo bohatstva, ktoré sú indikované vysokými indexmi hrobového inventára. Pri pohľade na ich rozloženie na pohrebisku môžeme vidieť zoskupenie bohatších hrobov (index 10–28) v piatich oblastiach (obr. 6; 7; zhluky A–E), ktoré sú oddelené hrobmi s nízkymi hrobovými indexmi (0–5).

Na základe tohto kvantitatívneho prístupu k hrobovému inventáru autori príspevku navrhujú model hrobových skupín alebo zhlukov (obr. 7; 8), ktoré predstavujú súčasné sociálne jednotky, a predpokladajú pomerne krátke trvanie pohrebiska – len niekoľko generácií (4–10 generácií).

Na rádiouhlíkové merania sa použili dostupné fragmenty korálikov z parožia. Šesť vzoriek bolo vybraných na základe ich priradenia do chronologických fáz Ch. Bernardovej a na základe sprievodného inventára. Vzorky boli poslané na analýzu do Curt-Engelhornovho centra archeometrie GmbH.

Na kalibráciu a analýzu výsledkov datovania bol použitý softvér OxCal v4.4.4 (Bronk Ramsey 2009) s kalibračnou krivkou IntCal 20 (Reimer et al. 2020).

Výsledky kalibrácie so softvérom OxCal (obr. 3; tabeľa 1) ukázali, že hrob 178 (2 σ : 2276–2038 cal. BC, 1 σ : 2200–2061 cal. BC) je najstarší z datovaných hrobov. Hrob 5 (2 σ : 2191–1976 cal. BC, 1 σ : 2134–2028 cal. BC), 6 (2 σ : 2193–1981 cal. BC, 1 σ : 2134–2034 cal. BC), 19 (2 σ : 2189–1978 cal. BC, 1 σ : 2134–2031 cal. BC) a 252 (2 σ : 2195–1981 cal. BC, 1 σ : 2135–2035 cal. BC) sú datované do rovnakého obdobia a ich kalibrované rádiouhlíkové dáta sú takmer súčasné. Najmladší zo skúmaných celkov je hrob 181 (2 σ : 2137–1971 cal. BC, 1 σ : 2130–1981 cal. BC). Dátumy zahŕňajú obdobie od roku 2276 do 1971 cal. BC (2 σ).

Na základe zoradenia výsledkov podľa chronologického modelu Ch. Bernardovej (model 1; obr. 4) a zoradením hrobov od najstaršieho po najmladší (model 2; obr. 5) sú diskutované dve možné obdobia využitia pohrebiska.

V prípade modelu 1 sa začiatok pochovávaní na pohrebisku datuje medzi roky 2201 a 2040 cal. BC (2 σ) a koniec pochovávaní do obdobia medzi 2130–1973 cal. BC (2 σ). V prípade modelu 2 sa začiatok pochovávaní na pohrebisku datuje medzi roky 2235 a 2038 cal. BC (2 σ) a koniec pochovávaní do obdobia medzi 2131–1944 cal. BC (2 σ). Keďže oba modely majú vysokú štatistickú zhodu, ani jeden nemôže byť vylúčený ako možný scenár pre Výčapy-Opatovce. Avšak model 2 (zhoda 125 %) ukazuje vyššiu zhodu ako model 1 (zhoda 102 %).

Napriek tomu že chronologický rozsah je možné identifikovať v archeologickom materiáli, súbor šiestich C¹⁴ meraní, prezentovaný v predkladanom článku nestačí na definovanie jemnejšej chronológie v rámci definovaných skupín hrobov. Vytvoríť prepracovanejšiu analýzu nebolo možné vzhľadom na obmedzenia pri procese vzorkovania, ako aj z dôvodu nepublikovanej štatistickej analýzy A. Točíka (1960) a vzhľadom na nízku kvalitu publikovaného inventára z Výčap-Opatoviec (Lichardus/Vladár 1997, 282).

NOTES ON DEVELOPMENT OF THE LUSATIAN CULTURE IN SLOVAKIA¹

RUDOLF KUJOVSKÝ 

Author provides a brief summary of the historical development of the Lusatian settlement in Slovakia. Following from the published results of archaeological investigations and surveys of settlements and burial grounds of the Lusatian culture, he uses information related to the burial rite, economic background and material expressions of social relations to suggest division of the development of individual stages. In the second part of the article, he specifies the material content of suggested individual stages of historical development using elements typical for the relevant period.

The beginnings of the Lusatian settlement have been discussed by experts for decades. Analysing the cultural base from which it was created, the author has come to a conclusion that the origin of the studied culture in Slovakia can be dated back as early as the Middle Bronze Age. He does not doubt the importance of the Tumulus culture in crystallization of the Lusatian culture. However, he points to the fact, that it was only one of the elements in this process in the north of Slovakia. He monitors gradual territorial expansion of the Lusatian culture, its relations to the neighbouring cultures, searches for causes of changes in the settlement process in individual stages. He deals only marginally with the generally accepted significant status of the Lusatian culture in production of bronze artefacts in its prime period in the Later and Final Bronze ages in Slovakia. For chronological conclusions, he uses the shapes and decorative motifs on pottery more frequently.

In his article, the author presents his opinion of gradual extinction of the Lusatian settlement in Slovakia in the Hallstatt period. He deals with the causes of this development and its possible regional results, without an attempt to provide a detailed analysis of its expressions. More exact conclusions regarding development of the Lusatian culture in individual Slovak regions in the Hallstatt period require extensive, mainly field, archaeological investigation.

Keywords: Slovakia, Middle Bronze Age, Late Bronze Age, Hallstatt Period, Lusatian culture, chronology, periodization.

The people of the Lusatian culture settled a large part of today's Slovakia's territory for centuries. In this area we can study development of the Lusatian settlement since the beginnings in the Middle Bronze Age to the final manifestations in the Hallstatt period. The numbers of studied sites (settlements, burial grounds, depots of bronze artefacts, etc.) and published papers growing in the course of more than a century allowed creation of several comprehensive evaluations and attempts of periodization of the Lusatian culture in Slovakia (*Budinský-Krička* 1947; *Eisner* 1933, 96–100; *Furmánek/Veliačik/Vladár* 1991, 128–137; *Kujovský* 2015, 177–184; *Točík/Vladár* 1969, 297–299; 1971; *Veliačik* 1983; and others).

The growing sum of information has naturally led to changes in opinions on the origin and development of the Lusatian culture in Slovakia. *J. Eisner* (1933) considered it a result of expansion from Moravian or Polish environment as early as the first half of the 20th century and dated Lusatian artefacts in the Late and Final Bronze Age. *V. Budinský-Krička* (1947) arrived at the same conclusion. Excavation at the cremation burial ground in Martin in 1965, 1966 (*Pivovarová* 1967) allowed some authors to assume autochthonous development of the Lusatian culture

in Slovakia, dating the beginnings of this development in the end of stage BB2 (*Točík/Vladár* 1969; 1971, 399). In the following extensive evaluation of the excavation in Martin, *Z. Benkovská-Pivovarová* (1972) classified a considerable number of burials in the Middle Bronze Age, but she identified the finds dated in stage BD as Lusatian. *L. Veliačik* (1975, 27, 28) refused this cultural division in the end of the Middle Bronze Age and considered the burials from Martin dated to stage BC clearly Lusatian. He summed up his opinion on the beginnings and development of this culture in a monograph dedicated to the Lusatian culture in Slovakia (*Veliačik* 1983, 167–174). Later, such understanding of the Lusatian culture's development was presented in a monograph complexly dealing with the development of the Bronze Age in Slovakia (*Furmánek/Veliačik/Vladár* 1991). In recent years, investigators following from results of investigations in central and northern Moravia assume analogous development in Slovakia and perceive the finds dated in the Middle Bronze Age from the Považie region as expression of the young stage of the Tumulus culture (*Benkovský-Pivovarová* 2018, 60, 61; *Gášpar* 2018, 97–100; *Šabatová* 2004, 107).

¹ The article was supported by project APVV-16-0441 and project 2/0025/22 of VEGA agency.

THE AREA OF SETTLEMENT

Specification of the geographical extent of the Lusatian culture in Slovakia was developed in a long time. The still growing number of new sites led to abandonment of the original ideas of Lusatian settlement in the mountain regions of western Slovakia and expansion of the assumed settlement oikumene (sometimes too much, some scientists considered the Kyjatice culture to be a result of expansion of the Lusatian culture even recently). In all the above mentioned works as well as in many others, attention was paid to the topic of specification of the Lusatian settlement area. We are not going to deal with the chronological development of opinions. We are going to present my current idea of the development of the Lusatian culture's extension in Slovakia, following from those opinions.

I consider the territory of Považie from the Trenčianska kotlina basin to Liptov the oldest settlement area. This is the territory in which crystallization of the Lusatian culture in Slovakia took place in the Middle Bronze Age. Settlement was based on groups of settlers which moved to the central Považie region from the west, from the Tumulus culture of central Moravia's territory and from the east, from the territory of the ending Otomani culture in stage BB2 (BC1). They followed from the remains of surviving, probably rather sporadic settlement of the Maďarovce culture. Those inhabitants were able to use geographical and climatic conditions of the environment for economic purposes. In the case of the Otomani culture, they might have been forced to do it because of the extinction of the Otomani settlement in eastern Slovakia (expressions of the Otomani culture are recorded in the southern territories of Slovakia in that period). In further development, these disparate elements created foundation of a new cultural entity.

As early as the late stage of the Middle Bronze Age (BC), the Lusatian culture expanded to the Turiec basin. It has not been documented by finds whether the settlement moved further to the region of Orava in that period. Nevertheless, in the beginning of the Late Bronze Age (BD), the Lusatian culture in Slovakia had enough inner power to expand its life space. In that period, the Lusatian settlement moves southwards and south-westwards along the streams of the Turiec, Hron, Nitra and Váh and their tributaries. Westwards, it crosses the Vlársky priesmyk pass in the Biele Karpaty mountains and it participates in creation of a small settlement enclave in eastern Moravia, which was gradually settled also by settlers from the Moravian Lusatian area (Dohnal 2018, 79). Burial grounds from the Vlára river territory show affiliation to the Slovak Lusatian

environment with their finds and in that period, burying starts at some of them (Dohnal 1977, 8–10). Their association with the settlement in region of Považie was assumed by J. Nekvasil (1977, 63).

The advance of the Lusatian culture southwards along the Váh river valley was stopped in the area between Nové Mesto nad Váhom and Piešťany, in the Nitra river valley in the area between Partizánske and Topoľčany. In both valleys, the reason was the settlement area of the Middle Danube Urnfields, which reached the largest territorial extension in southwestern Slovakia in that period (BD/HA1). A kind of a mixed settlement zone was created in the above-mentioned territories. In Pohronie region, the Lusatian culture moved from the territory of Zvolen, where it got in contact with the environment of the ending Piliny culture. Several finds document that the Zvolenská kotlina basin was settled by the Piliny culture people in the end of the Middle and the beginning of the Late Bronze ages (BC/BD; Zachar/Malček 2011, 36, 37). A mixed zone similar to the ones in regions of Považie and Ponitrie was created for a short time also in the territory of Zvolen. However, in the course of HA, the area of Zvolen was probably definitely ruled by the Lusatian culture. From Zvolen, the Lusatian culture advanced westwards and southwards along the Hron river valley (Žiar nad Hronom) and eastwards up the Slatina river stream (Detva). Although we cannot evaluate the course of the Lusatian expansion in the Late Bronze Age from the original Liptov settlement area eastwards to the territory of Spiš by our current knowledge, it is suggested by finds (Miroššayová 1976; Novotná 2003, 57–59; Soják/Soják/Suchý 2004). It probably did not reach the intensity of other above-described directions.

Further expansion of the Lusatian culture's settlement area southwards occurred in the end of the Late Bronze Age and the beginning of the Final Bronze Age (HA2/HB1). Very important changes preceded the movement of the Lusatian settlement southwards in the lowland area of southwestern Slovakia. In the end of the Late Bronze Age, the compact settlement of the Middle Danube Urnfields in this territory becomes extinct. This extinction had started in the course of stage HA1, when probably part of the tribes from the Nitra's lower stream, the Žitava and Hron rivers and possibly from the western part of the Podunajská nížina lowland moved southwards as part of the Great Migration (Furmánek/Veliačik/Vladár 1991, 126, 127; Paulík 1974, 75–77). The free area was settled by the people of the Velatice culture, which was smoothly transformed into a new cultural quality – the Podolie culture.

The entire central part of the Podunajská nížina lowland remained unsettled in the end of the Late

Bronze Age. Settlement of the Middle Danube Urnfields is detected in that period in the south of the Podunajská nížina lowland only on the edges of the former settlement area between the lower streams of the Žitava, Nitra and Hron, in the area of Bratislava and part of the Záhorská nížina basin and on the northern side of the Podunajská nížina lowland. It ends on the southern slopes of the Štiavnicke pohorie mountains, Pohronský Inovec and Tribeč mountain ranges. Causes of this situation are sought in the climate changes (lack of precipitations), which caused the change of the territory into a step in the Late Bronze Age (*Romsauer/Veliačik 1987, 303*). These circumstances, together with the growing number of Lusatian sites (and also members of Lusatian communities) in the northern regions led to more expansive advance of the Lusatian culture southwards in the end of the Late and the beginning of the Final Bronze Age along the Váh river as far as the territory of Trnava, along the Nitra river to the region of Nitra and to the upper Žitava river – the region of Zlaté Moravce. Like in the territory of the Štiavnické pohorie mountains, Lusatian culture overlaps the dying remains of the settlement of the Podolie culture in this area (Nitra-Mlynárce, Žitavany-Kňažice, Sitno).

The greatest territorial extent in southwester Slovakia is reached by the Lusatian settlement in the first half of the Final Bronze Age, when we find sites also rather deep below the border of mountains (*Romsauer 1986, 174, tab. 10; Romsauer/Veliačik 1987*). Manifestations of the Lusatian settlement gradually disappear in this territory in the end of the early stage of the Final Bronze Age (*Furmánek/Veliačik/Vladár 1991, 134*). In SW Slovakia, it is associated – apart from the internal situation in the Lusatian society – with the arrival of the Mezőcsát nomadic group, whose burials are detected in the former settlement area of the Middle Danube Urnfields in the end of the Final Bronze Age (*Romsauer 1998*). However, these groups of riders did not expand significantly further to the north into the areas of the Lusatian settlement, whose further development is associated with the situation in the following Early Iron Age.

The Hallstatt is the period of gradual extinction of the Lusatian culture in Slovakia. While the Lusatian culture in the Final Bronze Age in its settlement area in Slovakia was expressed in material elements (pottery, etc.) more or less identically, the situation is different in the Hallstatt. Disintegration of the unity in the development of the Lusatian settlement in Slovakia in that period was recorded by *L. Veliačik (1988, 241)*, who explained it by local conditions or isolation of settled basins (*Veliačik 1989, 161*).

Thanks to numerous researches and surveys, we can suppose that the development of the Lusatian culture in the Hallstatt period in the territories of Orava (*Čaplovič 1987*) and Žilina (*Moravčík 1981, 180, 181*) was fluent. Certain cultural enclosure of the region and surviving traditions of the Final Bronze Age can be observed in Orava and the adjacent part of Považie region (*Benediková 2004, 93*). Manifestations of relations with southern cultural areas are typical for the Lusatian settlement in Slovakia mainly in later stages of its historical development. In the above-mentioned mountainous regions, loosening traditions and contacts with southern as well as adjacent northern Polish environment are expressed mainly in the later period of the Hallstatt (*Benediková 2004, 112*). In the territory of northern Slovakia, the Lusatian culture survives until the end of the Hallstatt period and its fading settlement participated in creation of the foundation for the newly occurring Púchov culture of the La Tène period (*Pieta 1982, 150–153; 2008, 32*).

Development of the Lusatian culture in stage HC in the mountain areas of northern and central Slovakia in Považie region (*Benediková 2014, 28*), upper Ponitrie region (*Andreánska 2016*) and Pohronie region (*Kvietok 2014*) probably continued fluently. In the Hallstatt period, contacts with the east Hallstatt territory and Moravian Lusatian environment are expressed in this Lusatian area (*Benediková 2016, 67*). Expressions of those influences led to distinguished regional groups of the Lusatian culture in northern Slovakia in the Hallstatt period (*Benediková 2017, fig. 1*), similarly to expressions of mixed settlement in the border zone of the Lusatian, Podolie and Kyjatice cultures leading to attempts to distinguish the Zvolen (*Bátora 1979*) and Banská Štiavnica (*Labuda 1981*) groups on the southern border of the Lusatian settlement in the Final Bronze Age. In both cases, I consider such detailed geographical division of the Lusatian settlement insufficiently documented so far, but we can assume it and further investigations (mainly in regions further to the north) will probably allow it. Although most of Lusatian burial grounds are not used any more in this period, settlement continues. We don't know yet what caused burials to stop and we don't have any information about intensity of the settlement either. It might be an expression of insufficient archaeological research in the studied regions. Partial population weakening might have been caused by departure of part of the population further to the south in the first half of the Final Bronze Age (*Benediková/Katkinová/Budinský-Krička 2016, 336*). The above-mentioned settlement areas in the Hallstatt period were not under such extreme expansive pressure as the southwestern part of Slovakia. They were partly

protected by their geographical location, but mainly by numerous massively fortified hillforts (*Veliačik* 1989, 161). Construction of hillforts of various types has been documented in the territory of the Lusatian culture in Slovakia from the Final Bronze Age to the Late Hallstatt period. There have been constant disputes in literature about the reasons leading to construction of such large buildings and their classification from the aspects of chronology and purpose (*Veliačik* 2004, 70, 71). Nevertheless, I consider them evidence of existence of numerous farming settlements in the studied region, although they have not been sufficiently detected by excavations. Most of the hillforts (each?) must have had its economic background which allowed their existence (*Stegmann-Rajtár* 2011).

Arrival of the Mezőcsát nomadic group in the Final Bronze Age was a severe interference with the Lusatian settlement in the southern parts of southwestern Slovakia. Its presence is documented by finds of inhumation burials, which – apart from typical metal inventory – included pottery related to various contemporary cultures (Ivanka pri Nitre, Maňa, Senica, Želiezovce, ect.), as the Mezőcsát group in southwestern Slovakia did not have its own pottery. We do not know its settlements reliably. The targets of such eastern, basically predatory nomadic groups were mainly economically developed and socially organized territories (*Romsauer* 1998, 96). Southern parts of southwestern Slovakia with insufficiently established Lusatian settlement were probably not such territories in the second half of the Final Bronze Age. The importance of the Mezőcsát nomadic group for further development of the Lusatian settlement in this territory lay mainly in slowing the dynamics of this settlement. It might have had influence in the early period of Hallstatt (HC), when settlement of the Kalenderberg (East Hallstatt) culture expanded in this region (*Stegmann-Rajtár* 2009, 84). Naturally, the influence of the Mezőcsát group on settlement of southwestern Slovakia in the end of the Final Bronze Age and in the beginning of the Hallstatt period (apart from construction of hillforts on the southern border of the Lusatian territory) will be specified by further research. The Kalenderberg culture gradually occupied the flat areas in southwestern Slovakia and overlapped the original Lusatian settlement (*Romsauer* 1986, 175). As suggested by results of excavations at the settlements in Nová Ves nad Žitavou (*Kujovský* 2012) or Čierne Kľačany (*Cheben/Chebenová/Cheben* 2016), the Lusatian part of the population probably adopted the new Hallstatt habit and partly participated in it. In that period, the cultural expression at fortified settlement changes as well (*Stegmann-Rajtár* 2017, 393). In general, large amphoras are considered

expressions of the Lusatian part of settlement in the environment of the Kalenderberg culture in southwestern Slovakia (*Romsauer* 1993, 17; *Stegmann-Rajtár* 2009, 76). The “Lusatian” settlement in southwestern Slovakia definitely demises by introduction of the Vekerzug culture in the later stage (HD) of the Hallstatt period.

GENESIS AND INTERNAL CHRONOLOGY

The beginning of the Middle Bronze Age belongs to the most complicated periods of Slovak prehistory. In that era, significant social changes occurred all over the Slovak territory and were reflected in the structure of settlement and its material expressions. On the one hand, the developed civilization of the Early Bronze Age disappears, on the other hand, settlement starting development for another millennium is created.

We consider the territory of Považie, from the Trenčianska kotlina basin to Liptov, to be the area of crystallization of the Lusatian culture. Groups of settlers bringing elements of the Tumulus culture expanded to the western part of the delimited area from central Moravia in stage BB2 (BC1) via the passes in the Biele Karpaty mountains. It is evidenced by finds from the older horizon of settlement of Trenčín-Istebník (*Kujovský* 2004) and Liptovský Michal (*Veliačik* 1982). From the east, groups of people from the demising Otomani culture's territory arrive. We probably cannot speak of expansion of the Otomani culture. It is rather advance of smaller groups which settle in previously less inhabited valleys of Považie region in the period of general disruption. Residues of their original Otomani environment are visible on the finds from the settlement in Liptovský Trnovec (*Przybyła/Beljak* 2010) and Liptovská Teplá (*Veliačik* 1988). Important elements of the occurring new cultural quality undoubtedly include remains of probably sporadically original settlement of the Maďarovce culture as well. This settlement process was not one-off, it took a long time. With regard to its components, it could not have started before stage BB2 (BC1). It can be seen as part of previous development. However, it can be also perceived as the period when foundations of a new cultural entity were built. The finds from stage II of the burial ground in Martin, which have the most similar dating, show signs of a fully-developed culture, i.e. completed crystallization process.

Several authors in the 20th century dealt with the topic of internal division of the Lusatian culture in Slovakia. The currently most widely used clas-

sification in Slovakia was elaborated by L. Veliačik for the period between stage BC and the end of the Late Bronze Age (Veliačik 1983, 163–174). Authors of individual classifications did not agree on the stage (BC or BD?) since which finds can be considered Lusatian. In the territory of central Moravia, where – as we have already mentioned – an important impulse for the settlement in Považie region came from, excavations have brought a significant change in opinions in the last decades. The finds previously classified in the Proto-Lusatian horizon are now considered evidence of the Tumulus culture settlement (Stuchlík 2020; Stuchlík/Kolbinger 1993; Stuchlík/Šmíd 1997; Šabatová 2004; 2014; Štrof 1993; 1995). Existence of the separate Tumulus culture is assumed and accordance between the pottery of the Tumulus and Lusatian cultures are considered evidence of their common development (Stuchlík/Šmíd 1997, 250). The beginnings of the Lusatian culture in central Moravia are dated to stage BD with a transitional Tumulus-Lusatian horizon at the turn of stages BC/BD. Actually, defining a transitional horizon between a demising and occurring cultures (from the aspect of archaeology) is common in literature on archaeology (Otomani-Piliny, Tumulus-Lusatian, etc.). This article shall not discuss whether the settlement in the given period presents the final stage of development of the previous culture or the initial stage of development of a chronologically and geographically subsequent culture. Calling the chronological period between two clearly specified cultures a “transitional” stage expresses the fact that the development fluently continues – influenced by new impulses – by a new cultural entity which starts to show its own typical features. From this point of view, it is logical to consider the Lusatian culture in central Moravia directly evolved from the Tumulus culture. Attempts to unify the chronologies and terminologies in Moravia and Slovakia might have partly been the reason why settlement in northern Slovakia in the Middle Bronze Age is attributed to the Tumulus culture (Benkovský-Pivovarová 2018, 62; Gašpar 2018, 100). Typical expressions of the Lusatian culture would later occur suddenly and in a large territory (Gašpar 2018, 101).

Nevertheless, the situation in north-western and northern Slovakia in the Middle Bronze Age is different. We do not assume that existence of typical expressions of the Lusatian culture is a result of a sudden cultural “leap”. On the contrary, we suppose that they were preceded by long and complex development in the particular geographical environment. There are definitely more of such crystallization territories, when speaking of a culture like the one of Lusatia. Central Moravia and northern Slovakia are geographically close regions and as-

sumed communication via the Vlársky priesmyk pass area (Dohnal 2018, 80) has been documented in other periods as well. The two territories must have influenced each other, but it does not mean that their development was necessarily identical.

We consider the developmental association of the sites of Trenčín-Istebník, Liptovský Trnovec, Liptovský Michal and Liptovská Teplá in Považie with the Tumulus and Lusatian cultures undisputable, although complexes of finds show features of a still non-homogenous environment. We do not think it is correct to call them Tumulus or Lusatian (or Otomani), despite some types of pottery brought by the colonists from their original territories. Only further development joins diverse elements and creates a new cultural quality. In our opinion, the chronologically subsequent finds from the burial grounds in Martin, Púchov and Liptovský Mikuláš-Liptovská Ondrašová dated to the Middle Bronze Age stage BC2 in the territory of northern Slovakia present the Lusatian cultural entity and its further evolution led to a significant expansion of the Lusatian settlement in Slovakia in stage BD.

Each culture must undergo a period of creation of its specific elements which make it distinct from the entities of its neighbouring settlement areas. This period, however, is part of its history and makes a starting point for further development of the culture. That is why we followed from the widely used classification elaborated by L. Veliačik in our internal division of the Lusatian culture in Slovakia. Nevertheless, we perceive settlement from stage BB2 (BC1) as stage I of its historical development, although the finds from this period cannot be clearly identified as Lusatian. We might speak of a transitional “crystallization” stage of development. In specification of individual stages, we did not use names of “typical” sites. We do not think that this tradition – although widely used and still accepted – is good. Firstly, investigation brings more “typical and more typical” sites and, secondly, it often makes an impression that the site belongs to the relevant horizon, stage, etc. Occupancy of very few sites can be limited by one specific chronological horizon. Thus, we have chosen the more or less neutral word phase in terms of the historical development of settlement. As far as chronological classification is concerned, almost all previous classifications are chronologically attached to the currently historical (and adapted) Reinecke’s system. His names of development stages BA, BB, BC, etc. are generally used and chronologically understandable for all archaeologists, not only for those specializing in the relevant period and geographical territory.

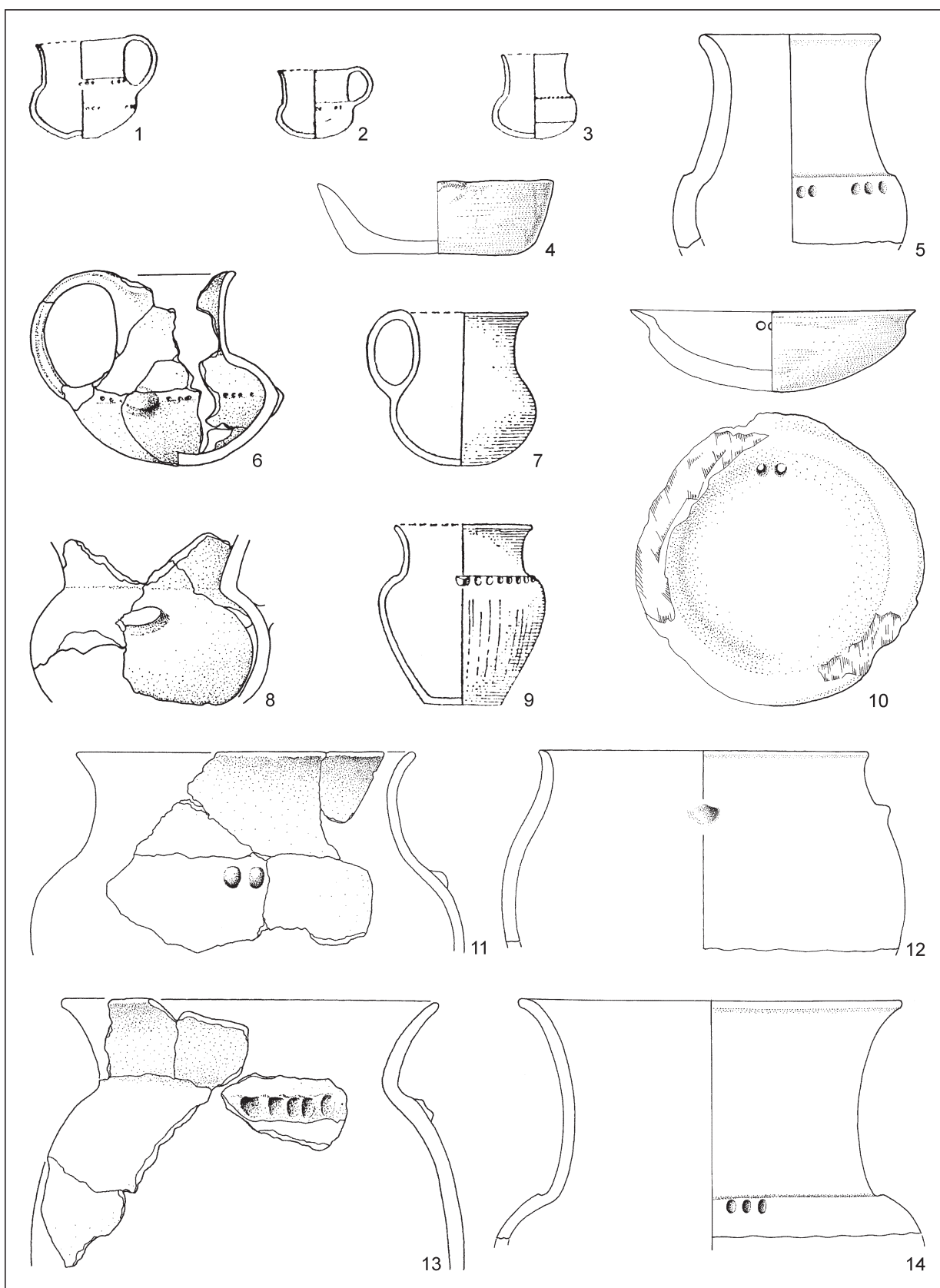


Fig. 1. Crystallization of Lusatian culture. Finds of phase I. 1, 2, 3 – Liptovský Michal (after Veličák 1982); 4, 5, 10, 12, 14 – Trenčín-Istebník (after Kujovský 2004); 6, 8, 11, 13 – Liptovský Trnovec (after Przybyła/Beljak 2010); 7, 9 – Liptovská Teplá (after Veličák 1988). Various scales.

CHARACTERIZATION OF DEVELOPMENT PHASES

Phase I [BB2 (BC1)] – Fig. 1

It is the period of crystallization of the Lusatian culture in Slovakia in Považie region. Components from three decisive cultural environments participated in creation of background for the Lusatian culture in Slovakia – mainly the colonizing settlement from the period of the forming Tumulus culture in the environment of central Moravia, disappearing settlement of the Maďarovce culture and colonizing settlement from the extinction horizon of the Otomani culture from the territory of eastern Slovakia. Our current knowledge is rather unilateral, as we only know about finds from settlements. As for the known sites, we can mention Liptovský Michal and Liptovská Teplá, relevant finds were detected also at the sites of Trenčín-Istebník and Liptovský Trnovec. Fading of this development can be observed also on the published older part of the burial ground in Martin (*Benkovská-Pivovarová* 1972, pl. IX: 6; XII: 6). Insufficient cultural homogeneity occurs not only between individual sites but also within individual assemblages of finds in that period. This is typical for the period of occurrence of a new cultural quality. Pottery shows relation to the original settlement areas.

Small jugs from the Early Bronze Age, the shape fluently continuing its development in the newly created cultures of the Middle Bronze Age, were found at all four above mentioned sites. Finds of small jugs from Liptovský Michal (Fig. 1: 1–3; *Veliačik* 1982, fig. 2: 1–3), Liptovská Teplá (Fig. 1: 7; *Veliačik* 1988, fig. 2: 11, 14), Liptovský Trnovec (Fig. 1: 8; *Przybyła/Beljak* 2010, fig. 18: 7), Trenčín-Istebník (Fig. 1: 5, 14; *Kujovský* 2004, fig. 1: 1; 3: 1) follow from the environment of the Tumulus culture. The jug from feature 95 from Liptovský Trnovec (Fig. 1: 6; *Przybyła/Beljak* 2010, fig. 14: 2) follows from the traditions of the Otomani culture. Small protuberances or impressed circular spots encircled with a circle of fine incisions occur on rather rare sherds from amphoras. This decorative motif occurs also in the environments of the Otomani culture, the Carpathian Tumulus culture in Slovakia and the Middle Danube Tumulus culture in central Moravia. The Lusatian culture adopted it and it occurs on Lusatian pottery in its later stages. Pots are mostly S-profiled, without handles. They are usually decorated with protuberances, plastic horizontal pressed tapes on the shoulders (Fig. 1: 9, 11–13; *Kujovský* 2004, fig. 1: 8; *Przybyła/Beljak* 2010, fig. 21: 4; 27: 1, 5;

Veliačik 1988, fig. 2: 25). Roughing or strawing of the lower parts of pots and bodies of thick-walled storage vessels is common in this period. As for bowls, mainly the shallow shape of a bowl with everted rim resembling a plate is interesting (Fig. 1: 10). Such plate-shaped bowls were detected in Liptovská Teplá (*Veliačik* 1989, 153) and Trenčín-Istebník (*Kujovský* 2004, fig. 3: 2) as well as the Tumulus environment in Moravia (*Spurný* 1954, 372).

So-called tub-shaped vessels are a specific pottery shape whose occurrence is probably limited to this stage of development. They are roughly finished, elongated, narrow and low shapes of bowl-shaped vessels. Tub-shaped vessels have only been discovered at the settlement in Trenčín-Istebník (Fig. 1: 4; *Kujovský* 2004, fig. 2: 1), but their occurrence has been documented also in the contemporary environment of the Tumulus culture in Moravia, e.g. at the sites of Uherský Brod (*Hrubý* 1958, fig. 7: 17, 18) and Kroměříž-Hradisko (*Spurný* 1972, fig. 1: 1; 2: 3). Information on the content of phase I BB2 (BC1) is complemented by rather specific information from the research of the settlement in Trenčín-Istebník. In the older layer of settlement at this site, loosely scattered fragments of human bones were found together with animal bones. Anthropological analysis discovered traces of boiling or gnawing on the human bones (*Jakab/Kujovský* 1999).

Phase II (BC)² – Fig. 2

In this period, the Lusatian culture in Slovakia is expressed as a specific group of relics with specific elements. *L. Veliačik* (1983, 167) elaborated the material content based on finds from stage II at the burial ground in Martin and in Púchov. We currently do not know about settlements from stage II. Large vases with tall conical or cylindrical necks, wide rounded bellies and bent lower parts are the most significant pottery shape. There are short horizontal tapes on the belly, sometimes combined with vertical handles (Fig. 2: 4, 11, 12). Classification of these vessels in stage BC is supported by their common occurrence with fibulae with profiled heads terminated with knobs (Fig. 2: 7, 8; *Novotná* 1980, 89, 90) in Martin (burial 80; *Benkovská-Pivovarová* 1972, pl. VII) or their common occurrence with profiled bowls on hollow stems (Fig. 2: 6, 10) and fibulae with disc-shaped heads (Fig. 2: 9; *Novotná* 1980, 90–93) in Martin (burial 120; *Benkovská-Pivovarová* 1972, pl. XII). As for some shapes – the vessel with a conical neck from burial 107 or small jugs from burials 128 and 135 in Martin – they might show the fading

² Stage BC2. Stage/horizon Martin in the classification by *L. Veliačik*.

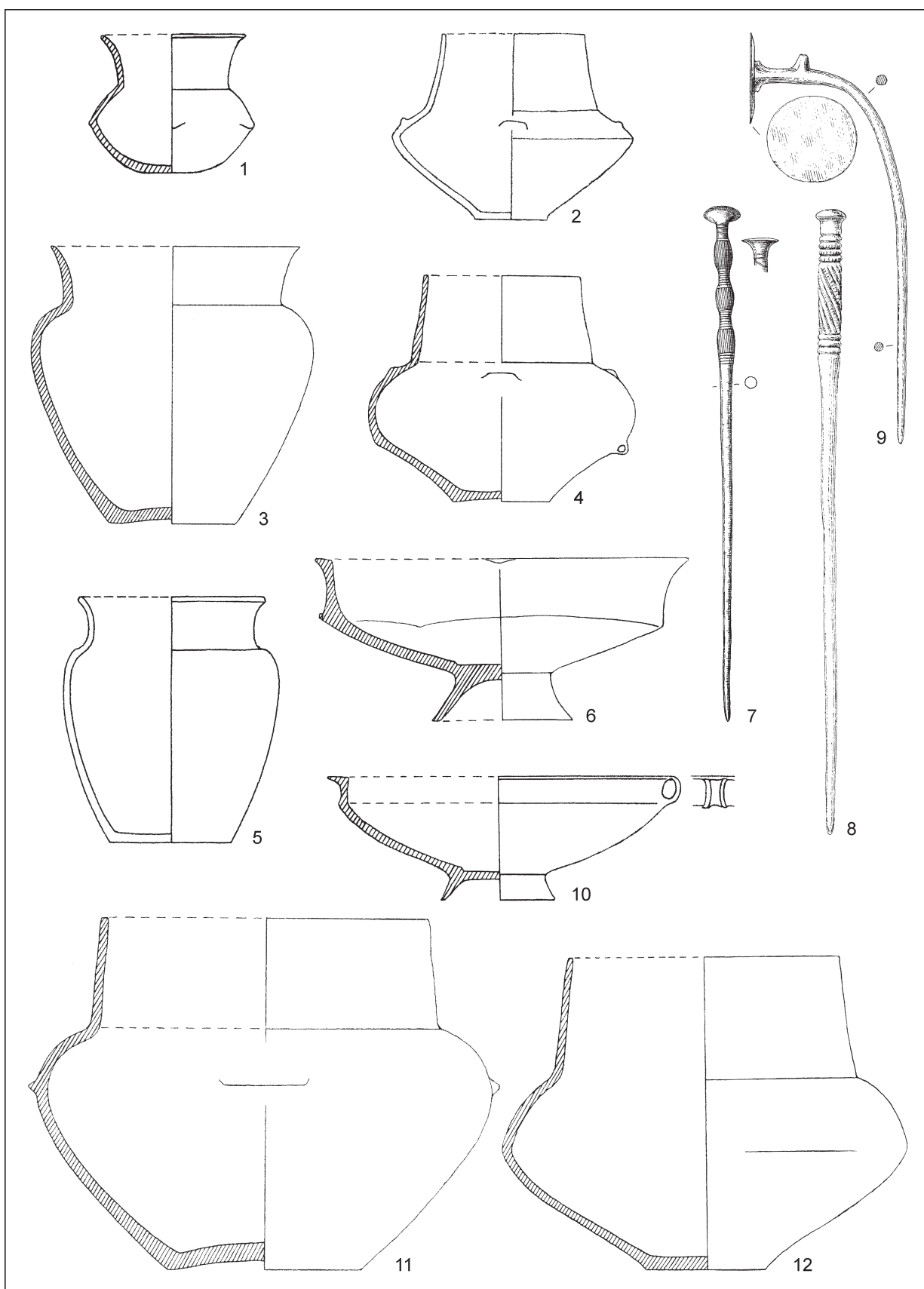


Fig. 2. Lusatian culture. Finds of phases II, III. 1, 3, 4, 6, 8–12 – Martin (after *Benkovská-Pivovarová* 1972); 2, 7 – Liptovský Mikuláš-Liptovská Ondrašová (after *Veličik* 1975); 5 – Púchov (after *Veličik* 1983). Various scales.

influence of the Tumulus cultures. Pottery shapes of this stage are complemented with profiled bowls and handleless pots with S-shaped profiles (Fig. 2: 3, 5), whose occurrence continues with minimum changes in the following stages.

Cremation was the exclusively used burial rite. In most burials, cremated remains of dead bodies were deposited in urns (usually in a vase with a tall conical or cylindrical neck which was covered with a profiled bowl, sometimes in a pot). However, pit burials were also discovered (*Benkovská-Pivovarová* 1972, 269). They are usually flat, but hollow and narrow circular ditches were detected around several burials, which is generally considered a sign of existence of an earthen mound – a tumulus above the burial (burial 120 and burial 133 in Martin).

No bronze depots are known from this stage, which is probably associated with the standard and extent of bronze processing. In this aspect, the Lusatian culture in Slovakia reached considerable development as late as its later stages.

Phase III (BC/BD)³

The transitional character of this period was noticed by Z. Benkovská-Pivovarová during evaluation of finds from the burial ground in Martin. She perceived the third stage of the Martin burial ground dated to the turn of stages BC/BD as a connection between the finds from stage BC and the finds dated to stage BD (*Benkovská-Pivovarová* 1972, 287, 288). This brief statement excellently describes the character of phase III (BC/BD). Following from the excavation of the burial ground in Liptovský Mikuláš-Liptovská Ondrašová, it was adopted also by L. Veliačik (only in the context of settlement by the Lusatian culture) who elaborated the content of the transitional phase/horizon Liptovský Mikuláš-Ondrašová (*Veliačik* 1983, 168). Naturally, a period of common occurrence of older as well as younger expressions exists between each pair of subsequent phases of cultural development. However, it is not always necessary to create an independent inter-stage. In this case, it was defined not only because of material expressions of the Lusatian culture, but mainly effort to emphasize fluency of cultural development.

The material content of Phase III (BC/BD) does not provide a homogenous picture. Some finds show association with the previous phase II (BC). Occurrence of profiled bowls and S-profiled handleless pots with funnel-shaped necks continues.

Occurrence of profiled bowls on hollow stems fades. There are still large vases with conical necks, but some shapes show tendency to use sharp bents on the belly and inversion of the lower body, which is included in the features of these vases mainly in the following Phase IV (BD).

Besides burying in flat cremation burials, tumuli encircled by distinct rings of stones start to occur (Liptovský Mikuláš-Liptovská Ondrašová). Large vases, exceptionally pots, were used as urns most frequently.

Occurrence of fibulae with disc-shaped heads and bent necks fades and fibulae with globular heads and thickened necks start to appear (Liptovský Mikuláš-Liptovská Ondrašová, Nemšová-Luborča, Martin). Although occurrence of bronzes among grave goods increased (Liptovský Mikuláš-Liptovská Ondrašová), we have not recorded bronze depots from this stage of the Lusatian culture in Slovakia.

Phase IV (BD–HA1)⁴ – Fig. 3

In the course of phase IV (BD–HA1), the Lusatian culture in Slovakia reaches its geographical as well as demographical prime. The number of sites (burial grounds and settlements) increased significantly and not only the Váh river valley, but also the valleys of its tributaries are settled. The increase in economic and human sources allowed the Lusatian culture to move the borders of its settlement area in the west partly to eastern Moravia (Vlářský priesmyk pass), in the south along the Váh river (Piešťany territory), the Nitra river (territory of Topoľčany), the Hron river (the area between Zvolen and Žiar nad Hronom), in the east (part of Spiš region) and in the north (Orava and probably also Kysuce region). The territory of the Lusatian culture gradually becomes the most dynamically evolving settlement territory of Slovakia. Expansion of the Lusatian settlement is visible in all its expressions.

Although large vases with conical necks (Fig. 3: 16) are still frequently represented among the pottery shapes, they are not predominant any longer. They are gradually replaced by new shapes in the function of urns. Large biconical vessels start to occur (Fig. 3: 21, 24; Krásna Ves, Mikušovce, Trenčianske Teplice, etc.) and, most importantly, amphoras become more frequent.

Since stage BD, amphora is the most significant part of pottery inventory of the Lusatian culture in Slovakia. It occurs in two variants. In the first

³ Turn of stages BC/BD. Phase/horizon Liptovský Mikuláš-Ondrašová in the classification by L. Veliačik.

⁴ Stage BD and beginning of stage HA1. Phase/horizon Mikušovce in the classification by L. Veliačik.

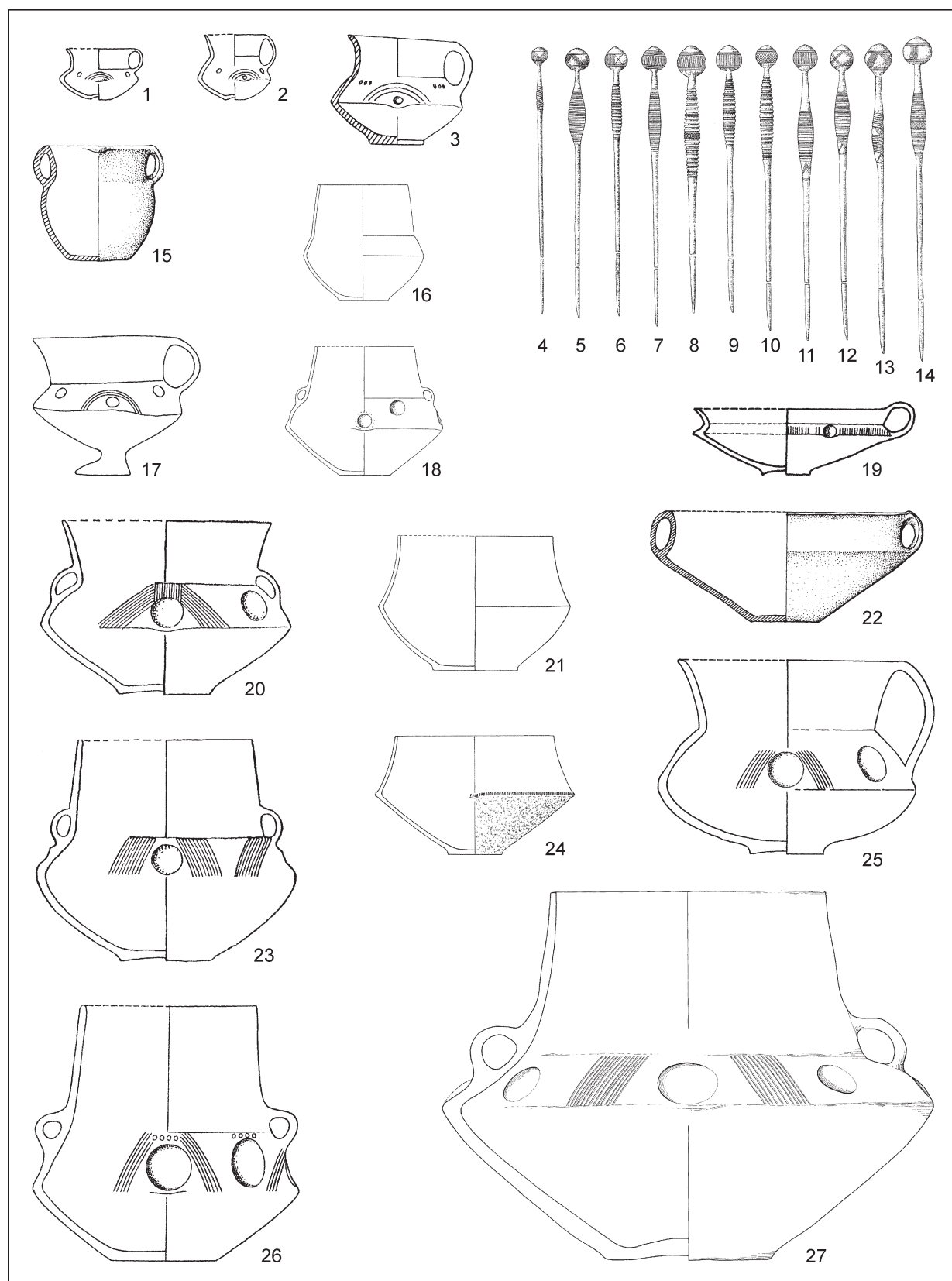


Fig. 3. Lusatian culture. Finds of phase IV. 1, 2, 17 – Belá; 3 – Martin (after Benkovská-Pivovarová 1972); 4–14 – Nová Lehota; 15, 22 – Krásna Ves (after Budinský-Krička/Veličik 1986); 16 – Mikušovce; 18 – Trenčianske Teplice; 19, 26 – Beluša; 20 – Partizánske; 21 – Trenčianske Teplice; 23 – Kotešová; 24 – Mikušovce (21, 24 after Pivovarová 1965); 25 – Malé Kršteňany (1, 2, 4–14, 16–20, 23, 26 after Veličik 1983); 27 – Dolný Kubín (after Cheben/Vojteček 2011). Various scales.

one, amphora has a tall conical neck and flat rim, two handles connect the lower part of the neck and the shoulder of the vessel, which is almost a rule with amphoras of the Lusatian culture (Fig. 3: 23, 26, 27). This amphora shape is wide-spread within the whole territory of the Lusatian cultural complex and it is probably a result of the fluent development of the Lusatian pottery. The second variant is specific for the Slovak Lusatian territory. They are vessels with sharply offset funnel-shaped necks and flat rims. Handles connect the lower part of the neck and the shoulder of a vessel (Fig. 3: 20). The amphora shape with funnel-shaped neck is usually associated with influences from the territory of the Carpathian basin. In Slovakia, "sharp" profiles of amphoras with cants on bellies is typical of both variants in phase IV (BD–HA1). Amphoras can be undecorated, but the surface of shoulders is often used for ornamentation. Basic decorative elements include impressed dimples and bands of oblique grooves. The decorative motif composed of impressions and sharp profiles is chronologically significant and classifies the vessel in phase IV (BD–HA1). We discover them at burial grounds (Beluša-Pechová, Mikušovce-Nivky, Partizánske-Šimonovany, Trenčianske Teplice, etc.) as well as settlements (Dolný Kubín-Ožnica, Partizánske-ZDA, etc.). Occurrence of jugs ends in this phase (Fig. 3: 1–3, 17; they are exceptional in further periods). They are gradually replaced by sharply profiled cups (Fig. 3: 19). Large jugs are rather rare (Fig. 3: 25). Profiled bowls (Fig. 3: 22) and profiled handleless pots continue, occurrence of profiled double-handled pots with handles connecting rims and shoulders of vessels is more frequent (Fig. 3: 15).

Although research of settlements was carried out at considerably lower number of sites compared to burial grounds, we find the above-described pottery in stage IV (BD–HA1) also at settlements. First dwellings from this period have been studied. They are probably stake structures with wattle-and-daub walls (Visolaje) or sunken huts whose sunken parts of walls can be tiled with stone plates (Dolný Kubín-Ožnica). The dead were most often buried in flat urn or pit graves. Large tumuli with stone rings are the most remarkable manifestation of the burial rite in this period. They were probably partly simultaneously built with smaller tumuli with stone cases (Krásna Ves, Mikušovce, Trenčianska Teplá).

In phase IV (BD–HA1), metallurgy, which can be associated with production by the Lusatian population, starts to evolve. The most typical bronze artefact from phase IV (BD–HA1) is a large fibula with a globular head and thick neck decorated with an

engraved spiral (Fig. 3: 4–14; *Novotná 1980*, 107–110). They are found among grave goods from cremation burials (Krásna Ves, Mikušovce, Partizánske), in settlement features (Dolný Kubín-Ožnica) and mostly in depots. Numerous monotype depots of such large fibulae are concentrated mainly in the territory of the Lusatian culture in Slovakia (Nová Lehota, Ovčiarsko, Turčianske Teplice-Malá Vieska, etc.). They are important evidence of development of bronze metallurgy in the Lusatian culture's environment. Finds of such fibulae in the neighbouring cultural territories document busy exchange similarly to finds of bronze artefacts of the Piliny provenance in the Lusatian environment (Horná Štubňa). The extending contacts definitely contributed to development of the Lusatian society in Slovakia also in further stages.

Phase V (HA1)⁵ – Fig. 4

Stage HA1 is the period of fading elements from the previous phase and stabilization of settlement in the territory occupied by the Lusatian culture in the period of its first territorial expansion in phase IV (BD–HA1). Development is fluent, but the social changes which created the background for the boom in the end of the Late and the beginning of the Final Bronze Age start in this period. Appearance of new elements in pottery, burial rite, and the range of produced bronze artefacts is obvious. L. Veliačik discussed significant differences between finds from phase IV (BD–HA1) and phase V (HA1; *Veliačik 1983*, 170). Similar development in stage HA1 is observable also in the settlement territory of the Piliny culture, where it led to distinguishing of a new cultural entity – the Kyjatice culture (*Furmánek/Mitáš 2010*, 97).

The burial rite is still exclusively of the cremation type, with prevalence of flat burials. In phase V (HA1), occurrence of large tumuli with stone rings fades. Occurrence of relatively large tumuli with full stone covers, which were less frequently built also in the previous phase IV (BD–HA1; Krásna Ves, Mikušovce-Nivky, Sklabinský Podzámok) continues. Amphora is more frequently used as urn and becomes more significant among pottery shapes since this stage. Both variants of amphoras with two or four handles over the interface of body and neck (with conical as well as funnel-shaped necks) still occur. In decoration, grooves or bands of vertical grooves decorating shoulders of amphoras or vases are used. These decorative elements are sometimes interrupted with impressed dimples

⁵ Stage HA1. Phase/horizon Diviaky nad Nitricou I in the classification by L. Veliačik.

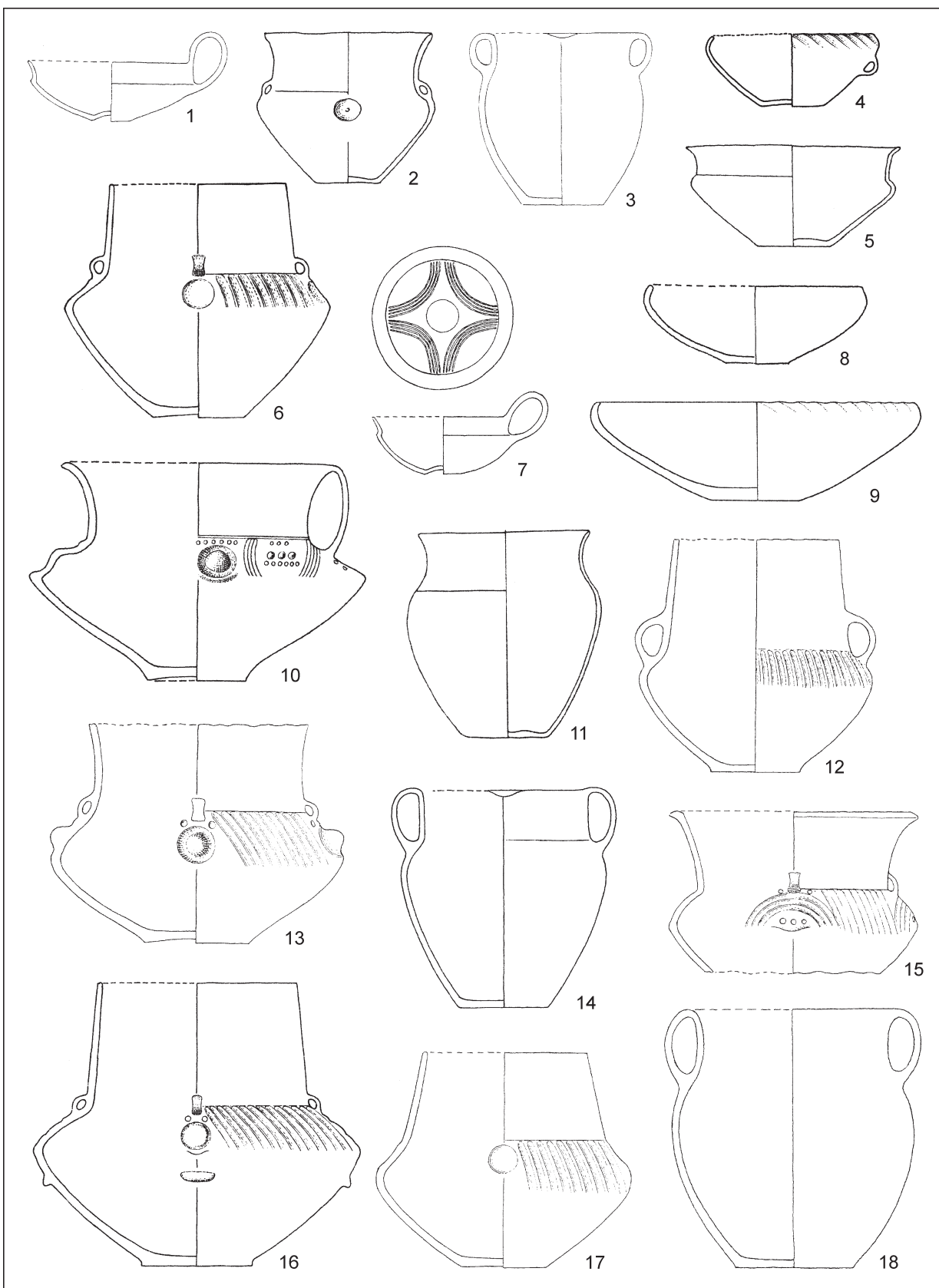


Fig. 4. Lusatian culture. Finds of phase V. 1, 3, 7, 12, 13, 15, 18 – Diviaky nad Nitricou (after *Veliačik* 1991); 2, 5, 11 – Háj (after *Hrubec/Kujovský* 1994); 4, 8, 9, 16 – Partizánske; 6, 17 – Prenčov; 10 – Beluša; 14 – Opatovce nad Nitrou (4, 6, 8–10, 14, 16, 17 after *Veliačik* 1983). Various scales.

which are later replaced by protuberances (Fig. 4: 2, 6, 12, 13, 15–17). The sharp profile of vessels becomes smoother. Engraved decoration survives only on smaller shapes. Dating of these vessels in phase V (HA1) is supported by their sporadically occurrence in the environment of the neighbouring Urnfield cultures, e.g. among the grave goods from the chieftain tumulus of the Velatice culture in Očkov (*Paulík 1962*, tab. VI: 2), which is only two kilometres far from the Lusatian settlement in the cadastral area of Pobedim. Frequent large sharply profiled vases with tall conical (cylindrical) necks disappear as well as large biconical vessels, which lose their sharp profiles in the following period and occur only rarely. Occurrence of large jugs with decoration including protuberances and grooves (Fig. 4: 10; Varín) is also scarce. In the course of phase V (HA1), conical bowls with inverted rims (Fig. 4: 4, 8, 9; Krásna Ves, Partizánske, Zvolen-Balkán, etc.) start to appear in the environment of the Lusatian culture in Slovakia. Profiled shallow cups with elevated handles are enriched with inside decoration of their bodies (Fig. 4: 7; typical motifs include rectangles of bands consisting of parallel grooves – so-called false garlands).

As for miniature bronze jewels among grave goods, fibulae with profiled heads and club-shaped fibulae are noteworthy (*Novotná 1980*, 139–144), but depots of bronze artefacts from the sites in Ivanovce, Martinček, Osádka, Žaškov and others belong to the same stage. In stage HA, production of bronze artefacts in the settlement territory of the Lusatian culture in Slovakia expands, which is shown also in the number of depots. Bronze swords are undoubtedly the most significant manufactured artefacts (*Novotná 2014*).

Phase VI (HA2)⁶ – Fig. 5

In stage HA2, the fluent development of the Lusatian culture in Slovakia continues. The number of sites in individual regions increases, but the pace of increase in density of settlement can only be assumed. Most sites were discovered during minor rescue excavations or field surveys and the timespan of their existence has not been documented sufficiently. The boom was probably not identically intense in all regions of the Lusatian culture.

Flat urn burials are still most frequent in the burial rite. Occurrence of relatively large tumuli (diameter of app. 2.5–5 m) with stone covers (Diviaky nad Nitricou, Krásna Ves, etc.) cease and

smaller covers of stones are used. Proportion of double-urn burials and the number of grave goods increases. Amphoras are most frequently used as urns. The variant with funnel-shaped neck probably disappears in phase VI (HA2), but amphoras with conical necks and flat or everted rims still occur. Decoration on shoulders of these vessels with bands of vertical flutings disintegrates into groups of grooves combined with protuberances and arcuate flutings. Profile and interface of the neck and body of amphora becomes smoother and is emphasized in the lower part of the neck with horizontal flutings (Fig. 5: 8, 9, 11, 13). Incidence of conical bowls with inverted rims (Fig. 5: 1, 3, 4; Háj, Partizánske, Zvolen-Balkán, etc.) and profiled cups with inner decoration including garlands consisting of bands of parallel grooves (Fig. 5: 7, 10) increases. S-profiled double-handled pots with handles starting on the rim or just below it (Fig. 5: 2) probably disappear. Minimally profiled pots with handles in the upper third are more common (Fig. 5: 5).

In the field of metallurgy of bronze and production of bronze artefacts, the Lusatian territory in Slovakia becomes dominant, which is the development commenced in the previous period (*Furmánek 1988*, 220, 221). It is documented by the relatively more frequent bronze artefacts among grave goods (small fibulae with globular, profiled, bowl-shaped heads, etc.), but mainly depots including artefacts using more material – swords, axes, sickles, fragments probably meant for secondary processing (Brvnište, Komjatná, Trenčianske Bohuslavice, Zvolen, etc.).

Phase VII (HA2–HB1)⁷ – Fig. 6

In the end of the Late and in the beginning of the Final Bronze Age, further extension of the Lusatian culture's settlement area in Slovakia occurs. Although we cannot exclude minor moves in other directions, the territorial expansion took place mostly southwards, in the territory of south-western Slovakia to the emptied settlement area of the Middle Danube Urnfields. In the first half of the Final Bronze Age, the Lusatian culture in Slovakia reached its prime. We have data (*Veliačik/Romsauer 1994*) on the Lusatian settlement in the territory of Trnava (Abrahám, Budmerice, Dolné Lovčice, Majcichov, Šulekovo, etc.), in Ponitrie (Branč, Kolíňany, Nitra, Šurany, Veľký Lapáš, etc.), Požitavie (Bajč, Beladice, Zlaté Moravce, etc.), Pohronie (Horná Seč, Rybník, Šarovce, etc.) mainly from field surveys.

⁶ Stage HA2. Phase/horizon Diviaky nad Nitricou II in the classification by L. Veliačik.

⁷ End of stage HA2 to HB1.

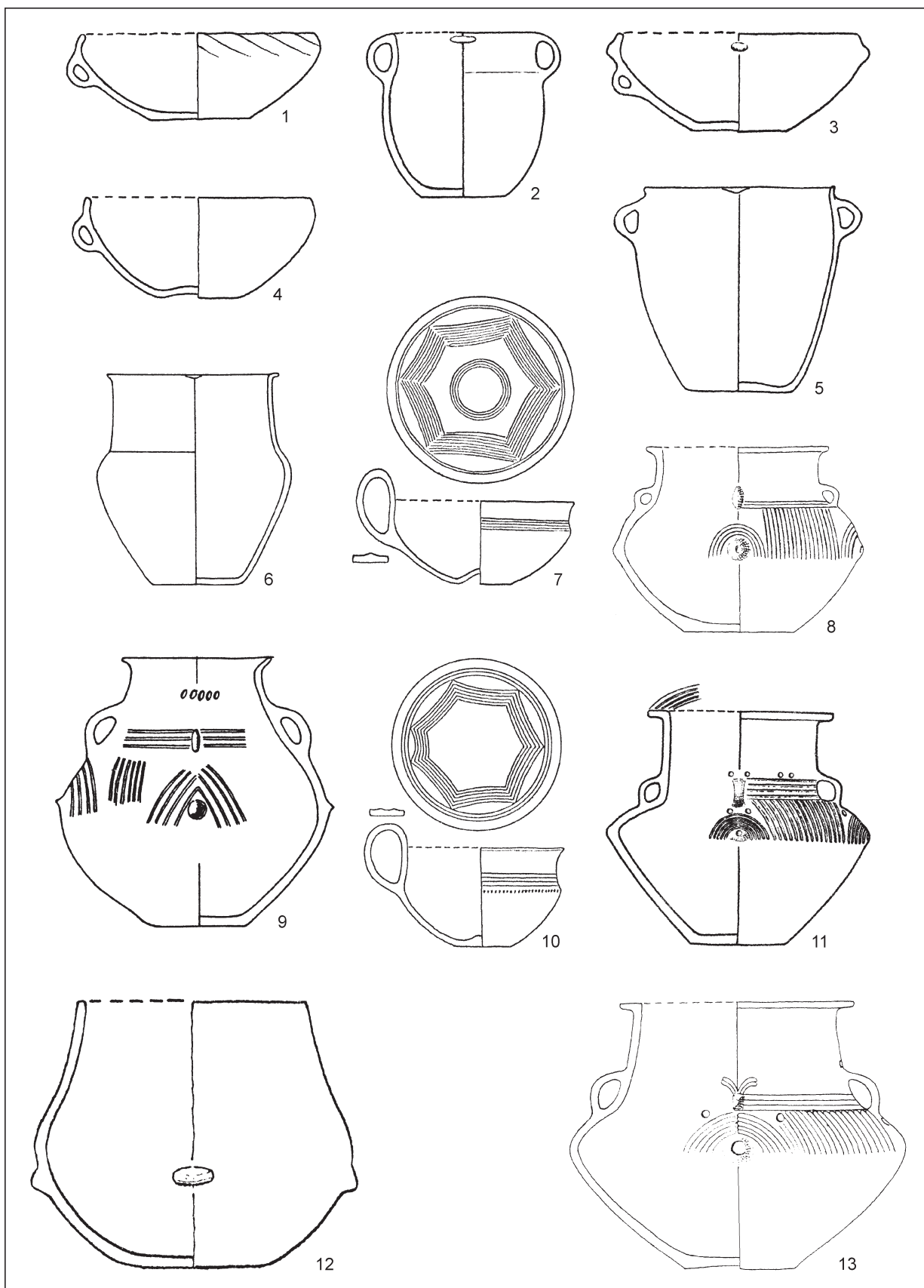


Fig. 5. Lusatian culture. Finds of phase VI. 1, 3, 4, 7, 10, 12 – Žitavany-Křažice (after Kujovský 2018); 2, 11 – Partizánske (after Veličák 1983); 5, 6, 9 – Háj (after Hrubec/Kujovský 1994); 8, 13 – Diviaky nad Nitricou (after Veličák 1991). Various scales.

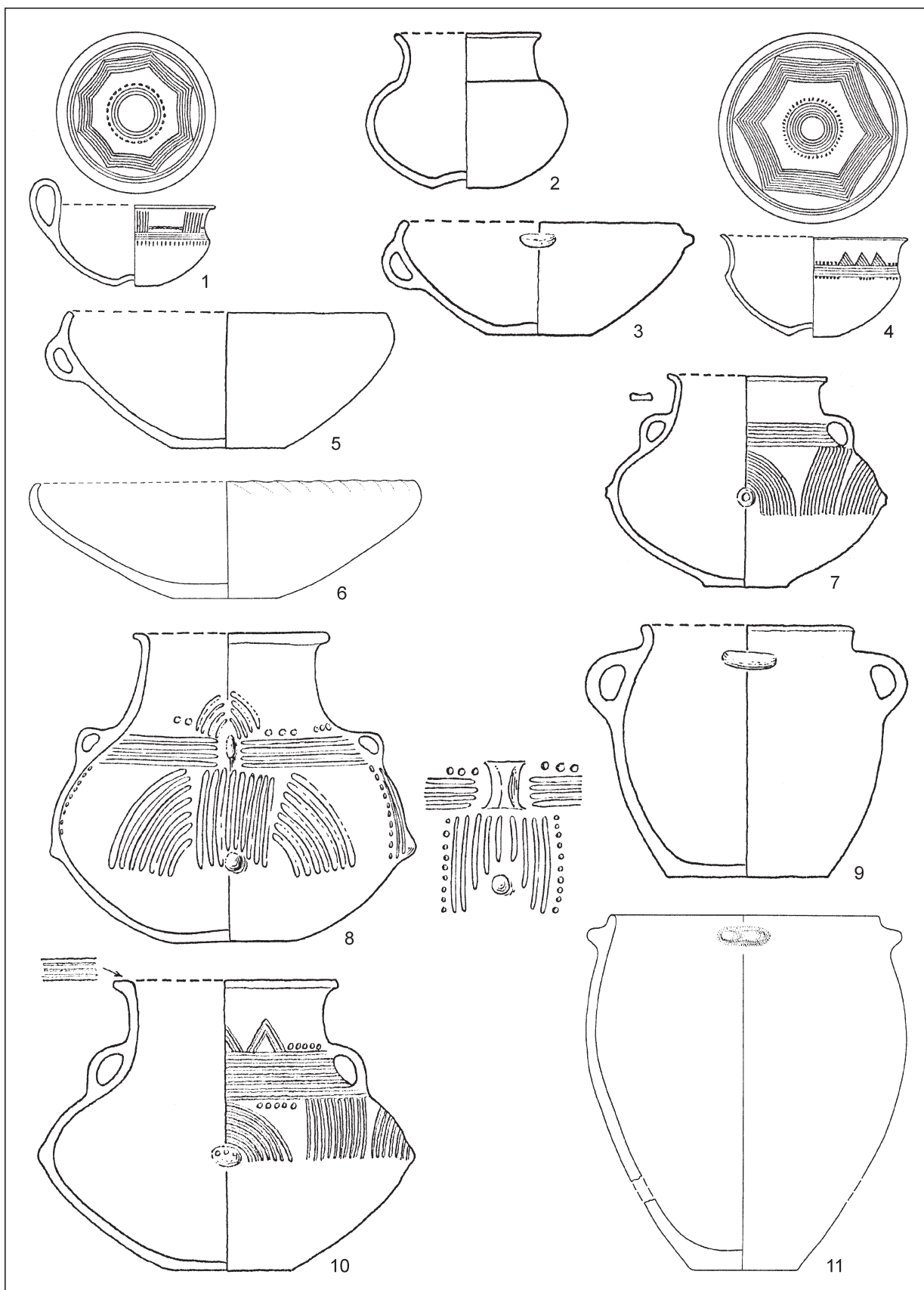


Fig. 6. Lusatian culture. Finds of phase VII. 1–11 – Žitavany-Kňažice (after *Kujovský 2018*). Various scales.

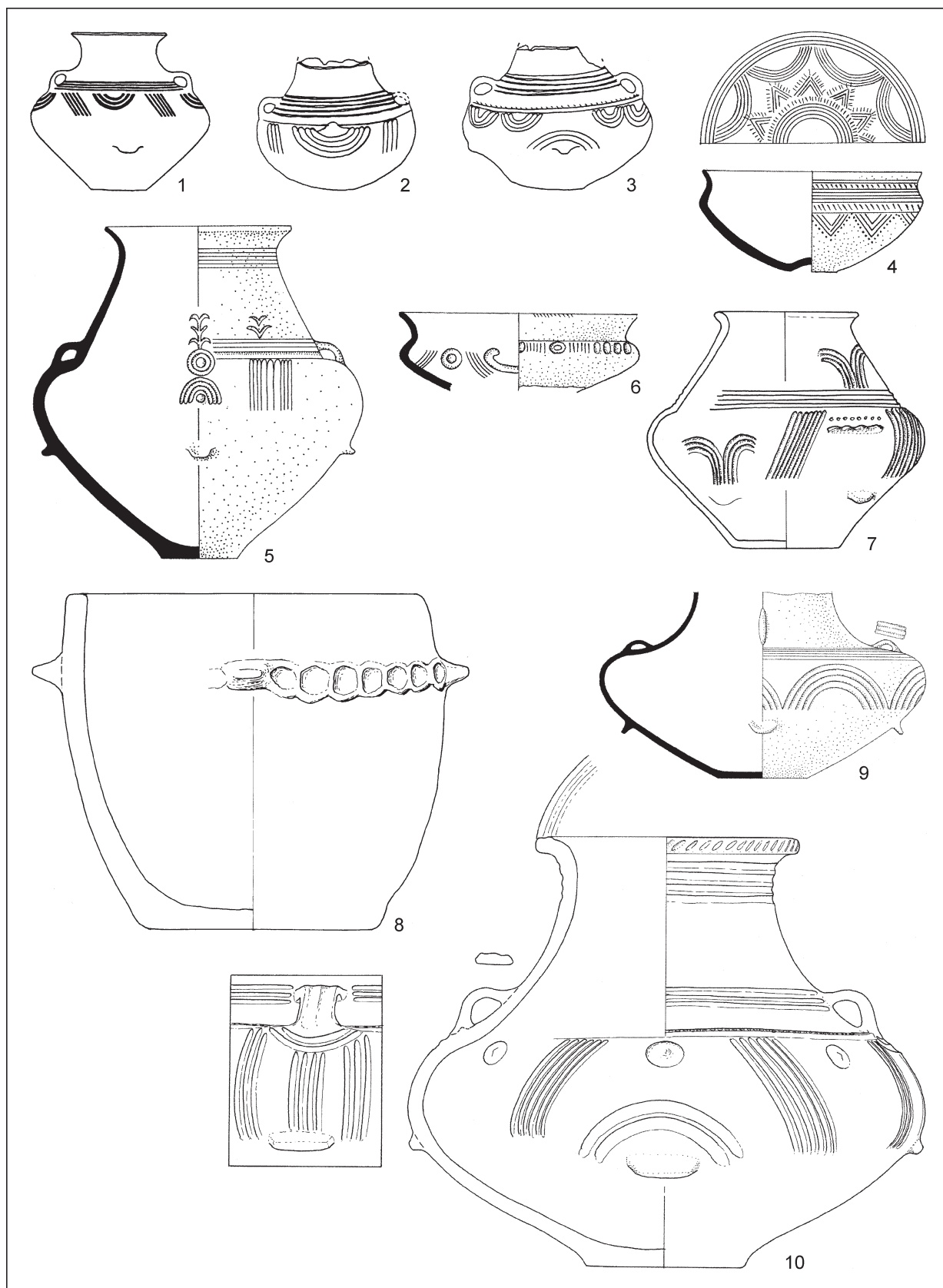


Fig. 7. Lusatian culture. Finds of phase VIII. 1 – Malé Kršteňany; 2, 3 – Nitra-Dražovce (1–3 after *Stegmann-Rajtár* 1994); 4, 5, 6, 9 – Pobedim (after *Studeníková/Paulík* 1983); 7 – Prašník (after *Novák* 2011); 8 – Zvolen (after *Balaša* 1964); 10 – Chrabrany. Various scales.

As suggested by the development in the second half of the Final Bronze Age, the Lusatian people did not create a stable settlement area with long-term settlement in the new territories.

Burying continues at most burial grounds used in stage HA. Urn burials are typical – they are often indicated with groups of stones. Burials of more important individuals were covered with small stone covers – small tumuli. The number of multi-urn burials increases. Some small stone tumuli or multi-urn burials can be – with regard to the number and composition of buried individuals – considered family tombs (Žitavany-Kňažice). Mainly amphoras and pots were used as urns. However, almost each pottery shaped was used as urn. Amphoras of the end of the Late Bronze Age are relatively slim and everted rim, angular on the inside, also occurs. In the course of phase VII (HA2–HB1), amphoras achieve more distinct horizontal dimension and their shoulders are often richly decorated with bands of flutings, dimples, breast-shaped protuberances, etc. (Fig. 6: 7, 8, 10). Conical bowls with inverted rims (Fig. 6: 3, 5, 6) and profiled cups with rich exterior and interior decoration (Fig. 6: 1, 4) appear. Multiple garlands of parallel grooves are a frequent decorative motif. In general, pots with two handles connecting the neck and the suggested shoulder of a vessel (Fig. 6: 9), but also fewer handleless pots with plastic protuberances below the rim (Fig. 6: 11) are used.

Distinct expression of contacts with the Middle Danube and South-eastern Urnfields is typical mostly for the southern parts of the Lusatian territory. It is obvious that in the regions of Nitra, Zlaté Moravce, in the Štiavnické vrchy hills, the Lusatian culture overlapped the disappearing original population. Culturally mixed burials at the burial grounds of phase VII (HA2–HB1; Nitra-Mlynárce, Žitavany-Kňažice) confirm symbiosis of their coexistence (Kujovský 2018).

In phase VII (HA2–HB1), construction of fortified upland settlements, i.e. hillforts, starts. Hillforts are being built in the whole territory of the Lusatian cultural complex in the Final Bronze Age, but their occurrence in Slovakia and Moravia is remarkable. Some of them must have played the role of guardians on trade routes (Detva-Kalamárka, Prašník-Hrádok, Vítkovce-Tureň, etc.), but most of them were probably built for economic, administrative and protective reasons. Their density is noteworthy. There are seven of them within an only 20 km long section of the Tribeč mountains (Romsauer 1998, 89, 90).

Phase VIII (HB2–HC)⁸ – Fig. 7

Later half of the Final Bronze Age meant – after the period of relative territorial expansion – withdrawal of the Lusatian settlement from the newly occupied territories. The gradual decline of the Lusatian settlement did not happen at the Podunajská nížina lowland alone. Burying ends at several burial grounds in phase VIII (HB2–HC). Such development was not identical in the whole territory of the Lusatian culture's expansion in Slovakia. There is still exclusively cremation burial rite and no significant changes have occurred in the burial design compared to the previous development phase. Flutings, engraved lines and small protuberances on the belly are used to decorate vessels (Fig. 7: 10). Bands of arcuate flutings hanging on horizontal decoration are a typical decorative motif on amphoras (Fig. 7: 1–3). Profiled cups have very rich decoration (Fig. 7: 4, 6). On the other hand, barrel-shaped pots are usually only very roughly shaped, with plastic protuberances or tapes below rims (Fig. 7: 8). In pottery, vertical dimension is gradually emphasized. Slim amphoras with tall conical necks and everted rims from the end of the Bronze Age resemble large vases of the Hallstatt period (Fig. 7: 5, 7). Production of bronze is probably reduced, although we have depots of bronze artefacts from phase VIII (HB2–HC; Liptovský Mikuláš-Liptovská Ondrašová, Sitno).

The reasons for the gradual extinction of the Lusatian culture in some regions of its original settlement area in the following Hallstatt period must be sought in the development of the Lusatian culture itself. Expansion of the Mezőcsát group into this territory in the Final Bronze Age is considered to be the reason behind the attenuation of the Lusatian settlement in the area of the Podunajská nížina lowland (Romsauer 1998, 90). Members of the nomadic Mezőcsát group in the area of the Urnfields of southwestern Slovakia are considerably different with their inhumation burials. In the Carpathian basin, we can preliminarily speak of two areas with numerous occurrences of relics of the Mezőcsát group. There is mainly north-eastern Hungary with remarkable concentration of sites and southwestern Slovakia. The number of Mezőcsát burials in Slovakia has increased in recent years by re-assessment of older finds (Dvorníky, Maňa, Senica) and discovery of new burials (Ivanka pri Nitre, Pata, Želiezovce). A typical feature of the Mezőcsát group is that it actually does not have its own typical pottery shapes, thus, we find pottery of the local cultures in its burials. Typical shapes of the Lusatian, Kyjatice

⁸ Stage HB2 to the beginning of HC.

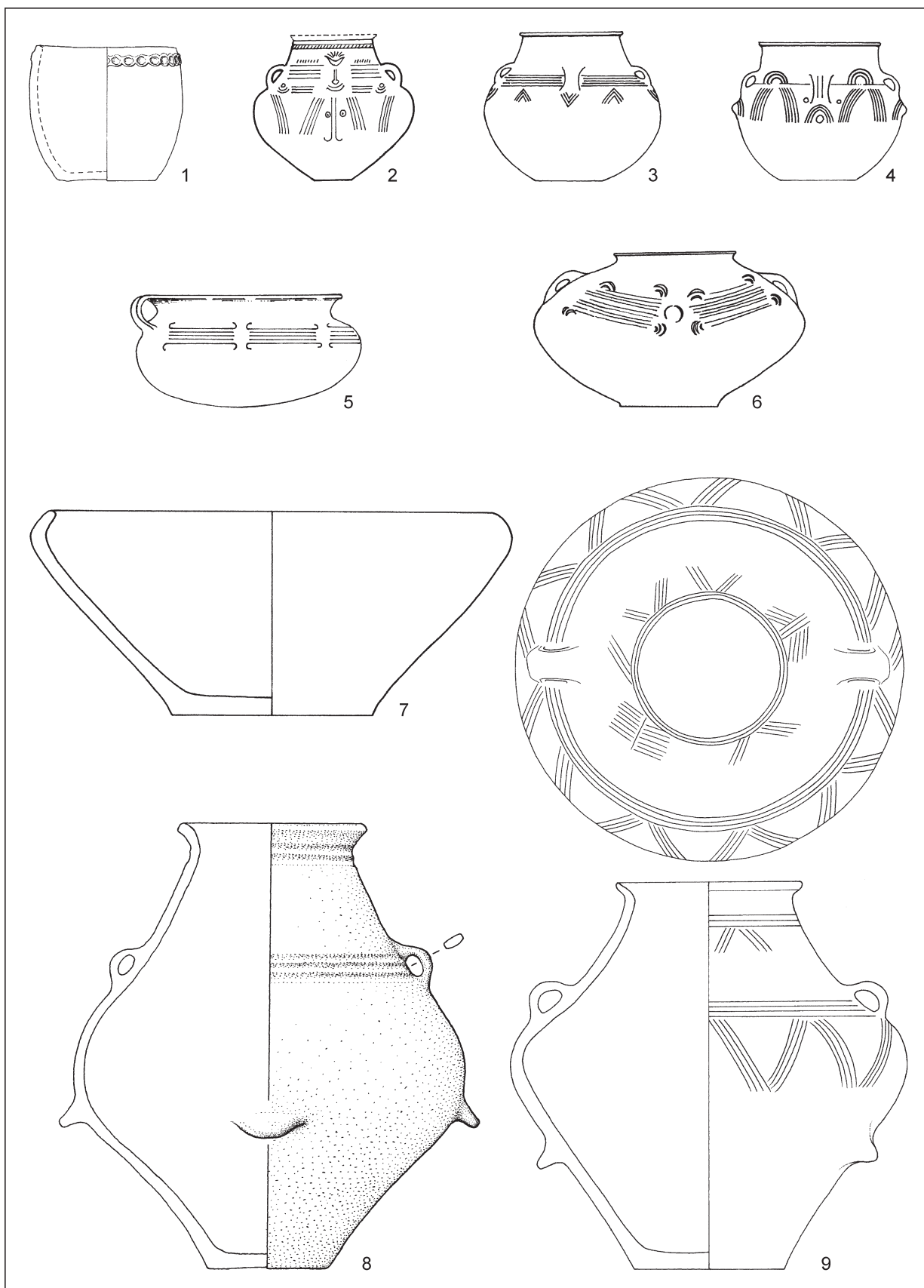


Fig. 8. Lusatian culture. Finds of phase IX. 1, 6 – Gbeřany (after Moravčík 1980); 2–5 – Dolný Kubín II (after Čaplovič 1987); 7, 9 – Nová Ves nad Žitavou (after Kujovský 2012); 8 – Nové Zámky (after Stegmann-Rajtár 2009). Various scales.

and Gáva cultures (Ivanka pri Nitre, Maňa, Senica) allow us to date these burials in stage HB2. We have not recorded any settlements of the Mezőcsát group in Slovakia. Surface survey and minor rescue researches detected settlement features in the Podunajská nížina lowland from phase VIII (HB2–HC) which we consider features of the Lusatian culture, since they contain Lusatian pottery. If we follow from the situation in inhumation burials, it is not necessarily true. Attack of these nomadic groups hit the southernmost settlement territory of the Lusatian culture in Slovakia destabilized and associating the extinction or weakening of the Lusatian settlement in this part of Slovakia in phase VIII (HB2–HC) with the arrival of the Mezőcsát group is probably legitimate. It is also obvious that the Mezőcsát group did not advance into the higher located Lusatian space more significantly. Thus, we can associate construction of hillforts of the Lusatian culture on the northern edge of the Podunajská nížina lowland in the end of the Bronze Age with this threat (Romsauer 1998, 90, 91).

Phase IX (HC–HD) – Fig. 8

I suppose that new investigations will allow further division of this phase. In the Hallstatt period, the unity of expression of the Lusatian settlement in Slovakia disintegrates. Fluent development continues in the region of Orava and the adjacent part of Považie (Čaplovič 1987; Moravčík 1981), according to traditions of the Final Bronze Age (Benediková 2004) with elements in pottery, burial rite typical of this territory. Short and more bulbous amphoras with two or four vertical handles richly decorated with flutings and engraved lines (Fig. 8: 2–4, 6) as well as cups with rounded bottoms and un-elevated vertical handle starting on the rim (Fig. 8: 5) are distinct pottery shapes. The above-mentioned settlement areas in the Hallstatt period were probably not under such extreme expansive pressure like southwestern Slovakia. They were partly protected by their geographical location as well as numerous massively fortified hillforts (Veličák 1989, 161). This allowed the Lusatian culture to survive until the end of the Hallstatt period and its demising settlement was probably part of the background for creation of the Púchov culture of the La Tène period in northern Slovakia in the following period (Pieta 1982, 150–153; 2008, 32).

In the territory of southwestern Slovakia, settlement of the East Hallstatt (Kalenderberg) culture is established in the end of the Bronze Age and the early stage of the Hallstatt period (HC; Stegmann-Rajtár 2009, 84). The Kalenderberg culture gradually

occupied flat areas of southwestern Slovakia and overlapped the then original Lusatian settlement (Romsauer 1986, 175). Nevertheless, the development is not the same as in the beginning of the Final Bronze Age, when the Lusatian and Podolie cultures met. Bearers of both cultures then created mixed settlement of the region with typical expressions (at least in pottery, but not only in it). In the beginning of the Hallstatt period in this territory, the Lusatian part of the population probably adopted a new cultural habit and participated in it to some extent. It is documented by the results of the excavations at the settlements in Nová Ves nad Žitavou (Kujovský 2012) or Čierne Kľačany (Cheben/Chebenová/Cheben 2016), but also at hillforts (Smolenice-Molpír, Štitáre-Žibrica; Stegmann-Rajtár 2017, 393). Large amphoras are most often considered evidence of Lusatian expressions in the environment of the Kalenderberg culture in southwestern Slovakia (Romsauer 1993, 17; Stegmann-Rajtár 2009, 76). A vessel from the settlement from Nová Ves nad Žitavou is a typical shape documenting such connection with the Lusatian culture (Fig. 8: 9). Its dating in stage HC is confirmed also by the find of a bow fibula from the same settlement (Novotná 2001, 64, pl. 31). Finds of such amphoras (Fig. 8: 8) are recorded at several sites of the Hallstatt settlement in southwestern Slovakia, but mainly at the hillfort of Smolenice-Molpír (Dušek/Dušek 1995). Occurrence of roughly thrown barrel-shaped pots with plastic protuberances or a plastic tape below the rim (Fig. 8: 1) and conical bowls with inverted rims (Fig. 8: 7) continues. The question is, whether we can still speak of the Lusatian culture in southwestern Slovakia in the end of the early stage of the Hallstatt period? Reminiscences of the Lusatian settlement in this part of Slovakia definitely disappear with the start of the Vekerzug culture in the later stage (HD) of the Hallstatt period.

Numerous expert studies deal with the Lusatian culture and it definitely belongs to the best studied cultures of Slovak prehistory. Despite that, field excavations bring new questions. Solving them will require attention of further generations of archaeologists. This does not apply only to the period of origin and demise of the Lusatian culture, but also to e.g. structure of settlement, remarkable number of hillforts, typology of settlements and settlement features, expressions of contacts with neighbouring European territories, etc., generally accepted significant production of bronze artefacts, which we dealt with only marginally and which is a great topic itself. The aim of these notes is to provide a review as we see it and allow easier orientation in the chronologically long period of development of the Lusatian culture in Slovakia.

BIBLIOGRAPHY

- Andreánska* 2016 – D. Andreánska: Lužická kultúra na hornej Nitre a niekoľko poznámok k osídleniu územia v období popelnicových polí. In: J. Juchelka (ed.): *Doba popelnicových polí a doba halštatská ve střední Evropě*. 2. díl. Materiál z XIII. mezinárodní konference „Popelnicová pole a doba halštatská“. Opava – Brno 2016, 6–29.
- Balaša* 1964 – G. Balaša: *Zvolen v období lužickej kultúry*. Banská Bystrica 1964.
- Bátora* 1979 – J. Bátora: Žiarové pohrebiská lužickej kultúry v oblasti Zvolena. *Slovenská archeológia* 27, 1979, 57–86.
- Benediková* 2004 – L. Benediková: Koniec doby halštatskej a začiatok doby laténskej v slovenských Karpatoch (na príklade lokality Istebné-Hrádok). In: J. Gancarski (red.): *Okres lateński i rzymski w Karpatach polskich. Materiały z konferencji*. Krosno 2004, 93–120.
- Benediková* 2014 – L. Benediková: Nepublikované nálezy z neskorej doby bronzovej a z doby halštatskej/včasnej doby laténskej zo známych stredoslovenských lokalít v kultúrno-chronologickom kontexte. In: J. Čižmarová/N. Venclová/G. Březinová (ed.): *Moravské křižovatky. Střední Podunají mezi pravěkem a historií*. Brno 2014, 15–33.
- Benediková* 2016 – L. Benediková: Nálezy z Vršatského Podhradia v kontexte osídlenia stredného Považia v neskorej dobe bronzovej a v dobe halštatskej. *Zborník SNM* 110. *Archeológia* 26, 2016, 59–71.
- Benediková* 2017 – L. Benediková: Kulturkontakte des slowakischen Teils der Westkarpaten während der Hallstattzeit. In: E. Miroššayová/Ch. Pare/S. Stegmann-Rajtár (Hrsg.): *Das nördliche Karpatenbecken in der Hallstattzeit. Wirtschaft, Handel und Kommunikation in frühisenzeitlichen Gesellschaften zwischen Ostalpen und Westpannonien*. Archaeolingua 38. Budapest 2017, 335–382.
- Benediková/Horňák* 2018 – L. Benediková/M. Horňák (ed.): *Sídla, artefakty a čas... Zborník štúdií o dobe bronzovej a dobe halštatskej k 75. narodeninám Ladislava Veliačika*. Archaeologica Slovaca Monographiae. Communicationes 21. Nitra – Vrútky 2018.
- Benediková/Katkinová/Budinský-Krička* 2016 – L. Benediková/J. Katkinová/V. Budinský-Krička: *Ilava, poloha Porubská dolina. Pohrebisko lužickej kultúry na strednom Považí*. Bratislava – Nitra 2016.
- Benkovská-Pivovarová* 1972 – Z. Benkovská-Pivovarová: Die Anfänge der Lausitzer Kultur in der Slowakei im Lichte der Grabfunde aus Martin. *Slovenská archeológia* 20, 1972, 253–312.
- Benkovský-Pivovarová* 2018 – Z. Benkovský-Pivovarová: Príspevok k lužickej kultúre na Slovensku. In: *Benediková/Horňák* 2018, 55–65.
- Budinský-Krička* 1947 – V. Budinský-Krička: Slovensko v dobe bronzovej a halštatskej. In: B. Varsík (red.): *Slovenské dejiny I. Slovensko v praveku*. Bratislava 1947, 68–103.
- Budinský-Krička/Veliačik* 1986 – V. Budinský-Krička/L. Veliačik: *Krásna Ves. Gräberfeld der Lausitzer Kultur*. Materialia Archaeologica Slovaca 8. Nitra 1986.
- Bukowski* 1988 – Z. Bukowski (Hrsg.): *Forschungen zur Problematik der Lausitzer Kultur*. Wrocław – Warszawa – Kraków – Gdańsk – Łódź 1988.
- Čaplovič* 1987 – P. Čaplovič: *Orava v praveku, vo včasnej dobe dejinnej a na začiatku stredoveku*. Martin 1987.
- Dohnal* 1977 – V. Dohnal: *Kultura lužických popelnicových polí na východní Moravě*. Fontes Archaeologiae Moraviae 10. Brno 1977.
- Dohnal* 2018 – V. Dohnal: Východní Morava v době lužických popelnicových polí. In: *Benediková/Horňák* 2018, 73–81.
- Dušek/Dušek* 1995 – M. Dušek/S. Dušek: *Smolenice-Molpír. Befestigter Fürstensitz der Hallstattzeit II*. Materialia Archaeologica Slovaca 13. Nitra 1995.
- Eisner* 1933 – J. Eisner: *Slovensko v pravěku*. Bratislava 1933.
- Furmánek* 1988 – V. Furmánek: Kontakte der Pilinyer und der Lausitzer Kultur. In: *Bukowski* 1988, 213–224.
- Furmánek/Mitáš* 2010 – V. Furmánek/V. Mitáš: Pohřební ritus západní enklávy jihovýchodních popelnicových polí. Analýza pohřebiště v Radzovcích (Slovensko). *Památky archeologické* 101, 2010, 39–110.
- Furmánek/Veliačik/Vladár* 1991 – V. Furmánek/L. Veliačik/J. Vladár: *Slovensko v dobe bronzovej*. Bratislava 1991.
- Gášpar* 2018 – A. Gášpar: Genéza a „pulzovanie“ lužickej kultúry na príklade osídlenia stredného Považia a priľahlej časti východnej Moravy. In: *Benediková/Horňák* 2018, 95–104.
- Hrubec/Kujovský* 1994 – I. Hrubec/R. Kujovský: Pohrebisko lužickej kultúry v Háji (okr. Martin). *Slovenská archeológia* 42, 1994, 5–36.
- Hrubý* 1958 – V. Hrubý: Kultovní objekty lidstva středodunajské kultury mohylové na Moravě. *Památky archeologické* 49, 1958, 40–57.
- Cheben/Vojteček* 2011 – I. Cheben/M. Vojteček: Pohrebisko a sídlisko lužickej kultúry v Dolnom Kubíne. *Slovenská archeológia* 59, 2011, 205–219.
- Cheben/Chebenová/Cheben* 2016 – I. Cheben/P. Chebenová/M. Cheben: Sídliskové objekty z neskorej doby bronzovej a počiatku doby halštatskej v Čiernych Kľačanoch. *Slovenská archeológia* 64, 2016, 65–94.
- Jakab/Kujovský* 1999 – J. Jakab/R. Kujovský: Nálezy ľudských kostí zo sídliska lužickej kultúry v Trenčíne. *AVANS* 1997, 1999, 79–81.
- Kujovský* 2004 – R. Kujovský: Sídlisko lužickej kultúry v Trenčíne a počiatky lužickej kultúry na Slovensku. In: J. Bátora/V. Furmánek/L. Veliačik (Hrsg.): *Einflüsse und Kontakte alteuropäischer Kulturen. Festschrift für Jozef Vladár zum 70. Geburtstag*. Archaeologica Slovaca Monographiae. Communicationes 16. Nitra 2004, 359–370.
- Kujovský* 2012 – R. Kujovský: Sídlisko doby halštatskej z Novej Vsi nad Žitavou. In: R. Kujovský/V. Mitáš (ed.): *Václav Furmánek a doba bronzová. Zborník k sedemdesiatym narodeninám*. Archaeologica Slovaca Monographiae. Communicationes 13. Nitra 2012, 211–222.
- Kujovský* 2015 – R. Kujovský: Lužický kultúrny komplex. In: V. Furmánek (zost.): *Staré Slovensko 4. Doba bronzová*. Archaeologica Slovaca Monographiae. STASLO 4. Nitra 2015, 174–184.

- Kujovský 2018 – R. Kujovský: Pohrebisko z doby popelnicových polí v Žitavanoch-Kňaziciach. *Slovenská archeológia* 66, 2018, 235–336.
- Kvietok 2014 – M. Kvietok: Nové nálezy z neskorej doby bronzovej a staršej doby železnej z okolia Banskej Bystrice. In: J. Juchelka (ed.): *Doba popelnicových polí a doba halštatská ve střední Evropě. Materiál z XIII. mezinárodní konference „Popelnicová pole a doba halštatská“*. Opava 2014, 128–160.
- Labuda 1981 – J. Labuda: Výsledky doterajšieho archeologického výskumu na Sitne. *Štúdijské zvesti AÚ SAV* 19, 1981, 113–123.
- Miroššayová 1976 – E. Miroššayová: Lužické žiarové hroby zo Švábovci. *Nové obzory* 18, 1976, 155–167.
- Moravčík 1981 – J. Moravčík: Výsledky zisťovacích a záchranných výskumov Považského múzea v Žiline. *AVANS* 1980, 1981, 179–185.
- Nekvasil 1977 – J. Nekvasil: K migraci lužické kultury na Moravě. In: *Geneza kultury lužyczej na terenie Nadodrza*. Wrocław 1977, 61–78.
- Novák 2011 – P. Novák: *Záchranný výzkum Hradiště v Prašniku (Hrádok)*. Most 2011.
- Novotná 1980 – M. Novotná: *Die Nadeln in der Slowakei. Prähistorische Bronzefunde XIII/6*. München 1980.
- Novotná 2001 – M. Novotná: *Die Fibeln in der Slowakei. Prähistorische Bronzefunde XIV/11*. Stuttgart 2001.
- Novotná 2003 – M. Novotná: K stavu bádania o dobe bronzovej na Hornom Spiši. In: J. Gancarski (red.): *Epoka brązu i wczesna epoka żelaza w Karpatach polskich*. Krosno 2003, 55–61.
- Novotná 2014 – M. Novotná: *Die Vollgriffschwerter in der Slowakei. Prähistorische Bronzefunde IV/18*. Stuttgart 2014.
- Paulík 1962 – J. Paulík: Das Velatice-Baierdorfer Hügelgrab in Očkov. *Slovenská archeológia* 10, 1962, 5–96.
- Paulík 1974 – J. Paulík: K významu mohýl z mladšej doby bronzovej v pravekom vývoji Slovenska. *Slovenská archeológia* 22, 1974, 73–81.
- Pieta 1982 – K. Pieta: *Die Púchov-Kultur*. Nitra 1982.
- Pieta 2008 – K. Pieta: *Keltské osídlenie Slovenska. Mladšia doba laténska*. Archaeologica Slovaca Monographiae. Studia 11. Nitra 2008.
- Pivovarová 1965 – Z. Pivovarová: K problematike mohýl v lužickej kultúre na Slovensku. *Slovenská archeológia* 17, 1965, 107–162.
- Pivovarová 1967 – Z. Pivovarová: K kwestii słowackiej grupy kultury lużyckiej. *Acta Archaeologica Carpathica* 9, 1967, 11–23.
- Przybyła/Beljak 2010 – M. S. Przybyła/J. Beljak: Bronzezeitliche Siedlung von Liptovský Trnovec. *Slovenská archeológia* 58, 2010, 273–308.
- Romsauer 1986 – P. Romsauer: Zur hallstattzeitlichen Besiedlung der Südwestslowakei. In: *Hallstatt Kolloquium Veszprém 1984*. Magyar Tudományos Akadémia Régészeti Intézetének közleményei 3. Budapest 1986, 173–180.
- Romsauer/Veličák 1987 – P. Romsauer/L. Veličák: Entwicklung und Beziehung der Besiedlung der Lausitzer und mitteldonauländischen Urnenfelder in der Westslowakei. In: *Die Urnenfelderkulturen Mitteleuropas. Symposium Liblice 21.–25. 10. 1985*. Praha 1987, 295–304.
- Romsauer 1993 – P. Romsauer: Nové nálezy vekerzugskej skupiny z Nitry. *Slovenská archeológia* 41, 1993, 5–39.
- Romsauer 1998 – P. Romsauer: Interakcie spoločností s usadlým a jazdecko-nomádskym spôsobom života v I. tisícročí pred. n. l. na západnom Slovensku. *Acta Nitriensiae* 1, 1998, 83–104.
- Soják/Soják/Suchý 2004 – M. Soják/O. Soják/A. Suchý: Záchranné výskumy na Spiši. *AVANS* 2003, 2004, 177–182.
- Spurný 1954 – V. Spurný: Osídlení hradiska u Kroměříže ve střední době bronzové. *Památky archeologické* 45, 1954, 357–377.
- Spurný 1972 – V. Spurný: Sídliště starší a střední doby bronzové v Bezměrově u Kroměříže. *Památky archeologické* 63, 1972, 180–248.
- Stegmann-Rajtár 1994 – Z. Stegmann-Rajtár: Vývoj stredodunajských popelnicových polí v neskorej dobe bronzovej (HaB) a vznik halštatskej kultúry. *Slovenská archeológia* 42, 1994, 319–333.
- Stegmann-Rajtár 2009 – S. Stegmann-Rajtár: Žiarové pohrebisko východohalštatskej a vekerzugskej kultúry v Nových Zámkoch. Príspevok k pohrebiskám doby halštatskej vo východoalpsko-zadunajskej oblasti. *Slovenská archeológia* 57, 2009, 57–116.
- Stegmann-Rajtár 2011 – S. Stegmann-Rajtár: Spätbronze-Früheisenzeitliche befestigte Höhensiedlungen im Tribeč-Gebirge (Westslowakei). Kontaktgebiet des lausitzer, mitteldonauländischen und reiternomadischen Kulturkreises. In: R. Korený (ed.): *Doba popelnicových polí a doba halštatská. Sborník prací věnovaný Jaroslavu Fránovi. Příspěvky z XI. konference. Příbram 7.–10. 9. 2010*. Podbrdsko – Miscelanea 2. Příbram 2011, 211–219.
- Stegmann-Rajtár 2017 – S. Stegmann-Rajtár: Zur Abfolge der Osthallstatt- und der Vekerzug-Kultur: Ein Überblick zum Forschungsstand der Hallstattzeit in der Südwestslowakei. In: E. Miroššayová/Ch. Pare/S. Stegmann-Rajtár (Hrsg.): *Das nördliche Karpatenbecken in der Hallstattzeit. Wirtschaft, Handel und Kommunikation in früheisenzeitlichen Gesellschaften zwischen Ostalpen und Westpannonien*. Archaeolingua 38. Budapest 2017, 383–402.
- Studeníková/Paulík 1983 – E. Studeníková/J. Paulík: *Osada z doby bronzovej v Pobedime*. Bratislava 1983.
- Stuchlík/Kolbinger 1993 – S. Stuchlík/D. Kolbinger: Rozšíření středodunajské mohylové kultury na střední Moravě. *Pravěk. Nová řada* 3, 1993, 143–159.
- Stuchlík/Šmíd 1997 – S. Stuchlík/M. Šmíd: Nálezy mohylové kultury ze Smržic. *Pravěk. Nová řada* 7, 1997, 245–254.
- Stuchlík 2020 – S. Stuchlík: Přehled bádání o mohylové kultuře na Moravě v 19. a 20. století. *Acta Musei Moraviae. Scientiae Sociales* 105, 2020, 181–230.
- Šabatová 2004 – K. Šabatová: K závěru vývoje mohylové kultury a počátku lužických popelnicových polí na střední a severní Moravě. *Pravěk. Nová řada* 14, 2004, 101–122.
- Šabatová 2014 – K. Šabatová: Počátek lužické kultury jako obraz názorové proměny (a vědecké vzájemnosti). *Acta Musei Moraviae. Scientiae Sociales* 99, 2014, 51–61.
- Štof 1993 – A. Štof: Kultura lužických popelnicových polí. In: V. Podborský (ed.): *Pravěké dějiny Moravy*. Brno 1993, 301–332.

- Štrof 1995 – A. Štrof: Sídliště z doby bronzové u Býkovic (okr. Blansko). (Příspěvek k problematice „protolužického horizontu“). *Acta musei Moraviae. Scientiae Sociales* 80, 1995, 83–108.
- Točík/Vladár 1969 – A. Točík/J. Vladár: Zur Problematik der Anfänge der Lausitzer Kultur in der Slowakei. In: W. Coblentz (Hrsg.): *Beiträge zur Lausitzer Kultur. Referate der Internationalen Arbeitstagung zu Problemen der Lausitzer Kultur vom 24. bis 26. November 1967 in Dresden*. Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege 7. Berlin 1969, 295–304.
- Točík/Vladár 1971 – A. Točík/J. Vladár: Prehľad bádania v problematike vývoja Slovenska v dobe bronzovej. *Slovenská archeológia* 19, 1971, 365–422.
- Veliačik 1975 – L. Veliačik: Pohrebisko lužickej kultúry v Liptovskom Mikuláši-Ondrašovej. *Slovenská archeológia* 23, 1975, 11–30.
- Veliačik 1982 – L. Veliačik: Príspevok k otázke vzniku a vnútorného členenia lužickej kultúry na Slovensku. In: M. Gedl (red.): *Południowa strefa kultury łużyckiej i powiązania tej kultury z południem*. Kraków – Przemyśl 1982, 73–95.
- Veliačik 1983 – L. Veliačik: *Die Lausitzer Kultur in der Slowakei*. *Studia Archaeologica Slovaca* 2. Nitra 1983.
- Veliačik 1988 – L. Veliačik: Gegenwärtiger Forschungsstand der Lausitzer Kultur in der Slowakei. In: *Bukowski* 1988, 225–246.
- Veliačik 1989 – L. Veliačik: Súčasný stav výskumu lužickej kultúry na Slovensku. *Archeologické rozhledy* 41, 1989, 152–167.
- Veliačik 1991 – L. Veliačik: Beitrag des Gräberfeldes in Diviaky nad Nitricou zur Chronologie der Denkmäler der Lausitzer Kultur in der Slowakei. *Slovenská archeológia* 39, 1991, 143–214.
- Veliačik/Romsauer 1994 – L. Veliačik/P. Romsauer: *Vývoj a vzťah osídlenia lužických a stredodunajských popelnicových polí na západnom Slovensku. I – Katalóg*. *Archaeologica Slovaca. Catalogi* 6. Nitra 1994.
- Veliačik 2004 – L. Veliačik: Nové poznatky k štruktúre hradísk lužickej kultúry na severnom Slovensku. *Študijné zvesti AÚ SAV* 36, 2004, 57–74.
- Zachar/Malček 2011 – T. Zachar/R. Malček: Sídlišťové nálezy pilinskej kultúry zo Zvolena. Príspevok k problematike osídlenia oblasti Slovenského stredohoria v strednej dobe bronzovej. In: R. Korený (ed.): *Doba popelnicových polí a doba halštatská. Sborník prací věnovaný Jaroslavu Fránovi. Příspěvky z XI. konference*. Příbram 7.–10. 9. 2010. Podbrdsko – Miscelanea 2. Příbram 2011, 33–40.

Manuscript accepted 17. 5. 2022

Translated by Viera Tejbisová

PhDr. Rudolf Kujovský, CSc.
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra
rudolf.kujovsky@savba.sk

Poznámky k vývoju lužickej kultúry na Slovensku

Rudolf Kujovský

SÚHRN

Lud lužickej kultúry osídľoval dlhé stáročia rozsiahlu časť územia dnešného Slovenska a preto pochopiteľne vyvolával záujem u mnohých archeológov. Narastajúce množstvo informácií viedlo prirodzene aj k zmenám názorov na vznik a vývoj lužickej kultúry na Slovensku. Predložený text je pokusom o stručný prehľad historického vývoja lužickej kultúry na vyššie zmienenom území na základe niektorých jeho prejavov.

V oblasti Považia, od Trenčianskej kotliny po Liptov, prebiehala v strednej dobe bronzovej kryštalizácia lužickej kultúry. Do západnej časti vymedzeného územia prenikali v období stupňa BB2 (BC1) priesmykmi Bielych Karpát zo strednej Moravy skupiny osadníkov, ktorí so sebou priniesli prvky mohylovej kultúry. Z východnej

strany prenikali do uvedeného priestoru skupiny obyvateľstva z oblasti doznievajúcej otomanskej kultúry. Zrejme nemožno hovoriť o expanzii otomanskej kultúry, ale skôr o postupe menších skupín, ktoré sa v období všeobecného rozvratu usadzujú v predtým menej osídlených údoliach Považia. Dôležitým prvkom vznikajúcej novej kultúrnej kvality boli nepochybne aj zvyšky, zrejme skôr sporadického, pôvodného osídlenia maďarovskej kultúry.

V priestore strednej Moravy – odkiaľ, ako sme už uviedli, prišiel zásadný impulz na vývoj osídlenia na Považí – priniesli výskumy v posledných desaťročiach závažnú zmenu názorov. Nálezy, predtým zaraďované do „protolužického horizontu“, sú dnes chápané ako doklad osídlenia mohylovou kultúrou. Počiatky lužickej

kultúry na strednej Morave sú datované do stupňa BD, s prechodným mohylovo-lužickým horizontom na prelome stupňov BC/BD. Označenie chronologického obdobia medzi dvomi jednoznačne špecifikovanými kultúrami za prechodné, vnímam ako vyjadrenie skutočnosti, že vývoj vplyvom nových impulzov plynule pokračuje k novej kultúrnej entite a tá sa postupne prejavuje svojimi vlastnými typickými prvkami. Snaha o zjednotenie chronológie a terminológie na Morave a na Slovensku sa možno čiastočne podieľa na pripísaní osídlenia severného Slovenska v strednej dobe bronzovej priamo mohylovej kultúre. Typické prejavy lužickej kultúry by sa potom objavili náhle a na veľkom území.

Na severozápadnom a severnom Slovensku v strednej dobe bronzovej však vnímame situáciu čiastočne inak. Nepredpokladáme, že existencia typických prejavov lužickej kultúry je výsledkom náhleho kultúrneho „skoku“. Naopak si myslíme, že k nim vedie dlhý a zložitý vývoj v konkrétnom geografickom prostredí. Takýchto kryštalizačných oblastí pri takej kultúre ako je lužická bolo samozrejme viac. Stredná Morava a severné Slovensko sú geograficky blízko a predpokladaná komunikácia prostredníctvom oblasti Vlárskoho priesmyku je doložená aj v iných obdobiach. Nepochybne sa obidve oblasti navzájom ovplyvňovali, ale to neznamená, že vývoj musel byť identický.

Vývojovú spojitosť lokalít Trenčín-Istebník, Liptovský Trnovec, Liptovský Michal a Liptovská Teplá z Považia s mohylovou a lužickou kultúrou považujeme za nespornú, aj keď nálezy celky vykazujú znaky kultúrne nehomogénneho prostredia. Nepovažujeme za správne ich označiť priamo znaky mohylovej kultúry, ale ani kultúry lužickej (alebo otomanskej), napriek niektorým typom keramiky, ktorých znalosť si už spomínaní kolonisti zo svojich pôvodných oblastí priniesli. Až ďalším vývojom dochádza k stmeleniu nesúrodých prvkov a vytváraniu novej kultúrnej kvality. Chronologicky následné nálezy z pohrebísk v Martine, v Púchove a v Liptovskom Mikuláši-Liptovskej Ondrašovej, datované do strednej doby bronzovej stupňa BC2, podľa nás už v oblasti severného Slovenska prezentujú lužickú kultúrnu entitu. Ďalší vývoj viedol k výraznému rozmachu lužického osídlenia na Slovensku v stupni BD.

Už v priebehu mladšieho stupňa strednej doby bronzovej (BC) prenikala lužická kultúra do Turčianskej kotliny. Či už v tejto dobe nastal posun osídlenia aj na Oravu zatiaľ nie je nálezmi doložené. V každom prípade, v počiatku mladšej doby bronzovej (BD), už mala lužická kultúra na Slovensku dostatočnú vnútornú silu na rozširovanie svojho životného priestoru. V tomto čase sa osídlenie posúva na juh a juhozápad pozdĺž tokov Turca, Hrona, Nitry, Váhu a ich prítokov. Smerom na západ prekračuje cez Vlársky priesmyk Biele Karpaty a podieľa sa na vytváraní menšej sídelnej enklávy na východnej Morave, v tej dobe postupne osídľovanej aj osadníkmi z moravskej lužickej oblasti.

Postup lužickej kultúry na juh údolím Váhu sa zastavil v priestore Nové Mesto nad Váhom – Piešťany, v povodí rieky Nitry v priestore Partizánske – Topoľčany. V obidvoch údoliach bola dôvodom sídelná oblasť stredodunajských popolnicových polí. V uvedených priestoroch sa vytvorila zmiešaná sídelná zóna. Na

Pohroní postúpila lužická kultúra do oblasti Zvolena, kde sa dostala do kontaktu s prostredím doznievajúcej pilinskej kultúry. V priestore Zvolena sa zrejme vytvorila podobná zmiešaná zóna ako na Považí a Ponitri. Zatiaľ nemožno presnejšie zhodnotiť postup lužickej expanzie v mladšej dobe bronzovej z pôvodnej liptovskej sídelnej oblasti smerom na východ do oblasti Spiša.

K ďalšiemu rozšíreniu sídelnej oblasti lužickej kultúry smerom na juh došlo v závere mladšej a počiatku neskorej doby bronzovej (HA2/HB1). V tomto období prenikla popri toku Váhu až do oblasti Trnavy, povodím rieky Nitry sa dostáva do oblasti Nitrianska a na hornú Žitavu do zlatomoravského regiónu. V tomto priestore, rovnako ako v oblasti Štiavnického pohoria, prekrýva doznievajúce zvyšky osídlenia podolskej kultúry (Nitra-Mlynáre, Sitno, Žitavany-Kňažice). Najväčší územný rozsah na juhozápadnom Slovensku dosahuje lužické osídlenie v prvej polovici neskorej doby bronzovej, kedy evidujeme lokality aj pomerne hlboko pod hranicou pohorí. Postupný ústup lužického osídlenia nastáva zrejme už v závere staršieho stupňa neskorej doby bronzovej. Za dôvod tohto útlmu sa okrem vnútorných spoločenských pomerov považuje útok nomádskej skupiny Mezöcsát z východu. Cieľom takýchto skupín, už zo svojej podstaty koristníckych, boli vždy predovšetkým hospodársky vyspelé a spoločensky organizované oblasti. Južné časti juhozápadného Slovenska, s ešte nedostatočne etablovaným lužickým osídlením, však takouto oblasťou v druhej polovici neskorej doby bronzovej zrejme neboli. Význam nomádskej skupiny Mezöcsát pre ďalší vývoj lužického osídlenia v tomto priestore spočíval možno skôr v spomalení dynamiky tohto osídlenia. To mohlo mať vplyv v staršom období doby halštatskej (HC) pri prenikaní osídlenia kalenderberskej (východoahalštatskej) kultúry do tejto oblasti.

V staršej dobe železnej pozorujeme rozpad jednoty lužického osídlenia na Slovensku. Za plynulý možno považovať jej vývoj v tomto období na Orave a v Žilinskej kotline. Na Orave a priľahlej časti Považia možno v staršom období doby halštatskej pozorovať určitú kultúrnu uzavretosť regiónu a pretrvávajúce tradície neskorej doby bronzovej. V spomínaných horských oblastiach sa uvoľnenie tradícií a kontakty s južným, ale aj priľahlým severným poľským prostredím, prejavujú skôr v mladšom období doby halštatskej. V priestore severného Slovenska sa lužická kultúra dožíva záveru staršej doby železnej a jej doznievajúce osídlenie sa zrejme podieľalo na kryštalizácii púchovskej kultúry v dobe laténskej.

Pravdepodobne plynule pokračoval vývoj lužickej kultúry v stupni HC aj v severnejších oblastiach jej ekumény na Považí, hornom Ponitri a na Pohroní. V dobe halštatskej sa v tomto priestore prejavujú kontakty s východoahalštatským okruhom a tiež s moravským lužickým prostredím. Prejavy týchto vplyvov viedli k vyčleneniu regionálnych skupín lužickej kultúry na severnom Slovensku v dobe halštatskej, podobne ako zmiešané osídlenie v hraničnej zóne s podolskou a kyjatickou kultúrou v neskorej dobe bronzovej viedlo k pokusom o vyčlenenie zvolenskej a štiavnickej skupiny. V obidvoch prípadoch považujeme takéto detailné geografické delenie lužického osídlenia zatiaľ za nedostatočne podložené, ale je možné ho predpokladať a ďalšie výskumy (predovšetkým

v severnejšie položených regiónoch) ho zrejme umožnia. Aj keď v tejto dobe končí využívanie väčšiny lužických pohrebísk, osídlenie pokračuje. Zatiaľ nevieme, čo spôsobilo ukončenie pochovávaní a nemáme dostatočné informácie ani o intenzite osídlenia. Jeho čiastočné oslabenie mohol spôsobiť odchod časti populácie južnejším smerom v prvej polovici neskorej doby bronzovej. Uvedené sídelné oblasti severného Slovenska v dobe halštatskej boli chránené geografickou polohou, ale predovšetkým početnými mohutne opevnenými hradiskami. Budovanie hradísk rôznych typov máme doložené na území lužickej kultúry na Slovensku od neskorej doby bronzovej po mladšiu dobu halštatskú. O dôvodoch budovania týchto veľkých stavieb a ich chronologickom a účelovom zaradení prebieha v odbornej spisbe neustála diskusia. V každom prípade ich považujeme za doklad existencie početných roľníckych osád v daných regiónoch (aj keď zatiaľ výskumom nedostatočne zistených). Väčšina hra-

dísk (každé?) musela mať hospodárske zázemie, ktoré umožňovalo ich existenciu.

V staršom období doby halštatskej (HC) preniká z juhu na územie Slovenska osídlenie kalenderberskej (východohalštatskej) kultúry. Táto postupne obsadzovala rovinaté oblasti juhozápadného Slovenska a prekryvala pôvodne lužické osídlenie. Ako naznačujú výsledky výskumov sídlisk v Novej Vsi nad Žitavou alebo v Čiernych Kľačanoch, lužická zložka obyvateľstva zrejme prevzala nový halštatský habitus, na ktorom sa čiastočne podieľala. Zároveň v tejto dobe dochádza aj ku zmene kultúrneho prejavu na opevnených sídliskách. Je ale otázne, či v závere staršieho úseku doby halštatskej na juhozápadnom Slovensku možno ešte hovoriť o lužickej kultúre. Reminiscencie „lužického“ osídlenia v tejto časti Slovenska definitívne doznievajú nástupom vekerzugskej kultúry v mladšom stupni (HD) doby halštatskej.

TECHNOLOGICKÉ ASPEKTY MINCOVNÍCTVA BRATISLAVSKÉHO KELTSKÉHO OPPIDA*

A N D R E J V R T E L 

Technological Aspects of Coinage at the Bratislava Celtic Oppidum. The subject of the study is the method for preparing flans for Celtic Bratislava-type tetradrachms. The study of the issue is based on an evaluation of an assemblage of Late La Tène technical ceramics and an assessment of a sample of numismatic material with preserved production traces. The analysis of the technical ceramics from Bratislava leads to the conclusion that ceramic moulds were used for dosing metal – the production of ingots for the needs of coinage and jewellery production and perhaps for casting flans for small Celtic coins. Macroscopic observations of silver tetradrachms identified the presence of multiple types of defects in the shape and surface of castings (collapse, mechanical damage, protrusions, lumps, etc.). The results of the study provide a framework for a technological interpretation. Two methods for producing flans can be considered – casting in an open mould with the surface of the metal exposed (flan mould) and the lost-wax casting technique with a tree model (ceramic shell mould).

Keywords: Slovakia, Late La Tène period, Celtic coins, technical ceramics, production technology.

ÚVOD

Výroba mincí v dobe laténskej musela zodpovedať požiadavky presne stanovené vydavateľom, zahŕňajúce obsah drahého kovu, tvar, rozmery a hmotnosť mince, ako aj kvalitu razby zaručujúcu čitateľnosť mincového obrazu, a to všetko v podmienkach sériovej výroby (Gruel 2017, 82).

Razba kladivom nevyhnutne predpokladala predchádzajúcu prípravu polotovarov – mincových kotúčikov. Tieto kotúčiky sa u Keltovej mohli zhotovovať rôznymi pracovnými postupmi, od odlievania až po kovanie a odsekanie (Allen/Nash 1980, 34, 35; Dembski 1998, 18; Gruel 1989, 163, 164, 168; 2017, 82, obr. 73; Guillaumet 1996, 104; Nieto-Pelletier 2013, 21).

V prípade bratislavských keltských mincí sa presadil názor o príprave kotúčikov odlievaním do otvorenej formy, ktorý sa opiera o nálezy fragmentov tzv. dávkovacích platničiek (pozri napr. Kolníková 2011, 35, 36, 38, obr. 4; Pieta/Zachar 1993, 154, 168, obr. 83: 1–6). Ďalší výskum potom smeroval k experimentálnemu overovaniu spôsobu použitia týchto jednoduchých foriem (Bazovský/Gregor 2009, 135, 137, 140, pozn. 3; Ščasník a i. 1984, 131).

Podstata problému však spočíva v tom, že keramické platničky objavené v priestore Bratislavy umožňovali iba výrobu mincových kotúčikov veľkosti typov Simmering a Karlstein (Kolníková 1984, 34; 1991, 29). Pri formách z Devína ostáva ich funkcia – vzhľadom na nerovnomernosť obrysov dutín – značne problematická (porov. Kolníková/Petrík/Slaviček 2021, 1, 2, 7, obr. 1).

Cieľom predloženej štúdie je poskytnúť východiskový rámec pre rekonštruovanie technológie výroby polotovarov veľkých strieborných mincí – tetradrachmiem bratislavského typu. Metodický prístup je založený na dvoch úrovniach analýzy:

1. Posúdenie skladby a morfológie technickej keramiky z Panskej ul. 19–21 a ďalších relevantných súborov z Bratislavy, s odvolaním sa na výsledky spektrálnych analýz zvyškov kovu.
2. Vizuálne pozorovanie a identifikácia pracovných stôp, prípadne defektov výroby na samotných minciach a ich detailné zobrazenie pomocou makrofotografie.

Prezentovaná výskumná vzorka je výsledkom zámerného výberu mincí s rozpoznateľnými špecifickými stopami na povrchu kotúčikov, ktoré môžu poslúžiť k objasneniu technologických otázok. Mince poskytnuté na štúdium pochádzajú z hromadných nálezov na Žilinskej ul. (r. 1942) a na Námestí slobody (r. 1937).

Analýzu dopĺňa kontrolné porovnanie s ďalšími exemplármi s typickými znakmi výrobného postupu publikovanými v odbornej literatúre. V poslednej časti sú predstavené kritériá, ktoré mohli byť rozhodujúce pri výbere zlievarenskej technológie a diskutované osobitosti niektorých metód liatia.

VÝBER NÁLEZOV TECHNICKEJ KERAMIKY

S ohľadom na značný výskyt špecializovanej technickej keramiky na území Bratislavy (celkovo v 17 polohách; Vrtel 2012, obr. 241) upozorňujeme

* Štúdia vznikla v rámci výskumného projektu VEGA 1/0523/22.



Obr. 1. Bratislava, Panská ul. 19–21. Malé kužeľovité téglíky na tavenie striebra.

v nasledovnom prehľade iba na súbory pochádzajúce z dielenských priestorov alebo na nálezy preukázateľne súvisiace so spracovaním striebra.

Pokiaľ nie je uvedené inak, odvolávame sa na výsledky röntgeno-fluorescenčnej analýzy (RFA) zvyškov kovu, ktorej autormi sú J. Frána a M. Fikrle (Ústav jaderné fyziky Akademie věd České republiky).

Panská ul. 19–21

Poloha sa nachádza na južnom okraji historického jadra mesta, v dotyku s pôvodnou dunajskou nivou. Nálezová situácia bola sčasti zdevastovaná ešte pred začiatkom archeologického výskumu. V rokoch 1980–1986 sa v priestoroch Pálffyho paláca vytýčilo postupne 6 sond. Nálezy doteraz neboli kompletne publikované. S vykonávaním kovolejárskej činnosti súvisel objekt 1/85 odkrytý v sonde S 5 (Pieta/Zachar 1993, 168, 174, obr. 83; Rexa 1987, 64; Zachar/Rexa 1988, 34, 70, obr. 3; 6: A, B). V r. 2008 sa podarilo dodatočne identifikovať priebeh tohto objektu aj v SSZ profile sondy S 1 (Vrtel 2009, 78).

V literatúre sa objavujú rôzne skresľujúce údaje o škále a počte nálezov technickej keramiky. K spresneniu týchto informácií prispela podrobná revízia súboru.

Pokiaľ ide o taviace téglíky, z hľadiska morfológie možno vyčleniť tri základné typy:

1. *Malé téglíky kužeľovitého tvaru* (v. 37–62 mm, objem v pr. 10 cm³) s neúmerne zosilneným dnom, zvonka hrotitým, znútra plochým. Na vonkajšej strane použitých téglíkov je povrch obvykle zošúverený a pokrytý sklovitou vrstvou, niekedy so stopami po uchopení kliešťami alebo s odtlačkami textúry uhlíkov (obr. 1). Z jednoduchého štatistického vyhodnotenia vyplýva minimálny počet 80 jedincov tohto typu téglíkov, úplne zachovaných alebo aspoň kresbovo rekonštruovateľných je spolu 43. Séria RFA analýz stien a ústí týchto téglíkov jednoznačne potvrdila ich použitie na odlievanie striebra.
2. *Ploché miskovité téglíky so zaobleným dnom*. V študovanej kolekcii sú zastúpené iba dvoma exemplármi (pr. ústia > 100 mm). Expertíza vnútorných stien potvrdila prítomnosť zlata, na jednom z fragmentov dokonca vidno i voľným okom kvapky drahého kovu (reguli).
3. *Vyššie téglíky kužeľovitého tvaru*. Vyskytol sa iba jeden v celosti zachovaný jedinec (v. 78 mm). Podľa predbežného posúdenia bol určený na tavbu zliatin na báze medi.

V kategórii keramických foriem sa opäť rozlišujú tri typy:

1. *Ploché dávkovacie platničky* pôvodne pravouhlého tvaru (pr. hr. 6 mm), s okrúhlymi, oválnymi alebo hranatými dutinami (pr. 5, 10–12 mm).



Obr. 2. Bratislava, Panská ul. 19–21. Výber fragmentov dávkovacích platničiek.

Pre formovací materiál je príznačný vysoký podiel kremičitého ostriva, zrnitosť keramickej hmoty je spravidla stredná až hrubšia (obr. 2). Jedna z platničiek je vymodelovaná z grafitovej hliny. Povrch niektorých exemplárov je účinkom vysokej teploty deformovaný, troskovito natavený a sklovite lesklý. Vysoký stupeň prepálenia znemožňuje zaujať akékoľvek stanovisko ku kvalite vyhotovenia. Zachovalo sa 23 fragmentov. Tavenie kovov v týchto otvorených jednostranných formách prebiehalo priamo v peci obsypaním rozžeravenými uhlíkmi. Charakteristika tavenín dvoch vzoriek preukázala stopy zlata, v piatich prípadoch striebra.

2. *Forma na odlievanie tyčinkovitých ingotov.* Forma bola zhotovená z okrajového črepu grafitovej nádoby. Analýza RFA zaznamenala vysoký signál striebra.
3. *Dvojdielna uzavretá odlievacia forma na drobný predmet s nalievacím otvorom a plynule sa zužujúcim hrdlom* (dĺ. 97 mm, š. 70 mm, hr. plášťa 17–20 mm). Ide o spodnú (?) polformu, v strede je vytvorený negatívny odtlačok odliatku, po stranách sú umiestnené vodiace kolíky – zámky na presné dosadnutie dvoch častí formy pri skladaní (obr. 3). Forma bola vymodelovaná z jemnozrnného materiálu. Spektrálnou analýzou sa zistili výrazné stopy olova.



Obr. 3. Bratislava, Panská ul. 19–21. Polforma dvojdielnej keramickej odlievacej formy.

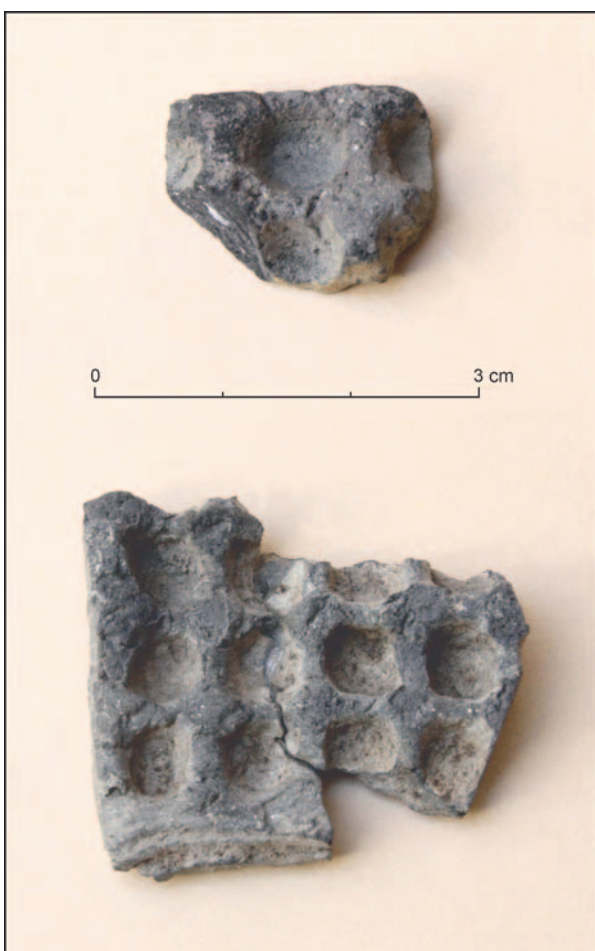
Pre doplnenie celkového obrazu o tejto viacúčelovej kovospracujúcej dielni treba spomenúť aj nálezy časti vyhne s natavenou troskou, medeného a mosadzného šrotu (421 g) a železnej nákovky.

Ventúrska ul. 12/Zelená ul. 10

Nálezisko je z pohľadu sídliskovej štruktúry situované vo východnom podhradí, v predpolí vonkajšieho opevnenia oppida. V objekte 1/94 sa na



Obr. 4. Bratislava, Ventúrska ul. 7. Ústie kovolejárskeho téglika so zvyškami mosadze.



Obr. 5. Bratislava, Ventúrska ul. 7. Keramické dávkovacie platničky.

ploche 12 m² zachovali pozostatky po kovolejárskej výrobe, vrátane dvoch celých téglikov s natavenými povlakmi farebných kovov, množstva zliatkov a trosky (Musilová/Lesák 1996, 209).

V nevelkej vzdialenosti od dielenského objektu sa vo výplni neskorolátenskej priekopy na Ventúrskej ul. 7 (k hlavným výsledkom výskumu pozri Lesák 2002, 112, 113) našiel malý kužeľovitý téglik (obr. 4) so široko roztvoreným ústím (v. 36 mm, pr. ústia 41 mm, objem cca 7 cm³) a fragmenty dvoch dávkovacích platničiek (obr. 5) s drobnými jamkami (pr. 4–5 mm). Vnútri a na okraji popraskaného téglika ostalo niekoľko zelených škvŕn nataveniny, podľa rozboru ide o mosadz s veľkou prevahou zinku a so zreteľným podielom striebra. Formy z jemnej hliny boli v jednom prípade použité na dávkovanie striebra, v druhom mosadze (Vrtel 2006, 186, obr. 2; 2009, 85, tab. 7: 5, 6; 2012, 170, 171, obr. 252).

Michalská ul. 9

Tretím v poradí je súbor technickej keramiky z viacúčelového dielenského areálu, ktorý bol odkrytý vo dvore domu na Michalskej ul. 9. Počas záchranného výskumu v rokoch 2006–2008 sa tu preskúmalo viacero objektov a mohutné súvrstvie z neskoršej doby laténskej. Z technickej keramiky treba, okrem črepov deformovaných téglikov s kvapkami bronz, upozorniť najmä na dve jednorazové formy na liatie metódou vytaviteľných voskov, z ktorých sa zachovala neúplná vtoková sústava – vtoková jamka s časťou vtokového kanála (obr. 6). Jedna z týchto keramických, tzv. škrupinových foriem obsahovala viaczožkovú olovnatú mosadz. V nálezoch sú zastúpené aj viaceré exempláre dýzových tehál (Vrtel 2012, 171, obr. 251).

Partizánska ul.

V roku 1978 našiel L. Zachar v neskorolátenskej vrstve II na Partizánskej ul., asi 260 m severozápadne od hradu, zlomok taviacej platničky vyhotovenej z črepu grafitovej nádoby (Zachar 1981, 40, 54, pozn. 41, obr. 6: 1). Podľa rozmerov polguľovitých dutín (pr. 17 mm) usudzoval na zhotovovanie polotovarov mincí simmerinského typu. Stopy mincového kovu sa však nezistili (Ščasnár a i. 1984, 130).

Mudroňova ul. 3/B

Vo výraznej polohe pri vodojeme na Somárskom vrchu (kóta 225 m n. m.), ktorá leží približne 200 m na ZSZ od Viedenskej brány, bol v r. 2008 preskúmaný sídliskový objekt z neskoršej doby laténskej. Z jeho výplne sa podarilo vyzdvihnúť a následne čiastočne rekonštruovať dve keramické dávkovacie platničky s okrúhlymi dutinami (pr. 8 mm). Jeden z fragmentov sa použil na experimentálne odliatie strieborných kotúčikov (Bazovský/Gregor 2009).



Obr. 6. Bratislava, Michalská ul. 9. Fragmenty keramických škrupinových foriem.

Vydrica

Nálezisko je situované priamo na južnom úpätí hradného brala. Počas záchranného výskumu P. Baxu a L. Zachara na parcele č. 554 v roku 1989 sa našiel kovolejársky téglík súdkovitého tvaru so zvyškami kovu (Vrtel 2009, 85). V rokoch 2007–2008 sa pri odkryve na Vydrici pod vedením T. Štefanovičovej získalo viacero fragmentov dávkovacích platničiek (Štefanovičová a i. 2008, 251, tab. 4: 1).

Hrad

Výpočet možno uzavrieť upozornením na doklady spracovania drahých kovov objavených v priebehu novších archeologických výskumov na Bratislavskom hrade. Nález časti kužeľovitého téglíka z objektu 115/09 bol podrobený RFA analýze, ktorá preukázala jeho použitie na tavbu striebra. Ďalším potvrdením kovospracujúcich aktivít v blízkom okolí nádvorja hradu sú fragment dýzy a viacero hrudiek trosky (Vrtel 2011, 269, 271, 273, obr. 9: 2).

Zhrnutie základných poznatkov o technickej keramike

Z výsledkov doterajšieho výskumu technickej keramiky z Bratislavy možno pre potreby tejto štúdie vyvodiť niekoľko dôležitých záverov:

1. Na prípravu striebra sa používali kónické téglíky s malým objemom (Panská ul. 19–21), ktoré po-

skytovali výhodu lepšej kontroly homogénnosti kovu a jednoduchej manipulácie pri liatí.

2. Kritické hodnotenie morfológie, metrických parametrov a kvality povrchu dutín na lícnej (funkčnej) strane dávkovacích platničiek nevedie k jednoznačnej interpretácii.

Prikláňame sa k názoru, že ide o formy na malé ingoty, t. j. kalibrované dávky kovu nízkej hmotnosti, určené na ďalšie spracovanie v rámci mincovníctva alebo šperkárstva. Rozličné odchýlky v tvare a rozmeroch dutín sú v zjavnom rozpore s účelom odlievania polotovarov mincí. V posudzovanom súbore sa nachádzajú aj formy s hranatými alebo mimoriadne drobnými jamkami (pr. 4–5 mm). Nevyhovujúcim je tiež nerovný či drsný povrch, ktorý je zdrojom chybného vzhľadu odliatku. Podľa zistení spektrálnych analýz dávkovacie platničky slúžili na tavbu a predformovanie nielen striebra a zlata, ale výnimočne i mosadze.

O mincových formičkách sa dá opodstatnene uvažovať iba za určitých podmienok, akými sú primeraný tvar a povrch dutín, rozmerová zhoda s kotúčikom konkrétneho typu mince a prítomnosť drahého kovu.

3. Škrupinové formy na odlievanie metódou vytaviteľných voskov sú v nálezoch zatiaľ len úplne ojedinele zastúpeným typom technickej keramiky, čo je však s prihliadnutím na vyššiu mieru fragmentarizácie netrvalých foriem a prevládajúci záchranný charakter terénnych výskumov na lokalite vcelku pochopiteľný stav. Súvislosť s využitím pri odlievaní striebra a zlata nie je doložená.



Obr. 7. Bratislava, Žilinská ul. Keltské tetradrachmy bratislavského typu. 1 – s nápisom COISA (a – averz, b – reverz); 2 – s nápisom BIATEC (a – averz, b – reverz, c – detail reverzu); 3 – s nápisom BIATEC (a – averz, b – reverz, c – detail hrany mince); 4 – s nápisom BIATEC (a – averz, b – reverz, c – detail averzu, d – detail reverzu); 5 – bez nápisu (a – averz, b – reverz, c – detail reverzu, d – detail hrany mince).

VÝROBNÉ STOPY NA MINCIACH

K priamym prameňom štúdia technológie patria aj stopy pracovných procesov alebo rôzne defekty výroby. Nižšie prezentovaná vzorka mincí je zámerom reprezentatívnym výberom tetradrachmiem bratislavského typu s najlepšie zachovanými znakmi použitej technológie. Z opisu jednotlivých exemplárov sú vynechané tie charakteristiky, ktoré sa týkajú vlastného procesu razby (napr. väzba razidiel).

Výber prezentovaných mincí

1. Keltská tetradrachma bratislavského typu s nápisom COISA (obr. 7: 1)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: Múzeum mesta Bratislavy (ďalej MMB), inv. č. 265.
Parametre: hm. 16,44 g; pr. 23–27,1 mm.
Typ Paulsen: 798–801.
Literatúra: Kolníková 1991, obr. 27; 28; Ondrouch 1958, tab. XXXVII: 245, obr. 20: 3.
2. Keltská tetradrachma bratislavského typu s nápisom BIATEC (obr. 7: 2)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: Slovenské národné múzeum (ďalej SNM), inv. č. M 12 706.
Parametre: hm. 17,04 g; pr. 24,5–27 mm.
Typ Paulsen: 718–744.
Literatúra: Ondrouch 1958, tab. X: 68.
3. Keltská tetradrachma bratislavského typu s nápisom BIATEC (obr. 7: 3)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 702.
Parametre: hm. 16,56 g; pr. 24–24,8 mm.
Typ Paulsen: 718–744.
Literatúra: Ondrouch 1958, tab. XI: 72.
4. Keltská tetradrachma bratislavského typu s nápisom BIATEC (obr. 7: 4)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 703.
Parametre: hm. 17,14 g; pr. 23,3–25,3 mm.
Typ Paulsen: 718–744.
Literatúra: Ondrouch 1958, tab. XI: 73.
5. Keltská tetradrachma bratislavského typu bez nápisu (obr. 7: 5)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 724.
Parametre: hm. 17,00 g; pr. 24,6–27 mm.
Typ Paulsen: 826–828.
Literatúra: Kolníková 1991, obr. 30; 31; Ondrouch 1958, tab. XL: 259, obr. 23: 2.
6. Keltská tetradrachma bratislavského typu s nápisom BVSU (obr. 8: 1)
Nálezové okolnosti: hromadný nález, Bratislava, Nám. slobody, r. 1937.
Uloženie: MMB, inv. č. 13.
Parametre: hm. 17,13 g; pr. 23,7–28 mm.
Typ Paulsen: 785–789.
Literatúra: Kolníková 1991, obr. 19; 20; Ondrouch 1937, tab. III: 27.
7. Keltská tetradrachma bratislavského typu s nápisom DEVII (obr. 8: 2)
Nálezové okolnosti: hromadný nález, Bratislava, Nám. slobody, r. 1937.
Uloženie: MMB, inv. č. 250; 19.
Parametre: hm. 17,16 g; pr. 24,4–26,2 mm.
Typ Paulsen: 782–784.
Literatúra: Kolníková 1991, obr. 39; 40; Ondrouch 1937, tab. III: 35.
8. Keltská tetradrachma bratislavského typu s nápisom BIATEC (obr. 8: 3)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 698.
Parametre: hm. 16,11 g; pr. 24,1–25,6 mm.
Typ Paulsen: 718–744.
Literatúra: Ondrouch 1958, tab. VI: 40.
9. Keltská tetradrachma bratislavského typu s nápisom EVOIVRIX (obr. 8: 4)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 723.
Parametre: hm. 16,66 g; pr. 24,1–25,9 mm.
Typ Paulsen: 814–816.
Literatúra: Kolníková 1991, obr. 43; 44; Ondrouch 1958, tab. XXXIX: 254.
10. Keltská tetradrachma bratislavského typu s nápisom MACCIVS (obr. 8: 5)
Nálezové okolnosti: hromadný nález, Bratislava, Žilinská ul., r. 1942.
Uloženie: SNM, inv. č. M 12 726.
Parametre: hm. 16,80 g; pr. 26–27 mm.
Typ Göbl: XIII/1–22.
Literatúra: Kolníková 1991, obr. 51; 52; Ondrouch 1958, tab. XL: 262.

Výsledky a interpretácia makroskopického pozorovania

Na kotúčikoch vyššie uvedených mincí sú viditeľné viaceré druhy defektov výroby (triedenie chýb na odliatkoch podľa Vilčko 1983, tab. 13).

Prvú skupinu tvoria *chyby tvaru a rozmerov* odliatku. *Zbortenie* je čiastočnou alebo úplnou deformáciou (Vilčko 1983, 201), ktorá mohla byť spôsobená nepresnosťou pri výrobe formy, ale aj manipuláciou so zahriatym kotúčikom. Tieto tvarové odchýlky sú bežné, príkladom je defektný



Obr. 8. Bratislava. Keltské tetradrachmy bratislavského typu. 1 – Námestie slobody, s nápisom BVSV (a – averz, b – reverz); 2 – Námestie slobody, s nápisom DEVII (a – averz, b – reverz); 3 – Žilinská ul., s nápisom BIATEC (a – averz, b – reverz, c – detail hrany mince); 4 – Žilinská ul., s nápisom EVOIVRIX (a – averz, b – reverz, c – detail averzu, d – detail reverzu, e – detail hrany mince); 5 – Žilinská ul., s nápisom MACCIVS (a – averz, b – reverz, c – detail averzu, d – detail reverzu).

kotúčik mince 1 (obr. 7: 1). Niektoré deformácie zase pravdepodobne súvisia s odklonom razidla pri удere kladiva (obr. 8: 1).

Ďalej sa vyskytujú *mechanické poškodenia* (Vilčko 1983, 201), ktoré boli zapríčinené neopatrným zaobchádzaním s kotúčikom. Väčšie otlačenie hrany, badateľné na minci 2 (obr. 7: 2b), je najskôr dôsledkom nesprávneho uchopenia bezprostredne po vyrazení (obr. 7: 2a).

V skupine *chýb povrchu* sú pomerne dobre odlíšiteľné rôzne *výronky* a *nárasty* – vystupujúce útvary na hranách kotúčikov (obr. 7: 1, 3–5; 8: 1–3), ktoré vznikli zatečením kovu do štrbín popraskanej alebo iným spôsobom lokálne poškodenej formy (pozri Vilčko 1983, 202). Detailný záber hrany mince 3 názorne dokumentuje starostlivé opracovanie takéhoto skráteneho výronku pilovaním (obr. 7: 3c).

K vystupujúcim útvarom patria i výčnelky kruhového prierezu zodpovedajúce vtokovým zárezom pri odlievani metódou vytaviteľných voskov zostavených do tvaru tzv. stromčeka. *Miesta vtokov* predstavujú pozostatky vyústení kanálov, ktoré privádzali prúd roztaveného kovu do dutiny netrvalej škrupinovej formy. Dutina pre odliatok mohla byť napojená na etážový vtokový kôl jedným alebo dvoma krátkymi vtokovými zárezmi. Pri opracovaní a povrchovej úprave odliatkov nebol prebytočný materiál zakaždým dôkladne odstránený. Oprávnenosť predpokladu zvyškov po vtokových zárezoch treba v budúcnosti kriticky preveriť, zvlášť v prípade výčnelku na okraji mince 9 (obr. 8: 4c–e).

Hrany mincových kotúčikov sú oblé a hladké, bez náznaku *zatečení* – pozostatkov po kove, ktorý vnikol do deliacej roviny zloženej (dvojdielnej) formy.

DISKUSIA A ZÁVERY

I medzi publikovanými mincami z Námestia slobody (r. 1937) a zo Žilinskej ul. (r. 1942), ktoré sme nemohli priamo vizuálne posúdiť a nanovo zdokumentovať, sa vyskytujú odliatky s veľmi nápadnými výčnelkami (pozri Ondrouch 1937, tab. I: 2; V: 57; 1958, tab. IV: 23; XVII: 114; XXXVII: 246, obr. 21: 1).

Na nedostatočne opracované odliatky kotúčikov upozornil ako jeden z prvých už J. Eisner (1925, 97) s poukázaním na „*různé čípky na jejich oblém obvode*“. Takto neupravený povrch a nepravidelnosti tvaru neskôr zmieňovali i ďalší bádatelia (napr. Kolníková 1991, 30). Frekvencia výskytu mincových kotúčikov s výčnelkami je celkom bežná, orientačne na úrovni cca 7 % (prepočet vychádzajúci zo súpisu Paulsen 1933, tab. 30–35). Potvrdením zvýšenej miery nepodarkovosti je skutočnosť, že chyby odliatkov

sú zaznamenané aj vo vyložene malých súboroch, napr. z Pezinka a Rače (Čambal/Budaj 2009, 197, 202, tab. I: 1a, b; II: 3a, b).

Z početných analógií v novšej literatúre si zasluhuje zvláštnu pozornosť tetradrachma s nápisom LATTV s ponechanými dvoma výraznými vystupujúcimi útvarmi („*am Rand zwei Schmelzstücke*“; Militký 2014, 27, 33, obr. 1: 1; 2021, obr. 3: 1). Z publikovaných fotografií sa zdá, že ukončenia výčnelkov sú zaoblené, bez zjavných stôp opracovania. Kotúčik pôsobí dojmom hrubého polotovaru a zostáva otvorenou otázkou, či nedostatočné zarovnanie výčnelkov vyplynulo z unáhleného úkonu pri sériovej výrobe alebo z vedomého rozhodnutia neznižovať viac hmotnosť mince (16,99 g).

Ďalej upozorníme na nepodarkové kotúčiky dvoch tetradrachmiem so zrkadlovo otočeným nápisom NONNOS z nálezového celku z neznámej lokality (r. 1995). Ich nepravidelný tvar sa zdôvodňoval razbou za tepla (Militký 2013, 101, 111, obr. 1: 13, 14), no prítomnosť výčnelkov podľa nášho názoru naznačuje skôr chybu v priebehu odlievania (poškodenie formy, zatečenie kovu mimo dutinu).

Na konci stručného exkurzu možno v klasifikácii chýb odliatkov doplniť ďalší druh nedostatku a to *nezabehnutie* – neúplný tvar odliatku spôsobený predčasným stuhnutím čela prúdu kovu pri zaplňovaní formy. Ako jedna z obvyklých príčin tejto chyby sa uvádza nízka teplota kovu pri liatí (Vilčko 1983, 201). Príkladom nezabehnutého odliatku by mohla byť tetradrachma s nápisom BIATEC z hromadného nálezu v Deutsch Jahrndorf (r. 1855) uložená v zbierkach Umeleckohistorického múzea vo Viedni. Chyba sa prejavuje zmenou tvaru a rozmerov kotúčika („*Schrötling stark deformiert*“; Dembski 1998, 80, tab. 30: 594; „*completely irregular shape*“; Militký/Torbágyi 2021, 249, 280, obr. 4d: 56).

Je pozoruhodné, že ani väčší rozsah chýb nevedol nutne k vyradeniu nepodarkov. Ich bližší opis a hodnotenie však v odbornej numizmatickej spisbe doposiaľ absentujú. Výskum by sa mal preto viac sústrediť na podrobné sledovanie mikromorfológie hrany kotúčikov a vystupujúcich útvarov s náležitým zdokumentovaním zásahov nástroja pri opracovaní odliatku. Jednou z úloh je zodpovedanie otázky, či sa výčnelky utvorili zatečením kovu do trhlín v dutine dávkovacej platničky, alebo škrupinovej formy, prípadne iným spôsobom.

Kotúčiky tetradrachmiem bratislavského typu bolo možné vyrábať rôznymi zlievarenskými technológiami. Pri výbere vhodnej výrobnnej metódy odlievania polotovarov sa zrejme zohľadňoval celý rad faktorov (porovnaj Vilčko/Michelko 1984, obr. 50; Vilčko/Slovák 1987, 232): 1. zlievarenské vlastnosti materiálu (striebra); 2. požiadavky na hmotnosť, tvar, rozmery a kvalitu povrchu odliatku; 3. možnosť sériovej

výroby; 4. dĺžka výrobného cyklu; 5. prácnosť opracovania; 6. využitie materiálu (roztaveného kovu); 7. nepodarkovosť; 8. technologická náročnosť; 9. výrobné náklady; 10. skúsenosti výrobcu.

Ak vychádzame z celkového prehľadu nálezov technickej keramiky na území Bratislavy a z predbežného vyhodnotenia výrobných stôp na vzorke vybraných veľkých strieborných mincí, je namieste zaoberať sa dvoma výrobnými postupmi.

1. Liatie do otvorenej formy s voľnou hladinou kovu

Pracovný postup odlievania v keramickej dávkovacej platničke (*lingotière, plaque à alvéoles*), teda do jednostrannej otvorenej formy (*coulée en moule ouvert*), tvorí niekoľko základných operácií.

Prvou je príprava telesa hlinenej platničky v drevenom ráme a modelovanie priehlbín – dutín na lícnej strane formy otláčaním jednoduchého formovacieho nástroja alebo modelu (pozri *Chevallier a i.* 1993, 80). Po vysušení a vypálení je platnička pripravená na použitie. Nasleduje plnenie dutín odváženým kovom, t. j. dávkovanie. Tavenie mincovej hmoty sa potom vykonáva v peci za prívodu stlačeného vzduchu cez dýzu (*Eluère* 1987, 196; *Ziegeaus* 1993, 223; 2010, 15). Druhým známym spôsobom je liatie roztaveného kovu do dutín dávkovacej platničky (*Gruel* 1989, 164). Pri tejto metóde odlievania je prínosom účelné spojenie nenáročného postupu s princípom sériovosti výroby. Priaznivou okolnosťou je úplné využitie tekutého kovu, bez potreby vytvárať vtokovú sústavu.

Najväčším nedostatkom pri odliatí v dávkovacej platničke je rozdielna kvalita povrchu dvoch strán kotúčika. Plocha odliatku, ktorá je v priebehu chladnutia a tuhnutia vystavená voľnému prístupu vzduchu, sa vyznačuje nerovným, drsnejším povrchom, pripomínajúcim vzhľad pomarančovej kôry (*Barral a i.* 1983, 430; *Mohen* 1990, 122).

Na druhej strane treba vziať do úvahy protiargument, že razba za tepla – v kombinácii s výtvarným riešením – v podstate počítala s úplným pretvorením povrchu mincového poľa. Náznornou ukážkou je vyobrazenie na reverze mince 10 – tetradrachmy s nápisom MACCIVS (obr. 8: 5b, d). Námet spracovaný v nízkom reliéfe tu vystupuje z kontrastnej, zámerne (!) zdrsnenej roviny pozadia. Raziaci nástroj nepôsobil na plochu kotúčika kolmo, ale inak sa razba vyznačuje veľmi dobrou čitateľnosťou detailov nápisu, figurálnej kompozície i ostatných častí mincového obrazu. Jemné prevedenie hlavy šelmy a profilovaného perlovca, ako aj olemovanie písmen priehlbínou poukazujú na odlatie pracovnej časti razidla pomocou metódy vytaviteľných

voskov. V tejto súvislosti je tiež preukazná štruktúra povrchu na pozadí jazdeckého motívu na reverze mince 2. Zaujímavou stopou je i nahromadená hmota okolo ťahov tvoriacich písmená nápisu BIATEC, napr. pri brvnách litery E (obr. 7: 2c).

K nevýhodám výrobného postupu sa ďalej radí nevyhnutnosť presného dávkovania kovu. V priebehu tavby sa treba vyvarovať i nepatrných otrasov, ktoré môžu privodiť zatečenie taveniny po obvode dutín (osobná komunikácia B. Vanko). Úprava surového odliatku zahŕňa zarovnanie hrúbky kotúčika (*Militký* 2015, 159) a potlačenie nežiaducich vlastností povrchu.

Využitie technológií odlievania na voľnú hladinu v neskorej dobe laténskej dokladajú okrem taviacich dávkovacích platničiek aj nálezy iných jednostranných foriem (*Pieta* 2002, 322, obr. 6: A; 2008, 156, obr. 71: 21).

2. Liatie metódou vytaviteľných voskov so zostavením tzv. stromčeka modelov

Sériová výroba týmto špeciálnym technologickým postupom (*moulage à la cire perdue*) predpokladá zostavenie stromčeka z voskových modelov kotúčikov (*arbre à cire*) a výrobu keramickej škrupinovej formy (*coque en céramique*). Z vosku formované kotúčiky sú napojené na centrálnu vtokovú sústavu, ktorá umožňuje vytavenie vosku a zaplnenie formy kovom. Voskový stromček sa najprv obleje jemnozrnnou keramikou brečkou, ktorá určí povrchovú kvalitu odliatku (tzv. lícny obal) a potom sa pokračuje nanášaním ďalších spevňujúcich vrstiev s hrubším ostrivom organického pôvodu (*Mohen* 1973, 33, 34; 1990, 123, 124; *Sejč/Vanko/Belanová* 2021, 205, 206, obr. 1.19; *Vilčko/Slovák* 1987, 239). Model sa odstráni vytavením. Dodatočné spálenie zvyškov voskovej hmoty a spevnenie formy sa zabezpečuje ohrevom na vysoké teploty, t. j. vyžíhaním (*Sejč/Vanko/Belanová* 2021, 206). Vyžíhaná keramická forma sa navyše vyznačuje chemickou odolnosťou voči odlievateľnému kovu, čo priaznivo vplýva na vzhľad povrchu odliatku (*Horáček* 1991, 18). Pred samotným liatím kovu je nevyhnutné formu predhriať, aby sa uľahčilo zabíjanie odlievateľného materiálu (*Stanček* 2006, 91). Téglik s vsádzkou striebra sa kvôli dokonalému roztaveniu celého objemu dostatočne dlho vystaví teplotám okolo 960 °C a tekutý kov sa naleje vtokovou jamkou do formy. Úlohou vtokovej sústavy je viesť kov kanálmi na určené miesta a vyplniť formu primeranou rýchlosťou (*Fiala* 1985, 38). Na pretlačenie taveniny do dutiny cez úzke prierezy sa môže využiť odstredivý spôsob liatia (*Schleuderguss*) pomocou ručného praku (*Pieta* 2008, 156; *Stanček* 2006, 21; *Täubel* 1976, 60). Po stuhnutí a vychladnutí

striebra sa škrupinová forma rozbie a hotové kotúčky sa zo stromčekovej vtokovej sústavy oddelia. K posledným úkonom patrí odstránenie nežiaducich zvyškov po vtokových zárezoch (*tenons de coulée*) na hranách surových odliatkov a zjemnenie povrchu cizelovaním.

Prednosť odlievania metódou vytaviteľných modelov zostavených do stromčeka spočíva hlavne v tom, že umožňuje vytvárať série odliatkov s presnými rozmermi a vyššou kvalitou povrchu (odtiaľ časté označenie „metóda presného liatia“: Horáček 1991, 18; Primus 1961, 34; Sejč/Vanko/Belanová 2021, 205, 207; Stanček 2006, 91; Vilčko/Michelko 1984, tab. 19), ktorá je zvyčajne dôležitá pre celkový vzhľad budúcej mince.

Pri hodnotení účelnosti metódy treba ďalej vziať do úvahy, že nevyžaduje samostatné odváženie dávky kovu pre každý jeden mincový kotúčik. Výhodou je i to, že surový odliatok už nekladie väčšie nároky na dokončovacie práce a úpravy. Spravidla sa preto uplatňuje na odlievanie finálnych výrobkov a nie polotovarov.

V neprospech použitia opísaného technologického postupu naopak hovorí vysoký počet vykonaných operácií a ich nesporná náročnosť (Sejč/Vanko/Belanová 2021, 208). Čo sa týka stránky hospodárnosti výroby, stuhnutá vtoková sústava sa opätovne používa ako vratný materiál do kovovej vsádzky na ďalšie tavenie (Vilčko/Slovák 1987, 271).

Oporou pri identifikovaní tejto technológie sú najmä kotúčky mincí s vtokovými zárezmi (*pièces à tenons*). Jednoznačné nespochybniteľné príklady nadbytočného materiálu zo zaústenia vtokovej sústavy nám nateraz nie sú známe. K výčnelkom na hrane kotúčika tetradrachmy s nápisom EVOIVRIX sa s konečnou platnosťou vyjadríme až po opakovanom posúdení za pomoci ďalších zobrazovacích metód.

Myšlienku alternatívneho spôsobu prípravy podporujú doklady skupinového odlievania kotúčikov v uzavretej forme z iných oblastí keltského mincovníctva (napr. Titelberg; Gruel 1989, 163).

Nálezy strieborných výliatkov kanálov tzv. stromčeka pochádzajú z Trenčianskych Bohuslavíc (Pieta 2008, 156, obr. 71: 5, 6).

Za limity štúdie možno považovať nízku početnosť vzorky (zámerný výber mincí s výrobnými stopami). Tento nedostatok je zapríčinený značne obmedzeným prístupom k numizmatickému materiálu.

Pre uspokojivé zodpovedanie okruhu otázok týkajúcich sa podmienok tavby a typu zlievarenskej formy by bolo potrebné rozšíriť pozorovania na viacero mincových súborov, využiť možnosti mikroskopickú analýzu pracovných stôp (traseológia), systematicky porovnávať zloženie kovu väčšieho počtu mincí a napokon pristúpiť k experimentálnemu odliatiu kotúčikov.

Podakovanie

Autor je zaviazaný vďakou Mgr. M. Budajovi, PhD. (Slovenské národné múzeum – Historické múzeum), a Mgr. A. Fialovi (Múzeum mesta Bratislavy) za umožnenie fotografickej dokumentácie vybraných mincí, Ing. B. Vankovi, PhD. (Slovenská technická univerzita v Bratislave, Strojárska fakulta, Ústav technológií a materiálov), za konzultácie k problematike zlievania a za prečítanie rukopisu.

LITERATÚRA

- Allen/Nash 1980 – D. F. Allen/D. Nash: *The Coins of the Ancient Celts*. Edinburgh 1980.
- Barral a i. 1983 – M. Barral/K. Gruel/J. Barralis/F. Widemann: Quelques éléments de métallurgie monétaire gauloise. In: *Journées de Paléoméallurgie. Université de Technologie de Compiègne. 22–23 février 1983. Compiègne 1983*, 429–443.
- Bazovský/Gregor 2009 – I. Bazovský/M. Gregor: Mincové dávkovacie platničky z Mudroňovej ulice v Bratislave. *Zborník SNM. Archeológia 19*, 2009, 131–152.
- Chevallier a i. 1993 – P. Chevallier/F. Legrand/K. Gruel/I. Brissaud/A. Tarrats-Saugnac: Étude par rayonnement synchrotron de moules à alvéoles de La Tène finale trouvés à Villeneuve-St-Germain et au Mont-Beuvery. *Revue d'Archéométrie 17*, 1993, 75–88.
- Čambal/Budaj 2009 – R. Čambal/M. Budaj: Keltské tetradrachmy z Pezinka a Bratislavy-Rače. *Zborník SNM. Archeológia 19*, 2009, 197–214.
- Dembski 1998 – G. Dembski: *Münzen der Kelten*. Wien 1998.
- Eisner 1925 – J. Eisner: Mince typu Biatec, nálezene v Bratislave r. 1923. *Numismatický časopis československý 1*, 1925, 87–120.
- Eluère 1987 – Chr. Eluère: *L'or des Celtes*. Fribourg 1987.
- Fiala 1985 – A. Fiala: *Teorie slévání*. Praha 1985.
- Göbl 1994 – R. Göbl: *Die Hexadrachmenprägung der Gross-Boier. Ablauf, Chronologie und historische Relevanz für Noricum und Nachbargebiete*. Wien 1994.
- Gruel 1989 – K. Gruel: *La monnaie chez les Gaulois. Collection des Hespérides*. Paris 1989.

- Gruel 2017 – K. Gruel: Du minerai à la monnaie. In: J. Ge-nechesi/L. Pernet (dir.): *Les Celtes et la monnaie. Des Grecs aux surréalistes*. Gollion 2017, 82, 83.
- Guillaumet 1996 – J.-P. Guillaumet: *L'artisanat chez les Gaulois*. Collection des Hespérides. Paris 1996.
- Horáček 1991 – M. Horáček: *Teorie slévání*. Brno 1991.
- Kolníková 1984 – E. Kolníková: Náčrt problematiky keltského mincovníctva na Slovensku. *Slovenská numizmatika* 8, 1984, 27–74.
- Kolníková 1991 – E. Kolníková: *Bratislavské keltské mince*. Bratislava 1991.
- Kolníková 2011 – E. Kolníková: K technike a technológii v keltskom mincovníctve – nálezy zo Slovenska. *Numismatický zborník* 26, 2011, 31–57.
- Kolníková/Petrík/Slaviček 2021 – E. Kolníková/J. Petrík/K. Slaviček: Hlinené formy na odlievanie kotúčikov na razbu keltských mincí a téglík z laténskej dielne v obci Devín – numizmatická a metalografická analýza. *Numizmatika* 30, 2021, 1–10.
- Lesák 2002 – B. Lesák: Predstihové archeologické výskumy na Ventúrskej ulici v Bratislave. *AVANS* 2001, 2002, 111–118.
- Militký 2013 – J. Militký: Hromadný nález hexadrachem typu Biatec a strieborného ingotu z neznámej lokality. K otázke pôvodu striebra u stredoevropských Keltů. *Numismatické listy* 68/3–4, 2013, 99–122.
- Militký 2014 – J. Militký: Ein neuer Hexadrachmentyp vom Typ Biatec mit der Aufschrift LATTV. *Mitteilungen der Österreichischen Numismatischen Gesellschaft* 54, 2014, 25–38.
- Militký 2015 – J. Militký: *Oppidum Hradište u Stradonic*. Komentovaný katalóg mincovných nálezů a dokladů mincovní výroby. Praha 2015.
- Militký 2021 – J. Militký: Keltské mince s nápisem LATVMARVS. Príspevok k poznání bratislavských tetradrachem skupiny Biatec. *Numismatický zborník* 35, 2021, 8–21.
- Militký/Torbágyi 2021 – J. Militký/M. Torbágyi: The Hoard of Celtic Coins from Deutsch Jahrndorf (Austria, 1855). *Památky archeologické* 112, 2021, 237–300.
- Mohen 1973 – J.-P. Mohen: Les moules en terre cuite des bronziers protohistoriques. *Antiquités Nationales* 5, 1973, 33–44.
- Mohen 1990 – J.-P. Mohen: *Métallurgie préhistorique. Introduction à la paléométallurgie*. Paris 1990.
- Musilová/Lesák 1996 – M. Musilová/B. Lesák: Mince z neskorolátenských objektov v Bratislave (archeologický výskum 1991–1995). *Slovenská numizmatika* 14, 1996, 207–213.
- Nieto-Pelletier 2013 – S. Nieto-Pelletier: La fabrication monétaire. *Dossiers d'Archéologie* 360, 2013, 20–23.
- Ondrouch 1937 – V. Ondrouch: Nové bratislavské biateky. Bratislava. *Časopis pro výzkum Slovenska a Podkarpatské Rusi* 11, 1937, 355–369.
- Ondrouch 1958 – V. Ondrouch: Keltské mince typu Biatec z Bratislavy. Poklad veľkých strieborných mincí z roku 1942. *Archaeologica et historica Bratislaviensia*. Monographiae 1. Bratislava 1958.
- Paulsen 1933 – R. Paulsen: *Die Münzprägungen der Boier. Mit Berücksichtigung der vorboiischen Prägungen*. Leipzig – Wien 1933.
- Pieta 2002 – K. Pieta: Wirtschaftliche Strukturen der spätlatènezeitlichen Siedlungen in der Slowakei. In: C. Dobiat/S. Sievers/Th. Stöllner (Hrsg.): *Dürrnberg und Manching. Wirtschaftsarchäologie im ostkeltischen Raum. Akten des Internationalen Kolloquiums in Hallein/Bad Dürrnberg vom 7. bis 11. Oktober 1998*. Bonn 2002, 315–323.
- Pieta 2008 – K. Pieta: Keltské osídlenie Slovenska. Mladšia doba laténska. *Archaeologica Slovaca Monographiae*. Studia 11. Nitra 2008.
- Pieta/Zachar 1993 – K. Pieta/L. Zachar: Mladšia doba železná (laténska). In: T. Štefanovičová a kol.: *Najstaršie dejiny Bratislavy*. Bratislava 1993, 143–209.
- Primus 1961 – F. Primus: *Lití do trvalých forem a přesné odlévání*. Praha 1961.
- Rexa 1987 – D. Rexa: K lokalizácii mincovnej dielne na území Bratislavy v dobe laténskej. In: V. Horváth (zost.): *Najstaršie dejiny Bratislavy. Referáty zo sympózia 28.–30. októbra 1986*. Bratislava 1987, 63–67.
- Sejč/Vanko/Belanová 2021 – P. Sejč/B. Vanko/J. Belanová: *Výrobné technológie I*. Bratislava 2021.
- Stanček 2006 – L. Stanček: *Technológia 1. Zlievanie*. Bratislava 2006.
- Ščasnár a i. 1984 – V. Ščasnár/V. Kliment/M. Červeňanský/L. Zachar: Zlomky dávkovacích platničiek na výrobu keltských mincí – nálezy zo Šaštína-Stráží a Bratislavy. *Slovenská numizmatika* 8, 1984, 121–145.
- Štefanovičová a i. 2008 – T. Štefanovičová/P. Jelínek/B. Kovár/M. Hanuš/J. Stehlíková/P. Spišák/V. Plachá: Predbežná správa z archeologického výskumu bratislavského podhradia – Vydrice. *Zborník SNM* 102. *Archeológia* 18, 2008, 249–256.
- Täubl 1976 – K. Täubl: *Zlatnictví*. Praha 1976.
- Vilčko 1983 – J. Vilčko: *Zlievárenstvo II*. Bratislava 1983.
- Vilčko/Michelko 1984 – J. Vilčko/J. Michelko: *Výrobné postupy odliatkov*. Košice 1984.
- Vilčko/Slovák 1987 – J. Vilčko/S. Slovák: *Zlievárenská technológia*. Bratislava – Praha 1987.
- Vrtel 2006 – A. Vrtel: Das Münzwesen im Oppidum von Bratislava. In: F. Humer (Hrsg.): *Legionsadler und Druidenstab. Vom Legionslager zur Donaumetropole*. Textband. Bad Deutsch-Altenburg 2006, 184–189.
- Vrtel 2009 – A. Vrtel: *Neskorolátenske oppidum v Bratislave – remeselná výroba, výmena a obchod*. Dizertačná práca. Univerzita Komenského v Bratislave. Filozofická fakulta – Slovenská akadémia vied. Archeologický ústav v Nitre. Nitra 2009. Nepublikovaný rukopis.
- Vrtel 2011 – A. Vrtel: Neskorolátenský objekt 115/09 na nádvorí Bratislavského hradu. In: E. Droberjar (ed.): *Archeologie barbarů 2010. Hroby a pohřebiště Germánů mezi Labem a Dunajem*. Sborník příspěvků ze VI. Protohistorické konference, Hradec Králové, 6.–9. září 2010 – *Archäologie der Barbaren 2010. Die Gräber und Gräbarfelder der Germanen zwischen Elbe und Donau. Materialien der VI. Frühgeschichtlichen Konferenz Hradec Králové*, 6.–9. September 2010. *Studia archaeologica Suebica* 1. Olomouc 2011, 265–277.
- Vrtel 2012 – A. Vrtel: Keltské oppidum v Bratislave. In: J. Šedivý/T. Štefanovičová (zost.): *Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia*. Brezalauspurc – na križovatke kultúr. Bratislava 2012, 164–180.

Zachar 1981 – L. Zachar: Neskorolaténske vrstvy na Partizánskej ulici v Bratislave. *Zborník SNM* 75. *História* 21, 1981, 35–57.

Zachar/Rexa 1988 – L. Zachar/D. Rexa: Beitrag zur Problematik der spätlatènezeitlichen Siedlungshorizonte innerhalb des Bratislavaer Oppidums. *Zborník SNM* 82. *História* 28, 1988, 27–72.

Ziehaus 1993 – B. Ziehaus: Das keltische Münzwesen. In: H. Dannheimer/R. Gebhard (Hrsg.): *Das keltische Jahrtausend*. Mainz am Rhein 1993, 220–227.

Ziehaus 2010 – B. Ziehaus: *Kelten Geld. Münzen der Kelten und angrenzender nichtgriechischer Völkerschaften. Sammlung Christian Flesche*. München 2010.

Rukopis prijatý 24. 5. 2022

Translated by David Gaul

Mgr. Andrej Vrtel, PhD.

Univerzita Komenského v Bratislave

Filozofická fakulta

Gondova 2

SK – 814 99 Bratislava

andrej.vrtel@uniba.sk

Technological Aspects of Coinage at the Bratislava Celtic Oppidum

Andrej Vrtel

SUMMARY

The prevailing view among scholars is that the coin flans for Celtic Bratislava-type tetradrachms were made using open mould casting in ceramic flan moulds. The problem with this opinion is that finds of these simple flan moulds in Bratislava are not designed for the preparation of flans of the corresponding size.

The objective of this study is therefore to provide a basic foundation for the reconstruction of production technology and to suggest other possibilities of interpretation. The methodology is based on two levels of analysis:

1. A critical evaluation of the composition and morphology of specialised technical ceramics from Panská St. 19–21 and other relevant assemblages from Bratislava, taking into account the results of spectral analyses of metal residues (Fig. 1–6).
2. A visual comparison and identification of working traces and production defects on Bratislava-type tetradrachms and their detailed depiction using macrophotography (Fig. 7; 8). The presented research sample is the result of the intentional selection of large silver coins with identified specific traces on the surface of the discs. The coins come from mass finds in Žilinská St. (1942) and Námestie slobody Square (1937).

An analysis of technical ceramics from Bratislava leads to the following conclusions:

1. Small conical crucibles (average volume of 10 cm³) with a reinforced bottom (Panská St. 19–21) providing the advantage of better control of metal homogeneity and easy handling during casting, were intended for the preparation of silver.

2. Dosing tablets (flan moulds) were used in metalworking as moulds for ingots, i.e. calibrated low-weight melting charges for further processing in minting or jewellery. They were also used to a certain extent for casting flans for small coins. Flan moulds have multiple round, oval or square cavities of various dimensions (diam. 4–5; 8; 10–12; 17 mm). The results of XRF analyses revealed the presence of silver, gold and exceptionally even brass (Ventúrska St. 7).

3. Shell moulds for lost-wax casting are represented in only rare cases in the finds (Michalská St. 9). Their use in casting precious metals is not documented.

In the following part, characteristic external qualities are observed – production traces and defects on a selected sample of Bratislava-type tetradrachms. Macroscopic observations identified the presence of multiple types of defects in the shape and surface of castings: collapse, mechanical damage, protrusions and gates from gating systems (?). Otherwise, the edges of the coin discs are round and smooth, with no indication of flashes from metal flowing into the parting plane of the (two-part) mould.

A wide range of factors were taken into consideration in the selection of casting technology: (1) casting properties of the material (silver); (2) demands on weight, shape, dimensions and the surface quality of the casting; (3) possibility for serial production; (4) production cycle duration; (5) labour demands on treatment; (6) use of the material (molten metal); (7) faulty pieces; (8) technological requirements; (9) production costs; (10) craftsman experience.

The final discussion therefore draws attention to an understanding of the reasons that may have been crucial for the choice of a particular casting technology. A comparison is made of the effectiveness of open mould casting (flan mould) and lost-wax casting with a tree model (ceramic shell mould).

The technological process of casting flans in open flan moulds is relatively simple. The full use of the molten metal is a benefit of this method, whereas disadvantages include the uneven and rougher top (free) surface of the casting, which is subjected to air during solidification and cooling. Another disadvantage is the effect of vibrations during melting on the leakage of the molten metal around the circumference of the mould cavities. Raw casting treatment includes evening out the thickness of the flans and removing undesirable surface qualities.

Lost-wax casting does not require weighing the doses of metal (melting charge) for each coin flan. The main benefit is that it makes it possible to produce castings with high dimensional accuracy and surface quality, thus reducing the demands on mechanical working and cleaning. The main disadvantage of this method is the high number and complexity of operations, and the need to recycle material from the solidified gating system should also be mentioned.

The conclusions of the study remain on the level of working hypotheses and the reliability of technological interpretation must be verified by further analyses, perhaps employing experimental archaeology. Research should focus on a detailed study of the micromorphology of disc edges and protruding formations. One task is to answer the question of whether the protrusions at the edges formed by metal flowing into cracks of an open (flan) mould or a shell mould, or in some other way.

Fig. 1. Bratislava, Panská St. 19–21. Small cylindrical crucibles for melting silver.

Fig. 2. Bratislava, Panská St. 19–21. Selection of fragments of open moulds.

Fig. 3. Bratislava, Panská St. 19–21. Half of two-part ceramic casting mould.

Fig. 4. Bratislava, Ventúrska St. 7. Mouth of a metal casting crucible with remnants of brass.

Fig. 5. Bratislava, Ventúrska St. 7. Ceramic open moulds.

Fig. 6. Bratislava, Michalská St. 9. Fragments of ceramic shell moulds.

Fig. 7. Bratislava, Žilinská St. Celtic Bratislava-type tetradrachms. 1 – with COISA inscription (a – obverse, b – reverse); 2 – with BIATEC inscription (a – obverse, b – reverse, c – detail of reverse); 3 – with BIATEC in-

scription (a – obverse, b – reverse, c – detail of coin edge); 4 – with BIATEC inscription (a – obverse, b – reverse, c – detail of obverse, d – detail of reverse); 5 – without inscription (a – obverse, b – reverse, c – detail of reverse, d – detail of coin edge).

Fig. 8. Bratislava. Celtic Bratislava-type tetradrachms. 1 – Námestie slobody Sq., with BVSV inscription (a – obverse, b – reverse); 2 – Námestie slobody Sq., with DEVII inscription (a – obverse, b – reverse); 3 – Žilinská St., with BIATEC inscription (a – obverse, b – reverse, c – detail of coin edge); 4 – Žilinská St., with EVOIVRIX inscription (a – obverse, b – reverse, c – detail of obverse, d – detail of reverse, e – detail of coin edge); 5 – Žilinská St., with MACCIVS inscription (a – obverse, b – reverse, c – detail of obverse, d – detail of reverse).

GRAVES BELONGING TO THE FIRST HORIZON FROM ALBA IULIA-STAȚIA DE SALVARE

Discoveries Made during the Archaeological Research from 1980 and 1981

AUREL DRAGOTĂ  – MONICA-ELENA POPESCU  –
† MIHAI BLĂJAN

The present paper discusses the analysis of the 18 graves discovered during the research carried out between 1980 and 1981 at Alba Iulia-Stația de Salvare. The following data is designed to provide additional information on the Transylvanian funerary landscape at the dawn of the Middle Ages. The research carried out at the site mentioned above has revealed some truly remarkable information about an archaeological find that is only partially understood. In terms of the grave orientation, a wide range can be observed so that one cannot highlight a predominant. All 18 uncovered graves present a diverse and numerous funerary inventory: weapons (battle axes, arrowheads, daggers), utensils (flint, knife, blades, steel, skins, burnt spindle whorls), adornments and clothing accessories (buttons, Kecel type buckles, beads, earrings, rings, bracelets, torques, pendants, appliques, coins) and pottery. In addition to these elements, remains of animal offerings deposited at the time of the deceased's burial were discovered in the sepulchral pits. At the current research stage, it is appropriate to add the graves that are the subject of this article to the 87 found between 1981 and 1985 in the same area. Taking into account elements of rite and ritual, funerary inventory, and other conclusive aspects, one can place the graves within the first funerary horizon dated to the 9th–10th c., when existed Bulgarian enclave in Transylvania. All these burial finds can be added to those made at Blandiana A and Sebeș (Alba County, Romania) and facilitate the idea that a Bulgarian enclave existed in the Transylvanian area in the 9th–10th c.

Keywords: Transylvania, Early Middle Ages, Funeral Rite, Bulgarians.

GENERAL REMARKS

The significance of the Alba Iulia area in the medieval period is widely acknowledged (Fig. 1). Therefore, it is unsurprising to uncover various sepulchral pits that prove that specific communities of people lived in the area. The story of the discoveries on which we have focused our attention begins in the autumn of 1979, when the first fortuitous discoveries were made. The municipal works of extending the 'Platoul Romanilor' neighbourhood in the north-western part of the city of Alba Iulia required extensive archaeological research within the existing burial area. The latter area was delimited by Victoriei Boulevard, Calea Moșilor and Stația de Salvare (Ambulance Station). A number of 738 graves were revealed in this context: 186 graves belonging to the cemetery from the 2nd–3rd c., four incineration graves (8th c.), 362 graves attributed to the Early Medieval necropolis, and 186 graves belonging to Str. Vânătorilor necropolis (second half of the 11th c.). The Roman cemetery was represented by burial graves with wooden coffins, stone and brick sarcophagi (with or without cover), and incineration graves. The cremated remains were deposited either inside an urn or directly in the sepulchral pit (circular

or oval-shaped). The bottom of the pit could have been purified by burning or not scorched at all.

It is a unique case (grave 585) in which the deceased's cremated remains were deposited in a parallel pipe-shaped brick box. The inventory of these graves was quite diverse: pottery (lamps, jars, mugs, plates), glass vessels, bronze coins, adornment, and clothing accessories (buckles, appliques, earrings, rings, beads). The Roman cemetery overlapped with another Early Medieval necropolis from the 9th–11th c. This last one has quite a diverse inventory consisting of weapons (daggers, battle axe, arrowheads), pottery, clothing accessories, adornments (beads, buttons, appliques, Kecel type buckles, bracelets, torques, earrings, rings, pendants, coins), and different utensils (knife, flint, blades, steel, burnt spindle, whorls).

Alongside the above-mentioned expansive inventory, animal offerings represented by remains of sacrificed animals (bovine, ovicaprine, equine/horse) and bird eggs deposited during the burial ceremony were also identified in some of the graves. There was a diversity in the orientation of the deceased (W – E, E – W, SE – NW, NW – SE). Put in accordance with the pagan and Christian custom, the orientation of the dead is sometimes correlated with the possible traditions in use among the



Fig. 1. Alba Iulia area. The layout of the Early Middle Age cemeteries. 1 (grey raster) – Stația de Salvare (Ambulance Station); 2 – Vinătorilor St.; 3 – Orange Transmission Station; 4 – King's Spring; 5 – Catholic Cathedral; 6 – Roman Bath/Governors Palace; 7 – Brîndușei St.; 8 – The Ravelin of St. Francisc de Paola; 9 – Former Military Hospital-Museikon. a – Canton C.F.R.; b – Veterinary Hospital; c – OMV; d – Profi.

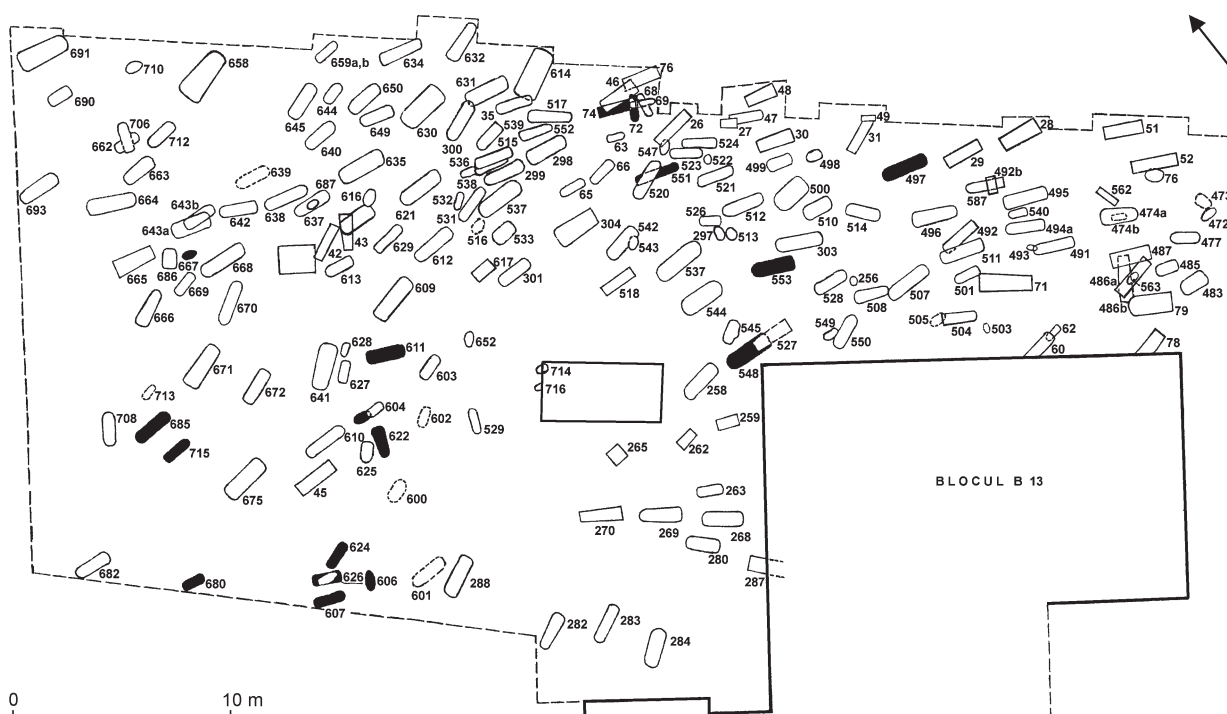


Fig. 2. Alba Iulia-Stația de Salvare. The plan of the necropolis (1980–1981) with the graves belonging to the 1st horizon marked in black (graphic by M. Blăjan, A. Dragotă).

community. It may also be the orientation fits the slope of the terrain, to which the longitudinal axes of the sepulchral pits were adapted (Hanuliak 2004, 246). In this framework, the possibility of identifying two ethnically different groups, one Christian and one in the process of Christianization that used the same necropolis, was not excluded. A stone workshop, a burnt lime kiln, two fountains, three huts, and the stone foundations of 15 facilities with the wooden structure were investigated in addition to the funerary complexes (Blăjan 2004, 50; Blăjan/Popa 1983).

Based on the comprehensive archive kept by Romanian archaeologist Mihai Blăjan, the informational horizon of the Magyar warrior graves revealed at Stația de Salvare (Ambulance Station) during the research of 1980–1981 could be easily reconstructed (Dragotă 2019a). There can be identified 18 funerary complexes (Fig. 2) among the other Early Medieval graves, which can be attributed (based on the elements of funeral rite and ritual) to the 1st horizon of the mentioned necropolis.

As stated before, the description of the graves and the funeral inventory was made following the records in the archive of fellow archaeologist Mihai Blăjan. We aim to present, as follows, a piece of yet partly understood archaeological discovery. In the light of existing data, the graves can be placed without problems within the 1st horizon, dated in the 9th–10th c. They can also be added to the 87 graves revealed between 1981 and 1985. We also include the complexes discovered at Blandiana A and Sebeș in this chronological horizon. The graves from 1981–1985 are to be analysed and subsequently published. The estimates made by Horia Ciugudean and Gheorghe Anghel and the relatively short use of the cemetery justify us rather supporting the idea of a Bulgarian enclave in Transylvania. This small community, whose customs have interfered with the Romanic element existing in Transylvania, makes us use the term cultural group Blandiana A or Alba Iulia-Blandiana.

From another perspective, we are dealing with a proto-Bulgarian enclave that reached the north of the Danube due to the French embassy from 892 mentioned in *Annales Fuldenses*. One can accept southern Slavic elements, Saltovo, possibly hybrids, but also characteristics of the Romanesque population within the discoveries of phase I from Alba Iulia-Stația de Salvare. It is hard to believe and to prove that incised coarse pottery can only represent a prerogative of the Slav population! From this point of view, it would not be excluded that the graves

with two incised coarse jars belong to the native population (*sic!*). With one exception (the W – E orientation), all the elements of funerary rite and ritual (the presence of the animal offering at the feet of the deceased, the coal, the symbolically deposited knife on animal remains) indicate us a pagan population.

The so-called 'Belgrade voivodeship' founded by Bulgarians and natives, whose autonomy lasted until the end of the 10th c. when it was 'conquered' by Gyula, has no scientific coverage. The existence of Christianity within this community lies under the same lack of scientific arguments. This political configuration gained shape only in the 10th c., concurrently with the Christian action. This is why we support the term 'Gyula voivodeship'. It is not reasonable to speak of a *sensu stricto* control of the Bulgarians, but rather of power upon salt transport. The latter surely came from the salt mines of Transylvania.

DESCRIPTION OF THE GRAVES¹

Grave 72

(adult male with destroyed skeleton)

A bovine skull placed on its right side with the jaw bones orientated west was placed on the north-west end of the pit. It partially overlapped the bones of the anterior limbs parallel to the end of the pit. After a thorough analysis, the conclusion was the animal remains of the skull, and the lower limbs belonged to a female specimen. Portions of the lower limbs of the bovine, together with the skull and limbs of an ovine, were deposited at the opposite end of the sepulchral pit, about 40 cm toward the south-east. The study of the bone remains (fragments of a skull, coxal vertebrae, tarsus, and metatarsus) identified a female ovine aged four to five years old. The two incomplete bovine and ovine skeletons represent the animals sacrificed during the funerary feast. Their extremities (carpus and limbs) were thrown symbolically into the sepulchral pit, representing the remains of the animal offering (Fig. 3; Pl. II: 72).

Grave 74

(adult female)

The skeleton was deposited in dorsal decubitus with the head to the west (slightly deviated to the north-west) and the legs to the east (east-south). The head with a broken braincase was leaning to the left.

¹ **Abbreviations:** MNUAI – National Museum of the Union, Alba Iulia; d. = Diameter; d.r. = Rim Diameter; d.m. = Maximal Diameter; d.b. = Bottom Diameter; h/H. = Height; thk. = Thickness; L. = Length; W. = Width.

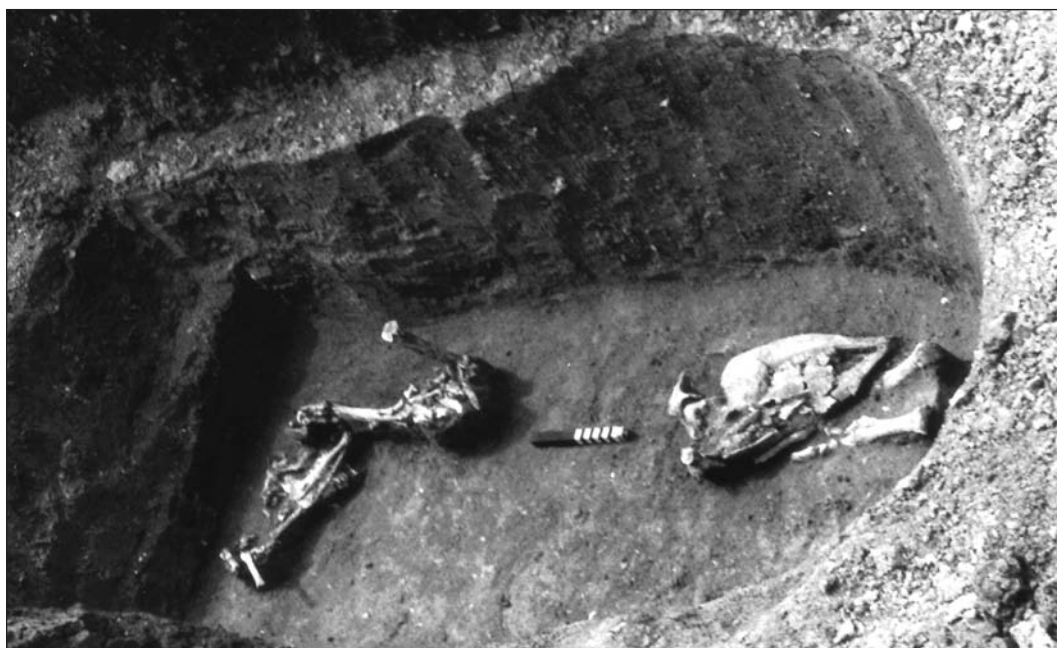


Fig. 3. Alba Iulia-Stația de Salvare. Remains of animal offering from grave 72 (photo by M. Blăjan).



Fig. 4. Alba Iulia-Stația de Salvare. General view of grave 74 (photo by M. Blăjan).

Both hands lay parallel to the body, having the palms facing the ground. The right humerus was pushed outward, with its superior end placed under the chin. The spine was arched to the right. The lumbar vertebrae were placed on the left pelvis bone, and the sacrum was vertically elevated (Fig. 4; Pl. I: 74).

The skull and limbs remaining from a bovine were found on the knees of the deceased. In addition to that, an ovine skull was spotted near her right knee, at the end of the pit. Both of the skulls presented with incipient horns on the frontal bone and had the muzzle orientated to the west or the south. Two bone fragments belonging to a swine and a fish were found 15 cm west of the female's skull, near the pottery vessels that had the rim inclined to the south. The study of the bone remains identified traces of bovine, ovine, piglet, and fish. The bovine bones (represented by the maxilla, mandible with teeth, carpus, tarsus, and phalanges) belong to a female specimen aged approximately 18 months. The ovine bones (represented by the maxilla, mandible with teeth, atlas, a fragmented femur, and a calcaneus) belong to a slightly horned female specimen aged between four to five years. The swine remains (represented by a piece of the scapula and a humerus fragment) belong to a piglet. As regards the fish remains, the traces recovered belonged to a big specimen (40–50 cm) whose species could not be identified.

Two vessels were deposited 15 cm west of the skull: one of a greyish colour (the NW corner) and the other degreased with pebble (Pl. I: 74: 1, 2). The latter had a rough look. The vessels had soil inside and presented some bones belonging to a leg of a lamb placed at their base.

1. Jar, wheel thrown, fine kaolin clay paste with a brownish core. The vessel is covered with a black polished thick slip. The pot has a flat bottom, the body is relative of short stature, having a short neck, and an oblique rim with a rounded edge. The vessel's body is decorated with oblique polished strips with a width of 0.25 cm. The strips cover almost all the surface, from the neck to the bottom, in an intersected web-like manner. The neck is decorated with horizontal polished strips (h. 14.4 cm, d.b. 9.6 cm, d.m. 15.5 cm, d.r. 11.7 cm; MNUAI F. 6567; Pl. I: 74: 1).
2. Jar made of a clayish sandy paste of slightly dark brown colour associated with large sparse pebble and presenting brown-yellowish spots on its inferior part and inside. The concave bottom has a marginal ring. The body of the vessel is strongly curved, and the short neck has its edged arched outward and obliquely cut on the top. The decoration covers the body, starting from the bottom and working through the neck area. One can observe three-four spaced grooves wide of 0.3 cm and arrange in a spiral shaped-manner on its base. They are followed on the maximal area of the pot by horizontal stripes composed of two, then three grooves climbing spirally to the area above the shoulder. Here, the whole decoration is overlapped by a strip formed of three uniform

wavy lines pointed to the left and by angular loops that surround only once the vessel (h. 142.5 cm, d.b. 6.9 cm; d.m. 14.4 cm; d.r. 1.2 cm, thk. 0.5 cm; MNUAI F. 6565; Pl. I: 74: 2). Brown slip was applied to the exterior walls.

3. String made of 13 beads (Pl. I: 74: 3–15), found under the chin of the skeleton and strung till the half of the left humerus. Only two beads are in a fragmentary state (MNUAI F. 7874):
 - a) Cassiterite (?) bead shaped like a prism with a pentagonal section, brown-greyish colour, irregular facets, and a blunt cylindrical orifice (h. 0.48 cm, W. 0.47 cm, thk. 0.45 cm, d. orifice 0.17 cm).
 - b) Truncated cone-shaped yellow glass bead with sulfur (h. 0.29 cm, d. base 0.41 cm, d. orifice 0.17 cm).
 - c) d. Two disk-shaped yellow glass beads with sulfur (h. 0.34 cm, d. 0.5 cm, d. orifice 0.09 cm; h. 0.31 cm, d. 0.56 cm, d. orifice 0.14 cm).
 - e) Pentagon-shaped blue glass bead with four spiral grooves and red traces incrustated in the paste.
 - f) Cylindrical-shaped bead decorated with seven spiral grooves initially filled with a line of yellow paste. Black glass, black enamel (h. 1.36 cm, d. 0.47 cm, d. orifice 0.12 cm).
 - g) Black glass bead with five spiral grooves initially filled with a line of yellow paste from which only isolated spots are preserved now. It presents a broken area at one end (h. 1.13 cm, d. 0.47 cm, d. orifice 0.19 cm).
 - h) Bead formed by three elements shaped like a truncated cone and made of light green glass with dark green enamel (h. 0.7 cm, d. 0.6 cm, d. orifice 0.23 cm).
 - i) Bead made of dark green spongy glass (h. 1.35 cm, d. 0.53 cm, d. orifice 0.13 cm).
 - j) Bead formed by four elements shaped like a truncated cone and made of light green glass with dark green enamel (h. 1.36 cm, d. 0.6 cm, d. orifice 0.21 cm).
 - k) Bead made of green-brownish spongy glass (h. 1.53 cm, d. 0.55 cm, d. orifice 0.18 cm).
 - l) Cylindrical black glass bead decorated with vertical grooves arranged in a spiral manner. It also presents traces of yellow paste disposed in the grooves (h. 1.62 cm, d. 0.59 cm, d. orifice 0.27 cm).
 - m) Truncated cone-shaped glass bead with dark green enamel (h. 0.39 cm, d. 0.61 cm, d. orifice 0.27 cm).
4. Fragmentary bronze piece (Pl. I: 74: 16). Two fragments from a bead-shaped made from a bronze sheet having a spherical-shaped body. The ends are blunt and the sheet is 0.04 cm thick (MNUAI F. 7860).

Grave 497 (elderly male, aged 65 to 70 years)

The relatively well-preserved skeleton was deposited in dorsal decubitus. The calotte of the skull was broken and leaned toward the left. The spine was curved toward the right side. The hands lay parallel to the body, with their palms placed on the upper third part of the femurs. The femurs were arranged in a triangle-shaped manner, having the calf extended in a parallel manner and the bone of the foot falling in their continuation. The skeleton had a length of 155 cm and long gracile bones. An arched

iron nail and boiled animal bone fragments from the filling ground were found under the left shoulder.

One jar and one amphora-shaped pitcher with two handles were deposited side by side at 20 cm west of the skull (Pl. II: 497: 1). Part of the spine, some ribs, and a shoulder (?) of ovicaprine was thrown toward the end of the pit. The skull of a sheep (lamb) with the jaws to the right (south) and the back of the neck to the north was placed at the opposite end of the pit, above the calves. The extremities of the limbs belonging to the animal sacrificed during the funerary ceremony were thrown above the feet of the deceased. The blade of an iron knife set with the tip to the east, as well as scraps of rotten wood coming from some sort of sheath, was found between the left hip and forearm. Fragments of boiled (cooked) animal bones (?) placed in a secondary position were collected from the filling ground. The study of bone remains identified portions of the skull, maxilla, and mandible with teeth, dorsal and lumbar vertebrae, and a fragment of the sacrum, as well as limbs (carpus, tarsus, and phalanges). These segments belonged to a female from the *Ovis* group aged 12 to 13 months.

1. Amphora-shaped pitcher, wheel thrown, a fine paste made of kaolin and clay, non-oxidant fired pottery, black colour covered on both inside and outside with slip, mechanically polished on the outside. The pitcher has a concave bottom, an ovoid-shaped slender body, high truncated neck with a flared funnel-shaped edge slightly arched out. Two attached handles having the form of a thick band with an oval cross-section are placed at the middle of the neck. They are making a common body with the wall at the top end and the bottom end embossed, presenting a thinned extremity. The handles are placed symmetrically and broadened in the middle, having the central part thicker. The ornamentation consists of narrow strips mechanically polished with metallic reflections, executed vertically on the neck and body of the amphora. A circular arc is engraved above the shoulder, on one side of the vessel, having the following measurements: 0.04 cm wide, with an opening of 5.56 cm, 3.8 cm high with a raised end [(h. 27.4 cm, d.b. 8.94 cm, d.m. 14.5 cm, d. base of the neck 4.94 cm, d.r. 7.58 cm, thk. of the margin (end) 0.67 cm, W. of the handle 1.8 cm (bottom)–2.3 cm (middle) and 2 cm (top), at the place where it welds with the neck)]. Portions of the rim are broken and filled with gypsum (MNUAI F. 6593; Pl. II: 497: 1).
2. Jar, slow speed wheel, made of fine sandy-clayish paste, blackish colour with brown spots on the lower half and yellow spots on the inferior side of the bottom. The bottom is concave, without a support ring. The body of the pot is truncated, the shoulder is raised towards the rim, and the neck is short. The ornament under the shoulder consists of a band of five horizontal lines overlapped in the area where the shoulder arches with two more bands of three-four wavy lines (Pl. II: 497: 2). Their small loops are distanced one from another and arched at a sharp angle. At the base of the neck, a band formed by two horizontal grooves concludes the ornamental register

of the ceramic pot. Wide spiral grooves can also be distinguished on the inner facet of the rim (h. 12.5 cm, d.b. 7.8 cm, d.m. 1.28 cm, d.r. 11.1 cm, thk. 0.56 cm; MNUAI F. 6585).

3. Fragment belonging to a strongly curved steel found near the left ear (Pl. II: 497: 3). It is made of an iron bar stricken on its four edges, having a pointed tip (h. 2.84 cm; MNUAI F. 7640).
4. Four-sided nail with a wide head (3.2 × 2.8 cm) and made of a four-sided bar (0.4 × 0.3 cm).

Grave 548

(mature adult, aged 40 to 45)

The depth 150 cm, orientation NW – SE. Trapezoidal pit (235 × 80 cm) with rounded corners. The skeleton was deposited in dorsal decubitus on the diagonal line of the pit. It had a poor state of preservation. The skull with the broken cap was tilted to the left, and the hands were extended along the body. Having a length of 160 cm, the skeleton belongs to a mature male. Grave 548 was overlapped on the south-east half by grave 527. A part of the spine with the ribs articulated in a normal anatomical position was placed in the northern corner of the pit. Some remains consisting of a skull with the calotte facing up and extremities of legs were also found in the eastern corner of the sepulchral pit. All bone segments were placed 15 cm above the human skeleton. The study of the remaining offering led to the identification of two individuals from the Ovicaprines group. The first subject was a sheep (*Ovis*), four to five years old, represented by remains of the long-horned skull, maxilla, and mandible with teeth, dorsal and lumbar vertebrae, and limb bones (carpus, tarsus and phalanges). The other few bone fragments, some of which come from the mandible, belonged to a lamb under three months old (Fig. 5; Pl. I: 548). Two ceramic vessels placed near the skull: one amphora-shaped pitcher (Pl. I: 548: 2) and one jar placed at the cranium (Pl. I: 548: 1).

1. Jar, slow speed wheel, made of a sandy-clayish paste of brown-blackish colour with brown-reddish spots on the outside and brown-yellow spots on the inside. The concave bottom presents marginally a 0.28 cm wide ring. The body of the jar has a curved shoulder, short neck, and bandy rim, arched horizontally and blunted inside. Its margin is obliquely flattened out and is provided with a circular groove. The decoration starts from the bottom and continues up to the base of the neck. It consists of strips of two 0.2 cm horizontal grooves surrounding the ceramic pot in a spiral-like manner approximately 18 times. This jar is placed on the right side of the skull (h. 16 cm, d.b. 8.7 cm, d.m. 15.6 cm, d.m. 12.14 cm, thk. 0.6 cm; Pl. I: 548: 1).
2. Amphora-shaped pitcher, wheel thrown, made of fine clay paste, oxidant firing category, red-brownish walls covered on both sides with a mechanically polished



Fig. 5. Alba Iulia-Stația de Salvare. General view of grave 548 (photo by M. Blăjan).

brown slip. Narrow vertical strips cover the base of the neck and descend toward the bottom. The bottom is concave, without a marginal ring, ornamented with an embossed arc with a diameter of 2.9 cm. Two diameters cut by another two diameters are inscribed in the circle. One of the diameters forms a swastika, which extremities are bent in the opposite direction and doubled by two bars which form with the circle an isosceles trapezoid. Fingerprints imprinted in the soft clay can be observed on the bottom of this amphora-shaped pitcher. The upper part of the rim is broken from the level where the handles are added. The handles form a wide band that makes a common body with the neck of the amphora in its upper part, and it is embossed on the shoulder of the vessel. The body is decorated with a blackish slip or, at times, with a polished strip. This amphora-shaped pitcher is placed near the skull (h. 23.8 + 2.9, approx. 26.7 cm, d.b. 9.2 cm, d.m. 15.4 cm, d. at the base of the neck 4.3 cm, thk. of the handles and rim 0.8 cm, W. at the base of the handles 0.24 cm, and at the middle 2.47 cm, thk. of the handles 1.1 cm; Pl. I: 548: 2).

3. Fragmented bronze button composed of a spheroidal globe constructed of two hemispheres that are glued together (Pl. I: 548: 3). Thick walls measure 0.06 cm. The broken handle consists of a bronze wire (0.14 cm) curved in a circle-shaped manner, fastened to the upper hole by a looped rod. The loop of the rod was strengthened with a ring made of wire that braced the edges of the upper hole. About 1 / 3 of the sphere and the fragmented handle are still kept (MNIAIF. 7771).

Grave 551

(mature woman) found below grave 520

The skeleton was placed on dorsal decubitus, and both hands were extended parallel to the body. Some glass beads were found near the abdomen area of the body. On the left side of the head, the following was observed: a blade of an iron knife, placed with its tip to the west-northwest, two fragments of a rusty iron bark, and a diaphysis of an animal. A vessel orientated with the rim up was placed above the skull, and an amphora-shaped pitcher of reddish-orange colour orientated with the rim toward the legs was deposited on the right side of the skull. The 151 cm skeleton belongs to a mature woman that appears to have been constitutionally robust. Grave 551 is overlaid by grave 520 (adult-mature woman) that dates back from the 10th c., as the relevant inventory indicates (Pl. IV: 551). Three iron shackles with wooden remains were found to the left of the skull. This fact indicates that the shackles belonged to a corner of the coffin. A lamb skull with the back of the head orientated towards east-southeast and the muzzle orientating west-northwest was placed in the left corner of the sepulchral pit, at the end of the left heel of the deceased. This was the exact same place where the four legs of the sacrificed animal were deposited in piles, one next to each other. The offering included remains of the skull, jaw, and mandible with teeth, the atlas, and the extreme parts of the legs (carp, tarsus, and phalanges). The female belonged to the *Ovis* group and was approximately 20 months old.

1. Amphora-shaped pitcher, wheel thrown, made of fine clayish paste, oxidant incomplete firing category. The walls have a grey core and reddish-yellow facets (Pl. IV: 551: 15). The vessel has a concave bottom, an ovoid-shaped body with a spheroidal-shaped middle, and a truncated cone-shaped neck. The upper part is broken, and the lower part is exfoliated. The handles are made of a thick band that presents an oval cross-section, fastened with one end on the middle part of the neck and the other pasted above the middle of the ceramic pot. It has a thinned and conical extremity, arched toward the outside. One of the handles is broken. The amphora-shaped pitcher is covered with polished reddish-orange slip and black spots of burnt organic matter (h. 18.9 cm, d.b. 7.68 cm, d.m. 13.3 cm, d.r. 4.3 cm, W. handle 2.15 cm,

thk. handle 1.74 cm, thk. of the wall 0.65 cm). It is placed on the right side of the skull.

2. Jar, placed above the head. Ceramic pot made of clayish-sandy paste, non-oxidant firing, black colour with brown spots on the body. The concave bottom of the jar has a wide marginal ring of 0.41 cm. The decoration occupies the body of the jar from its bottom to the base of the neck and consists of 18 spiral grooves placed at different distances one from another at a width of 0.27 cm (Pl. IV: 551: 16). All of them were most likely executed using the pointed tip of a stick (h. 18 cm, d.b. 8.25 cm, d.m. 14 cm, d.r. 11.2 cm, thk. 0.54 cm).
3. Knife blade with a broken end of the thorn, widened at its base and presenting deterioration to the edge (Pl. IV: 551: 1). The blade is thickened and it was placed on the right side of the body (h. 8.1 cm, W. 1.5 cm; MNUAI F. 7530).
4. Three iron shackles are made out of a crossbar with a quadrilateral section, and the thinned ends are sharpened and bent in the same direction forming a right or obtuse angle (Pl. IV: 551: 12–14). Their length is 3.9–4.2 cm. Placed on the right side of the body. The shackles are heavily rusty (MNUAI F. 7531).
5. String made of ten beads of different shapes and ornamentation (Pl. IV: 551: 2–11). It was placed on the chest of the skeleton:
 - a–f) Six black enamelled glass beads decorated with a thread of yellow paste that is wrapped around the cylindrical or truncated cone-shaped body five times (four specimens) and six times (two specimens). Three pieces have a fragmented end, one broken into two pieces (a – h. 1.26 cm, d. extremities 0.51–0.56 cm, d. orifice 0.17 cm; b – h. 1.32 cm, d. 0.52 cm, d. orifice 0.14 cm; c – h. 1.4 cm, d. 0.57 cm, d. orifice 0.16 cm; d – h. 1.24 cm, d. 0.46–0.52 cm, d. orifice 0.15 cm; e – h. 1.03 cm, d. 0.53–0.45 cm, d. orifice 0.17 cm; f – h. 1.11 cm, d. 0.61 cm, d. orifice 0.15 cm).
 - g) One tri-geminated green glass bead (h. 0.67 cm, d. 0.5 cm, d. orifice 0.2 cm).
 - h–j) Three cylindrical-shaped blue glass beads cut from a pipe/cylindrical cross bar (h – h. 0.31 cm, d. 1.15 cm, d. orifice 0.12 cm; i – h. 0.53 cm, d. 0.51 cm, d. orifice 0.09 cm; j – h. 0.4 cm, d. 0.63 cm, d. orifice 0.11 cm).

Grave 553

(mature male, aged 45 to 50)

The skeleton was lying on its back with its hands extended along the body and had a relatively good state of preservation. The skull had a crushed calotte that fell to the right, and the mandible was disjointed and placed on the left shoulder. Parts of a lamb mandible, the skull with the broken calotte, and the legs of the sacrificed animal were placed above the right knee, at a length of 20–30 cm away from it. Three legs and the skull of a young bovine were deposited in the eastern corner of the pit, at 35–45 cm above the feet of the deceased. All these animal bone remains belonged to an individual sacrificed during the funeral ceremony and later thrown into the grave. The 148 cm long human skeleton belongs to a mature adult, probably a male. Two ceramic

pots and the blade of an oblique knife were placed at his head (Fig. 6). The knife blade was pointed to the north and was deposited above a femur of a pig, located in the western corner of the pit. The analysis of the offerings identified bone remains belonging to bovine, ovicaprine, swine, and equine specimens. The bovines were attested by the crushed remains of the skull, the upper maxilla, the mandible, the atlas, and the limb bones (carpus, tarsus, phalanges, and metapodials). The bone segments belonged to a young female about two years old. Ovicaprine was represented by a lamb of one to two months old, and the remains included two humeri, a femur, and a tibia. From this group also pertains an old Ovis female, aged over seven years, whose teeth were eroded. Fragments of the skull, maxilla, and mandible with teeth, caudal vertebrae, and bones of the extremities (carpus and tarsus) were preserved from his skeleton. The swine group integrated a whole femur from a mature specimen. The equine presence was attested by a crushed skull of a castrated horse about 14 years old. Two jars placed near the head and slightly inclined to the southeast (Pl. II: 553: 1, 2), one knife with the blade pointing north and placed in an oblique manner above a femur of a pig in the western corner of the pit.

1. Jar, slow speed wheel, made of fine sandy-clayish paste, non-oxidant firing category, blackish colour with sparse brown spots and slip on both surfaces. There are leftovers and large patches of charred crust on some portions of its shoulder and the inside of the vessel. Those findings are scraps from the food prepared in the kitchen ceramic pot. The decoration covers the entire body of the jar, divided into two registers: a register (W. 6.1 cm) of horizontal incised lines (W. 0.13 cm) disposed of in the lower region of the ceramic pot, starting from the bottom and working up to the shoulder. It is overlapped by another register composed of four bands of six–seven wavy lines that intersect, forming the ‘eyes’ motif. This important piece of ornamentation is frequently incised, having wide waves and arched loops. The wavy strips can be observed starting on the shoulder of the jar and ending at the base of its neck (h. 16.07 cm, d.b. 7.85 cm, d.m. 13 cm, d.r. 11.56 cm, thk. edges 0.72 cm; MNUAI F. 6587; Pl. II: 553: 2).
2. Jar, wheel thrown, made of fine sandy-clayish paste, blackish colour with brown spots on both its surfaces. A bovine head could be observed near the head. The concave bottom has a 0.35 cm wide marginal ring. The jar has an ovoid-shaped body without a neck, and a short rim blew back outwards and hinged on the inside. From the bottom to the shoulder, the body is decorated with strips of four horizontal lines wide of 0.1 cm. Those from the upper part of the jar are incised deeper, while the others are superficial and interrupted, the latter being rendered spirally and distanced. A strip of wavy lines with high, angular, thick loops marked abruptly to the left (the rest of them are to the right) can be observed at the base of the neck. Only 1/4 of this strip remains on the perimeter of the jar, on the rest of it being observed only one wavy line with angular upper loops, the ones at the bottom

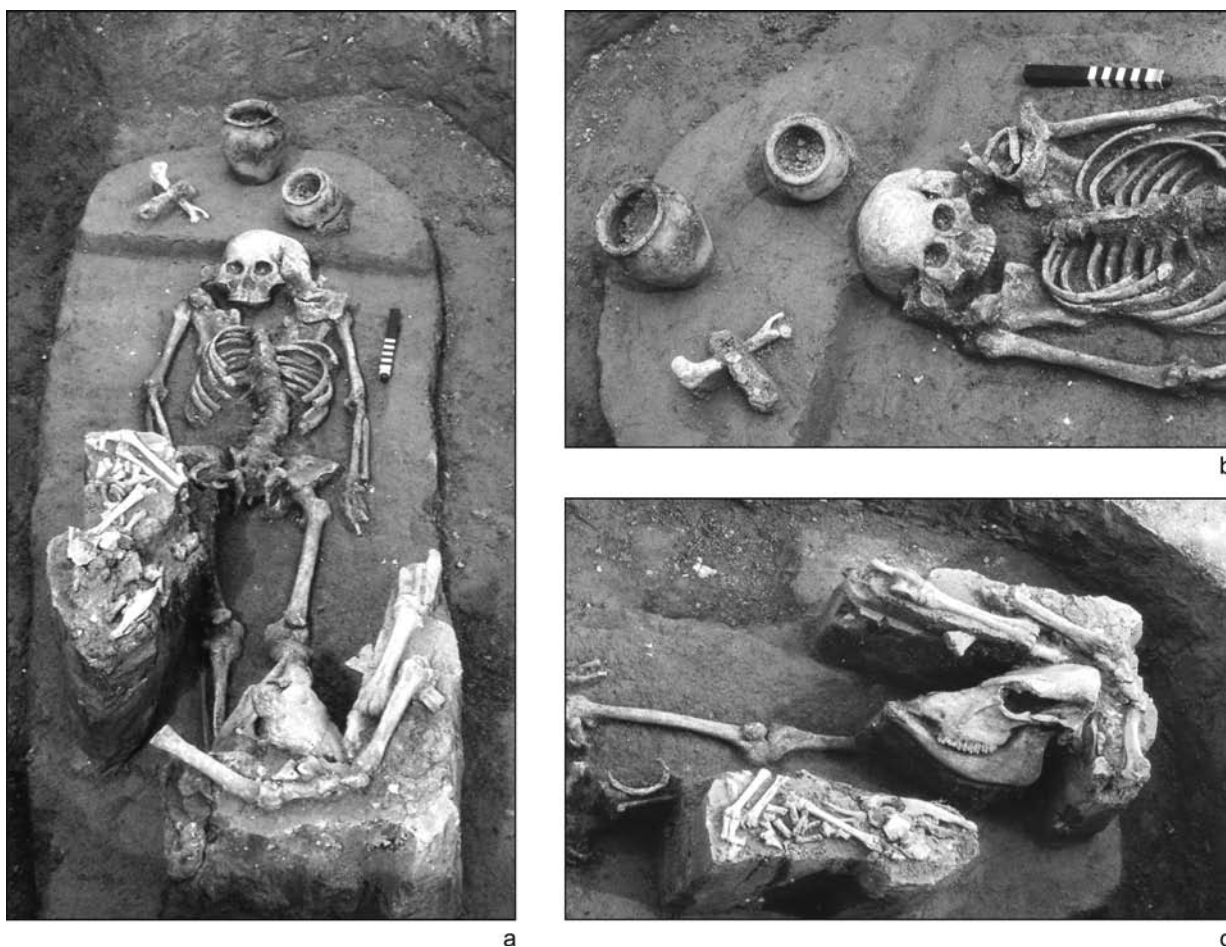


Fig. 6. Alba Iulia-Stația de Salvare. Grave 553. a – general view; b – pottery offering; c – remains of animal offering (photo by M. Blăjan).

being arched (h. 12.65 cm, d.b. 6.86 cm, d.m. 11.1 cm, d.r. 9.67 cm, thk. rim 0.43 cm; MNUAI F. 6562; Pl. II: 553: 1).

3. Iron knife blade with a thorn broken close to the base. The blade is broadened at the base (1.8 cm) and has a damaged and concave thickened edge line (0.45 cm) narrowed to the tip by arching the blade (L. 12.4 cm). It is highly oxidized and was found near the skull, placed over a femur of a pig (Pl. II: 553: 3).

Grave 558

It was located in the east wall and was partially destroyed by the water pipe ditch. The depth 160 cm, orientation WSW – ENE. The sepulchral pit was trapezoidal in shape (200 × 70 cm/W – 50 cm/E). The skeleton, deposited in dorsal decubitus, had a good state of preservation. Its skull looked up, the right hand lay along the body, and the bones of the trunk remained *in situ* with only the exception of the bones of the left hand, the collarbone, the shoulder blade and some of the ribs, and the left coxal (along with the left foot, the latter were snatched away

by the ditch of the pipe). The 172 cm long skeleton belonged to a mature male. The case of grave 558 is unique since it is missing from the general plan of the cemetery. The pit of this grave was not identified on the plan in the archaeologist M. Blăjan's archive, so it is not reasonable to modify the plan by its ulterior addition. Two vessels placed near the head: a grey one located on the left of the skull and a sandy one on its right (Pl. III: 558: 1, 2). Fragment of a knife blade whose position was not stated.

1. Jar made of sandy-clayish fine paste, wheel thrown, non-oxidant firing category, blackish colour with brown-reddish spots on the outside and on the inside, covered with slip on both facets. The body has an oval shape, arched walls, short neck, short rim blown back on the outside, blunted toward the inside and ornamented on edge with a finely incised circular line. The decoration can be observed on the entire body of the vessel: the middle of it is ornamented with a strip of four thinly incised horizontal lines with a width of 0.08 cm. The lower region is decorated with three strips of five wavy lines that are spaced apart and sometimes intersect, forming the 'eyes' motif. The shoulder of the jar is decorated with

two other strips composed of five wavy lines (h. 18 cm, d.b. 8.7 cm, d.m. 17.2 cm, d.r. 12.9 cm, thk. edge 0.72 cm, thk. walls 0.6 cm; MNUAI F. 6568?). Some portions of the body of the jar bear traces and spots of charred organic crust as a result of using it for the purpose of preparing food next to open fire. It was placed on the right side of the skull (Pl. III: 558: 1).

2. Jar made of fine clayish paste, wheel thrown, non-oxidant firing category, greyish uniform colour with slip on both facets. The bottom is not stamped. The jar is shaped in a spherical-globular manner, and it can be observed that the neck lacks. The grey slip jar is decorated with narrow vertical polished stripes from the shoulder to the bottom of the vessel (h. 15.1 cm, d.m. 13.7 cm, d.r. 12 cm, d.b. 6.5 cm, thk. edges 0.6 cm; MNUAI F. 6594). It was placed on the left side of the head (Pl. III: 558: 2).

Grave 606

Grave was at a depth of 30 cm. The contour of the sepulchral pit was unspecified and oriented with the long axis in the NW – SE direction, with dimensions of around 100 × 65 cm. The grave contained the skeleton of a fully macerated infant. Only a milk tooth (around four to seven years) from the entire skeleton remained intact and was found at the southwest end of the pit, indicating the skeleton's exhumation. Two vessels, one is a reddish amphora-shaped pitcher with two handles (Pl. V: 606: 2) placed at the southeast corner of the pit, and the other is a greyish-black jar decorated with wavy lines on its body (Pl. V: 606: 1). Both of them are leaning toward southeast.

1. Broken and restored jar, wheel thrown, sandy paste, blackish colour on the outside (secondary burning), and reddish-brown colour on the inside. The jar has a concave bottom with a 0.3 cm wide support ring, a strongly curved, truncated short cone-shaped body, a short neck, a short rim, obliquely blown back and cut sideways. The body of the vessels is decorated with four strips of four wavy lines. They are irregularly drawn and sometimes intersect and form the 'eyes' motif – Dridu culture (h. 11.1 cm, d.b. 5.7 cm, d.m. 11.6 cm, d.r. 10 cm; MNUAI F. 6580; Pl. V: 606: 1).
2. Amphora-shaped pitcher, sandy paste, wheel thrown, reddish colour, non-oxidant firing category. Its concave bottom presents the negative of a cross-shaped stamp printed in a soft paste. Two handles with a triangular cross-section are symmetrically hooked to the base of the neck, leaning to the shoulder of the vessel (h. 20.4 cm, d.b. 7.8 cm, d.r. 5.3 cm, thk. 0.6 cm; Pl. V: 606: 2).

Grave 607

The grave was at a depth of 146–180 cm, with orientation WNW – ESE. The sepulchral pit had a trapezoidal shape (115 × 60 cm/WWN–50 cm/ESE) and rounded corners. The skeleton belonged to a child and was partially destroyed. Only the

crushed skull with a damaged calotte leaning to the left was preserved (Pl. III: 607). The bone remains pertain to a girl aged below five to six years. Pieces of charcoal could be observed in the filling ground at different depths. This phenomenon was observed in the majority of the graves. A string of beads was found around the neck of the deceased. Two vessels and an animal offering consisting of ovine remains of legs and two skulls were placed near the head. A femur of a pig was placed in the space between the two vessels. The legs and the two skulls of an ovine were placed in a row on the east-southeast half of the pit, on its north-east edge at a depth of 135–146 cm. The analysis of the animal bone remains identified a minor horned specimen aged between eight to nine months and a five-year-old female specimen.

1. Amphora-shaped pitcher, wheel thrown, clayish-sandy fine paste, grey core, and blackish colour on the outside with reddish spots on the shoulder and the bottom (Pl. III: 607: 2). The vessel is covered with a mechanically polished black slip. The bottom is concave and presents an embossed cross executed toward one surface edge by crossing two diameters. Two handles have an oval cross-section and are symmetrically attached to the body, with one end on the middle part of the neck and the other resting on the shoulder of the pot. Narrow vertically polished strips can be distinguished on the neck and on the body of the jar (h. 9.93 cm, d.b. 4.6 cm, d.m. 4.85 cm, d. neck 3.8 cm, d.r. 4.3 cm, thk. 0.59 cm, W. handles 0.8 cm; MNUAI F. 6576; Blăjan 2006, 27, fig. 7; Cosma 2011, 147, pl. 17: 73).
2. Jar, slow speed wheel, paste degreased with sand and pebbles, reddish on its inferior half, brownish-black on its superior area where one can observe, both on the inside and the outside, traces and pieces of rinds coming from the charred organic crust (Pl. III: 607: 1). This presence indicates that food was prepared in the vessel. The jar has a slightly concave bottom, in which a lot of sand and pebbles have been transferred from the wheel. It has an ovoid-shaped body, a pronounced neck, and a high edge arched outwardly with a rounded part provided inside with an S-shaped incision and traces of carbonized food. The decoration covers the body of the vessel from the bottom to the base of the neck and consists of five strips of incised lines in the lower half, horizontally (two), and wavy (three) in the upper half. The waves are short and 0.16 cm wide, with the strip width of 0.9 cm (h. 1.46 cm, d.b. 8 cm, d.m. 1.34 cm, d.r. 11.33 cm, thk. 0.74 cm; MNUAI F. 6588).
3. String composed of nine beads (MNUAI F. 6631; Pl. III: 607: 3):
 - a) One disk-shaped yellow glass (h. 0.46 cm, d. 0.67 cm, d. orifice 0.23 cm).
 - b) Eight black glass beads composed of four elements grouped two by two, and one formed by five elements separated by four longitudinally perforated necks (h. 0.29–0.6 cm; double 0.61 cm; 1.29 cm; d. 0.51 cm; 0.62 cm; 0.55 cm; 0.5 cm (the big one); d. hole 0.17 cm; 0.24 cm; 0.23 cm; 0.24 cm (the big one). One of the simple black beads is decorated with three grooves that form three eighths by crossing each other and is probably filled with coloured paint (paste).

Grave 608

The skeleton was lying on dorsal decubitus, and its bones were poorly preserved. The skull had a crushed calotte, the chin falling to the left, and fragments of the right humerus and collarbone could also be observed. The other bones were destroyed. Two vessels with their rim facing up were obliquely placed to the left of the skull (Pl. V: 608: 1, 2). The child was about three to four years old, and the legs were cut off by the western end of the grave 604 sepulchral pit. Fragmented remains of maxillary teeth and bones of the limbs of an old ovicaprine were deposited on the left side of the skeleton. The animal was about seven to eight years old.

1. Jar, wheel thrown, fine sandy paste, greyish-brownish colour on the inferior side and blackish colour on the superior area. The outside walls and the edge are blackened by fire, and scraps of charred organic crust can be observed on its inside facet. The vessel has a concave bottom with a slightly protruding support ring with a width of 0.75 cm, having alveoli that were imprinted by sand granules scattered on the concave disc of the wheel. The body is medium in size, has a truncated cone shape, its neck is short, and the margin is obliquely blown back with a rounded edge, grooved on the inside. The incised decoration in the lower half consists of two strips of six horizontal incisions, overlapped by three strips of wavy incisions located in the middle area and on the shoulder of the jar (h. 14.4 cm, d.b. 7.9 cm, d.m. 13.1 cm, d.r. 11.1 cm; MNUAI F. 6556; Pl. V: 608: 2).
2. Jar, wheel thrown, fine sandy paste, grey-reddish colour with black spots on the body caused by the exposure to smoke. It is covered with a slip. The lower part of the jar is decorated with strips of fine lines that are overlapped on the shoulder by a register of wavy strips intertwined between them. They are forming the 'eyes' motif. The edge presents an alveolus fingerprinted in the soft paste (h. 10.6 cm, d.b. 6.6 cm, d.m. 12.4 cm, d.r. 9.7 cm; MNUAI F. 6579; Pl. V: 608: 1).
3. Knife blade with a broken tip and thorn (L. 0.93 cm), heavily oxidized, having the edge thick of 0.36 cm.

Grave 611

The grave was at a depth of 90 cm, with orientation NW – SE. Rectangular pit (180 × 60 cm) with rounded corners. The skeleton was lying on dorsal decubitus and had a poor conservation status. The hands were bent from the elbows and had the palms placed on the coxal bones and the sinusoidal spine. The excavation work resulted in cutting the tarsus bones. The skeleton presented a length of 132 cm and probably belonged to a male adolescent. Two vessels (Pl. V: 611: 1, 2) with the rim facing up are placed on the left side of the skull. The pots are both next to each other and are slightly inclined to the south-east.

1. Jar, slow speed wheel, brownish-blackish paste. It is decorated with frequent linear incisions overlapped on the superior area by two wavy strips forming the 'eyes' motif (h. 18.6 cm, d.b. 8 cm, d.m. 17 cm, d.r. 12.4 cm; Pl. V: 611: 2).
2. Jar, slow speed wheel, fine sandy paste with a brownish core and grey-blackish spots on its body (d.b. 11 cm, d.r. 14.5 cm; Pl. V: 611: 1). Strips composed of wavy lines were drawn on the inferior half of the pot, forming the 'eyes' motif, while four strips composed of wavy lines that were slightly curled can be distinguished on the superior area.

Grave 622

The skeleton was placed on the back and had poorly preserved bones. The head leaned to the WNW and the legs to the ESE. The skull with the broken calotte was dropped to the left. The right hand was deposited along the body and slightly curved from the elbow. The left hand was extended along the body. The spine was slightly curved to the right. Having a length of 107 cm, the skeleton belonged to a girl under ten years old. Two vessels (one greyish and the other having a grey-blackish colour and sandy paste) placed near the head of the deceased and a string of beads located on the inside area of the left elbow (Pl. VI: 622).

1. Fragmentary ceramic pot made of sandy grey-reddish paste, having blackish spots on its shoulder and bottom. The spots were a result of the exposure of the pot to fire. The jar has a concave bottom and presents decoration in the form of horizontal incised lines (h. 12 cm, d.b. 8 cm, d.m. 13.8 cm, thk. 0.55 cm; MNUAI F. 6615; Pl. VI: 622: 2).
2. Ceramic pot made of clayish fine paste, brownish core, dark grey facets, having mechanically black polished slip on it (h. 10.15 cm, d.b. 9 cm, d.m. 14.6 cm, d.r. 119 cm; Pl. VI: 622: 3).
3. String of 52 beads placed near the right shoulder of the skeleton (Pl. VI: 622: 1):
 - a) Disk-shaped ceramic bead with red-brown enamel (h. 0.32 cm, d. 0.56 cm, d. orifice 0.07 cm).
 - b) Eight glass beads with green enamel: disk-like truncated cone-shaped (six), geminate (one), or with geminate segments (one). All simple specimens came from the multi-geminated beads (h. 0.26 cm, d. 0.48 cm, d. orifice 0.26 cm/single; h. 1.22 cm, d. 0.54 cm, d. orifice 0.18 cm) light green glass.
 - c) Twenty-nine blue-inked glass beads and five disk-shaped cobalt beads were cut obliquely. Those beads were cut obliquely or perpendicularly from a slightly curved cylindrical pipe (h. 0.19–0.44 cm, d. 0.41–0.61 cm, d. orifice 0.13 cm).
 - d) A tri-geminated bead with a curved profile and obliquely cut extremities. Blue-inked colour with ribs cut longitudinally and parallel to the body (h. 1.43 cm, d. 0.65 cm, d. orifice 0.17 cm) blue-green glass with copper.
 - e) Four beads of yellow glass with sulphur: 3 disk-shaped beads and a tri-geminated one (seven)

with different dimensions [h. 0.14–0.29–0.34 cm, d. 0.5–0.57 cm, d. orifice 0.12 cm; h. 0.72 cm, d. 0.46 cm, d. orifice 0.19 cm (tri-geminated truncated cone-shaped piece)].

- f) Five truncated cone-shaped black enamelled glass beads decorated with cut grooves in four and three eight-shaped forms. Alveoli that were once filled with the yellowish-white paste can be observed in the central field (h. 0.37 cm, d. 0.5 cm, d. orifice 0.23 cm/with magnetite inclusions; h. 0.4 cm, d. 0.51 cm, d. orifice 0.23 cm).
- g) A geminated bead that presents vegetable support and is covered with yellow-green enamel that coats the successive layers of glass (h. 0.73 cm, d. 0.63 cm, d. orifice 0.12 cm).
- h) A geminated enamelled brownish glass bead (h. 0.58 cm, d. 0.45 cm, d. orifice 0.2 cm).
- i) A green beryl bead in the form of a hex-lateral prism. The thread of the string eroded the bead at one extremity (h. 2.21 cm, L. 0.6 cm, d. orifice 0.15 cm).
- j) One 'incisor' type bead made of opaque glass with inclusions of fine-granular black-brown chromite. The bead is spongy and presents black enamel. It is flattened in an ovoid-shape manner, broadened at one end and narrowed at the other (h. 1.7 cm, d. 0.84 cm, d. orifice 0.17 cm, thk. 0.48 cm).

Grave 624 (child aged six to seven years)

The skeleton was placed supine position and was in a poor state of preservation. The skull with the crushed calotte was lying to the left. The right hand was bent from the elbow and raised with the palm to the chest. The left hand was extended along the body. Having a length of 82 cm, the skeleton belongs to a child under ten years of age (six to seven years old). It is probably male. The western end of grave 624 cut a corner of grave 623 (Roman cremation grave). The bones of the limbs and the skull of a lamb (deposited with the calotte up and the jaw to the south) were thrown at the feet of the deceased. So far, it is the only grave with two ceramic pots in which egg remains appear. Some elements determine us to place it in the chronological space of interference between the two funeral horizons, or, more precisely, at the beginning of the 10th c. Two vessels placed with the rim up near the head of the deceased. One of the two has an impressed decoration, and the other one, a red amphora-shaped pitcher, is located on the WNW corner. Remains of bird egg shells were found between the two ceramic pots. Large chops of coal were observed between the femora and near the left knee. In fact, the coal remains

were present in the entire sepulchral pit. Shells of one or two eggs were placed under the amphora-shaped pitcher, and an iron knife blade could be seen between the two vessels.

1. Amphora-shaped pitcher that was broken and fully restored, fast speed wheel, fine clayish paste, red-yellowish colour with slip on its outside. Two handles are placed symmetrically, starting from below the rim, resting with the opposite end on the shoulder of the pot, this one ending in an embossed manner. The cross-section of the handles is quadrilateral and has rounded edges/corners. The body of the amphora is covered with wide grooves, and, in parts, short oblique incisions printed in soft paste can be observed. An inscription engraved in soft paste with Greek letters can be observed on one of the facets of the ceramic pot (Heitel 1994–1995, note 46).² It is engraved on the shoulder. The inscription was written slightly oblique to the left and consisted of five letters of different heights (Fig. 7).

The first letter is Π, having the bars of the legs oblique and inclined to the right (h. 0.65 cm). Its upper side is also oblique (L. 0.55 cm), and the left corner reaches an oblique bar to the right, whose length is almost 1.2 cm (Dragotă/Popescu 2021, 240, 241). Α, which is the second letter, consists of three oblique bars. The bar on the right is inclined to the left and is 0.73 cm high, the one on the base measures 0.56 cm, and the third (0.69 cm) closes the triangle. The third letter is a Π, having the parallel bars of the legs inclined to the right and the connecting top bar being oblique (h. 0.47 cm, L. of the connecting bar 0.44 cm). Due to a crack in the wall of the vessel, which has affected the rest of it, the following letter keeps the angle to the left. The reconstructed letter is identical to the one previously reported, Α. The last letter that was kept relatively well is Γ or G (?). This one consists of a long bar (0.52 cm), obliquely inclined to the right, with the lower end on the crack line. At the top end, a short oblique bar (0.25 cm) intersects at an obtuse angle from which a non-parallel short segment (0.3 cm) starts down. The letters incisively italicized with the sharp tip of a needle or knife have a width of 0.05 cm and superficially, but clearly, penetrate into the soft clay on which the slip was placed before the firing. The width of the inscription measures 3.3 cm. The letters Π Α in the front are larger, and the others are smaller and raised upwards. The text is reconstructed: Π Α Π Α Γ (Papag?) and written from left to right on the shoulder of the amphora-shaped pitcher. The inferior part of the opposite facet of the vessel is covered with a layer of red-cherry paint from the shoulder to the bottom. It is sometimes faded and forms an ornament difficult to reconstruct due to cracks and fillings with gypsum (stains), as well as due to the discoloration of the edges covered with paint (h. 23.5 cm, d.b. 8.6 cm, d.m. 13.8 cm, d.r. 4 cm; MNUAI F.).³

The inscription Π Α Π Α Γ (most likely Π Α Π Α Π Α C) should be considered a reminiscence of the name of Saint Methodius, Archbishop of Sirmium and Moravia. The presence of his name on an amphora discovered in

² This ceramic pot presenting an inscription is mentioned, but R. R. Heitel does not exclude the possibility of the inscription to be Cyrillic.

³ The location of the vessel is unknown.



Fig. 7. Alba Iulia-Stația de Salvare. The inscription of the pot from grave 624 (photo by M. Blăjan).

this well-discussed Transylvanian area can only be the prerogative of that special importance that Christian symbolism has had on the intra-Carpathian area in particular and the European area in general (*Dragotă/Popescu 2021, 244*).

2. The vessel identified on the left of the skull was broken and reconstructed to the neck level. It has a broken edge. Wheel thrown, made of fine sandy paste, incomplete oxidant firing, a reddish colour with brown or blackish spots on the maximum diameter area. The bottom is concave, with a wide support ring of 0.35 cm. The space between the bottom and the neck of the vessel is decorated with strips of four oblique incisions made with a toothed wheel, alternatively arranged to the right or the left (h. 12.7 cm, d.b. 7.5 cm, d.m. 12.1 cm, d.r. 9.5 cm; MNUAI F. 6575; Pl. VI: 624: 1).
3. Bronze cast pear-shaped bell flattened laterally. The lower half is cut in a crossed manner, gaining the shape of four lobes, one of them having a broken tip. The handle makes a common body with the bell, being flattened laterally and perforated transversely, with an embossed ring at the base. The green patina is present and has fallen in some portions of the upper part of the specimen. It was found on the right side of the body, near the right coxal (h. 1.37 cm, L. body of the bell 2.62 cm, L. 1.6 cm, L. wall 0.1 cm, L. handle 1.76 cm, thk. 0.48 cm, d. orifice 0.3 cm; MNUAI F. 7770; Pl. VI: 624: 2).
4. Rusty iron knife fragmented into two pieces. Its length is 6.7 cm, the width is 1.2 cm, and the thickness of the edge is 0.35 cm. This blade has a convex curved edge and a concave spine edge. It was found by the head (MNUAI F. 7500; Pl. VI: 624: 3; *Blăjan 2004, 56, fig. 160*).

Grave 667

The orientation of the grave was W – E. The macerated remains of a child's skeleton were the only preserved. The deceased was aged between five months to one year. The skeleton was represented by skull fragments and a piece from the diaphysis of a femur. The funerary inventory consisted of two vessels⁴ and several beads.

1. String of beads placed at the neck of the deceased (Pl. IV: 667: 2–9):
 - a) Three disk-shaped yellow glass beads (h. 0.34 cm, d. 0.57 cm, d. orifice 0.16 cm; h. 0.3 cm, d. 0.58 cm, d. orifice 0.14 cm; h. 0.35 cm, d. 0.54 cm, d. orifice 0.12 cm).
 - b) Three disk-shaped blue glass beads (h. 0.35 cm, d. 0.56 cm, d. orifice 0.12 cm; h. 0.33 cm, d. 0.56 cm, d. orifice 0.09 cm; h. 0.27 cm, d. 0.56 cm, d. orifice 0.15 cm).
 - c) One disk-shaped black glass bead. It is decorated with two grooved lines that intersect each other and form the 'eyes' motif three times. This bead is decorated in the central area with a little embossed yellowish paste (h. 0.38 cm, d. 0.59 cm, d. orifice 0.22 cm).
 - d) The extremity of a barrel-shaped bead (1/3) made of blackish glass. It is decorated with a wavy line composed of embossed yellow paste (h. 0.54 cm, d. 0.67 cm, d. orifice 0.29 cm).
2. Jar made of blackish paste with brown spots on the inside. The decoration consists of two wavy lines that are framed by strips of horizontal lines. The interior edge of the rim is decorated with a wavy strip (h. 11.1 cm, d.b. 5.6 cm, d.m. 11.8 cm, d.r. 10 cm; Pl. IV: 667: 1).

⁴ The location of the vessel is unknown.

Grave 677
(girl, aged between three to five years)

Orientation of the grave was WNW – ESE. The sepulchral pit had a rectangular shape and slightly rounded corners. The skull with the broken calotte is fallen to the left. The right hand had a forearm that was bent from the elbow and placed with the palm of the hand on the chest (Pl. VII: 677). The humerus was the only bone left in the left hand. Ribs, some vertebrae, and damaged fragments from the right shoulder blade are left from the deceased's trunk. The legs and the skull of a lamb sacrificed at the funeral ceremony were placed 6 cm above the skeleton, at the ESE corner of the pit. Two vessels were deposited near the head, at the opposite end of the pit. One of the vessels has two handles. Its rim is obliquely inclined to the east, and the other is broken, made of grey-blackish paste, with the rim facing up. A fragmentary femur and one meta-carpus of an ovine were found inside the second ceramic pot. Lamb bones (skull and legs) were placed above the girl's calves. A layer of coal was observed under these animal bones, and the indication is that it was placed there before the deposition of the bones of the lamb. The analysis of the animal offering identified two specimens pertaining to the *Ovis* group. The first ovine was a young adult and represented by teeth fragments and other extremities (carpus and tarsus). The second specimen was seven to eight years old and was represented by three superior molars, a piece of the femur, and one meta-carpus.

1. Two disk-shaped blue-cobalt beads placed by the neck (h. 0.44 cm, d. 0.64 cm, d. orifice 0.14 cm; h. 0.23 cm, d. 0.58 cm, d. orifice 0.17 cm; MNUAI F. 6626; Pl. VII: 677: 3, 4).
2. Jar, wheel thrown, with two handles, fine paste of orange colour. The bottom is slightly concave, the body short, spherically flattened, without a neck with a short and slightly arched rim having a rounded edge. The upper part of the vessel presents two symmetrical handles made from a wide strip, and the passage from the shoulder to the neck is made through a threshold. The body of the vessel is decorated with two polished oblique lines that intersect in rhombuses (h. 12.5 cm, d.m. 12.1 cm, d.r. 8.5 cm, d.b. 7.1 cm; MNUAI F. 6595?; Pl. VII: 677: 1).
3. Jar with an osteological fragment, thrown on the slow wheel and made of sandy paste with pebbles. It is friable and has a black core and yellow-brown facets with blackish spots on the inside (Pl. VII: 677: 2).

Grave 680

Skeleton of a child in a poor state of preservation. It was lying on his back with his head towards WSW and his legs at ENE. The skull was broken and fallen to the left, and the hands were extended along the body. Only the diaphysis of the long bones of the

hands, the ribs, and the left coxal was preserved from the bones of the trunk. Two vessels were placed side by side, with the rim up by the head of the deceased. A piece of coal was placed in the abdomen area (Pl. III: 680). The skeleton belonged to an infant of one to two years and had a length of 60 cm. Several pieces of coal, sometimes placed layered, were located under the bones of the lamb and the child's skeleton. The remains of a skull and the legs attested by a femur and the bones of the extremities (carpus and tarsus) of a non-adult lamb about 20 months old were observed at 10 cm above the legs of the child's feet.

1. Bent iron nail with a bevelled head (h. 9.3 cm; Pl. III: 680: 3).
2. Bent iron nail without a bevelled head (h. 7 cm; Pl. III: 680: 4).
3. Iron nail with a broken tip and oval-polygonal head (Pl. III: 680: 5).
4. Broken jar found by the head. Its lower part was reconstructed, and 47 small shreds were recovered from the walls of the body and shoulder. The vessel is thrown at the slow wheel and has sandy paste associated with larger grains of sand. The firing is incomplete and oxidant. The core is black, and the facets are brownish-blackish, with brownish-yellow spots on the bottom, as can be seen in the crack. The medium-sized jar has a concave bottom, a bi-coned shaped body decorated on the bottom with strips of wavy lines that sometimes intersect and form the 'eyes' motif (h. 6.9 cm, d.b. 9.1 cm, thk. 1 cm; Pl. III: 680: 1).
5. Fragmentary jar from which only the lower part is preserved. The is made of sandy paste and pebbles, having a brownish-black colour. Three overlapped wavy strips forming the 'eyes' motif are the only elements of decoration kept on the remaining body of the vessel (h. 6.2 cm, d.b. 9.2 cm; Pl. III: 680: 2).

Grave 685

The grave's orientation was W – E. It cut half of the sepulchral pit of an incineration grave from the Roman era (grave 684). Then a trapezoidal (220 × 100 cm/W–70 cm/E) niche was made in the south wall, where the skeleton and the inventory were introduced. The skeleton belongs to a mature man, is lying on his back, and has well-preserved bones. The skull, whose calotte was broken during digging work, looks up. The hands are extended along the body, with the left hand that has the palm on the hip. Two vessels, rim orientating up, were broken during digging work but were observed placed by the head (Fig. 8). Vertebrae and femur of a pig (?) that was most likely sacrificed during the funeral ceremony were located on the north of the larger vessel. The vessels contained boiled meat coming from the stew deposited in the pot. Near them, in the north corner of the pit, was the blade of an iron knife used for animal slaughter. They are deposited near the skull, in the niche. At the east end of the main pit,



Fig. 8. Alba Iulia-Stația de Salvare. Grave 685 with niche (photo by M. Blăjan).

a lamb skull and its feet were thrown into the pit. The mouth of the pit was covered at – 40 cm with a dense layer of fragmented Roman bricks, placed side by side on a surface of 170 × 50 cm. Osteological remains belonging to the animal offering were placed near the ceramic vessels. The limbs and the skull of a lamb/ovicaprines were placed at the eastern end of the tomb, at the bottom of it.

1. Ovoid-shaped ceramic vessel, wheel thrown, made of sandy paste, decorated on the body with thick horizontal stripes (h. 17.3 cm, d.b. 6.7 cm, d.r. 11.5 cm; MNUAI F. 6755; Pl. VII: 685: 1).
2. Broken cup, slow speed wheel, made of fine sandy paste. It has a black core and brown facets, with black spots and scabs and remains of organic crust on the body and rim. The vessel has a concave bottom, an ovoid-shaped body with a bulging maximal area, a short neck, a short rim, obliquely arched with a flattened edge. It is decorated inside with two concentric grooves. The handle with the oval section is hooked to the rim and rests on

the shoulder of the cup. The broken handle socket and the bulging part of the rim are preserved. The body of the vessel is decorated with three strips of wavy lines at the top and a simple wavy line towards the bottom. The strips have high waves, spaced apart, with arched strips drawn irregularly (h. 13.4 cm, d.b. 6.3 cm, d.m. 13.6 cm, d.r. 10.8 cm; Pl. VII: 685: 2).

3. Iron knife (L. 9.7/1.5 cm; MNUAI F. 7788; Pl. VII: 685: 3).

Grave 715 (child, three to four years old)

The grave was at a depth of 150 cm with orientation W – E. Rectangular pit (145 × 55 cm) with rounded corners. The skeleton was lying on its back, and the state of preservation of the bones was rather precarious. The skull was fallen to the left, and the calotte was broken. Only the humerus was preserved from the left hand, and the right one was bent from the elbow and placed with the palm on the right coxal. Only a few ribs and the right coxal remained from the bones of the trunk (Pl. VIII). The legs, placed parallel, are represented by the diaphysis of the long bones. A lamb/ovicaprines skull (six to seven months), with the jaws orientating west, the neck east, and the bones of the limbs (carpus, tarsus, and femur) were placed above the left calf, at 20–30 cm away from it. Two vessels were placed by the head: one with two handles with the rim orientated up and the other with a thick paste, inclined towards the skull and containing the end of a femur of a boiled pig. This pertained to the stew placed in the vessel. The skeleton belonged to a child aged three to five years and was 78 cm long. The sepulchral pit of grave 715 is 100 cm south of grave 685, being parallel with it.

1. Ceramic vessel with two handles, wheel thrown, made of fine clayish paste with a polished black exterior. Stamp: eight-spoke wheel (h. 14.4 cm, d.b. 8.34 cm, d.m. 15.2 cm, d.r. 10.6 cm; MNUAI F. 6735; Pl. VIII: 1).
2. Jar, fast speed wheel, made of sandy paste, a reddish colour with black spots. The vessel has a concave bottom, a bi-coned shaped body, a short neck, and an edge arched outside, with the oblique and grooved margin. The incised decoration from the lower third to the base of the neck contains a register of continuous grooves arranged in a spiral (h. 13.5 cm, d.b. 7.4 cm, d.m. 13.6 cm, d.r. 11.7 cm; MNUAI F. 6592; Pl. VIII: 2).
3. Bronze earrings (d. 2 × 2.1 cm; MNUAI F. 7731–7732). Round-oval earring (2.2 × 2.25 cm) made of bronze, with a 0.12 cm thick wire and disjointed ends. The upper half of the earring is composed of a single wire, and the lower half has a loop formed around a wire, 0.3 cm wide, with a diameter of 0.28 cm. Another loop is arranged symmetrically and diametrically opposite to the first, marking the place of the union of the two semicircles. Each loop consists of three–four spirals of tight wire around the handle (Pl. VIII: 6). The lower part of the earring is decorated with a motif consisting of three spherical grains arranged on the wire, one on its

inside, one placed sideways, and one in the lower part. A dark-green patina can be observed.

4. Oval bronze earring (2.2 × 1.9 cm), a 0.15 cm thick wire, and disjointed ends. At the bottom, the wire of the handle penetrates through the upper part of a bi-truncated cone-shaped ellipsoid with the spheroidal body (0.74 cm) finished in the form of a spiral (spiral ellipsoid). This ornament, fragmented and deformed, was made of a bronze sheet by casting it (Pl. VIII: 7).
5. String of beads (Pl. VIII: 3–5):
 - a) Three black glass beads, longitudinally perforated (Pl. VIII: 3, 4).
 - b) Cylindrical bead composed of four elements separated by three necks (h. 1.2 cm, d. 0.55 cm, d. orifice 0.24 cm; MNUAI F. 6673; Pl. VIII: 5). A bead identical in shape with the previous one, but fragmented into two parts composed of two elements (h. 1.06 cm, d. 0.59 cm, d. orifice 0.27 cm).

ELEMENTS OF THE RITE AND FUNERARY RITUAL

The orientation of the dead and the sepulchral pit was different:

- W – E: graves 74, 497, 608, 624, 667, 685, 715.
- WSW – ENE: graves 558, 680.
- WNW – ESE: graves 551, 607, 622, 677.
- NW – SE: graves 72, 548, 553, 611.

Leaving aside the fact that the W – E orientation could suggest a Christian approach, it must be kept in mind that from seven graves, six had animal offerings deposited in the pit (graves 74, 497, 608, 624, 685, 715). The case of grave 667 could be considered atypical due to the lack of offerings. Nevertheless, it must be noted that the decoration and the dimensions of the amphora-shaped pitcher present quite close analogies with the ones chronologically pertaining to the 10th c.

The W – E orientation prevails in the graves pertaining to the 1st horizon (25 cases). The NW – SE orientation follows in the statistics (13 cases; *Ciugudean* 2011, 120).

The position of the arms presents different variations:

- Both arms along the body (graves 74, 497, 548, 551, 553, 622, 680), with the left palm placed on the hip (grave 685).
- Palms of the hands on the hips (grave 611).
- Right hand raised with the palm of the hand facing the chest and the left hand along the body (grave 624).
- Right hand along the body and unknown position of the left hand (grave 558).
- Right hand with the palm rested on the chest and unknown position of the left hand (grave 677).

- Right hand with the palm rested on the hip and unknown position of the left hand (grave 715).
- Unknown position of the arms (graves 72, 606, 607, 608, 667).

Animal offerings were identified in almost all graves, except for five sepulchral pits (graves 558, 606, 611, 622, 667; Tab. 1). The offerings consisted of:

- Eggs in a child's grave (grave 624; *Dragotă* 2019b, 88).
- One skull and remains of ovicaprine in men's graves (graves 497, 685), in women's grave (grave 551), and lastly, in children's graves (graves 608, 624, 677, 680, 715).
- Two skulls and remains of ovicaprine (grave 74) in a grave belonging to a mature woman (grave 548) and in a grave belonging to a girl (grave 607).
- Two skulls, one of an ovicaprine and one of a bovine, along with other osteological remains only in mature men's graves (graves 72, 553) and in one grave belonging to a mature woman (grave 74).

The deposition of the combined ovicaprine and bovine offerings (grave 72) was located in the NW (bovine) side and the SE (ovicaprine) corner of the pit. Remains belonging to a bovine were deposited on the deceased's feet within grave 553. The same grave contained lamb remains deposited above the right knee of the skeleton.

The two skulls and other ovine remains were deposited by the feet (graves 74, 607) and near the deceased's left heel (grave 548). The association between egg offering and ovicaprine remains was only seen within grave 624, one of the necropolis's most interesting graves. It could be dated, with the best certainty, at the end of the 1st horizon, or it could most likely transition to the 2nd horizon (alongside graves 607, 715). We will not focus on the offerings of eggs and chicken as we have recently made a deepened analysis in a related paper (*Dragotă* 2019b).

Remains of the funeral ceremony and of animal offerings were identified in graves at Blandiana A. Grave 4 contained an ovicaprine mandible deposited by the feet, and grave 5 presented a skull of an ovicaprine also placed by the deceased's feet. Skull and osteological remains of an ovicaprine were deposited above the feet of the skeleton in the filling ground of the sepulchral pit (*Anghel/Ciugudean* 1987, 187, 188). A special case was that of grave 2, in which a skeleton of a horse, a second equine skull, and skeletal remains of an ovicaprine and a bovine were placed in the sepulchral pit (*Anghel/Ciugudean* 1987, 179, fig. 4: 1). Another interesting example regarding this subject is offered by the cemetery from Sultana, dated in the second half of the 9th c. and the first half of the 10th c. Within this sepulchral area, chicken and

Tab. 1. Alba Iulia-Stația de Salvare. Graves belonging to phase I. Discoveries made between 1980 and 1981.

Grave	Animal offering	Pottery	Knife	Beads	Rings	Shackles	Nails	Bell	Steel	Bottom
72	bovine, ovine	–	–	–	–	–	–	–	–	–
74	ovine	2	–	13	–	–	–	–	–	–
497	ovine	2	1	–	–	–	–	–	1	–
548	ovine	2	–	–	–	–	–	–	–	1
551	lamb	2	1	10	–	3	–	–	–	–
553	bovine, ovine	2	1	–	–	–	–	–	–	–
558	–	2	1	–	–	–	–	–	–	–
606	–	2	–	–	–	–	–	–	–	–
607	ovine	2	–	9	–	–	–	–	–	–
608	ovine	2	–	–	–	–	–	–	–	–
611	–	2	–	–	–	–	–	–	–	–
622	–	2	–	52	–	–	–	–	–	–
624	eggs	2	1	–	–	–	–	1	–	–
667	–	2	–	8	–	–	–	–	–	–
677	lamb	2	–	2	–	–	–	–	–	–
680	lamb	2	–	–	–	–	3	–	–	–
685	lamb	2	1	–	–	–	–	–	–	–
715	lamb	2	–	3	2	–	–	–	–	–

egg remains placed near the ceramic pot were discovered in grave 3 and grave 6 (Mitrea 1961a, 534). The excavations in 1959 at Sultana brought to light inhumation graves that contained remains of eggs, birds, and ovine skeletons. These offerings were deposited on the feet, the knees, and the skull area. In addition, remains of coal were identified under the deceased's skull and on the bottom of the sepulchral pit and were linked to the ritual in which the deceased was purified (Mitrea 1962, 668). The sheep and ovicaprine offerings are represented by different osteological remains (skull, shoulder blade, metapodials, meta-tarsus) and are present in adults' and a child's grave (graves 98, 83, 71; Mitrea 1988, 123). Suppose the two groups (the North-Danubian and the South-Danubian) had some common characteristics (bi-ritualism, ovine offerings). In that case, the remains of chicken (bird) and eggs are particular to the North-Danubian one (Mitrea 1988, 107). Egg offering was identified in urns with cinerary remains at Satu Nou (Mitrea 1961a, 537), and at Obârșia-Olt, bird, and eggs remains were also present (Toropu/Stoica 1972, 165, 166).

The skull and remains of an ovicaprine were deposited on the calves and by the feet (graves 497, 624, 677, 680, 715), on the left of the skeleton (grave 608), near the left heel (grave 511), at the end of the pit, and in the area of the feet (grave 685).

The animal offerings (ovicaprines, bovine, horse) were placed by the head and/or by the feet within the graves excavated during 1981–1985, sometimes after the partial filling of the sepulchral pit (Ciugudean 2011, 122). Remains of sheep offering deposited on the left side of the feet are mentioned in the double grave (adult and child) from the Sebeș area. It was discovered in 1865 by Fr. Schuster, and his funerary inventory consisted of an iron knife (placed by the right arm) and two vessels deposited by the deceased's head. One of these pots was grey and the other brownish. A second iron knife appeared in the same context, but information about his provenance is lacking (Horedt 1951, 202, 203; Chișvași-Comșa 1960, 69, 70; Simina 2002).

Eighteen graves that can be attributed to the 1st horizon were discovered during the excavations that took place between 1980 and 1981 (Fig. 2; Tab. 1). The most numerous graves are those belonging to children (graves 606, 607, 608, 624, 667, 677, 680, 715) and young adults (grave 611, 622?).

Graves belonging to men follow in the statistics (graves 72, 497, 553, 558, 685), and the last place goes to women's graves (graves 74, 548, 551). All sepulchral pits (with only one exception, grave 72 that was destroyed) contain two vessels that were always deposited by the skull but in different positions:

- Both on the calvarium area, placed one next to each other (graves 74, 497, 553, 622, 677, 685).
- Both are placed on the left of the skull (graves 608, 611).
- Both are placed on the right of the skull (grave 551).
- One placed on the left and the other on the right of the skull (graves 548, 558, 607, 624, 715).
 - Unclear placement (grave 606).

The following ceramic categories could be observed from the perspective of pottery characteristics (firing, paste, decoration):

- Incised pottery (incisions/horizontal strips, wavy lines) made from coarse paste, oxidant firing.
- Pottery made of fine paste and sometimes polished:
 - Fine grey pottery, non-oxidant firing with/without polished decoration.
 - Fine yellow-reddish pottery, oxidant firing.

The already mentioned categories of pottery were placed within the sepulchral pits in the subsequent combinations:

- Amphora-shaped pitcher with a decorated jar made of reddish paste (graves 497, 548, 606, 607, 624).
- Both jars are decorated and made of reddish paste (graves 553, 608, 611, 680, 685).
- Grey jar with/without decoration and handles with a reddish specimen (graves 74, 558, 622, 677, 715).

The association between the vessels from grave 667 is not accurately known because the second ceramic pot is fragmented. Stamps appear on the amphora-shaped pitchers (grave 548, 606, 607) and on one grey jar with two handles. This potter's stamps are represented by the cruciform motif (type 4.A; *Cosma 2011*, tab. 55), the circle with eight spokes (type 1.G; *Cosma 2011*; tab. 55), and some other kinds of complex decoration. The circle with eight spokes placed on the central area of the bottom of the vessel- appears within the same horizon in XV/ grave 44 at Alba Iulia-Stăția de Salvare.

The orientation of the deceased on the W – E axis and placement of the arms along the body (with one exception grave 4) are two characteristics encountered at the synchronous necropolis from Blandiana A. In addition, a series of observations made at Blandiana A is certified by the graves belonging to the 1st horizon from Stăția de Salvare. Thus, except grave 8, at Blandiana A, the vessels were deposited by the head. Two reddish jars were identified in grave 7. In contrast, in all the other graves, the following association was identified: one incised jar with a vessel made of grey or fine yellowish paste. Therefore, vessels made of fine paste do not appear to be associated in the same funerary complex (*Anghel/Ciugudean 1987*, 190; *Ciugudean/Anghel 1993*).

Amphora-shaped pitchers are provided with two handles and occasionally present some signs that are incised (graves 497, 548, 551) or stamped (graves 548, 606, 607). Almost all specimens are simple, without decorative elements on the body. The exception makes grave 497, in which a polished amphora-shaped pitcher is deposited. The incisions appear on the shoulder of the vessels in graves 497, 548 and 551. The incision sign from grave 497 is partially similar to one observed on the vessel within grave 30/XXXV from Alba Iulia, the only difference being that the first one is represented upside down (*Ciugudean 2007*, 246, pl. IV: 4). Another characteristic is represented by the mass of clay that appears at the base of the handles (graves 606, 607). It is shaped like a flattened pill (graves 497, 548) or like a conical bulge (grave 551). The same conical mass is encountered at Sultana (*Fiedler 1992*, 449, pl. 40: 1, 2), Blandiana A (*Anghel/Ciugudean 1987*, 189, no. 3, fig. 3: 2 a, b; *Ciugudean/Anghel 1993*, 361, fig. 2: 4; *Cosma 2011*, 162, pl. 162: a, b; *Horedt 1958*, 116, 117, fig. 34: 6, 6a; 1966, 267, no. 14, fig. 6: 4, 4a) and also at Pliska. The vessels from Pliska are dated at the end of the 8th c. and the beginning of the 9th c. (*Henning 2007*, 682, fig. 118; 119). The sign mentioned above appears in grave 5 at Sultana, where it is associated with a coarse jar decorated with wavy lines that overlay horizontal incisions (*Mitrea 1961a*, 534, fig. 3: 2, 3). The combination of a coarse jar with the same decoration and an amphora is also seen at Sultana, in grave 45 (*Mitrea 1962*, fig. 2: 2, 2a; 3: 2, 2a).

The grey jars without handles and also the globular and spheroidal grey jars are undecorated (grave 622) or have network polishing decoration that forms rhombuses (grave 74) or narrow vertical strips, polished from the shoulder to the bottom (grave 558). Specimens without decoration and decorated in a network-like manner were discovered in other graves from Alba Iulia-Stăția de Salvare on the occasion of the research carried out during 1981–1985 (*Ciugudean 2007*, 247, pl. III: 1, 2). The grey jar and the polished 'network' decorative element from grave 74 have their analogies at Alba Iulia (*Ciugudean 2007*, 246, pl. III: 1; *Cosma 2011*, 150, pl. 27: 112) but also in grave 44 from Sultana, being placed at this chronological horizon (*Fiedler 1992*, 448, pl. 39; *Mitrea 1962*, 670, fig. 2: 3). From a typological point of view, M. Comșa places this type of vessel decorated in the manner mentioned above within phase II of the Balkan-Danube culture, dated between the end of the 9th c. and the beginning of the 10th c. The discoveries from Blandiana A are integrated into this phase (*Comșa 1963*, 110, pl. II). Shape, close dimensions, and the polished 'network' decoration forming rhombuses found on a specimen identified at Blandiana A in 1955 (*Cosma 2011*, 152, pl.

31: 130; *Horedt* 1958, 116, no. 3, fig. 34: 5; 1966, 267, no. 15, fig. 6: 6). This decorative element covered only the upper part of the body of the vessels and was also identified on a pot discovered in 1943 (*Cosma* 2011, 151, pl. 28: 11; *Horedt* 1951, 192, 193, no. 1, pl. IX: 11; 1958, fig. 32: 10; 1966, 266, no. 3, fig. 5: 3). Shreds of grey paste with polished network decoration appear in the settlement of Garvăn (Dinogetia), where they are dated at a 10th c. horizon (*Ștefan/Barneal/Mitrea* 1957, 205, fig. 10: 1). The polished 'network' ornament forming rhombuses was also inscribed on amphora-shaped pitchers, as the specimens from Alba Iulia-Stația de Salvare 1st horizon (*Ciugudean* 2007, pl. IV: 1; *Cosma* 2011, 148, pl. 18: 80) and Blandiana A (*Anghel/Ciugudean* 1987, 187, 188, fig. 3: 4; *Cosma* 2011, 154, pl. 36: 155).

The mug from grave 622 has similarities in shape and dimensions with another specimen from Alba Iulia-Stația de Salvare/phase I (grave 44; *Ciugudean* 2007, pl. VIII: 1; *Cosma* 2011, 148, pl. 20: 86).

A version with wide striped handles made of fine reddish paste (grave 677) has a similar network decoration, which forms rhombuses. This ceramic species is complemented by the simple two-handled pot (grave 715), provided with an 8-spice stamp framed in a circle, and by the specimen in grave 622. The vessels of this kind have a height between 10.15–14.4 cm. The reddish-blackish paste vessels with which they are associated have as decoration: horizontal incisions overlaid by a wavy strip on the shoulder (graves 74, 677), strips of wavy lines that form the 'eyes' motif, and frame strips of linear incisions (grave 558), horizontal incised strips or thick horizontal incisions (graves 622, 715).

The only ceramic species that appear in the form of two specimens in the graves is the coarse one. Its colour is reddish-blackish. The decoration made of more or less frequent horizontal incisions (graves 551, 622, 680, 715) also appears on other vessels from the graves pertaining to phase I (grave 30; *Ciugudean* 2007, pl. VII: 2; grave 44; *Ciugudean* 2007, pl. VIII: 2) that was researched during 1981–1985. It is also identified at Sultana (*Mitrea* 1961a, 532, fig. 3: 1) and Blandiana A (*Aldea/Ciugudean* 1981, 148, fig. 2: 9; 3: 9). In two cases, these reddish paste vessels are associated with amphora-shaped pitchers. The other two cases are combined with grey paste vessels. The decorative elements found on vessels are the following:

- Wavy strips that form the 'eyes' motif (graves 606, 611, 680, 685).
- One wavy strip placed on the shoulder of the ceramic pot, overlapping frequent horizontal incisions (graves 75, 553).
- One-way strip placed on the shoulder of the ceramic pot, drawn over frequent horizontal incisions (graves 607, 680).

- Two wavy strips forming the 'eyes' motif placed on the shoulder of the ceramic pot, overlapping frequent incisions (grave 611).
- Wavy strips that cover the upper half of the pot and overlap strips of horizontal incisions (graves 553, 608).
- Strips of horizontal incisions framed by wavy strips (grave 667).
- Two wavy strips are framed by incised strips (grave 497).

The 'eyes' motif is observed on other vessels belonging to the 1st horizon from Alba Iulia-Stația de Salvare (*Cosma* 2011, 148, 151, pl. 19: 84; 27: 114b) and Blandiana A/M.7 (*Anghel/Ciugudean* 1987, 188, fig. 2: 7; *Ciugudean/Anghel* 1993, 361, fig. 2: 1; *Cosma* 2011, 154, pl. 37: 157).

There are cases in which the pottery was deposited on the left side of the skull (graves 608, 611).

This particular custom can be seen at Alba Iulia-Stația de Salvare (1981–1985) and Blandiana A. The decoration of these vessels is represented by wavy bands, more or less sharp, forming the 'eyes' motif and overlapping horizontal incisions that are sometimes drawn more profoundly. In the case of grave 685, one of the two vessels presents a fragment of a handle. The only vessel that has the inner rim decorated with a wavy incised strip is the specimen from grave 66. It is also decorated on the body with wavy strips that each overlap another strip of horizontal lines. The ornamentation of the inner edge with a wavy strip also appears at Alba Iulia-Stația de Salvare in grave 20 (*Cosma* 2011, 149, pl. 24: 101) and grave 10 (*Ciugudean* 2007, pl. VIII: 4; *Cosma* 2011, 149, pl. 22: 92), where both vessels are coarse and decorated. The ornamentation represented by wavy strips on the inner rim has analogies to the beginning of the 9th c. in mainland Croatia at Brodski Drenovac in grave 20 on a decorated jar with three strips of wavy lines (h. 11.5 cm, d.b. 6.8 cm, d.b. 5.2 cm). This pot was discovered on the right of the skull (*Tomičić* 2002, 136, fig. 40). Another jar with the rim decorated in the same manner was discovered in M. 1. Its surface presented three wavy strips and its dimensions are the following: h. 12.5 cm, Dg. 8.2 cm, d.b. 6.6 cm (*Tomičić* 2002, 136, fig. 27). The wavy band and the one made of horizontal rows that decorate the inner rim of the pot are also found on the pottery in the settlement of Garvăn (Dinogetia) in hovel 19a (*Ștefan/Barneal/Mitrea* 1957, 198, fig. 3: 2), at Bucov-Tioca (*Comșa* 1978, fig. 62: 4, 8, 9) and within the necropolises of Blandiana A in destroyed grave (*Anghel/Ciugudean* 1987, fig. 6: 1, 2; *Cosma* 2011, 154, 155, pl. 39: 165), grave 3 (*Anghel/Ciugudean* 1987, 187, fig. 6: 2; *Cosma* 2011, 153, pl. 35: 149) and grave 7 (*Anghel/Ciugudean* 1987, 188, fig. 2: 7; *Ciugudean/Anghel* 1993, 361, fig.

2: 1), at Nitra-Lupka (*Vlkoľinská* 2007, pl. VI: 2) and Istria/M. 44 (*Fiedler* 1992, pl. 13: 1, 1a), M. 117 (*Fiedler* 1992, pl. 19: 11, 11a) and M. 233 (*Fiedler* 1992, pl. 31: 5, 5a). These decorative elements that sometimes ornament the trim of the vessels were dated between 850 and 930 (*Cosma* 2011, 67, tab. 42.I./3–5).

The older dating of grave 551 is additionally ensured by the fact that the sepulchral pit of grave 520 overlaps it. This grave can be safely dated to the 10th c., given the position of the ceramic pot (near the right calf), the dimensions, and its decoration. As for the jar with a broken handle from M. 685, it is possible to mention an analogous specimen with only one handle in hovel no. 6 from Bucov-Tioca (phase II). It is dated to the middle of the 9th c. (*Comşa* 1978, fig. 55: 3).

The knives appear in graves with remains from an ovine (graves 497, 551, 685; Tab. 1) and from a bovine and an ovine (grave 553). In one case, the knife appears in a child's grave but is associated with an egg offering (grave 624) and can be dated to the beginning of the 10th c. The knife appears in 20 graves in the research carried out between 1981 and 1985. The positions of their identification are various: near the shoulder, near the hip, feet, or next to the head. Knives appeared in correlation with an animal offering (*Ciugudean* 2011, 123).

The bell found in grave 624 (*Dragotă* 2014, 86) is pear-shaped and undecorated. It can be placed between the characteristic specimens of the beginning of the 10th c., dating also assured by the jar decorated using a wheel. This undecorated pear-shaped variant of the bell is present in the archaeological discoveries, especially in the 10th–11th c., as evidenced by the specimens from Bijelo Brdo, graves 188, 192 (*Jovanović* 1995–1996, 89, 105, pl. II: 11a, 12), Mahovljani, grave 76 (*Jovanović* 1995–1996, 91, 105, pl. IV: 4), Voiteg, grave 7 (*Mendelet/Tănase/Gáll* 2001, 100, fig. 8) and Alba Iulia-Str. Brinduşei, grave 213 (*Dragotă* 2014, 86, fig. 46: 1). As for the bronze plate pearl discovered in grave 74, its fragmentary state does not allow us any further observations. However, it should be remembered that, at this chronological horizon, silver or bronze tri-lobbed pearls are present in the cemeteries from Obîrşia-Olt (*Toropu/Stoica* 1972, 166, fig. 5: 37), Sultana, grave 7 (*Mitrea* 1988, 111, pl. 2: 4) and Satu Nou (*Mitrea* 1961b, 555). The button found on the right of the skull in grave 548 has analogies at Alba Iulia-Stația de Salvare, 1st horizon (graves 22 and 30), Ciumbrud (*Dankanits/Ferenczi* 1959, fig. 3: 2), Istria, grave 13 (*Fiedler* 1992, 435, pl. 21: 10), Devnja, grave 119 (*Fiedler* 1992, 505, 506, pl. 104: 18), Obîrşia-Olt (*Toropu/Stoica* 1972, 171, fig. 5: 33) and Sultana, grave 131 (*Mitrea* 1988, 119, pl. 15: 4).

The shackles from grave 551 can be connected with the wooden coffin of the deceased, a fact that

is also explained by the position in which they were identified inside the grave. The use of iron shackles for the wooden coffin is attested at a chronological level close to that of grave 1/2001 (child) from Zalău-Valea Răchişorii/Palvár. Four of the specimens were found in the area of the skull and the other four in the region of the feet (*Băcuet-Crişan* 2015, 37, 48, 49, cat. 9–16, fig. 10). The iron nails from grave 680 are similar to those found in the incineration cemeteries at Razdelna, grave 208 (*Fiedler* 1992, 483, pl. 89: 5) and Devnja, grave 34 (*Fiedler* 1992, 492, pl. 96: 13). The probability of them having a certain 'symbolic role' is quite debatable and does not currently have scientific coverage. The only fragmented steel comes from grave 497. Close specimens – dated in the 9th–10th c. – were also found in the settlements from Bucov (*Comşa* 1978, 116, fig. 92: 22–24). Beads were found in graves 74, 551, 607, 622, 667, 677, and 715. Glass pieces with enamel (the most numerous) and beads made of clay or beryllium can be distinguished from the point of view of their material. The colour range is quite varied, being able to observe blue-inked, dark green, black/brown, and yellow specimens. Regarding the shape of the beads, the following variants can be distinguished:

- Disk-shaped bead made of clay with reddish-brown enamel (grave 622).
- Disk-shaped blue glass beads with cobalt (graves 551, 667, 677).
- Disk-shaped yellow glass beads with sulphur (graves 74, 622, 607, 667).
- Blunted ovoid-shaped bead made of opaque glass (grave 622).
- Disk-shaped beads made of brown/black paste and decorated with a wavy white-yellowish line (graves 622, 667).
- Disk-shaped glass beads with black enamel. Their body is cylindrical or truncated-cone shaped, and the decoration consists of a spirally-wrapped yellow line (graves 74, 511).
- Tri-geminated and penta-geminated green glass beads (graves 551, 74). The penta-geminated ones are made of blue glass with red ribs (grave 74) and black glass (grave 607).
- Bead made of green beryllium. It is shaped like a hex-lateral prism (grave 622).

Blue glass beads, black glass beads decorated with yellow paste (grave 667), and green glass beads with yellow paste inlays have analogies in grave 30 from Alba Iulia-Stația de Salvare, phase I (*Ciugudean* 1996, 12, fig. 12; 2006, 28, no. 24; 2011, 130) and Blandiana A, grave 8 (*Anghel/Ciugudean* 1987, 188, fig. 4: 4; *Ciugudean/Anghel* 1993, 361, fig. 3: 3). The disk-shaped pieces made of blue and yellow glass from graves 667 and 677 are also included at the same chrono-

logical horizon. They present similarities in grave 26 from Alba Iulia-Stația de Salvare (Ciugudean 2011, 130, 131). As for the earrings in grave 715, their fragmentary state does not allow us further discussions or observations of a chronological nature.

Sixty-eight graves were discovered during the research carried out between 1981 and 1985. Usually, two ceramic vessels were deposited in the area of the skull and next to the feet. Rarely these graves contain one or three ceramic vessels (Ciugudean 2011, 122): grave 32/S. I (1 vessel, animal offering), 51/S. I (2 vessels, knife), 1/S. II (2 vessels), 22/S. II (2 vessels, knife), 23/S. II (2 vases), 28/S. III (2 vessels, beads), 6/S. V (2 vessels), 11/S. VII (2 vessels), 22/S. VII (1 vessel, animal offering, spearhead, ring; Ciugudean 2007, 257, annex 1), 2/S. XII (2 vessels), 12/S. XII (2 vessels), 24/S. XII (2 vessels), 40/S. XII (1 vessel), 10/S. XIII (2 vessels, animal offering, knife), 31/S. XII (2 vessels), 5/S. XIV (2 vessels, animal offering, knife), 11/S. XIV (1 vessel, animal offering, pendant), 16/S. XIV (2 vessels, animal offering, knife, arrowhead), 22/S. XIV (2 vessels, animal offering, knife, earrings, beads, pendant, buttons), 31/S. XIV (2 vessels, animal offering), 32/S. XIV (2 vessels, animal offering, knife), 42/S. XV (2 vessels, animal offering, knife), 43/S. XV (2 vessels, animal offering, knife, pendant, beads), 44/S. XV (2 vessels, animal offering), 11/S. XVII (2 vessels, animal offering), 41/S. XVII (2 vessels, animal offering, knife), 11/S. XVIII (2 vessels, animal offering, knife), 10/S. XXI (3 vessels, animal offering, pendant, beads; Ciugudean 2007, 258, annex 1), 5/S. XXII (2 vessels, animal offering, knife), 16/S. XXII (1 vessel, knife), 5/S. XXXII (2 vessels, animal offering, knife), 6/S. XXXII (1 vessel, animal offering, beads), 16/S. XXXII (1 vessel, animal offering, knife, beads), 18/S. XXXII (2 vessels, animal offering, knife), 30/S. XXXII (2 vessels, animal offering, knife, buttons, beads), 8/S. XXXIII (3 vessels, animal offering, knife, stirrup, buckle, bit), 11/S. XXXIII (2 vessels, animal offering), 12/S. XXXIII (2 vessels), 15/S. XXXIII (2 vessels, animal offering, beads), 2/S. XXXIV (2 vessels, animal offering), 6/S. XXXV (1 vessel), 9/S. XXXV (2 vessels), 10/S. XXXV (1 vessel), 11/S. XXXV (2 vessels), 14/S. XXXV (2 vessels), 24/S. XXXV (2 vessels, animal offering), 25/S. XXXV (2 vessels, animal offering), 26/S. XXXV (2 vessels, animal offering, pendant, beads), 30/S. XXXV (2 vessels, animal offering, knife), 34/S. XXXV (2 vessels), 11/S. XXXVI (2 vessels), 13/S. XXXVI (2 vessels, knife, beads), 15/S. XXXVI (2 vessels, knife), 18/S. XXXVI (1 vessel, animal offering), 20/S. XXXVI (2 vessels, animal offering, knife), 24/S. XXXVI (3 vessels, animal offering, pendant), 25/S. XXXVI (2 vessels, animal offering, two knives), 26/S. XXXVI (2 vessels; Ciugudean 2007, 259, annex 1), 6/S. XXXVII (2 vessels), 10/S. XXXVII (2 vessels, animal offering, knife), 15/S.

XXXVII (2 vessels, earring), 2/S. XXXVIII (2 vessels, animal offering, knife), 5/S. XXXVIII (2 vessels), 12/S. XXXVIII (3 vessels, animal offering, knife), 13/S. XXXVIII (2 vessels, animal offering, knife), 10/S. XXXIX (2 vessels), 8/S. XL (2 vessels, animal offering, knife), and 15/S. XL (2 vessels, animal offering; Ciugudean 2007, 260, annex 1).

The episode from 892 inserted in the *Annals of Fulda* was mentioned by K. Horedt (1954, 493) and A. Grecu (1950, 229, 230): '... *The German king, sending his messengers to the Bulgarians and their king Landomir for peace renewal... asked him not to allow the sale of salt in Moravia. The messengers, because of the extensive traps of the Duke Zventibold (Sviatopelk, Czech prince), did not dare to go ashore but passed in Bulgaria with the ships on the river Sava...*' and can be correlated with this Bulgarian presence in Transylvania, even though the area is not implicitly nominated. The source mentions Arnulf de Carinthia (887–899), king of the eastern part of the Frankish state, who had a conflict with Svatopluk, the Moravian prince. In this context, a free embassy was sent to Bulgaria to see Tsar Vladimir (889–893), Boris's son, to request the renewal of peace from 862 and to stop the sale of salt to the Moravians.

'... *Missos etiam suos inde ad Bulgaros et regem eorum Laodomir ad renovandam pristinam pacem cum muneribus mense Septembrio transmisit et, ne coemptio salis inde Maravansis daretur exposcit. Missi autem propter insidias Zwentibaldi ducis terrestre iter non valentes habere de regno Brazlavonis per fluvium Odagra (Odra) usque ad Gulpam (Kulpa) dein per fluentia Savi (Saue) fluminis navigio in Bulgaria perducti. Ibi a rege honorifice suscepti eadem via, qua venerant cum muneribus mense Maio reversi sunt...*' (Pertz 1891, 120, 121).

In September, he sent his assignments, as messengers, to the Bulgarians and their king, Laodomir (Vladimir), to renew the previous peace. They urged that the possibility of buying the salt by those in Moravia ought not to be given at that time. Those sent, however, because of the conspiracy of the ruler Zwentiboldus (Svatopluk) and not having the means of a road on land, went with the ship in Bulgaria, from the kingdom of Braslav, on the river Odra (Oder), to Gulpa (Kulpa) and then along the river Sava. From there, being welcomed by the king, they returned with assignments on the same road used for their coming in May of 893.

M. Chisvași-Comșa admitted that Transylvania, along with Muntenia, Oltenia, Banat, and Dobrogea, belonged to the first Bulgarian rule, and this incorporation took place during several phases. Moreover, she considers that the funerary inventory from Blandiana and Sebeș advocates for a culture that includes southern Slavic elements and Saltovo

elements, but also hybrid elements resulting from them. These proto-Bulgars would have penetrated to the north of the Danube together with the Romanesque population, thus strengthening the latter element (Comşa 1959, 73, 74; Chişvaşi-Comşa 1960, 74, 75). R. R. Heitel talks about a Dridu-Alba Iulia culture, specific to the 9th–10th c., that ceases in the context of the disappearance of the polished pottery (Heitel 1986, 245, 246). While the 892-episode mentioned in the *Annales Fuldenses* does not strictly speaking refer to Transylvania or any other geographical region, Miklós Takács admits a Bulgarian presence in southern Transylvania and uses the term group Alba Iulia-Blandiana. On the other hand, the territorial extent or dominance of the first Bulgarian state in the Carpathian Basin in the 9th c. is analysed from the perspective of three theories (modest, optimistic and desired), which have gained ground, to a greater or lesser extent, in the literature (Takács 2016, fig. 1).

OBSERVATIONS

It can be observed that we have isolated/solitary graves (graves 667, 680, 548, 551, 553, 497, 611), graves that are one close to another (grave 72/male and 74/female; 608/child and 622/girl; 685/male and 715/child) and also a well-defined group graves (grave 606/child, 677/girl, 607/girl and 624/child). The exception is made by grave 558, which does not appear on the general plan of the necropolis. In the graves of this group of children, we observe a ceramic association represented by the coarse paste vessel along with the fine species (amphorae and globular jars with handles). The graves of the 1st horizon are spread between the Roman graves and those pertaining to the 10th–11th c., with partial overlaps (graves 520 with 551; 624 cut a corner of 623/Roman incineration grave; 548 was overlapped in the southeast half of 527) being found in some cases. Coal remains to appear in the filling soil of the sepulchral pit (grave 607), below the deceased (grave 680), in the area of the lower limbs (grave 624), and under the animal offering (graves 677, 680).

From a percentage point of view (Fig. 9), children represent 50% (nine) of the total number of subjects, followed by men (28%; five subjects), women (17%; three subjects), and one young adult (5%).

The question that naturally arises is why this orientation? The explanation could be that the Bulgarian enclave that arrived in the area had already come

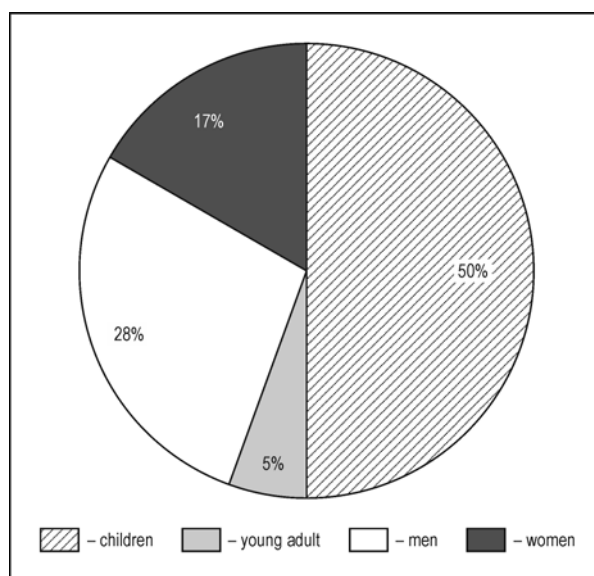


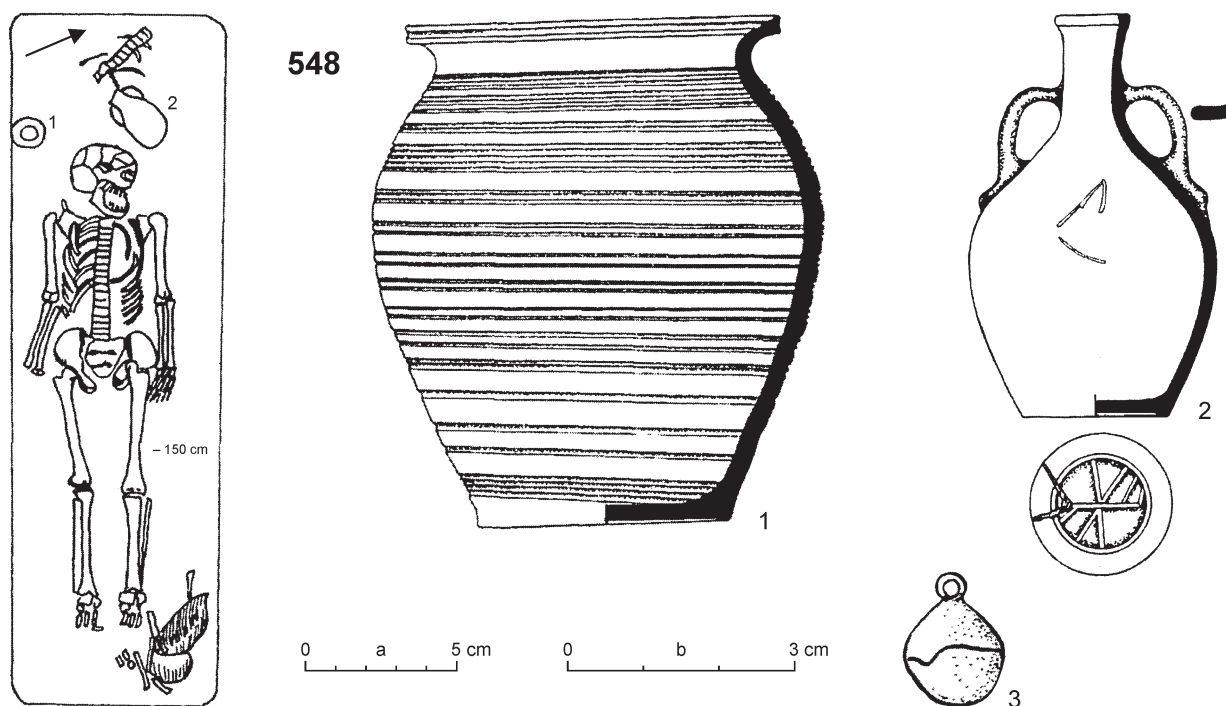
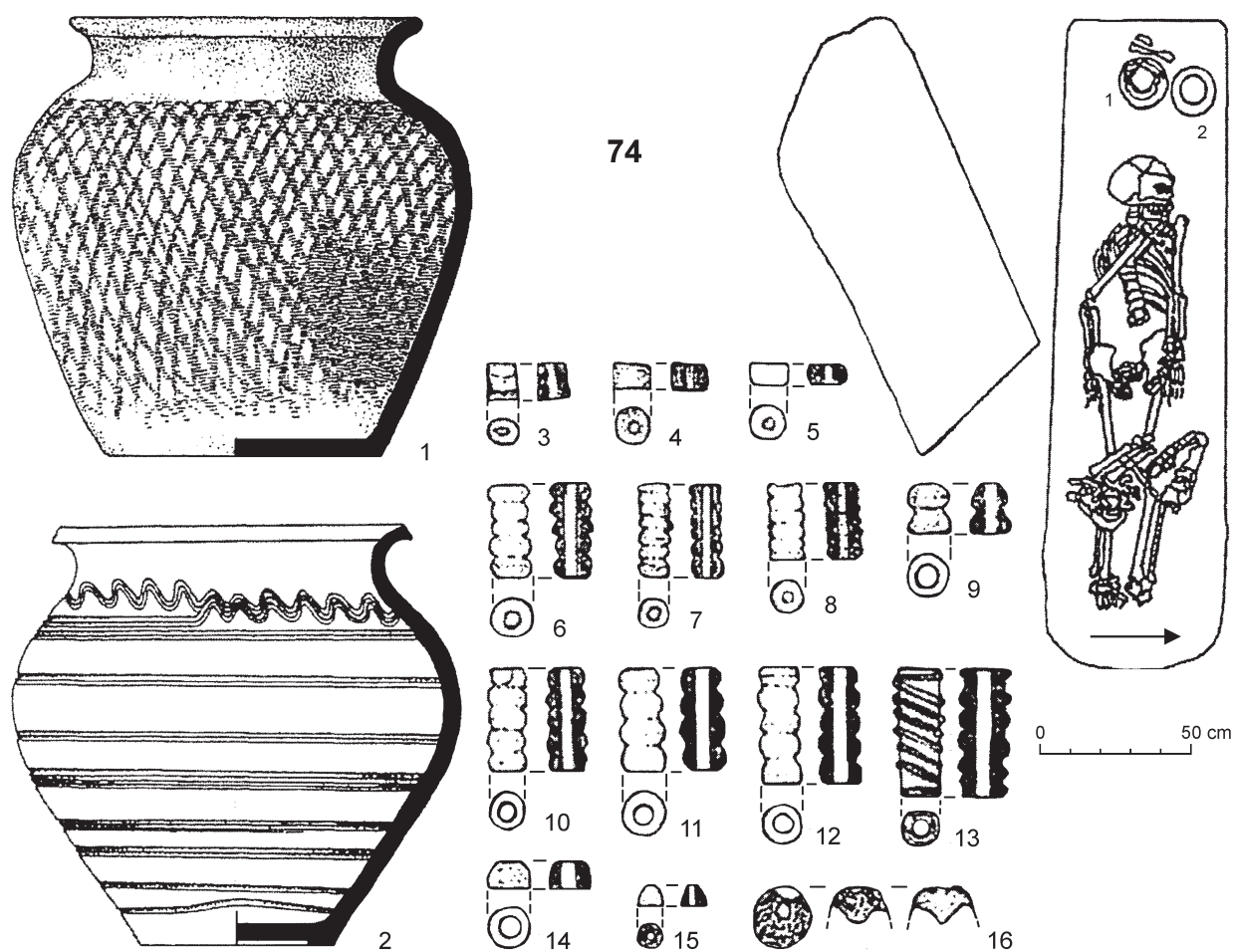
Fig. 9. Alba Iulia-Stația de Salvare. Gender status of discoveries.

into contact with Christianity. The latter was not yet fully implemented at the Community level. It shall not be forgotten that Vladimir-Rasate (889–893), the ruler during whose reign the actions from 892 took place, undermined the new faith and the position of the Church. As a result, his father Boris-Mihail returned from the monastery and punished his oldest by blinding him. Furthermore, the capital was moved from Pliska to Veliki Preslav the following year and Simeon was enthroned. Within this context, the absolute rupture with the paganism was decided during a national gathering. Boris-Mihail returned to the monastery after he solved this vital problem. He remained within the monastic complex till the end of his life (2 May 907; Marshall Lang 1976, 61; Pavlov/Ianev/Cain 2002, 30; Runciman 1930, 133, 134).

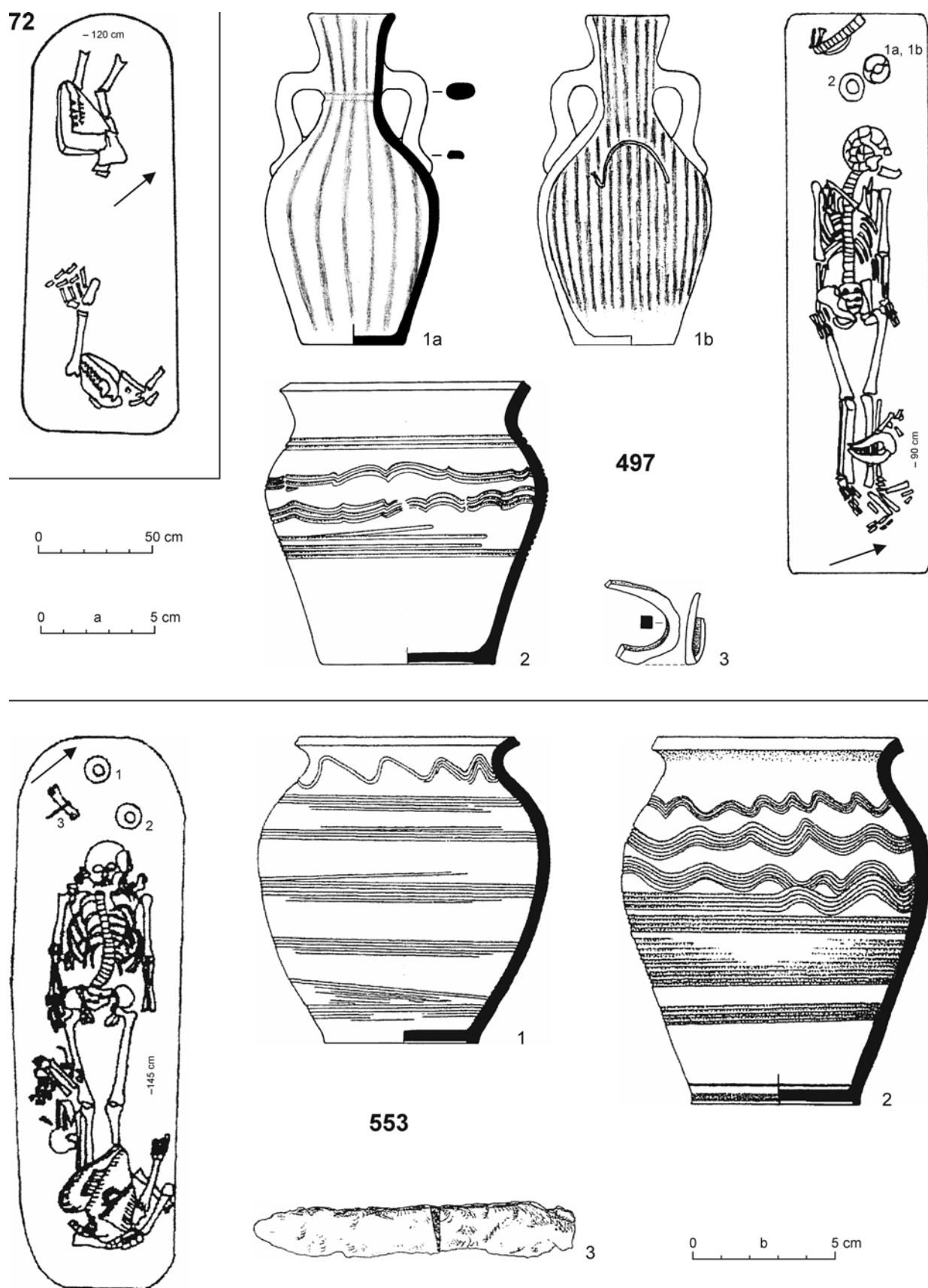
The community that left to the north of the Danube still practiced the old traditions, or maybe the traditional aspect was never abandoned. A series of events explain this: the two centuries that passed from the period when the Bulgarians officially adopted Christianity, the existing problems, and the resistance of those belonging to the upper layers of society. Moreover, this community left the control space area and probably did not exist a second wave of the population in Transylvania, as shown by their small number. From this point of view, we cannot accept the idea that Christianity imports such pagan.

Acknowledgment

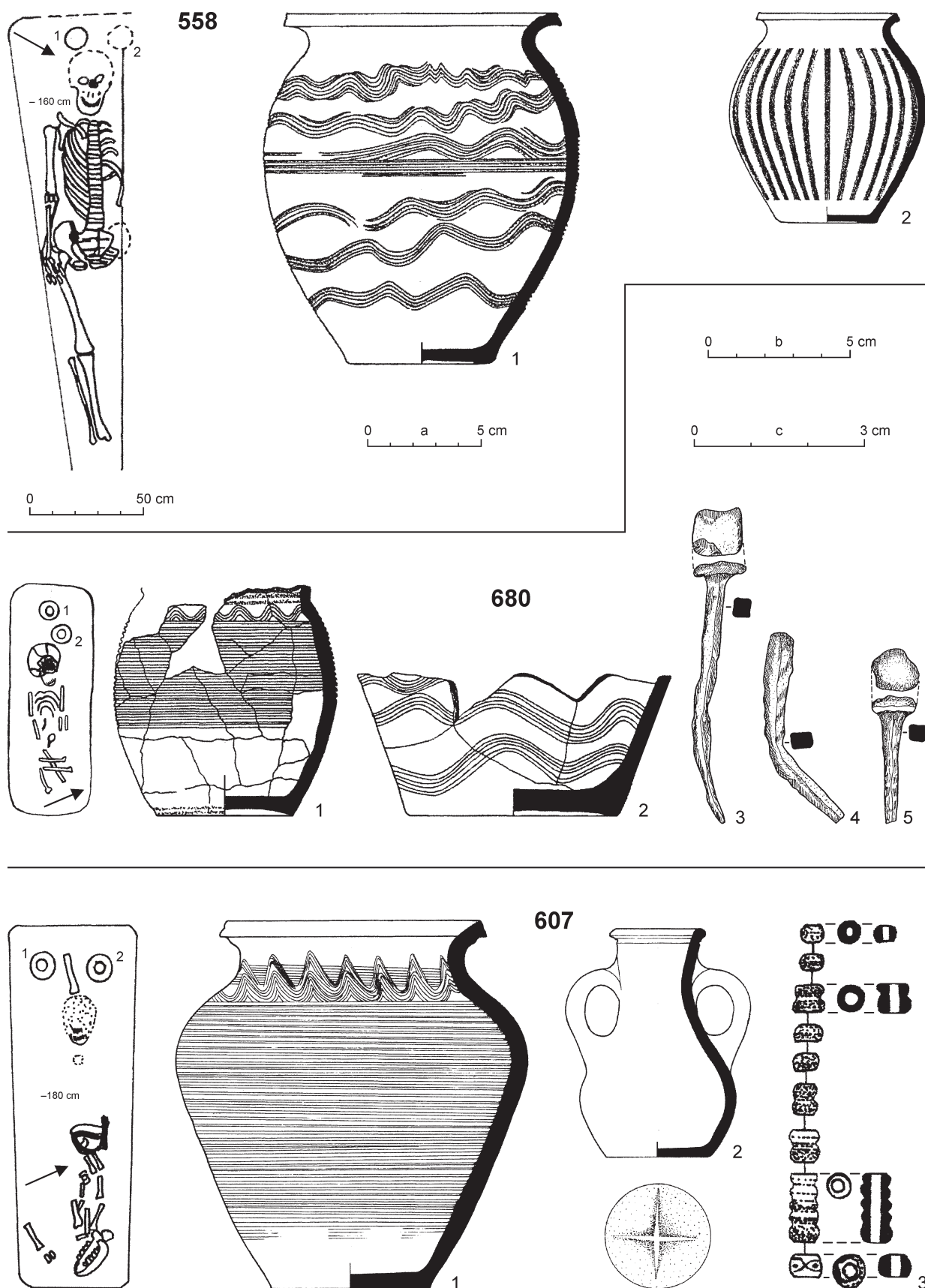
Kind regards to Conf. Univ. Dr. Dan Smarandache ('Lucian Blaga' University of Sibiu) for the accuracy of the translation of this passage/fragment into Romanian.



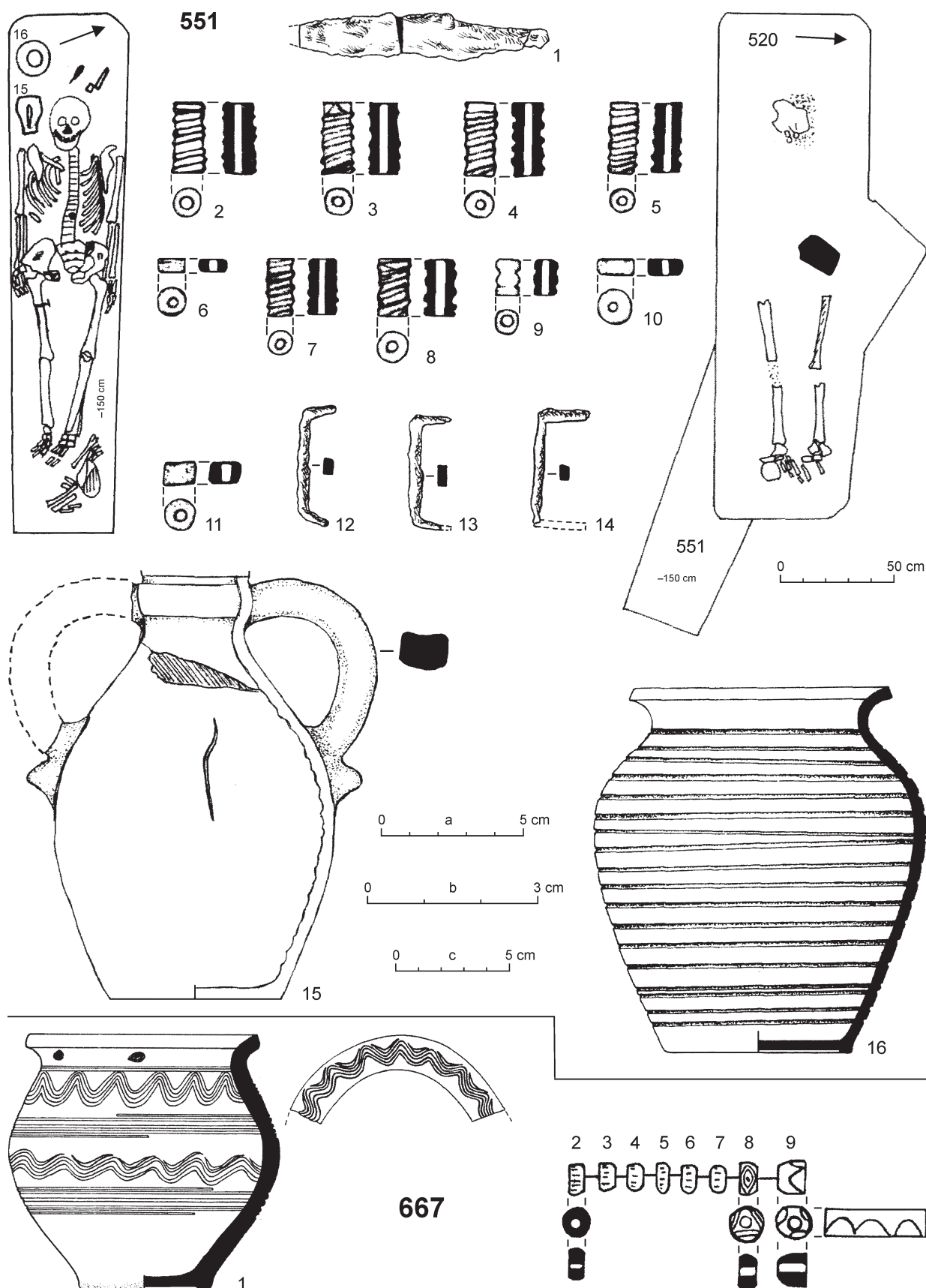
Pl. I. Alba Iulia-Stația de Salvare. Graves 74 and 548 with finds (graphic by M. Blăjan). Scale: a – pottery; b – beads and button.



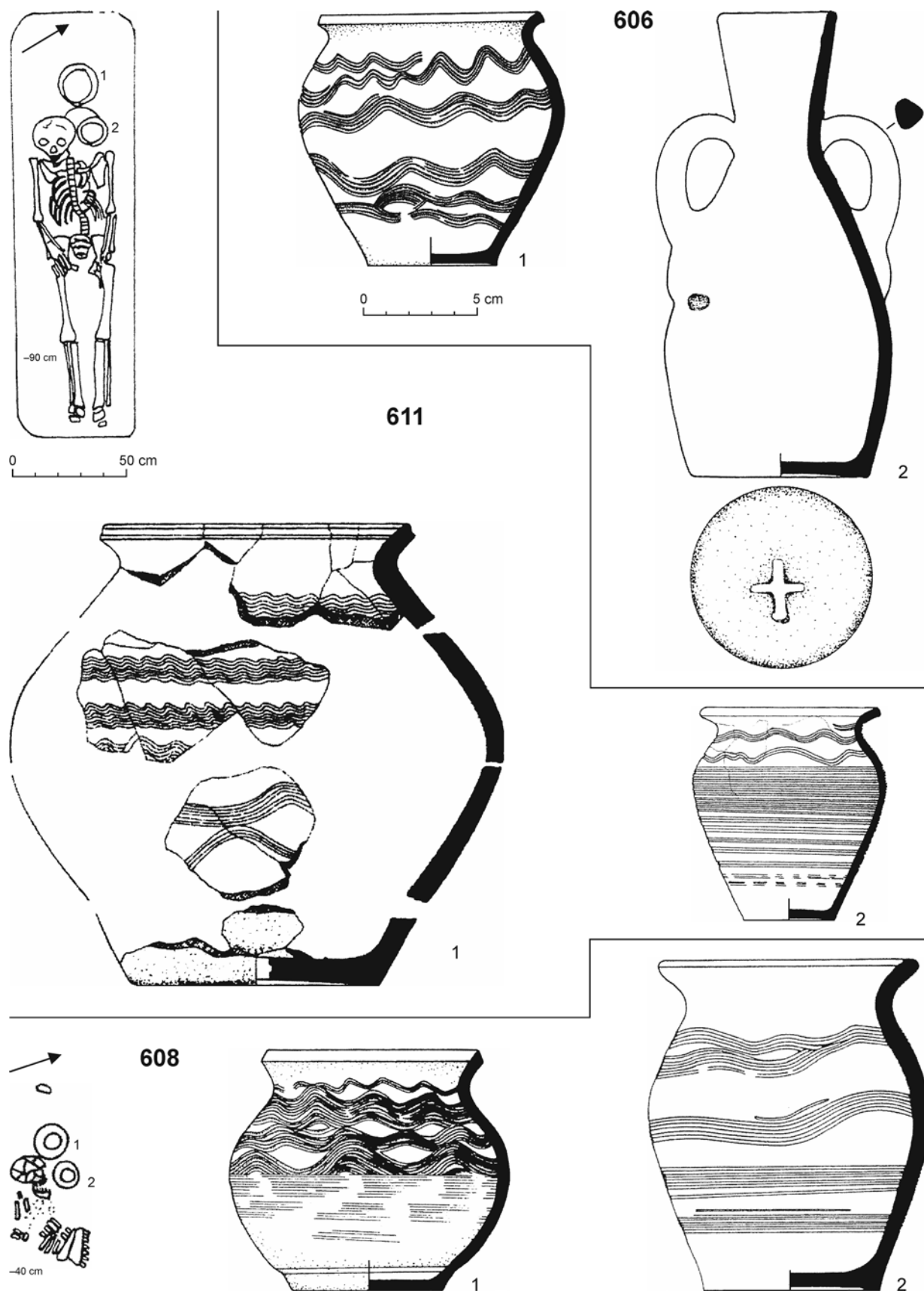
Pl. II. Alba Iulia-Stația de Salvare. Graves 72, 497 and 553 with finds (graphic by M. Blăjan). Scale: a – pottery; b – iron fragment and knife.



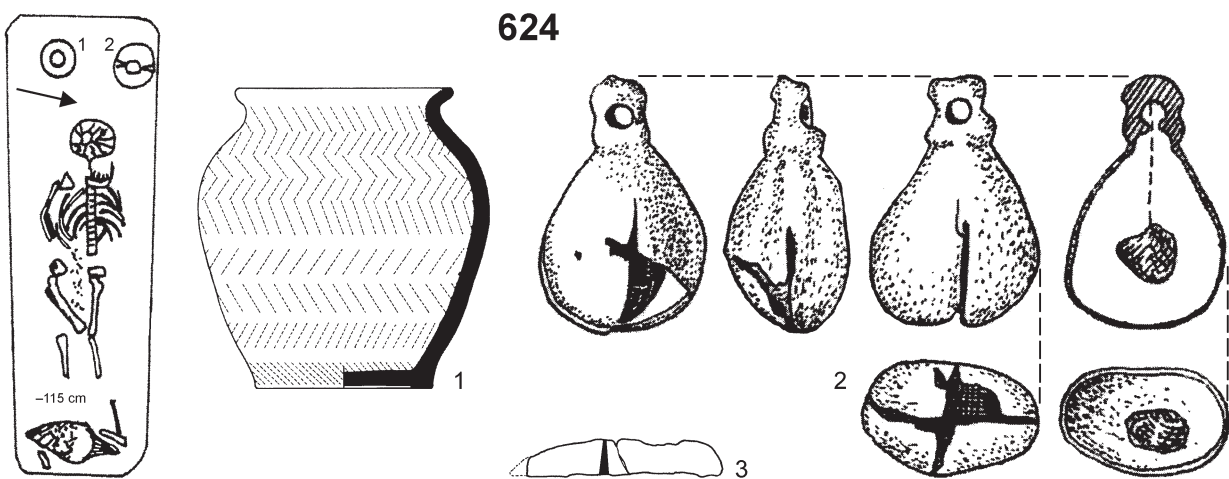
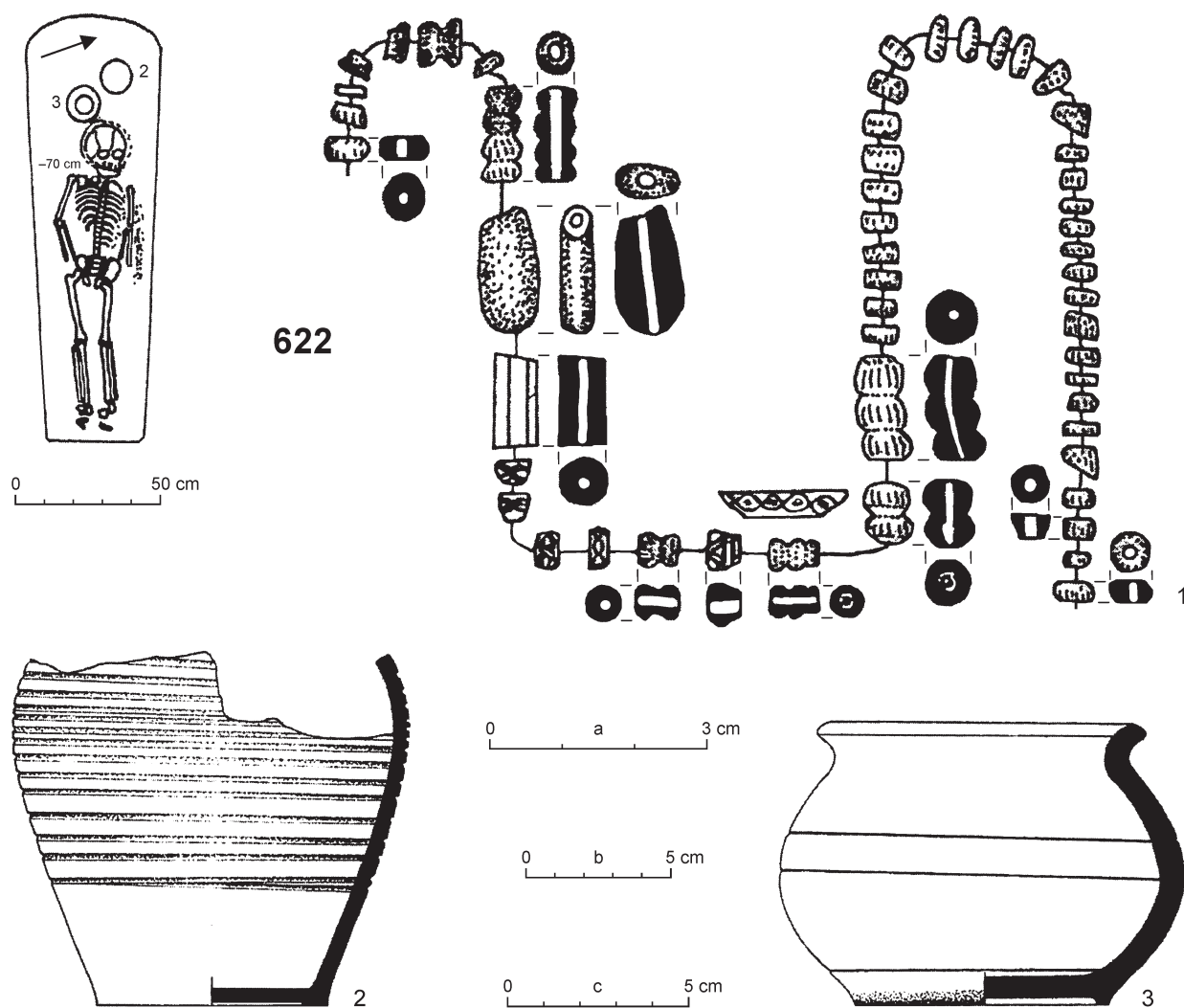
Pl. III. Alba Iulia-Stația de Salvare. Graves 558, 680 and 607 with finds (graphic by M. Blăjan). Scale: a – pottery; b – nails; c – beads.



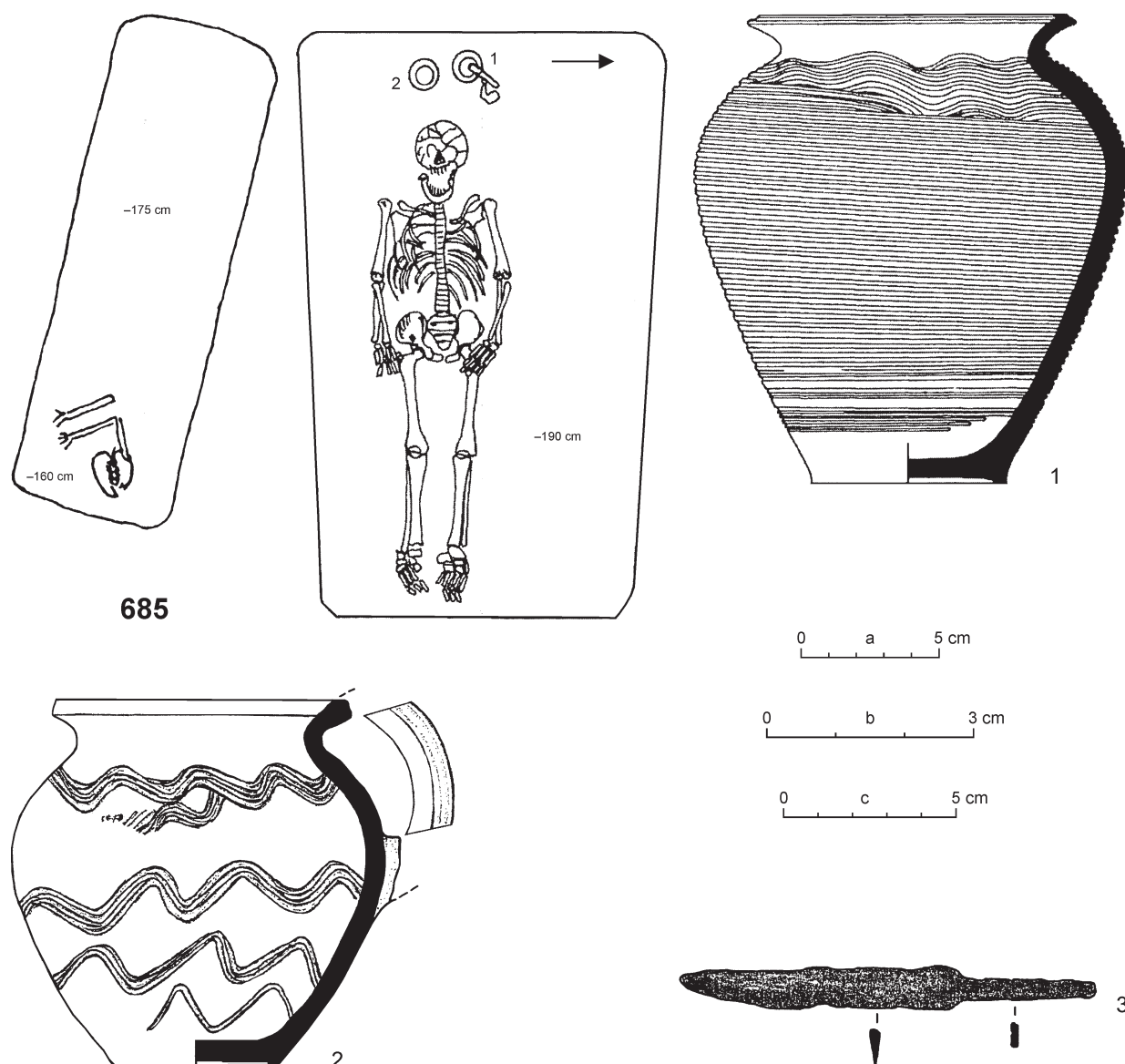
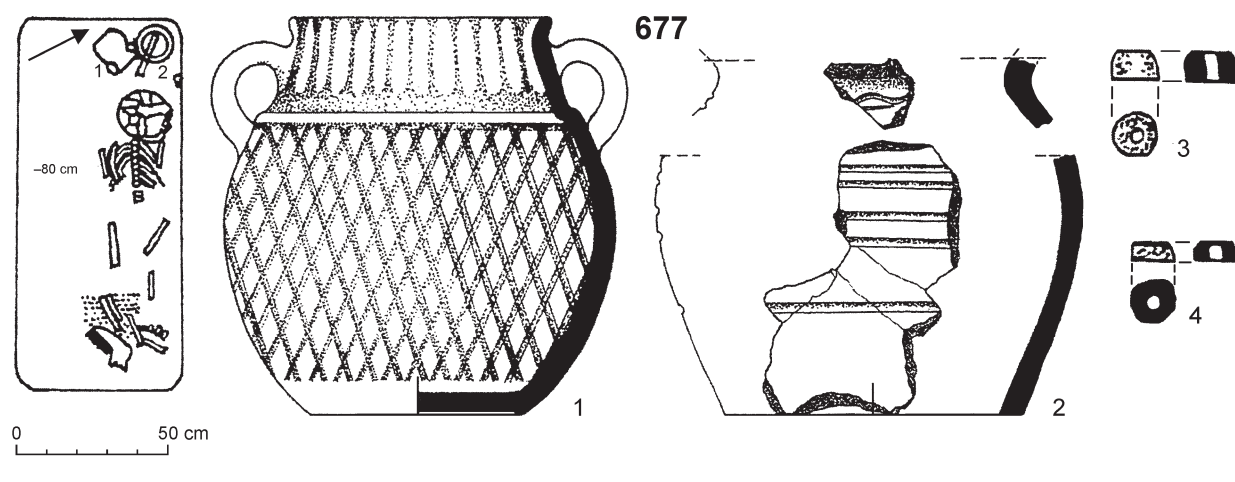
Pl. IV. Alba Iulia-Stația de Salvare. Graves 551 and 667 (graphic by M. Blăjan). Scale: a – knife and shackles; b – beads; c – pottery.



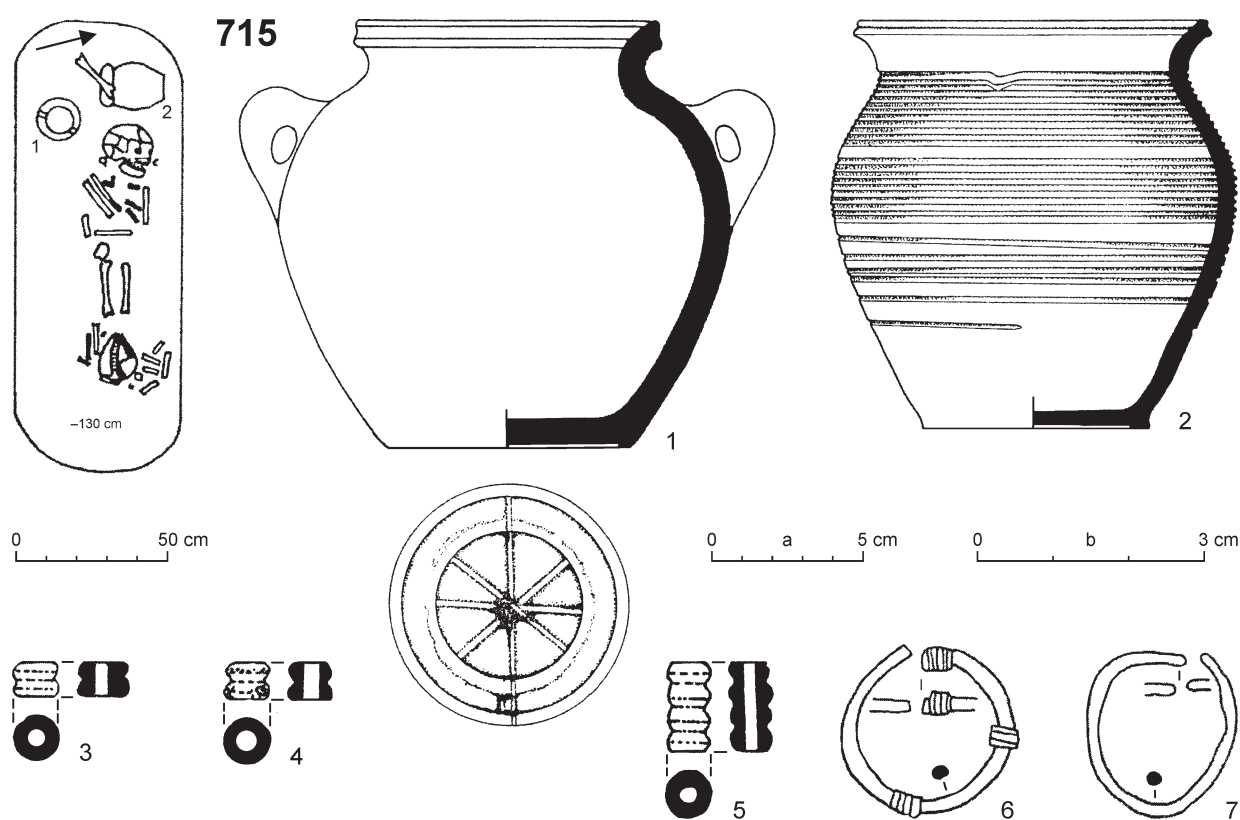
Pl. V. Alba Iulia-Stația de Salvare. Graves 606, 611 and 608 with finds (graphic by M. Blăjan).



Pl. VI. Alba Iulia-Stația de Salvare. Graves 622 and 624 with finds (graphic by M. Blăjan). Scale: a – beads and bell; b – pottery; c – knife.



Pl. VII. Alba Iulia-Stația de Salvare. Graves 677 and 685 with finds (graphic by M. Blăjan). Scale: a – pottery; b – beads; c – knife.



Pl. VIII. Alba Iulia-Stația de Salvare. Graves 715 with finds (graphic by M. Blăjan). Scale: a – pottery; b – beads and bronze earrings.

BIBLIOGRAPHY

- Aldea/Ciugudean 1981 – I. Al. Aldea/H. Ciugudean: Noi descoperiri feudal-timpurii de la Blandiana (jud. Alba). *Apulum* 19, 1981, 145–149.
- Pertz 1891 – G. H. Pertz (ed.): *Annales Fuldenses sive Annales Regni Francorum Orientalis*. Hannoverae 1891.
- Anghel/Ciugudean 1987 – Gh. Anghel/H. Ciugudean: Cimitirul feudal-timpuriu de la Blandiana (Jud. Alba). *Apulum* 24, 1987, 179–196.
- Băcuet-Crișan 2015 – D. Băcuet-Crișan: *Porta Mesesina în preajma anului 1000. Cercetări. Situri. Artefacte*. Cluj-Napoca 2015.
- Blăjan/Popa 1983 – M. Blăjan/Al. Popa: Cercetările arheologice de la Alba Iulia – ‘Stația de salvare’. *Materiale și cercetări arheologice* 15, 1983, 375–380.
- Blăjan 2004 – M. Blăjan: Alba Iulia (sec. VIII–XI). In: *Arta bronzului din preistorie până în zorii evului mediu*. Alba Iulia 2004, 50–56.
- Blăjan 2006 – M. Blăjan: Alba Iulia – ‘Stația de Salvare’ (campanile 1980–1981). In: *Ciugudean/Pinter/Rustoiu* 2006, 26–32.
- Chișvași-Comșa 1960 – M. Chișvași-Comșa: Cîteva date arheologice în legătură cu stăpânirea bulgară în nordul Dunării în secolele IX–X. In: *Omagiu lui Constantin Daicoviciu cu prilejul împlinirii a 60 de ani*. București 1960, 69–81.
- Ciugudean 1996 – H. Ciugudean: *Anul 1000 la Alba Iulia. Între istorie și arheologie. Catalogul expoziției – The year one thousand at Alba Iulia. Catalogue*. Alba Iulia 1996.
- Ciugudean 2006 – H. Ciugudean: Necropola de la Alba Iulia – ‘Stația de Salvare’. In: *Ciugudean/Pinter/Rustoiu* 2006, 12–25.
- Ciugudean 2007 – H. Ciugudean: Pottery offerings in the Early Middle Age cemetery of Alba Iulia – ‘Stația de Salvare’. In: *Cosma* 2007, 243–262.
- Ciugudean 2011 – H. Ciugudean: Alba Iulia – Stația de Salvare. In: A. Dragotă/G. T. Rustoiu/M. Drîmbărean (coord.): *Valori ale patrimoniului românesc. Podoabe și accesorii vestimentare din secolele X–XI*. Alba Iulia 2011, 115–137.
- Ciugudean/Anghel 1993 – H. Ciugudean/Gh. Anghel: Necropola feudal-timpurie de la Blandiana, jud. Alba. *Materiale și cercetări arheologice* 17, 1993, 361–364.
- Ciugudean/Pinter/Rustoiu 2006 – H. Ciugudean/Z. K. Pinter/G. T. Rustoiu (coord.): *Habitat – Religie – Etnicitate: Descoperiri arheologice din secolele IX–XI în Transilvania – Habitat – Religion – Ethnicity: 9th–11th Century Archaeological Finds in Transylvania. Catalog de expoziție – Exhibition Catalogue*. Bibliotheca musei Apulensis 21. Alba Iulia 2006.
- Comșa 1959 – M. Comșa: Slavii pe teritoriul R.P.R. în secolele VI–IX în lumina cercetărilor arheologice. *Studii și Cercetări de Istorie Veche* 10/1, 1959, 65–80.
- Comșa 1963 – M. Comșa: Cu privire la evoluția culturii balcano-dunărene în secolele IX–XI. (Studiu preliminar.) *Studii și Cercetări de Istorie Veche* 14/1, 1963, 107–122.
- Comșa 1978 – M. Comșa: *Cultura materială veche românească. (Așezările din secole VIII–X de la Bucov-Ploiești.)* București 1978.
- Cosma 2007 – C. Cosma (ed.): *Funerary offerings and votive depositions in Europe's 1st millennium AD. Cultural artefacts and local identities*. Interferențe etnice și culturale în milenii I a. Chr.–I p. Chr. 21. Cluj-Napoca 2007.
- Cosma 2011 – C. Cosma: *Funerary pottery in Transylvania of the 7th–10th centuries*. Interferențe etnice și culturale în milenii I a. Chr.–I p. Chr. 18. Cluj-Napoca 2011.
- Dankanits/Ferenczi 1959 – Á. Dankanits/I. Ferenczi: Săpăturile arheologice de la Ciumbud. *Materiale și cercetări arheologice* 6, 1959, 605–615.
- Dragotă 2014 – A. Dragotă: *Podoabe și accesorii vestimentare din Banat, Crișana și Transilvania (Secolele X–XI)*. Interferențe etnice și culturale în milenii I a. Chr.–I p. Chr. 21. Cluj-Napoca 2014.
- Dragotă 2019a – A. Dragotă: Morminte cu echipament militar din orizontul II al necropolei de la Alba Iulia – stația de salvare (1979–1981). *Transilvania* 5–6, 2019, 107–124.
- Dragotă 2019b – A. Dragotă: Ofranda de pasăre în necropolele din secolele X–XI de la Alba Iulia. *Transilvania* 7, 2019, 83–94.
- Dragotă/Popescu 2021 – A. Dragotă/M. E. Popescu: An Interesting Discovery at Alba Iulia: Could It Be an Inscription with the Name of Saint Methodius? In: O. Hedeșan/C. Timoce-Mocanu (eds.): *Multivalent Research about Food Building the Romanian File*. Transylvanian Review 30, Supplement No. 2. Cluj-Napoca 2021, 239–246.
- Fiedler 1992 – U. Fiedler: *Studien zu Gräberfeldern des 6. bis 9. Jahrhunderts an der unteren Donau. Teil 1–2*. Universitätsforschungen zur prähistorischen Archäologie 11. Bonn 1992.
- Grecu 1950 – A. Grecu: Bulgaria în nordul Dunării în veacurile al IX–X-lea. *Studii și cercetări de istorie medie* 1, 1950, 223–236.
- Hanuliak 2004 – M. Hanuliak: *Veľkomoravské pohrebiská. Pochovávanie v 9.–10. storočí na území Slovenska*. Archaeologica Slovaca Monographiae. Studia 8. Nitra 2004.
- Heitel 1986 – R. R. Heitel: Principalele rezultate ale cercetărilor arheologice din zona sud-vestică a cetății de la Alba Iulia (1968–1977). II. Piese de metal. *Studii și cercetări de istorie veche și arheologie* 37/3, 1986, 233–248.
- Heitel 1994–1995 – R. R. Heitel: Die Archäologie der ersten und zweiten Phase des Eindringens der Ungarn in das innerkarpatische Transilvanien. *Dacia* 38–39, 1994–1995, 389–439.
- Henning 2007 – J. Henning (ed.): *Post-Roman Towns, Trade and Settlement in Europe and Byzantium. Vol. II. Byzantium, Pliska, and the Balkans*. Berlin – New York 2007.
- Horedt 1951 – K. Horedt: Ceramica slavă din Transilvania. *Studii și cercetări de istorie veche* 2/2, 1951, 189–218.
- Horedt 1954 – K. Horedt: Voievodatul de la Bălgrad – Alba Iulia. *Studii și cercetări de istorie veche* 5, 1954, 487–512.
- Horedt 1958 – K. Horedt: *Untersuchungen zur Frühgeschichte Siebenbürgens*. Bucharest 1958.
- Horedt 1966 – K. Horedt: Die Ansiedlung von Blandiana, Rayon Orăștie, am Ausgang des ersten Jahrtausends u. Z. *Dacia* 10, 1966, 261–290.
- Jovanović 1995–1996 – V. S. Jovanović: Bells in South Slav Necropolis, a Contribution to Study of Amulets. *Rad Vojvodjanskih Muzeja. Novi Sad* 37–38, 1995–1996, 83–112.
- Marshall Lang 1976 – D. Marshall Lang: *The Bulgarians: from pagan times to the Ottoman conquest*. Ancient Peoples and Places 84. London 1976.
- Mendelet/Tănase/Gáll 2001 – F. Mendelet/D. Tănase/E. Gáll: X. századi honfoglalás kori temetőrészet Vejtén (Temes megye, Románia). *Archaeologiai Értesítő* 126, 2001, 99–112.

- Mitrea 1961a – B. Mitrea: Săpăturile de salvare de la Sultana (r. Oltenița). *Materiale și cercetări arheologice* 7, 1961, 531–539.
- Mitrea 1961b – B. Mitrea: Șantierul arheologic Satu Nou, necropola feudală timpurie nr. 1. *Materiale și cercetări arheologice* 7, 551–560.
- Mitrea 1962 – B. Mitrea: Șantierul Sultana (r. Oltenița). *Materiale și cercetări arheologice* 8, 1962, 667–674.
- Mitrea 1988 – B. Mitrea: La nécropole birituelle de Sultana. Résultats et problèmes. *Dacia* 32/1–2, 1988, 91–139.
- Pavlov/Ianev/Cain 2002 – P. Pavlov/I. Ianev/D. Cain: *Istoria Bulgariei*. București 2002.
- Runciman 1930 – S. Runciman: *A History of the First Bulgarian Empire*. London 1930.
- Simina 2002 – N. M. Simina: Considerații asupra mormintelor medievale timpurii descoperite în anul 1865 la Sebeș (jud. Alba). *Arheologia Medievală* 4, 2002, 47–58.
- Ștefan/Barnea/Mitrea 1957 – Gh. Ștefan/I. Barnea/M. Mitrea: Șantierul arheologic Garvăn (Dinogetia). *Materiale și cercetări arheologice* 4, 1957, 195–209.
- Takács 2016 – M. Takács: The ninth-century Carpathian basin on the north-western edge of the first Bulgarian State. An overview of some hypotheses and remarks and their evaluation. In: Á. Bollók/G. Csiky/T. Vida (eds.): *Zwischen Byzanz und der Steppe. Archäologische und historische Studien Festschrift für Csanád Bálint zum 70. Geburtstag – Between Byzantium and the steppe. Archaeological and historical studies in honour of Csanád Bálint on the occasion of his 70th birthday*. Budapest 2016, 502–518.
- Toropu/Stoica 1972 – O. Toropu/O. Stoica: La nécropole préféodale d'Obîrșia-Olt (Note préliminaire). *Dacia* 16, 1972, 163–188.
- Tomičić 2002 – Ž. Tomičić: Keramika iz (ponekih) ranosrednjovjekovnih grobalja kontinentalnog dijela Hrvatske – Keramik aus ausgewählten frühmittelalterlichen Gräberfeldern im kontinentalen Kroatien. In: M. Guštin (Hrsg.): *Zgodnji Slovani. Zgodnjesrednjeveška lončenina na obrobju vzhodnih Alp – Die frühen Slawen. Frühmittelalterliche Keramik am Rand der Ostalpen*. Ljubljana 2002, 129–141.
- Vlkolinská 2007 – I. Vlkolinská: Some aspects of the ceramics in the graves on the cemetery Nitra-Lupka. In: *Cosma* 2007, 207–227.

Manuscript accepted 9. 5. 2022

Translated by authors

Súhrn preložila Kristína Sedliaček

Conf. univ. dr. habil. Aurel Dragotă
Universitatea Lucian Blaga din Sibiu
Facultatea de Științe Socio-Umane
Departamentul de Istorie
Patrimoniu și Teologie Protestantă
Bulevardul Victoriei 5–7
RO – 550024 Sibiu
aurel.dragota@ulbsibiu.ro
reludragota@yahoo.com

Monica-Elena Popescu
Institutul Gerge Barițiu
Filiala Cluj-Napoca
Academia Română
Mihail Kogălniceanu nr. 12–14
RO – 400084 Cluj-Napoca
monicaelena.popescu@yahoo.com

Hroby z prvého horizontu pochovávaní na lokalite Alba Iulia-Stația de Salvare

Objavy počas archeologického výskumu v rokoch 1980 a 1981

Aurel Dragotă – Monica-Elena Popescu – †Mihai Blăjan

SÚHRN

Štúdiá sa zameriava na 18 hrobových celkov preskúmaných v rokoch 1980–1981 na pohrebisku Alba Iulia-Stația de Salvare (obr. 1: 1). Táto vnútrokarpatská oblasť nie je pre bádateľov neznáma a v odbornej literatúre má svoje nezastupiteľné miesto. Nemožno však konštatovať, že bol vytvorený kompletný a komplexný obraz o problematike stredovekých nálezov. Predložený príspevok má za cieľ priniesť nové informácie k danej téme, s dôrazom na spomínaný archeologický výskum.

Autori v príspevku opisujú jednotlivé hroby a ich inventár na základe poznámok zosnulého rumunského archeológa M. Blăjana. Tieto hroby možno zaradiť do 1. horizontu pochovávaní na pohrebisku, datovaného do 9.–10. stor., do ktorého patrí aj ďalších nepublikovaných 68 hrobov, preskúmaných v rokoch 1981–1985. Výsledky výskumov z týchto kampaní zatiaľ nie sú spracované, ale podľa predbežných záverov H. Ciugudeana a G. Anghela bola táto časť pohrebiska používaná krátko obdobie. Pohrebisko sa pripisuje bulharskej enkláve v Sedmohradsku, pre ktorú je zavedený názov kultúrna skupina Blandiana A alebo Alba Iulia-Blandiana. O tejto enkláve existuje zmienka z roku 892 vo Fuldských análoch.

Následne sa štúdiá zaoberá priamo opisom technických a rituálnych aspektov hrobov, odkrytých v rokoch 1980–1981 (obr. 2). Zistilo sa, že väčšina hrobov patrí deťom (50 %) a následne mužom (28 %). Najmenej kostier je možné určiť ako ženské (17 %) a iba jedna kostra patrila nedospelému jedincovi (5% z celkového počtu). Priestorová orientácia hrobov bola pomerne variabilná: Z – V (7 hrobov), ZJZ – VSV (2 hroby), ZSZ – VJV (4 hroby) a SZ – JV (4 hroby). Najčastejšia orientácia Z – V by mohla naznačovať kresťanský vplyv, avšak v šiestich zo siedmich týchto hrobov sa objavili zvieracie obety. Poloha horných končatín pochovaných bola rôzna, výrazne prevládalo uloženie vystretých rúk pozdĺž tela (hroby 74, 497, 548, 551, 553, 622, 68), v jednom prípade bola ľavá dlaň na bedrách (hrob 685).

Výrazným prvkom, ktorý sa na pohrebisku vo zvýšenej miere vyskytoval, boli zvieracie obety v hroboch (tabula 1). Tie sa nachádzali v takmer každom hrobe, s výnimkou piatich (hroby 558, 606, 611, 622 a 667). Najčastejšie išlo o lebky a kosti ovce/kozy a hovädzieho dobytká. V jednom prípade sa v hrobe 624, ktorý patril dieťaťu, vyskytovalo vajce. Kostí zvierat boli v rámci hrobovej jamy rôzne umiestnené (spravidla v blízkosti hlavy alebo dolných končatín pochovaného). V niektorých prípadoch

sa v hrobe vyskytovali spoločne kosti hovädzieho dobytká s kosťami ovce/kozy (hroby 72, 74 a 553).

Dôležitým prvkom v hrobovej výbave bola keramika a jej uloženie v rámci hrobovej jamy. Vo všetkých skúmaných hroboch sa nachádzali minimálne dve nádoby, s výnimkou hrobu 72, ktorý bol zničený. Boli uložené vždy v blízkosti lebky, ale v rôznych polohách: obe nádoby uložené pri sebe v oblasti medzi lebkou a ukončením hrobovej jamy (hroby 74, 497, 553, 622, 677, 685), obe nádoby uložené naľavo od lebky (hroby 608, 611), obe nádoby uložené napravo od lebky (hrob 551), jedna z nádob uložená napravo a druhá naľavo od lebky (hroby 548, 558, 607, 624, 715), prípadne sa ich poloha nedala presne definovať (hrob 606).

Z hľadiska charakteristiky keramiky sa objavili dve hlavné skupiny. Prvou sú nádoby s rytým povrchom (horizontálne línie, vlnovky), vyrobené z hrubozrnného materiálu a oxidačne vypálené. Druhú skupinu tvorí keramika z jemne plavenej hlíny, niekedy leštená. Tá sa objavovala ako sivá, s redukčným výpalom bez leštenia alebo žltá-červenkastá, s oxidačným výpalom. Kolky sa zistili na amforovitých džbánoch (hroby 548, 606, 607) a na jednej sivej nádobe s dvoma uškami. V hroboch sa tieto dve skupiny vyskytovali vo viacerých kombináciách: amforovitý džbán spoločne so zdobeným hrncom, vyrobeným z červenkastej hmoty (hroby 497, 548, 606, 607, 624), dva zdobené hrnce vyrobené z červenkastej hmoty (hroby 553, 608, 611, 680, 685), alebo sivá nádoba s výzdobou, či bez nej, spolu s červenkastou nádobou (hroby 74, 558, 622, 677, 715). Nádoby boli zdobené rôznymi motívmi vlnoviek a horizontálnych rýh. Zaujímavým prvkom sú vlnovky, ktoré vytvárali motív očí (hroby 606, 611, 680, 685). Tento výzdobný prvok bol pozorovaný aj v neskôr preskúmaných hroboch z 1. horizontu pochovávaní na lokalite (výskum 1981–1985), či na súvekom pohrebisku Blandiana A. Najzaujímavejší je nález z hrobu 624 – amforovitý džbán z jemnej hmoty, na pleciah zdobený písmenami gréckej abecedy (obr. 7). Čitateľná časť pozostáva z piatich písmen rôznej výšky. Nápis Π Α Π Α Γ (pravdepodobne Π Α Π Α Π Α C) môže byť považovaný za reminiscenciu na meno sv. Metoda, moravsko-panónskeho arcibiskupa. Prítomnosť jeho mena na nádobe nájdené v tejto oblasti môže byť symbolom toho, aký špeciálny význam mala kresťanská symbolika vo vnútrokarpatskom priestore a v európskom priestore všeobecne.

Nože sa objavujú v hroboch s pozostatkami ovce/kozy (hroby 497, 551, 685) a hovädzieho dobytká a ovce/kozy

(hrob 553), v jednom prípade aj v detskom hrobe 624. Zvonček hruškovitého tvaru z hrobu 624 možno zaradiť medzi charakteristické exempláre zo začiatku 10. stor. Koráliky sa našli v hroboch 74, 551, 607, 622, 667, 677 a 715. Z hľadiska materiálu sa dajú rozlíšiť sklenené exempláre, ktoré sú najpočetnejšie, a koráliky z hlíny alebo berýlia. Farebná škála je relatívne pestrá, objavujú sa modré, tmavozelené, čiernohnedé a žlté koráliky. Skoby z hrobu 551 možno spájať s drevenou rakvou, ako nasvedčuje ich pozícia v rámci hrobovej jamy.

Na nálezoch z lokality Alba Iulia-Stația de Salvare je možné sledovať južnoslovanské prvky, prvky kultúry Saltovo, ale aj románskeho obyvateľstva. Je nepravdepodobné, že zdobená hrubostenná keramika patrila iba slovanskému obyvateľstvu a nemožno vylúčiť, že hroby s dvoma zdobenými hrubostennými nádobami patrili domácomu obyvateľstvu. Až na jednu výnimku naznačujú

všetky prvky hrobovej výbavy (prítomnosť zvieracích kostí pri nohách mŕtveho, uhliky, nôž symbolicky uložený na zvieracích kostiach) pohanské obyvateľstvo.

Štúdia sa dotýka otázky protobulharskej enklávy severne od Dunaja. Tvorila ju komunita, ktorá sa presídlila na sever od Dunaja a naďalej praktizovala staré tradície. Malý počet týchto hrobov naznačuje, že išlo iba o jednu vlnu príchodších. Takzvané "Belehradské vojvodstvo", ktorého existencia nie je vedecky dokázaná, malo byť založené Bulharmi a pôvodným obyvateľstvom. Jeho autonómia mala trvať do konca 10. stor., kedy bolo ovládnuté Gyulom. Ani existencia kresťanstva v tejto oblasti nie je vedecky jednoznačne podložená. Zmiená politická konfigurácia sa formovala až v priebehu 10. stor., súbežne so šírením kresťanstva. Na základe toho sa autori štúdie prikláňajú k termínu "Gyulove vojvodstvo", kde sa nedá hovoriť *sensu stricto* o nadvláde Bulharov, ale skôr o kontrole prepravy soli z baní v Sedmohradsku.

EARLY OR LATE MEDIEVAL?

Metal Strap-Decorations That Caused Some Confusion¹

Z B I G N I E W R O B A K 

The paper aims at refining the information about the composition of a ‘hoard’ found by amateur treasure hunters in Dolné Orešany, Trnava dist. in Slovakia. The ‘hoard’ contains 86 bronze decorations and, initially, it was attributed to the turn of the 8th and 9th centuries. Most items are late Avar decorations the origin and chronology of which is beyond any doubt. Several items, however, aroused suspicions. One of the fittings was classified as Carolingian and, unfortunately, was published as such. Further studies revealed that the ‘hoard’ included items that should be dated back to the period between 1300 and 1450 AD instead. This applies to the fitting initially described as Carolingian. The paper also questions the chronology of some well-known finds that have long been considered to be early medieval.

Keywords: Middle Europe, Early Middle Ages, Late Middle Ages, belt, decorations, attire accessories, treasure hunting.

INTRODUCTION

The so called ‘hoard’ from Dolné Orešany (Western Slovakia) contains 86 bronze decorations (*Pieta/Ruttikay 2017*). It was found in 2005 by amateur archaeologists who promptly informed the Institute of Archaeology of the Slovak Academy of Sciences about their discovery. In 2006, archaeologists discovered another part of the ‘hoard’ – six further bronze items on the site indicated by the finders. The items were found in a trench with an area of approximately 3 m². The cleaning of a larger area (of about 8 m²) revealed traces of items removed by amateur archaeologists. This suggested that the ‘hoard’ was not stacked in one spot but rather scattered or spread – intentionally or due to the post-deposition processes – over a small area. However, most of artefacts is of late Avar origin and is attributed to the turn of the 8th and 9th centuries, several items aroused suspicions.

FROM AN UNCERTAIN CONTEXT AND A FLAWED CHRONOLOGY

In 2017, I published a paper in which I presented one of the fittings from the ‘hoard’ as Carolingian (*Robak 2017*). It was a small, rectangular openwork application fastened with two rivets and decorated with a motif of symmetrical vine scrolls. My assessment of the fitting, then, relied on the general chronology of the ‘assemblage’ and the fact that the

ornament seemed to be typical of the Carolingian Renaissance. The only unusual feature of the item was openwork – rare in the Carolingian times. This warning signal, however, did not stop me from publishing the paper. I have ignored the inconsistency of the ‘hoard’ – the presence of a fitting with undoubtedly early Hungarian analogies (*Pieta/Ruttikay 2017*, fig. 10: 10). Conveniently, I assumed that the Hungarian fitting was placed somewhere close to the Avar hoard and extracted by the treasure hunters using metal detectors together with the rest of the finds. I also assumed that the finders described the ‘hoard’ accurately and reliably.

Interestingly, the openwork fitting was not the only ‘bizarre’ decoration in the ‘hoard’ from Dolné Orešany. Five small clepsydra-shaped – or double T – fittings (Fig. 1: 2–6) had no close analogies among early medieval finds. It seems that the fittings decorated a narrow strap and at least three of the five seem to form a set. Generally, all five are very similar to each other. The ‘hoard’ contained also some elements whose function – although related to attire – was difficult to establish (Fig. 1: 7–11).

Paradoxically, after an extensive search, I managed to find a nearly ideal analogy to the ‘pseudo-Carolingian’ openwork fitting in a distant city of Greifswald (*Samariter/Rütz/Albrecht 2016*). Unfortunately, the circumstances of the discovery of this item did not dispel the doubts. On the contrary, they made the context even dimmer. The fitting was extracted from a medieval latrine. However, already convinced that the fitting from Dolné Orešany was

¹ Study produced with the support of the Alexander von Humboldt Foundation and project VEGA 2/0043/22 Archaeological sources to Early Historic Time and Early Middle Ages in Middle Danube region and APVV-19-0563 Centres of the power and their back land in 8th–11th c.

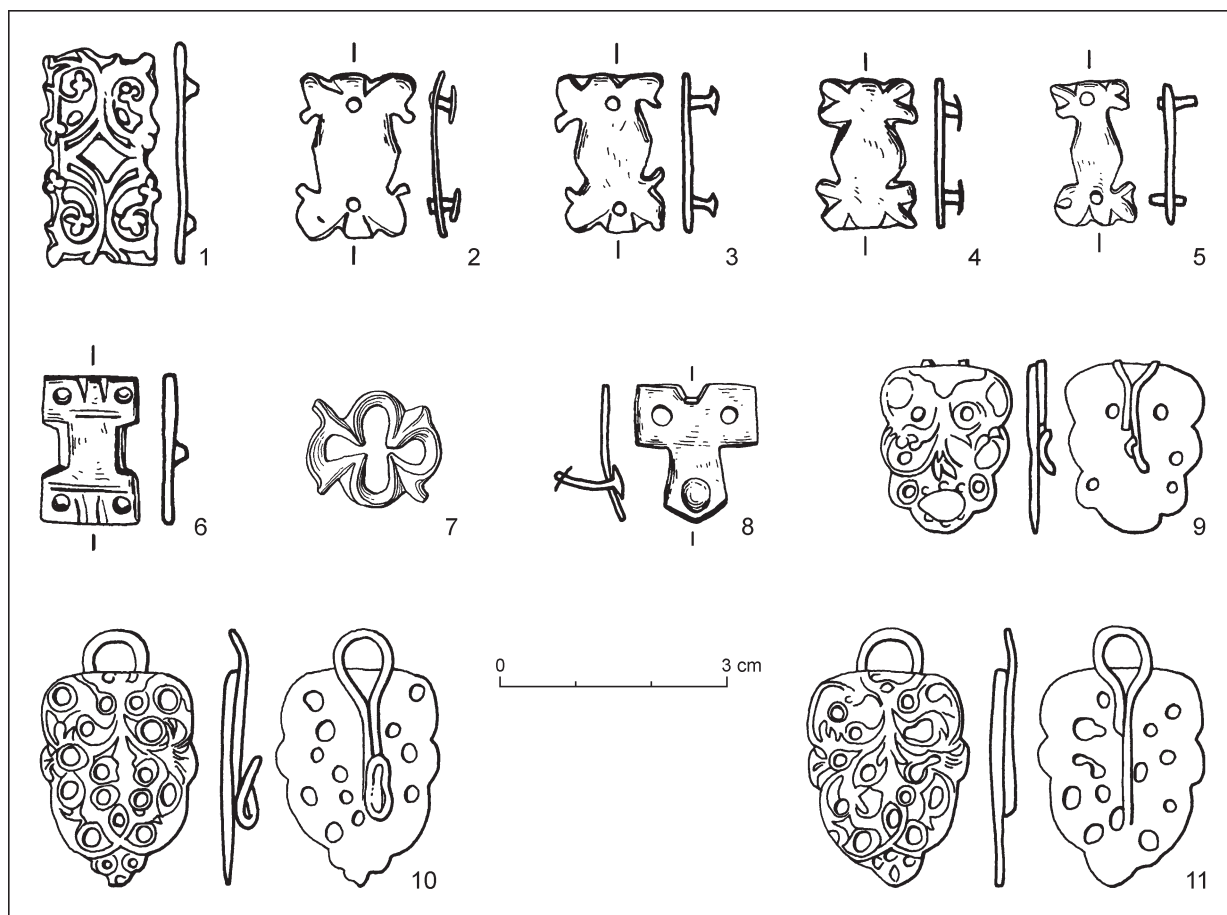


Fig. 1. Non-early medieval parts of the deposit from Dolné Orešany, Slovakia (after *Pieta/Ruttkay* 2017).

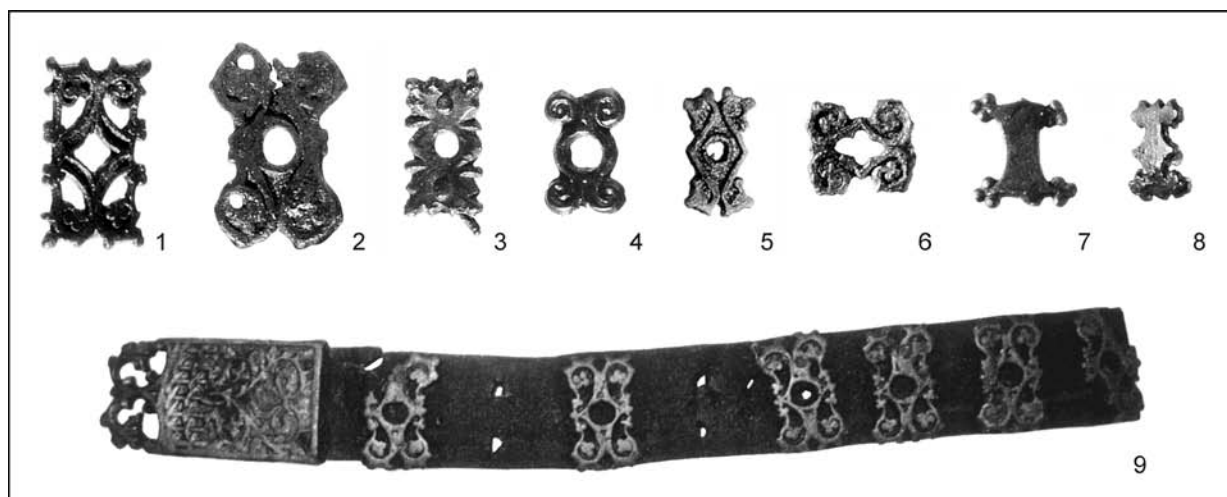


Fig. 2. Late medieval belt mounts from various sites in Netherlands. 1–8 – unspecified sites, approximately real size; 9 – Bois-le-Duc, scale approximately 2 : 3 (after *Willemsen/Ernst* 2012).

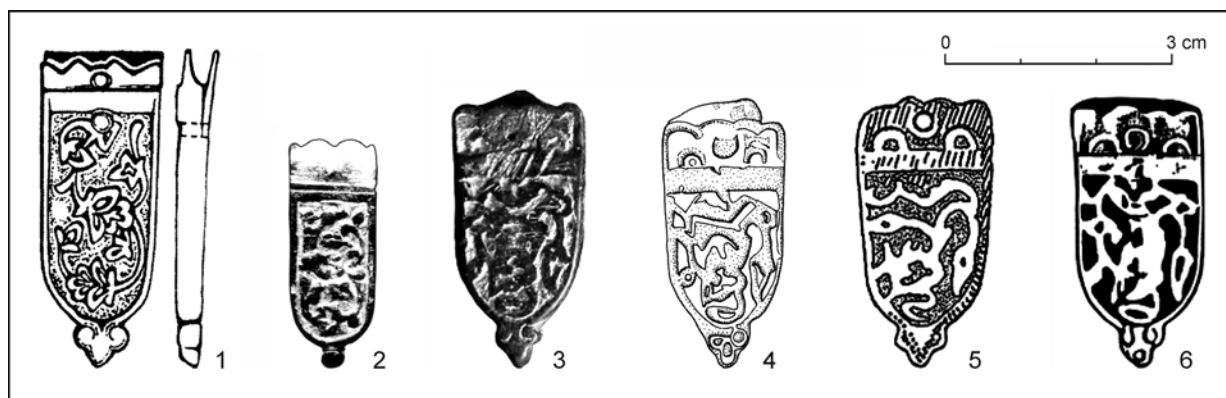


Fig. 3. Early or late medieval? A group of the multi-part strap-ends with characteristic plant motif. 1 – Tismice/CZ, surface find (*Profantová 2011*, fig. 8: 4); 2 – Perugia/IT, museum collection, unknown origin (*Schulze-Dörrlamm 2009*, fig. 31); 3 – localization unknown, internet auction (*Robak 2018*, fig. 6: 4); 4 – Cristuru Secuiesc/RO, medieval manor (*Prohászka/Nevizánsky 2016*, fig. 1: 2); 5 – Petronell/AT, surface find (*Stadler 1989*, fig. 1419); 6 – Kraków-Wawel/PL, mixed Renaissance-time layer (*Zoll-Adamikowa 1998*, fig. 2: a).

Carolingian, I accepted the idea that also the one from Greifswald came from that period (*Robak 2018*, fig. 12: 9). Instead of delving deeper into the (latrine) context, I convinced myself that the fitting could get there when the latrine was dug out or filled up. I ignored the idea that it was exactly where it should have been. As a consequence, I generated a fictitious find from an area abundant in Carolingian artefacts in north-eastern Germany. Still, however, the uniqueness of the fitting and the lack of close analogies among early medieval artefacts bothered me. After all, Carolingian fittings were not openwork! And so, I decided to delve deeper (*sic!*) into the Greifswald latrine trail.

The dendrochronological analysis supported the dating of the latrine from Greifswald back to the second half of the 14th c. and the layer in which the fitting was found to the period between the end of the 14th c. and the second half of the 15th c. Consequently, I focused on artefacts from excavations in medieval Hanseatic cities. This turned out to be the right move, although, of course, late. Similar fittings, in larger quantities and even a fragment of a belt decorated with such fittings, were found in the Netherlands (Fig. 2; *Willemsen/Ernst 2012*) where they were dated back to 1350–1450, i.e., similarly as the layer containing the Greifswald fitting. It seemed, thus, that the mystery of the openwork fitting was solved. But there is more to the story. The review of late medieval and early Renaissance finds corroborated the view that small, clepsydra-shaped decorations (Fig. 1: 2–6) have a similar chronology. In this case, the analogies turned out to be less geographically distant (*Furman 2020*, 136, 138, fig. 2: 7; *Loubal 1938–1939*, fig. 4: 4–10; *Ruttkay 1989*, 367, fig. 4: 1625) because such decorations were known from

Western Slovakia. However, the Dutch collection contained similar artifacts (Fig. 2: 7, 8). It seems they were popular all over Europe in the 14th c. (*Fingerlin 1971*, 80, 85; *Sawicki 2021*, 168).

The presence of late medieval/early Renaissance openwork fitting and the other decorations in the ‘hoard’ from Dolné Orešany suggests that, in fact, the ‘hoard’ contained elements of a belt or a couple of belts. It would be now difficult to determine whether all the elements came from a single set. Presumably, the items were accidentally lost close to the site where the Avar bronzes were deposited – similarly to the already mentioned early Hungarian fitting. It is also possible that some other artefacts, resembling brooches (Fig. 1: 9–11), should be rather linked with the same period as the belt or even younger. The chronology of the brooches had seemed dubious before and now the doubts seem even more reasonable.

Consequently, considering the ‘hoard’ as an assemblage loses justification. We are unable to unambiguously identify the composition of the original deposit (if any). It should be strongly emphasised that the collection, thus, is of no value for the chronological and typological analysis. Otherwise, this interesting collection could be petrified in the literature as an assemblage and used as the Blatnica collection as a foundation for far-fetched research hypotheses (*Robak 2017*).

HOW COULD THIS HAVE HAPPENED?

We need to notice that some late medieval fittings could be easily taken for early Carolingian items. Particularly when a researcher is preoccupied with

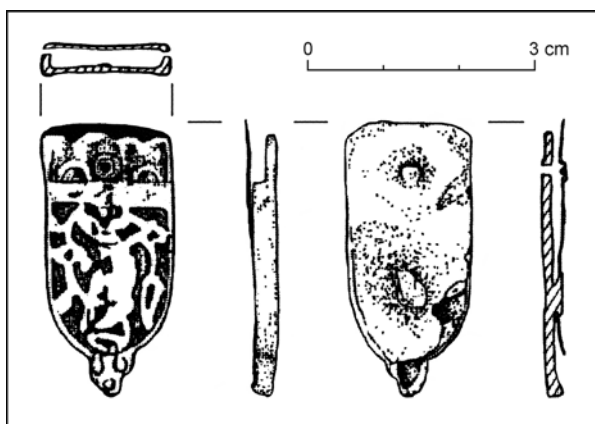


Fig. 4. Construction of problematic strap-ends on an example from Kraków-Wawel (modified after Zoll-Adamikowa 1998, fig. 2).

the Carolingian period. The literature is full of items arising heated debates about the chronology (e. g. *Profantová* 2011, 81). Why? Both of the periods used classic decorative patterns (such as vines) and similar forms of decorations. This is particularly true of various types of fittings. For instance, in both periods, tips of long narrow fittings were often decorated with a small knop.

Mistakes are particularly likely when items are atypical or have no close analogies. Similarly, a series of nearly identical artefacts without any archaeological context could be misattributed. For instance, small fittings with a knop, decorated with a vine scroll motif (Fig. 3), used to be considered as undoubtedly early Carolingian. The fittings have a corrugated, or wavy, upper edge, one visible rivet (the second one can be seen only on the back-side) and a terminal, usually resembling a trefoil. The fittings are multi-part. The front side consists of a plate with raised edges and the backside is a matching plate. The fitting resembles, thus, a small box with a strap inserted from the top (Fig. 4). The plant decorative motif on all those fittings is nearly identical. Although only recently the motif was deciphered (*Robak* 2018, fig. 6).² Today, I am not certain whether their early medieval chronology is correct anymore. All features of such fittings can be considered typical of both early and late medieval

fittings. Although some of them i. e. the corrugated edge and one visible rivet seem to be more common in the later period. The same applies to the multi-part construction of the fittings virtually absent in the Carolingian times (Fig. 5; see *Egan/Pritchard* 1991, fig. 82).³ Furthermore, when taking a closer look at better-preserved examples of small fittings, the terminals seem to resemble the gothic lily (Fig. 3: 3).⁴ Notably, all similar finds come from mixed late medieval or modern layers. In the worst-case scenario, the fittings come from 'surface surveys' (i. e. found using a metal detector). Unfortunately, we can expect the number of the latter type of finds to increase rapidly.⁵

CONCLUSION

I could write that only the one who does nothing makes no mistakes. However, it seems likely that mistakes are made by those who stick to one research area. The Slovak archaeologist professor Titus Kolník once said that a researcher should shift to a different research area every seven years to avoid becoming a 'professional fool'. Those words beautifully summarise my feelings. Obviously, it taught me to delve deeper into 'awkward' or atypical patterns and certainly avoid fitting finds into the period central to my research interests. Research conclusions need to be confronted with the extant literature beyond the period we investigate.

The situation also shows how cautious we need to remain when assessing finds made during field surveys and metal detection. Particularly, when archaeologists have no control over the excavation process. I do not assume, in this case, that the finders were driven by ill will. Still, we cannot expect them to be fully familiar with the field methodology or the literature.

Finally, it is worth mentioning that the Slovak law still offers no efficient legal solutions allowing archaeologists to cooperate with amateur treasure hunters. I do not mean thieves who plunder and destroy archaeological sites but history enthusiasts who are eager to contribute to the current knowledge. Generally, in Slovakia (as of the end

² It was long considered a stylised animal motif (see *Prohászka/Nevizánsky* 2016; *Stadler* 1989; *Zoll-Adamikowa* 1998). Now, it turns to be a plant.

³ For this reason, it would be worthwhile to take another look at the copper-alloy fitting from the early medieval site no. 62 in Kraków-Nowa Huta-Mogiła (*Poleski* 2013, fig. 97: 6; *Robak* 2018, fig. 7) to check if it is or not a plate from a multi-part late medieval belt-end (cf. *Egan/Pritchard* 1991, fig. 93). The plate has been found out of any feature.

⁴ There are also doubts about an allegedly Merovingian fitting ended with a rather 'gothic' *fleur de lys* from Kalisz (*Baranowski* 2003).

⁵ In recent years, at least three similar items were offered at British internet antiquity auctions. Unfortunately, we cannot verify their origins.

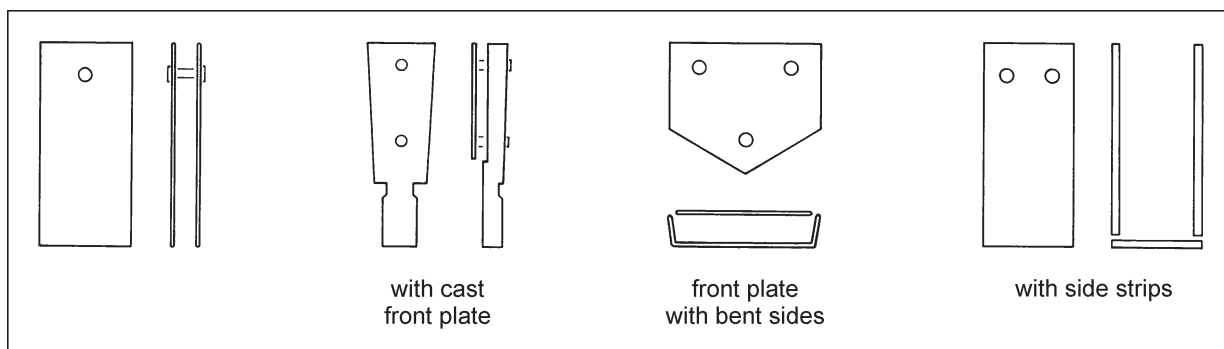


Fig. 5. Some technical solutions of late medieval two-part fittings (after Egan/Pritchard 1991, fig. 82).

of 2021), an archaeologist who wants to oversee or supervise amateur treasure hunts, for instance by a local history society, risks being accused of several offences and faces more serious punishment than the amateurs themselves. Personally, I am against such amateurish excavations because they often lead to the destruction of archaeological sites and the damages are often more serious than the benefits. However, I am also aware that we are unable to stop the treasure hunts. Amateurs will seek archaeological finds with or without professional supervision.

There are good practices that could be used to at least reduce the damages. For instance, in Germany, there are regulations allowing to control the amateur archaeology and private collections that otherwise could remain carefully hidden. Usually, such collections have little scientific value but, occasionally, they contain real gems. And I do not mean so much the finds themselves – let's be honest, museums and repositories are full of old axes and spurs – as the information about sites and the context of discovery that could be vital for the scientific progress. Also, some of the amateurs' finds,

if known, could be borrowed by local museums and shown to the local community interested in the history of their region. Unfortunately, despite numerous attempts to shift the legal landscape to the 21st c. (instead of petrifying the 19th c. *status quo*), central institutions ignore the problem.

The current penalisation is ineffective and stops virtually no one. A determined private collector, possibly balancing on the verge of the Slovak law, can legalise the collection becoming, thus, its sole owner. And then, we obtain scarce, often fabricated pieces of information about 'random passers-by' and 'ploughed finds' while actual contexts and sites remain meticulously hidden. The damages are done to the science and, ultimately, the Slovak history enthusiasts. Therefore, we should be glad that finds, as the 'hoard' from Orešany, are passed to the archaeologists at all and could be analysed (although not without mistakes) and presented to the public. However, how much more knowledge we could obtain if only the amateur treasure hunters were not afraid to disclose the full details about their finds remain an important, yet unanswered question.

BIBLIOGRAPHY

- Baranowski 2003 – T. Baranowski: Okucie pasa z Kalisza. In: M. Dulnicz (red.): *Słowianie i ich sąsiedzi we wczesnym średniowieczu*. Warszawa – Lublin 2003, 225–229.
- Egan/Pritchard 1991 – G. Egan/F. Pritchard: *Dress Accessories c. 1150–c. 1450. Medieval finds from excavations in London 3*. London 1991.
- Fingerlin 1971 – I. Fingerlin: *Gürtel des hohen und späten Mittelalters*. München – Berlin 1971.
- Furman 2020 – M. Furman: *Nové objavy v Žilinskom kraji I. Archeologické aktivity Krajského pamiatkového úradu Žilina v rokoch 2014–2018*. Žilina 2020.
- Loubal 1938–1939 – A. Loubal: Kostolný radový slovenský cmiter v Bolerázi (okr. Trnava) a niektoré problémy. *Sborník Muzeálnej slovenskej spoločnosti* 32–33, 1938–1939, 106–126.
- Pieta/Ruttkay 2017 – K. Pieta/M. Ruttkay: Zeit des Untergangs. Ein Hort spätawarischer Bronzen aus Dolné Orešany in der Westslowakei. In: B. V. Eriksen/A. Abegg-Wigg/R. Bleile/U. Ickerodt (Hrsg.): *Interaktion ohne Grenzen. Beispiele archäologischer Forschungen am Beginn des 21. Jahrhunderts. Band I – Interaction without borders. Exemplary archaeological research at the beginning of the 21st century. Volume 1*. Schleswig 2017, 541–554.
- Poleski 2013 – J. Poleski: *Małopolska w VI–X wieku. Studium archeologiczne. Opera Archaeologiae Iagiellonicae 3*. Kraków 2013.
- Profantová 2011 – N. Profantová: Karolínské importy a jejich napodobování v Čechách, případně na Moravě (konec 8.–10. století). In: V. Turčan (zost.): *Karolínska kultúra*

- a Slovensko. Štúdie. Zborník SNM. Archeológia. Supplementum 4. Bratislava 2011, 71–104.
- Prohászka/Nevizánsky 2016 – P. Prohászka/G. Nevizánsky: Ein seltener karolingischer Fund aus Siebenbürgen. *Archäologisches Korrespondenzblatt* 46, 2016, 421–429.
- Robak 2017 – Z. Robak: Carolingian Decoration from Dolné Orešany. In: G. Fusek (Hrsg.): *Archäologische Studien zum frühen Mittelalter. Internationale Konferenz Nitra vom 18. bis 20. Oktober 2016*. Archaeologica Slovaca Monographiae. Communicationes 19. Nitra 2017, 153–160.
- Robak 2018 – Z. Robak: Carolingian or not? An Analysis of the Fitting from Haliczany in the Context of other Early Medieval Finds from Selected Areas of the Western Slavic Territories. *Slovenská archeológia* 66, 2018, 49–105.
- Ruttkay 1989 – A. Ruttkay: Prvky gotickej módy v odeva a ozdobách dedinského obyvateľstva na území Slovenska. (Horizont hrobov zo 14.–15. stor. v Ducovom, obec Moravany nad Váhom.) *Archaeologia historica* 14, 1989, 355–378.
- Samariter/Rütz/Albrecht 2016 – R. Samariter/T. Rütz/M. Albrecht: Greifswald, Fpl. 214. *Bodendenkmalpflege in Mecklenburg-Vorpommern* 64, 2016, 372–397.
- Sawicki 2021 – J. Sawicki: *Dress Accessories from Prague, c. 1200–c. 1800. Catalogue of finds*. Prague – Wrocław 2021.
- Schulze-Dörrlamm 2009 – M. Schulze-Dörrlamm: Gegossene Gürtel- und Riemenbeschläge mit karolingischem Pflanzendekor aus Andalusien. *Jahrbuch des Römisch-Germanischen Zentralmuseums* 56, 2009, 743–788. DOI: <https://doi.org/10.11588/jrgzm.2009.2.16573>
- Stadler 1989 – P. Stadler: Petronell. *Fundberichte aus Österreich* 28, 1989, 260.
- Willemssen/Ernst 2012 – A. Willemssen/M. Ernst: *Medieval Chic in Metal. Decorative mounts on belts and purses from the Low Countries, 1300–1600*. Zwolle 2012.
- Zoll-Adamikowa 1998 – H. Zoll-Adamikowa: Wczesno-karolińskie okucie z ornamentem zoomorficznym znalezione w Krakowie na Wawelu. *Acta Archaeologica Waweliana* 2, 1998, 93–104.

Manuscript accepted 19. 4. 2022

Translated by Magdalena Adamus

Mgr. Zbigniew Robak, PhD.
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra

Römisch-Germanisches Zentralmuseum
Leibniz-Forschungsinstitut für Archäologie
Ernst-Ludwig-Platz 2
DE – 55116 Mainz
zbigniew.robak@savba.sk

Včasno alebo neskorostredoveké?

Kovové ozdoby opaskov, ktoré spôsobili nejeden zmätok

Z b i g n i e w R o b a k

SÚHRN

V roku 2005 Archeologický ústav SAV v Nitre zaznamenal informáciu o náleze „depotu“ bronzových predmetov amatérskymi archeológmi v Dolných Orešanoch, okr. Trnava. Predmety boli odovzdané a uložené v depozitári AÚ SAV a na mieste nálezů sa vykonal menší zisťovací archeologický výskum, pri ktorom sa na skúmanej ploche zaevidovalo niekoľko ďalších artefaktov. Na základe získaných informácií sa dospelo k záveru, že „depot“ nebol pôvodne uložený na jednom mieste, ale nálezy z neho boli roztrúsené po okolí na ploche asi 8 m², odkiaľ ich nálezcovia pozbierali (Ruttkay/Pieta 2017).

Zbierka pozostáva celkovo z 86 bronzových ozdôb a predbežne bola klasifikovaná ako depot, datovaný na prelom 8. a 9. stor. Väčšinu nálezů tvoria neskorostredoveké ozdoby o ktorých pôvode a chronológii niet pochyb. V prípade niekoľkých predmetov (obr. 1) sa však vyskytli pochybnosti o ich klasifikácii. Jedným z nich je aj kovanie (obr. 1: 1), ktoré bolo určené, a žiaľ, aj chybné publikované ako karolínske (Robak 2017).

Ide o malú obdĺžnikovú prelamovanú aplikáciu, zobrazujúcu symetricky usporiadaný motív vínnej révy. Tento motív je veľmi typický pre karolínsku renesanciu, až na

jeho vyhotovenie v podobe prelamovanej platničky. Musím priznať, že pri publikovaní tohto predmetu som bol silne ovplyvnený všeobecnou chronológiou náleziska a úplne som ignoroval indicie, že orešanský „depot“ nemusí byť uzavretým nálezovým celkom, čo naznačovala už prítomnosť jedného kovania staromaďarského vzhľadu.

Zaujímavé je, že „pseudokarolínske“ prelamované kovanie nebolo jediným „neobvyklým“ predmetom v analyzovanej zbierke. Nedostatok blízkych analógií medzi včasnostredovekými artefaktmi bol badateľný aj v prípade piatich malých kovaní v tvare presýpacích hodín, resp. tvaru dvojitého T. Okrem nich sa v „depote“ nachádzalo ešte niekoľko predmetov s ťažko určiteľnou funkciou, hoci zjavne súviseli s odevom (obr. 1: 9–11).

Keďže aj po publikácii „depotu“ ma stále trápila vágnosť určenia prelamovaného kovania, rozhodol som sa vrátiť k hľadaniu analógií a rozšíriť ho o nálezy z neskorého stredoveku, ako naznačovalo datovanie veľmi podobného nálezu z Greifswaldu. Definitívny výsledok poskytl až hľadanie v katalógoch s neskorostredovekými nálezmi z oblastí hanzových miest. Ukázalo sa, že „pseudokarolínske“ kovanie je v skutočnosti neskorostredovekou alebo včasno-renesančnou opaskovou ozdobou, rámcovo datovanou do rokov 1350–1450. Vďaka vykonanému rešeršovaniu sa podarilo určiť podobnú chronológiu aj pre skupinu drobných ozdôb v tvare presýpacích hodín (obr. 1: 2–6), ktoré tiež od začiatku nekorešpondovali s celkovým charakterom „depotu“. Vo všeobecnosti tieto predmety môžeme datovať do 14. stor., kedy boli rozšírené po celej Európe. Jediné, čo sa spätne nepodarilo určiť, je datovanie troch spôn. Tie však nepôsobia dojmom, že by boli včasnostredoveké.

Na základe novo zistených argumentov už nesmieme hovoriť o nálezovom celku z Orešian, pretože nie sme schopní oddeliť pôvodné zloženie prípadného depotu. Tým, že niektoré predmety sa do „depotu“ dostali sekundárne – buď neopatrným zhrnutím z povrchu počas amatérskeho zberu, alebo boli z „dobrej vôle“ odovzdané nálezcami – hodnota uvedenej zbierky pre prípadné chronologické a typologické analýzy klesla na nulu. Táto, inak veľmi zaujímavá zbierka, by sa teda nemala stať v budúcnosti základom pre vytváranie nereálnych vedeckých hypotéz.

Na tomto mieste je tiež nutné poznamenať, že nie je ťažké si zameniť niektoré neskorostredoveké opaskové kovania s včasnokarolínskymi, najmä ak bádateľ intenzívne hľadá tie druhé. V oboch obdobiach sa používali klasické ornamentálne motívy (nie nadarmo sa hovorí o karolínskej renesancii), napríklad motív vínnej révy a liany, a tiež sa používali podobné tvary niektorých ozdôb. V literatúre sú už roky publikované predmety, ktorých chronológia je medzi bádateľmi sporná. To sa týka najmä rôznych tvarov nákončí.

Celá táto situácia tiež poukazuje na skutočnosť, ako je nutné byť opatrný pri analýze nálezov, ktoré boli nájdené detektorom kovov. Hlavne v situáciách, kedy archeológ nemôže priamo dohliadať na proces získavania nálezov.

V tomto konkrétnom prípade nepredpokladám *a priori* zlú vôľu alebo úmysel detektoristov (možno by som mal?). Taktiež od nich nemôžem požadovať odbornosť, metodickú aj vedeckú, akú by som očakával od seba alebo od profesionálnych archeológov vo všeobecnosti.

Na záver tejto sebakritiky je potrebné spomenúť, že slovenská legislatíva stále neponúka efektívne riešenie spolupráce medzi archeológmi a amatérskymi vyhľadávачmi pamiatok (v tomto prípade nenarážam na „primitívnych zlodejov“, ktorých jediným cieľom je vykradnúť a zničiť archeologické nálezisko). Na základe slovenskej legislatívy v súčasnosti vo všeobecnosti platí, že archeológ, ktorý by chcel akýmkoľvek spôsobom dohliadať na amatérske vyhľadávanie pamiatok, ktoré vykonáva napríklad miestny historický klub (a ktoré by sa pravdepodobne aj tak uskutočnilo, či už s jeho prítomnosťou alebo bez nej), sa vystavuje riziku, že bude obvinený z viacerých trestných činov a bude čeliť vážnejším dôsledkom ako samotný amatérsky hľadač. Hoci osobne som zásadne proti takejto amatérskej činnosti, pretože nesporne vedie k ničeniu archeologických nálezísk a škody, ktoré takýto „výskum“ spôsobuje, prevažujú nad prípadným prínosom, uvedomujem si, že tento trend sa nedá zastaviť. Avšak aj takéto amatérske aktivity sa istým spôsobom dajú kontrolovať, a tým pádom by boli prípadné škody obmedzené, ako ukazuje aj prax z Nemecka.

Podobne je to aj so súkromnými zbierkami, ktoré amatéri starostlivo ukrývajú. Väčšinou nie sú z vedeckého hľadiska príliš zaujímavé, ale aj medzi nimi je možné nájsť „perly“. A pritom nejde ani tak o samotné predmety. Povedzme si úprimne, že sklady AÚ SAV a slovenských múzeí sú plné napríklad starých ostrôh a sekier. Pre bádateľov a pamiatkovú inštitúciu sú dôležité informácie o existencii takýchto zbierok, ktoré by mali byť oficiálne evidované. V prípade predmetov by bolo potrebné vyžadovať evidovanie miesta nálezu a jeho nálezových okolností. V budúcnosti by možno mali múzeá dokonca záujem o zapožičanie si niektorých artefaktov zo súkromných zbierok.

Žiaľ, napriek opakovaným pripomienkam inštitucionálnych archeológov a ich ochote spolupracovať na vypracovaní riešení zodpovedajúcich realite 21. a nie 19. stor., zákonodarca a byrokratické centrálné inštitúcie tento problém jednoducho dlhodobo ignorujú. Neúčinné penalizovanie amatérskeho vyhľadávania, ktoré takmer nikoho nezastaví, sa dá ľahko obísť. Odhodlaný majiteľ súkromnej zbierky bude môcť, balansujúc na hrane slovenského práva, svoju zbierku zlegalizovať a stať sa jej výlučným vlastníkom. A potom my, vedecká obec, dostávame zvyškové vykonštruované informácie o „náhodných okoloidúcich“ a „vyoraných nálezoch“, pričom skutočné okolnosti (kontext) a miesto sú zatajované. Jediný kto na tejto situácii stráca je veda a v konečnom dôsledku slovenská spoločnosť. Môžeme byť teda radi, že aspoň takéto nálezy, ako je zbierka z Orešian, sa dostanú do rúk archeológov a tí ich môžu neskôr preskúmať (ako vidíme, nie bez chýb) a prezentovať verejnosti.

DISKUSIA

Great Moravian Elites from Mikulčice – niekoľko poznámok

A N D R E J B O T E K

Great Moravian Elites from Mikulčice – Few Notes. In the 2020 Institute of Archaeology of the Czech Academy of Sciences in Brno published a monograph (rich on content and scope) *Great Moravian Elites from Mikulčice*. This article is a reaction on some published issues. In the file of the archaeological researches in the locality around the church of St. Margaret of Antioch near Kopčany it completes important researches. It points on fact, that due to dendrochronological and radiocarbon analyses the churches in Kostolany pod Tribečom and Nitrianska Blatnica are (besides the church by Kopčany) known as Great Moravian too. These are not included in the corpuses of Great Moravian churches contained in this publication.

Keywords: Slovakia, Great Moravian Period, churches, archaeological researches, dating.

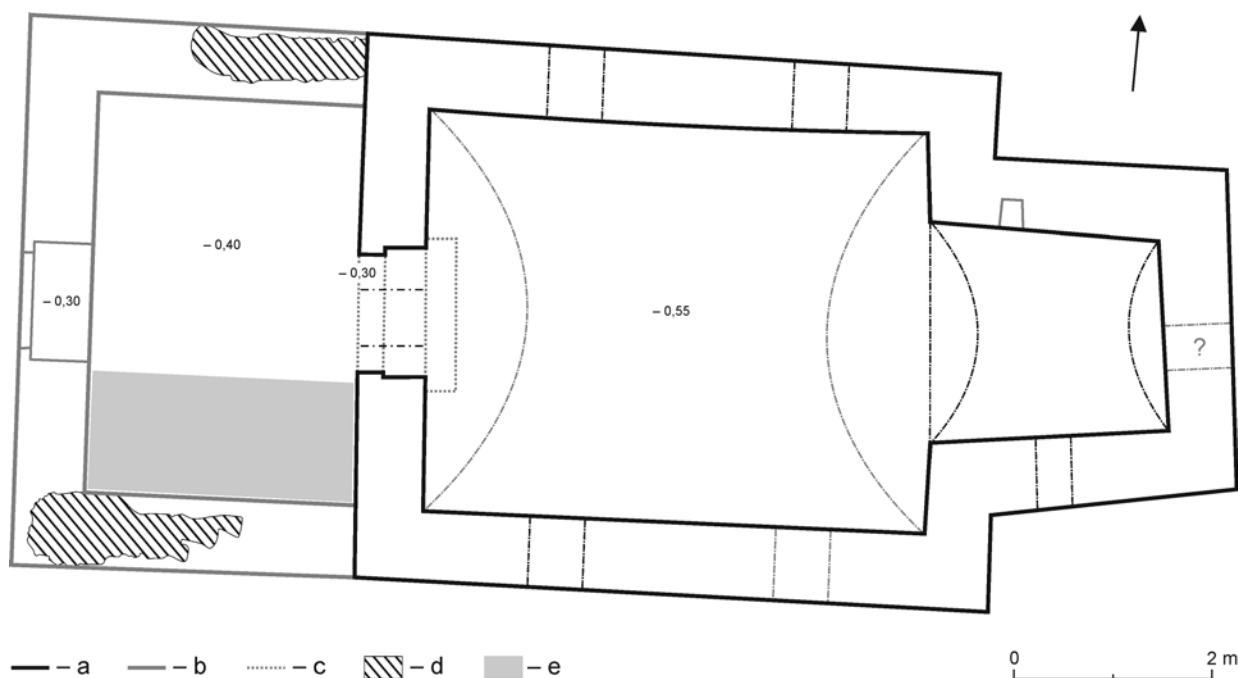
V roku 2020 vydal Archeologický ústav Českej akadémie vied v Brne obsahovo i rozsahovo objemnú publikáciu *Great Moravian Elites from Mikulčice* (Poláček et al. 2020). Ide o kolektívnu monografiu venovanú sídelnej štruktúre náleziska Valy pri Mikulčiciach, ktorá je výsledkom práce množstva odborníkov – nielen archeológov, ale aj odborníkov z rôznych príbuzných i špecifických odborov. Publikácia podáva ucelený a naozaj široký záber do uvedenej problematiky. Zahŕňa súvislosti historické, cirkevnohistorické a pramenné. Venuje sa všeobecne nálezovým situáciám, sumarizácii výskumov a novým revíziám, analýzam, otázkam štruktúry osídlenia, stavebnej činnosti, artefaktom (zbrane, nástroje, šperky...) a výzdobám. Okrem toho rieši aj také špecifické otázky, ako sú spôsob obživy obyvateľstva, anatomické charakteristiky, zdravotný stav populácie či ekonomické úvahy. Predkladaný príspevok nemá ambíciu recenzie ani polemiky s takto široko postavenou bázou. Predmetnú publikáciu víta ako vzácny sumár poznania nielen o uvedenej lokalite, ale aj ako výrazné obohatenie o okruhy bádania, ktoré neboli doteraz pertraktované. Rozhodne ide o nadpriemerne komplexne prezentovanú problematiku, ktorá je ťažiskovým a sumarizačným príspevkom do poznania veľkomoravskej epochy a jej hmotných i nehmotných prejavov.

ARCHEOLOGICKÉ VÝSKUMY
PRI KOSTOLE SV. MARGITY ANTIOCHISKEJ
PRI KOPČANOCH

Chcem však poukázať na isté, nie celkom relevantne spracované skutočnosti, dotýkajúce sa kon-

krétne oblasti veľkomoravskej sakrálnej architektúry a jej prieskumov. V prvom rade mám na mysli príspevok P. Baxu „Settlement Complex Za Jazerom pri Sv. Margite in Kopčany, Slovakia“ (Baxa 2020). Autor v ňom podáva stručnú informáciu o lokalite, výskumoch, kostole i o predpokladanej sídliskovej štruktúre v danom priestore. Uvádza tiež staršie archeologické výskumy L. Kraskovskej a V. Vráblikovej z okolia kostola zo 60. a 70. rokov 20. stor. a následne bezprostredne spomína výskum z rokov 1998–2014, ktorý sám realizoval, pričom autor sa odvoláva iba na svoje vlastné príspevky (Baxa 2010) a na tie, ktoré publikoval v kolektíve (Baxa a i. 2004; 2005; Baxa/Maříková-Kubková 2017). Na tomto mieste treba poznamenať, že nie je spomenutý archeologický výskum V. Drahošovej z rokov 1994–1995, ktorému vďačíme za odкрытие nálezov, podstatným spôsobom ozrejmujúcich pôvodnú situáciu i vývoj tohoto jedinečného objektu. Okrem iného ide predovšetkým o odkrytie primárnej predsieni kostola so zahĺbeným objektom pri jej južnej stene, čo je dôležitým poznatkom vzhľadom na primárnu hmotovú skladbu. Stručné výsledky výskumu vedeného V. Drahošovou boli publikované (Drahošová 1995; Drahošová/Vančo 1994) a autorovi zmieneného príspevku, aj vzhľadom na jeho pokračovanie vo výskumných prácach, by mali byť známe.

Nález predsieni je ťažiskový pre typológiu primárnej podoby objektu. Bola realizovaná tesne po dokončení kostola, ako určili autori architektonicko-historického výskumu na základe rozboru mált (Sabadošová/Havlík 1999, 74). Časový odstup bol tak krátky, že ju možno považovať za podfázu v rámci primárnej etapy výstavby. V predsieni bol na celú dĺžku južnej steny vytvorený zahĺbený



Obr. 1. Kopčany, Kostol sv. Margity Antiochijskej. Hypotetická rekonštrukcia primárnej fázy. Legenda: a – jestvujúce a doplnené murivá; b – rekonštruované murivo a prvky; c – rekonštruovaný vstup; d – murivo; e – zahĺbený objekt s murivom siahajúcim do hĺbky 0,5 m. Autori kresby A. Botek a K. Palgutová.

objekt, pričom autori neskoršieho archeologického výskumu predpokladajú, že výnimočnosť kostola je daná práve uvedeným zahĺbeným objektom, nezávisle od jeho interpretácie. O jeho funkcii uvažovali pomerne široko – relikviár, krstná nádrž, hrobka, pričom sa predbežne priklonili ku krstnej nádrži (Baxa a i. 2005, 50). Sme toho názoru, že práve výstavba uvedeného zahĺbeného objektu bola príčinou vzniku predsieni (obr. 1).¹

Ako som poukázal už dávnejšie (Botek 2010, 34), relikviár vylučujem jednak z dôvodu symbolického významu miesta², jednak kvôli veľkosti objektu. Tá by totiž indikovala celotelovú schránku a získať v tom čase celé telo svätca pre periférne prostredie je vylúčené. V prípade krstného bazéna nie je zaznamenané pôsobenie vody na omietkové vrstvy podlahy a stien (v zachovaných partiách) a nenašiel sa ani výpustný otvor. Navyše, pri veľkomoravských kostoloch máme doložené samostatné priestory pre krsty v blízkosti objektov.³ Z viacerých

dôvodov považujem za reálny práve účel hrobky (Botek 2010, 34, 35). Z nálezových súvislostí možno predpokladať, že krátko po stavbe tohto kostola došlo k úmrtiu významného predstaviteľa (možno širšej) komunity, ktorého spoločenské postavenie spôsobilo, že z dôvodu jeho pochovania sa vybudovala zmienená prístavba (Botek 2020, 13, 14).

Inou dôležitou skutočnosťou bol nález stredovekého základu menzy na rozhraní lode a svätyne. Došlo k tomu v jednej zo stredovekých fáz, kedy bola menza presunutá zo zadnej steny do priestoru, takže nevypovedá o prvotnej situácii. Najmä prvý zo spomenutých odkryvov bol ťažiskovým prínosom do typológie veľkomoravskej sakrálnej architektúry a úvah o jej interpretácii. S ohľadom na sústredenie sa na archeologickú problematiku nemožno autorovi vyčítať opomenutie architektonicko-historických a reštaurátorských výskumov, ktoré boli v kostolíku realizované, a to aj z dôvodu rozsahu príspevku.

¹ Vzhľadom na skutočnosť, že predsieň prekryla loď kostola s oknom v západnej stene, ktoré takto ústilo do podkrovia a nemohlo presvetľovať loď, pôvodne som predpokladal, že predsieň vznikla až v dobe zámurovky zmieneného okna, k čomu došlo cca v 12.–13. stor. (Botek/Úradníček 1998, 34). Základy predsieni sme už nemohli preskúmať a porovnať charakteristiky spojív. Styk muriva predsieni s loďou bol zničený odplavením fragmentu počas búrky v máji 1996, keďže sonda bola otvorená pre nadchádzajúcu komisiu. Vychádzali sme preto zo stavebnej logiky.

² Relikviáre – teda schránky, predkladajúce veriacim na úctu pozostatky kanonizovaného svätca, boli vzhľadom na význam situované v liturgickom priestore. Predsieň nebola na tento účel významovo vhodná.

³ Napr. za baptistériá, napr. určené zvyšky pri komplexe Uherské Hradiště-Sady, Kostol 4 (Valy pri Mikulčiciach) a iné. Treba však spomenúť, že v literatúre je pertraktovaná aj iná náplň týchto objektov, napr. v súvislosti s byzantským typom *skevofylakia* (Macháček 2014).

Vzhľadom na podrobné spracovanie takých artefaktov v príspevkoch v publikácii ako sú okrem šperkov napríklad úlomky skla, výzdobné prvky rukovätí a pod., je možno škoda, že úlomkom omietok z veľkomoravských kostolov s fragmentami polychrómií sa stručne venuje len jeden odsek (Poláček 2020, 165). Potom by sa mohla doplniť informácia, že aj v Kopčanoch sa zistili fragmenty primárnej povrchovej úpravy – v interiéri aj so stopami polychrómie (napr. Botek 2007, 98; Keleši 2014, 90; Sabadošová/Havlík 2008, 100).

KU KORPUSU VEĽKOMORAVSKÝCH KOSTOLOV

Ďalšia poznámka sa týka príspevkov D. Kalhousa „Church Organisation as a Bearer of New Culture and Innovations and Potential Support of Central Power“ (Kalhous 2020) a L. Poláčka „Ecclesiastical Centre and Place of Worship“ (Poláček 2020). Oba autori predkladajú odborne vysoko fundované príspevky, avšak v istom zmysle možno polemizovať o korpuse veľkomoravskej sakrálnej architektúry, ktorý uvádzajú. L. Poláček okrem známych veľkomoravských kostolov v lokalitách Mikulčice, Staré Město, Uherské Hradiště a Pohansko zahŕňa do sumára i slovenské lokality Kopčany, Ducové, Bratislava (hrad) a Devín (hrad) – tri posledné s istým poukazom na nejednoznačnosť vzhľadom na kontinuálnu stavebnú činnosť až do súčasnosti (Poláček 2020, 164, 165). D. Kalhous spomína zo slovenských lokalít okrem Kopčian iba Bratislavu a Devín (Kalhous 2020, 63). Oba autori uvádzajú, že Kopčany sú jediným stojacim veľkomoravským objektom, a teda sú jedinečným zdrojom štúdia predrománskej architektúry. Pisatelia sa odvolávajú na príspevok Baxa a i. 2005 (L. Poláček) a na príspevok Baxa/Maříková-Kubková 2017 (D. Kalhous).

V prvom rade je otázkou, či uvedený zoznam vyčerpáva nálezový fond veľkomoravských kostolov na Slovensku. Ak vylúčime spochybňované lokality Trenčín (hrad), Skalka nad Váhom-Choceľ ako i Nitru-Martinský vrch (kde bol pôvodný nález považovaný za veľkomoravský, momentálne však absentujú relevantné datovacie skutočnosti; Fusek/Bednár 2008, 33–36), ostávajú ešte Kostolany pod Tribečom a Nitrianska Blatnica. Tie sú už dlhodobo diskutované a v poslednom čase pomohli k ich presnejšiemu datovaniu exaktné meracie metódy (dendrochronológia a C^{14}). V príspevku o Nitrianskej Blatnici s prvými výsledkami dendrochrono-

logických analýz, publikovanom v roku 2015, viedli zistené údaje skôr k ranorománskemu obdobiu. Nitrianska Blatnica vykazovala analýzou antrognéneho kalcitu v maltovine najstarší možný interval 991–1052 (Bóna/Barta 2015, 687). Šlo však o jediné meranie a autori ho hodnotili ako predbežné. Ďalšie merania boli publikované v roku 2017 s výsledkom 850 ± 40 rokov, čo viedlo J. Doricu k tvrdeniu, že ide o vôbec najstaršiu stojacu veľkomoravskú stavbu (Dorica 2017, 34).

Najnovšie publikované výsledky rádiouhlíkových meraní viacerých vzoriek, ktoré uskutočnili pracoviská v Bratislave, Prahe, Debrecíne, Zürichu, Viedni, Aténach a Tuscone datovali najstaršie vzorky do obdobia 783–880, pričom s pravdepodobnosťou 86 % ide o dobu pred rokom 863 (Povínek a i. 2021, 974). Dôležitým fenoménom najmä starších sakrálnych stavieb sa javí aj kozmická orientácia (Polomová 2010, 21). Nedávno bol publikovaný výsledok astronomických meraní objektu. Zistilo sa, že os rotundy korešponduje s východom slnka v deň sv. Juraja (23. apríl), čo vedie k predpokladu pôvodnosti patrocínia (Kucharská 2020, 203).

Viacere chronometrické merania sa realizovali na vzorkách odobratých zo substancie kostola v Kostolčanoch pod Tribečom od roku 2009, pričom okrem iného sa zistil interval 703–915 (Barta/Bóna 2010, 58). Nové merania publikované v roku 2015 stanovili interval zošatia dreva na roky 897–926. Druhým variantom bolo rozmedzie 942–1014, avšak autori poukázali na fakt, že obdobie rastu dreveného paliva použitého pri výrobe vápna predchádza rok 863, čím je prvý variant pravdepodobnejší (Barta/Bóna/Keleši 2015, 705). Astronomické merania tohto kostola stanovili výrazný odklon orientácie stavby od osi východu slnka v deň sv. Juraja, čo môže indikovať pôvodne rozdielne patrocínium. Zhoda je pre dátum 14. február, čo je deň úmrtia Konštantína Filozofa a súčasne je to deň pred sviatkom sv. Klementa, ako je slávený v koptskom a sýrskom kalendári (Kucharská 2020, 200).⁴ Zmena patrocínia je principiálne možná a dochádzalo k nej, i keď všeobecne majú tendenciu stability. Sú spájané s nemennosťou a viazanosťou na miesto (Kvasnicová 2007, 53). Treba spomenúť, že okrem konkrétne uvádzaných príspevkov existuje pre oba objekty množstvo ďalšej literatúry, ktorú na tomto mieste nemenujem.⁵

Ak teda sumarizujeme uvedené publikované poznatky, vznik vo veľkomoravskom období s veľkou mierou pravdepodobnosti vykazujú aj dodnes v hmote zachované kostoly v Kostolčanoch pod

⁴ Autorka predpokladá aj pôsobenie alebo vplyv východných (koptských) mníchov, čo je však téma, ktorú je nutné podrobiť dôkladnému výskumu (Kucharská 2020, 201).

⁵ Naposledy komplexne pre Kostolany pod Tribečom Strakoš 2017.

Tribečom a v Nitrianskej Blatnici. Je preto prekvapujúce, že nie sú v spomenutých príspevkoch zaradené do veľkomoravského obdobia a to ani s mierou istej pravdepodobnosti.

Oproti tomuto je kostolík pri Kopčanoch datovaný s menšou spoľahlivosťou, i keď o jeho veľkomoravskom datovaní (teda do obdobia prelomu 9.–10. stor.) sa nepochybuje. Publikované datovanie je založené na náleze náušnice z druhej polovice 9. stor. v exteriérovom hrobe pri južnej stene kostola, pričom sa dokladá, že hrob orientáciou i situovaním rešpektuje priebeh muriva a v jeho zásype sa našli maltové úlomky, ktoré sa tam mali dostať pri jeho hĺbení (Baxa a i. 2004, 65). Publikované datovanie sa rýchlo ujalo a uvádzalo v literatúre (napr. Mlynka 2010).⁶ V tejto súvislosti sa riešila aj problematika archeologického parku Mikulčice – Kopčany (Lněnička 2021; Pauliny 2007).

Dendrochronologické analýzy zatiaľ nie sú v potrebnom rozsahu publikované. V. Bahýl síce publikoval, že ním analyzovaný posledný letokruh dreva rástol v roku 951 (Bahýl a i. 2013, 9), avšak tento výsledok je spochybňovaný. Okrem iných výhrad odborného charakteru, ktoré nebudem komentovať, keďže v danej problematike nie som odborník, bolo analyzované drevo smrekovec alebo smrek (Barta a i. 2010, 53), pričom aplikovaná metóda (podľa ústnej informácie) bola vyvinutá pre dub a preto je nepreukazná. Novú vzorku z primárneho dreva (odpružovacieho trámu štítu), ktorý sme objavili v roku 2011 a neskôr aj publikovali (Botek/Erdélyi/Vachová 2013), odobral v roku 2016 P. Barta. Konečné výsledky však doteraz neboli zverejnené, hoci počiatočná ústna informácia od P. Bartu potvrdzovala vysokú pravdepodobnosť pre výrub dreva do záverečných dekád 9. stor.

K otázke datovania kostola sa vyjadrili odborníci aj na základe rozboru nepriamych indícií. Napríklad R. Bača analyzoval nielen samotné patrocinium, ale aj širšie cirkevno-historické, heraldické a ikonografické súvislosti (Bača 2016).⁷ Vzhľadom na kontinuitu pochovávaní nemožno definovať, ktoré vzorky archeobotanického materiálu z hrobov prikostolného cintorína pochádzajú z veľkomoravského obdobia (Látková 2014, 120). Astronomické merania zas poukázali na výrazný odklon osi kostola od

východu slnka v deň patrocinia a ukázali zhodu na deň rovnodennosti – 21. marec.⁸

Všetky tri objekty nedávno podrobil analýzám vzhľadom na stavebno-technické a konštrukčné vlastnosti M. Illáš. Analyzoval spôsob murovania, armovania, tvary a konštrukciu zachovaných otvorov, povrchovú úpravu „príterkou“ a pod. Dospel k názoru, že uvedené a ďalšie prejavy svedčia hlavne o percepcii skúseností karolínskych staviteľov, i keď poukázal aj na prejavy adriatického charakteru (Illáš 2018; 2020).⁹

Ak by sme postupovali prísne exaktne, tak kostoly v Kostolčanoch pod Tribečom a nad Nitrianskou Blatnicou sú datovateľné do veľkomoravského obdobia s väčšou mierou pravdepodobnosti ako Kopčany. Pritom v spomenutých príspevkoch D. Kalhousa a L. Poláčka nie sú do súhrnu začlenené a nie je ani spochybnené ich aktuálne publikované datovanie.

ZÁVER

Z uvedeného môžeme konštatovať, že Kopčany nie sú jedinou stojacou veľkomoravskou architektúrou ale jednou z troch dodnes na území Slovenska stojacich – spolu s Kostolčanmi a Nitrianskou Blatnicou. Doteraz publikované datovanie do uvedeného obdobia je pre všetky objekty rovnocenné. Na českom území možno v širšom kontexte (hlavne po stavebno-technickej stránke) spomenúť aj rotundu v Budči, založenú medzi rokmi 895–915 (Illáš 2018, 137; Líbal 1981, 395), aj keď sa viaže historicky na obdobie, keď české kraje už neboli súčasťou Veľkej Moravy. Na základe uvedeného možno tiež k informáciám o archeologických výskumoch kostola pri Kopčanoch (Baxa 2020) doplniť jeden z dôležitých výskumov – vedený V. Drahošovou, ktorého výsledky podstatne spresnili situáciu objektu v prvotnom období, najmä nálezom predsiene so zahĺbeným objektom. Publikácia *Great Moravian Elites from Mikulčice* je neobyčajne kvalitným dielom renomovaných odborníkov, súhrnne spracovávajúcim mikulčické nálezisko so širokým záberom problematiky. Predložený príspevok je len bližším spresnením niektorých opomenutých detailov.

⁶ Napr. aj J. Elgyütt vo svojej štúdii o včasnostredovekých sídliskách na Záhorí konštatuje veľkomoravský pôvod kopčianskeho kostola (Elgyütt 2014, 98).

⁷ Poukázal aj na starobylosť patrocinia vo vzťahu napr. k doloženým dobovým patrociniami Pribinových kostolov v Panónii (Bača 2016, 152). Na starobylosť patrocinia spreď 12. stor. svojho času poukázal aj A. Bagin (1992).

⁸ Autorka v tom predpokladá zámerné prevrstvenie pohanských reminiscencií (Kucharská 2020, 194, 195).

⁹ Pri analýze použitia okien s trojuholníkovým klenákom (Kopčany) zistil najčastejšiu frekvenciu jeho výskytu pre 11. stor. Pre 9. stor. zistil jeho použitie v oblasti karolínskej architektúry v Aachene, Corwey a Melque (Illáš 2013, 117).

LITERATÚRA

- Bača 2016 – R. Bača: K patrocíniumu kostola sv. Margity Antiochijskej v Kopčanoch. Príspevok venovaný pamiatke 1130. výročia úmrtia sv. Metoda. *Slovenská archeológia* 64, 2016, 145–176.
- Bagin 1992 – A. Bagin: Kopčany pri Holíči iba 600-ročné? *Katolícke noviny* 33, 1992, 13.
- Bahýl a i. 2013 – V. Bahýl/P. Fleischer/L. Krišťák/T. Mé-száros/M. Pastierovič/A. Štafura: Je kostolík v Kopčanoch z obdobia Veľkej Moravy? *Záhorie* 22/5, 2013, 7–10.
- Barta/Bóna 2010 – P. Barta/ M. Bóna: Chronometrické datovanie muriva Kostola v Kostolanoch pod Tribečom: prvé výsledky. *Monumentorum tutela. Ochrana pamiatok* 22, 2010, 54–59.
- Barta/Bóna/Keleši 2015 – P. Barta/M. Bóna/M. Keleši: Chronometrický výskum murív Kostola sv. Juraja v Kostolanoch pod Tribečom. *Archaeologia historica* 40, 2015, 691–709.
DOI: <https://doi.org/10.5817/AH2015-2-18>
- Barta a i. 2010 – P. Barta/M. Hajnalová/A. Barta/J. Puškár: Analýza vzorky dreva z muriva kostola sv. Margity Antiochijskej v Kopčanoch. *Monumentorum tutela. Ochrana pamiatok* 22, 2010, 52, 53.
- Baxa 2010 – P. Baxa: Die Kirche St. Margarethen und andere Fundplätze des 9.–10. Jahrhunderts auf der Flur „Za jazerom pri sv. Margite“ von Kopčany. In: L. Poláček/J. Maříková-Kubková (Hrsg.): *Frühmittelalterliche Kirchen als archäologische und historische Quelle*. Spisy Archeologického ústavu AV ČR Brno 41. Internationale Tagungen in Mikulčice 8. Brno 2010, 135–148.
- Baxa 2020 – P. Baxa: Settlement Complex Za Jazerom pri Sv. Margite in Kopčany, Slovakia. In: Poláček et al. 2020, 118, 119.
- Baxa a i. 2004 – P. Baxa/V. Ferus/R. Glaser-Opitzová/J. Katkinová: Veľkomoravský kostol v Kopčanoch. *Pamiatky a múzeá* 4, 2004, 65.
- Baxa a i. 2005 – P. Baxa/V. Ferus/R. Glaser-Opitzová/J. Katkinová: Veľkomoravské hroby pri kostole sv. Margity Antiochijskej v Kopčanoch. *Pamiatky a múzeá* 3, 2005, 48–50.
- Baxa/Maříková-Kubková 2017 – P. Baxa/J. Maříková-Kubková: Predbežná správa o zisťovacom výskume veľmožského dvorca (?) z 9. až polovice 10. storočia v Kopčanoch. In: K. Harmadyová (zost.): *Devín Veroniky Plachej. Zborník k životnému jubileu PhDr. V. Plachej*. Bratislava 2017, 131–141.
- Botek 2007 – A. Botek: Kostol sv. Margity Antiochijskej v Kopčanoch – výsledky výskumov a metodické otázky obnovy. In: *Slivka* 2007, 97–102.
- Botek 2010 – A. Botek: Kostol sv. Margity v Kopčanoch – vývojové etapy a otázky metodiky obnovy. *Monumentorum tutela. Ochrana pamiatok* 22, 2010, 29–51.
- Botek 2020 – A. Botek: Die Frage des Grabes von Erzbischof Method im Zusammenhang mit der bekannten großmährischen Sakralarchitektur. *Historia Ecclesiastica* 11/2, 2020, 3–19.
- Botek/Erdélyi/Vachová 2013 – A. Botek/R. Erdélyi/B. Vachová: Nález zvyškov zaklenuťia lode kostola v Kopčanoch. *Pamiatky a múzeá* 2, 2013, 38–41.
- Bóna/Barta 2015 – M. Bóna/P. Barta: Príspevok k datovaniu vzniku rotundy sv. Juraja v Nirianskej Blatnici. *Archaeologia historica* 40, 2015, 683–689.
DOI: <https://doi.org/10.5817/AH2015-2-17>
- Dorica 2017 – J. Dorica: Reštaurovanie rotundy sv. Juraja pri Nitrianskej Blatnici. *Pamiatky a múzeá* 3, 2017, 31–34.
- Drahošová 1995 – V. Drahošová: Pokračovanie výskumu kaplnky Svätej Margity v Kopčanoch. *AVANS* 1995, 1997, 38.
- Drahošová/Vančo 1994 – V. Drahošová/M. Vančo: Výskum kaplnky sv. Margity v Kopčanoch. *AVANS* 1994, 1996, 42.
- Elgyütt 2014 – J. Elgyütt: Staršie včasnostredoveké nálezy zo Záhoria. *Študijné zvesti AÚ SAV* 55, 2014, 83–112.
- Fusek/Bednár 2008 – G. Fusek/P. Bednár: Die (vermutete) Kirche am Burgberg von Nitra (Slowakei). In: M. Pippal/F. Daim (Hrsg.): *Frühmittelalterliche Wandmalereien aus Mähren und der Slowakei. Archäologischer Kontext und herstellungstechnische Analyse*. Monographien zur Frühgeschichte und Mittelalterarchäologie 12. Innsbruck 2008, 31–45.
- Illáš 2013 – M. Illáš: K typu predrománskych okien v kaplnke sv. Margity Antiochijskej v Kopčanoch. *ARS* 46, 2013, 104–122.
- Illáš 2018 – M. Illáš: Niektoré stavebno-technické a výtvarné detaily zachovaných predrománskych kostolov v Čechách a na Slovensku v kontexte karolínskej architektúry. In: I. Halászová/P. Megyesi/R. E. Pročka (zost.): *Príbehy pamiatok a obrazov. Zborník príspevkov k sedemdesiatinám Ivana Gojdiča*. Trnava 2018, 135–175.
- Illáš 2020 – M. Illáš: Vzťah veľkomoravských kostolov ku karolínskej architektúre z hľadiska stavebnej techniky. *Musaica archaeologica* 5/2, 2020, 113–157.
- Kalhous 2020 – D. Kalhous: Church Organisation as a Bearer of New Culture and Innovations and Potential Support of Central Power. In: Poláček et al. 2020, 61–67.
- Keleši 2014 – M. Keleši: Reštaurátorský výskum a reštaurovanie v interiéri Kostola sv. Margity Antiochijskej v Kopčanoch. In: *Zborník prednášok XIII. medzinárodného seminára o reštaurovaní. Tatranská Lomnica 2014*. Bratislava 2014, 88–94.
- Kucharská 2020 – V. Kucharská: Niekoľko poznámok k historicko-kultúrnemu kontextu vzniku a počiatkov Kostola sv. Juraja v Kostolanoch pod Tribečom. *Kultúrne dejiny* 11, 2020, 191–217.
- Kvasnicová 2007 – M. Kvasnicová: Patrocínium sv. Gála v stredovekej architektúre na Slovensku. In: *Slivka* 2007, 53–82.
- Látková 2014 – M. Látková: Archeobotanika kopčianskeho sídelného komplexu. *Študijné zvesti AÚ SAV* 55, 2014, 113–129.
- Líbal 1981 – D. Líbal: Raně středověký vývoj kostela sv. Petra a Pavla na Budči. *Umění* 29, 1981, 395–398.
- Lněnička 2021 – L. Lněnička: Archeopark Mikulčice-Kopčany – názory odborné veřejnosti na zápis památky na seznam UNESCO. *Disputationes Scientifcae Universitatis Catholicae in Ružomberok* 21/1, 2021, 93–106.

- Macháček 2014 – J. Macháček: Byzantská misie a doklady jejího působení na Pohansku u Břeclavi. In: P. Kouřil a kol.: *Cyriometodějská misie a Evropa. 1150 let od příchodu soluňských bratří na Velkou Moravu*. Brno 2014, 92–101.
- Mlynka 2010 – L. Mlynka: Pamiatky európskeho kultúrneho dedičstva na Slovensku a ich kultúrno-historické súvislosti. In: J. Pekarovičová/M. Vojtech (ed.): *Studia Academica Slovaca* 39. *Prednášky XLVI. letnej školy slovenského jazyka a kultúry*. Bratislava 2010, 121–133.
- Pauliny 2007 – P. Pauliny: Archeologický park Mikulčice – Kopčany. Projekt. *Slovenská architektonická revue* 5–6, 2007, 16–21.
- Poláček 2020 – L. Poláček: Ecclesiastical Centre and Place of Worship. In: *Poláček et al. 2020*, 163–171.
- Poláček et al. 2020 – L. Poláček et al.: *Great Moravian Elites from Mikulčice*. Brno 2020.
- Polomová 2010 – B. Polomová: Východiská obnovy sakrálnej architektúry. In: *Bardkontakt 2010. Problematika mestských pamiatkových centier. Bardejov 24.–25. august 2010*. Bardejov 2010, 20–23.
- Povinec a i. 2021 – P. P. Povinec/A. Cherkinsky/J. Dorica/I. Hajdas/A. J. T. Jull/I. Kontuľ/M. Molnár/I. Svetlík/E. M. Wild: Radiocarbon dating of St. George's Rotunda in Nitrianska Blatnica (Slovakia): International Consortium Results. *Radiocarbon* 63/3, 2021, 953–976. DOI: <https://doi.org/10.1017/RDC.2021.31>
- Slivka 2007 – M. Slivka (zost.): *Kostol ako stred sídliskovej jednotky. Sympóziium 31. 8.–2. 9. 2006, Kláštorisko*. *Studia archaeologica Slovaca mediaevalia* 6. Levoča – Kláštorisko 2007.
- Strakoš 2017 – M. Strakoš: Kostol sv. Juraja v Kostolčanoch pod Tribečom – skvost predrománskej architektúry a umenia. *Notitiae Historiae Ecclesiasticae* 6/2, 2017, 7–36.

Nepublikované pramene

- Botek/Úradníček 1998 – A. Botek/V. Úradníček: Kostolík sv. Margity Antiochijskej Kopčany. Bratislava 1998. Záverečná správa. Výskumná úloha 7/95 VŠVU – Výskum sakrálnej architektúry. Výskumná dokumentácia reštaurátorského výskumu. Sign. R 214. KPÚ Trnava.
- Sabadošová/Havlík 1999 – E. Sabadošová/M. Havlík: Kopčany. Správa o výsledkoch architektonického výskumu z rokov 1995–1998. Bratislava 1999. Výskumná dokumentácia architektonicko-historického výskumu. Sign. T 691. PÚSR Bratislava.
- Sabadošová/Havlík 2008 – E. Sabadošová/M. Havlík: Umelecko-historický výskum. Kostol sv. Margity Antiochijskej v Kopčanoch. Bratislava 2008. Výskumná dokumentácia architektonicko-historického výskumu. Sign. T 5121. PÚSR Bratislava.

Rukopis prijatý 7. 5. 2022

Translated by author

doc. Mgr. Ing. arch. Andrej Botek, PhD.
Ústav dejín a teórie architektúry a obnovy pamiatok
Fakulta architektúry a dizajnu STU
Nám. slobody 19
SK – 812 45 Bratislava
andrej.botek@stuba.sk

Great Moravian Elites from Mikulčice – Few Notes

Andrej Botek

SUMMARY

In the year 2020 the Czech Academy of Sciences – Institute of Archaeology, Brno published an important monograph of the Great Moravian settlement Valy by Mikulčice – *Great Moravian Elites from Mikulčice*. It is the most important publication about this locality in the last 35 years at least. The monograph deals with very wide issues – from the general geographical and wide historical and ecclesiastical context in the area of the east Central Europe conditions, through the nearly local relations concerning long-distance roads, agglomerations, urbanistic issues, to the specific problems such as the artefacts, glass industry, swords decoration, economical, agricultural and anthropological contexts and others as well. Author of this article finds the publication as very valuable, but concerning detailed issues, he wants to remark some facts, which are not directly denoted in the articles.

The first one is article of P. Baxa 'Settlement Complex Za Jazerom pri Sv. Margite in Kopčany, Slovakia', in which the author writes also about the important previous archaeological researches in this locality. The author is convinced – in the article there is not written about essential archaeological researches led by V. Drahošová in the years 1994–1995, during which the very important facts were discovered – for example the west vestibule with a recessed object along its

southern wall and relating the younger period the base of medieval mense, that was moved from the east wall to the nave.

According to the general corpus of Great Moravian churches two articles deal with a summary of known architectures: 'Church Organisation as a Bearer of New Culture and Innovations and Potential Support of Central Power' (Kalhous, 2020) and 'Ecclesiastical Centre and Place of Worship' (Poláček 2020). The both authors wrote only about concerning known examples in Slovakia – Bratislava-castle, Devín-castle, Ducové and church by Kopčany, which is denoted as the only standing architecture from the Great Moravian Period. In these connections it is important to remark the latest dendrochronological and ¹⁴C analyses which show, that the two exist churches – Kostolany pod Tribečom and the rotunda near Nitrianska Blatnica – can be also dated in the period from the end of the 9th to the beginning of the 10th c., which means in the Great Moravian Period as well. In these connections must be spoken that the church of Kopčany is considered as a Great Moravian church due to the archaeological find of a Great Moravian jewellery from a grave and a rest of mortar fragments in it. The exact results of the dendrochronological analyses haven't been published yet.

Fig. 1. Kopčany, Church of St. Margaret of Antioch. Hypothetical reconstruction of the primary phase. Legend: a – existing and supplemented masonry; b – reconstructed masonry and elements; c – recon-

structed entrance; d – masonry; e – sunken object with masonry reaching to a depth of 0.5 m. Authors of the drawing A. Botek and K. Palgutová.

JUBILEUM

K jubileu PhDr. Kristiana Elscheka, CSc.



V závere minulého roku svoje významné životné jubileum oslávil dlhoročný pracovník Archeologického ústavu SAV a uznávaný odborník na dobu rímsku PhDr. Kristian Elschek, CSc. Narodil sa v Bratislave 20. novembra 1956 a vyrastal v rodine plnej hudby. Obaja jeho rodičia sú významnými hudobnými teoretikmi a etnomuzikológmi, jeden z jeho bratov sa venuje výrobe a reštaurovaníu husľových hudobných nástrojov v rakúskom Salzburgu. Navyše to bola opäť jeho bratislavská dvojazyčná rodina, ktorá ho pre budúce zamestnanie obohatila solídnu znalosťou nemčiny. Kristian Elschek sa po absolvovaní gymnázia rozhodol pre archeológiu. „Vďaka“ svojmu triednemu pôvodu si ale štúdium archeológie musel „zaslúžiť“ a najskôr celé mesiace odpracovať v iných inštitúciách, najmä ako sprievodca po bratislavských pamiatkach. Nakoniec ale v rokoch 1979 až 1984 štúdium úspešne absolvoval ako externý študent a zavŕšil ho obhajou

bou diplomovej práce *Typológia a chronológia opaskov z Československa v dobe rímskej*.

Po ukončení štúdií niekoľko rokov pracoval na vtedajšom Slovenskom ústave pamiatkovej starostlivosti a výskumy viedol v Kremnici a v Banskej Štiavnici. V roku 1988 nastúpil na AÚ SAV v Nitre, kde pôsobí dodnes. Najskôr mal svoju pracovňu na Samovej ulici na Nitrianskom hrade, v susedstve významných osobností slovenskej archeológie a numizmatiky – doc. A. Točíka a dr. E. Kolníkovej. Začiatkom 90. rokov Archeologický ústav získal niekoľko kancelárií v areáli SAV na bratislavskej Patrónke. Keďže Kristian Elschek v tom čase viedol rozsiahly archeologický výskum v Bratislave-Dúbravke, celkom prirodzene sa presunul do novozałożenej pobočky.

Už počas štúdia prejavoval záujem o dobu rímsku. Tento jeho záujem prehĺbil a obohatil dlhodobý výskum v Bratislave-Dúbravke, na jednom

z najvýznamnejších sídlisk doby rímskej na západnom Slovensku. Lokalita patrí k len niekoľkým z mála, kde je doložená celkom najstaršia etapa germánskeho osídlenia severne od stredného Dunaja, navyše obohatená o nevšedný hutnícky okrsok metalurgie železa. Ešte dôležitejšie je ale miestne veľmožské sídlo z 3. stor. s kamennou budovou „kúpeľa“, ktorá vyvolala v odbornej literatúre početné diskusie. Odkrytá stavba bola prezentovaná účastníkom exkurzie prestížneho „Limeskongresu“, ktorý sa v roku 1986 konal v neďalekom Carnunte. Pod vedením dr. Titusa Kolníka sa na vedení výskumu vtedy a v nasledujúcich rokoch podieľalo viacero mladých absolventov klasickej a pravekej archeológie z Prahy a z Bratislavy (okrem K. Elscheka aj J. Lomenová-Schmidtová, Z. Stegmann-Rajtárová, L. Kulichová-Ondráčková, J. Hromada, P. Roth). V tých rokoch som Kristiana a Titusa – ako vtedajší študent archeológie v Bratislave – mal možnosť prvýkrát stretnúť aj ja. Keďže Kristian bol z uvedených spolupracovníkov najvytrvalejší a najhúževnatejší, výsledky výskumu tohto, v germánskom barbariku výnimočného náleziska, „zdedil“. Stali sa základom jeho dizertačnej práce, ktorú predložil v nemeckom jazyku (*Das Bratislavaer Tor im 1.–5. Jahrhundert. Die römische und frühvölkerwanderungszeitliche Besiedlung von Bratislava und der Westslowakei*) a v roku 1998 aj úspešne obhájil. V roku 2017 bola germánska osada spolu s kniežacím sídlom publikovaná v edícii *Studia na AÚ SAV* pod názvom *Bratislava-Dúbravka im 1. bis 4. Jahrhundert n. Chr. Germanischer Fürstensitz mit römischen Bauten und die germanische Besiedlung*. Kniha sa zaradila do základného fondu literatúry o dobe rímskej na Slovensku.

Asi to bol výskum v Bratislave-Dúbravke, a možno aj jeho vtedajšie bydlisko v Devínskej Novej Vsi, ktoré Kristiana Elscheka priviedli k hlbokému záujmu o región dolného Pomoravia či južného Záhoria. Doslova si zamiloval tento kraj a pozná ho veľmi dôverne ako archeológ, ale aj ako vášnivý cyklista. V rámci medzinárodného projektu *Roman Countryside Project* sa venoval systematickej prospekcii známych nálezísk, vyhľadávaniu nových lokalít (više 110 nových prevažne polykultúrnych sídlisk). Viedol aj početné záchranné a systematické výskumy so zameraním na dobu rímsku, no nielen na ňu (Bratislava-Devínska Nová Ves, Gajary, Kostolište, Láb, Lozorno, Plavecký Štvrtok, Stupava-Mást, Vysoká pri Morave). Z nich osobitne

treba akcentovať archeologickú lokalitu v Zohore, náleziska dlho známeho svojimi bohatými hrobmi zo staršej doby rímskej. Neskôr sa práve Kristianovi podarilo identifikovať a čiastočne preskúmať aj žiarové germánske pohrebisko a predovšetkým rozsiahle svébske sídlisko s intenzívnou železiarskou produkciou, ako aj početným výskytom rímskeho stavebného materiálu. V roku 2010 objavil ďalší kniežací hrob z 2. stor., bohato vybavený rímskym bronzovým a skleneným riadom. Objav bol ovenčený výročnou cenou časopisu *Pamiatky a múzeá* *Nález roka*.

Vedeckým zameraním Kristiana Elscheka bola a je predovšetkým doba rímska a doba sťahovania národov. Je autorom a spoluautorom ôsmich monografií a vyše 120 vedeckých a vedecko-populárnych štúdií a kratších článkov. Je príjemným spoločníkom a zúčastnil sa na takmer stovke medzinárodných a národných konferencií, len výnimočne bez vlastného referátu. Takmer celý rok 1998 strávil na dvoch, navzájom nadväzujúcich, štipendijných pobytoch v Holandsku (*Mellon Research Fellowship na NIAS – Netherlands Institute for Advanced Studies in the Humanities and Social Sciences*) a v Belgicku (*CRAN – Centre Recherches Archaeologie Nationale in Louvain-la-Neuve*). V roku 2017 absolvoval študijný pobyt v Slovenskom historickom ústave v Ríme. Jeho odborný záujem však pritiahla aj keltská a rímska numizmatika, či keltské alebo slovanské osídlenie na Záhori, resp. v širšom okolí Bratislavy. V súčasnosti svoje úsilie sústreďuje predovšetkým na zhodnotenie archeologických situácií a nálezov zo spomínaného Zohora.

Kristian Elschek je jazykovo nadaný, nemčina mu je druhým rodným jazykom z prešporského detstva. Podieľa sa a pomáha kolegom pri prekladoch vedeckých textov do nemeckého jazyka. Dlhodobu udržiava kontakty s akademickým prostredím najmä v blízkej Viedni, čoho výsledkom sú nielen spoločné prospekcie (Slovensko, Rakúsko a Francúzsko) ale aj publikácie (prednádávaním o sídlisku v Stupave-Máste na stránkach tohto časopisu, či príspevky rakúskych kolegov a priateľov v jeho knihe o Bratislave-Dúbravke).

Milému Kristiánovi prajem, aby absolvoval ešte veľa šťastných cyklo-kilometrov po jeho milovanom Záhori a v blízkom okolí. Aby ho neopúšťal optimizmus, úsmev z tváre a podarilo sa mu úspešne pokračovať v jeho archeologickom diele.

BIBLIOGRAFIA

1987

1. Bohuslav Novotný: Encyklopédia archeológie (rec.). *Pamiatky a príroda* 18, 1987, 5.

1988

2. Záchranný výskum v Mestskej pamiatkovej rezervácii Kremnica. *AVANS* 1987, 1988, 45, 46.

1989

3. J. David Zienkiewicz: The Legionary Fortress Bath at Caerleon. II. The finds (rec.). *Slovenská archeológia* 37, 1989, 456–458.

1990

4. Denkmalpflegerische Gestaltung von archäologischen Fundstellen in der Slowakei. In: *Itinerari storico-archeologici nei Paesi dell' Alto Adriatico e Medio Danubio. Atti convegno della Pentagonale*. Trento 1990, 34, 35.
5. Michael Mackensen: Frühkaiserzeitliche Kleinkastelle bei Nersingen und Burlafingen an der oberen Donau (rec.). *Slovenská archeológia* 38, 1990, 227, 228.

1993

6. Antika v zbierkach Slovenského národného múzea. *Pamiatky a múzeá* 2, 1993, 20, 21.
7. Jedenásta výskumná sezóna v Bratislave-Dúbravke. *AVANS* 1992, 1993, 32, 33.

1994

8. Das „Bratislavaer Tor“ im 2. Jahrhundert. In: H. Friesinger/J. Tejral/A. Stuppner (Hrsg.): *Markomannen-kriege. Ursachen und Wirkungen. VI. Internationales Symposium „Grundprobleme der frühgeschichtlichen Entwicklung im nördlichen Mitteldonauegebiet“*. Wien 23.–26. November 1993. Spisy Archeologického ústavu AV ČR Brno 1. Brno 1994, 203–215.
9. *Slovakia and the Slovaks. A Concise Encyclopedia*. Bratislava 1994. 55 hesiel (Amber Route, Avars, Barca, Bialeková, Biatek, Bronze Age, Budinský-Krička, Carpathian Barrow Culture, Celts, Chropovský, Čilinská, Dekan, Eisner, Empire of Samo, Eneolithic, Germans, Gerulata, Hallstatt Epoch, Iron Age, Janšák, Kingdom of Vannius, Kolník, Kolníková, Kraskovská, La Tène Period, Laugaricio, Lengyel Culture, Lichardus, Limes Romanus, Linear Pottery, Lusatian Culture, Mesolithic, Middle Danube Barrow Culture, Migration of the Nations, Neolithic, Nitra Culture, Novotná, Novotný, Otomani Culture, Paleolithic, Pavúk, Piliny Culture, Polla, Prague Type, Púchov Culture, Quads, Roman Period, Ruttkay, Slavs, Stone Age-Neolithic, Štefanovičová, Točík, Veľký Bysterec Treasure, Venus, Vladár, Vyškovce Treasure).

1995

10. Die germanische Besiedlung von Bratislava-Dúbravka während der älteren römischen Kaiserzeit. In: J. Tejral/K. Pieta/J. Rajtár (Hrsg.): *Kelten, Germanen, Römer im Mitteldonauegebiet. Vom Ausklang der Latène-Zivilisation bis zum 2. Jahrhundert*. Brno – Nitra 1995, 39–52.
11. Dvanásta výskumná sezóna v Bratislave-Dúbravke. *AVANS* 1993, 1995, 37, 38.

1996

12. Nové nálezy rímskych mincí z Bratislavy-Devínskej Novej Vsi a zo Zohora. *Slovenská numizmatika* 14, 1996, 216–222.

1997

13. Archeologický výskum v Zohore v roku 1995. *AVANS* 1995, 1997, 40–43.
14. Ein römischer Gebäudefund des 4. Jhs. aus Bratislava-Dúbravka. In: J. Tejral/H. Friesinger/M. Kazanski (Hrsg.): *Neue Beiträge zur Erforschung der Spätantike im mittleren Donaauraum. Materialien der Internationalen*

Fachkonferenz „Neue Beiträge zur Erforschung der Spätantike im mittleren Donauraum“ Kravsko 17.–20. Mai 1995. Spisy Archeologického ústavu AV ČR Brno 8. Brno 1997, 121–125.

15. Prieskum v Bratislave-Devínskej Novej Vsi v roku 1995. AVANS 1995, 1997, 43, 44.

16. Römisch-germanische villae rusticae im Limesvorfeld von Carnuntum? Ergebnisse systematischer Grabung und Prospektion. In: W. Groenman-van Waateringe/B. L. van Beek/W. J. H. Willems/S. L. Wynia (eds.): *Roman Frontier Studies 1995. Proceedings of the XVIth International Congress of Roman Frontier Studies*. Oxbow Monograph 91. Oxford 1997, 225–232.

1998

17. Tematický výskum na sídlisku z doby rímskej v Bratislave-Devínskej Novej Vsi. AVANS 1996, 1998, 45–47.

1999

18. Die Aussagekraft des römischen Imports entlang der Marsch auf der Bernsteinstrasse. In: N. Gudea (ed.): *Roman Frontier Studies. Proceedings of the XVIIth International Congress of Roman Frontier Studies*. Zaláu 1999, 859–865.

19. *Encyklopédia Beliana. Slovenská všeobecná encyklopédia v dvanástich zväzkoch. Prvý zväzok. A–Belk*. Bratislava 1999. 33 hesiel (Abbevilien, Abrittus, Absolon, Akeramický neolit, Akinakes, Alaca-Hüyük, Almerijská kultúra, Amarna, Amon, Anti, Apahida, Apeninská kultúra, Apis, Apollonia, Apulum, Aquincum, Archeologický ústav SAV, Arkona, Attilov meč, Autotepsa, Avdejevo, Baalbek, Baalberská kultúra, Babadagská kultúra, Babylón, Badenská kultúra, Bajč, Bajč-Retz, Baláca, Bánesz, Barbotino, Barca, Belgorod).

20. Tematický záchranný výskum v Bratislave-Devínskej Novej Vsi. AVANS 1997, 1999, 36–38.

21. Záchranný archeologický výskum v Lábe. AVANS 1997, 1999, 38, 39.

2000

22. Eine Eisenverhüttungswerkstatt der älteren römischen Kaiserzeit aus Bratislava-Dúbravka. In: H. Friesinger/K. Pieta/J. Rajtár (Hrsg.): *Metallgewinnung und Verarbeitung in der Antike (Schwerpunkt Eisen)*. Nitra 2000, 33–46.

23. Rímsko-germánska vidiecka usadlosť s kúpeľom v Bratislave-Dúbravke. *Pamiatky a múzeá* 3, 2000, 27–29.

2001

24. *Encyklopédia Beliana. Slovenská všeobecná encyklopédia v dvanástich zväzkoch. Druhý zväzok. Bell–Czy*. Bratislava 2001. 67 hesiel (Belobrdská kultúra, Belskoje gorodišče, Benin, Bernhadsthal, Bešeňov, Beycesultan, Bialeková, Biatek, Bibracte, Bílina, Bíňa, Birka, Biskupin, Blatnica, Blatnicko-mikulčický horizont, Blučina, Bodrogheresztúrska kultúra, Bogazkoy, Bohemien, Böhm, Bojnice, Boldog, Boleráz, Bonikovo, Bonna, Bošacká skupina, Botta, Bradatica, Branč, Bratislava, Břeclav-Pohansko, Breuil, Březno, Brigetio, Británia, Brodzany, Bronzová doba, Buccherio, Bučany, Budakalász, Budeč, Budinský-Krička, Buková, Bukovohorská kultúra, Burebista, Burgus, Byblos, Býčí skála, Bylanská kultúra, Bylany, Caere, Callatis, Cambodunum, Campignien, Canabae, Capsien, Carnuntum, Carnyx, Carter, Catal-Huyuk, Cejkov, Certosa, Cífer-Pác, Clactonien, Clovis, Copán, Cuzco).

2002

25. Ein Hortfund von römischen Bronzegefäßbruchstücken, neue Grab- und Siedlungsfunde aus Zohor (Westslowakei). In: K. Kuzmová/K. Pieta/J. Rajtár (Hrsg.): *Zwischen Rom und dem Barbaricum, Festschrift für Titus Kolník zum 70. Geburtstag*. Archaeologica Slovaca Monographiae. Communicationes 5. Nitra 2002, 245–260.

26. Záchranný archeologický výskum na trase Bratislava-Lamač – Brodské. AVANS 2001, 2002, 41–46.

2003

27. Bratislava-Dúbravka – Villa Rustica. In: Zs. Visy (ed.): *The Roman Army in Pannonia. An Archaeological Guide of the Ripa Pannonica*. Pécs 2003, 219, 220.

28. *Encyklopédia Beliana. Slovenská všeobecná encyklopédia v dvanástich zväzkoch. Tretí zväzok. Č–EG*. Bratislava 2003. 25 hesiel (Čačianská kultúra, Čaka, Čakajovce, Čataj, Čerňachovská kultúra, Čertomlyk, Čierne

Klačany, Čilínska, Dákovia, Damaskovanie, Déchelette, Dekan, Didyma, Dobřichov, Dolmen, Dolné Semerovce, Dolní Věstonice, Domica, Dreveník, Drobeta, Druid, Ducové, Duchcov, Džemdet Nasr, Džemila).

29. Siedlungslandschaft des 4. Jhs. n. Chr. nördlich von Carnuntum im Lichte von systematischer Prospektion und Grabung. *Študijné zvesti AU SAV* 36, 2004, 239–255.

30. Záchranný výskum na sídlisku z doby rímskej v Plaveckom Štvrtku. *AVANS* 2002, 2003, 32, 33.

2004

31. Pokračovanie záchranného výskumu na sídlisku z mladšej doby rímskej v Plaveckom Štvrtku. *AVANS* 2003, 2004, 47–49.

2005

32. Nálezové súbory z germánskych sídlisk na juhozápadnom Slovensku s prítomnosťou mincí z druhej polovice 3. storočia. Bratislava-Devínska Nová Ves, objekt 3/1996 a Láb (okr. Malacky), objekty 1–2/1997. *Zborník SNM* 99. *Archeológia* 15, 2005, 255–274.

2006

33. Der germanische Fürstensitz von Zohor (Westslowakei) während der römischen Kaiserzeit. Kurze Übersicht. *Zborník SNM* 101. *Archeológia* 17, 2006, 265–280.

34. Die spätlatènezeitliche und römerzeitliche Besiedlung des linken Marchufers und das germanische Herrschaftszentrum von Zohor. In: F. Humer (Hrsg.): *Legionsadler und Druidenstab. Vom Legionslager zur Donaumetropole. Textband*. Horn 2006, 190–197.

35. Dúbravka od praveku po včasný stredovek. In: L. Navrátil/E. Poláková (zost.): *Kronika Dúbravky*. Bratislava 2006, 36–47.

36. Frühe Germanen in Bratislava und Zohor. In: F. Humer (Hrsg.): *Legionsadler und Druidenstab. Vom Legionslager zur Donaumetropole. Katalogband*. Horn 2006, 62–70.

37. Germanische scheibengedrehte Keramik der spätrömischen Kaiserzeit aus Bratislava-Dúbravka und ihr Verhältnis zur römischen Keramik im Limesvorfeld von Carnuntum. *Zborník SNM* 100. *Archeológia* 16, 2006, 379–408.

38. Pokračovanie systematického prieskumu na sídlisku a pohrebisku z doby rímskej v Zohore. *AVANS* 2004, 2006, 67–70.

39. Polykultúrne sídlisko v Bratislave-Devínskej Novej Vsi a doklad spracovania farebných kovov počas mladšej doby rímskej. *AVANS* 2004, 2006, 63–67.

40. Zaniknutá osada z vrcholného stredoveku v Plaveckom Štvrtku. *AVANS* 2004, 2006, 70, 71.

2007

41. Römische Münzen entlang der Bernsteinstrasse im slowakischen Marchgebiet nördlich von Carnuntum (Westslowakei) und ein Beleg der Sekundärverwendung von römischen Münzen. *Slovenská numizmatika* 18, 2007, 143–155.

2008

42. Germanische Siedlungsobjekte in Zohor (Objekt 32/1995) und Bratislava-Devínska Nová Ves (Objekt 8/1997) durch Terra Sigillata ins 3. Jahrhundert nach Chr. datiert. *Zborník SNM* 102. *Archeológia* 18, 2008, 271–281.

2009

43. Beitrag zur frühmittelalterlichen Besiedlung der Marchregion und die Siedlung von Bratislava-Dúbravka. *Beiträge zur Mittelalterarchäologie in Österreich* 25, 2009, 35–50.

44. Der slowakische Abschnitt der Bernsteinstrasse im 1. Jahrhundert nach Chr. nördlich von Carnuntum und neue Grabfunde von Zohor. In: V. Salač/J. Bemann (Hrsg.): *Mitteleuropa zur Zeit Marbods. Tagung Roztoky u Křivokláta 4.–8. 12. 2006. Anlässlich des 2000jährigen Jubiläums des römischen Feldzuges gegen Marbod. 19. Internationales Symposium Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donaauraum*. Praha – Bonn 2009, 239–250.

45. Ein frühvölkerwanderungszeitliches Grubenhaus aus Bratislava-Dúbravka (Objekt 125/92). *Zborník SNM 103. Archeológia 19*, 2009, 317–330.
46. Villa Rustica Bratislava-Dúbravka. In: V. Turčan a kol.: *Archaeological Monuments. Cultural Heritage of Slovakia*. Bratislava 2009, 18–23.
47. Villa Rustica Bratislava-Dúbravka. In: V. Turčan a kol.: *Archeologické pamiatky. Kultúrne krásy Slovenska*. Bratislava 2009, 18–23.
48. Výsledky nových archeologických výskumov na Záhorí. *Malacky a okolie. História 3*, 2010, 67–75.

2011

49. Kniežací hrob z rímskej doby v Zohore. *Pamiatky a múzeá 3*, 2011, 8–14.
50. Produktionsobjekte der älteren römischen Kaiserzeit aus Zohor. *Zborník SNM 105. Archeológia 21*, 2011, 175–182.
51. Veľkoplošný záchranný výskum v areáli A.S.A. Zohor. *AVANS 2008*, 2011, 85–87.

2012

52. Römisches Baumaterial, Dachziegel und Ziegeln vom Záhorie-Gebiet und aus Zohor (Westslowakei). *Zborník SNM 106. Archeológia 22*, 2012, 259–265.

2013

53. Archeologické výskumy a nový kniežací hrob z doby rímskej v Zohore. *Záhorie 22/1*, 2013, 4–9.
54. Ausgewählte römische Fibeltypen vom slowakischen Marchgebiet im Limesvorland von Carnuntum und ein neues germanisches Fürstengrab der „Lübsow-Gruppe“ von Zohor. In: G. Grabherr/B. Kainrath/T. Schierl (eds.): *Brooches and other elements of dress as sources for reconstructing interregional movement and group boundaries from the Punic Wars to the decline of the Western Roman Empire. Proceedings of the International Conference from 27th–29th April 2011 in Innsbruck – Verwandte in der Fremde. Fibeln und Bestandteile der Bekleidung als Mittel zur Rekonstruktion von interregionalem Austausch und zur Abgrenzung von Gruppen vom Ausgreifen Roms während des 1. Punischen Krieges bis zum Ende des Weströmischen Reiches. Akten des Internationalen Kolloquiums Innsbruck 27. bis 29. April 2011*. Ikarus 8. Innsbruck 2013, 177–199.
55. Pokračovanie záchranného výskumu v areáli A.S.A. Zohor. *AVANS 2009*, 2013, 92, 93.
56. Zohor – Ein neues Fürstengrab der „Lübsow- Gruppe“ und Brandgräber mit Edelmetallbeigaben aus Zohor (Westslowakei). In: M. Hardt/O. Heinrich-Tamáska (Hrsg.): *Macht des Goldes, Gold der Macht. Herrschafts- und Jenseitsrepräsentation zwischen Antike und Frühmittelalter im mittleren Donauraum. Akten des 23. Internationalen Symposiums der Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum, Tengelice, 16.–19. 11. 2011. Forschungen zu Spätantike und Mittelalter 2*. Weinstadt 2013, 91–123.

2014

57. Ein frühgermanisches Grubenhaus mit Aucissa-Fibel und ein augusteischer As mit Kontermarke des VARUS aus Zohor (Westslowakei). Beitrag zur Ankunft der ersten Germanen und Römer in den Mitteldonaauraum. *Zborník SNM 108. Archeológia 24*, 2014, 303–313.
58. Nové žiarové hroby z 2. pol. 2. stor. zo Zohora na západnom Slovensku. In: V. Turčan (zost.): *Stĺp Marca Aurelia a stredné Podunajsko. Štúdie – Column of Marcus Aurelius and the Middle Danube Area. Studies*. Zborník Slovenského národného múzea. Supplementum 8. Bratislava 2014, 41–50.
59. Osídlenie Zohora od praveku po včasný stredovek. In: M. Mackovičová/A. Prociková (ed.): *Zohor*. Zohor 2014, 15–38.
60. Polykultúrne archeologické nálezisko. (Národná kultúrna pamiatka na Veľkej lúke v Bratislave-Dúbravke.) In: M. Kriško (ed.): *Dúbravka (moja, Tvoja, naša, Vaša)*. Bratislava 2014, 10–25.
61. Sekundäre Romanisierung der Germanen an der unteren March im Limesvorfeld von Carnuntum und ein neues germanisches Fürstengrab der Lübsow-Gruppe aus Zohor. *Archaeologia Austriaca 96*, 2012, 71–94.
62. Zohor v dobe rímskej. Nový germánsky kniežací hrob a žiarové pohrebiská na Záhorí. In: B. Komoróczy (ed.): *Sociální diferenciace barbarských komunit ve světlenových hrobových, sídlitních a sběrových nálezů (Archeologie barbarů 2011) – Soziale Differenzierung barbarischer Gemeinschaften im Lichte der neuen Grab-, Siedlungs- und Lesefunde (Archäologie der Barbaren 2011)*. Spisy AÚ AV ČR Brno 44. Brno 2014, 113–131.

2015

63. Keramik von „römisch-germanischen“ Niederlassungen in Bratislava-Dúbravka und Stupava-Mást (Westslowakei). *Zborník SNM* 109. *Archeológia* 25, 2015, 315–338.
64. Pokračovanie záchranného výskumu v areáli A.S.A. Zohor v roku 2010. *AVANS* 2010, 2015, 74–77.
65. Včasnogermánske sídliská v Bratislave-Dúbravke a Zohore v slovenskom Pomoraví. In: L. Tyszler/E. Droberjar (red.): *Barbari superiores et inferiores. Archeologia barbarzyńców 2014. Procesy integracji środkowo-europejskiego Barbaricum Polska – Czechy – Morawy – Słowacja – Barbari superiores et inferiores. Archaeology of the barbarians 2014. Integration processes of the Central European Barbaricum Poland – Bohemia – Moravia – Slovakia*. Łódź – Wieluń 2015, 61–72.

2016

66. Faléra Jupitera Ammona, plastika Sarapisa a ataša Siléna zo Slovenského Pomoravia. In: I. Bazovský (zost.): *Zborník na pamiatku Magdy Pichlerovej. Štúdie*. Zborník Slovenského národného múzea. *Archeológia*. Supplementum 11. Bratislava 2016, 159–166.
67. Neue römische Funde vom germanischen Fürstensitz in Zohor, Westslowakei. In: H-U. Voß/N. Müller-Scheeßel (Hrsg.): *Archäologie zwischen Römern und Barbaren. Zur Datierung und Verbreitung römischer Metallarbeiten des 2. und 3. Jahrhunderts n. Chr. im Reich und im Barbaricum – ausgewählte Beispiele (Gefäße, Fibeln, Bestandteile militärischer Ausrüstung, Kleingerät, Münzen)*. Internationales Kolloquium Frankfurt am Main, 19.–22. März 2009. *Römisch-Germanische Kommission des Deutschen Archäologischen Instituts. Teil 1. Kolloquien zur Vor- und Frühgeschichte* 22, 1. Bonn 2016, 261–269.
68. Zur Besiedlung des slowakischen Marchgebiets um die Zeitwende am Beispiel ausgewählter spätlatène und frühkaiserzeitlicher Fundstellen. In: H. Geisler (Hrsg.): *Wandel durch Migration? 26. internationales Symposium „Grundprobleme der frühgeschichtlichen Entwicklung im mittleren Donauraum“*. Straubing 2014. *Arbeiten zur Archäologie Süddeutschlands* 29. Straubing 2016, 23–26.

2017

69. Ausgewählte Funde und Befunde aus der Zeit der Markomannenkriege von Zohor und dem westslowakischen Limesvorland. In: *Na hranicích Impéria. Extra fines Imperii. Jaroslavu Tejralovi k 80. narozeninám*. Brno 2017, 73–82.
70. Bratislava-Dúbravka im 1. bis 4. Jahrhundert n. Chr. Germanischer Fürstensitz mit römischen Bauten und die germanische Besiedlung. *Archaeologica Slovaca Monographiae. Studia* 29. Nitra 2017.
71. Rímske emailové spony zo Slovenska a nové nálezy emailových spôn zo Záhoria. In: E. Droberjar/B. Komoróczy (ed.): *Římské a germánské spony ve střední Evropě (Archeologie barbarů 2012) – Römische und germanische Fibeln in Mitteleuropa (Archäologie der Barbaren 2012)*. Spisy Archeologického ústavu AV ČR Brno 53. Brno 2017, 169–180.
72. Rädchenverzierte Keramik der römischen Kaiserzeit vom südlichen Marchgebiet. *Zborník SNM* 111. *Archeológia* 27, 2017, 213–222.

2018

73. Bratislava-Dúbravka. In: *I confini dell'Impero Romano. Il Limes Danubiano. Da Traiano a Marco Aurelio – Frontiers of the Roman Empire. Danube Limes. From Traian to Marcus Aurelius*. Bratislava 2018, 61–63.
74. Jantárová cesta a Záhorie. Germánske elity vo svetle rímskych stavieb, kniežacích hrobov a rímskeho importu v Bratislave-Dúbravke a Zohore. In: *Dunajský limes a odkaz rímskej antiky na ľavom brehu Dunaja. Zborník príspevkov z konferencie Bratislavského samosprávneho kraja. Dni európskeho kultúrneho dedičstva* 2018. Bratislava 2018, 89–103.
75. Römische Bauten und das germanische Fürstenmilieu während der römischen Kaiserzeit im 1.–3. Jahrhundert nach Chr. nördlich der mittleren Donau. *Zborník SNM* 112. *Archeológia* 28, 2018, 201–219.
76. Zohor. In: *I confini dell'Impero Romano. Il Limes Danubiano: da Traiano a Marco Aurelio – Frontiers of the Roman Empire. Danube Limes: from Traian to Marcus Aurelius*. Bratislava 2018, 67, 68.

2019

77. Grabungen in Siedlungen aus der römischen Kaiserzeit im slowakischem Marchgebiet und die germanische Siedlung von Plavecký Štvrtok. In: M. Karwowski/B. Komoróczy/P. Trebsche (Hrsg.): *Auf den Spuren der Barbaren – Archäologisch, Historisch, Numismatisch (Erchäologie der Barbaren 2015)*. Spisy Archeologického ústavu AV ČR Brno 60. Brno 2019, 117–129.

2021

78. A new Early La Tène settlement from Stupava-Devínske Jazero (Western Slovakia). In: M. Karwowski/B. Komoróczy/P. C. Ramsel (eds.): *Archaeological studies of the Late Iron Age in Central Europe*. Spisy Archeologického ústavu AV ČR Brno 71. Brno 2021, 109–116.
79. Bohatý hrob č. 6 zo Zohora – Princely Grave No.6 from Zohor. In: J. Kucharik (ed.): *Rimania a Slovensko – Romans and Slovakia. Katalóg výstavy – Exhibition Catalogue*. Bratislava 2021, 229.
80. Bronzová faléra so zobrazením božstva Jova Ammon – Bronze phalera depicting god Jove Ammon. In: J. Kucharik (ed.): *Rimania a Slovensko – Romans and Slovakia. Katalóg výstavy – Exhibition Catalogue*. Bratislava 2021, 254.
81. Ein isoliertes Körpergrab aus dem 1. Jh. n. Chr. vom germanischen Fürstensitz in Zohor, Westslowakei. In: Z. Robak/M. Ruttkay (eds.): *Celts – Germans – Slavs. A Tribute Anthology to Karol Pieta*. Slovenská archeológia. Supplementum 2. Nitra 2021, 199–206.

2022

82. Antické kúpele v Bratislave-Dúbravke. In: V. Turčan (zost.): *Elity v dobe rímskej*. Bratislava 2022, 170–185.
83. Germánske stredisko v Zohore a kniežacie hroby zo staršej doby rímskej zo Zohora a Vysokej pri Morave. In: V. Turčan (zost.): *Elity v dobe rímskej*. Bratislava 2022, 136–169.

V spoluautorstve**1986**

84. T. Kolník/K. Elschek/P. Roth 1985 – T. Kolník/K. Elschek/P. Roth: Pokračovanie výskumu v Bratislave-Dúbravke. *AVANS* 1985, 1986, 124–129.

1990

85. K. Elschek/T. Kolník/Z. Rajtárová: Pokračovanie výskumu v Bratislave-Dúbravke. *AVANS* 1988, 1990, 53, 54.
86. K. Elschek/V. Varsik: Medzinárodný seminár krajín Pentagonály v Taliansku. *Spravodaj Archeologického ústavu SAV v Nitre* 1/1–2, 1990, 9–11.

1991

87. K. Elschek/T. Kolník: Dúbravka. In: *XII. Congress U.I.S.P.P (Union Internationale des sciences préhistoriques et protohistoriques). Excursion guide*. Bratislava 1991, 62, 63.
88. K. Elschek/T. Kolník: Praveké osídlenie a rímsko-germánska usadlosť v Bratislave-Dúbravke. *Pamiatky a súčasnosť* 22, 1991, 10–12.
89. K. Elschek/T. Kolník: Prehistoric settlement and Roman-Germanic estate in Bratislava-Dúbravka. *Pamiatky a súčasnosť* 22, 1991, 10–12.
90. T. Kolník/K. Elschek/S. Stegmann-Rajtár: Ôsma výskumná sezóna v Bratislave-Dúbravke. *AVANS* 1989, 1991, 52.

1992

91. K. Elschek/T. Kolník: Výskum v Bratislave-Dúbravke. *AVANS* 1990, 1992, 33.
92. K. Elschek/T. Kolník: Výskum v Bratislave-Dúbravke v roku 1991. *AVANS* 1991, 1992, 30, 31.

1993

93. K. Elschek/J. Cuper: Strieborná pozlátená svorka nákončia pošvy meča z Bratislavy-Devínskej Novej Vsi. *AVANS* 1992, 1993, 34, 35.

1995

94. O. Orlický/I. Túnyi/K. Elschek: Archaeomagnetism of the fragments of the roman roof tiles from the Dúbravka locality. In: *Proceedings of the 1st Slovak Geophysical Conference*. Bratislava 1995, 127–131.

1996

95. K. Elschek/E. Kolníková: Nové nálezy keltských mincí z južného Záhoria. *Slovenská numizmatika* 14, 1996, 213, 214.
96. K. Elschek/J. Mihál/J. Kubíny: Rímsko-germánske vidiecke usadlosti (?) a germánske sídliská v Bratislave-Devínskej Novej Vsi a Zohore. *AVANS* 1994, 1996, 44–48.
97. K. Elschek/V. Varsik: XVIth Congress of Roman Frontier Studies. *Slovenská archeológia* 44, 1996, 166–168.

1997

98. I. Bazovský/K. Elschek: Osídlenie v Bratislave-Dúbravke v 9.–13. storočí I. Sídliisko z 9.–10. storočia. *Zborník SNM* 91. *Archeológia* 7, 1997, 31–50.

1998

99. I. Bazovský/K. Elschek: Osídlenie v Bratislave-Dúbravke v 9.–13. storočí II. Stredoveký dvorec. *Zborník SNM* 92. *Archeológia* 8, 1998, 85–96.
100. K. Elschek/P. Bárta: Sídliisko z doby bronzovej a laténskej v Bratislave-Devínskej Novej Vsi. *AVANS* 1996, 1998, 47–52.
101. K. Elschek/V. Drahošová: Sídliisko z doby laténskej a rímskej v Lábe. *AVANS* 1996, 1998, 52–55.

2000

102. K. Elschek/K. Marková: Archeologický výskum a prieskum na Záhorí v záujmovom území podzemných zásobníkov plynu. *AVANS* 1998, 2000, 53–64.
103. K. Elschek/K. Marková: Prieskum v Závode. *AVANS* 1998, 2000, 64.
104. K. Marková/K. Elschek/V. Varsík: Sídliiskové nálezy z Bratislavy-Trnávky. *AVANS* 1999, 2000, 84, 85.
105. V. Varsík/K. Elschek: Včasnostredoveká pec v Bernolákove. *AVANS* 1999, 2000, 150–152.

2001

106. K. Elschek/V. Varsík: Záchranný výskum v Lozorne. *AVANS* 2000, 2001, 56–60.
107. K. Elschek/M. Vrabec: Systematický celoplošný prieskum katastra obce Zohor. *AVANS* 2000, 2001, 60–67.
108. K. Marková/K. Elschek: Sídliiskové nálezy z Gajár. *AVANS* 2000, 2001, 147, 148.
109. V. Varsík/K. Elschek: Dve záchranné akcie medzi Bratislavou-Vajnorama a Ivankou pri Dunaji. *AVANS* 2000, 2001, 208, 209.

2002

110. K. Elschek/E. Kolník/T. Kolník: Römische Importe aus der Slowakei. In: P. Kaczanowski/U. Margos (Hrsg.): *Tabula Imperii Romani. M 34–Kraków*. Kraków 2002, 382–476.
111. K. Marková/K. Elschek: Další záchranný výskum v Gajaroch. *AVANS* 2001, 2002, 130–133.
112. K. Marková/K. Elschek: Keramika z dendrochronologicky datovanej studne v Malackách. *Študijné zvesti AÚ SAV* 35, 2002, 213–220.

2004

113. V. Varsík/K. Elschek: Doklady stredovekého hutníctva železa v Plaveckom Štvrtku. *AVANS* 2003, 2004, 193–196.

2006

114. K. Elschek/E. Kolníková/M. Vrabec: Dve nové keltské mince z Lozorna. *AVANS* 2004, 2006, 71, 72.

2007

115. G. Březinová/K. Elschek/P. Ratimorská: Záchranný výskum v Hurbanove. *AVANS* 2005, 2007, 56–59.
116. J. Minaroviech-Ratimorská/K. Elschek: Hypothetische 3D Rekonstruktion des „Römischen Bades“ von Bratislava-Dúbravka. In: K. Kuzmová (ed.): *Forschungen und Methoden vom Mittelmeerraum bis zum Mitteleuropa*. Anodos – Supplementum 4. Trnava 2007, 103–117.

2008

117. K. Elschek/J. Rajtár: Ein temporäres römisches Feldlager in Závod (Westslowakei). In: E. Droberjar/B. Komoróczy/D. Vachútova (edd.): *Barbarské sídlisko. Chronologické, ekonomické a historické aspekty jejích vývoje ve světle nových archeologických výzkumů*. (Archeologie barbarů 2007). Spisy Archeologického ústavu AV ČR Brno 37. Brno 2008, 469–478.
118. K. Elschek/J. Rajtár: Rímsky poľný tábor a polykultúrne sídlisko v Závode. *AVANS* 2006, 2008, 54–57.

2009

119. M. Bielich/K. Elschek/P. Šimčík: Záchranný výskum v Čiernej vode. *AVANS* 2007, 2009, 48, 49.
120. K. Elschek/J. Hunka: *Slovenské dejiny I. Od praveku po stredovek*. Bratislava 2009.

2010

121. M. Bielich/K. Elschek/P. Šimčík: Včasnostredoveké objekty z Chorvátskeho Grobu miestnej časti Čierna voda. *Zborník SNM* 104. *Archeológia* 20, 2010, 89–98.

2011

122. K. Elschek/J. Rajtár/V. Varsik: Pohrebisko z 8.–9. storočia v Stupave. *AVANS* 2008, 2011, 87–89.
123. K. Elschek/J. Rajtár/V. Varsik: Sepulkrálny objekt zo Zohora. In: I. E. Droberjar (ed.): *Archeologie barbarů 2010. Hroby a pohřebiště Germánů mezi Labem a Dunajem. Sborník příspěvků ze VI. Protohistorické konference Hradec Králové, 6.–9. září 2010 – Archäologie der Barbaren 2010. Die Gräber und Gräberfelder der Germanen zwischen Elbe und Donau. Materialien der VI. Frühgeschichtlichen Konferenz Hradec Králové, 6.–9. September 2010. Studia Archaeologica Suebica* 1. Olomouc 2011, 133–151.

2013

124. J. Bartík/K. Elschek/V. Varsik: *Praveké sídlisko v Lozorne-Širokých Dieloch (Západné Slovensko). Výskumy v rokoch 1999–2009 – Die urgeschichtliche Siedlung in Lozorno-Široké diely (Westslowakei). Grabungen in den Jahren 1999–2009. Zborník Slovenského národného múzea. Archeológia. Supplementum* 7. Bratislava 2013.

2014

125. K. Daňová/K. Elschek: Pohrebisko nitrianskej kultúry v Zohore. *Slovenská archeológia* 62, 2014, 267–291.
126. E. Kolníková/K. Elschek: Beitrag zur Datierung der latènezeitlichen Zentralsiedlung von Zohor in der Westslowakei. Kleinfunde, keltische und frühromische Münzen. In: J. Čížmářová/N. Venclová/G. Březinová (ed.): *Moravské křižovatky. Střední Podunají mezi pravěkem a historií*. Brno 2014, 353–375.

2015

127. M. Hajnalová/K. Elschek: Ein dendrodatierter Brunnenfund des 8. Jhs. aus Malacky (Westslowakei): Archäobotanische und Archäologische Untersuchungen. In: H. Friesinger/A. Stuppner (Hrsg.): *Mensch und Umwelt – Ökoarchäologische Probleme in der Frühgeschichte. Mitteilungen der prähistorischen Kommission* 84. Wien 2015, 153–172.
128. K. Elschek/S. Groh/E. Kolníková: Eine neue germanische Siedlung und römisch-germanische ländliche Niederlassung von Stupava-Mást (Westslowakei). Vorbericht. *Slovenská archeológia* 63, 2015, 63–114.

2016

129. K. Elschek/E. Kolníková: Laténske a rímske mince zo Zohora na západnom Slovensku. Príspevok k problematike laténskeho a germánskeho osídlenia Pomoravia. *Numismatický sborník* 28/2, 2016, 171–204.

2017

130. P. Bobek/K. Elschek/K. Šimunková: Sídlisko z doby bronzovej vo Vysokej pri Morave. Príspevok ku kolovým stavbám a osídleniu Dolného Záhoria v mladšej dobe bronzovej. *Študijné zvesti AÚ SAV* 62, 2017, 37–60.
131. P. Bobek/K. Elschek: Sídlisko z doby bronzovej vo Vysokej pri Morave. *Informátor SAS* 28/1–2, 2017, 8.
132. K. Elschek/J. Jakab/T. Štolcová: Die Fürstengräber von Zohor in der Westslowakei und ihr Umfeld im Licht neuer Forschungen. *Bericht der Römisch-Germanischen Kommission* 98, 2017, 105–129.

2020

133. P. Bobek/K. Elschek: Nálezy bronzových predmetov zo sídliska v Zohore, poloha Piesky. In: V. Mitáš/O. Ožďáni (ed.): *Doba popelnicových polí a doba halštatská. Zborník příspěvků z XV. mezinárodní konference Doba popelnicových polí a doba halštatská. Smolenice 15.–19. október 2018. Archaeologica Slovaca Monographiae. Communicationes* 15. Nitra 2020, 35–52.

Podľa autorových podkladov zostavila *Kristína Sedliaček*

RECENZIE

Tanja Romankiewicz – Manuel Fernández-Götz – Gary Lock – Olivier Büchsenschütz (eds.): *Enclosing Space, Opening New Ground. Iron Age Studies from Scotland to Mainland Europe*. Oxbow Books. Oxford – Philadelphia 2019. 208 strán. ISBN 978-1-78925-201-9.

Výskum doby železnej charakterizuje rozmanitosť výskumných tradícií a teoretických prístupov rôznych archeologických inštitúcií a škôl. Hlavne v anglosaskom prostredí sa v sídliskovej archeológii presadzuje používanie pojmu *enclosed space/enclosure*. Do tejto terminologickej „priehradky“ patria opevnené alebo ohradené priestory, ktoré mohli mať v minulosti praktickú funkciu, sociálny alebo symbolický význam.

Praktická funkcia fortifikácií a ohradených priestorov spočíva predovšetkým vo vytvorení bariér, keď mohli, napríklad, zamedziť zatúlaniu sa a strate detí alebo hospodárskych zvierat. Sociálny význam má opevnenie podľa E. Neustupného hlavne z hľadiska obrany (chráni celú spoločnosť). Rovnako sem patrí vytvorenie obchodného centra v rámci opevneného priestoru. Symbolický význam opevnení môžeme spojiť s identitou spoločenstva. Hradiská tak môžu slúžiť ako symbol väčšej komunity. „Pomáhajú“ definovať „náš priestor“ proti „ich priestoru“ (Neustupný 2006).

Výskum opevnených lokalít patrí medzi časté témy v slovenskej archeológii. Existencia umelého opevnenia akosi automaticky zvyšovala význam lokality pre ďalšie bádanie. Na problematiku by sme sa však mali pozeráť komplexnejšie, pretože sa ukazuje, že prítomnosť fortifikácie nemusí nutne znamenať, že takáto lokalita musela mať pre obyvateľstvo väčší spoločenský význam ako neopevnené sídliská. V slovenskej archeologickej literatúre sa opevnené miesta z doby železnej často označujú ako hradiská, hrádky alebo refúgiá a upozorňuje sa hlavne na ich defenzívnu a centrálnu funkciu. Možno by bolo presnejšie, ak by sme tieto lokality označovali pojmom „ohradený“, resp. „opevnený“ alebo „uzavretý priestor“, čiže terminológiou, akú používa anglosaské vedecké prostredie. Treba si uvedomiť, že existencia opevnenia nemusí nutne znamenať „výsadnejšie“ postavenie lokality v historickej spoločnosti. Typickým príkladom významných neopevnených lokalít (podľa aktuálneho stavu bádania) sú nížinné lokality z doby laténskej, ktoré sú často bohatšie na archeologické nálezy ako oppidá (Salač 2011, 32–35). Nejde však o ojedinelý jav, zo starovekých dejín poznáme príklad spartských obcí, ktoré boli väčšinu histórie neopevnené (Cartledge 2012, 44). Rovnako obmedzene používali opevnenia starovekí Mayovia. Práve takéto pohľady na výskum tvoria dôležitú súčasť recenzovaného zborníka *Enclosing space, opening new ground. Iron Age studies from Scotland to mainland Europe*.

Medzi dôležité osobnosti, ktoré výskumu *enclosed spaces* zasvätili celý svoj vedecký život jednoznačne patrí profesor Ian Ralston z Univerzity v Edinburghu. Pre bádateľov v problematike opevnení mladšej doby železnej patrí jeho kniha *Celtic fortifications* (2006; 2013) medzi základnú literatúru. V poslednom období sa I. Ralston venoval tvorbe atlasu hradísk na Britských ostrovoch, ktorý vyšiel aj knižne. Práve jemu je venovaný recenzovaný zborník, ktorý

editovali jeho žiaci a kolegovia Tanja Romankiewicz, Manuel Fernández-Götz, Gary Lock a Olivier Büchsenschütz.

Pri tvorbe vedeckých zborníkov nie vždy všetky príspevky dodržia ústrednú tému, nie je to inak ani v prípade *Enclosing space, opening new ground*. Bádatelia sa v ňom venujú aj témam ako výskum krajiny či rôzne typy osídlenia. Geograficky pokrývajú príspevky hlavne územie západnej Európy. Nejde však o striktné vymedzenie a niektoré texty majú vedecký presah aj do bádania v strednej Európe alebo v ázijských stepiach. Zborník, okrem častí venovaných I. Ralstonovi, obsahuje 15 štúdií – väčšinou v angličtine a dve štúdie vo francúzštine. Štúdie sú tematicky rozdelené do troch hlavných blokov: 1) *Building enclosures*, 2) *Creating settlement communities*, 3) *Marking landscapes through time*.

Úvod zborníka tvorí bibliografia profesora I. Ralstona a úvodný text od editorov, ktorý nás v krátkosti prevedie obsahom. Prvý príspevok z bloku *Building enclosures* napísal Axel G. Posluschny a venuje sa v ňom problematike kniežacieho sídla zo stredného Nemecka z doby železnej – Glaubergu (*Does fortified always equate to defensive? Some thoughts on the fortification systems of the Glauberg hillfort*). Hlavná fáza osídlenia lokality je z neskorej fázy doby halštatskej a zo súčasnej doby laténskej. A. Posluschny prezentuje v článku výsledky svojich posledných výskumov na známom hradisku. Prináša nové interpretácie do zdanlivo nekončiacej debaty o význame Glaubergu. Na lokalite sa síce nachádza rozsiahle opevnenie, to však z hľadiska obrany nie je na všetkých dôležitých úsekoch terénu. Rovnako je zaujímavý vzťah opevnenia k blízkym mohylovým hrobom z toho istého časového obdobia. Hroby sa totiž nachádzajú aj vnútri opevnenia. Autor uvažuje, že opevnenie malo symbolicky oddeľovať svet mŕtvych a živých.

Nasledujúce dva texty sa venujú porovnaniu antických správ o opevneniach s výsledkami archeologických prieskumov. Phillippe Barral a Stephan Fichtl spolu s ďalšími autormi sa v príspevku s názvom *De Architectura Celtica: déclinaires insolites de Murus Gallicus* zamerali na definíciu pojmu *murus gallicus*. Tento pojem sa prvý krát objavil v zápiskoch rímskeho vojvodu Gaia Iulia Caesara (*Caesar* 7, 23). Tento opis potvrdili aj archeologické výskumy. *Murus gallicus* obsahuje masívnu komorovú konštrukciu zo striedavo priečne a pozdĺžne kladených brvien, pričom konce priečných trámov končili v líci kamennej plenty. Tento typ hradby bol rozšírený v mladšej dobe železnej hlavne v západnej Európe. Autori textu sa pokúsili tento typ opätovne definovať. Podľa ich analýzy nemôžeme pojem *murus gallicus* vnímať len ako defenzívny prvok, ale vzhľadom na jeho regionálne podtypy ide aj o kultúrny fenomén.

Ďalší príspevok, ktorý porovnával antické správy s archeologickou realitou, napísala Sophie Krausz (*Julius Caesar's assault ramp at the Oppidum of Avaricum in 52 BC*). V Caesarových zápiskoch je zmienka o obliehaní Avarica, pri ktorom jeho vojaci vybudovali rampu vedúcu až k hradbám nepriateľa. Jej existenciu pri Avaricu potvrdil aj archeologický výskum (Krausz/Ralston 2009). Podobné obliehacie rampy identifikovali archeologické výskumy aj na iných lokalitách – v sýrskom Dura Europos (*du Buisson* 1939) a v izraelskej Masade (*Yadin* 1996).

Posledný príspevok v tomto bloku napísal Stratford Halliday (*How many hillforts are there in Scotland? Revisited*).

S. Halliday sa spolu s I. Ralstonom podieľal na tvorbe spomínaného atlasu hradísk na Britských ostrovoch. Vo svojom článku sa pokúsil o riešenia terminologických a metodologických otázok spojených s výskumom hradísk. Už len samotný pojem „hradisko“ (*hillfort*) ponúka mnohé vysvetlenia. Podobne by sme sa mohli zamýšľať aj pri výskume na území Slovenska. Okrem pojmu hradisko sa v odbornej literatúre vyskytujú ďalšie termíny, napríklad hrádok, refúgium alebo oppidum. Niektorí bádatelia považujú za vhodnejšie, hlavne v stredoveku, označovať hradisko slovom hrad (Šalkovský 2015, 7), čo je však pre staršie obdobia skôr neprijateľné.

V ďalšej časti zborníka – *Creating settlement communities* – sú uverejnené prípadové štúdie zameriavajúce sa na to, ako *enclosed spaces* vplývajú na komunity – či už ohradené priestory priamo obývané, alebo žijúce v ich blízkosti v okolitej krajine. Sekcia otvára príspevok o hradisku Ipf v juhozápadnom Nemecku. Ide o podobné kniežacie sídlo ako spomínaná lokalita Glauberg z neskoršej doby halštatskej a včasnej doby laténskej. Rüdiger Krause (*The hillfort on Mount Ipf: A centre of power during the Bronze and Iron Ages in southern Germany*) sa venoval výskumu lokality 20 rokov, v jej okolí objavil viacero menších ohradených lokalít a mohýl. V štúdiu sa zameriava na ich vzťah k hradisku Ipf a zároveň skúma to, ako hradisko definovalo svoje okolie a aké boli hierarchické vzťahy medzi jednotlivými lokalitami.

Podobné otázky ako R. Krause si kladie aj John Collis pri výskume lokality Oram's Arbour (*Oram's Arbour, Winchester: A new interpretation*). Popri výskume lokality sa snaží reflektovať aj terminologické otázky, pretože práve Oram's Arbour podľa Collisa nemôžeme jednoznačne definovať ani ako hradisko, ani ako oppidum, hoci v minulosti sa v súvislosti s ním objavovali obe označenia. Ako uvádza J. Collis, ide o rozsiahlejší problém s definíciou. Napríklad galské centrá, ktoré Gaius Iulius Caesar označuje ako oppidá, sú svojím charakterom odlišné od dnes rovnako kategorizovaných lokalít v južnej Británii. Collisove otázky si môžeme položiť aj pri výskume nálezísk na území Slovenska, hlavne v prípade výskumu tzv. bratislavského oppida. Samotný J. Collis lokality z územia dnešnej Bratislavy vo svojej staršej práci za oppidum nepovažoval (Collis 1975, 70–73). Riešenia navrhuje hlavne na základe dôslednej analýzy nálezov, či už ich kvality, alebo ich priestorového rozmiestnenia na lokalite, ktorým má predchádzať dôsledná kritika prameňov. Inú hodnotu budú mať napríklad lokality a objekty so zastúpeným luxusným exotickým importom a inú hodnotu štruktúry bez nich.

Novým zisteniam sa venuje aj ďalší príspevok v zborníku (*A new look at the Late Prehistoric settlement patterns of the Forth Valley*) od kolektívu autorov (Murray Cook, Therese McCormick, Jennifer McAlpine, Ross Greenshields, Gordon Cook a Andrew McLean). Autori modifikovali doterajšie hierarchické členenie zaužívané hlavne pre územie Škótska. Podľa tohto členenia boli hradiská a *brochy* (kamenné stavby, mali tvar valcovitých veží) hierarchicky nadradené ostatným sídliskovým lokalitám.

Ian Armit vo svojom príspevku *Enclosure, autonomy and anarchy in Iron Age Scotland* skúma osídlenie v juho-východnom Škótsku. Na základe svojho výskumu prišiel s hypotézou, že spoločnosť doby železnej v Škótsku nebola hierarchicky usporiadaná a na husto osídlenom území neexistovalo centrálné riadenie, ale naopak, akýsi druh „anarchie“. Miesto hierarchie by sme mohli hovoriť skôr

o heterarchii. Autor k týmto záverom dospel na základe porovnávania charakteru a hustoty osídlenia v dobe železnej s ostatnými obdobiami. Určite ide o príspevok, ktorý vyvolá diskusie, ale myšlienky o heterarchických spoločnostiach v dobe železnej sa nedávno objavili aj v ďalšom publikovanom vedeckom zborníku (Currás/Sastre 2020).

W. Derek Hamilton a Colin Haselgrove (*Exploring settlement dynamics through radiocarbon dating*) sa zamerali na výsledky a interpretáciu rádiouhlíkového datovania ohradených priestorov v Škótsku v dobe železnej. Na rozdiel od spomínaných úvah J. Collisa nemohli pri svojej analýze použiť dostatok hmotných archeologických nálezov, na druhej strane mali k dispozícii obrovské množstvo (stovky) AMS rádiouhlíkových dát. Po dôkladnej analýze týchto dát zistili, že osady, na ktorých doterajšie bádanie na základe nálezov predpokladalo trvalé osídlenie, boli osídlené sporadicky. Miestna komunita pravdepodobne lokality udržiavala, ale napriek prítomnosti artefaktov ich trvalo neosídľila. Metóda by sa mohla aplikovať aj na niektoré regióny Slovenska, napríklad v oblasti horného toku rieky Hron existujú lokality, ktorých nepretržité osídlenie v dobe železnej je viac ako otázne (Horná Lehota, Nemecká a ďalšie).

David J. Breeze sa vo svojom príspevku (*Oppida in Britain in the face of the Roman conquest*) zamerá na expanziu Rimánov a na britské hradiská a oppidá. Autor vo svojom texte rozvíja predpoklad, že v mladšej dobe železnej nepoznáme z územia Británie veľa indícií o útokoch na hradiská či oppidá. Rovnaký fakt platí aj pre obdobie rímskej expanzie. Výsledky archeologického bádania potvrdzujú aj písomné pramene, kde autor identifikoval len dve zmienky o útokoch rímskych legionárov na opevnené miesta. Napriek tomu bolo mnoho opevnených lokalít opustených práve v tomto období. Možno útočníkom stačilo exemplárne obsadiť jednu lokalitu a zamerať sa na boje v neopevnenom teréne. Obrancovia ostatných opevnených sídel sa mohli s útočníkmi i dohodnúť. Podobný jav môžeme sledovať v neskorších obdobiach v našich zemepisných šírkach, keď veľkomoravská lokalita Mikulčice bola pravdepodobne dobytá, zatiaľ čo relatívne blízke Pohansko mohlo byť len opustené (Dresler/Mazuch 2019).

L. Berrocal-Rangel, Pablo Paniego, Lucía Ruano v príspevku s názvom *Atlantic-zone hillforts with up-right stone rows and their relationship with coastal routes* sa zaoberajú kontaktmi jednotlivých regiónov na západnom pobreží Európy. Ako príklad si vybrali územie Škótska a južného Španielska. Dôkazom kontaktov by mali byť niektoré typy architektúry, ktoré mali defenzívnu úlohu.

Príspevok s názvom *Makings mounds: monuments in Eurasian prehistory*, ktorého autormi sú Chris Gosden, Peter Hommel a Courtney Nimura, sa čiastočne odkláňa od hlavnej témy zborníka. Autori sa zaoberali výskytom mohýl v nomádskom prostredí Eurázie. Zistili, že okrem toho, že mohyly slúžia ako akési demarkačné línie medzi jednotlivými nomádskymi zoskupeniami, zároveň ich môžeme spájať so spoločenskou identifikáciou jednotlivých kočovných komunít v priestore aj v čase.

Ďalší príspevok v zborníku sa takisto venuje otázke identity, či skôr identifikácii pravekých spoločností (*Urbanism and identity in Celtic Iberia. What did it mean to be a Vetton, Vaccaeon or Carpetanian in Late Iron Age oppida?*). Autori textu Jesús R. Álvarez-Sanchís a Gonzalo Ruiz Zapatero sa venovali analýze opevnených polôh – refúgií – a ich vzťahu k nížinným neopevneným sídliskám na území dnešného

Španielska. Podľa ich názoru by sa niektoré typy sídiel mohli spájať s identitou protohistorických spoločností, v koncipovaní záverov sú však bádatelia opatrní.

Olivier Büchsenschütz sa v svojom príspevku (*L'enclos comme expression du pouvoir des aristocrates sur la campagne*) zamýšľa nad témou sociálnych a politických spoločenstiev a nad tým, ako sa mohli prejavovať prostredníctvom architektonických ukazovateľov v krajine. Upozorňuje, že nie všetky ohradené lokality v okolí oppid môžeme stotožniť so sídlami elít. Niektoré veľké fortifikácie v okolí oppida možno vôbec neboli obsadené, ale analogicky so stredovekom a s neskorším obdobím mohli slúžiť na vylúčenie nižších sociálnych skupín, aby sa mohli využívať napríklad ako parky alebo poľovné revíry. Obraz krajiny okolo oppida je podľa O. Büchsenschütza veľmi rozmanitý a pravdepodobne aj sociálne rozdeľujúci.

Posledný článok (*Memoryscapes in Late Iron Age Northern Gaul: Warfare and sacrifice from Ribemont to Titelberg*) v zborníku napísali David Rose a Manuel Fernández-Götz. Skúmali uctievanie bojovníkov a predkov na posvätných a spomienkových miestach v krajine. Autori sa zamerali na dobre známe uzavreté rituálne miesta v severnej Galii z neskorej doby železnej, ako sú Gournay-sur-Arondes, Ribemont-sur-Ancre a Titelberg. Uvažujú, že tieto lokality sú buď priamo, alebo nepriamo spojené s vojenstvom.

V publikácii *Enclosing space, opening new ground. Iron Age studies from Scotland to mainland Europe* sa nachádza obrovské množstvo podnetov na rozmyšľanie, ale aj na diskusiu. V mnohých prípadoch prišli autori jednotlivých príspevkov s veľmi odvážnymi hypotézami, ale vedecký pokrok je hlavne o neustálej diskusii a o hľadaní nových podnetov. Zborník je určite dôležitý aj pre bádanie v regióne strednej Európy.

LITERATÚRA

- du Buisson 1939 – M. du Buisson: Du siège d'Avaricum a celui de Doura-Europos. *Revue Archéologique* 13, 1939, 60–72.
- Caesar – G. I. Caesar: *Zápisky o vojne v Galii*. Preložil J. Hrabovský. Bratislava 2008.
- Cartledge 2012 – P. Cartledge: *Sparta. Heroická historie*. Praha 2012.
- Collis 1975 – J. Collis: *Defended Sites of the Late La Tène in the Central and Western Europe*. BAR Supplementary Series 2. Oxford 1975.
- Currás/Sastre 2020 – B. X. Currás/I. Sastre (eds.): *Alternative Iron Ages. Social Theory from Archaeological Analysis*. London 2020.
- Dresler/Mazuch 2019 – P. Dresler/M. Mazuch: Mikulčice a Pohansko – zánik veľkomoravských center na dva spôsoby. In: B. Kovár/M. Ruttkay (ed.): *Kolaps očami archeológie*. Archaeologica Slovaca Monographiae. Communications 22. Nitra 2019, 165–177.
- Krauz/Ralston 2009 – S. Krauz/I. Ralston: Le siège d'Avaricum en 52 avant J.-C. ou comment les Gaulois se sont défendus contre les Romains. In: M. B. Chardenoux/O. Büchsenschütz/S. Krauz/M. Vaginay (eds.): *L'âge du Fer dans la boucle de la Loire. Les Gaulois sont dans la ville. Actes du XXXII^e Colloque de l'Association française pour l'étude de l'âge du fer, Bourges, 1^{er}–4 mai 2008*. Supplément à la Revue archéologique du centre de la France 35. Tours 2009, 145–155.

Neustupný 2006 – E. Neustupný: Enclosures and fortifications in Central Europe. In: A. F. Harding/S. Sievers/N. Venclová (eds.): *Enclosing the Past. Inside and outside in prehistory*. Sheffield archaeological monographs 15. Sheffield 2006, 1–4.

Ralston 2006 – I. Ralston: *Celtic Fortifications*. Stroud 2006.

Ralston 2013 – I. Ralston: *Celtic Fortifications*. Stroud 2013.

Salač 2011 – V. Salač: Oppida a urbanizační procesy ve střední Evropě. *Archeologické rozhledy* 63, 2011, 23–64.

Šalkovský 2015 – P. Šalkovský: *Hrady západných Slovanov*. Archaeologica Slovaca Monographiae 19. Nitra 2015.

Yadin 1996 – Y. Yadin: *Masada. La dernière citadelle d'Israël*. Paris 1966.

Branislav Kovár 

Príspevok vznikol s podporou grantových projektov agentúry VEGA 01/0240/21 „Krajina a sídla u Keltov a Germánov“ a APVV-20-0044 „Vplyv využívania prírodných zdrojov na spôsob života v dobe bronzovej a v dobe železnej“.

DOI: <https://doi.org/10.31577/slovarch.2022.70.9>

Michaela Lochner (Hrsg.): **Brandbestattung und Bronze-metallurgie. Die Urnenfelderkultur in Niederösterreich (1300–800 v. Chr.)**. Archäologie Niederösterreichs. Verlag der Österreichischen Akademie der Wissenschaften. Wien 2021. 349 strán. ISBN 978-3-7001-8276-4.

Recenzovaná kniha o kultúre popolnicových polí v Dolnom Rakúsku je reprezentatívnou archeologickou publikáciou zo série Archeológia Dolného Rakúska. Ide o kolektívnu monografiu, ktorú zostavila popredná špecialistka na uvedenú problematiku – Michaela Lochnerová. Na vzniku publikácie sa podieľalo dovedna 17 bádateľov (vrátane zostavovateľky) z viacerých vedných disciplín a z rôznych inštitúcií (bližšie s. 346–349). Už po zbežnom prelistovaní zaujme čitateľa vkusná grafická úprava knihy, ktorú zabezpečil Thomas Reinagl. Publikácia má 12 hlavných (vnútorne členených) kapitol a ďalšie dve kapitoly (skratky časopisov a sérií, krátke biografie autorov). Hlavné kapitoly sprevádza zoznam použitej literatúry.

Knihu otvára pozdrav predsedníčky krajskej vlády Johanny Mikl-Leitnerovej (s. 13) a predhovory zostavovateľov série (Franz Pieler, s. 15) i predloženého zväzku (Michaela Lochnerová, s. 16–19). Posledný spomenutý predhovor oboznamuje s vymedzeným pracovným priestorom (Dolné Rakúsko v súčasných administratívnych hraniciach na východe Rakúska), s časovým rámcom (1300–800 pred n. l.), ale aj s obsahom jednotlivých statí a ich autormi.

Prvá kapitola (Michaela Lochnerová, s. 20–26) je úvodom do problematiky popolnicových polí v strednej Európe, charakteristikou tohto obdobia praveku, zdôraznením regionálnych špecifik i náčrtom dejín bádania v Dolnom Rakúsku od druhej polovice 19. stor. až do súčasnosti. Súčasťou úvodu je tak základný chronologicko-kultúrno-historický prehľad, ako aj oboznámenie sa s typológiou a terminológiou materiálnej kultúry (keramiky a bronzových predmetov) doby popolnicových polí. V zhode s autorkou možno pripomenúť, že teritórium súčasného Dolného Rakúska sa od polovice 13. stor. pred n. l. stabilne začlenilo do stredoeurópskeho okruhu

kultúr popolnicových polí, ktorý zahŕňal priestor medzi Karpátami, severným Balkánom a východnými Alpami. Pochopiteľne, ráta sa tu s viacerými archeologickými entitami (skupinami alebo kultúrami) a špecifickými časovými horizontmi. Preto je vysvetlený používaný systém relatívnej chronológie mladšej doby bronzovej až staršej doby železnej (stupne BD–HC, v absolútnych dátach 13.–7. stor. pred n. l., s. 24).

K prírodnému prostrediu sa vyjadřila trojica bádateľov druhej kapitoly (Michaela Popovtschaková, Andreas G. Heiss, Ruth Drescher-Schneiderová, s. 28–45). Skúmanie pôdnych uloženín, vypovedajúcich o prítomnosti a aktivitách ľudí, ale aj o dávnej existencii životného prostredia a rôznych prejavoch či zmenách ich vzájomného pôsobenia, je v súčasnosti už samozrejmosťou. Niet pochyb, že životné podmienky a kultúrne trendy popolnicových polí sú o to lepšie rekonštruovateľné, čím detailnejšie sú postrehnuteľné konkrétne aspekty v sídliskových formách a hustote sídlisk, otázkach využívania ornej pôdy, pastvín a lesov, stave divokej zveri a pod. Autori zároveň oboznamujú, akými spôsobmi túto problematiku skúmajú. Je zrejmé, že poznanie súvekej klímy, prírodného prostredia a kultúrnej krajiny všeobecne súvisí s aplikáciou moderných metód v archeológii a interdisciplinárnou spoluprácou. Výskum ale má isté limity: napr. archeoklimatológia pri rekonštrukcii klímy v regiónoch ako Dolné Rakúsko v tzv. klimatickom archíve nemá dosť dát, čo prirodzene obmedzuje možnosti analýzy. Vo všeobecnosti sa však konštatuje, že fenomén popolnicových polí z väčšej časti patrí do teplej a suchej fázy, počas ktorej sú doložené len mierne výkyvy. Akútne ochladenie so zreteľným nárastom zrážok sa spája až so zánikom kultúr popolnicových polí a s koncom doby bronzovej v 8. stor. pred n. l. vôbec. Najchladnejší úsek tejto fázy je datovaný medzi roky 775–725 pred n. l. (s. 41). Autori zdôrazňujú, že klíma hrala v dejinách osídlenia či hospodárstva veľmi dôležitú rolu, a treba si uvedomiť, že sa to netýka iba poľnohospodárstva! V ďalšej časti sa venujú rekonštrukcii krajiny. Zaradom charakterizujú environment jednotlivých oblastí, prípadne historických území východného Rakúska (Moravské pole, Mühlviertel, Wachau, Waldviertel, Weinviertel a východoalpiská Grauwackenzone s výskytmi medenej rudy), a poukazujú na výhodnosť i dôležitosť ich osídlenia v dobe popolnicových polí. K detailnejšej výpovedi o podobe súdobej krajiny a jej premenách však aktuálne chýba väčšia „sieť“ peľových analýz, čo sa v nadchádzajúcich rokoch azda (aj) v analyzovanom priestore vylepší.

Tretia kapitola pojednáva o domoch, osadách a opevneniach (Katharina Adametzová, Michaela Lochnerová, s. 46–79). Súhlasne s výsledkami archeologického bádania v strednej Európe sa konštatuje, že počas celej doby popolnicových polí vo východnom Rakúsku dominovali neopevnené sídliská, zakladané v nížinách. Boli to predovšetkým roľnícke osady, uprednostňujúce rovný terén, mierne svahy alebo nízke vyvýšeniny. Výšinné sídla (hradiská) – (možné) hospodárske a kultúrne centrá – vznikli až v mladšom období popolnicových polí. Autorky zároveň uvádzajú faktory, ktoré pri výbere lokality a budovaní sídlisk súvekej populácie zohľadňovali a preferovali. Postupne sme informovaní o typoch obydľí a ich konštrukčných detailoch, ale aj o rôznych funkciách stavieb na sídliskách. Okrem nich sa pozornosť venuje objektom, ktoré sú interpretované ako zásobné jamy, studne, oplotenia, cesty/chodníky, atď. V exkurze

k zásobným jamám (príspevok Benedikta Biederera) sa dozvedáme viac o spôsoboch ich využitia na sídliskách. V samostatných podkapitolách sú zhrnuté poznatky tak o nížinných, ako aj výšinných sídliskách. K vedecky najdôležitejším nížinným sídliskám z doby popolnicových polí v Dolnom Rakúsku patria Getzersdorf, Mannersdorf am Leithagebirge, Pixendorf alebo Rannersdorf (ďalšie v súpisu na s. 51). Hoci sa v publikácii konštatuje, že stav výskumu sídlisk z mladšej a neskorej doby bronzovej vo východnom Rakúsku by mohol byť lepší (s. 55), výnimkou v tomto smere je „sídlisková komora dolného povodia rieky Traisen“ (obr. 03_15), presnejšie údolie rieky medzi mestami Krems an der Donau a St. Pölten. Autorky dávajú do pozornosti sídliská z tejto oblasti na lokalitách Franzhausen/Wagram an der Traisen, Gemeinlebern, Pottenbrunn a Unterradlberg. Na ilustráciu stavu i potenciálu výskumu možno uviesť, že na poslednom menovanom nálezisku sa v druhej polovici 90. rokov 20. stor. preskúmala plocha 20 800 m² a doložili sa tu sídliskové štruktúry z mladšej aj neskorej doby bronzovej (ťažiskovo zo stupňov BD–HA1 a HB2–3). Aj podkapitola o výšinných sídliskách sa začína prehľadom vedecky najvýznamnejších lokalít (na s. 58 ich je uvedených 15, vrátane dvoch hradísk z priľahlého Maďarska: Sopron-Burgstall a Velem-Szent Vid). Autorky tvrdia, že v stupňoch HA2–HB3 sa zvýšil počet obyvateľstva, osídlenie vzrástlo a na výhodných výšinách vznikli často veľké (až 20–30 ha) hradiská. Po ich všeobecnej charakteristike predstavujú najzásadnejšie hradiská. Špeciálne miesto v publikácii je venované lokalite Thunau am Kamp (poloha Schanzberg), ktoré sa systematicky a interdisciplinárne skúma od druhej polovice 20. stor. Lokalita svedčí o polykultúrnom osídlení, avšak na konci doby bronzovej šlo evidentne o hradisko centrálneho významu. Vybudovanie, údržba a využívanie takýchto areálov je zároveň zrkadlom komplexnej spoločenskej štruktúry (s. 64). Do pozornosti sú uvedené aj hradiská Burgstall pri Schilterne (súčasť mesta Langenlois) a Heidenstatt pri Limbergu, no nezabúda sa ani na výšinné sídliská s fortifikáciami Oberleiserberg (príspevok Daniela Kernovej) a Stillfried an der March (príspevok Irmtraud Hellerschmidovej), ktoré sa do archeologickej spisby dostali už v druhej polovici 19. stor.

V štvrtej kapitole sa Daniela Kernová a Michaela Lochnerová (s. 80–109) zamýšľajú nad bývaním a hospodárením v kultúre popolnicových polí. Keďže archeologické nálezy a ich nálezové súvislosti poskytujú len obmedzený pohľad na „všedné dni“ mladšej a neskorej doby bronzovej, v procese výskumu sú práve preto dôležité analýzy prírodných vied a ďalších vedných disciplín. Správne sa podotýka, že tie môžu výrazne osvetliť zákonitosti, týkajúce sa fungovania domu, sídliska a súvekeho spoločenstva vôbec. Zväčša minimum poznatkov je napr. o vnútornom vybavení domu či o zónach aktivít, povedzme o miestach na oddych a spanie. Stav bádania zodpovedajú aj vedomosti o bežnom chode domácnosti. O aktivitách rôzneho typu tak vo vnútri obydľí, ako aj v rámci areálov sídlisk (spracovanie kovov, koží, textilu a pod.), sme spravdivia informovaní vďaka dôslednému vzorkovaniu a výsledkom chemických a iných analýz. Autorky konštatujú, že na pertraktovaných lokalitách sa zatiaľ výrazné členenie sídliskových areálov na výrobné (remeselné) zóny jednoznačne nedoložilo (s. 80). Jedinečné pohľady do domácnosti umožňujú výsledky systematického výskumu na už spomínanom hradisku v Thunau am Kamp.

Ako príklad možno uviesť veľmi dobre zachovalé zvyšky „domu 01“, preskúmaného na umelej terase severného svahu Schanzbergu. Nálezy, nálezové situácie a výsledky archeobotanickej analýzy nepochybne rozširujú obzory o vytváraní a skladovaní obilných zásob na lokalite (bližšie scenár Michaely Popovtschakovej, s. 83). Nasledujúca podkapitola predstavuje spektrum typov keramických nádob, ktoré sa na súvekých sídliskách používali na skladovanie potravín, varenie, jedenie a pitie. Názorné ukážky funkcií nádob sú vhodne ilustrované keramickým materiálom z Thunau am Kamp. V niektorých prípadoch sa účelné vypracovanie keramiky priamo odvíja od potreby spracovania potravín (pekáč, sito, súdok), prijímania potravy/tekutín (sacia nádoba, resp. nádoba s výlevkou) a/alebo religiózneho a symbolického významu (závesná nádoba s pokrievkou, viacdielne nádoby, miniatúrne nádoby), prípadne profánneho použitia ako napr. detská hračka. Autorky sa pri jednotlivých tvaroch nádob postupne pristavujú a do pozornosti dávajú charakteristické nálezy z východného Rakúska. Zaujímavé sú napr. keramické súdky, *Tonfüßchen*, o ktorých sa predpokladá, že slúžili na spracovanie mlieka, resp. mliečnych výrobkov, ale existujú aj názory o výrobe alkoholických nápojov (fermentačné nádoby) a pod. Najpravdepodobnejšie však bude, že šlo o nádoby na produkciu jogurtu alebo masla, čo potvrdzujú aj etnografické paralely z juhovýchodnej Európy, Anatólie a Blízkeho východu (s. 87–89). Pripomenutie tohto typu keramickej nádoby v recenzii má svoj dôvod: v zverejnenom nálezovom materiáli kultúr popolnicových polí zo Slovenska sa totižto „keramický súdok“ zatiaľ neeviduje (pozri Lochner 2012, 196–198; Mitáš 2015). Zvláštna pozornosť sa v kontexte kapitoly venuje domácej výrobe a špecializovanému remeslu. Zaoštarovanie a zhotovovanie vecí bežnej potreby si v dobe popolnicových polí žiadalo súčinnosť viacerých remeselných aktivít. Sú dôkazy, že existovali skutoční remeselníci – špecialisti, ktorých technologické znalosti a zručnosti si vtedajšia spoločnosť vysoko cenila. V knihe sa čitateľným, prehľadným a zároveň názorným spôsobom prezentuje, čo všetko (napr. vhodné suroviny, adekvátne náradie, výrobné techniky) bolo potrebné k spracovaniu kovu, hlíny, textilného vlákna, dreva, kosti a kameňa (obr. 04_12 na s. 90, 91). Na mieste je názor, že remeslá umožňujú sledovať celý rad fenoménov. Rozsah výroby a špecializácie na sídliskách kultúry popolnicových polí v Dolnom Rakúsku ale zostáva skôr otvorenou otázkou archeologického výskumu (s. 92). V časti o spracovaní kovov autorky rozoberajú jednotlivé aspekty metalurgie bronz, ktorá sa obvykle uskutočňovala na vysokej úrovni a bola špecializovaným remeslom. V pracovnej oblasti sme svedkami, že väčšina bronzových predmetov pochádza z depotov, na sídliskách sú priame doklady spracovania bronzu zriedkavé a hrob s typickým inventárom metalurga zo stupňov BD–HB sa doteraz neidentifikoval (pozri a porovnaj napr. Jockenhövel 2018). Z archeologických lokalít v Dolnom Rakúsku, ktoré sa viažu na východoalpiský región zhutňovania medenej rudy a ktoré poskytujú dôkazy o metalurgii farebných kovov, sa uvádzajú sídliská Prigglitz, Kienberg, ale i hradiská Thunau am Kamp, Stillfried an der March a Oberleiserberg. Ďalšie riadky erudované a opäť zrozumiteľne osvetľujú výrobu keramiky a textilu, ako aj opracovanie dôležitých surovín: dreva, kosti, parožia, rohoviny, kože, srsti a kameňa. Ilustrujú ich príklady z podrobne preskúmaných dolnorakúskych lokalít.

Piata – archeobotanická – kapitola sleduje využívanie rastlín (Michaela Popovtschaková, Andreas G. Heiss, Hans-Peter Stika, s. 110–138). Prv, než autori podrobne charakterizujú spektrum pestovaných aj planorastúcich rastlín, ktoré na náleziskách kultúry popolnicových polí v Dolnom Rakúsku doložil archeologický výskum, sme oboznámení s predmetom záujmu archeobotaniky a najčastejšími archeobotanickými nálezmi, t. j. zuhoľnatenými zvyškami rastlín. Archeobotanické nálezy v pracovnej oblasti sú v súčasnosti dostupné zo šiestich sídliskových lokalít vrátane hradísk (tabula 05_01 na s. 115). V podkapitole o súvekom rastlinnom spektre sa hlavná pozornosť venuje pestovaným rastlinám. Z obilnín to je jačmeň siaty, pšenica jednozrnová, pšenica dvojzrnová, pšenica špaldová, Zanduriho pšenica, typy nahej pšenice (napr. pšenica siata), proso siate, mohár taliansky alebo ojedinelé doklady (z doby bronzovej vo východnom Rakúsku) raže siatej a ovsy siateho. Zo strukovín šošovica jedlá, hrach siaty, bôb záhradný, atď. Olejnaté rastliny (napr. mak siaty) sú ťažšie identifikovateľné. Zastúpenie spektra pestovaných rastlín je zjavné aj z diagramov (obr. 05_09 na s. 120 a obr. 05_15 na s. 123). Nezabúda sa na lesné plody a ovocie, ktoré sa najbežnejšie získavali formou zberu a zrejme si ich ľudia aj vymieňali. Predstavu, o čom vypovedajú archeobotanické nálezy, si čitateľ môže utvoriť v nasledujúcej podkapitole, ktorá zhŕňa poznatky o rastlinných zvyškoch na hradiskách ako napr. Stillfried an der March. Na tejto lokalite sa vo výplni jedného objektu identifikovali zvyšky jedla, ktoré bolo podobnej konzistencie ako tradičné *risotto*. Keďže ho urobili z prosa (nem. *Rispenhirse*), tak je v publikácii prezentované ako *Hirsotto*. K „rizotu z doby bronzovej“ kuchárka Parvin Razaviová dokonca prikladá inšpiratívny recept (k prisadám i príprave s. 124, 125). Archeobotanická kapitola neobchádza ani otázky poľnohospodárstva a stravovania, s ktorými súvisia údaje o pestovaní, žatve, spracovaní, uskladnení a príprave/úprave potravín. V publikácii nie je núdza o výborné príklady, o čom nás v tejto časti presvedča typická keramická zásobnica na uskladnenie obilia s kapacitou 120 litrov z Thunau am Kamp, prípadne veľká nádoba s možnosťou obsiahnuť až 202 litrov (!) zo Stillfriedu an der March. Z nálezov zo „stillfriedského“ hradiska zaujmú aj zvyšky zuhoľnateného obilného výrobku prstencovitého tvaru, ktorý pripomína súčasné juhotalianske *tarallini* (obr. 05_27 na s. 132).

Šiesta – archeozoologická – kapitola referuje o vzťahu človek – zvieratá (Günther Karl Kunst, s. 140–171). Zvieratá boli dôležitým hospodárskym faktorom kultúry popolnicových polí, prirodzenou súčasťou ľudského života a človeka sprevádzali vo všetkých oblastiach. Podkapitolou o zvieracích zvyškoch ako archeologických prameňoch sa autor dotýka otázok, z ktorých možno uviesť spôsoby ich zachovania na sídliskách a pohrebiskách, (rituálne) pohreby zvierat, artefakty zo zvyškov zvierat, atď. V ďalšej podkapitole archeozoologický materiál kultúry popolnicových polí v Dolnom Rakúsku získava konkrétnu podobu. Konštatuje sa, že vo zvieracích zvyškoch z mladšej a neskorej doby bronzovej dominujú také druhy, ktoré sa už medzi domácimi alebo divo žijúcimi zvieratami predtým vyskytovali (s. 144). Autor približuje štyri najdôležitejšie domáce/hospodárske druhy zvierat: hovädzí dobytok (Tur domáci), koza domáca, ovca domáca a sviňa domáca. Uvedeným zároveň logicky pripisuje hlavný podiel na živočíšnych produktoch. Nezabúda sa ani na psa domáceho a koňa domáceho (súčasťou jedálňička boli len príležitostne),

prípadne sporadické nálezy kostí kury domácej. S touto užitočnou „novinkou z Ázie“ teda treba na konci doby bronzovej počítať i vo východnom Rakúsku (s. 145; ku kostiam kury z tohto obdobia zo Slovenska *Wyrost/Chrzanowska* 1994, 270, tabela 2). V publikácii sa spomínajú aj divo žijúce zvieratá, resp. využívanie prírodných zdrojov (vrátane zvieracích surovín – parožia) prostredníctvom lovu, rybolovu, zberu a pod. Ich význam v stravovaní či hospodárstve ale príliš veľký nebol. Autor sa okrem toho pozrel na využívanie zvierat a zvyškov z nich na rôznych druhoch sídlisk, ktoré prezentuje vo svetle archeozoologického výskumu aj s ich lokálnymi špecifikami. Sleduje ich v tomto slede: Unterradlberg, Unterhauzenthäl, Oberleiserberg, Thunau am Kamp a Stillfried an der March. Medzi jednotlivými lokalitami, pochopiteľne, zistil rozdiely (bližšie s. 149–152). Baníckemu sídlisku Priggilitz-Gasteil na východnom okraji Grauwackenzone, čo sa týka zastúpenia zvieracích zvyškov, ich nálezových okolností a možného využitia súdobou populáciou, sa venuje zvlášť. V kontexte so sídliskami sa dozvedáme aj o zvieracích depóniách (náznačkách/dokladoch rituálov?; viac v 11. kapitole) na hradisku Stillfried an der March. Povšimnutiahodnou súčasťou problematiky sú zvieracie kosti v pohrebnom ríte. Ich prítomnosť na žiarových pohrebiškách sa obvykle vysvetľuje symbolickým významom (prílohy mäsa v hrobách – zvyšky stravy mŕtvym). Uvedené veľmi výstižne ilustruje v 80. rokoch 20. stor. kompletne preskúmané pohrebisko Franzhausen-Kokoron s dovedna 403 hrobmi. Okrem klasických porcií mäsa z domácich zvierat sa v hrobovom inventári na tejto lokalite zistili aj iné symbolické prílohy – tzv. *astragali*, resp. ich sady (obr. 06_23–25 na s. 164, 165). Pochádzajú celkom zo 14 hrobov a ich prítomnosť naznačuje istý rituál. K téme možno podotknúť, že na území Slovenska sa tento zvyk v pohrebnom ríte kultúr popolnicových polí takto dôsledne zatiaľ nedoložil. Na strednom Dunaji sa *astragali* v hrobových inventároch ale objavujú aj v dobe halštatskej, čo najnovšie potvrdili nálezy z Bratislavy-Devína (*Bielichová a i.* 2020, 160, 169–171, obr. 3: 2; 7: 1–6; 12; tamže ďalšia literatúra k problematike). Ostatná pozornosť je venovaná príkladom opracovania (t. j. artefaktom z) kostí, parožia a zubov, ktoré pochádzajú z analyzovaných sídlisk. Zo záveru kapitoly, je možné si myslieť, že je aj pre bádanie na Slovensku inšpiratívna poznámka o vplyve používania kovových predmetov v súvekom „mäsiarstve“ (s. 169).

Predmetom siedmej kapitoly je baníctvo a suroviny (Susanne Klemmová, Peter Trebsche, s. 172–213). V dobe popolnicových polí boli významné systematicky získavané a spracovávané viaceré suroviny. Najviac pozornosti sa v knihe venuje medi, s ktorou je na území Dolného Rakúska spätých viacero archeologických fenoménov. Problematiku pravekej ťažby medi v prvej časti kapitoly približuje Susanne Klemmová. Je všeobecne známe, že alpskú meď ľudia ťažili už v praveku. Popri čistej alebo rýdzej medi sa ťažba zameriavala na medené rudy chalkopyrit a tetraedrit, čo potvrdzujú viaceré/rôzne veľké ťažobné areály vo východných Alpách. Väčšia časť pravekých baníckych aktivít v Rakúsku sa identifikovala v Grauwackenzone, t. j. geologickej zóne zvlášť bohatej na ložiská kovových rúd. Autorkou bližšie sledovaná ťažobná zóna sa rozprestiera na východnom okraji Álp, od juhovýchodu Dolného Rakúska až k Günserkým horám (Günser Gebirge) v strednom Burgenlande. Súčasťou úvodu do problematiky je exkurz k montánnej

archeológii v Rakúsku. Aktuálne, samozrejme, si aj vo výskume starého baníctva archeológia už vypomáha celým radom prospekčných metód a analýz prírodných vied (s. 176). Následne sa pozornosť upriamuje na technologický reťazec metalurgie farebných kovov, t. j. jednotlivé kroky od ťažby rudy až k odliatemu kovovému predmetu. Konštatuje sa, že o pravekej ťažbe medi v juhovýchodnom Dolnom Rakúsku výskum utvoril vcelku uspokojivý obraz. Publikácia ho prezentuje textovo aj obrazovo (vrátane výskytov medenej rudy aj jednotlivých banských revírov; obr. 07_01, 06). Autorka v analyzovanom regióne zmieňuje okolo 50 lokalít, ktoré sa istotne spájajú s baníctvom a zhutňovaním medenej rudy. Avšak jediným náleziskom z doby popolnicových polí s dokladmi celého výrobného reťazca (ťažbou a úpravou rúd medi – hutníctvom a ďalším spracovaním – výrobou a finalizáciou bronzových predmetov) je Gasteil-Sandriegel (Priggilitz I/Cu) v revíre Priggilitz-Gasteil (bližšie s. 184). V závere prvej časti siedmej kapitoly sa výhľadovo uvádza, že dolnorakúska oblasť ťažby medi má ešte veľký výskumný potenciál.

Druhá časť kapitoly prináša pokračovanie montánnej problematiky v záujmovej oblasti Rakúska, avšak s dôrazom na aspekty sídliskovej archeológie doby popolnicových polí. Peter Trebsche sa najskôr pokúša načrtnúť charakter baníckeho regiónu a osvetlí jeho miesto v regionálnej sídliskovej štruktúre (ťažiskovo v okr. Neunkirchen). Na tomto území sa registrujú aj viaceré hradiská (obr. 07_17), avšak ich priamy súvis s banskými sídlami alebo kontrolou ťažby medenej rudy a jej distribúciou podľa autora nateraz zostáva nedokázateľný. Aké-také doklady spracovania kovov na sídliskách ale predsa len existujú a významná je tiež koncentrácia plankonvexných medených koláčov a depotov s predmetmi tohto typu na juhovýchode Dolného Rakúska (napr. Ternitz-Mahersdorf, s. 188). Tieto autor oprávnenne považuje za indikátory distribúcie medenej suroviny v regióne s ťažbou a zhutňovaním medi. Avšak najvýznamnejšie miesto v analyzovanej problematike patrí už spomínanému sídlisku metalurgov z doby popolnicových polí v k. ú. obce Priggilitz-Gasteil (okr. Neunkirchen), ktorému je venovaná samostatná podkapitola. Vo forme žilných rudných ložísk sa tu vyskytuje meď a železo, no samotné ložisko medenej rudy v súčasnosti nie je dostupné, lebo ho prekrýva mohutná svahová sutina. Uvádza sa, že na haldách boli zistené najmä tieto medené a železné rudy: chalkopyrit, pyrit, malachit, siderit a limonit. Spôsob a technika ich pravekej ťažby však nateraz nie sú celkom jasné. K uvedenej lokalite autor pripája dostupné C¹⁴ dáta z organických materiálov, ktoré sa objavili v polohe I/Cu počas ostatných výskumných sezón. Väčšina dát potvrdzuje banskú činnosť na konci mladšej doby bronzovej a začiatku neskorej doby bronzovej (cca koniec 11. až záver 10. stor. pred n. l.; bližšie s. 193, 194). Zvyšok podkapitoly mapuje aktivity obyvateľov tohto pozoruhodného sídliska, medzi ktoré patrilo aj zhotovovanie baníckych nástrojov (napr. kladivá/mlaty z parohoviny). Adekvátna pozornosť je v publikácii venovaná i ďalším dôležitým surovinám: cínu, zlatu, železu, grafitu, vrátane otázok okolo ich pôvodu, získavania a regionálnej distribúcie (s. 198–208).

Na výzbroj a spôsob boja sa v ôsmej kapitole pozreli Ernst Lauermaier a Marianne Mödlingerová (s. 214–231). V skladbe zbraní na konci 2. tisícročia pred n. l. sa objavujú kovové útočné zbrane (meč, kopija, oštep, dýka, sekera), ochranná zbroj (štít, pancier, prilba, náholnice), prípadne luk, na ktorého používanie nás spravidla upozorňujú hroty

šípov. Uvedené predmety neodzrkadľujú len zmeny spôsobu boja, ale premeny súvekej spoločnosti celkovo. V úvode kapitoly sa konštatuje, že problematiku na území Dolného Rakúska dokumentujú hrobové nálezy, hromadné a tzv. riečne nálezy zbraní, resp. nálezové súbory, obsahujúce zbrane. V nasledujúcej podkapitole sme oboznámení s písomnými a epigrafickými prameňmi, ktoré informujú o vojenských konfliktoch vo východnom Stredomorí (napr. boje starovekých ríš so zoskupeniami tzv. morských národov), ktoré sa odohrávali synchrónne s mladšou dobou bronzovou v strednej Európe. V protiklade k týmto správam a mediteránnym nálezom vystupuje v západnej strednej Európe unikátne „bojové pole“ na brehu rieky Tollense na severovýchode Nemecka (Meklenbursko-Predné Pomoransko). Na túto archeologickú lokalitu možno v recenzii upozorniť z viacerých dôvodov: napr. ľudské pozostatky so stopami násilia, súbor drevených zbraní, materiál s celým radom analýz prírodných vied (*Jantzen a i. 2011*). Nemenej interesantné sú bronzové predmety, ktoré sa zaevidovali na tomto nálezisku a ktoré vykazujú paralely s artefaktmi v regiónoch strednej Európy situovaných juhovýchodne (*Jantzen a i. 2011*, 430, obr. 2), vrátane územia Slovenska. Z podkapitoly o výzbroji si možno urobiť komplexnú predstavu o bojovníkovi doby popolnicových polí, pričom sa nezabúda na zbrane z organických materiálov (preto sa uvádzajú drevené predmety z údolia Tollense na s. 216, 217), ktoré pravdepodobne boli známe aj v pracovnej oblasti, no z archeologických súvislostí ich nepoznáme/nezachovali sa. Z útočných zbraní sú bližšie prezentované meče, dýky, luk a šípy, kopije/oštepky, sekery a, samozrejme, zohľadňuje sa funkčnosť a význam týchto typov militárií. Čo sa týka ochranného zbroja, na sledovanom území jej elementy za súčasného stavu bádania viac-menej chýbajú. Poznámky autorov k nej sú preto koncipované v širšom európskom kontexte. Myslí sa aj na využitie koňa v boji a nezabúda sa ani na súčasti konského postroja. Tvrdenie na konci kapitoly, že konflikty a násilie zasahovali do života ľudí aj pred 3000 rokmi, je na mieste.

Odhádzanie na druhý svet osvetľuje v deviatej kapitole sama zostavovateľka Michaela Lochnerová (s. 232–259). Žiarový pohrebný rítus, ktorý charakterizuje kultúru popolnicových polí, je zaiste vonkajším výrazom hlbších duchovno-náboženských predstáv, s ktorými sa stredo-európska populácia v 13. stor. pred n. l. bezprostredne stotožnila. Prvá podkapitola zoznamuje so spôsobom pochovávaní – špecifikami pohrebného rítu: pohrebiskami striktne oddelenými od sídlisk, inventárom, ktorý sa po kremácii ukladal do hrobov, ako aj s inými osobitosťami, ktoré sú zrkadlom kultúrnych identít. Kľúčové, že „archeológia profituje z reprezentatívnosti hrobov“ (s. 232), si síce autorka nenecháva pre seba, avšak na druhej strane priznáva, že vo výskume veľa otázok zostáva otvorených (zvlášť tie, do akej miery hrobový inventár spätne odzrkadľuje svet živých, resp. dovoľuje o ňom uvažovať). Žiarové pochovávanie opisuje ako súdobý fenomén, ktorý charakterizuje dôsledné uplatňovanie kremácie a široká uniformnosť pohrebných obradov. S ohľadom na poznatky z etnológie či religionistiky dodáva, že pravdepodobne ústrednú rolu v tomto zohrali predstavy o očisťujúcej sile ohňa a obetovaní ľudského tela vyššej existencii. Nie je dôvod sa nestotožniť s autorkinou reflexiou, že jedinečná výpoveď k týmto otázkam jestvuje vo významných indoeurópskych a hinduistických textoch, *Rigvéde*, ktorej najstaršie „vrstvy“ vznikli medzi rokmi 1700–1200 pred n. l.

To s dobou bronzovou v strednej Európe časovo korešponduje! Ale dokázať, či uvedené texty mohli byť skutočným impulzom aj pre náš región, pochopiteľne, nie je možné. Faktom zostáva, že k dôslednému obratu ku kremácii došlo a *Rigvéda* prameň k takýmto základným zmenám predstavuje (pozri a porovnaj napr. *Furmánek/Pavelková 2020*, 36, 37). Ďalšie podkapitoly ponúkajú prehľad pohrebísk/pohrebného rítu tak staršej, ako aj mladšej fázy kultúry popolnicových polí na území Dolného Rakúska. Najprv sme poučení o regionálnych špecifikách žiarových pohrebísk skupín Baierdorf-Velatice a Čaka (*Baierdorf-Velatice-Gruppe, Čaka-Gruppe*). Súčasťou textu je súpis 15 vedecky dôležitých pohrebísk skupiny Baierdorf-Velatice a štyri pohrebiská skupiny Čaka (s. 235). Fakt, že menované archeologické entity autorka prezentuje ako „skupiny“, vychádza už zo samotného názvu a koncepcie publikácie, preferujúcich pojem „kultúra popolnicových polí“ (1. kapitola, s. 20). Hierarchia termínov skupina a kultúra sa v tomto prípade síce rešpektuje, to však neznamená, že rovnaká hierarchia je obvyklá i v okolitých krajinách (k Slovensku pozri a porovnaj *Furmánek/Veličák/Vladár 1991*, 114–127; *Ožďáni 2015*). Na vývoj a osobitosti pochovávaní v staršej fáze kultúry popolnicových polí (prelom stupňov BC2/D1–HA2) v publikácii poukazujú príklady pohrebísk Pitten, Baierdorf, Horn, Inzersdorf ob der Traisen, Hollabrunn a Sommerein. Mladšiu fázu (stupne HB–HC1) ilustrujú príklady z pohrebísk Hadersdorf am Kamp, St. Andrä vor dem Hagenthale, Stillfried an der March a Franzhausen-Kokoron. Štyri menované lokality z mladšej fázy kultúry popolnicových polí spoločne s ďalšími piatimi sú aj v súpise deviatich vedecky dôležitých pohrebísk „*Stillfried-Podoler-Gruppe*“ (s. 249). Prehľad základných špecifik pohrebného rítu (tvar hrobu, hrobová konštrukcia, prítomnosť urny a pod.), v chronologickom úseku vymedzenom stupňami BC2/D1–HC1, autorka premietla aj do tabiel 09_01; 02. Správne prízvukuje, že model hrobovej výbavy je v priamom vzťahu s odlišnosťami vo veku a pohlaví pochovaných, ako aj odrazom spoločenskej identity zosnulých (s. 247). Z náplne kapitoly je zjavné, že potenciál výskumu „na večnosť odídenej“ populácie z mladšej a neskorej doby bronzovej v pracovnej oblasti je veľký a v budúcnosti sa bude uberať širokou cestou interdisciplinárnej spolupráce.

Desiata kapitola je antropologickým pohľadom na človeka kultúry popolnicových polí (Karin Wiltshcke-Schrotta, Silvia Renhartová, s. 260–281). V kontraste so skúmaním kostrových pozostatkov – skeletov – je analýza spálených ľudských kostí pre antropológov zaiste náročnejšou úlohou a predstavuje ďalšie výzvy. Podkapitola o antropologických prístupoch k predmetnému materiálu zahŕňa prehľad tak klasických metód (určenia pohlavia a veku, stanovenia patologických zmien a pod.), ako aj nových archeometrických a biochemických analýz (napr. cementochronológia, izotopové analýzy, röntgenová difraktometria). Moderné metódy sú však aj v pracovnej oblasti zatiaľ využívané skôr zriedkavo (s. 262). Ďalej sa autorky venujú experimentu spálenia mŕtveho tela (v tomto prípade uhynutého zvierafa), ktorý potvrdzuje, že šlo o zložitý proces. Opis priebehu kremácie sprevádza fotodokumentácia experimentu. Antropológmi analyzované pohrebiská z doby popolnicových polí v Dolnom Rakúsku sú predmetom samostatnej podkapitoly (prehľad nálezísk v tabele 10_01). Detailne antropologicky preskúmaným žiarovým pohrebiskom je už vyššie spomenutá lokalita

Franzhausen-Kokoron, kde sa identifikovalo 403 hrobov (pôvodne ich bolo na pohrebisku okolo 500, s. 251) a 339 jedincov (s. 265). Vedecká dôležitosť tohto pohrebiska je zvýraznená práve výsledkami antropologickej analýzy. Z poznámok, ktoré autorky pripájajú, sú z nášho pohľadu zaujímavé informácie o pohlaví a veku zosnulých. Napríklad pri oboch pohlaviach sa konštatuje najväčšia úmrtnosť v rámci vekovej skupiny *adultus*, zhruba okolo tridsiateho roku, resp. medzi 31. až 40. rokom života (s. 270, obr. 10_07, 08). Na tento poznatok sa v recenzii upozorňuje zámerne, pretože je vhodný do diskusie o výsledkoch antropologických a demografických analýz, ktoré umožnil materiál zo žiarových pohrebísk kultúr popolnicových polí na Slovensku (Pavelková/Furmánek 2018, 105–108). Pokiaľ sa však vrátíme k recenzovanej publikácii, tak určite predmetná je pripomienka, že život ľudí z mladšej a neskorej doby bronzovej sprevádzali a ovplyvňovali početné vekom a opotrebovaním zapríčinené ochorenia, chronické infekcie a v neposlednom rade obdobia hladu, ktoré oslabovali ich imunitu a pod. V dvoch zvyšných podkapitolách majú svoje miesto unikátne nálezy nespálených skeletov na súvekých sídliskách, ale aj pohľad na spektrum chorôb či telesné vady, ktoré sa v antropologickom materiáli potvrdili. Archeologicky aj antropologicky interesantné nálezy z menovaných tematických okruhov (resp. z analýz kostrových nálezov vyplývajúce poznatky) pochádzajú napr. z hradiska v Stillfried an der March. V kontexte s kvantom spálených ľudských kostí z pohrebísk, ktorých komplexný antropologický rozbor je skomplikovaný stavom ich zachovania, sú poznatky o napr. klasickom prejave skorbutu (Möller-Barlowova choroba) dvoch detí z jamy „V841“ na „stillfriedskom“ hradisku o to cennejšie. Rovnako cenná je správa, že väčšina jedincov z jam na tejto lokalite trpela v čase smrti zápalmi (s. 276, 277).

Spoločnosť, kult a náboženstvo približuje jedenásta kapitola (Monika Grieblová, s. 282–333). Vlastne ani neprekvapuje, že aj z Dolného Rakúska pochádzajú nezvyčajné predmety a mimoriadne nálezové situácie, ktorým medzi archeologickými nálezmi patrí zvláštne miesto a ktoré dovoľujú uvažovať o interakcii pravekých ľudí s tzv. vyššou sférou. O súdobých kultovo-náboženských úkonoch, vzhľadom na absenciu písomných prameňov, ale vypovedajú len archeologické nálezy a nálezové súvislosti. Z úvodu do problematiky je zrejme, že kult a náboženstvo kultúry popolnicových polí je nutné študovať v širších európskych/eurázijských súvislostiach. V nasledujúcej podkapitole sa uvažuje o vtedajšej (štruktúre) spoločnosti. Podstatným meradlom jej úrovne sú podľa autorky vzťahy a kontakty vyplývajúce z produkcie a distribúcie kovov. Inak povedané, kto mal zaistený prístup k týmto cenným surovinám a predmetom, ten zásadne ovplyvňoval chod spoločenských a hospodárskych udalostí a azda aj náboženskú sféru (s. 284, 285). Diferencie vo vnútri spoločnosti kultúry popolnicových polí autorka ilustruje tak pohrebiskovým, ako aj sídliskovým materiálom (napr. z hrobov aj z hradiska v Stillfried an der March). Zároveň však konštatuje, že gro pochovaných na žiarových pohrebiskách v Dolnom Rakúsku na žiadne väčšie spoločenské odlišnosti neukazuje. Ďalej sa už zaoberá kultom a náboženstvom. V rámci tejto podkapitoly sa postupne venuje rituálnym obetiam a s nimi spojenými úkonmi (procesom obetovania napr. i s charakteristickou deštrukciou obetných darov) a typickému fenoménu

doby popolnicových polí – deponovaniu bronzových predmetov. Zastavuje sa aj pri riečnych/vodných nálezoch kovových predmetov, úmyselne uložených súboroch napr. nádob na pitie/hromadných nálezoch keramikého riadu na sídliskách a v neposlednom rade *geniom loci* samotných rituálnych miest. Neobchádza sa ani skutočnosť, že miestami súvekého kultu a ceremónií boli samotné pohrebiská. Kultových nálezov v sledovanej oblasti síce nie je veľa, no o to väčšiu pozornosť vzbudzujú. V týchto súvislostiach sú prezentované napr. nespálené ľudské kosti či solitérne lebky, nájdené na hradisku v Stillfried an der March. Fakt, že na tomto mieste centrálnemu významu šlo o „výnimku potvrdzujúcu pravidlo“, dokumentuje vyše 30 jedincov rôzneho pohlavia a veku, ktorí boli „pochovaní“ v sídliskových jamách, a nie na súvekom pohrebisku (viac k problematike vrátane C¹⁴ dát z kostí s. 303–306). Nemenej zaujímavé poznatky vyplývajú zo zvyškov zvierat, ktoré boli deponované na „stillfriedskom“ hradisku a ktoré rakúskym bádateľom umožňujú rozmýšľať o „2900 rokov starom zverinci“ (!). Akúsi menážériu totiž naznačujú pôvodne celé zvieracie kadávery – domácich zvierat aj divé zveri – uložené vo viacerých zásobných jamách v polohe Hügelfeld. Keďže ide o mimoriadne nálezové situácie, možno z publikácie uviesť, že dominuje jeleň, nasledovaný sviňou domácou a zajacom poľným. Charakteristické sú depónie jedného i viacerých divých zvierat, no spravidla jednotlivo uložené domáce zvieratá. Vyskytla sa tiež kombinácia domáceho zvierata a kostí človeka, atď. Zvlášť zaujímavá je skutočnosť a z nej vychádzajúca interpretácia, že väčšinu deponovaných divých zvierat (a medzi nimi celkom dosť starých jedincov) s najväčšou pravdepodobnosťou na lokalite držali v zajatí a dokonca chovali (bližšie s. 306–308)! S autorkou možno len súhlasiť, že tento druh „chovateľstva“ je fenoménom, s ktorým sme sa zatiaľ na sídliskách/hradiskách z doby popolnicových polí v strednej Európe nestretli. Otázky okolo jeho významu (zvieratá určené k ceremóniám?) sú v každom prípade výborným príspevkom do diskusie. Ostatná časť kapitoly je venovaná náboženskej komunikácii, ktorú sprostredkovali typické symboly a znaky: slnko, (vodný) vták a slnečno-vtáčia bárka, (štvoršpicové) koleso, dvojité sekera, štít lancetovitého tvaru i tvaru presýpacích hodín alebo trojuholník a antropomorfné variácie. Miesto v knihe má aj „rituálna“ keramika (i s figurálnymi prvkami): mesiakovité podstavce (tzv. monoidoly), zoomorfné nádoby s výlevkou (tzv. sacie nádoby), (miniaturne) spojené nádoby, nádobky tvaru topánky či drobná antropomorfná a zvieracia plastika. Medzi rituálnymi predmetmi sa spomína aj svojrázna keramická plastika „ženy-ropuchy“ (z jednej strany žena, z druhej ropucha, tzv. *Frauenkröte*) zo sídliska z mladšej doby bronzovej v Maissau (okr. Hollabrunn, s. 318, 319). Možno dodať, že s týmto unikátnym nálezom a jeho širšími súvislosťami sa zapodieva samostatná publikácia (Gulder 1960–1962). Na Slovensku sa „niečo obdobné“ v kultúrach popolnicových polí zatiaľ nezaevidovalo a na plastiky z Maissau podľa vedomostí recenzenta slovenská spisba ani nezareagovala (resp. nemala dôvod reagovať, pozri a porovnaj napr. Furmánek 2015; Vladár 1979, 76, 78, 82, 126, 127). Pertraktovaný nález má však čiastočnú podobnosť s antropomorfnou keramikou plastikou zo sídliska čakanskej kultúry v Ludaniciach-Mýtnej Novej Vsi na západnom Slovensku (Bátora/Bača 2020, 21, 23, obr. 5; 6), teda pokiaľ všeobecne pozorujeme ľudské črty (napr.

detaily tváre) a nesústredíme sa výhradne na pohľavné znaky. Skutočnosť, že „sogenannte Frauenkröte“ nezaujala ani naposledy citovaných autorov má tiež svoje vysvetlenie. V kontexte so zreteľne vymodelovanými mužskými genitáliami na antropomorfnnej entite z Ludaníc zohľadnili najmä tie analógie z doby popolnicových polí v Európe, ktoré reprezentujú mužské pohlavie (*Bátora/Bača* 2020, 28, obr. 8, tabeľa 1). V stati o „náboženskej komunikácii“ zaujme aj tzv. kalendárna keramická šálka z hrobu 28 na pohrebisku v St. Andrä vor dem Hagenthale, ktorá je takto klasifikovaná na základe výzdobného motívu na vydutine, ktorý hypoteticky zobrazuje prírodný úkaz spojený so zatmením Slnka. Prehľad kultových artefaktov uzatvárajú keramické hudobné nástroje – zvukové komponenty rituálov (s. 322–324). Z kapitoly vyplývajúca rozmanitosť dokladov kultu a náboženských aktivít sa v zhrnutí „prekrýva“ s univerzálnym princípom, ktorý odrzkadľuje uctievanie Slnka súvekou populáciou.

Dvanásta kapitola má charakter zamýšľania sa o častiach „puzzle“ (Sigrid Strohschneider-Laueová, s. 334–342), z ktorých pozostával časový úsek medzi rokmi 1300–800 pred n. l., a nelahkej úlohe pravekej archeológie diely tejto „skladačky“ zmysluplne interpretovať. Podľa predloženého stavu bádania je nesporné, že územie Dolného Rakúska bolo načas súčasťou veľkého stredoeurópskeho kultúrneho fenoménu – popolnicových polí, ktorým celkovo vyvrcholil vývoj doby bronzovej. Autorka najskôr predstavuje prehistorickú archeológiu ako historickú vedu v modernom ponímaní, ktorá je nútená spolupracovať s prírodnými vedami a celým radom ďalších vedných disciplín. Výskumný proces metaforicky a veľmi výstižne prirovnáva k „práci medzi vyvierajúcimi a vysychajúcimi prameňmi“ (s. 334). Zamýšľa sa nad samotnými archeologickými nálezmi a nálezovými situáciami, hranicami ich interpretácie a možnosťami rekonštrukcie vtedajšieho života vôbec. Čitateľ má príležitosť si urobiť obraz a úsudok, čo všetko zahŕňa postup „nájsť – vykopáť – spracovať – vystaviť“ (s. 335), čo je všeobecne vítané najmä vo vzťahu k laickej verejnosti, zástupcom samospráv, politikom, študentom a ďalším záujemcom, ktorým sa táto kniha dostane do rúk. V jednotlivých podkapitolách sa teoretizuje napr. o „hmatateľných“ aj „neuchopiteľných“ nálezoch a otázkach ich analýzy. Mnohé z myšlienok v 12. kapitole sú zaiste inšpiratívne (napr. výpovedná schopnosť prázdnych miest/odstupov medzi nálezmi v archeologických objektoch) a bolo by možné ich rozvíjať aj pri štúdiu materiálu z mladšej a neskorej doby bronzovej zo Slovenska. Tak či onak, k niektorým častiam z „puzzle“ kultúry popolnicových polí zatiaľ chýbajú spojitosti, iné však vo väčšom zhluku už dávajú obraz.

Podrobným komentárom k dvanástim nosným kapitolám recenzovanej monografie sa poukazuje nielen na jej myšlienkovú a obsahovú pestrosť, ale najmä komplexnosť, ktorou vyššie postupne menovaný autorský kolektív so zostavovateľkou Michaelou Lochnerovou spracovali problematiku mladšej a neskorej doby bronzovej v administratívnych hraniciach Dolného Rakúska. Je pozitívne, že kniha vznikla formou interdisciplinárnej spolupráce, archeológiu prezentuje ako modernú vedu a oboznamuje s početnými dátami, ktoré sa z archeologického materiálu zistili v spolupráci s prírodnými vedami. Publikácia nie je napísaná prísnyim vedeckým štýlom, ale v každom prípade zrozumiteľne a s množstvom obrazových príloh a pomôcok (slovníky pojmov, exkurzy k predmetom/objektom/

sprievodným témam), čo iste ocenia tiež „nearcheológovia“ – laici, ktorých fascinuje praveká archeológia, doba bronzová a zvlášť obdobie 13.–8. stor. pred n. l. Keďže v tomto čase na území Dolného Rakúska spoločne s juhozápadným Slovenskom a priľahlými časťami západného Maďarska a južnej Moravy dominoval kultúrny komplex stredodunajských popolnicových polí, publikácia poslúži predovšetkým bádateľom a záujemcom zo strednej Európy. V záverečnej reflexii nad predstavenou knihou možno predvídať, že reakcie na ňu budú kladné.

LITERATÚRA

- Bátora/Bača* 2020–J. Bátora/M. Bača: Pozoruhodná antropomorfná plastika zo sídliska čakanskej kultúry v Ludaniciach, časť Mýtina Nová Ves. In: V. Mitáš/O. Ožďáni (ed.): *Doba popolnicových polí a doba halštatská. Zborník príspevkov z XV. medzinárodnej konferencie Doba popolnicových polí a doba halštatská. Smolenice 15.–19. október 2018*. Archaeologica Slovaca Monographiae. Communicationes 25. Nitra 2020, 21–33.
- Bielichová a i.* 2020–Z. Bielichová/M. Hajnalová/P. Kmeťová/P. Barta: Animal and Plant Remains from Two Kallenderberg Group (Hallstatt Culture) Cremation Graves in Devín-Záhady, Slovakia. *Interdisciplinaria Archaeologica* 11, 2020, 149–176.
DOI: <http://dx.doi.org/10.24916/iansa.2020.2.2>
- Furmánek* 2015–V. Furmánek: Umenie. In: *Furmánek zost. 2015*, 272.
- Furmánek zost. 2015*–V. Furmánek (zost.): *Staré Slovensko 4. Doba bronzová*. Archaeologica Slovaca Monographiae. STASLO 4. Nitra 2015.
- Furmánek/Pavelková* 2020–V. Furmánek/J. Pavelková: *Kyjatice. Zlatý vek na podhorí*. Archeologické pamiatky Slovenska 11. Nitra 2020.
- Furmánek/Veličik/Vladár* 1991–V. Furmánek/L. Veličik/J. Vladár: *Slovensko v dobe bronzovej*. Bratislava 1991.
- Gulder* 1960–1962–A. Gulder: *Die urnenfelderzeitliche „Frauenkröte“ von Maissau in Niederösterreich und ihr geistesgeschichtlicher Hintergrund*. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 10. Wien 1960–1962.
- Jantzen a i.* 2011–D. Jantzen/U. Brinker/J. Orschiedt/J. Heinemeier/J. Piek/K. Hauenstein/J. Krüger/G. Lidke/H. Lübke/R. Lampe/S. Lorenz/M. Schult/T. Terberger: A Bronze Age battlefield? Weapons and trauma in the Tollense Valley, north-eastern Germany. *Antiquity* 85, 2011, 417–433.
DOI: <https://doi.org/10.1017/S0003598X00067843>
- Jockenhövel* 2018–A. Jockenhövel: Alteuropäische Gräber der Kupferzeit, Bronzezeit und Älteren Eisenzeit mit Beigaben aus dem Gießereiwesen (Gießformen, Düsen, Tiegel). In: M. Overbeck: *Die Gießformen in West- und Süddeutschland (Saarland, Rheinland-Pfalz, Hessen, Baden-Württemberg, Bayern)*. Prähistorische Bronzefunde XIX/3. Stuttgart 2018, 213–337.
- Lochner* 2012–M. Lochner: Thunau am Kamp – eine befestigte Höhensiedlung der Urnenfelderkultur und der aussergewöhnliche Fund eines Tonfässchens. In: W. Blajer (red.): *Peregrinationes archaeologicae in Asia et Europa. Joanni Chochorowski dedicatae*. Kraków 2012, 193–203.
- Mitáš* 2015–V. Mitáš: Keramika. In: *Furmánek zost. 2015*, 193–195.

Ožďáni 2015–O. Ožďáni: Kultúrny komplex stredodunajských popolnicových polí. In: *Furmánek zost. 2015*, 164–174.

Pavelková/Furmánek 2018–J. Pavelková/V. Furmánek: Demografie popelnicových polí na Slovensku. Pohľad antropologie a archeologie. *Památky archeologické* 109, 2018, 97–126.

Vladár 1979–J. Vladár: *Praveká plastika*. Dávnoveké umenie Slovenska 8. Bratislava 1979.

Wyrost/Chrzanowska 1994–P. Wyrost/W. Chrzanowska: Chov domácich zvierat a lov na západnom Slovensku v mladšej a neskorej dobe bronzovej. In: L. Veliačik/

P. Romsauer: *Vývoj a vzťah osídlenia lužických a stredodunajských popolnicových polí na západnom Slovensku. I–Katalóg*. Archaeologica Slovaca. Catalogi 6. Nitra 1994, 270–276.

Vladimír Mitáš 

Príspevok vznikol s podporou grantového projektu APVV-20-0044 „Vplyv využívania prírodných zdrojov na spôsob života v dobe bronzovej a v dobe železnej“.

DOI: <https://doi.org/10.31577/slovarch.2022.70.10>