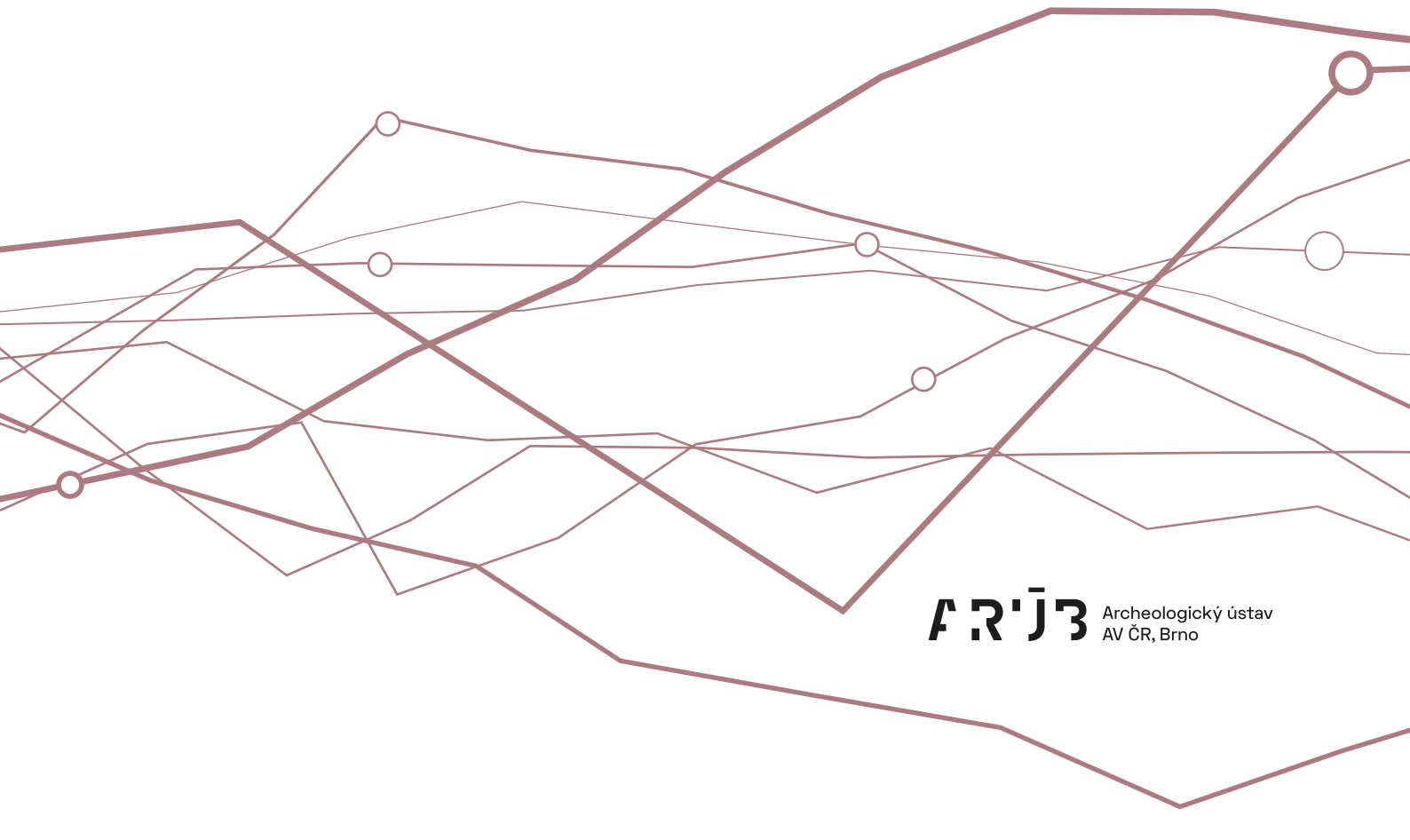
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Editorial

Vážené čtenářky a vážení čtenáři,

s velkým potěšením vám představujeme nové číslo našeho časopisu *Přehled výzkumů*, které je svým obsahem opět speciální díky tematicky zaměřeným studiím dedikovaným prof. PhDr. Stanislavu Stuchlíkovi, CSc., k jeho významnému životnímu jubileu – oslavě 80. narozenin. Jsme poctěni, že můžeme tímto způsobem připomenout jeho celoživotní přínos evropské archeologii, zejména v oblasti doby bronzové. Doufáme, že vás připravené články nejen obohatí o nové informace, ale také inspirují k dalším úvahám a diskusím.

Toto číslo otevíráme studií Davida Honse „Dynamika osídlení ve starší době bronzové na jižní a jihozápadní Moravě“, v níž detailně analyzuje sídelní strategie a jejich regionální proměny. Jeho práce nabízí cenné vhledy do adaptace pravěkých komunit na přírodní prostředí a socioekonomických faktorů ovlivňujících jejich rozmístění a vývoj. Od dynamiky vývoje osídlení se posléze přesouváme k neméně zajímavému nálezu chlebového idolu datovaného na samotný závěr starší doby bronzové. Gerhard Trnka v článku „Další nález chlebového idolu ze severní části Dolního Rakouska“ představuje významný artefakt, který rozšiřuje naše znalosti o symbolických projevech a kultovních praktikách v pravěku a o technologii výroby těchto předmětů.

Číslo dále pokračuje problematikou střední doby bronzové, konkrétně obdobím mohylové kultury, které jsou věnovány hned dva příspěvky. Pavol Bobek a Kristian Elschek nás ve svém článku „Sídliště a pohřebiště mohylové kultury v Zohoru“ seznamují s komplexními výsledky výzkumu lokality, která poskytla jak doklady o každodenním životě a organizaci sídel, tak o pohřebních rituálech tehdejších obyvatel. Komplementární pohled na pohřební praktiky pak nabízí Jakub Godiš ve studii „Kruhové pohřební objekty mohylové kultury v severní části Karpatské kotliny“. Autor se zaměřuje na specifický typ funerálních monumentů, jejich konstrukci, symboliku a širší kulturní kontext v rámci rozsáhlého geografického prostoru. Příspěvky zaměřené na výzkum doby bronzové obohacuje důležitá syntetická práce Carola Kacsó s názvem „Objasnění minulosti: syntéza historie výzkumu kultury Suciu de Sus na základě lokalit a nálezů z eponymní obce“. Tento příspěvek kriticky hodnotí dosavadní bádání o kultuře Suciu de Sus, shrnuje klíčové nálezy a lokality a identifikuje perspektivní směry pro budoucí výzkum.

Nové poznatky o lidských aktivitách z doby bronzové na významném eneolitickém hradišti přináší studie Filipa Ševčíka a Matěje Kmoška „Důkaz post-eneolitických lidských aktivit na lokalitě Hlinsko – Nad Zbružovým“. Autoři provedli revizní analýzu některých kovových artefaktů dříve spojovaných s eneolitickým osídlením a v jednom případě prokázali, že materiálem je bronz, což změnilo dosavadní pohled na intepretaci jedné z důležitých nálezových situací.

Významnou roli v současné archeologii hrají nedestruktivní metody a dálkový průzkum. Jaromír Kovárník senior a Jaromír Kovárník junior ve svém příspěvku „Další ohrazené lokality z jižní a střední Moravy objevené s využitím letecké archeologie“ demonstrují potenciál leteckého snímkování při identifikaci dosud neznámých ohrazených areálů. Jejich práce nejen rozšiřuje mapu pravěkých ohrazených či opevněných lokalit, ale také zdůrazňuje přínos moderních technologií pro ochranu a poznání našeho kulturního dědictví.

Do doby halštatské nás zavádí článek kolektivu autorů pod vedením Tomáše Mangela: „Krajina bez pokladů? Východní Čechy v době halštatské z pohledu ukládání depotů“. Tato studie se zamýšlí nad specifiky regionu východních Čech ve vztahu k fenoménu depozice hromadných nálezů a klade si provokativní otázku, zda absence či menší množství depotů odráží skutečnou historickou situaci, nebo je spíše důsledkem stavu bádání. Příspěvek tak otevírá diskusi o regionálních rozdílech v rituálních praktikách a interpretaci archeologických pramenů. Období laténské kultury je zastoupeno studií Davida Spáčila „Chemické složení moravských laténských nánožníků a jejich výplní“. Autor se prostřednictvím moderních analytických metod zaměřuje na materiálové aspekty typických artefaktů keltské kultury.

Blok recenzovaných studií uzavíráme pohledem do období stěhování národů. Barbora Vymazalová ve svém článku „Skleněné nádoby v hrobech z 5. století ve středním Podunají“ analyzuje prestižní nálezy skleněných nádob z hrobových kontextů. Její práce osvětluje nejen pohřební ritus elitních vrstev společnosti, ale také dokládá dálkové obchodní styky a kulturní vlivy, které formovaly střední Podunají v této epoše lidských dějin.

Věříme, že předložené studie Vás zaujmou svou tematickou rozmanitostí, metodologickou precizností a interpretační hloubkou. Každý z článků představuje významný příspěvek k mozaice našich znalostí o minulosti a zároveň pokládá nové otázky, které budou inspirovat další generace badatelů.

Nedílnou součást časopisu představuje oddíl *Přehled výzkumů na Moravě a ve Slezsku*, který podává informace o nálezech a výzkumech oprávněných institucí i amatérských spolupracovníků za předchozí období. V aktuálním čísle naleznete zprávy pokrývající období od paleolitu po dobu stěhování národů.

Sekce *Varia* přináší aktuální a rozmanité informace o dění v oboru archeologie a také na půdě Archeologického ústavu AV ČR Brno, v. v. i. V prvním příspěvku sumarizují Balázs Komoróczy s Jahanou Mališkovou a Pavlou Růžičkovou již tradičně aktivity Návštěvnického centra Mušov – Brána do Římské říše za rok 2024. Následují tři příspěvky věnované důležitým konferenčním událostem jara 2025. V březnu tohoto roku se na půdě brněnského Archeologického ústavu AV ČR konala mezinárodní konference k 100. výročí narození významného badatele Bohuslava Klímy, o které referuje Ondřej Herčík. Z pera Zuzany Holubové je zpráva o dubnovém setkání „Archeologické výzkumy na Moravě a ve Slezsku v roce 2024“, jejíž 31. ročník se uskutečnil opět na hradě Špilberk. Martijn A. Wijnhoven informuje o 21. ročníku prestižní konference „Roman Military Equipment Conference“ (RoMEC), který se letos v červnu konal v Brně, z části na půdě Filozofické fakulty Masarykovy univerzity, z části v Archeologickém ústavu AV ČR, Brno, v. v. i. Zdenka Filipová referuje o dalším udílení Ceny Zlatý mamut za popularizaci archeologie. Příspěvek Stefana Łęczyckeho navazuje na dedikované studie a shrnuje přínos Stanislava Stuchlíka a jeho ženy Jany Stuchlíkové pro výzkum starší doby bronzové v oblasti horního toku řeky Odry. Celou sekci uzavírá vzpomínka Pavla Kouřila na osobnost nedávno zemřelého profesora Alexandera T. Ruttkaye.

Dovolte nám na tomto místě poděkovat všem autorům za jejich cenné příspěvky, recenzentům za jejich pečlivou a konstruktivní práci a celému redakčnímu týmu za úsilí, které věnovali přípravě tohoto čísla.

Přejeme vám, vážené čtenářky a vážení čtenáři, mnoho podnětných a inspirativních chvil strávených nad stránkami nového čísla našeho časopisu.

V Brně, 30. června 2025

Za redakci Jaroslav Bartík a David Parma

Důležité informace redakce

Vážené kolegyně, vážení kolegové,

dovolte, abychom vás zejména jako přispěvatele časopisu Přehled výzkumů touto cestou seznámili s redakčními změnami, které vstoupí v účinnost od dalšího ročníku, tj. PV 67/1. Týkají se přijímání, resp. publikování zpráv v oddíle *Přehled výzkumů na Moravě a ve Slezsku*, a vyplývají z novely zákona č. 20/1987 Sb., o státní památkové péči, platné od 1. 1. 2025, resp. z redakční politiky zveřejněné v Editorialu Přehledu výzkumů 64/2 (https://www.arub.cz/wp-content/uploads/PV-64_2_00_ok.pdf).

Od čísla PV 67/1 dochází k těmto změnám:

1) Položka „Místo uložení nálezu“ nebude součástí formuláře a nebude tudíž ani uváděna v záhlaví zpráv. Ve většině případů se i doposud jednalo o informaci o dočasném uložení movitých archeologických nálezů, jejichž správa je v případě nálezů představujících majetek krajů v současné době formalizována postupně vydávanými nařízeními krajů. Dlouhodobě validní informace o místu uložení nálezů je trvale dohledatelná pod odkazem na akci v AMČR, případně v AMČR v evidenčním listu přiložené nálezové zprávy. Představuje-li informace o místě uložení (dočasném, trvalém) relevantní přínos k obsahu samotné zprávy, lze ji nadále uvádět v její textové části.
2) Pro odeslání zprávy bude nově zařazena povinná formulářová položka „Číslo AMČR/AMČR-PAS projektu“. Bez jejího vyplnění nově nebude možné zprávu odeslat (doposud bylo toto pole „volitelné“). V souladu s postupně přijímanými nařízeními krajů a ve shodě se smluvně upravenými závazky oprávněných organizací ohledně využívání AMČR je uvádění čísla akce AMČR logickým a jednoduchým krokem, který postupně zásadně též zlepší provázanost a přehlednost informací o archeologických výzkumech. U zpráv informujících o výsledcích činností amatérských spolupracovníků oprávněných organizací lze v této položce uvádět číslo projektu typu průzkum, popřípadě číslo, pod kterým je registrován konkrétní nález v AMČR-PAS. U amatérských přispěvovatelů, kteří v současné době nejsou registrováni v AMČR-PAS, instituce, která vydává časopis Přehled výzkumů, nabízí svou podporu při hledání vhodného a legálního postupu registrace a zveřejnění jejich nálezů.

Po uvedených změnách bude v exportovaném textu v záhlaví zprávy místo údaje o uložení nálezu údaj o AMČR/AMČR-PAS (číslo akce), stejně tak ho v podobě kompletní citace vč. DOI naleznete v kolonce Literatura každé jednotlivé zprávy. V případě jakýchkoli dotazů se obracejte na redakci časopisu na adrese pv@arub.cz.

Novinkou, kterou najdete již v tomto čísle Přehledu výzkumů, je uplatnění podílu autorů recenzovaných studií podle taxonomie „CRediT authorship contribution statement“ (https://credit.niso.org/).

Za vydavatele Přehledu výzkumů
Balázs Komoróczy a Martina Kudlíková

Editorial

Dear readers,

It is with great pleasure that we present to you the new issue of our Přehled výzkumů journal, which is once again special in its content thanks to the thematically focused studies dedicated to Prof. PhDr. Stanislav Stuchlík, CSc., on his significant life anniversary – the celebration of his 80th birthday. We are honoured to be able to commemorate his lifelong contribution to European archaeology in this way, especially in the field of the Bronze Age. We hope that the prepared articles will not only enrich you with new information, but also inspire further reflections and discussions.

We open this issue with David Hons's study 'The dynamics of settlement in the Early Bronze Age in south and southwestern Moravia', in which he analyses settlement strategies and their regional changes in detail. His work offers valuable insights into the adaptation of prehistoric communities to the natural environment and the socio-economic factors influencing their distribution and development. From the dynamics of settlement development, we then move on to the equally interesting find of a bread loaf idol dating to the very end of the Early Bronze Age. Gerhard Trnka, in his article 'Another find of a bread loaf idol from northern Lower Austria', presents an important artefact that expands our knowledge of symbolic expressions and cult practices in prehistory and the technology of producing these objects.

The issue continues with the Middle Bronze Age, specifically the period of the Tumulus culture, which is the subject of two contributions. In their article 'The settlement and burial site of the Tumulus culture at Zohor', Pavol Bobek and Kristian Elschek introduce us to the comprehensive results of research on the site, which provided evidence of both the everyday life and organisation of the settlements and the burial rituals of the inhabitants of that time. A complementary view of burial practices is offered by Jakub Godiš in his study 'Circular burial features of of the Tumulus culture in the northern Carpathian Basin'. The author focuses on a specific type of funerary monuments, their construction, symbolism, and wider cultural context within a large geographical area. Contributions focused on Bronze Age research are enriched by the important synthetic work of Carol Kacsó entitled 'Clarifying the past: A synthesis of the research history of the Suciu de Sus culture according to sites and finds from the eponymous village'. This contribution critically evaluates the current research on the Suciu de Sus culture, summarizes key finds and sites, and identifies promising directions for future research.

New knowledge about human activities from the Bronze Age at an important Eneolithic hillfort is provided by the study by Filip Ševčík and Matěj Kmošek 'Evidence of post-Eneolithic human activities at the Hlinsko – Nad Zbružovým site'. The authors conducted a revision analysis of some metal artefacts previously associated with the Eneolithic settlement and in one case proved that the material was bronze, which changed the previous view of the interpretation of one of the important find situations.

Non-destructive methods including remote sensing play an important role in contemporary archaeology. In their paper 'Additional enclosures in south and central Moravia revealed by aerial archaeology', Jaromír Kovárník, Senior and Jaromír Kovárník, Junior demonstrate the potential of aerial photography in identifying previously unknown enclosures. Their work not only expands the map of prehistoric enclosures or fortified sites, but also emphasizes the benefits of modern technologies for the protection and understanding of our cultural heritage.

The article by a team of authors led by Tomáš Mangel introduces us to the Hallstatt period: 'A landscape without treasures? East Bohemia in the Hallstatt period from the perspective of hoards'. This study reflects on the specifics of the East Bohemian region in relation to the phenomenon of the deposition of mass finds and poses the provocative question of whether the absence or smaller number of hoards reflects the real historical situation or is rather a consequence of the state of research. The article thus opens a discussion on regional differences in ritual practices and the interpretation of archaeological sources. The La Tène period is represented by David Spáčil's study 'Chemical composition of Moravian La Tène anklets and their fillings'. The author focuses on the material aspects of typical artefacts of Celtic culture using modern analytical methods.

We conclude the block of reviewed studies with a look at the Migration period. In her article 'Glass vessels in graves from the 5th century in the Middle Danube region', Barbora Vymazalová analyses prestigious finds of glass vessels from grave contexts. Her work sheds light not only on the burial rites of the elite strata of society, but also documents the long-distance trade contacts and cultural influences that shaped the Middle Danube region in this era of human history.

We believe that the presented studies will interest you with their thematic diversity, methodological precision, and interpretative depth. Each of the articles represents a significant contribution to the mosaic of our knowledge about the past and at the same time raises new questions that will inspire future generations of researchers.

An integral part of the journals the section Overview of excavations in Moravia and Silesia, which provides information on findings and research by authorised institutions and amateur collaborators in the previous period. In the current issue, you will find reports covering the period from the Paleolithic to the Migration period.

The Varia section brings up-to-date and diverse information about events in the field of archaeology and also at the Institute of Archaeology of the Czech Academy of Sciences in Brno. In the first article, Balázs Komoróczy, Jahana Malíšková and Pavla Růžičková traditionally summarise the activities of the Mušov Visitor Centre – Gateway to the Roman Empire for 2024. The following are three articles dedicated to important conference events in the spring of 2025. In March, an international conference was held at the Institute of Archaeology of the Czech Academy of Sciences in Brno to commemorate the 100th anniversary of the birth of the prominent researcher Bohuslav Klíma, which was reported on by Ondřej Herčík. Zuzana Holubová reports on the April meeting 'Archaeological excavations in Moravia and Silesia in 2024', the 31st year of which was held again at Špilberk Castle. Martijn A. Wijnhoven and Balázs Komoróczy report on the 21st edition of the prestigious 'Roman Military Equipment Conference' (RoMEC), which took place in Brno this June, partly on the premises of the Faculty of Arts of Masaryk University, partly at the Institute of Archaeology of the Czech Academy of Sciences, Brno. Zdenka Filipová reports on the next awarding of the Golden Mammoth Award for the popularisation of archaeology. Stefan Łęczycki's article follows on from dedicated studies and summarises the contribution of Stanislav Stuchlík and his wife Jana Stuchlíková to the research of the Early Bronze Age in the Upper River Oder area. The entire section is

concluded by Pavel Kouřil's remembrance of the recently deceased Prof. Alexander T. Ruttkay.

Allow us to thank all the authors for their valuable contributions, the reviewers for their careful and constructive work, and the entire editorial team for the effort they devoted to the preparation of this issue.

We wish you, dear readers, many stimulating and inspiring moments spent reading the pages of the new issue of our journal.

Brno, 30 June 2025
On behalf of the editorial board Jaroslav Bartík and David Parma

Important editorial information

Dear colleagues,

Please allow us, especially as contributors to the *Přehled výzkumů* journal, to inform you of the editorial changes that will come into effect from the next edition, i.e. PV 67/1. They concern the acceptance or publication of reports in the section *Overview of excavations in Moravia and Silesia*, and result from the amendment to Act No. 20/1987 Coll., on state monument care, valid from 1 January 2025, or from the editorial policy published in the Editorial of *Přehled výzkumů* 64/2 (https://www.arub.cz/wp-content/uploads/PV-64_2_00_ok.pdf).

The following changes will be made from the issue PV 67/1:

1) The item 'Place of storage of the find' will not be part of the form and will therefore not be included in the header of the reports. In most cases, this has so far been information about the temporary storage of movable archaeological finds, the management of which, in the case of finds representing regional property, is currently formalised by gradually issued regional regulations. Long-term valid information about the place of storage of finds is permanently searchable under the link to the event in AMČR, or in AMČR in the registration sheet of the attached find report. If the information about the place of storage (temporary, permanent) represents a relevant contribution to the content of the report itself, it can continue to be included in its text part.
2) A new mandatory form item will be included for sending the report: 'AMČR/AMČR-PAS project number'. Without filling it in, it will no longer be possible to send the report (this field was previously 'optional'). In accordance with the gradually adopted regional regulations and in accordance with the contractually regulated obligations of authorized organisations regarding the use of AMČR, stating the AMČR event number is a logical and simple step that will gradually also fundamentally improve the coherence and clarity of information on archaeological research. For reports informing about the results of the activities of amateur collaborators of authorised organizations, this item can include the project number of the survey type, or the number under which a specific find is registered in AMČR-PAS. For amateur contributors who are currently not registered in AMČR-PAS, the institution that publishes the *Přehled výzkumů* journal offers its support in finding a suitable and legal procedure for registering and publishing their finds.

After the above changes, the exported text will contain information about AMČR/AMČR-PAS (event number) in the header of the report instead of information about the storage of the find, as well as a complete citation including DOI in the References column of each individual report. In case of any questions, please contact the journal's editorial office at pv@arub.cz.

A new feature that you will find in this issue of the *Přehled výzkumů* journal is the application of the share of the authors of the reviewed studies according to the taxonomy 'CRediT authorship contribution statement' (https://credit.niso.org/).

On behalf of the publisher of Přehled výzkumů
Balázs Komoróczy and Martina Kudlíková



Studie
Articles

Recenzovaná část

Peer-reviewed part

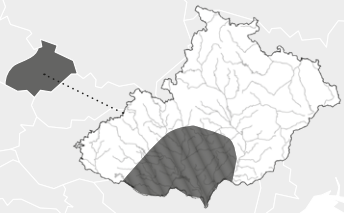


Přehled výzkumů 66/1, 2025 ● 13–27

The dynamics of settlement in the Early Bronze Age in south and southwestern Moravia

Dynamika osídlení ve starší době bronzové na jižní a jihozápadní Moravě

– *David Hons** –



KEYWORDS

Structure of settlement – spatial modelling – Early Bronze Age – Únětice culture - Věteřov group - south Moravia – southwestern Moravia

ABSTRACT

What level of complexity can we consider when reflecting on the Early Bronze Age? The first step in attempting to define this question could be the creation of a theoretical model based on the spatial data obtained so far about the two cultural groups that existed in this period and region. The model includes data from over 1,000 settlements, cemeteries, and hoards of the Únětice culture and the Věteřov group. All these pieces of evidence of earlier settlement are an essential part of the input data, and through them, we will explore possible arrangements within both macro and micro regions. Each find situation is assigned a weight according to predefined criteria. For the analysis, data available from archives, excavation reports, and scholarly publications are used. The outputs are processed in a GIS environment in the form of map outputs and compared with already published findings. The results of the study is a series of maps, working with assumed population densities. Based on it, we can test follow-up hypotheses using other types of archaeological data.

1. Introduction

The level of complexity of societies is one of the frequently addressed questions in archaeology. It is very important in relation to the models and theories we create based on archaeological data. In prehistoric archaeology, we generally do not have the opportunity to work with written sources, which often help in later periods to understand society and its functioning. The aim of this article is to propose the potential model or possible form of social organisation in the Early Bronze Age (EBA), based on data from settlements, cemeteries, hoards, and individual finds. However, this is not the model itself; it serves only as a basis for further analyses, which are not the subject of this article, and with the help of which it will be tested or modified. It is clear that we will never work with fully objectivized data, as generally only a very small portion of what the generations before us built has survived from the past. Nevertheless, it has been possible to gather a relatively extensive database of more than 1,000 individual sites, with varying quality of preserved records and different quantities of discovered materials. The sites are mainly from southern and southwestern Moravia, with a small portion from the Bohemian-Moravian Highlands. Finally, I would like to express my gratitude to all the archaeologists who, over more than 140 years of diligent work, contributed not only to the acquisition of these but also all other archaeological data, thanks to which we can at least partially reconstruct our past. In terms of absolute dating of archaeological contexts for Moravia, the Early Bronze Age is generally framed by the years 2100/2000–1600/1550 BC, the Únětice culture (UC), whose origins are sought already at the end of the Eneolithic (PUC, 2300/2100–2000 BC), is dated between 2100/2000–1650 BC. The Věteřov group (VG) is generally dated between 1700/1650–1550 BC. The data provided here serve only as an initial orientation for the period under consideration and will be further discussed in the text.

2. Methodology

Based on the theory of E. Neustupný, who focused on the possibilities of defining the space that a single community could control (Neustupný ed. 1998), in combination with the results of long-term research on settlement development in the Benta Valley (Earle, Kristiansen eds. 2010), data on settlements, burial sites, and other activities of populations in the Early Bronze Age were chosen as input data. Due to the author's interest in two hillfort sites from the end of the Early Bronze Age, Budkovice and Blučina, the analysis focused on a region within 30–35 km of these two supposed centres. The distance was chosen based on C.S. Spencer's (2010) theory, which considers an approximately 30 km radius as an effectively manageable area without the need for a developed administrative apparatus. Both defined radii

* Corresponding author – E-mail address: HonsD@seznam.cz

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Competing interests: The authors have declared that no competing interests exist.

partially overlap since the two sites are about 22 km apart in a straight line. Data on all types of recorded activities from this region, published in literature and sources available until the fall of 2023 (primarily in the journal *Přehledy výzkumů*), find reports from the archives of the Institute of Archaeology of the Czech Academy of Sciences, Brno, and the Institute for Archaeological Heritage Brno, were used.

In total 1,089 individual components were worked with, dated to the Proto-Únětice culture (25), Únětice culture (913), Věteřov group (90), and generally categorized into the Early Bronze Age (61). The data show a significant disproportion of components for specific cultures or groups. Proto-Únětice culture is represented only by graves components and a few settlements sites. The Únětice culture has all components represented (settlements, burial sites, depots). In the Věteřov group, there is a marked absence of grave units except for a few necropolises. It may be related to the different burial ritual. For this reason, very few of these finds may have survived. Burials from the end of the Early Bronze Age are commonly found in Slovakia or Hungary. The Únětice culture is not further subdivided into early/late, classical/post-classical, etc. In the process of preparing and working with the data, this subdivision was tested, but the resulting picture was highly fragmented and significantly unclear, as a large portion of the sets were only generally dated as Únětice culture. For this reason, it was decided to treat the sites dated to this culture as a whole, which will be taken into account in the resulting interpretations. During the work, it was also not possible, for heuristic reasons, to verify all the data with which the model works. It is not possible to rule out that certain portions of the dataset may have incorrect or imprecise datings, as recorded by the finders. When it was possible to at least roughly verify the provided dating based on illustrative or photographic documentation, this was done. During the process, several inaccurately dated sites were excluded, and some other sites (e.g. Bulhary near Břeclav) were more accurately dated and thus excluded. However, it is clear that it was not humanly possible to avoid a certain percentage of errors, which, however, certainly do not constitute a significant portion of the data. For the largest and often well-published sites, the degree of certainty regarding their dating is very high. Although radiocarbon dating, which has seen significant improvements in methodology and affordability in recent decades, often brings surprising findings and shifts our understanding in unexpected directions, we can, in general terms, work with the obtained data, which align with the current state of knowledge.

The collected data were recorded in a database (MS Access). Attention was focused on formal data such as: site and find context, type of find, quantity of feaures or graves, and characteristics of the finds, etc. A very important part and outcome of the work is the effort to record as many precise coordinates of individual finds as possible. These data were obtained from published materials and original reports, if maps were attached. If only a verbal description remained, probable routes or locations of the finds were sought using various map-based sources or information from local witnesses. In cases where only the origin of certain artefacts from a given cadastral area was preserved, a point was taken from the centre of that cadastral area. Individual sites were assigned values: 1 (exact location known), 2 (location known within 100 meters), 3 (location known to the site or section of the cadastral area), and 4 (only known that the find is from a given cadastral area). For the creation of the spatial model, all these records were used, as, at the scale of tens of kilometers, any distortion in settlement density is very marginal. The obtained coordinates are also a valuable data source for further partial or comprehensive work. They were obtained from the Mapy.cz website in WGS-84 format. The analysed sites were divided into six categories, which were subsequently worked with (Tab. 1):

A	Settlements, where we classify common evidence of rural settlements, where at least one storage or settlement pit was found
B	Cemeteries, where at least one grave has been identified (excluding finds of burials and human remains in settlement pits)
C	Fortified and unfortified hilltop settlements, or locations with clear evidence of significant fortification
D	Enclosed settlements
E	Hoards
F	Random or solitary finds without a clear find context

Tab. 1. Distribution of the observed components into individual categories.
Tab. 1. *Rozdělení sledovaných komponent do jednotlivých kategorií.*

Each find was assigned a different level of so-called 'site weight', based on the number of individual fatures or graves documented at the site. During the data processing, these two variables proved to be the most objective attributes for comparison. For settlements, the number of storage or settlement pits was chosen. The number of above-ground post structures was not included separately, as there is not enough data available from the studied region. In the case of finding one pit, for example, a value of '3' was assigned, compared to the discovery of one grave, which received a value of '1'. The creation of a storage pit and its subsequent archaeological preservation most likely required a longer period of time for its formation than a one-time burial act. Cultural layers, which appear in some find reports, are also considered. These have, for example, a higher value than a solitary object, because it is likely that they formed over a longer period. The findings of specific numbers of settlement pits or graves are then graded, and corresponding values are assigned to them. The relatively broad intervals allow for the reliable inclusion of such sites in the statistics, where the find report contained, for example, only the phrase: 'a group of graves

Type of component and its extent	Site weight
Random find / solitary find	
Random find / solitary find	1
Settlement structure	
1 feature	3
2–20 features / cultural layer	5
21–50 features / cultural layer / fortification	7
51–100 features / cultural layer / fortification	9
>100 features / cultural layer / fortification	11
Cemetery	
1 grave	1
2–5 graves	3
6–15 graves	5
16–30 graves	7
>30 graves	9
Hoard	
Hoard	1

Tab. 2. Distribution of components according to the number of identified objects and assignment of weight to specific sites.
Tab. 2. *Rozdělení komponent podle množství identifikovaných objektů a přidělení váhy konkrétním lokalitám.*

was recorded', or 'more settlement pits were excavated at the site, the material is listed in the appendix'. This way, we do not lose a non-negligible portion of the data (about 20% of all input sites). Despite a certain degree of uncertainty, we can assess the relative density of settlement, or rather the discovered evidence of such settlement, in the given area. Hoards and solitary or random finds have a value of 1, as they were placed in the ground or into the archaeological process only once during a single event.

The processed input data (GPS coordinates, individual components, site weights, and datings) were entered into an Excel spreadsheet and used in the ArcGIS Pro software environment to create the resulting maps. Soil maps of the Czech Republic at a scale of 1:50,000 (ČGS), available in the basic offering of the aforementioned program, were used as a basis. Heat models were also applied to the data in various examples, with the weights of individual sites serving as the basis for their application (see Tab. 2).

3. Analysed data and results

Several resulting maps were created from the obtained data, displaying various partial and complex results. Initially, all input components were incorporated into the model (Fig. 1). Although the Proto-Únětice culture (25 sites) formally falls into the end of the Eneolithic, it was interesting to observe the spatial distribution of these findings within the region. It is absolutely evident that the most frequently represented component is the Únětice culture (913 sites), followed by the Věteřov group (90 sites). A smaller portion of the samples could not be classified more precisely than as part of the general Early Bronze Age (60 sites). In the case of the hillfort site Leskoun near Olbramovice, it is not possible based on current knowledge to precisely determine the share of Únětice culture and Věteřov group, so the site is classified as mixed with both components.

Another output is the separately plotted Proto-Únětice sites. Here, we can observe a very limited geographical trend and concentration of this type of site. The evidence consists mainly of cemeteries, with a smaller number of settlements. The map is also supplemented with heat maps created in the GIS environment based on site weight parameters. As a result, the map visualises the area/areas with the highest number of archaeological findings from this period. We can see that the most significant 'concentration' is in the Brno Basin area, associated with the southwestern exit of the Vyškov Gate, and the second notable area with evidence of activity during this period is in the broader region of today's Novomlýnské reservoirs. Therefore, it can generally be stated that within the studied area (as described above), the vast majority of all findings are located in the eastern half of the perimeter. In the western part of the studied area, evidence of the Proto-Únětice culture is only sporadic (Fig. 2).

The separately plotted Únětice sites were recorded in a large part of the studied area (defined around the Blučina and Budkovice sites). Except for the area roughly defined by the cadastres of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 3 – A), the settlement density is relatively stable. The absence of findings in some small microregions may largely be due to the lack of research or the absence of amateur archaeologist activity in the late 19th and early 20th centuries. On the other hand, due to this phenomenon and the intensive construction activities in the Brno area, east of Brno, and the Vyškov Gate area (Fig. 3 – B), we can observe a significant concentration of evidence of the presence of this culture. The largest number of sites is associated with high-quality chernozem soils (shown in gray on the base map) and fluviatile soils (light green). A significant portion of the sites is also located in cambisols and brown soils, particularly in the western and northwestern parts of the region towards Vysočina (Fig. 3 – C). One of the furthest evidence of

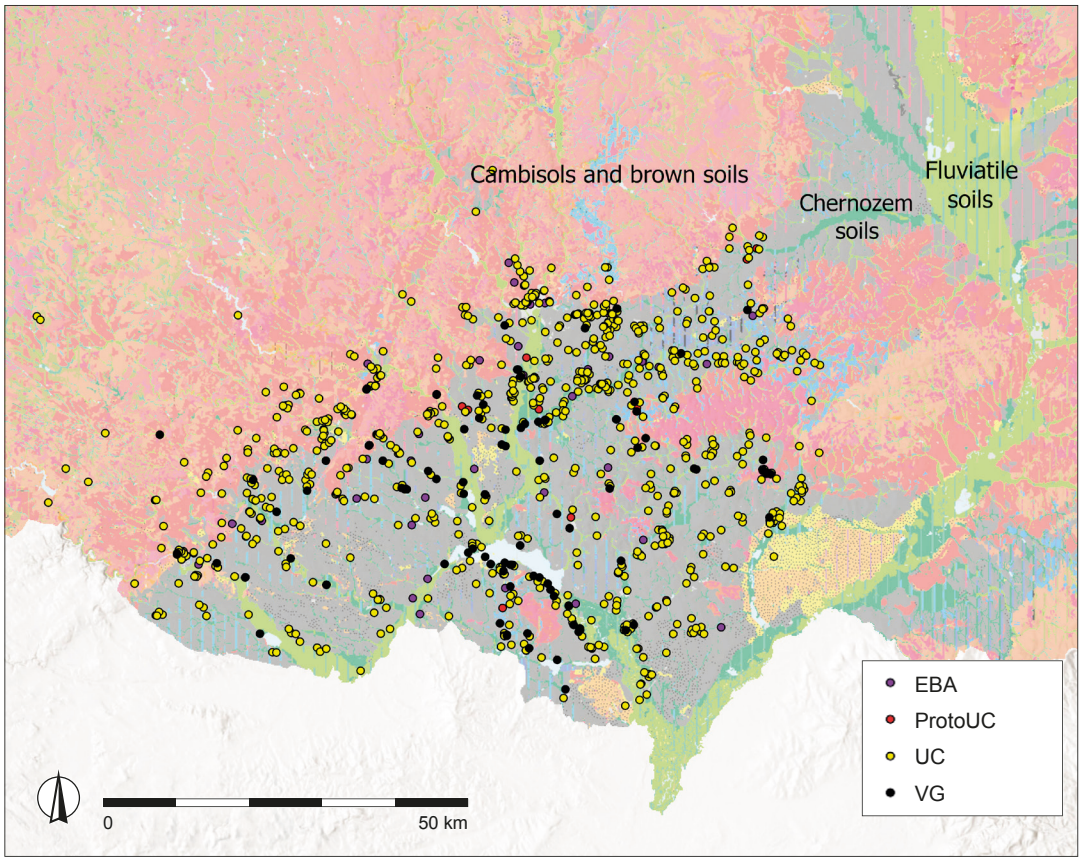


Fig. 1. All components included in the analysis. General Early Bronze Age (60 sites); Proto-Únětice phase (25 sites); Únětice culture settlement (913 sites); Věteřov group settlement (90 sites). Author D. Hons.

Obr. 1. *Všechny komponenty, které vstoupily do analýzy. Starší doba bronzová obecně (60 lokalit); protoúnětická fáze (25 lokalit); únětické osídlení (913 lokalit); věteřovské osídlení (90 lokalit). Autor D. Hons.*

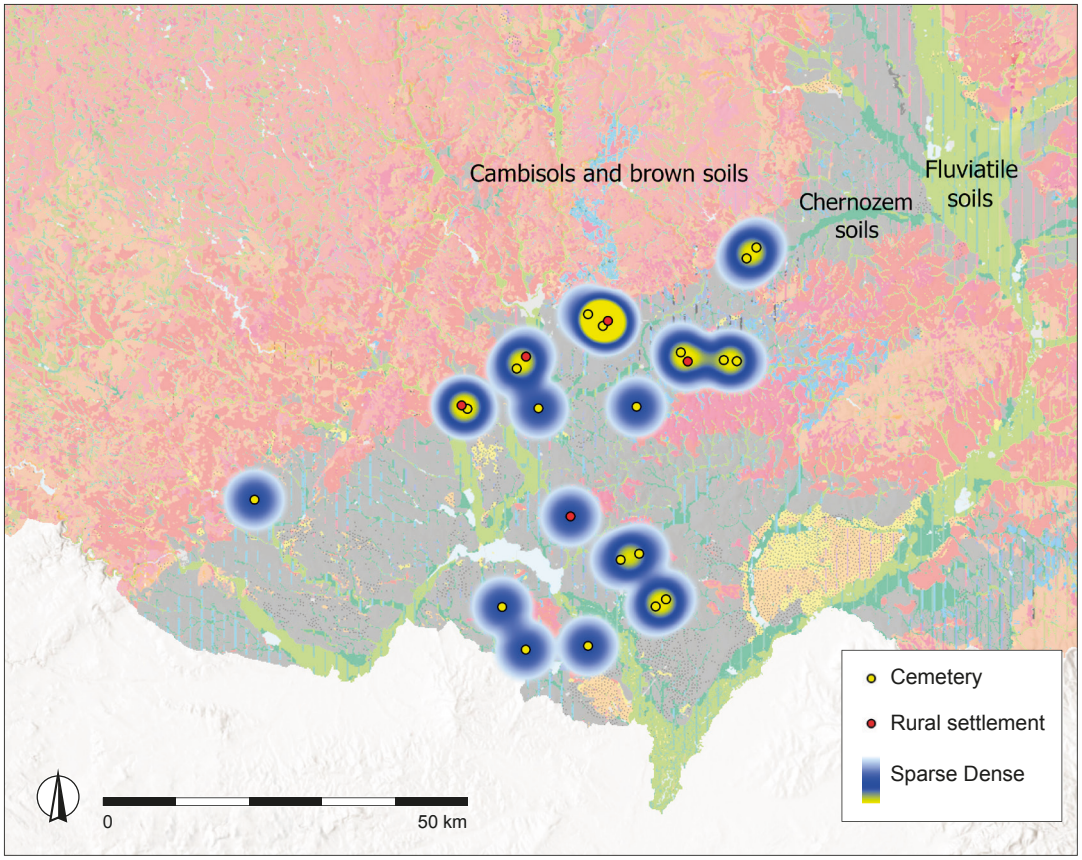


Fig. 2. Proto-Únětice sites plotted separately. Heat maps were used for visualisation. Author D. Hons.

Obr. 2. *Samostatně vynesené protoúnětické lokality. Pro vizualizaci byly využity heat maps. Autor D. Hons.*

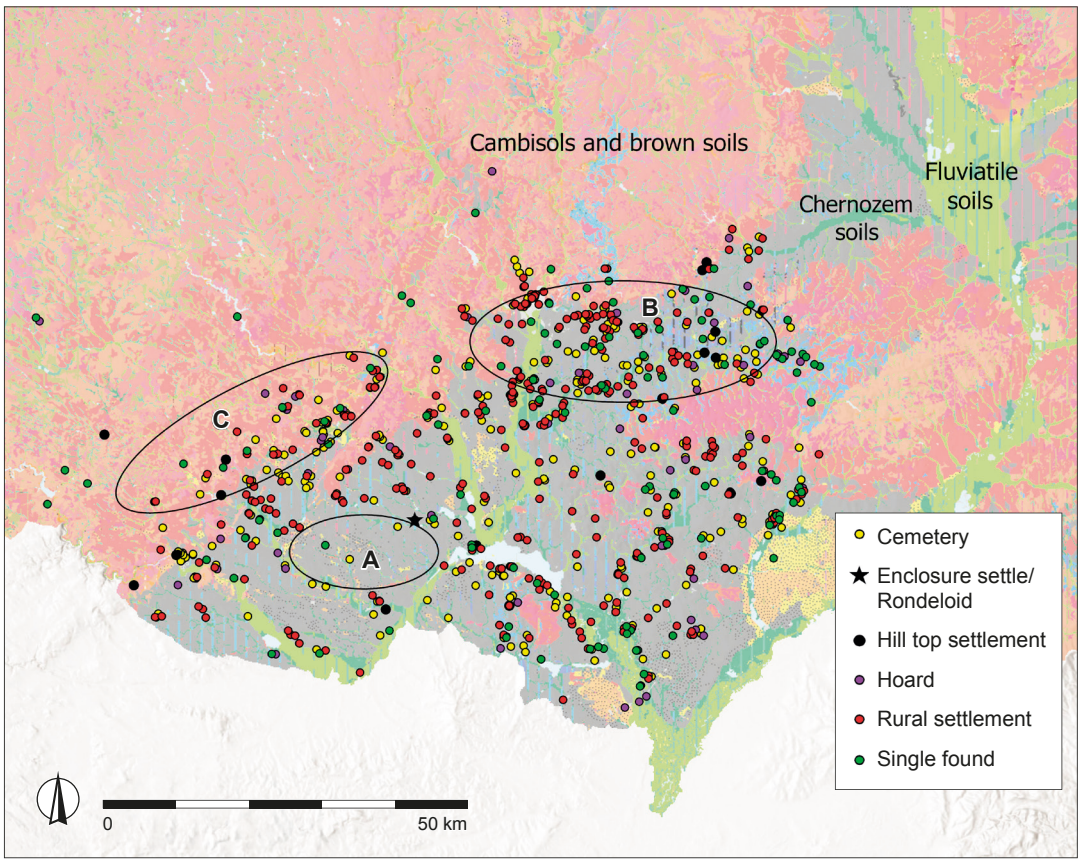


Fig. 3. Map of all Únětice culture components with representation of their relationship to soil types. A – lack of settlement in this area; B – high density of Únětice culture sites; C – a significant portion of the Únětice culture sites located in cambisols and brown soils. Author D. Hons.

Obr. 3. *Mapa všech únětických komponent s vyjádřením vazby na půdní typy. A – chybějící doklady osídlení; B – vysoká koncentrace lokalit únětické kultury; C – relativně velké množství únětických lokalit situovaných na kambizemě a hnědozemě. Autor D. Hons.*

activities during the Early Bronze Age from the core area in the southern Moravian lowland is the hillfort at Kramolín, where artefacts were found that can at least be associated with the activities of the Únětice culture (Bartík et al. 2022, 42). Additionally, we can observe some penetration towards Vysočina in other microregions. Very often, the common combination of settlement and the cemetery occurring nearby is observed. Settlement finds dominate in the database. Of the total 913 sites, 45 are related to

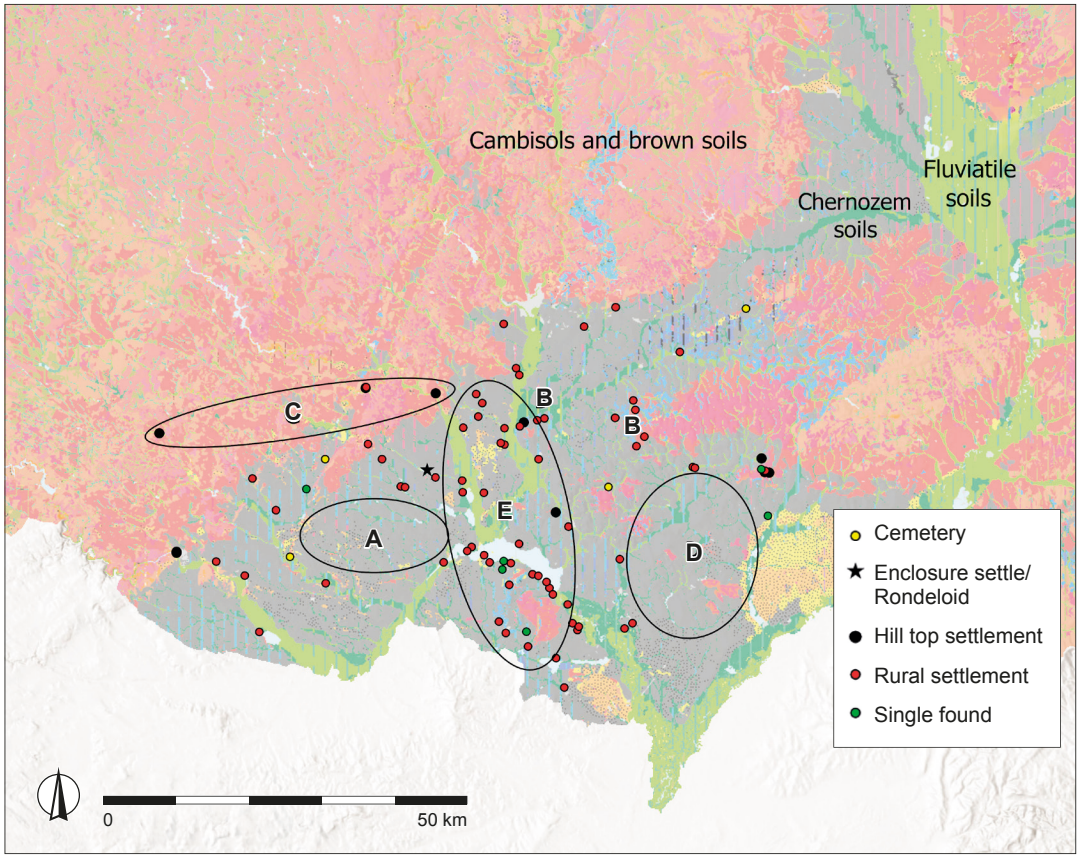


Fig. 4. Map of Věteřov group components. A, D – lack of settlement in this area; B – boundaries of the extension of the Veteřov group; C – sites of the Veteřov group situated on less fertile soils; E – the most intensive evidence of the settlement of the Veteřov group. Author D. Hons.

Obr. 4. *Mapa věteřovských komponent. A, D – chybějící doklady osídlení; B – hranice osídlení věeřovské skupiny; C – lokality věteřovské skupiny, situované na méně úrodných půdách; E – nejintenzivnější doklady osídlení věteřovské skupiny. Autor D. Hons.*

various-sized hoards. Many of these are quite old in terms of the date of their discovery, and in many cases, only written references to them have survived, not the actual artefacts. It is likely that the inclusion of a find database, which has significantly expanded in the last decade due to the development of citizen science, would have significantly altered the presented data in the case of hoards, but it was not possible to consider all sources.

The Věteřov group is represented by a significantly lower number of sites (90) compared to the Únětice culture. At the same time, settlements absolutely dominate as components, followed by hillforts/fortified sites. Cemeteries are represented by only five sites, the largest of which is the Borotice barrow in the Znojmo region (Stuchlík 2006), while the others are considerably smaller (summarised by Šabatová, Parma 2019a, 8). In terms of soil use, there is a much closer association with chernozems and fluviatile soils. The exceptions are Budkovice (hillfort/fortified site; Ondráček, Stuchlíková 1982), Dolní Kounice (hillfort site), and weak potential traces of Věteřov activities in Jevišovice (Fig. 4 – C). All other sites are concentrated in the most fertile areas of southern Moravia, and from an imaginary line defined roughly by the municipalities of Lovčičky to the east and Rajhrad to the west (Fig. 4 – B), we observe a significant decrease in the evidence of the Věteřov group's presence in the northern direction from this area. The less densely populated area is again roughly defined by the polygon of cadastres of the municipalities of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 4 – A), like the situation with the Únětice culture (Fig. 3), as well as the space roughly between Hodonín, Břeclav, Kyjov, and Klobouky u Brna (Fig 4 – D). The highest concentration of finds is noticeable around the Novomlýnské reservoirs as well as in the area close to and around Blučina-Cezavy (Fig. 4 – E). No hoard associated with Věteřov group activities was identified in the studied materials.

For the purpose of expressing the intensity and longevity of settlement, a series of heat maps were created for each culture and their mutual comparison. In the first map (Fig. 5), we can see the concentration of settlement evidence for the Únětice culture. The darker the yellow colour, the more intensive the evidence of activity in that area. The region around the modern city of Brno and to the south and east of it clearly dominates (Fig. 5 – A). We can identify four potential concentrations (which overlap in some places). These can be labeled as the area of the city of Brno itself (NW concentration; Fig. 5 – A1), the Šlapanice and Slavkov region (NE concentration; Fig. 5 – A2), Blučina (SW concentration; Fig. 5 – A3), and Újezd u Brna (SE concentration; Fig. 5 – A4). A more pronounced concentration of sites, moving clockwise, can also be found in the Bučovice region with a centre roughly around the modern district of Bučovice-Marefy (Fig. 5 – B), further in the Kyjov (Fig. 5 – C), Velké Pavlovice (Fig. 5 – D), Novomlýnské reservoirs (Fig. 5 – E), Znojmo (Fig. 5 – F), the wider surroundings of Horní Dunajovice (Fig. 5 – G), and around Moravský Krumlov (Fig. 5 – H). In this model, the least densely populated area is roughly the polygon of the municipalities of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 5 – I).

The Věteřov settlement, shown using a heat map, yields relatively different results (Fig. 6). The two most significant concentrations are found in the areas of Blučina (Fig 6 – A) and the Novomlýnské reservoirs (Fig 6 – B). This is followed by the area around the eponymous site of Nové Hory near Věteřov (Fig 6 – C), Znojmo, and the adjacent rural settlements in Dyje and Hodonice (Fig 6 – D), and, to a lesser extent, the area around Lovčičky (Fig. 6 – E), Budkovice (Fig. 6 – F), and Šumice (Fig. 6 – G). The areas that can be considered open or sparsely settled by this component are much more extensive in comparison to the Únětice findings.

A comparison of overlapping concentrations of settlement between both components is shown below (Fig. 7). A significant overlap can be observed around the area of Blučina (Fig. 7 – A) and the Novomlýnské reservoirs (Fig. 7 – B). In these cases, it is likely that we are dealing with evidence of significant and intensive use of the space by both components. The area around Znojmo and its urban development (Fig. 7 – C), and to a lesser extent between Pohořelice and the Krumlovský les massif (Fig. 7 – D), also shows

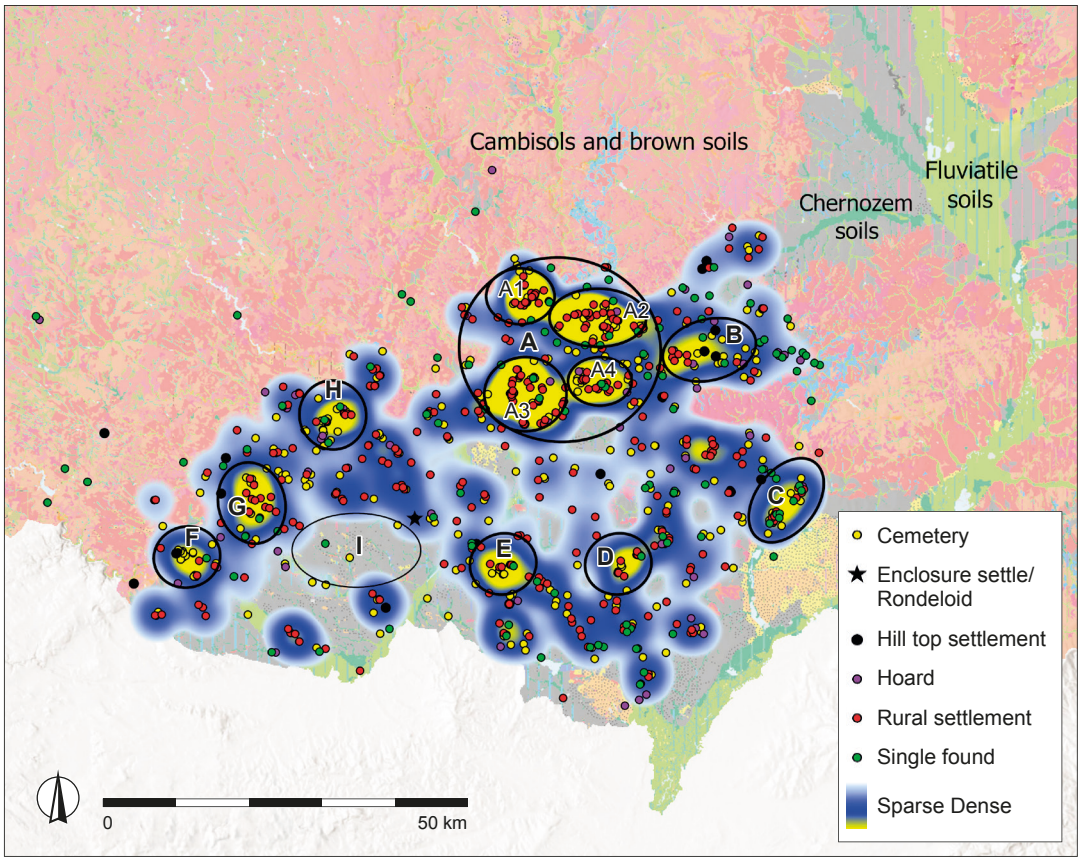


Fig. 5. Heat map showing the density of Únětice components. The more yellow the colour, the more intense the concentration of finds. The most intensive evidence of settlement of the Únětice culture: A1 – Brno; A2 – Šlapanice, Slavkov; A3 – Blučina; A4 – Újezd u Brna; B – Bučovice-Marefy; C – Kyjov; D – Velké Pavlovice; E – Nové Mlýny; F – Znojmo; G – Horní Dunajovice, Moravský Krumlov. Author D. Hons.

Obr. 5. *Heat map s vyjádřením hustoty koncentrace únětických komponent. Čím žlutější zbarvení, tím intenzivnější koncentrace nálezů. Nejintenzivněji osídlené oblasti únětické kultury: A1 – Brno; A2 – Šlapanice, Slavkov; A3 – Blučina; A4 – Újezd u Brna; B – Bučovice-Marefy; C – Kyjov; D – Velké Pavlovice; E – Nové Mlýny; D – Znojmo; G – Horní Dunajovice. Autor D. Hons.*

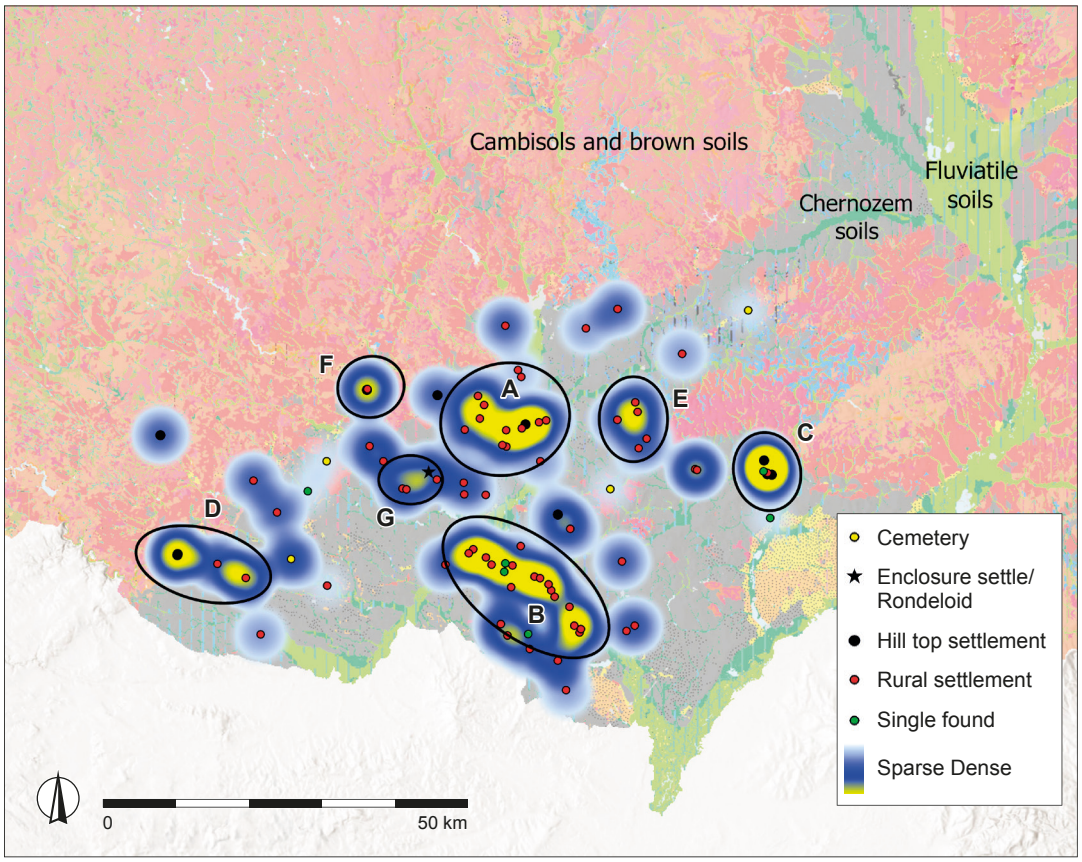


Fig. 6. Heat maps of Věteřov group settlements. The yellower the colour, the more intense the concentration of finds. The most intensive evidence of settlement of the Věteřov group: A – Blučina; B – Nové Mlýny; C – Nové Hory near Věteřov; D – Znojmo; E – Lovčičky; F – Budkovice; G – Šumice. Author D. Hons.

Obr. 6. *Heat map věteřovských lokalit. Čím žlutější zbarvení, tím intenzivnější koncentrace nálezů. Nejintenzivněji osídlené oblasti věteřovské skupiny: A – Blučina; B – Nové Mlýny; C – Nové Hory u Věteřova; D – Znojmo; E – Lovčičky; F – Budkovice; G – Šumice. Autor D. Hons.*

overlapping areas used by both cultures. Moving to the remaining parts of the map, in the eastern section, we can see notable Věteřov group settlement in the area around the eponymous locality of Nové Hory near Věteřov, located between the Kyjov region and the southern part of the Ždánický les (Fig. 7 – E). We know with great certainty that part of the material from Nové Hory near věteřov can be attributed to the Únětice culture, though the majority likely belongs to the final phase of the Early Bronze Age. To the south, no significant overlap or concentration can be observed between Břeclav and the Novomlýnské reservoirs (Fig. 7 – F). An interesting feature is the relatively intense Věteřov group settlement along the River Dyje in the cadastres of Dyje (Rožnovský 2015, 178–179) and Hodonice (Rožnovský 2019), where significant rural settlements have been uncovered in recent years (Fig. 7 – C). These settlements also contain Únětice culture components, but Věteřov group clearly dominates. The area roughly northeast of Znojmo, with an imaginary centre in Horní Dunajovice (Fig. 7 – G), is almost entirely Únětice culture. The area northwest of the Krumlovský les massif is relatively similar to the situation in Nové Hory near Věteřov. In Budkovice, there is a Věteřov group hillfort, and the area around Moravský Krumlov to the southwest and Ivančice to the northeast symbolically encloses it (Fig. 7 – H). North of the line connecting Lovčičky and Rajhrad, the Únětice culture component overwhelmingly dominates, both within the city of Brno and in the region to the east and northeast of the city towards the Vyškov Gate (Fig. 7 – I).

Attention was also given to the Únětice culture and Věteřov group hilltop sites. These sites are often viewed as central, making it important to examine their relationships and spatial placement. Another motivation was to compare the relative number of hilltop/fortified sites from the Early Bronze Age (Fig. 8), a topic that has been significantly reflected upon in the last three decades. Lastly, the aim was to compare their relationships and placement within the concentrations arising from the previous maps (Fig. 9, 10).

Hilltop/fortified sites in the Early Bronze Age	Amount
Únětice culture	21
Věteřov group	12
Early Bronze Age	7

Tab. 3. Number of Eneolithic, Věteřov group, and Early Bronze Age hillfort/fortified components.

Tab. 3. *Počet únětických věteřovských a starobronzových výšinných/opevněných komponent.*

Looking at the number of hilltop/fortified sites in the Early Bronze Age in the studied area, it is clear that the Únětice culture sites outnumber those of the Věteřov group. Even if all sites broadly dated to the Early Bronze Age were attributed to the Věteřov group, the numbers would be roughly balanced. The map also highlights another phenomenon of the Early Bronze Age, namely the presence of enclosed settlements sites, which can be described as ditches typically located in flat areas with an inhabited interior, possibly with burial activities in close proximity. It is noteworthy that all three of these defined sites are in a very limited area, roughly in the centre of the region delineated by the Krumlovský les, Pálava, and Blučina (A – Fig. 8). The Troskotovice rondel is attributed to the Únětice culture, the Šumice rondel to the Věteřov group, and the Vlasatice one is generally dated to the Early Bronze Age. It is not the intention of this paper to discuss in detail their possible function and significance, but from the perspective of spatial data within the context of the Early Bronze Age, these sites are undoubtedly an important component (Tab. 3).

Maps Fig. 9. and 10 show the relationship between the most prominent concentrations of settlement and the locations of hillforts/fortified sites. The first case concerns Únětice culture situations (Fig. 9). Most sites are not located in areas where the heat models show the most intense evidence of settlement, but are rather in peripheral zones of each concentration or situated

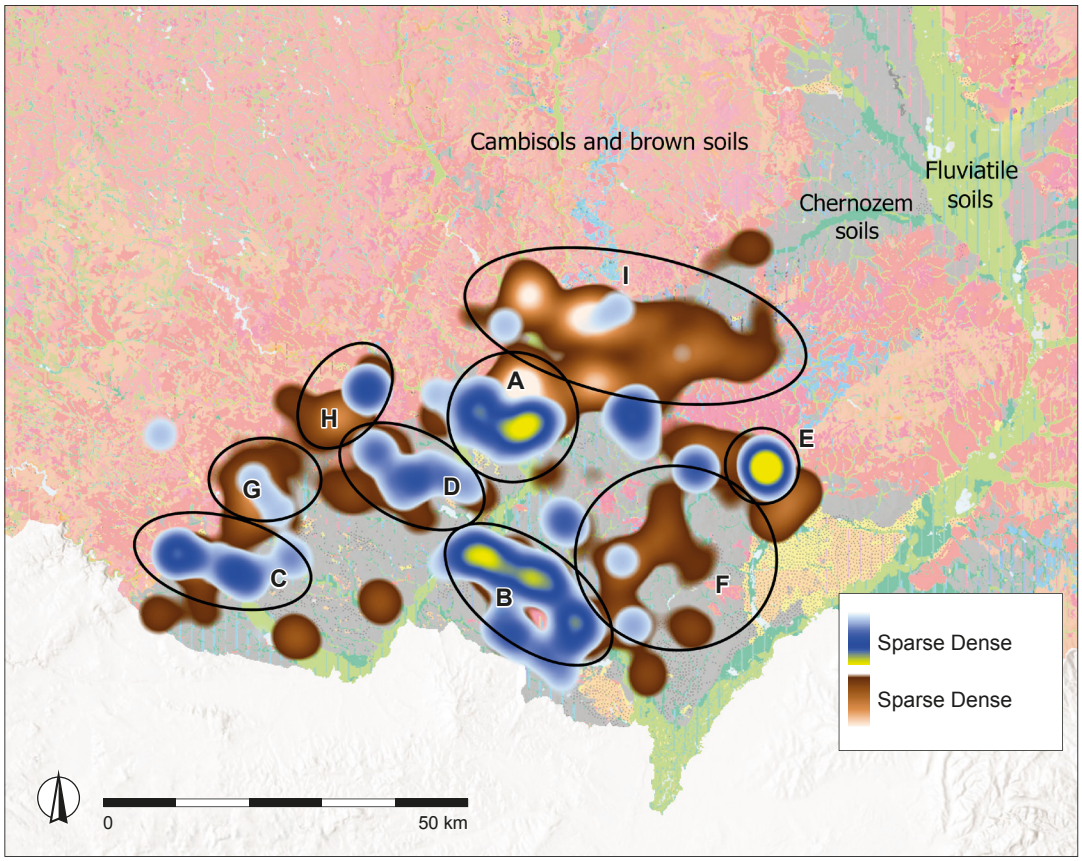


Fig. 7. Relative overlap of the highest settlement concentrations between the Únětice culture (brown) and the Věteřov group (blue). The most intensive overlapping settlement: A – Blučina; B – Nové Mlýny; C – Znojmo; D – from Krumlovský les to Pohořelice. The Věteřov settlement represents the imaginary centre of the region: E – Nové Hory near Věteřov; H – Budkovice. Dominance of the Únětice settlement: F – from Kyjov to Mikulov; G – Horní Dunajovice; I – from Brno to Vyškov. Author D. Hons.

Obr. 7. *Relativní překryv nejvyšších koncentrací osídlení mezi únětickou kulturou (hnědá) a věteřovskou skupinou (modrá). Nejvýraznější překryv osídlení: A – Blučina; B – Nové Mlýny; C – Znojmo; D – od Krumlovského lesa k Pohořelicím. Věteřovské osídlení tvoří potenciální střed osídlení: E – Nové Hory u Věteřova; H – Budkovice. Dominance únětického osídlení: F – od Kyjova k Mikulovu; G – Horní Dunajovice; I – od Brna k Vyškovu. Autor D. Hons.*

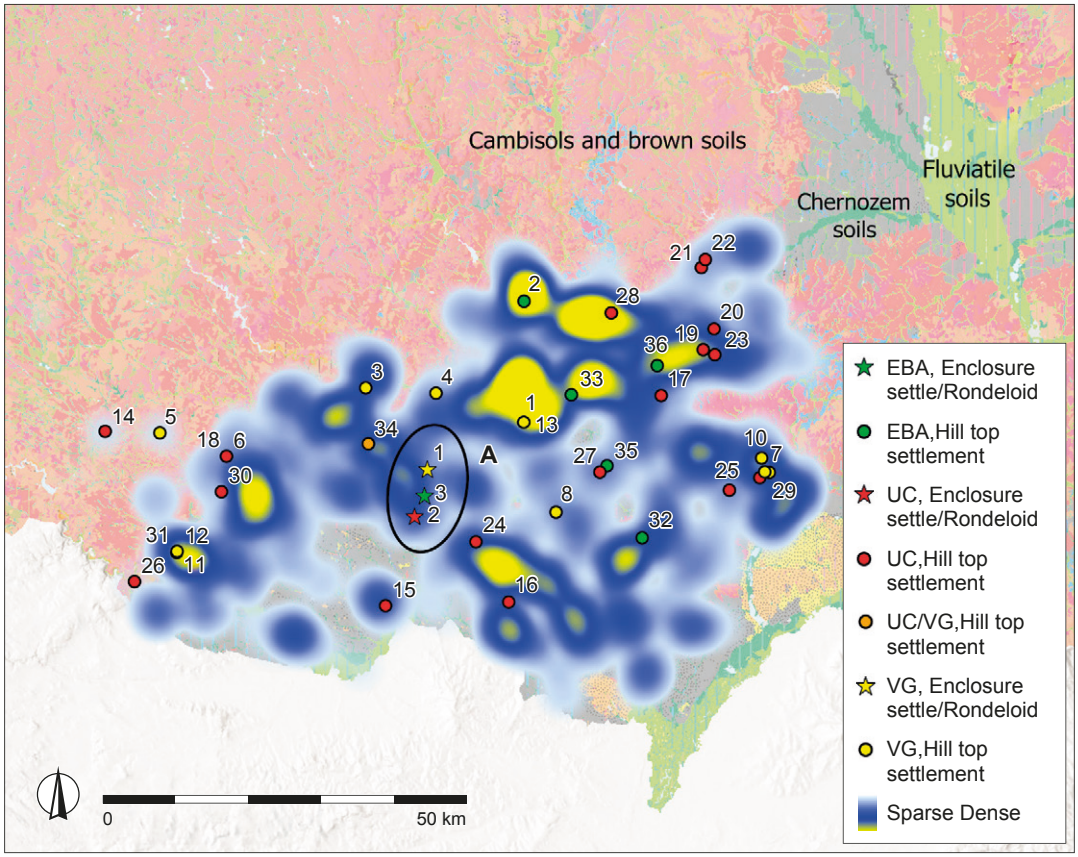


Fig. 8. Map of hillfort/fortified sites and rondeloids of the Únětice culture, Věteřov group, and the Early Bronze Age. Hillfort/fortified sites: VG: 1 – Blučina-Cezavy; 3 – Budkovice-Myslivárna; 4 – Dolní Kounice; 5 – Jevišovice-Starý Zámek; 6 – Křepice; 7 – Sobůlky-Vala; 8 – Starovice; 9 – Nové Hory near Věteřov / U Příček; 10 – Nové Hory near Věteřov; 11, 12 – Znojmo-centrum; UC: 13 – Blučina-Cezavy; 14 – Grešlové Mýto; 15 – Hrušovany nad Jevišovkou; 16 – Klentnice; 17 – Kobeřice; 18 – Křepice; 19 – Křižanovice-Vinohrady; 20 – Letonice; 21 – Luleč-Sv. Martin; 22 – Luleč-Kolovratnice; 23 – Marefy-Člupy; 24 – Mušov-Hradisko; 25 – Nenkovice; 26 – Podmolí-Šobes; 27 – Šitbořice-Prostřední Torhety; 28 – Tvarožná-Santon; 29 – Věteřov-Babí Lom; 30 – Výrovice-Velka Skála; 31 – Znojmo-centrum; EBA 2 – Petrov; 32 – Kobylí-Lumperky; 33 – Měnín-Vinohrádky; 34 – Olbramovice-Leskoun; 35 – Šitbořice-Domaniny; 36 – Vážany nad Litavou. Enclosed settlement: 1 – Šumice (VG); 2 – Troskotovice (UC); 3 – Vlasatice (EBA). Author D. Hons.

Obr. 8. *Mapa výšinných/opevněných lokalit a rondeloidů únětické kultury, věteřovské skupiny a obecně starší doby bronzové. Výšinné/opevněné lokality – VG: 1 – Blučina-Cezavy; 3 – Budkovice-Myslivárna; 4 – Dolní Kounice; 5 – Jevišovice-Starý Zámek; 6 – Křepice; 7 – Sobůlky-Vala; 8 – Starovice; 9 – Nové Hory u Věteřova / U Příček; 10 – Nové Hory u Věteřova; 11, 12 – Znojmo-centrum; UC: 13 – Blučina-Cezavy; 14 – Grešlove Mýto; 15 – Hrušovany nad Jevišovkou; 16 – Klentnice; 17 – Kobeřice; 18 – Křepice; 19 – Křižanovice-Vinohrady; 20 – Letonice; 21 – Luleč-Sv. Martin; 22 – Luleč-Kolovratnice; 23 – Marefy-Člupy; 24 – Mušov-Hradisko; 25 – Nenkovice; 26 – Podmolí-Šobes; 27 – Šitbořice-Prostřední Torhety; 28 – Tvarožná-Santon; 29 – Věteřov-Babí Lom; 30 – Výrovice-Velká Skála; 31 – Znojmo-centrum; EBA 2 – Petrov; 32 – Kobylí-Lumperky; 33 – Měnín-Vinohrádky; 34 – Olbramovice-Leskoun; 35 – Šitbořice-Domaniny; 36 – Vážany nad Litavou. Rondeloidy: 1 – Šumice (VG); 2 – Troskotovice (UC); 3 – Vlasatice (EBA). Autor D. Hons.*

between two prominent areas. The only location that might be considered closer to the centre is the site of Santon near Tvarožná (Fig. 9 – A), but this is a relatively small site, so it is unlikely to be considered a major centre. Also noteworthy is the concentration of hillforts in the Bučovice region (Fig. 9 – B), where at least two certain and one very probable Early Bronze Age situations have been identified (see Discussion below). At least in some cases, it seems that the hillforts were located more on the outskirts of settlement areas, or that they were not as frequently central settlement points.

The hillfort/fortified sites of the Věteřov group offer a different perspective (Fig. 10). They more frequently represent the central areas of settlement density expressed through heat maps. Such a concentration is represented by three hillforts in the vicinity of the eponymous locality Nové Hory near Věteřov (Fig. 10 – A), Blučina (Fig. 10 –B), considered one of the central regions of Moravia, or the Znojmo enclave (Fig. 10 – C). From the area of intense settlement near the Novomlýnské reservoirs, no convincingly documented hilltop sites have yet been found that can be associated with this period. The map also shows central positioning in the case of the Budkovice site (Fig. 10 – D); however, this is because we lack a rural settlement in the vicinity of this hillfort that could formally be attributed to the given culture. The most significant presence of hilltop sites is located along the imaginary axis of Budkovice – Blučina – Nové Hory near Věteřov.

The second-to-last distribution map is dedicated to the question of the distribution of deposits in relation to hilltop settlement or settlement concentrations (Fig. 11). It is addressed only for the Únětice culture, as all dated deposits are associated with it. The distribution of deposits may also help in attempts to identify the use and organisation of the space in which the society settles, as it is assumed that deposits were placed outside of the typical settlement environments. We can notice both relatively isolated finds, located in areas with higher altitudes or on the outskirts of the settlement ecumene, as well as deposits found in areas with the most intense evidence of settlement, particularly around the Santon area (Fig. 11 – A). A notably higher number of deposits can be observed in the area of the Krumlovský les or the region to its west (Fig. 11 – B). This is likely due to geographical conditions, where deposits in forested environments often survive until discovery more easily than in open agricultural landscapes.

The final map (Fig. 12) is created based on the inclusion of all the components mentioned above and aims to show the presumed main concentrations of human activity during the Early Bronze Age in the defined region, based on current knowledge. The map, using the weight of the components of each site, displays

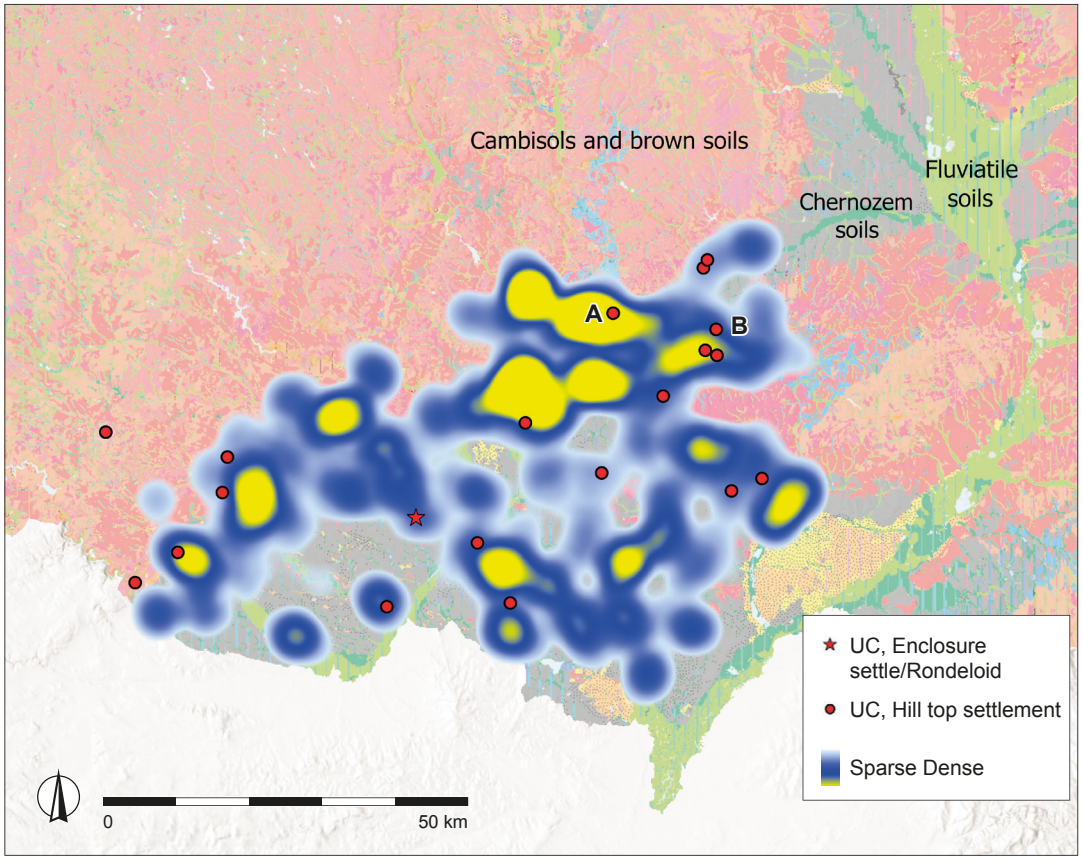


Fig. 9. Detail of the location of the fortified/hilltop sites of the Únětice culture in relation to settlement concentration. Some sites are situated in the middle of settlement: A – Tvarožná-Santon; B – Marefy-Letonice. Author D. Hons.

Obr. 9. *Detail situování výšinných/opevněných lokalit únětické kultury vůči koncentraci osídlení. Některé lokality jsou v pomyslném středu koncentrace osídlení: A – Tvarožná-Santon; B – Marefy-Letonice. Autor D. Hons.*

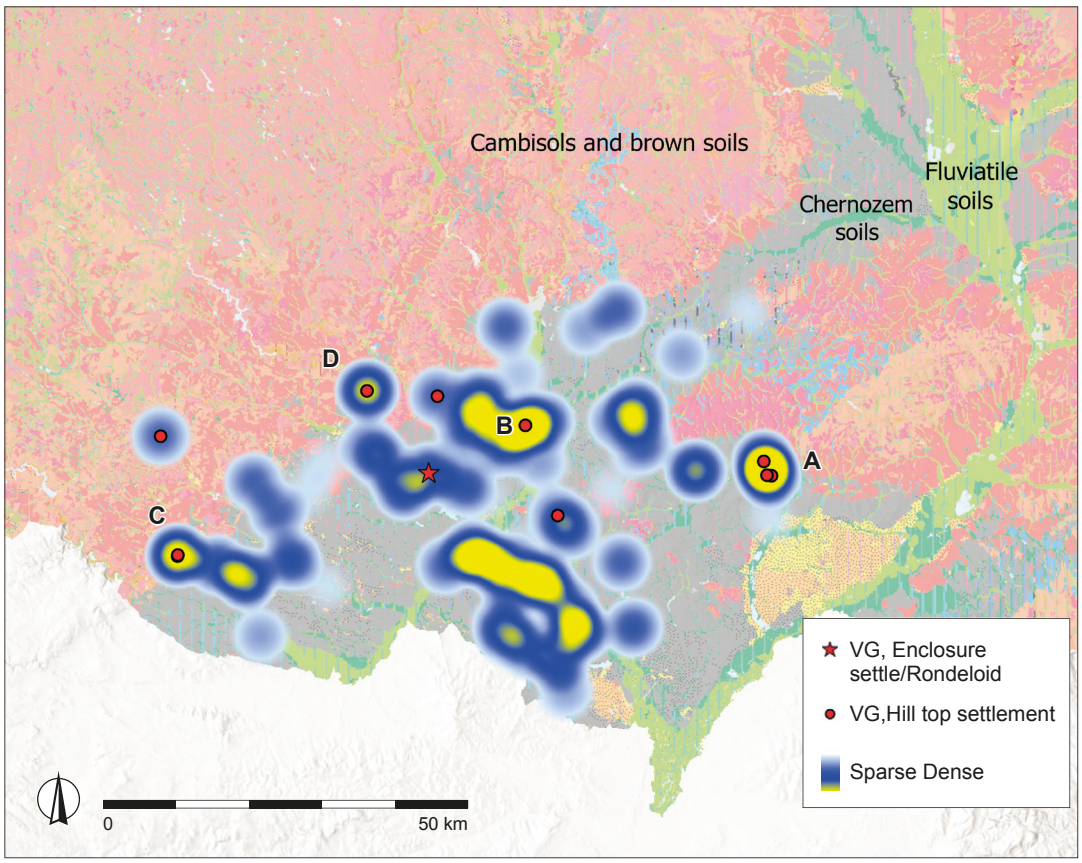


Fig. 10. Detail of the positioning of hilltop/fortified sites of the Věteřov group relative to the settlement concentration. The potential central sites of settlement: A – Nové Hory near Věteřov; B – Blučina; C – Znojmo; D – Budkovice. Author D. Hons.

Obr. 10. *Detail situování výšinných/opevněných lokalit věteřovské skupiny vůči koncentraci osídlení. Potenciální centrální lokality v rámci osídlení: A – Nové Hory u Věteřova; B – Blučina; C – Znojmo; D – Budkovice. Autor D. Hons.*

several areas that form smaller concentrations and essentially correspond to the partial findings and visualisations from the above outputs. Primarily based on the areas around Brno and its surroundings (Fig. 12 – A1–A5), Znojmo (Fig. 12 – B) and the areas to the northeast of it (Fig. 12 – C), as well as the concentration in the Novomlýnské reservoirs area (Fig. 12 – D), it is possible, with caution, to infer the possible organisational structure of the societies that lived in this region at that time (see Discussion below).

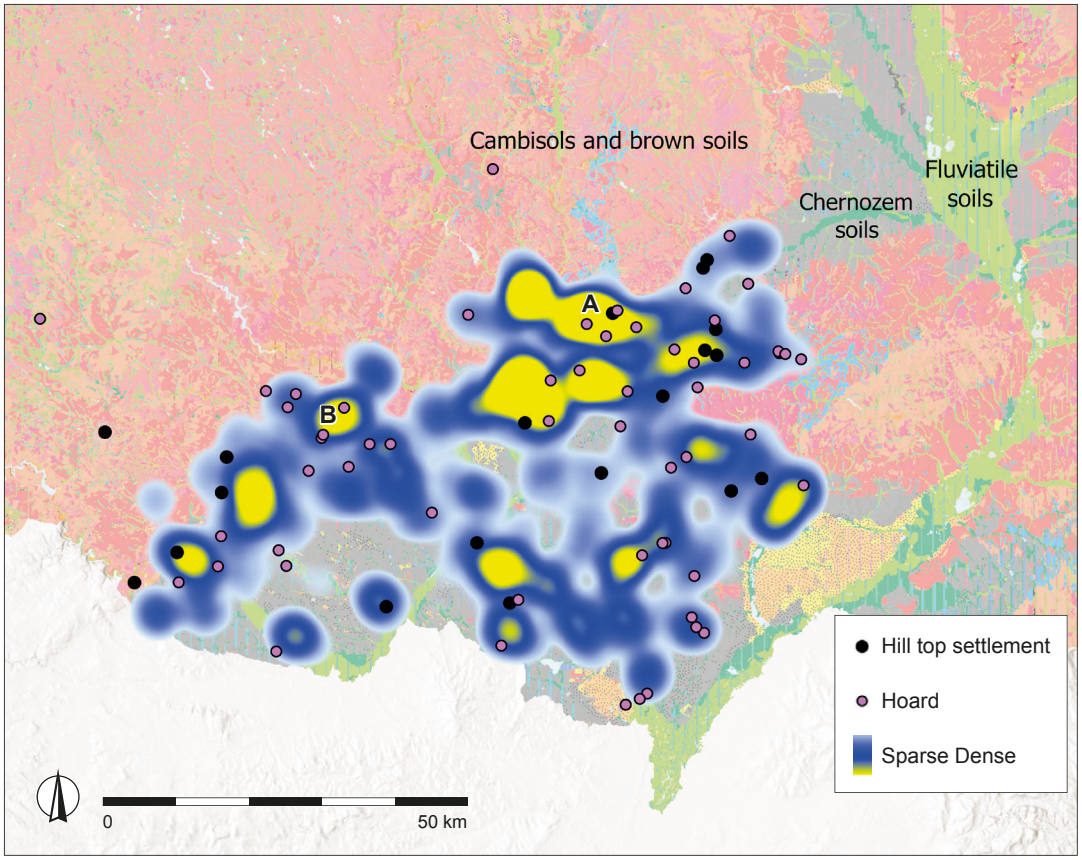


Fig. 11. Distribution of deposit finds (purple) in relation to hilltop/fortified positions (black) and areas with the most intense evidence of Únětice culture settlement. Higher number of hoards within more intensive settlement: A – Tvarožná-Santon. The highest concentration of hoards: B – Krumlovský les and surrounding area. Author D. Hons.

Obr. 11. *Distribuce nálezů depotů (fialová) vůči výšinným/opevněným polohám (černě) a oblastí s nejintenzivnějšími doklady únětického osídlení. Vyšší koncentrace depotů v rámci intenzivního osídlení: A – Tvarožná-Santon. Největší koncentrace depotů: B – Krumlovský les a okolní oblast. Autor D. Hons.*

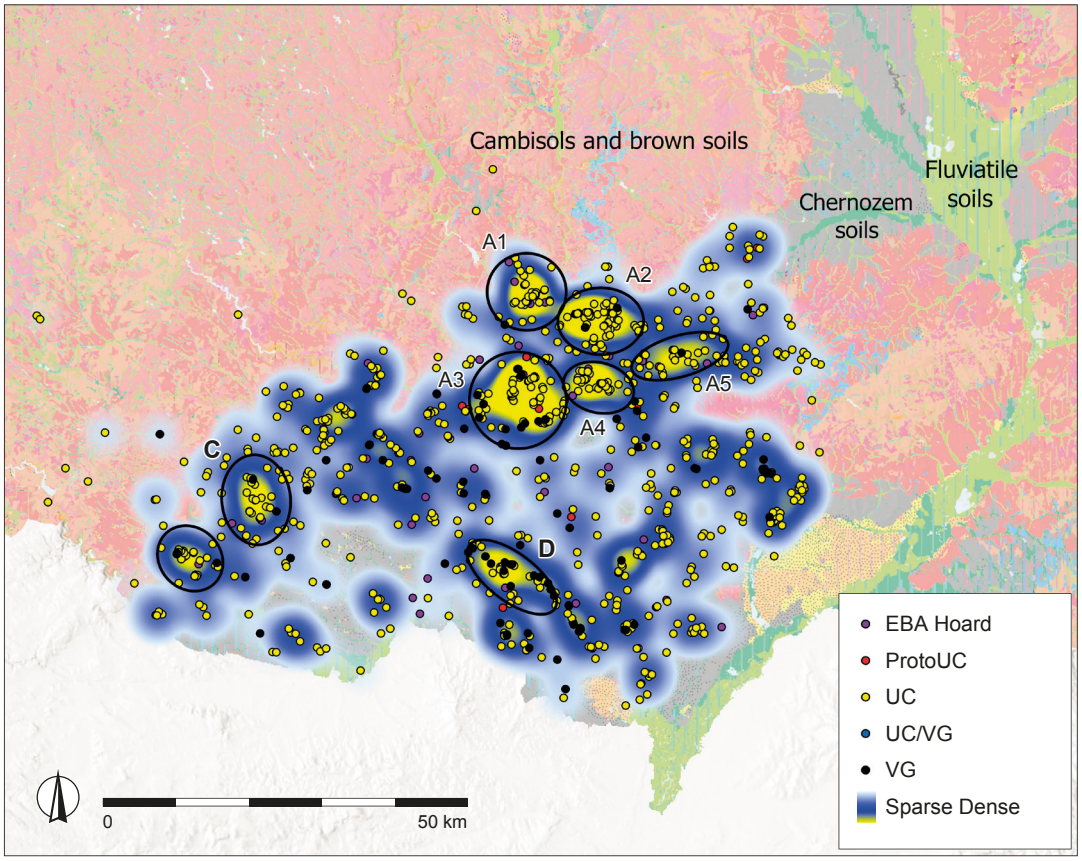


Fig. 12. Spatial heat model based on the weight of sites from all input components. Potential areas controlled by one community: A1 – Brno; A2 – Šlapanice–Slavkov; A3 – Bločina; A4 – Újezd u Brna; A5 – Marefy; B – Znojmo; C – Horní Dunajovice; D – Nové Mlýny. Author D. Hons.

Obr. 12. *Prostorový heat model na základě váhy lokalit všech vstupních komponent. Potenciální oblasti kontrolované jednou komunitou: A1 – Brno; A2 – Šlapanice–Slavkov; A3 – Bločina; A4 – Újezd u Brna; A5 – Marefy; B – Znojmo; C – Horní Dunajovice; D – Nové Mlýny. Autor D. Hons.*

4. Discussion

First and foremost, it is necessary to attempt to define the most likely time span to which the data mentioned above correspond. Early Bronze Age takes aproximatelly 500–600 years (2200/2100–1550 BC). For example, the datings of J. Peška (2012, 305), who provides results ranging from 2050/2000–1500 BC for the entire Early Bronze Age, prove it. However, what significantly differs is the internal division of the Early Bronze Age between the two key components: the Únětice culture and the Věteřov group. While the radiocarbon database currently suggests that the Věteřov group lasted approximately 150 years between 1650–1500 BC (Dreslerová 2025), J. Peška, based on radiocarbon data, places its beginning around 1950–1900 BC. Comparing this with the work of K. Šabatová and D. Parma (2019a, 20), who focus on changes in burial rituals in the final phase of the Early Bronze Age, we obtain current data showing that Únětice culture burial sites likely ended around 1750–1700 BC, while Věteřov group burial sites were probably established at new locations between 1750–1610 BC. Data from Bohemia for the classical Únětice culture phase fall between 2000–1850 BC (Ernée et al. 2009; Ernée 2015, 294–295). Additionally, the question of the end of the Early Bronze Age and the beginning of the Middle Bronze Age is crucial. Based on data from several sites, it does not seem unlikely that the beginning of the barrow cultures can be dated to around 1600 BC (Šabatová, Parma 2019b, 134–135). With the increasing number of data points, it seems more likely that the beginnings of the Věteřov culture can be placed at least in the 18th century BC, possibly even earlier, and its end could fall as early as 1600 BC. Therefore, the Věteřov group would have lasted approximately 150–200 years, while the Únětice culture would span roughly from 2100–1700 BC, that is, 400 years. In addition to the question of the possible contemporaneity of the two cultural groups, we now have further clues. It is probable that the Únětice culture, at least in some regions, lasted much longer than we originally assumed. The duration of both major components of the Early Bronze Age is, after all, crucial in light of the critiques of the sources we work with and their relative number.

One of the foundational works used for data processing is the article by P. Tóth and D. Oravkinová (Tóth et al. 2019). In this work, the authors address the issue of the development of settlement structures of the Ottomány culture in eastern Slovakia. They conclude that the approximately 800-year-long cultural complex can be divided into no more than three phases, each lasting 250–300 years, based on settlement findings. At the same time, considering the article by F. Trampota and P. Květina (2020), which focuses on the Neolithic and Eneolithic periods, it certainly provides a stimulus for reflecting on the division and internal chronology for later periods as well. The article critically examines existing typo-chronological divisions of cultures and their internal development and argues that the data frequently show the impossibility of associating specific decorative styles as a periodizing element applicable to the entire cultural component. Instead, these styles more often reflect a chronology specific to a particular locality. However, the aim of this article is not to debate existing typologies; this example simply illustrates the effort to offer a new perspective on existing data. Based on the two aforementioned works, or rather their main ideas, the initial intention was formulated for comparing the intensity of Únětice culture and Věteřov group settlement. Based on the above, we are able to identify two main components within the Early Bronze Age, whose time span essentially corresponds to the case study of the Ottomány culture (as mentioned earlier). As already indicated in the methodology chapter, this is another reason why the internal division of neither of the two main components of the Early Bronze Age has been addressed.

Another important stimulus for this work was the aforementioned study on the organisation of society in the Bronze Age (Earle, Kristiansen eds. 2010). Due to the lack of established models for Central Europe, the closest and most comprehensively processed analogy was found in studies associated with the development of the Benta Valley south of Budapest, where the development of settlement structures was tracked throughout the Bronze Age up to the first phase of the Iron Age. In this microregion, covering about 50 km² and defined by surrounding physical-geographical conditions, located around a short stream flowing into the Danube, the local society's development was studied (Earle, Kristiansen eds. 2010, 86). For the Middle Bronze Age, which is data-wise analogous to the Early Bronze Age in Central Europe, the authors propose a form of dual leadership. They identify 13 settlements, with the largest fortified site located by the Danube, which likely controlled the river space and protected/controlled the inhabitants of the valley. Further upstream, 2–4 smaller fortified locations were found, all smaller in area than the first. These fortified locations concentrated about 35% of the population, while the rest lived in rural settlements, one of which was significantly larger than the others, which were rather smaller, supplemented by several individual homesteads. For this period, the authors lack burial sites in this microregion, but based on the analysis of settlement materials, they work with a dual division of power model, where the main fortified centre oversees the trade component and the largest rural settlement handles the agricultural production component (Earle, Kristiansen eds. 2010, 72–75).

To define the mode of societal organisation in our context, we need to address the issue of spatial control within a single community. The theory of community areas was primarily addressed by E. Neustupný, who worked with the division of the community area into individual components (Neustupný ed. 1998, 10–11). Geographic units such as micro and macroregions, on the other hand, are not considered highly informative, as they may or may not correspond to reality (Neustupný ed. 1998, 18). In contrast, Natálie Venclová (1994, 1995a, 1995b) worked with the definition of so-called production zones, based on which she tried to achieve the same goal. D. Dreslerová (1998, 125) attempted to bring some of these theories into practice through the analysis of several regions in Bohemia. Due to the relatively easy accessibility and manageability of data, spatial data from the Early Bronze Age were selected for creating a framework model. Based on the theory of community areas (Neustupný ed. 1998, 11–12), each component was assigned specific weights, which should, to some extent, reflect the living space of individual communities necessary for their functioning. The graphical representation of this space on the map is shown through heat models. If we can define areas of community territories, we can consider the extent of the space controlled by these communities (Neustupný ed. 1998, 12). Significant changes in the organisation of settlement structures could, in prehistoric contexts, indicate a shift in societal organisation (Neustupný ed. 1998, 18). This is a crucial point when tracking the occurrence of individual archaeological components in the observed period. Given the assumption that a society may inhabit a similar environment to that of previous generations, it may seem logical that long-term used areas would carry more archaeological records. However, we must also consider the fact that some archaeological components (e.g. from the Neolithic) are rarely found during excavations, so we must approach this assumption cautiously (Neustupný ed. 1998, 46). For the Early Bronze Age, however, we can relatively reliably state that we are working with comparably visible evidence of past

societies (settlements, burial sites) in the archaeological record, and for this reason, it is possible to calculate the frequency of occurrence of archaeological situations based on the given data.

In terms of the location of settlements on different today soil types (Fig. 1, 2, 3, 4), we can observe a distinct dominance of the most fertile areas of southern Moravia, with certain exceptions primarily linked to the Únětice culture, which also utilizes less fertile soils such as cambisols and brown soils. Interestingly, the Věteřov group settlement generally avoids these types of soils, with a few exceptions. The relationship of individual sites to proximity to water sources, which is a fundamental prerequisite for the creation and functioning of settlements, is evident (e.g. Tóth et al. 2019, 58). This could be related to a different settlement strategy of the two cultures, but we do not have any more detailed data on this issue. At this point, we can compare soils and their quality with certain gaps in settlement density, as shown by some of the maps, particularly for the area of the polygon formed approximately by the cadastres of Hodonice, Hrušovany nad Jevišovkou, Vlasatice, and Miroslav (Fig. 5 – I). Since there seem to be no objective natural conditions preventing settlement in this or other less explored areas, two most likely explanations arise. The situation may reflect the lower intensity of archaeological research in these regions, and with the passing years, our current understanding of the area may change significantly. The second possibility could suggest that for unknown reasons, these areas were far less utilised during the Early Bronze Age. Personally, I tend to lean towards the first explanation, as these regions did not experience as much intensive archaeological activity in the past as areas like the Brno region (J. Stávek, A. Dvořáček), the Slavkov and Bučovice regions (K. Tihelka, M. Mazálek, etc.), where the archaeological record, thanks to earlier findings, is significantly richer.

What do the resulting models suggest? Proto-Únětice culture sites (Fig. 2) form only a very marginal part of the data used in the analysis (25 sites), but they show an interesting geographical distribution, being concentrated only in the eastern part of the defined area. These results can be compared with the distribution of sites presented in Prehistoric History of Moravia (Stuchlík 1993, 239, Map 18). Here, it is clear that the archaeological record has been expanded in the last 30 years, but the main regions where this component is found have not changed much. Could this indicate that the Proto-Únětice component was concentrated more in the eastern regions? Or, in the western half, where finds are more sporadic, are we seeing a lack of research or an inability to identify this component?

In the case of Únětice culture sites and their distribution, as well as the most significant concentrations, there is a clear and strong archaeological record around Brno and to the east and northeast of the city. Additionally, the Pálava Hills region, which has been archaeologically well-studied, shows notable concentrations of finds. An interesting concentration of finds is also located around the area where the theoretical centre lies in Horní Dunajovice, with Moravský Krumlov and its surroundings to the northeast. When compared to the evidence of the presence of the Věteřov group, it is clear that the Únětice culture component completely dominates the area. Less dense settlement evidence is also noted in Znojmo (although much of the evidence is likely overwritten by later activities, including the modern town), and around Kyjov. When we overlap the Únětice culture and Věteřov group sites (Fig. 5–7), it becomes evident that the same settlement areas or microregions were not consistently used across both cultures. While these cultures were traditionally thought to follow one another (e.g. Stuchlík 1993; Stuchlíková 1993), it is highly probable that this was not the case, at least not everywhere. A clear continuity can be traced around the central area of Blučina-Cezavy, which was inhabited in both periods, and archaeological finds suggest it gained more significance during the Věteřov group phase, as evidenced by fortifications – missing in the earlier Únětice culture phase (Stuchlíková 1993, 267). Similarly, there is a notable continuity, or re-use of space, around the Novomlýnské reservoirs. In the case of Znojmo, we can see that both components utilized the wider centre of the town. We also know the larger settlements of Šatov and Hrádek from the Únětice culture, and from the Věteřov group, we also encounter large, flat settlements along the Dyje (Rožnovský 2015, 178–179) and in Hodonice (Rožnovský 2019). However, at the Věteřov group site in Budkovice, we are largely lacking evidence of common rural settlements from the same period. Yet, when plotted on a map, Budkovice fits well within the space between Únětice culture concentrations in Moravský Krumlov and its surroundings, and Ivančice. A very similar picture can be seen in the eastern part of the studied region, with the Věteřov group network of high settlements around Nové Hory near Věteřov, which surrounds Únětice culture sites in the southeastern part of the region near Kyjov, as well as Únětice culture sites in the southwestern part of Ždánický les. It is important to note that evidence of high settlement locations in the Nové Hory near Věteřov area already comes from the Únětice culture, showing some continuity. Again, in the surrounding area, rural settlements of the Věteřov culture are missing. A dramatic shift in archaeological sources is observed in the region around the city of Brno and to the east and northeast of it. This region, one of the most archaeologically well-studied not only in Moravia but across the Czech Republic, presents a very minimal presence of the Věteřov culture – just a handful of objects at 4–5 sites. On the other hand, there is a very strong concentration of Únětice culture artefacts. It is unlikely that the absence of Věteřov group finds is due to an inability to identify them, as even research conducted in the last 30 years, primarily by researchers from the Institute for Archaeological Heritage Brno, has only identified a few sporadic signs of Věteřov group presence. Given this, it is reasonable to hypothesise that the Únětice culture persisted significantly longer in the Brno region, and likely coexisted with the Věteřov group established to the south of this area. A similar hypothesis can be considered for the region near Horní Dunajovice, where evidence of Věteřov group activity is also practically absent, despite strong concentrations of artefacts nearby in the Znojmo area. This remains speculative for now, but further research, particularly the series of radiocarbon datings, may confirm this theory. If we accept the hypothesis that the Únětice culture and Věteřov group components were contemporaneous in certain areas, and revisit the settlement in Budkovice and adjacent Únětice culture sites, it is possible that the Věteřov group played a role as a component controlling high or fortified positions, while Únětice culture settlements remained in the surrounding areas. Alternatively, it may be that our classification, based on pottery typology, is distorted by changes in vessel shapes, leading to the distinction of a culture or group that did not significantly differ from the previous one. At this stage, no conclusive answers can be given to these questions, but it is crucial to continue research to better understand and find solutions to these issues.

When focusing more specifically on hilltop settlement and their relationship to settlement density during the Early Bronze Age, we encounter a certain degree of uncertainty regarding their correct dating. In about a quarter of cases, we are able to assign these finds generally to the Early Bronze Age. Únětice culture hilltop/fortified sites are typically concentrated on the outskirts of the heaviest settlement concentrations. The exception

is the site of Santon near Tvarožná, but in this case, it was not definitively a large fortified settlement, as the area of the hill itself is only a few hectares. However, from the hill, one can overlook many tens of kilometers of the surrounding area and establish visual contact with Blučina, which is generally considered the central settlement for this period. In the immediate and distant surroundings of Santon, there are numerous settlements and cemeteries (summary in Hons 2020; 2022; 2023). Blučina, and possibly also Znojmo, definitely lie in the centre of a larger number of settlements, although the evidence for Únětice culture presence here is relatively damaged. The remaining hilltop/dominant sites are usually located on the outskirts of the most extensive settlement areas.

From the Věteřov group sites, Blučina-Cezavy can be considered the centre of a particular microregion. The remaining sites are often the only component in the landscape associated with the Věteřov group (Budkovice, Dolní Kounice, and the complex around Nové Hory near Věteřov). In the case of Znojmo, the wider surrounding area of potential hilltop sites could include settlements along the River Dyje, potentially in Hodonice. The relatively low number of Věteřov group sites (1 : 6) compared to Únětice culture settlements, might indicate a change in settlement structure. For the Únětice culture, smaller settlements of a few families are generally assumed (Stuchlík 1993). This atomisation could be the reason for the relatively higher number of Únětice culture components found. The duration of both cultural groups (2 : 1 at most) does not align proportionally with the number of discovered contexts (6 : 1 if we only consider settlements). A possible change in societal structure and greater accumulation of settlements in specific areas might be another reason why the density of Únětice culture and the Věteřov group appear differently in the archaeological record.

The spatial concentration of components referred to as *rondeloids/enclosed settlement* deserves a brief mention. All these components are clustered close to one another and cover all phases of the Únětice (Vlasatice; Bálek 1999), Věteřov (Šumice; Peška 2006), and Early Bronze Age (Troskotovice; Kovárník 1999) cultures. It seems that these areas were commonly used as settlements, or burial sites might have been located nearby. Whether these could represent ritual sites or meeting places cannot be ruled out; however, due to the significant accumulation of these structures in one area, it is also possible that these were simply a local custom for building enclosed or fortified settlements.

The mapping of the distribution of hoards in relation to hilltop sites was an attempt to trace a possible connection either with hillfort/fortified locations or with settlement concentrations. The distribution of hoards could theoretically assist in defining areas controlled by organised structures, as it can be assumed that hoards were more likely to be deposited in peripheral areas rather than at the centre of settlement and agricultural activities. However, the visualised data do not reveal any clear structure or pattern.

In conclusion, it is important to consider whether the visualised data and their interpretation can help in studying the social complexity of past societies. Some potential suggestions were already mentioned in the discussion. Summarising them, it is apparent that within certain smaller regions of the studied area, clear concentrations of archaeological finds can be observed. This is particularly true for areas around the city of Brno (64 km²), Blučina (170 km²), Šlapanice (125 km²), Újezd u Brna (40 km²), and Horní Dunajovice (50 km²). In these areas, both the Únětice culture and, in the case of Blučina, the Věteřov group component show distinct microregional concentrations. For example, the area around Brno and near Santon is separated by geomorphological undulations in the landscape. Although this is a well-researched region, there is objectively a way to define a smaller dividing zone. Similar patterns are observed around Blučina and the area around Újezd u Brna, with Horní Dunajovice presenting a separate enclave to the northeast of Znojmo. The only well-studied example from Benta Valley (as mentioned earlier) covers 50 km² and is geographically defined. In southern Moravia, there is no clear potential for defining a geographical microregion with such clarity, and that is why this article was created as an alternative attempt to define the level of social organisation and structure. In the Hungarian example, the model involves a fortified site or sites combined with larger and smaller rural settlements, which together form a presumed organisational unit – a dual arrangement. In our case, we lack such a crucial transportation way like the Danube, which surely shaped settlement patterns and structure in Benta Valley. In the case of Moravia, we could consider a similar dual model with a potential central locality surrounded by rural settlements in places like Blučina or possibly Znojmo. This could apply to both Únětice culture and Věteřov group components. For Únětice culture, the model with hilltop/fortified sites might apply to areas around Varožná-Santon or Bučovice-Maref. If we allow for the simultaneous existence of Věteřov group and some Únětice culture sites, the most interesting central sites would be Budkovice, surrounded by the areas of Moravský Krumlov and Ivančice, as well as the area of Nové Hory near Věteřov, surrounded by the Kyjov region and settlements to the south of Ždánický les. All the above represents an initial proposal and an attempt to solve the dynamics of social development in the Early Bronze Age in Moravia. The hypotheses outlined will need to be tested with further analyses (the analysis of flint industries to study regional links and the analysis of ceramic production focused on microregions are already in process).

5. Conclusion

The attempt to understand socio-economic and organisational relationships in a period for which we lack any written sources is incredibly challenging. It is likely that we will never be able to identify many aspects of the society of that time with absolute certainty. The analysis presented above aims to stimulate a discussion about the directions research could take, and it is just one of the possible approaches to addressing this issue. It is certainly not a final solution to this complex question, but rather its first phase, and it is crucial that the hypotheses outlined above be further and more thoroughly examined with the help of additional archaeological evidence.

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Resumé

Článek se věnuje sídelní dynamice ve starší době bronzové na území jižní a jihozápadní Moravy za využití prostorových dat získaných z archivů a publikovaných zdrojů. Cílem je vytvoření teoretického modelu uspořádání tehdejších sídlišť a komunit. Jako základní porovnávané jednotky jsou použity sídlištní nebo zásobní jámy identifikované při výzkumech, kulturní vrstvy, hrobové celky, depoty a soliterní nálezy z téhož období. Každá komponenta má přidělenou váhu (váhu lokality) na základě počtu nalezených objektů, hrobových celků nebo přítomnosti kulturní vrstvy. Tyto hodnoty slouží jako vstupní data pro vizualizaci intenzity osídlení s využitím heat map v prostředí programu Arc GIS Pro. Získané údaje představují sérii map, kdy jsou jednotlivé lokality sledovány a hodnoceny na základě půdního podloží, hustoty osídlení a prostorových vztahů mezi jednotlivými komponentami, jako jsou například výšinné/opevněné polohy, rurální sídliště nebo depoty. Míra intenzity osídlení je srovnávána především mezi únětickou kulturou a věteřovskou skupinou.

Jednou z předestřených otázek je synchronní existence obou srovnávaných celků – únětické kultury a věteřovské skupiny (obr. 7). Při detailním sledování hustoty osídlení a výskytu památek té či oné kultury je zřejmé, že existují oblasti, ve kterých téměř neevidujeme doklady věteřovských aktivit, případně jsou velmi marginální. Takovým příkladem je oblast Brna a region

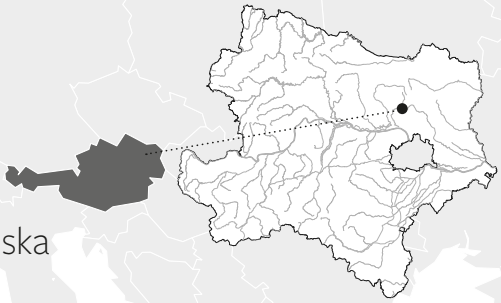
východně od něj až po Vyškovskou bránu (obr. 7 – I). Není vyloučené, že přinejmenším v této oblasti mohla únětická kultura koexistovat s jižněji situovanou věteřovskou skupinou po relativně dlouhou dobu. Na základě některých mikroregionů, které se v rámci sledované oblasti díky analýze intenzity archeologických nálezů vyseparovaly, lze pozorovat poměrně jasné koncentrace přítomnosti únětického osídlení (obr. 12). Tyto koncentrace mohou naznačovat určitou strukturu osídlení a představovat jádrové oblasti jednotlivých komunit. Především se to týká oblasti města Brna (64 km^2), Blučiny (170 km^2), Šlapanicka (125 km^2), Újezdu u Brna (40 km^2) a Horních Dunajovic (50 km^2). Zde pro únětickou a v případě Blučiny (kde jsou jasné doklady únětické kultury i věteřovské skupiny) i věteřovskou komponentu vidíme poměrně jasnou koncentraci sídelních akvitivit v rámci mikroregionů (obr. 12 – A1–A5). Vytyčený mikroregion na území Brna a druhý, který je patrný kolem Santonu, jsou odděleny i geomorfologickým zvlněním krajiny, kdy mírné hřebeny tvoří přirozenou bariéru mezi Brnem a oblastí na východ od něj. Ačkoliv jde o velmi dobře prozkoumanou oblast, kde je známa celá řada dokladů přítomnosti únětické kultury, je zde objektivně možné vymezit úzký dělící pás mezi dvěma mikroregiony s minimem archeologických nálezů, datovatelných do starší doby bronzové. Podobné je to i v případě Blučiny a oblasti kolem Újezdu u Brna (obr. 12 – A1–A5). Samostatně vymezenou enklávu vůči Znojmu, ze kterého známe doklady únětického i věteřovského osídlení, představují Horní Dunajovice, kde sledujeme výraznou koncentraci únětických památek, ale takřka postrádáme doklady věteřovských aktivit (obr. 7 – C, G; 12 – B, C).

Jediný dobře prozkoumaný příklad sídelní struktury v rámci jedné organizační jednotky je znám z Benta Valley v Maďarsku; má rozlohu 50 km^2 a je definován geograficky (Earle, Kristiansen eds. 2010, 86). V prostoru jižní Moravy možnost definovat nějaký mikroregion geograficky postrádáme. Z toho důvodu vznikl tento článek jako možná alternativa pro vymezení oblasti ovládané v rámci jedné komunity na základě prostorové disribuce nálezů jednotlivých kultur. Zjištěná data poskytují možnost studia úrovně sociální organizace a struktury společnosti ve starší době bronzové. Na modelovém příkladu z Maďarska figuruje opevněná lokalita nebo lokality v kombinaci s většími i menšími rurálními sídlišti, to dohromady tvoří předpokládaný organizační celek – duální uspořádání (Earle, Kristiansen eds. 2010, 72–75). V našem prostoru postrádáme tak klíčovou dopravní tepnu jako je Dunaj, která zcela jistě podobu osídlení a jeho strukturu v Benta Valley do značné míry formovala. Pokud bychom chtěli v případě Moravy uvažovat o podobném duálním modelu potenciální centrální lokality obklopené rurálním zázemím, nabízí se Blučina, eventuálně Znojmo. To by platilo jak pro únětickou, tak věteřovskou složku. Jen pro únětické osídlení by model s výšinnou/opevněnou polohou připadal v úvahu v oblasti kolem Tvarožné-Santonu, eventuálně Bučovic-Maref. Pokud bychom připustili souběžnou existenci věteřovských a části únětických lokalit, pak by nejzajímavějšími centrálními lokalitami byly Budkovice, obklopené osídlením v oblasti Moravského Krumlova a Ivančicka, a oblast Nových Hor u Věteřova, obklopená Kyjovskem a osídlením v oblasti jižně od Ždánického lesa. Vše výše uvedené je jen prvním návrhem a pokusem o řešení dynamiky vývoje společnosti ve starší době bronzové na území Moravy a bude nutné dané hypotézy testovat pomocí dalších analýz (v procesu je analýza distribuce kamenné štípané industrie pro studium regionálních vazeb a analýza keramické produkce zaměřená na mikroregiony).

Contact

David Hons
Masarykova univerzita, Filozofická fakulta
Ústav archeologie a muzeologie
Arne Nováka 1
CZ-602 00 Brno
e-mail: HonsD@seznam.cz
ORCID: 0000-0002-4247-7910

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Another find of a bread loaf idol from northern Lower Austria and the *Lavatera thuringiaca* L.

Další nález chlebového idolu ze severní části Dolního Rakouska a *Lavatera thuringiaca* L.

– *Gerhard Trnka** –

KEYWORDS

Early Bronze Age – Věteřov culture – bread loaf idol – Lower Austria – Experiment

ABSTRACT

From October 2024 to March 2025, the Archaeological Museum Frankfurt am Main hosted a special exhibition showcasing nearly all the Early and Middle Bronze Age bread loaf idols, presented within their distribution and cultural context. Previous exhibitions on this topic have taken place in Cavriana in northern Italy in 2010 and in Manching in Upper Bavaria (Germany) in 2011. However, new bread loaf idols are continually being discovered, including those from private collections. One such example is a surface find from a settlement of the Věteřov culture at Niederfellabrunn in northern Lower Austria. This fragmentary idol, previously unpublished, was found in 1996. The article investigates whether the 'radial' impressions interrupting the lines on the artefact could be negatives of fruits of Lavatera thuringiaca L. (Garden tree-mallow) or other mallow plants (e.g. Malva sylvestris – wild mallow). We know of around 20 finds of bread loaf idols from eastern Austria alone, a figure which contrasts starkly with the limited finds from (southern) Moravia (only four). The article presents an analysis of ceramics and other finds from Niederfellabrunn, including a fragment of a decorated bowl and a jug fragment, supporting the dating of the site and a fragment of a bread loaf idol to the late Early Bronze Age.

1. Introduction

North of Vienna in the Weinviertel region in northeastern Lower Austria, there lies the municipality of Niederfellabrunn, where the master baker Rupert Labschütz found a bread loaf idol in addition to many archaeological finds, which has remained unpublished until now. The find spot is located west of Niederfellabrunn in the 'Rosenäcker' field and yielded numerous surface finds, predominantly Bronze Age ceramics, various stone tools (grinding stones, grinding plates), burnt clay fragments, animal bones, etc., the fragmented bread loaf idol (Fig. 1: 2), discovered in 1996, being the outstanding find. The article aims to present a previously unpublished find of a fragmented bread loaf idol from Niederfellabrunn. The idol is described in detail, typologically analysed, and placed within the cultural context of the Věteřov culture, which is dated to the transitional period between the Early and Middle Bronze Age (Bronze Age stages A2–B1).

A further focus is on the investigation of the idol's decorative patterns. The hypothesis is put forward that the 'radial' impressions on the surface could potentially represent negatives of fruits of *Lavatera thuringiaca* L. (Garden tree-mallow) (Hajnalová 1999) or other mallow plants. To verify this assumption, the author conducts experimental studies and investigates the technical possibilities for creating such impressions.

The article also compares the distribution of bread loaf idols in Lower Austria (20 known specimens) and south Moravia (only four specimens). This imbalance raises questions regarding cultural interactions, trade networks, and possible differences in the archaeological research approaches of the two regions.

Finally, suggestions for future research are formulated. These include detailed analyses of the surface finds from Niederfellabrunn, experimental investigations into materials and manufacturing techniques, geochemical analyses of raw materials, and archaeobotanical studies. These approaches aim to help better understand the technological development and cultural significance of the bread loaf idols and to shed light on their ritual or symbolic character.

2. Description of a bread loaf idol from Niederfellabrunn

The artefact was discovered in 1996 and has an elongated shape with one rounded end and similarly shaped sides. The clay was fired dark brown and is grit-tempered. The front side ('display side') bears three obliquely running deep grooves, which were incised from the back to the front, and each show three 'radial' impressions/imprints with a central 'puncture'. At the break edge, another groove with the remnant of a similar impression is discernible, indicating that at least four such decorative patterns were present. No traces of any potential incrustation are discernible. Preserved length 6.05 cm, width 3.93 cm, thickness 1.65 cm, (residual) weight 42.2 grams (Fig. 1: 2).

* Corresponding author – E-mail address: gerhard.trnka@univie.ac.at

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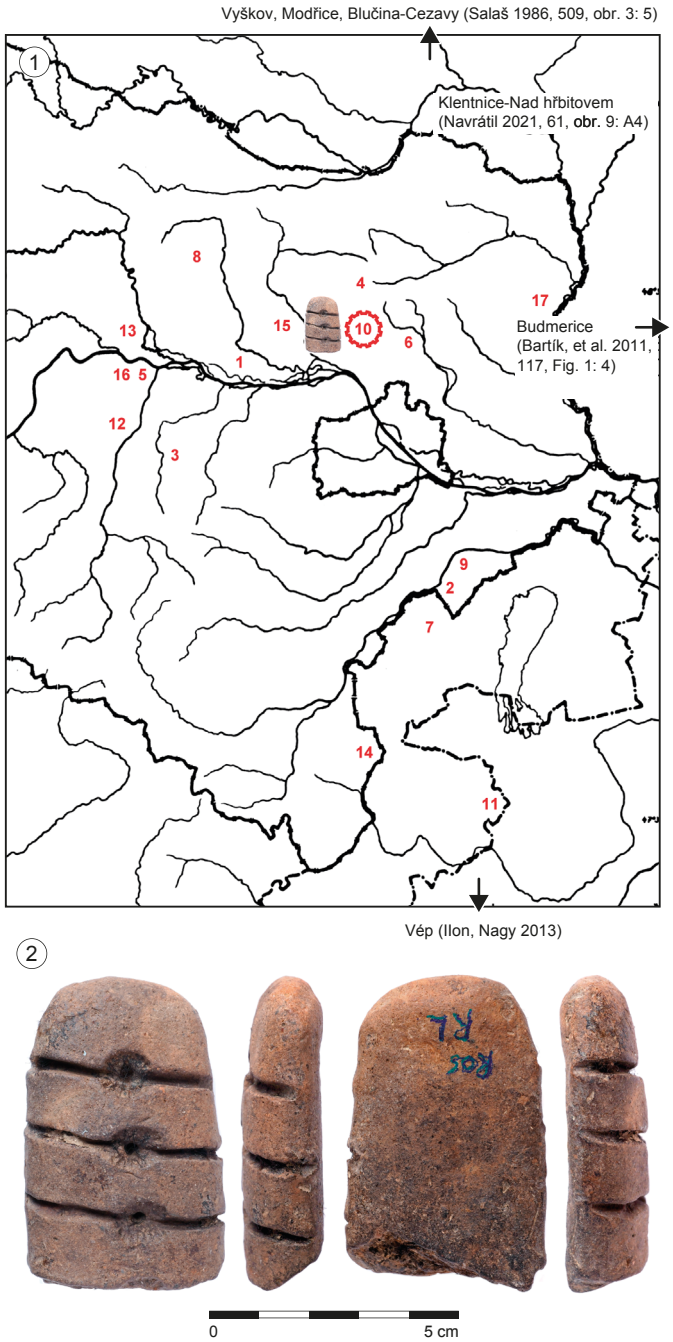


Fig. 1. 1 – Distribution map of the loaf of bread idols in east Austria (Lower Austria and Burgenland) – list of sites see in Chapter 6; 2 – loaf of bread idol from Niederfellabrunn – Rosenäcker (Labschütz collection). Graphic, photo by G. Trnka.

Obr. 1. *1 – Mapa rozšíření chlebových idolů ve východním Rakousku (Dolní Rakousko a Burgenland) – seznam lokalit viz kapitola 6; 2 – chlebový idol z Niederfellabrunnu – Rosenäcker (sbírka Labschütz). Grafika, foto G. Trnka.*

3. Dating of the bread loaf idol from Niederfellabrunn

Since it is a surface find, the chronological position of our piece can nevertheless readily be assigned to a late Early Bronze Age to early Middle Bronze Age framework (Bronze Age stages A2–B1 according to Central European terminology), as numerous relevant studies demonstrate. In east Austria, as well as in south Moravia, southwest Slovakia, and northwest Hungary, this is evidenced by the Věteřov and Mad'arovce, Wieselburg-Gáta cultures, the Litzenkeramik, the Transdanubian Incrusted Pottery and Vatya cultures, extending into the beginning of the Middle Bronze Age / Tumulus culture (most recently, David 2016; 2024; 2025; Ilon 2024, 33–34; Trnka 2025).

4. The bread loaf idol from Niederfellabrunn and *Lavatera thuringiaca* L.

According to the current state of research (most recently, Trnka in print), we know of 19 (confirmed) to 20 specimens from eastern Austria (Lower Austria and Burgenland), of which 17 (confirmed) or 18 originate from eastern Lower Austria (Fig. 1: 1). Some of these, like the Niederfellabrunn specimen, exhibit these typical 'radial impressions' – also referred to as 'rosette-shaped patterns' (David 2025, 52). These so-called negatives (Trnka 1992, Fig. 3: 1) are a frequently occurring decorative motif on Middle Danubian and Carpathian bread loaf idols (Carafa 2012, Group 1, 63–95); however, they can also occur south of the Alps, in the central German region (Schunke, Filipp 2022) as far as Romania (Şandor-Chicideanu 2002; 2003). Despite the fragmented condition of the Niederfellabrunn bread loaf idol, at least four grooves running along the display side are provided with these characteristic impressions. The highest number of *Lavatera* negatives is documented on a bread loaf idol from Riekofen in the Upper Palatinate (Bavaria), featuring eight(!) symmetrically arranged impressions in the shape of a pentagon (David 2025, 54).

Eva Hajnalová (Nitra), based on the bread loaf idols from Veselé and Nitriansky Hrádok – two settlements of the late Early to early Middle Bronze Age Mad'arovce culture in southwest Slovakia – notably identified these impressions as those of the disc-shaped fruit of *Lavatera thuringiaca* L. (Garden tree-mallow; Hajnalová 1999). This schizocarp consists of nine to fifteen mericarps, which break apart into angular seeds upon ripening. The spine-shaped appendage in the center of the fruit is the base of the stylar column, which then appears as a negative impression of the remnant of the stylar column base in the imprint (Fig. 2).

Lavatera thuringiaca L. belongs to the widespread family Malvaceae (Mallow family) with numerous representatives such as Common Mallow (*Malva sylvestris* – also known as Cheeseweed), Dwarf Mallow (*Malva neglecta*), Hollyhock Mallow (*Malva alcea*), Common Hollyhock (*Alcea rosea*), Marsh-mallow (*Althaea officinalis*), etc., some of which are also used as medicinal plants.

5. Experiments with the fruit of *Lavatera thuringiaca* L.

To my knowledge, it has not been attempted experimentally to create impressions using one of these fruits before. I undertook this using pottery clay (so-called 'Stober' clay) from Burgenland (Fig. 2). As the results show, the characteristics of this clay mass, which is too fine-grained and too plastic, cannot be transferred to a prehistoric clay. Additionally, when dry, the fruit already disintegrates when pressed into the clay, or at the latest when attempting to remove it, whereby the impression or negative can also be smudged (Fig. 2: 2). This experience raises the question of whether the fruits might have been left on/in the bread loaf idol until the firing process?

The use of Common Mallow (*Malva sylvestris*) would also be an option, but then the central spine-shaped appendage, which is absent in this fruit, would have to be subsequently replaced by a puncture; furthermore, *Malva sylvestris* has more mericarps than *Lavatera thuringiaca* L. (Fig. 2: 3). To decide this individually, detailed investigations (3D scanning) and further experiments would need to be conducted.

Since it can be assumed that the clay raw material of the bread loaf idols, as well as that of the ceramics, originates from local deposits (Bartík et al. 2011, 117), the plant location of *Lavatera thuringiaca* L. should largely coincide with the utilised clay deposits. Regarding the bread loaf idol from the Mad'arovce settlement

at Budmerice in southwest Slovakia: *'The ceramic paste, especially the added temper made of metamorphic rocks, mostly phyllites, corresponds to the thick-walled ceramics from the same find spot. This means that the bread loaf idol from Budmerice was produced on-site'* (Bartík et al. 2011, 117).

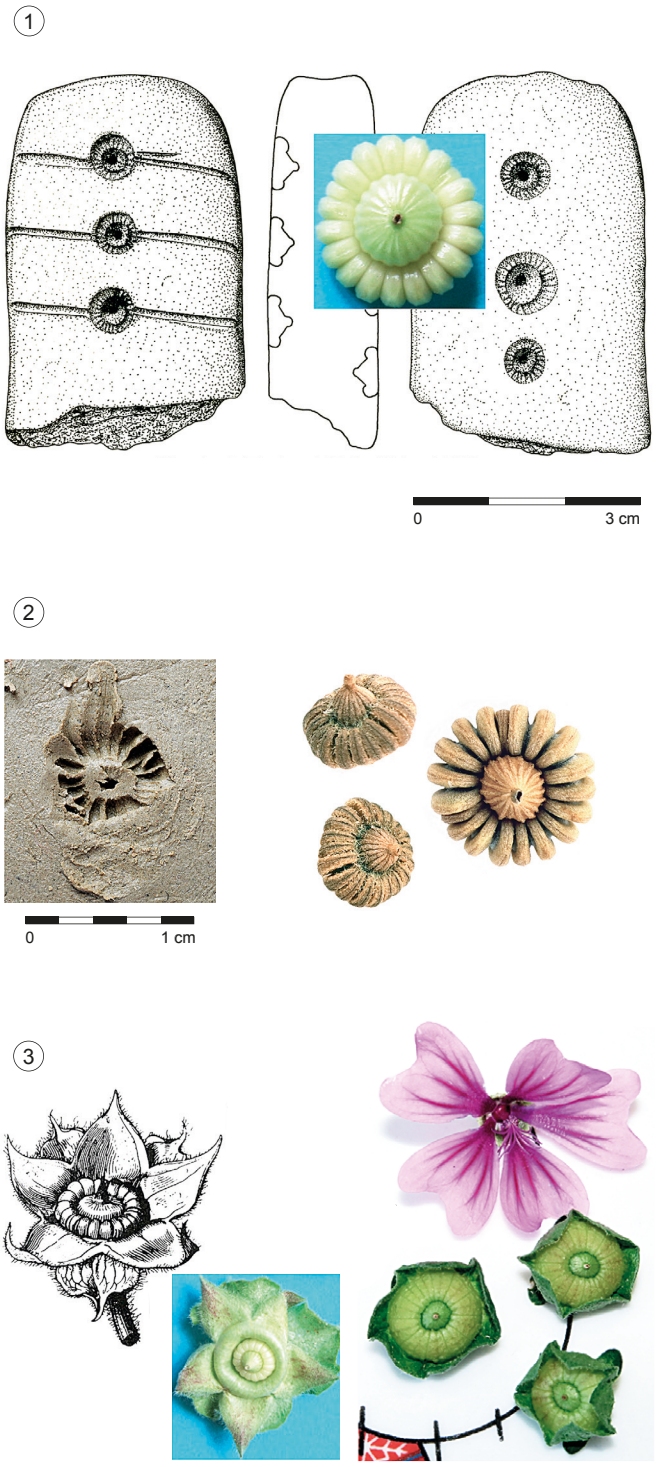


Fig. 2. 1 – Loaf of bread idol from Absdorf (after Trnka 1982, Fig. 10: 1) and young (blue-green) fruit of *Lavatera thuringiaca* L. (Garden tree-mallow); 2 – dry fruits with imprint in the Stober clay; 3 – Malva sylvestris (Wild mallow, Common mallow) – flower and fruits. Graphic, photo by G. Trnka.

Obr. 2. *1 – Chlebový idol z Absdorfu (podle Trnka 1982, obr. 10: 1) a mladý (modrozelený) plod Lavatera thuringiaca L. (slézovec durynský); 2 – suché plody s otiskem v hlíně typu „Stober"; 3 – Malva sylvestris (sléz lesní, sléz obecný) – květ a plody. Grafika, foto G. Trnka.*

6. On the bread loaf idols in east Austria and south Moravia

According to our current state of knowledge, a total of 20 bread loaf idols are known from east Austria (Fig. 1: 1):

1 Absdorf-Scheibenberg
2 Au am Leithagebirge-Kindergarten
3 Böheimkirchen-Hochfeld (2)
4 Ernstbrunn-Steinberg
5 Franzhausen I – grave 205
6 Gaweinstal-Pfarrbreiten
7 Großhöflein-Föllik
8 Maissau-Ost (?)
9 Mannersdorf am Leithagebirge-Reinthal
10 Niederhollabrunn-In der Sulz
11 Nikitsch-Stuk
12 Obermamau-Traunleiten
13 Schiltern-Burgstall bei Kronsegg
14 Schwarzenbach-Burg
15 Unterhautzenthal-Leimgrube
16 Unterwölbling-Gietelfeld
17 Waidendorf-Buhuberg (3)

This number stands in stark contrast to the limited evidence of only four bread loaf idols from (south) Moravia. Of these, two have been published so far: Blučina-Cezavy (Salaš 1986, 508, Abb. 3/5; 2014, 15, Fig. 11) and Klentnice-Nad hřbitovem (Navrátil 2021, 61, obr. 9: A4). Two bread loaf idols from Drnovice u Vyškova (Vyškov District) and Modřice (Brno-Country District) have not yet been presented (personal communication from David Parma on 19 March 2025). The reasons for this strikingly low number are unclear and should not solely be attributed to a research gap?

7. Surface finds from the Niederfellabrunn-Rosenäcker site

The extensive assemblage of finds from the bread loaf idol site has not yet been thoroughly examined, and processing it would appear worthwhile. Two ceramic forms should be highlighted, which are consistent with the presumed chronological position of the Niederfellabrunn bread loaf idol (Bronze Age stages A2–B1 – see above).

These are the fragment of a bowl with an inwardly thickened and decorated rim (Fig. 3: 1, 2) and a jug fragment (Fig. 3: 3).

The bowl with a 'horizontally wiped and partly inwardly thickened and sharply carinated rim, which can also be decorated (e.g. with dot-filled triangles)', is characteristic of the Věteřov culture (Neugebauer 1977, 70, Fig. 8: 35, Plate 15: 3; 1979, 36, Fig. 3 E, top right; Podborský a kol. 1993, 268, Fig. 166: 9). The rim is flared outwards, and the base has lobe-shaped feet, although these are no longer present on our piece due to the missing base area. These rim forms and decorations trace back to the Bell Beaker heritage of the Early Bronze Age cultures and can be confused with those of the Bell Beaker culture (Benkovsky-Pivovarová 2009). Otherwise, this (rim) decoration with dot-filled triangles is a known motif in the (developed) Early Bronze Age.

In some cases, such bowls are also known from sites with bread loaf idols, without there being an intrinsic connection (e.g. Böheimkirchen and Blučina in the Věteřov area). This includes, on the one hand, the Únětice-Věteřov period hillfort Blučina-Cezavy in south Moravia with such bowls (Tihelka 1960, 50–54, Fig. 13: 5; 1961, 79, Plate 5: 3; 1962, Plate 8: 13, Plate 9: 11 and 16) and the bread loaf idol (Salaš 1986, 508, obr. 3: 5), and on the other hand, the late Early Bronze Age hillfort of the southern Věteřov culture at Hochfeld near Böheimkirchen, where these



Fig. 3. Niederfellabrunn – Rosenäcker. Surface finds (Labschütz Collection). Photo by G. Trnka.

Obr. 3. *Niederfellabrunn – Rosenäcker. Povrchové nálezy (sbírka Labschütz). Foto G. Trnka.*

Věteřov bowls occur in several variants (Schneider 2021, Volume II, 'Bowls with wide and decorated rim lip [Group 6]', Type Plate 22, bottom – Type Plate 23, top). The two bread loaf idols from this site are well-known (Trnka 1982, 66, Fig. 10: 2, 3).

Far to the 'west', we find a similarly decorated bowl, like the one from Niederfellabrunn, from Freisinger Domberg (Bankus 2004, 128, Fig. 19, middle bottom, Plate 123: 5 and book cover) in Upper Bavaria (Southern Germany), from whence a half-preserved bread loaf idol originates (Bankus 2004, 208, Plate 13/23 and Plate 238/2; David 2025, 52). Here too, the objects, being isolated finds, lack any stratigraphic context or association. The pottery from this hillfort shows connections to the Middle Danubian region with Věteřov and (presumably) Mad'arovce influences.

The jug fragment (Fig. 3: 3) is also to be dated to the late Early Bronze Age and the transition to the Middle Bronze Age (Bronze Age stages A2–B1) and shows similarities with Mad'arovce jugs. As many as 28 such vessels originate from a ceramic deposit at Gáň east of Bratislava in southwest Slovakia (Holmová, Takács 2015, Fig. 3), which belongs to the 'classical' phase of the Mad'arovce culture (Bronze Age A2 – late).

8. Conclusion

The discovery of the bread loaf idol from Niederfellabrunn in northern Lower Austria represents a significant contribution to the understanding of the Early Bronze Age and the Věteřov culture. This fragmentary artefact, although only partially preserved, provides valuable information about the decorative patterns and techniques used during this period. In particular, the impressions, which possibly originate from the fruits of *Lavatera thuringiaca* L. and other mallow plants, suggest potential ritual or symbolic meanings that these decorations held for the culture of the time.

Research into the provenance and typology of bread loaf idols reveals the diversity and breadth of these artefacts in eastern Austria, while simultaneously pointing to the striking scarcity of similar finds from south Moravia, which raises questions about potential cultural interactions and exchange between these regions. In this regard, the interdependence between regional cultures is an important aspect for understanding the dynamics of settlement and trade networks during the transition period from the Early to the Middle Bronze Age.

Future research should include more detailed analyses of the surface finds from Niederfellabrunn, as well as experimental studies to investigate and test hypotheses about the use of stone raw materials and the contexts in which the bread loaf idols were produced. The combination of these aspects with geochemical and archaeobotanical studies could contribute to a deeper synthesis and an emphasis on the cultural essence and technological progress during this fascinating historical period.

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Resumé

Článek představuje nově objevený, dosud nepublikovaný fragment chlebového idolu, nalezený v roce 1996 u Niederfellabrunnu v severní části Dolního Rakouska. Jedná se o povrchový nález ze sídliště věteřovské kultury s doklady osídlení ze závěru starší až počátku střední doby bronzové (stupně doby bronzové A2–B1). Předmětem článku je popis, datování a analýza artefaktu. Důležitým aspektem je výzkum radiálních otisků, zdobících idol. Představena je hypotéza, že by se mohlo jednat o negativy plodů *Lavatera thuringiaca* L. (slézovec durynský) nebo jiných rostlin z čeledi slézovitých. Autor k ověření této hypotézy provedl experiment. Dále je ve studii sledována distribuce chlebových idolů na sídlištích starší doby bronzové, přičemž je zdůrazněn významný rozdíl mezi vyšším počtem nálezů ve východním Rakousku ve srovnání s jižní Moravou. Je uvedena stručná charakteristika dalších archeologických artefaktů z lokality, která pomáhá poskytnout podpůrné důkazy pro datování idolu. Navrženy jsou také plány pro další výzkum, zahrnující detailní analýzu nálezů, experimentální archeologii a geochemické či archeobotanické analýzy, jež budou potřebné k pochopení řady technologických aspektů výroby těchto předmětů.

Contact

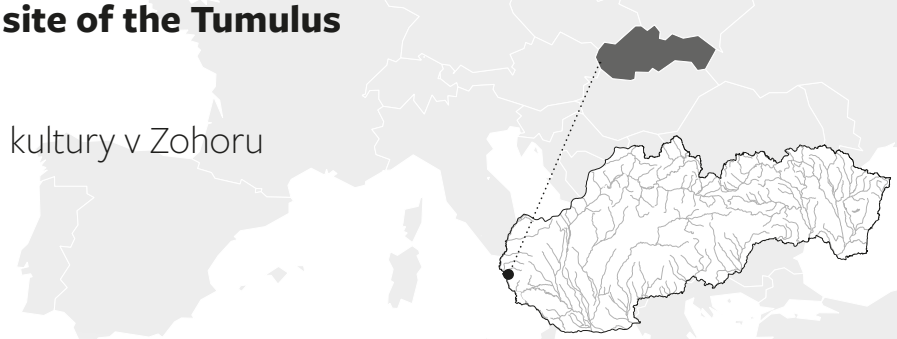
Gerhard Trnka
Institute of Prehistoric and Historical Archaeology
University of Vienna
Franz-Klein-Gasse 1
A-1190 Vienna
gerhard.trnka@univie.ac.at

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The settlement and burial site of the Tumulus culture at Zohor

Sídliště a pohřebiště mohylové kultury v Zohoru

– *Pavol Bobek*, Kristian Elschek* –



KEYWORDS

Western Slovakia – Záhorie – Middle Bronze Age – Tumulus culture – settlement – grave

ABSTRACT

During the research conducted at the polycultural site in Zohor at the Piesky site (western Slovakia) between 1995 and 2008–2010, settlement features from the Middle Bronze Age were examined, along with various others. They were exclusively pottery. With the exception of one feature from the Middle Phase, most belong to the Late Middle Bronze Age and the Blučina stage. A similar dispersion of dating was indicated by the detector finds from the surveyed area. In 2022, a Tumulus culture grave was uncovered during the excavation of adjacent plots. This represents the first clear discovery of a settlement and its contemporaneous burial site from the Middle Bronze Age in southwest Slovakia. Despite the considerable area surveyed, no other graves have been found in the immediate vicinity. However, it can be assumed that this site was originally part of a larger burial area. The grave pit, which was relatively shallow and rectangular in plan, showed no traces of a mound. The grave inventory comprised three vessels and a collection of bronze objects. In addition to two typical bracelets of Tumulus cultures, there was an atypical knife and an object resembling a rather large fishing hook. Based on the arrangement of the inventory within the grave pit, it is likely that this was originally a skeleton grave, with the remains not preserved due to unfavourable soil conditions. The pottery and bracelets suggest that the grave dates to the later part of the Middle Bronze Age.

1. Introduction

The Piesky site is situated within the cadastral area of Zohor village (western Slovakia), southwest of its built-up area. It occupies a gravel-sand elevation overlooking the River Morava's floodplain, which in this region is characterised by an extensive network of oxbow lakes and alluvial meadows (Fig. 1). Research at this site began in the 1940s, following the discovery of

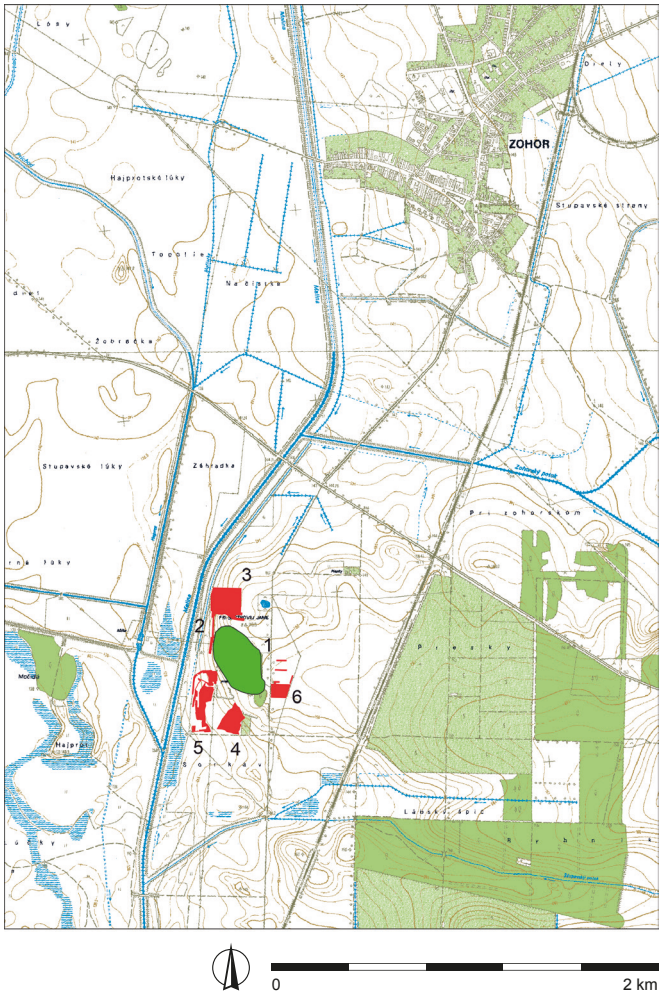


Fig. 1. Location of site and surveyed areas. 1 – Area damaged by gravel extraction; 2 – research in 1995; 3 – research in 2008; 4 – research in 2009; 5 – research in 2010; 6 – research in 2022. Base map RPI ZM. Author P. Bobek, K. Elschek.

Obr. 1. *Lokalizace naleziště a zkoumaných ploch. 1 – Plocha poškozená těžbou štěrku; 2 – výzkum v roce 1995; 3 – výzkum v roce 2008; 4 – výzkum v roce 2009; 5 – výzkum v roce 2010; 6 – výzkum v roce 2022. Podkladová mapa RPI ZM. Autoři P. Bobek, K. Elschek.*

* Corresponding author – E-mail address: pavol.bobek@savba.sk

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princely graves from the Roman period during gravel extraction (Elschek 2014, 15). Subsequent research was primarily limited to sections disturbed or imminently threatened by extraction (Fig. 1:1). In 1957, a disturbed feature dating to the transition between the Early and Middle Bronze Age was investigated in a gravel pit profile at the Stará štrkovňa I site (Pichlerová 1962). Subsequent exploitation in 1963 revealed a burial ground from the transition of the Middle and Late Bronze Age. During the same year, settlement features from the Bronze Age were also investigated at the Nová štrkovňa II site. In 1972, research continued at the adjacent Nová štrkovňa III site, where further features from the same period were examined (Studeníková 1978, 9). In 1978 and 1982, an Early Bronze Age grave and features from the early phase of the Late Bronze Age were investigated in the western part of the site (Kraskovská, Studeníková 1996; Studeníková 1983). Extensive rescue excavations were conducted in 1995 and from 2008 to 2010 (Fig. 1:2–5). These excavations revealed a preserved portion of the elevation upon which the settlement is located. In 2009, a burialground from the Early Bronze Age (Daňová, Elschek 2014) and numerous features from the Neolithic, Eneolithic, Bronze Age, La Tène, Roman, and Medieval periods were discovered. Accidental finds and metal objects indirectly indicate settlement during the Hallstatt period as well (Elschek 2014, 16–36). Research at the site and its surroundings continued after 2016 (Matyasowszky et al. 2022), with the most recent excavation taking place in 2022 (Fig. 1:6). The significance of this site in the Záhorie region, now largely destroyed or investigated, is demonstrated by the abundance of features and graves, as well as its polycultural nature.

2. Methods

Archaeological research proceeded as a rescue excavation of undisturbed areas in connection with the gradual expansion of a waste landfill. Throughout the intended area of the landfill, a reconnaissance survey was undertaken in 1995 across nearly 16 ha to pinpoint areas suitable for investigation. In the same year, the zones situated to the north and south of the original extraction hollow in the central part of the elevation were subjected to comprehensive surface examination (Fig. 1:2; 2:1). Subsequent areas, extending northward and southward, were progressively revealed between 2008 and 2010 (Fig. 1:3–5; 2:1, 2). This resulted in the total investigation of a territory encompassing approximately 5.7 ha. In 2022, a smaller rescue excavation was conducted in the area east of these previously examined zones, during which feature (grave) 302/2 was identified (Fig, 1:6; 2:3).

The extent of the research endeavour, alongside persistent staffing limitations, has led to the research documentation exhibiting a schematic character in certain regards. Graphic documentation is confined to the upper boundary of the plan view and the profile (Fig. 3). Photographic documentation is of limited quality and frequently incomplete, with more detailed records of the archaeological contexts largely lacking. The informative potential



Fig. 2. Surveyed areas with MDTC features. 1 – Researches in 1995 and 2008; 2 – research in 2010; c – research in 2022. Authors P. Bobek, K. Elschek.

Obr. 2. *Zkoumané plochy s objekty středodunajské mohylové kultury. 1 – Výzkumy v letech 1995 a 2008; 2 – výzkum v roce 2010; 3 – výzkum v roce 2022. Autor P. Bobek, K. Elschek.*

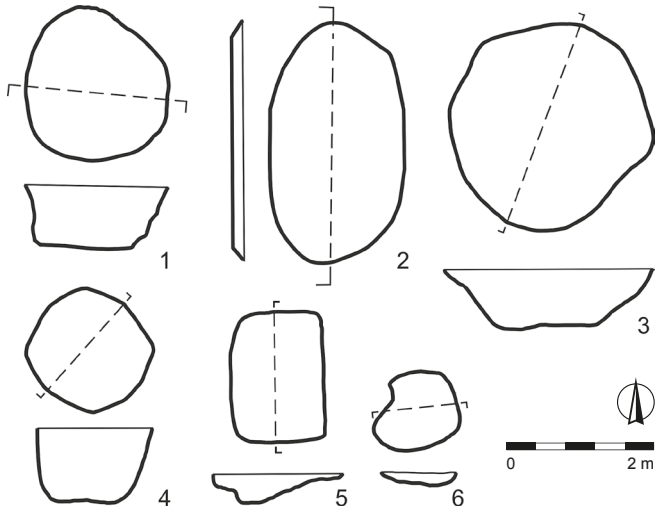


Fig. 3. Plans and section profiles of the investigated features. 1 – Feature 55/08; 2 – feature 125/09; 3 – feature 205/10; 4 – feature 207/10; 5 – feature 235/10; 6 – feature 237/10. Author P. Bobek, K. Elschek.

Obr. 3. *Plány a profily zkoumaných objektů. 1 – Objekt 55/08; 2 – objekt 125/09; 3 – objekt 205/10; 4 – objekt 207/10; 5 – objekt 235/10; 6 – objekt 237/10. Autor P. Bobek, K. Elschek.*

of the locality is further reduced by the absence of animal skeletal remains. The uncertain location of earlier research conducted by Ľ. Kraskovská and E. Studeníková, which occurred on the margins of the incrementally expanding extraction hollows (Fig. 1:1; Kraskovská, Studeníková 1996, 123, 124; Studeníková 1978, 9–11), also presents a challenge for the overall evaluation of the site. During the excavations, more than 600 postholes/stakeholes were also investigated. However, the polycultural nature of the site and the extent of the settlement do not allow for their chronological classification, as almost all were without finds.

The settlement features at the Piesky site have yielded no direct finds of metal objects. Consequently, the dating of the locality is directly dependent on the morphological analysis of ceramic vessels. This analysis primarily relies on the typological scheme presented in the doctoral thesis of P. Bobek (2018, 109–168). Despite the relatively short chronological span, the changes in form and decoration on the Middle Danube Tumulus Culture (hereafter MDTC) pottery are quite dynamic and often permit relatively precise dating.

To ascertain the material composition of the metallic objects from feature (burial) 302/2, a sample of the core was extracted from the finds. The points of sample extraction via drilling were in inconspicuous areas of the artefacts. The samples were subjected to analysis using a Niton XL3 XRF Analyzer, and the measurement was performed by V. Mezey of the Institute of Archaeology of the Slovak Academy of Sciences. The measured data are presented within the catalogue of finds.

3. Settlement

Archaeological research in 1995 and 2008–2010 was conducted on three extensive areas north and south of the original quarry (Fig. 1:2–5). During these research seasons, 66 settlement features from the Bronze Age were investigated, dating from the Early Bronze Age to the transition between the Late and Final Bronze Age (Bobek 2018, 24, 256–261). The present study focuses on the find assemblages of the MDTC that did not contain elements associated with Urnfield cultures, particularly those characteristic of the Blučina stage (Říhovský 1982, 86, 87). Bronze finds, discovered using a metal detector during the site's research in 2008–2010, provide supplementary information for dating the site (Bobek, Elschek 2020). Other investigated features, dated to the Blučina stage and the Late Bronze Age, will be the subject of a separate publication.

3.1 Feature 74/95

During the cleaning of an extraction pit's edge, a significantly damaged feature was recorded as a concentration of sherds within an area approximately 40 cm in diameter. A remnant of the feature's base was observed (Fig. 2:1).

Finds:

1. Amphora. A fragment of a rim with a slightly conical neck and a hint of edge moulding. Finely smoothed surface. Rim Ø 22.5 cm (Fig. 4:1).
2. Pot. A fragment of an everted and rounded rim. Roughened surface. Rim Ø 18 cm (Fig. 4:2).
3. Amphora. A fragment of a rounded rim. Smoothed surface (Fig. 4:3).
4. Amphora (?). A fragment of a body decorated with vertical engravings. Smoothed surface (Fig. 4:4).
5. Amphora. A fragment of neck attachment.
6. Pot (?). A fragment of a body decorated with vertical engraving. Smoothed surface (Fig. 4:5).
7. Fragment of a thin-walled vessel's base. Polished surface. Base Ø 4.5 cm (Fig. 4:6).
8. Pot (?). A fragment of a base. Roughened surface (Fig. 4:7).
9. Atypical ceramic fragments (25 pcs).

3.2 Feature 55/08

A round pit with sloping conical walls and a flat base. The primary fill comprised an inverted cone of grey-brown clay, with sandy layers along the edges, indicative of the gradual collapse of the feature's opening. The base was filled with brown-black clay. Ø 195 cm, depth 95 cm (Fig. 2:1; 3:1).

Finds:

1. Amphora. A fragment of an amphora's rim and conical neck. Heavily burnt, originally smoothed surface. Rim Ø 16 cm, height (preserved) 5.5 cm (Fig. 4:8).
2. Amphora. A fragment of the lower body and base. Finely smoothed surface. Base Ø 9.8 cm, height (preserved) 9.4 cm (Fig. 4:11).
3. Pot (?). A fragment with a moulded plastic rim. Partially burnt. Roughened surface (Fig. 4:10).
4. Jug. A fragment of a body and base. Offset neck attachment with a lower handle attachment. Wide, bulbous body, distinctly indented base. Polished surface. Neck attachment Ø 9 cm, indented base part Ø 3.8 cm (Fig. 4:9).
5. Atypical ceramic fragments (29 pcs).

3.3 Feature 125/09

An oval feature with sloping walls and a flat base. Dimensions: length 320 cm, width 190 cm, depth 15 cm (Fig. 2:1; 3:2).

Finds:

1. Amphora. A fragment of a rounded rim and funnel-shaped flared neck. Smoothed surface. Rim Ø 16 cm, height (preserved) 5.2 cm (Fig. 4:12).
2. Amphora (?). A fragment of an amphora's body decorated with dense vertical engraving. Smoothed surface (Fig. 4:18).
3. Pot. A fragment of a neck attachment with a moulded plastic rim. Roughened surface (Fig. 4:17).
4. Jug (?). A fragment of a handle attachment to the upper rim. Smoothed surface (Fig. 4:16).

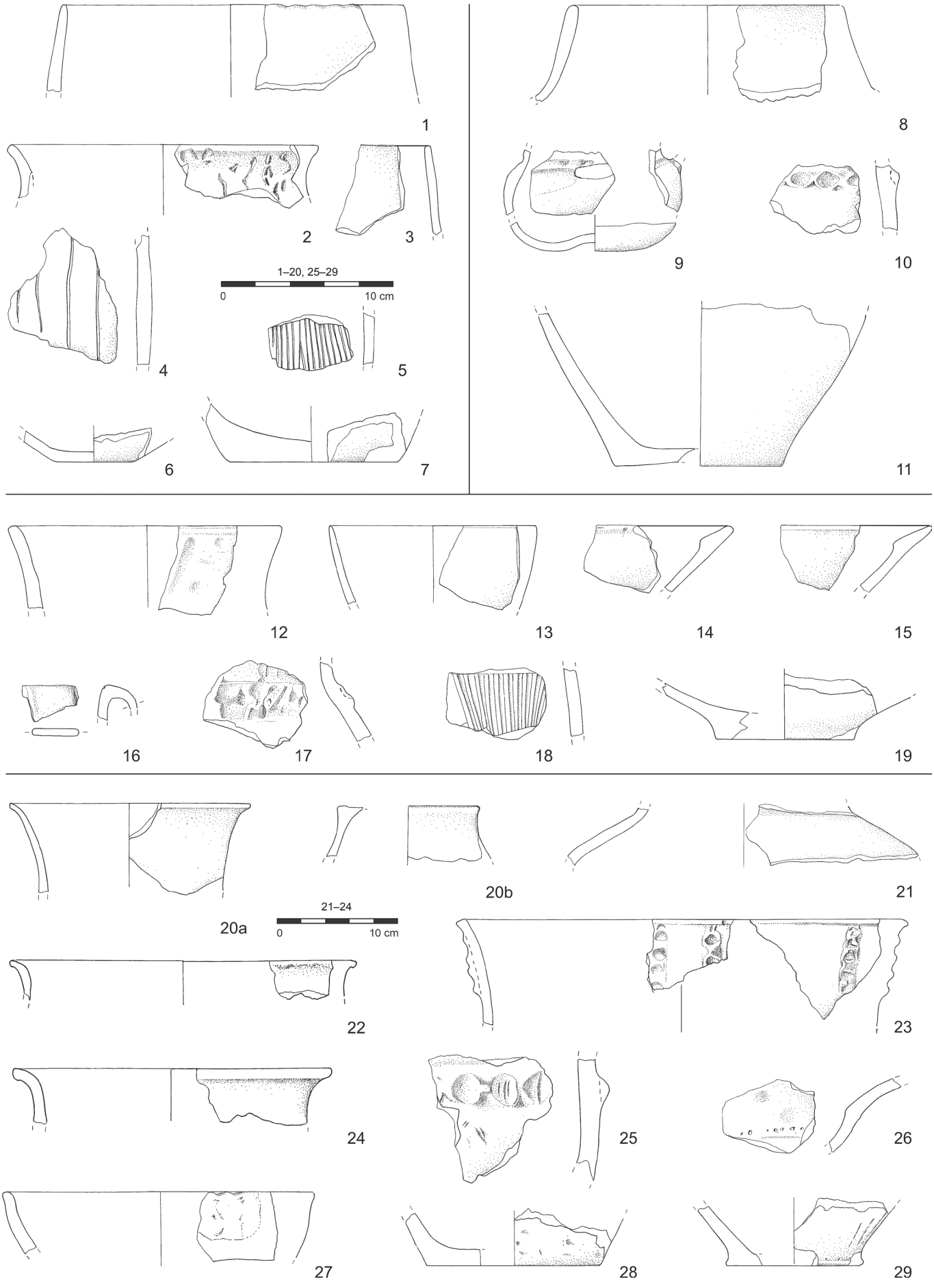


Fig. 4. A selection of the ceramic assemblage. 1–7 – Feature 74/95; 8 –11 – feature 55/08; 12–19 – feature 125/09; 20–29 – feature 205/10. Drawing by J. Marettová.
Obr. 4. *Výběr keramických nálezů. 1–7 – Objekt 74/95; 8–11 – objekt 55/08; 12–19 – objekt 125/09; 20–29 – objekt 205/10. Kresba J. Marettová.*

5. Bowl. A fragment of a thin-walled conical shape. Narrowed rim. Finely smoothed surface. Rim Ø 12 cm, height (preserved) 4.8 cm (Fig. 4:13).
6. Bowl. A fragment of a thickened rim with an internal stepped offset. Smoothed surface (Fig. 4:14).
7. Bowl. A fragment of a thickened rim with an internal stepped offset. Polished surface (Fig. 4:15).
8. Bowl or vessel with a compressed body. A fragment of an offset base. Smoothed surface. Base Ø 8 cm (Fig. 4:19).
9. Fragments of a larger vessel. Vertically finger-impressed surface (3 pcs).
10. Atypical ceramic fragments (11 pcs).

3.4 Feature 205/10

An irregular circular feature with a conical profile and a flat base. Dimensions: length 290 cm, width 280 cm, depth 75 cm (Fig. 2:2; 3:3).

Finds:

1a, b. Footed amphora in fragments. The rim is everted; the neck is funnel-shaped flared. The foot is conical, with inwardly curved walls. Finely smoothed surface. Rim Ø 5.4 cm, base Ø 8.2 cm, foot pedestal Ø 9.6 cm (Fig. 4:20a–b).
2. Amphora. A body fragment. Neck-to-body interface with a hint of a sharp edge. Finely smoothed surface. Neck-to-body interface Ø 18 cm (Fig. 4:21).
3. Pot base fragment. Sharp transition to the base. Irregularly roughened surface. Base Ø 10 cm (Fig. 4:28).
4. Pot. A fragment of a base. Irregular, roughly smoothed surface, with a hint of vertical straw marks. Base Ø 8 cm, height (preserved) 4 cm (Fig. 4:29).
5. Storage vessel fragment. The rim is everted, terminally rounded. Irregular, roughly smoothed surface. Rim Ø 30 cm (Fig. 4:22).
6. Storage vessel rim and neck fragments. The rim is slightly everted and terminally trimmed. Vertical moulded plastic ribs extend from the rim. Irregular, roughly smoothed surface. Rim Ø 39.4 cm (Fig. 4:23).
7. Storage vessel rim and neck fragments. The rim is everted and terminally trimmed. A sherd from the body indicates a smooth neck-to-body interface and a bulbous bulge. Flat base. Damaged, roughly smoothed surface. Rim Ø 27.6 cm (Fig. 4:24).
8. Storage vessel body fragment decorated with a moulded plastic rib. Irregular, roughly smoothed surface (Fig. 4:25).
9. Fragments of a conical bowl with bulging walls. The rim is slightly everted, terminally rounded. Smoothed surface. Rim Ø 18 cm (Fig. 4:27).
10. Bowl. A fragment with a widely open rim. Smoothed interior, roughened body exterior (Fig. 4:26).
11. Atypical ceramic fragments (3 pcs).

3.5 Feature 207/10

A circular feature with a slightly conical profile and a flat base. The base and lower fill exhibited significant signs of burning. Dimensions: length 165 cm, width 160 cm, depth 100 cm (Fig. 2:2; 3:4).

Finds:

1. Amphora with a rounded rim and a cylindrical neck. Bulbous body, with a bulge in the upper third. Rounded transition to the base. Two strap handles below the neck-to-body interface. The neck-to-body interface is emphasised by a shallow engraving. The decoration consists of a horizontal line of vertical oval pits below the neck-to-body interface, with vertical shallow and narrow engravings below. Finely smoothed surface. Fragmentarily preserved complete vessel. Rim Ø 10 cm, bulge Ø 20.3 cm, base Ø 10 cm, height 24.5 cm (Fig. 5:8).
2. Amphora with a rounded rim and a wide cylindrical neck. Bulbous body, with a bulge in the upper third. Fractured base. Two strap handles below the neck-to-body interface. The neck-to-body interface is emphasised by a shallow engraving. The decoration consists of a horizontal line of vertical oval pits below the neck-to-body interface, with vertical shallow and narrow engravings below. Finely smoothed surface. Fragmentarily preserved nearly complete vessel. Rim Ø 16 cm, bulge Ø 20 cm, base Ø 10 cm, height (preserved) 14.8 cm (Fig. 5:9).
3. Amphora. Large two-handled amphora neck. Terminally rounded rim. Slightly funnel-shaped flared neck. Two opposing strap handles extend from the rim and attach to the body below the neck-to-body interface. Smoothed surface. Rim Ø 21.5 cm, neck height 8.6 cm (Fig. 5:5).
4. Amphora (?). Offset base fragment. Flaring visible in the upper sherd section. A line of small pits on the rounded base edge. Base Ø 10 cm, height (preserved) 2.9 cm (Fig. 5:6).
5. Pot with a wide orifice. Terminally rounded, slightly everted rim. Indistinct neck-to-body interface. Largest bulge in the upper third of the vessel. Two opposing handles extend from the rim and attach to the neck-to-body interface, emphasised by a moulded plastic rib. Damaged neck and body surface, originally vertically finger-impressed. Rim Ø 17.6 cm, bulge (max.) Ø 18.4 cm, height (preserved) 17.6 cm (Fig. 5:10).
6. Ovoid pot. Terminally trimmed rim. Slightly flared neck. Largest bulge in the second third of the height. Base with a hint of an offset, inwardly curved. The handle extends from the rim and attaches to the neck-to-body interface, emphasised by a moulded plastic rib. A second handle is questionable, as one-third of the vessel is missing. Vertically finger-impressed neck and body surface. Rim Ø 16.2 cm, bulge (max.) Ø 19 cm, base Ø 10.2 cm, height 21.6 cm (Fig. 5:11).
7. Pot base fragment. Irregular, roughened surface. Base Ø 10.9 cm (Fig. 5:7).
8. Storage vessel (?). A fragment of a terminally trimmed rim, funnel-shaped flared neck. Roughly smoothed surface. Calcined (Fig. 5:2).
9. Conical bowl. A fragment of a terminally slightly narrowed and rounded rim. Finely smoothed to polished surface (Fig. 5:3).
10. Cup (?). A funnel-shaped flared neck fragment. Terminally narrowed and rounded rim. Polished surface (Fig. 5:1).
11. Cup. A fragment with an offset bulge. Lower part decorated with vertical engravings. Polished surface. Bulge Ø 14 cm (Fig. 5:4).
12. Atypical ceramic fragments (21 pcs).

3.6 Feature 235/10

The feature had a quadratic shape with rounded corners. The base sloped gradually towards the southern wall, which featured a stepped profile. Dimensions: length 180 cm, width 130 cm, depth 40 cm (Fig. 2:2; 3:5).

Finds:

1. Amphora. A fragment of a terminally rounded rim. Polished surface (Fig. 5:12).
2. Vessel base with a hint of an offset. Polished surface. Possible connection to the previous fragment. Base Ø 3.5 cm (Fig. 5:13).
3. Pot (?). A base fragment. Roughly smoothed surface. Base Ø 11 cm (Fig. 5:14).
4. Atypical ceramic fragments (5 pcs).

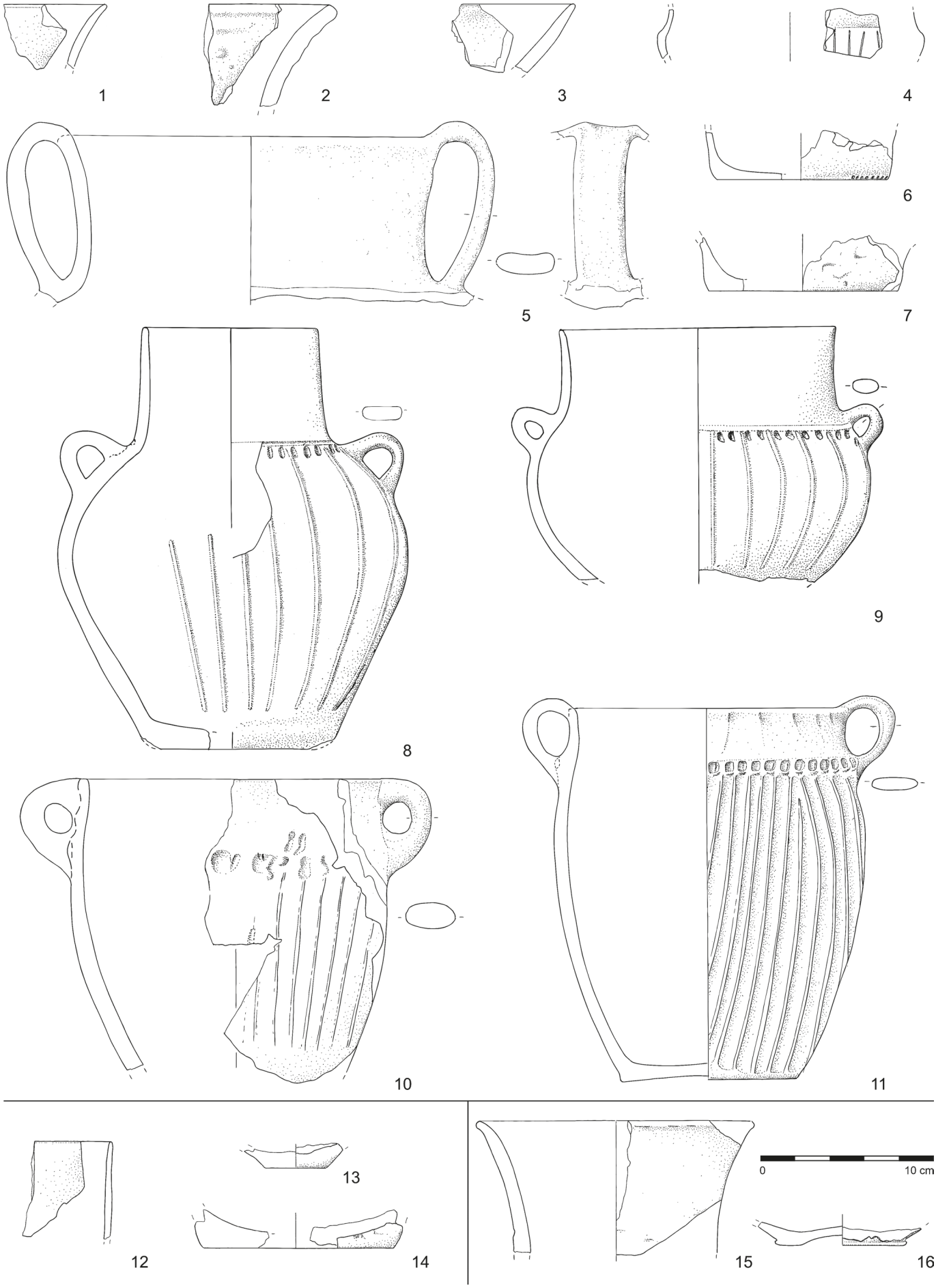


Fig. 5. A selection of the ceramic assemblage. 1–11 – Feature 207/10; 12–14 – feature 235/10; 15, 16 – feature 237/10. Drawing by J. Marettová.
Obr. 5. *Výběr keramických nálezů. 1–11 – Objekt 207/10; 12–14 – objekt 235/10; 15, 16 – objekt 237/10. Kresba J. Marettová.*

3.7 Feature 237/10

A shallow feature with an irregular plan and a bowl-shaped profile. Dimensions: length 120 cm, width 110 cm, depth 15 cm (Fig. 2:2; 3:6).

Finds:

1. Amphora. Neck fragment. Slightly everted, terminally rounded rim. Funnel-shaped flared neck. Smoothed surface. Rim Ø 16 cm (Fig. 5:15).
2. Bowl (?). Offset and expanded base fragment. Distinctly inwardly indented base. Finely smoothed surface. Base Ø 7.5 cm (Fig. 5:16).
3. Atypical ceramic fragments (4 pcs).

4. Potential Burial Ground

In 2022, the Institute of Archaeology of the Slovak Academy of Sciences, was alerted to earthworks on the land of J. Lazár from Láb. During the subsequent rescue excavation of the exposed area, four features were identified on cadastral parcels KN-C 24133–24137 (Fig. 1:6; 2:3). In addition to two undated postholes, two elongated rectangular features of similar dimensions, resembling grave pits, were investigated. While the initial assumption was confirmed in the first case, no finds were discovered in the second feature. Potential traces of barrows were not detected due to significant damage to the topsoil layer in the examined area.

4.1 Feature (Burial) 302/2

The grave pit had an elongated rectangular shape with rounded corners, oriented NE–SW. The fill consisted of a mixture of humic clay and gravel-sand. Skeletal remains were absent from the grave pit, and the position of the buried individual is indirectly indicated only by the finds. Almost in the central part of the pit, an amphora (1) and a cup (3), both inverted, were discovered. In the northeastern part of the pit, a pair of bracelets (4a, b) and, near to them, a knife (5), hook (6) and small amphora (2) were located. The placement of these objects suggests that the buried individual was oriented with the head to the NE, likely in a lateral position with the hands near the head. Dimensions: length 220 cm, width 86 cm, depth 29 cm (Fig. 6).

Finds:

1. Amphora. The rim is distinctly everted, with a sharp internal break. The neck is funnel-shaped flared. The body is slightly compressed, with an emphasised bulge. The transition to the base is smooth, distinctly concave, the base is flat. One strap handle is located on the largest bulge. The neck-to-body interface to the body is smooth, emphasised by a pair of horizontal parallel engravings. Decoration consists of plastic protrusions framed by a trio of horseshoe-shaped engravings just below the largest bulge. Rim Ø 17.6 cm, bulge Ø 22.4 cm, base Ø 9.6 cm, height 23.8 cm (Fig. 7:7).
2. Small amphora. The rim is straight, rounded. The transition of the conical neck to the body is emphasised by a slight offset. The largest body bulge is in the upper third. The transition to the base is smooth. The base is shaped into a low foot, with a distinct inward curve. A vertically perforated handle (originally two?) is located on the shoulders. Rim Ø 3.7 cm, bulge Ø 6.5 cm, base Ø 3 cm, height 7.4 cm (Fig. 7:6).
3. Cup. The rim is straight; the neck is funnel-shaped flared. The neck-to-body interface to the rounded, low compressed body is emphasised by an offset. The base is inwardly curved. A strap handle originally extended from the rim and attached to the neck-to-body interface. Rim Ø (max.) 12 cm, base Ø 5 cm, height 5.1 cm (Fig. 7:5).

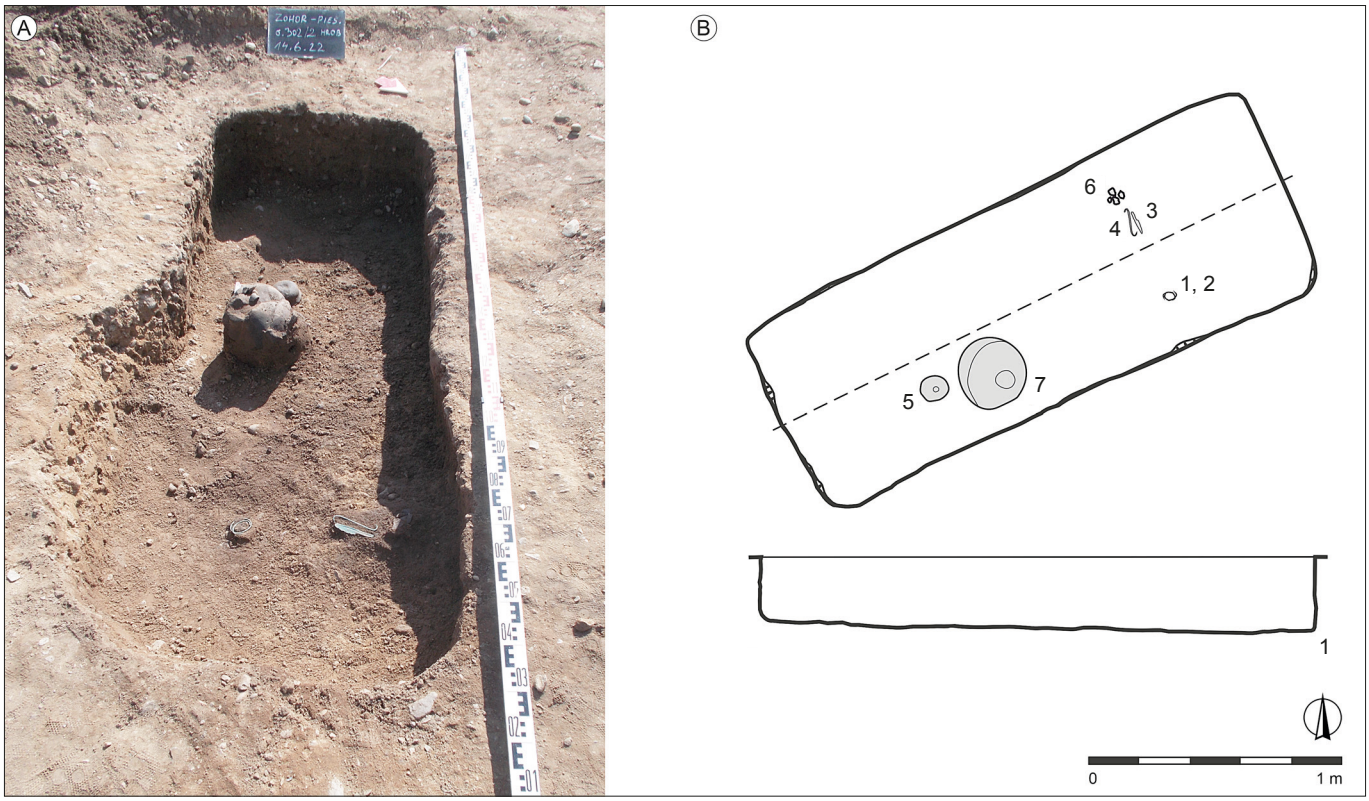


Fig. 6. Feature (grave) 302/2. A – the burial after excavation; B – plan view of the burial. Find numbers are consistent with the numbering in Fig. 7 and 8. Photo, and drawing by K. Elschek.

Obr. 6. *Objekt (hrob) 302/2. A – hrob po prozkoumání; B – plán hrobu. Čísla nálezů odpovídají číslům na obr. 7 a 8. Foto a kresba K. Elschek.*

4a, b. Two nearly identical bracelets made from a bronze rod with a lenticular cross-section. The body is decorated with bundles of transverse engravings. Rod Ø 0.5 cm; bracelet Ø (max.) 6.3 cm, weight: a–13.35 g; b–10.4 g. Chemical composition (%): a–Cu 89.28; Sn 9.71; Sb 0.17; Pb 0.1; Ni 0.2; trace elements 0.54; b–Cu 91.39; Sn 7.69; Sb 0.04; Pb 0.031; Ni 0.5; trace elements 0.35 (Fig. 7:1, 2; 8:1, 2).

5. Bronze knife with a short blade, wide back, and short solid handle. A distinct engraving runs along the upper third from the blade to the handle. Length 11.3 cm, thickness (max.) 0.4 cm, weight 21.25 g. Chemical composition (%): Cu 91.32; Sn 7.96; Sb 0.17; Pb 0.05; trace elements 0.5 (Fig. 7:3; 8:3).
6. Hooked object made from a round bronze rod. One end is bent 180° and flattened to a quadratic cross-section, with an originally rounded termination. The other end is bent 135° and pointed at the end. Length 12.1 cm, rod Ø 0.4 cm, weight 13.7 g. Chemical composition (%): Cu 92.42; Sn 6.8; Sb 0.19; Pb 0.1; trace elements 0.49 (Fig. 7:4; 8:4).

4.2 Feature (Grave?) 303/3

In the plan view, the feature had the shape of an elongated rectangle with convex walls and rounded corners, oriented NE–SW. The fill comprised a mixture of humic clay and gravel-sand. No archaeological finds were recovered. Dimensions: length 222 cm, width 120 cm, depth 28 cm (Fig. 2:3).

5. Ceramic Analysis

5.1 Amphorae

Amphorae with cylindrical or slightly conical necks represent a universal form of the MDTC. Two well-preserved examples appeared in feature 207/10 at the Piesky site (Fig. 5:8, 9). On both, the transition from neck to body is emphasised by a engraving, below which a horizontal line of vertical oval pits is present. The body is decorated with vertical narrow engravings. Analogies from Slovakia are primarily known in fragmentary form. They have been found at the Bratislava-Mlynská dolina settlement in feature 3/84 (Bartík, Egyházy-Jurovská 1998, obr. 6:1, 4) and in feature 3/2001 in Lozorno (Bartík et al. 2013, tab. 36:15). Analogies outside the territory of Slovakia with similar decoration are sporadic (Nekvasil 1975, tab. 77:3; Fojtík, Parma 2018, obr. 5.12). Their dating can be based on finds from feature 3/2001 in Lozorno, where this type was associated with numerous ceramics with engraved decoration, dated to the Maisbirbaum-Zohor stage (Bartík et al. 2013, tab. 36; 37). According to S. Stuchlík (1993, Fig. 175:6, 15, 21), ceramic vessels with analogous ornamentation from Moravia are dated to the earlier and middle periods of the MDTC. Fragments from feature 235/10 (Fig. 5:12, 13) can also be included in the group of amphorae with cylindrical or slightly conical necks. Due to the absence of associated finds, they cannot be dated more precisely.

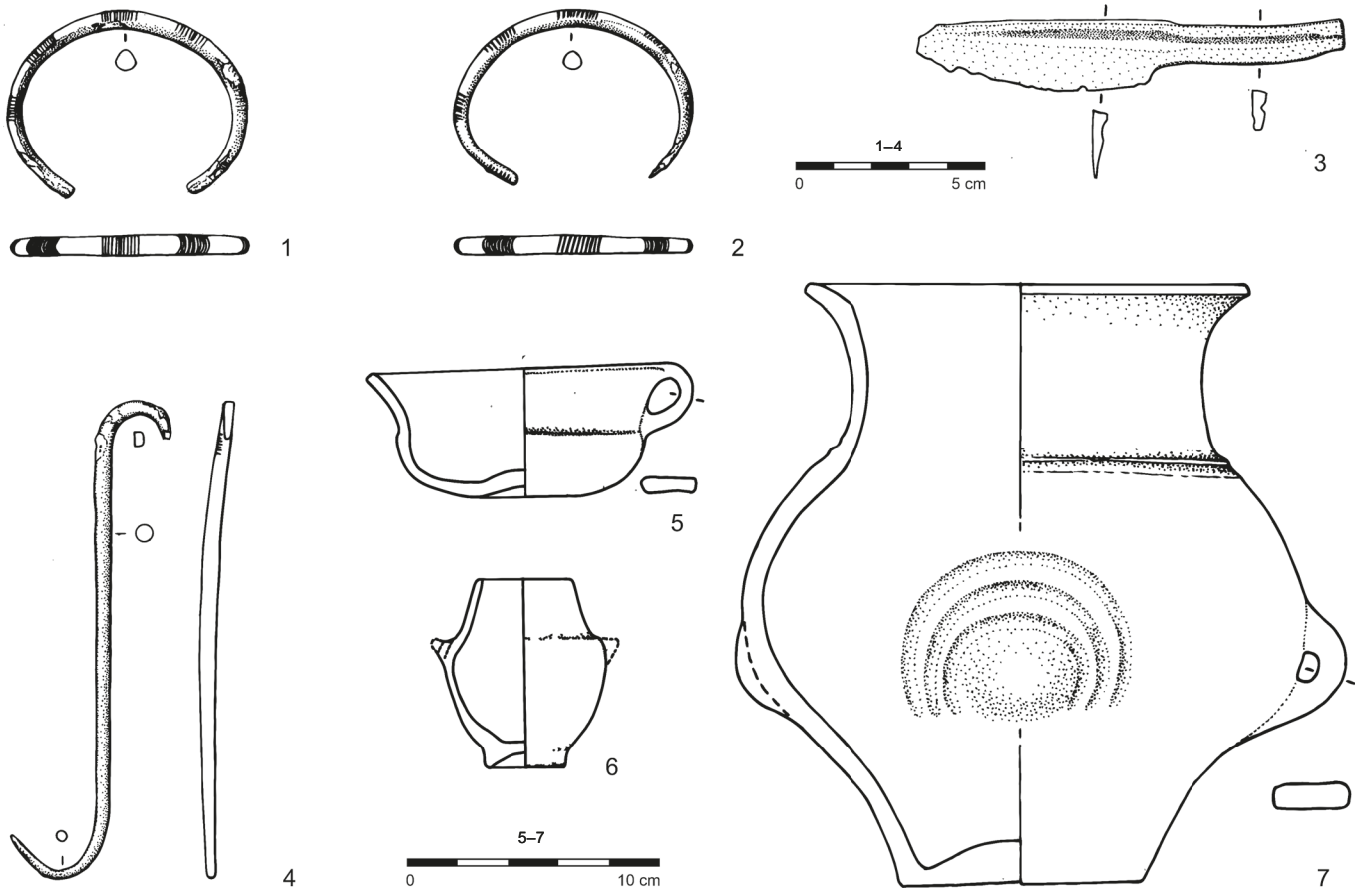


Fig. 7. The assemblage from the feature (grave) 302/2. 1–4 – Bronze; 5–7 – ceramics. Drawing by Z. Nagyová.
Obr. 7. *Nálezy z objektu (hrobu) 302/2. 1–4 – Bronz; 5–7 – keramika. Kresba Z. Nagyová.*

In feature 207/10, a vessel fragment appeared (Fig. 5:5), representing a form seemingly atypical within the ceramic production of the MDTC. These amphorae are characterised by large handles, extending from the rim and attached to the body below the neck-to-body interface. There is usually a pair of pointed protrusions between them. While this vessel type is frequently categorised as bowls or pots in the literature (Říhovský 1982, 16; Stuchlík 2006, 198; Bláhová-Sklenářová 2018, 633–634), it constitutes a local form of amphorae, primarily found in southwestern Slovakia. Their origins can be traced to prototypes from the Mad'arovce culture milieu (most prominent forms e.g. Budinský-Krička 1947, XIVa:4; Točík 1978: Taf. CII:7; CXXIX:6; CXXXIX:12; CLXXXIV:18; CLXXXVII:20). Within the Tumulus culture context, this type has long been known from a hoard discovered at Zohor. These specimens are characterised by a unique extension of the rim into lobes, and two of them also have engraved decoration (Eisner 1940, Abb. 1:8; 3; 4; Bartík, Hajnalová 2004, obr. 9:1–4). Two additional examples originate from the Veselé settlement. While the first, from the feature designated as PSZ 24: pit 9–12, was only partially preserved, a complete vessel of similar form was stored in the Balneological Museum in Piešťany (Bartík 1996, tab. 21:1; 25:3). A variant with a roughened lower body half is known from the Hostouň settlement, though it is comparatively shorter than these aforementioned analogies (Beneš 1959, 28, 39, obr. 22:1; Bláhová-Sklenářová 2018, obr. 1:3). These forms also occur in burial contexts. One find is from Buková (Točík, Vladár 1971, obr. 29:4) and an analogous vessel was in grave III in mound 8 from Borotice, featuring engraved decoration in the form of punctures below the neck and a vertical bundle of engravings bordered by punctures (Stuchlík 2006, obr. 50:2). A similarly shaped amphora from Slavětín exhibited a roughened body surface (Hájek 1947, 68, tab. IV:1). Related forms are also known from the Tisza region, where they occur more frequently and often served as urns. The primary distinction from the MDTC examples is their elaborate decoration, though undecorated specimens are also present (Kovács 1966, 22. kép:11; 1970, 1. ábra:15–17, 22; 3:16; 4:9; 1975, pl. 18:180.1; 24:259-1). In addition to those mentioned, numerous other analogies are cited in the literature (see Stuchlík 2006, 198; Bláhová-Sklenářová 2018, 633–634), but either they are finds with more or less different tectonics, mutual proportions of height and width, or with a low neck. A critical morphological factor is the overall height, typically around 30 cm. A critical morphological factor is the overall height, typically around 30 cm, indicating relatively large vessels in the MDTC production. The dating to the end of the BB2(C1) stage and the beginning of BC2 is relatively unambiguous based on the Zohor hoard, the associated inventory from feature 207/10 at Zohor settlement, and the dating of the end of burial at the Borotice burial ground (Stuchlík 2006, 225–226). This type appears to have occurred within a limited chronological horizon and may reflect the persistence of older Mad'arovce culture forms. Their presence in Bohemia, where older prototypes are absent, might be attributed to the expansion of the MDTC into that region (Plesl 1974, 349). In eastern Hungary, their development was undoubtedly local, originating within the Carpathian Basin (Říhovský 1982, 14, 15).

Analogies to the amphora with funnel-shaped flared rim from feature (burial) 302/2 (Fig. 7:7) appear mainly in ceramic hoards and graves. These relatively uncommon forms within the MDTC bear resemblance to the ceramic production of Carpathian Tumulus culture groups. However, they differ from these finds by their funnel-shaped flared neck and the absence of a characteristic offset at the neck-to-body interface (compare, e.g. Točík 1964, tab. XI:6; XVII:11; XXII:6). This type of amphora, in addition to the funnel-shaped flared neck, is characterised by a lower-shaped and compressed body, often with a sharper-shaped bulge. The decoration consists of pointed protrusions below the neck-to-body interface, sometimes also on the bulge. A handle or a pair of handles is located eccentrically on the body, typically near the bulge. The most notable examples come from the Zohor hoard. All are decorated with pits below the neck-to-body interface, and horseshoe-shaped framing of the protrusions on the bulge also appears on them (Eisner 1940, Abb. 1:9; 2:1, 2; Bartík, Hajnalová 2004, obr. 8:1–3). Analogies are known from the Franzhausen, Lednice, Maisbirbaum, Mutěnice and Zwerndorf an der March ceramic hoards, dated to the later phase of the Middle Bronze Age (Willvonseder 1937, Taf. 16:3; Doneus 1991, Abb. 4:1; Lindinger 1998–1999, Abb. 4:3, 4, 6, 12, 15, 16, 18, 23, 24, 32, 40–44, 49–51; Neugebauer et al. 1998–1999, Abb. 26:4, 10–13; Palátová, Salaš 2002, tab. 3:5; 5:5, 6; 9:6). From the mentioned examples, a wide range of possible body formations is evident, however, with recurring elements in the form of protrusions, eccentrically placed handles, and a flared rim. A significant number of similar forms are also found in the Pitten burial ground (Benkovsky-Pivovarová 1991, Taf. 4:8; 11:2, 5; 15:2; 28:5; 49:1; 51:1; 52:10) and have also been discovered at Borotice (Stuchlík 2006, obr. 116:1), Jetzelsdorf (Russ 2004, Abb. 36), and Winklarn (Willvonseder 1937, Taf. 35:3).

Among the atypical forms is a small amphora from feature (burial) 302/2 (Fig. 7:6). In addition to its size, the vertically perforated handles are also unusual. A similar find comes from the cultural layer in Sládkovičovo, dated to the early phase of the MDTC (Bartík 2000, 20, obr. 3:10). Atypical vertically perforated handles appear sporadically throughout the Middle and into the Late Bronze Age.

The classification of the neck and foot fragment from feature 205/10, which appear to belong to a single vessel based on material and colour (Fig. 4:20a–b), is less certain. Footed amphorae with funnel-shaped flared openings occur very rarely (Bartík, Hajnalová 2004, obr. 7:4) and it cannot be excluded that the sherds come from another type of vessel.

Fragments of conical necks from features 74/95 (Fig. 4:1, 3) and 55/08 (Fig. 4:8), as well as flared amphorae rims from features 125/09 (Fig. 4:12) and 237/10 (Fig. 5:15), cannot be classified typologically more precisely. Similar rim forms are found throughout the Middle Bronze Age, and without additional diagnostic features, more exact dating is not possible (for details see Říhovský 1982, 14, 15). This also applies to the amphora shoulder fragments from feature 205/10 (Fig. 4:21), body fragments decorated with vertical engravings from features 74/95 (Fig. 4:4) and 125/09 (Fig. 4:18), or the lower part with the base from features 55/08 (Fig. 4:11) and 207/10 (Fig. 5:6).

5.2 Pots

Pots represent a continuously occurring form throughout the Bronze Age. They are typically found in a highly fragmented state, making it challenging to differentiate them from fragments of certain amphora types. Furthermore, frequent rough processing, when combined with fragmentation, obscures distinctions from storage vessels, as both types often share similar surface treatments. The most reliable identifying feature is often the presence of a handle spanning the rim and the neck-to-body interface of the vessel. Pots with a bulbous and higher-shaped body are a standard type of utilitarian ceramic in the Middle Bronze Age. Variants with a smoothed surface or roughened with vertical finger impressions appear. A common decorative element is a moulded plastic rib at the neck-to-body transition.

At Zohor, the type with a plastic rib and vertical finger impressions was discovered in features 125/09 and 207/10 (Fig. 4:17; 5:10, 11), and a fragment is also known from a surface collection (Studeníková 1983, obr. 140:9). A rim sherd from feature 74/95 (Fig. 4:2) can also be assigned to this or a similar type (e.g. Bartík 1996, tab. 21:3; 2003, obr. 13:2), and their occurrence appears to be limited to the middle and later phases of the MDTC.

Based on thickness and material, bases from feature 205/10 (Fig. 4:28, 29) can be attributed to undated pots. This vessel group likely includes a partially burned fragment with a roughened surface and a moulded plastic rib from feature 55/08 (Fig. 4:10) or a vertically engraved body and base fragments from feature 74/95 (Fig. 4: 5, 7) and feature 235/10 (Fig. 5:14).

5.3 Storage Vessels

These ceramic finds exhibit a wide variability of shapes and are typically found in a highly fragmented state. A specific decoration consisting of moulded plastic ribs is present on a rim fragment from feature 205/10 (Fig. 4:23). Similar applications have been observed on finds from the MDTC environment as well as surrounding areas. Examples include fragments from Chorvátsky Grob (Bartík 2011, obr. 7:1, 2), Großkadolz (Neugebauer 1996, 96), Lozorno (Bartík et al. 2013, tab. 13:1), Pilismarót (Száthmári 1980, obr. 4:1) and Radčice (Chvojka, Michálek 2004, tab. 26:1, 2). This decorative element appears as early as the beginning of the Middle Bronze Age (e.g. Stuchlík 1971, obr. 2:17) and survives until the Late Bronze Age (e.g. Ilon 2014, Taf. 1:14; Smejtek 2007, tab. 26: 6).

The typological classification of another fragment from feature 205/10, featuring a widely flared opening and a large diameter (Fig. 4:22), remains uncertain. Its size suggests a storage vessel, but the surface treatment aligns more closely to amphorae or large bowls. The classification of the second rim fragment of a large vessel from this feature is clearer (Fig. 4:24). The preserved neck-to-body interface fragment and body sherds indicate a bag-like shape, without a significant neck-to-body offset.

A fragment with a moulded plastic rib from feature 205/10 (Fig. 4:25) cannot be classified typologically unambiguously. Its sherd thickness and functional surface treatment with vertical finger impressions suggest a storage vessel. However, the classification as a storage vessel is also ambiguous in the case of a burnt rim fragment of a larger vessel from feature 207/10 (Fig. 5:2).

5.4 Jugs

Jugs with a low body and a high neck are among the most typical forms of the MDTC. The Zohor-Piesky site yielded a single example from feature 55/08 (Fig. 4:9). Compared to similar finds of this ceramic type, it has a significantly rounder bulge and an unusual base with an inward indentation. An analogous form with these characteristics is from feature 8S from Veselé (Bartík 1996, tab. 5:1), and an indented base also appeared on a jug from Kopčany (Pichlerová, Gabriš 1959, 794). The oldest MDTC jugs from Mistelbach (Willvonseder 1937, Taf. 3:1, 2) or Ordacsehi (Kiss 2011, tab. 4:2) have similar tectonics. Later variants typically feature engraved or plastic decoration, and the body is significantly compressed or even deformed. Despite the relatively archaic body form, this find can be dated to the later phase of the MDTC.

A handle to the rim attachment fragment from feature 125/09 (Fig. 4:16), whose width suggests that it does not come from a cup, can tentatively be assigned to jugs.

5.5 Bowls

Conical bowls with slightly convex walls from features 125/09, 205/10, and 207/10 (Fig. 4:13, 27; 5: 3) represent a widely dated type. However, similar finds are uncommon in assemblages from the Middle Bronze Age (e.g. Benkovsky-Pivovarová 1991, Taf. 21: 85:1; 46:163i:15), and their occurrence is primarily associated with the Blučina stage and the earlier phase of the Late Bronze Age (e.g. Bartík, Egyházy-Jurovská 1998, obr. 8:12, 9: 2, 12: 4).

Another type of vessel present in the assemblage are bowls with a characteristic thickened rim with an offset on the inside. This feature allows for the reliable identification of Tumulus culture bowls, even in highly fragmented material, as it is unique to this ceramic type. The only difficulty lies in distinguishing between fragments of bowls without lobes and those with them. In Zohor, they appeared in features 125/09 (Fig. 4:14, 15) and 7/78 (Kraskovská, Studeníková 1996, obr. 10:11). At the Bratislava-Mlynská dolina settlement, fragments were preserved in features 3/84, 163/87, and in the cultural layer (Bartík, Egyházy-Jurovská 1998, obr. 6:5, 7, 10, 11; 12:12, 13; 14:7), in feature 371 from Bratislava-Rusovce (Bartík 2003, obr. 15:10), in feature 115, position 3/2001, and from a surface collection in Lozorno (Bartík et al. 2013, tab. 15: 5; 22: 3; 24: 3, 12; 37:1), as well as in features designated pit IV, 8S, 28S, 34S, and 72Z in Veselé (Bartík 1996, tab. 2:6; 5:6; 13:9; 14:9; 15:9). A bowl from the cultural layer in Gajary is also from this type (Marková, Elschek 2002, obr. 90:11). The mentioned finds and analogous shapes from the Brno-Horní Heršpice settlement (Stuchlík 1996, obr. 9:12) and from the Maisbirbaum hoard (Willvonseder 1937, Taf. 20:1) date them to the later phase of the Middle Bronze Age.

A fragment from feature 205/10 (Fig. 4:26) originates from a bowl with a widely flared rim. This type appears as early as the Maisbirbaum-Zohor stage but reaches its peak in the Late Bronze Age (Říhovský 1982, 17). A similar fragment from the nearby Lozorno settlement is dated to the Blučina stage (Bartík et al. 2013, tab. 7:5).

A base of an undetermined type of bowl with a smoothed surface from feature 125/09 (Fig. 4:19), a fragment of an offset and flared base from feature 237/10 (Fig. 5:16), or a base of a thin-walled polished vessel from feature 74/95 (Fig. 4:6) can also be categorised as bowls of an unspecified type.

5.6 Cups

A large and relatively diverse group consists of cups, appearing in relatively large numbers throughout the Central Danube region. In the collection of finds from Zohor, at least two types are present, which, although they appear almost identical in shape, differ in details.

The cup from feature (burial) 302/2 represents a common shape with a low-shaped body, offset neck, and strap handle (Fig. 7:5). The occurrence of this type is primarily associated with the areas of MDTC. Analogous finds with a slightly offset undecorated neck appear in settlements (e.g. Bartík 1996, tab. 4:4; 5:2; 10:4; 16:4, 9; Marková, Elschek 2002, obr. 89:8; Chvojka, Michálek 2004, tab. 7:4; Šabatová 2006, obr. 2:10, 14; König, Vrtel 2018, obr. 95:2, 4), in graves (e.g. Hrubý 1950, tab. 1:3, 6; Podborský 1964, obr. 14:2; Plachá, Furmánek 1975, obr. 8:3; 9:3; Pichlerová 1976, obr. 7:3, 5; 9:2; 10:7, 8), and hoards (Hrubý 1950, tab. 10:7; 22:4, 5; 27:4; Lauermann, Hahnel 1998–1999, Taf. 1:1–6; Palátová, Salaš 2002, tab. 4:6; 23:5; Lindinger 2003, Taf. 1:4, 6–8; Fojtík, Parma 2018, obr. 5.11). Their occurrence is associated with the middle and later phases of the Middle Bronze Age. They are gradually replaced by a type with an edged bulge.

The second type present in the assemblage are cups with a sharply edged bulge and a curved neck, primarily occurring in the later phases of the Middle and the earlier stages of the Late Bronze Age. Older variants typically exhibit a broader body and, less frequently, engraved decoration. In the case of the find from feature 207/10 (Fig. 5:4), this offset is only indicated and indistinct, and the width-to-height ratio could not be determined. The diagnostic element, therefore, remains the presence of engraved decoration on the lower portion of the vessel. This consisted of straight vertical lines, originally extending from the bulge to the base. Similar decoration is rare and is usually supplemented by additional engraved ornament. It appears on cups of the Maisbirbaum-Zohor stage (Willvonseder 1937, Taf. 22:1; Podborský 1960, obr. 219: 4; 1964, obr. 13: 2; Lauermann 1990, Taf. 3:4; Stuchlík 1990, obr. 2:4; 2006, obr. 52:9; 86:12; Doneus 1991, Abb. 9; Bartík, Egyházy-Jurovská 1998, obr. 5: 2; Lauermann, Hahnel 1998–1999, Taf. 1:12; Lindinger 2003, Taf. 1: 1), but also on other vessel types from this chronological stage (e.g. Doneus 1991, Abb. 1:4; Willvonseder 1937, Taf. 10:6). Equally sporadic is analogous decoration consisting of narrow engravings, occurring within the same period (e.g. Pichlerová 1963, obr. 2:16; Maurer, Vasicek 1972, Abb. 72; Melzer 1981, Abb. 290; Bartík 1991, obr. 3: 2; 4: 6; Russ 2004, Abb. 33; Šabatová 2006, obr. 2:17, 23; Trebsche 2017, Abb. 4).

A neck fragment from a thin-walled vessel, found in feature 207/10 (Fig. 5:1) likely also among these cups of an indeterminate typology.

6. Bronze artefacts

No metal artefacts were recovered from the settlement features, which is consistent with findings at other MDTC settlements. A metal detector survey during the 1995, 2008–2010 excavations documented a few artefacts from this period (Bobek, Elschek 2020, 39–40, obr. 2:3, 5, 6; tab. I:8, 11, 12). The assemblage from the grave comprising personal jewelery and working tools, represents an unusual collection for the Tumulus culture. Archaeometric analysis did not reveal significant deviations in terms of the metal's chemical composition, and from this perspective, the finds correspond to standard Bronze Age artefacts.

6.1 Bracelets

The pair of decorated rod bracelets (Fig. 7:1, 2; 8:1, 2) represents a relatively standard find within Tumulus cultures. Both specimens are crafted from rods with an oval cross-section rod, displaying a tendency towards a lenticular shape due to deformation. Bracelets made from round rods, decorated with bundles of transverse engravings, primarily appear in assemblages from the middle and later stages of the Tumulus culture. Their occurrence continues into the Late Bronze Age (Furmánek 1973, 121; Salaš 2005, 90). This type of bracelet does not represent a chronologically diagnostic form. Contemporaneously, from the BB2(C1) phase onwards, a variant made from a lenticular cross-section rod emerges, and its occurrence terminates alongside the former (Furmánek 1973, 121–122). Bracelets with an ambiguous cross-section, similar to those from feature (burial) 302/2 from Zohor, appeared in trench L in mound 12 and in grave 35/72 from Smolenice (Dušek 1980, obr. 3:17; tab. V:8, 11). In the latter, another bracelet with a triangular cross-section and a knife from the later phase of the Middle Bronze Age (type Egelsheim/Smolenice; Chebenová 2012, 11; Veliačik 2012, 292) were in the inventory. Apart from rare exceptions and surface finds, they are typically discovered in skeletal graves as matched pairs. At the Smolenice burial ground, they are prevalent in the later phase of the Middle Bronze Age. Apart from the disturbed grave 115/72 and surface finds, they are associated with male attributes in the form of knives, daggers, and arrowheads (Dušek 1980, tab. I:6, V: 6, VIII:24, 27, 28, XII:27).

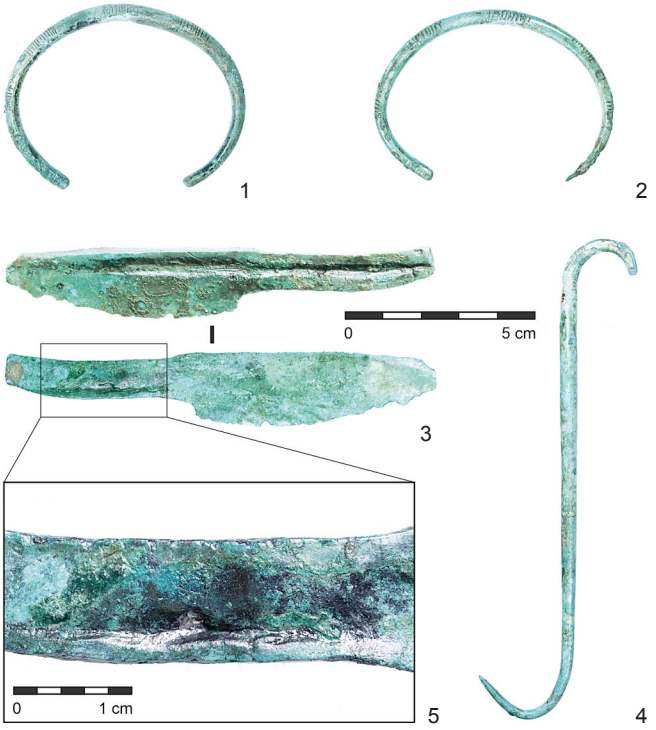


Fig. 8. A collection of bronze artefacts recovered from grave 302/2. Photo by D. Oravkinová.

Obr. 8. *Kolekce bronzových artefaktů získaných z hrobu 302/2. Foto D. Oravkinová.*

6.2 Knife

The knife from feature (burial) 302/2 (Fig. 7:3; 8:3) cannot be directly classified into any known type. In addition to the relatively short blade, the distinct engraving extending from the blade to the handle is also an atypical feature. The possibility that this knife represents a variant of the Brunn type cannot be definitively excluded. However, the find does not satisfy the established classification criteria for this type. For the earliest types of knives, one of the main characteristics is a more or less curved back of the blade, which is absent on the mentioned find (Jiráň 2002, 15–18, Taf. 1; Říhovský 1972, 10–12, Taf. 1; Veliačik 2012, 287). This tool was most likely created by reforging a sickle or more likely its fragment of a tip. In such a case, part of the sickle blade was forged into a robust rod-like handle with sort of rectangular cross-section, which would also correspond to the traces of forging (Fig. 8:5). Sickles with a single engraving and a similar cross-section as the mentioned find appear precisely in the Middle Bronze Age (e.g. Furmánek 1973, obr. 34:2, 4, 6, 8; 46:12; 51:9; Furmánek, Novotná 2006, 17, 18, Taf. 1:10, 11). A knife, also likely created by modifying a sickle blade, was discovered in grave 3 from mound 1 from Pörndorf in Lower Bavaria. Apart from the blade shape, it also differs from standard knives by its unilateral profile (Hochstetter 1980, 68, 149, Taf. 80:19). A similarly modified tool is known from mound 2, grave 1 from Schweindorf in Lower Saxony (Ludwig-Lukanow 1983, 46, Taf. 8:A3). In this case, the sickle modification at the handle was only partially completed. Repairs and modifications of damaged sickles have also been documented in hoards (Salaš 2005, 55).

6.3 Hook

The bronze hook (Fig. 7:4; 8:4) lacks published analogies from the Bronze Age in Central Europe. While it resembles a fishing hook, it attains relatively large dimensions. Apart from its size, it also differs from known Bronze Age hook finds in shape. The closest analogies are random finds from the River Scheldt in Belgium, housed in the STAM museum in Ghent. Several objects from the museum's collection, dated to the Iron Age, have an almost identical shape and reach slightly smaller dimensions (STAM). A similarly shaped hook of smaller dimensions, interpreted as part of a belt, was found in mound 2 in Gruorn-Reisach (Pirling et al. 1980, 60, Taf. 21:E). Formally or in size similar pieces also sporadically appeared at other Bronze Age sites (e.g. Preidel 1928, 197; Schöbel 1996, Taf. 25:21; 42:34; 72:18, 24; Plachá, Paulík 2000, tab. VI:9; Blažek et al. 2003, vitrína X:27–29; Kytlicová 2007, Taf. 121:32; Szabó 2016; 2019, 147–155; Parma, Fojtík 2023, obr. 73).

Within the Tumulus culture context, graves containing fishing hooks are very rare. In Slovakia, a smaller hook was found in grave 60 in Salka (Točík 1964, Abb. 9:38), and two more are reported from grave 3 from Martovce (Točík 1976, 98). From the Pörndorf barrow burial ground in Lower Saxony, an S-shaped hook comes from grave 1 from mound 4 (Hochstetter 1980, Taf. 86:5). Their occurrence at settlements is sporadic; a typical hook find is from Uherský Brod (Hrubý 1950, tab. 62:18; 1958, obr. 9:21; Furmánek 1973, obr. 46:9). Individual pieces have also appeared in hoards from Kamenín (Janšák 1938, tab. 6:10) and Hradisko (Salaš 2005, tab. 6:27; Parma, Fojtík 2023, obr. 73).

Due to its dimensions, the hook must have been used for catching or processing large fish (see also Szabó 2016, 182; 2019, 154–155). The site is approximately 2.7 km from the present course of the River Morava and about 13.3 km from its confluence with the Danube. Considering the location of the settlement directly on an elevated terrace above the floodplain, it can be assumed that the River Morava and its side branches were even closer in the Bronze Age, likely within hundreds of meters. Moreover, the site was bordered by at least two other minor watercourses. Direct osteological finds are unavailable from the Zohor settlement, so there is no direct evidence of fishing. However, indications that large fish species were caught during the Bronze Age are provided by sporadic finds from the fortified settlement of the Mad'arovce culture in Šurany-Nitriansky hrádok (Hajnalová 2012, 53), the example of a find from Dvorníky-Posádka, where a worked catfish bone was found (*Silurus* sp.; Bartík, Šefčáková 1999, 205, Abb. 5:a), or bones of large fish species from a well in Gánovce (Ambros 1959, 54).

Chronologically, they are practically insignificant, and various modifications of the typical shape and dimensions appear throughout the Bronze Age (Salaš 2005, 56). Differences, but without chronological or typological significance, are only in the processing of the tip (presence or absence of a barb), cross-section, and shaping of the upper end or catcher (straight, straight with a hole, slightly twisted, coiled into an eyelet). However, it appears that different types occurred simultaneously.

7. Discussion

7.1 Settlement

The MDTC settlement, investigated at the Piesky site in Zohor, belongs to typical lowland unfortified sites with a broad areal extent. Analogous situations in other regions indicate a consistent pattern, characterised by the dispersal of settlement over large areas (Čujanová-Jílková 1973, 523; Parma 2015, 250–253). A notable exception remains the settlement of the Hradisko-Podzámske site in Veselé, where features were concentrated within a fortification from the Early Bronze Age (Bartík 1996).

The investigated features are standard settlement pits, generally of undetermined function. The most common forms are features with a more or less regular round or oval shape (features 125/09 and 205/10; Fig. 3:2, 3), with individual examples exhibiting a regular shape with a stepped profile (feature 235/10; Fig. 3:5) and an irregular shape (feature 237/10; Fig. 3:6). Feature 74/95 was damaged by quarrying and was only recorded as a basal remnant. The exceptions are settlement features 55/08 and 207/10, which, based on their shape and depth, can be considered typical Middle Bronze Age storage pits (Fig. 3:1, 4).

The finds from the Zohor settlement generally represent a relatively standard assemblage of settlement ceramics from the later phase of MDTC development. Amphorae and pots are predominantly represented, while table ceramics (cups and jugs) have a comparatively low representation. Find assemblages from the features reached a high degree of fragmentation. The lowest degree was observed in feature 207/10 (55%).

Chronologically, the earliest find assemblage originates from feature 207/10 (Fig. 5:1–11), with vessel shapes and decorative elements of the Maisbirbaum-Zohor stage. Finds from feature 55/08, including a jug with an archaic body shape (Fig. 4:9) no longer present in the latest MDTC assemblages, can also be assigned to this stage. Finds from other features mostly represent later dated forms or those with extended lifespans.

Of particular interest is the occurrence of paired vessel types (amphorae and pots) in feature 207/10 (Fig. 5:8–11), positioned in the central portion of the feature fill. At first glance, it resembles a ceramic hoard. However, its composition would be relatively atypical, as vessels associated with a drinking service were absent. The relationship between the sherd material and the complete vessel finds remains unclear from the find context description. Given the find composition, a food offering is plausible (Palátová, Salaš 2002, 104–107), which would be further supported by the placement of vessels within a storage pit. A paired structure of find composition with vessels of different types but similar function was observed in the pit content from Hostouň. Several of these vessels also showed traces of burning (Bláhová-Sklenářová 2018). These differed from the content of feature 207/10 primarily in the greater diversity of species represented. In the material from this feature, burning was evident on a single sherd, and a heavily burned layer was located at the bottom and partially along the lower feature walls. Despite these differences, a similar interpretation cannot be dismissed, namely that this assemblage is related to unspecified rituals (Bláhová-Sklenářová 2018, 636–641).

7.2 Potential burial ground

Feature (burial) 302/2 is an example of a less typical flat sunken grave within the MDTC (e.g. Kalousek 1959; Nekvasil 1959; Godiš, Haruštiak 2020). In all documented cases, the remains were placed in a rectangular plan pit with rounded corners, reaching a shallow depth. The possibility of a mound having originally been heaped over them cannot be discounted (similarly Stuchlík 2006, 154). At the Šamorín-Šámot site, some graves were closely spaced (Godiš, Haruštiak 2020, 53), which also does not exclude a possible mound.

The orientation of the grave pit and the presumed position of the buried in the NE–SW direction deviates from the conventional practice. It has been recorded in graves 16/72, 80/72, and 81/72 at the Smolenice burial ground (Dušek 1980, 346, 348, 349, tab. IV:4–6; VIII:21–28). In all cases, these were skeletal graves whose inventory did not significantly differ from other burials. However, it is noteworthy that, apart from grave 81/72, which was without finds, the remaining two contained artefacts

associated with males (dagger, arrowheads). Further support for this observation comes from the discovery of an adult male skeleton exhibiting a corresponding orientation within the double burial 800/2 from Mikulov (Šabatová et al. 2020, 199–205, 226).

In the case of feature 303/3 at the Piesky site, a formal similarity and identical orientation are striking. Based on these characteristics, despite the absence of any finds, it can be inferred that it was also a grave.

The dating of feature (burial) 302/2 cannot be reliably established based on the bronze artefacts, as these are either forms with extended lifespans or atypical objects. From the ceramic inventory, the amphora stands out as the most distinctive form. The occurrence of this vessel type in several ceramic hoards quite unambiguously dates it to the Maisbirbaum-Zohor stage. This is also consistent with the find of a cup featuring an offset neck. The grave, therefore, most likely correlates with the earlier phase of settlement, represented by feature 207/10.

7.3 Relationship between settlement area and burial ground

The large scale of the investigated area at the Piesky site in Zohor allowed for the documentation of the relationship between a settlement and a potential burial ground. Feature (grave) 302/2 was located 320 meters from the nearest MDTC settlement feature (Fig. 9). Furthermore, the first discovered MDTC grave from the Piesky site is considered to be feature 2 (cremation grave 1/72) excavated in 1972. Within a disturbed pit of irregular oval shape, a basin-shaped profile, and a depth of 76 cm, a deep footed bowl and a cup sherd were found. Skeletal remains were not found in the fill (Studeníková 1978, 18, obr. 4, 5, 15:1). According to the description, the find spot was situated south of the area investigated in 1995 (Fig. 1:1; 9). However, considering the feature's shape and dimensions, its interpretation as a grave is questionable. The feature's location is not precisely marked, but given the position of the quarry pit, it was 300–400 meters from the clearly identified feature (grave) 302/2.

The situation observed in Zohor, where the MDTC burial ground was immediately adjacent to the settlement, is not the first of its kind in Slovakia. During the excavation of mound VI from Hallstatt period in Dunajská Lužná-Nové Košariská, Middle Bronze Age graves were discovered beneath its covering. Northwest of them, at approximately 500 m, disturbed features were found, containing material comparable to MDTC ceramics (Pichlerová 1976, 25–26). Since these were fragments of utilitarian ceramics, alternative dating cannot be excluded in this instance.

The majority of currently known MDTC settlements in Slovakia have been investigated in recent decades (Bartík 1991; 2003; 2006; 2011; Bartík, Egyházy-Jurovská 1998; Bartík et al. 2013; Bobek et al. 2024, 35–36). Their number is currently about double that of known burial grounds. Settlements associated with the investigated barrow burial grounds in Buková, Bratislava-Devín, and Smolenice remain unknown. The nearest settlement sites are several kilometres away.

Sporadic evidence of the spatial relationship between residential and burial areas has also been documented in Moravia. In Olomouc-Slavonín, the plans of two above-ground structures were recorded in the immediate vicinity of contemporary graves, only 37 m away (Šmíd 1998). A disturbed grave and an MDTC settlement in Těšetice located approximately 1 km apart (Podborský 1960; 1964). In Jiříkovice, a skeletal grave and settlement features were investigated, but the situation has not been published in detail (Hrubý 1950, tab. 16–20; Kalousek 1973–1974, 163–164). The most recent recorded case is the Mikulov site,

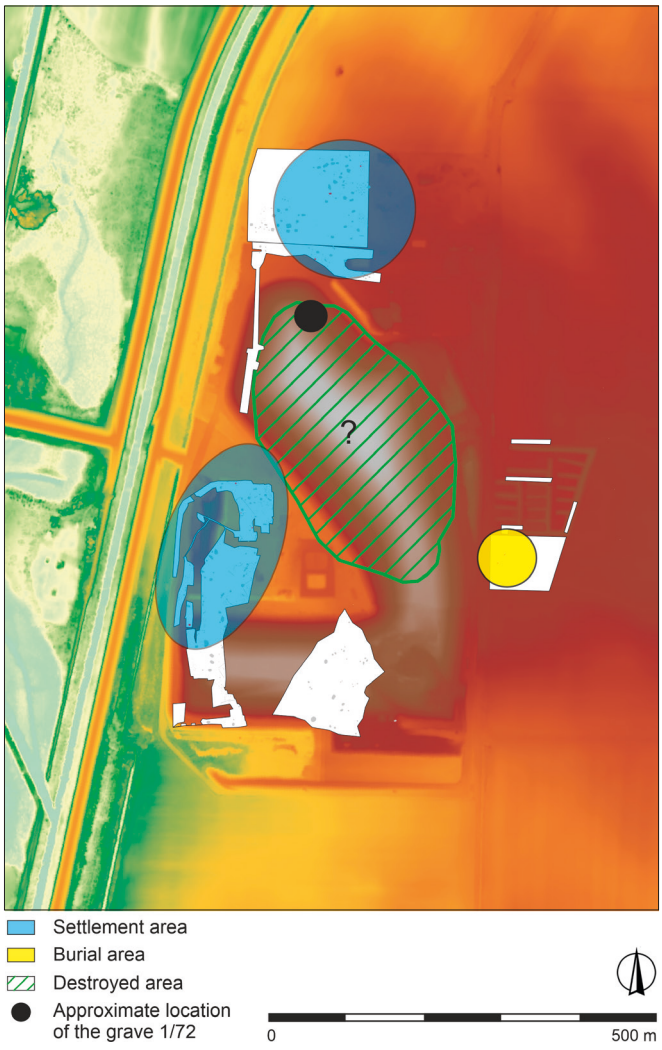


Fig. 9. Schematic depiction of the spatial arrangement of the settlement and presumed burial area. The location of feature 2 (cremation grave 1/72) is only approximate. Source of the ALS product RPI ALS. Author P. Bobek, K. Elschek.

Obr. 9. *Schematické znázornění prostorového uspořádání sídlištního a předpokládaného pohřebištního areálu. Lokalizace objektu 2 (žárový hrob 1/72) je přibližná. Zdroj LLS produktu RPI ALS. Autor P. Bobek, K. Elschek.*

where double burial 800 was 300 m from an MDTC settlement feature (Jüttner 1928; Šabatová et al. 2020, 223). Like in Slovakia, contemporary settlements are not known for large barrow burial grounds in Moravia, although their presence nearby is presumed (e.g. Stuchlík 2006, 158, obr. 16).

The same situation currently prevails for the Tumulus culture in the Czech Republic (e.g. Čujanová-Jílková 1973, 524; Jiráň ed. 2008, 91). However, here too, instances occur where both areas are close (see Michálek 1999, 121; Fröhlich et al. 2008, 122, obr. 1) or their proximity is predicted (Kuna 2008, 122).

Based on the aforementioned examples, it is possible to hypothesise that settlements and burial grounds in the MDTC, even the Tumulus cultures in Central Europe, were in close proximity (see also Hochstetter 1980, 30). The current situation, where the burialgrounds belonging to known settlements are mostly unknown, would thus reflect the state of research rather than the historical reality. A certain contribution to this situation undoubtedly stems from the focus of the many researches on Tumulus burial grounds exclusively on identified tumuli or the area demarcated by the tumulus cemetery (e.g. Dušek 1980, 341; Stuchlík 2006, 13–15; Bobek 2018, 75).

8. Conclusion

The investigated MDTC settlement in Zohor represents a typical settlement type of this culture. It is characterised by a broad territorial extent and a limited number of features. Considering the size of the settled area and the dispersion of features, it can be assumed that the excavations at the Piesky site documented settlement areas from two phases within stage C, according to K. Willvonseder (1937, 262–271). The earlier phase can be associated with the Maisbirbaum-Zohor stage, to which feature 207/10 and likely also feature 55/08 belong, due to their archaic ceramic character. Feature (burial) 302/2 can also be assigned to this phase of settlement. The later phase, without influences from the Urnfield cultures, is represented by the remaining features. However, their spatial delineation within the examined areas is not possible due to the low number of features and their mutual overlap. Regarding the internal structure, the settlement does not exhibit any significant features that would permit its reconstruction. Apart from the atypical contents of feature 207/10, none of the examined pits yielded finds that would allow further conclusions.

Regarding the numerous postholes at the site, its polycultural character and the even dispersion of features from various chronological periods cause a significant complication. Nearly all postholes were devoid of archaeological finds, rendering any dating of potential structures merely hypothetical. Like other sites investigated through extensive area excavation (e.g. Bartík 2003; 2006; Bartík et al. 2013; Parma, Šmíd 2013, 94–196), a correlation is evident between the documented duration of settlement within the relative chronology and the areal extent of the excavation. The results of earlier researches indicate that the central part of the elevation was also originally settled.

Dating sites solely based on ceramic finds is complicated by the prolonged survival of some forms. In the case of Middle Bronze Age ceramics, a large number of types and local variants also emerge. Their classification is often problematic and possible only on the basis of more distinct formal features. However, it is probable that with an increasing number of finds, it will become possible to refine the dating of other vessel types. The chronological classification of finds primarily to the later section of the MDTC, aligns with the nearest settlements in Bratislava-Devínska Nová Ves (Elschek, Bárta 1998), Bratislava-Mlynská dolina (Bartík, Egyházy-Jurovská 1998), Bratislava-Rusovce (Bartík 2003; 2006), and Lozorno (Bartík et al. 2013). Significantly, the site's geographical context includes the discovery of ceramic hoards from Zohor (Eisner 1940; Bartík, Hajnalová 2004, 12, obr. 6–9) and Lozorno (Bartík, Hajnalová 2004, 9–11, obr. 3–5) within the same region (Fig. 10).

Like other sites, in the case of the Zohor-Piesky site, it is possible to assume that there was a certain continuity of settlement from the Early to the Late Bronze Age. Unlike the settlement area, which occupied a larger part of the examined terrain, the burial area's shift at the onset of the Late Bronze Age is evident. Based on the situation at the Piesky site in Zohor, as well as the limited analogous situations from Bohemia and Moravia, it can be hypothesised for the Tumulus culture in Central Europe that burial grounds were in close proximity to settlements.

The investigated MDTC feature (burial) 302/2 aligns with the group of skeletal graves with an atypical orientation, known from the Smolenice (Dušek 1980, 346, 348–349) and Mikulov (Šabatová et al. 2020) burial ground. In addition to this, they are linked by either the paired wearing of thin rod bracelets or accompanying finds traditionally attributed with male attributes. Chronologically, feature (burial) 302/2 can be directly related to the contemporary settlement at the site.

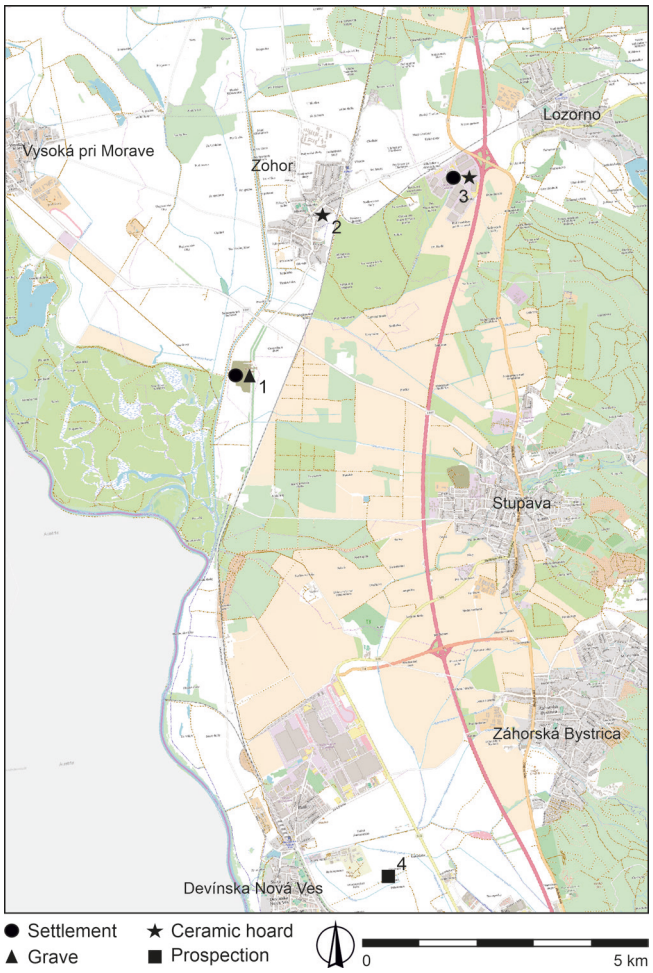


Fig. 10. Contemporaneous MDTC localities in the vicinity of the Zohor-Piesky site. 1 – Zohor, Piesky site; 2 – Zohor, Podbrežské dzíle site (the location is only approximate); 3 – Lozorno, Široké diely site; 4 – Bratislava-Devínska Nová Ves, Dlhý kopec-Útočnica site (after Eisner 1940; Elschek, Bárta 1998; Bartík et al. 2013). Base map RPI OSM. Author P. Bobek.

Obr. 10. *Naleziště středodunajské mohylové kultury v okolí lokality Zohor-Piesky. 1 – Zohor, poloha Piesky; 2 – Zohor, poloha Podbrežské díly (lokalizace je přibližná); 3 – Lozorno, poloha Široké díly; 4 – Bratislava-Devínska Nová Ves, poloha Dlhý kopec – Útočnica (podle Eisner 1940; Elschek, Bárta 1998; Bartík et al. 2013). Podkladová mapa RPI OSM. Autor P. Bobek.*

Despite intensive excavations, the Zohor-Piesky site continues to yield new discoveries and information regarding Bronze Age settlement. Excavations of settlement features at the base of the elevation (Matyasowszky et al. 2022) or the discovery of a grave (or graves?) from 2022 indicate that the site had a significantly broader extent than initially estimated, and further discoveries are anticipated in the future.

CRediT authorship contribution statement

Pavol Bobek: Writing – review & editing, Writing – original draft, Visualization, Investigation, Conceptualization.
Kristian Elschek: Visualization, Investigation.

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Note

1 The publication states a depth of 176 cm, which does not correspond to the aspect ratio of the feature (Studeníková 1978, 18, obr. 5).

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Resumé

Polykulturní lokalita Piesky v katastrálním území obce Zohor patří k nejdéle zkoumaným archeologickým nalezištím na Slovensku. Během výzkumů byly, mimo jiné, odkryty také objekty ze střední doby bronzové. Příspěvek se zaměřuje na nálezové celky středodunajské mohylové kultury, které neobsahovaly nálezy s prvky kultury popelnicových polí. Sídliště patří ke standardnímu typu tohoto období, vyznačujícímu se malým počtem objektů na rozsáhlé ploše (obr. 2: 1–3; Čujanová-Jílková 1973, 523; Parma 2015, 250–253). Z hlediska tvaru a funkce zkoumaných objektů šlo většinou o jámy neurčité funkce (obr. 3: 2, 3, 5, 6). Výjimkou jsou objekty 55/08 a 207/10 (obr. 3: 1, 4), které lze zařadit mezi zásobní jámy. Ve výplni analyzovaných objektů se vyskytovala výhradně keramika. Početnější soubory byly v objektech 205/10 a 207/10. Zatímco v případě objektu 205/10 šlo převážně o fragmenty užitkové keramiky (obr. 4: 20–29), ve výplni objektu 207/10 byly zjištěny čtyři téměř celé nádoby (obr. 5: 8–11). Jejich společné uložení připomíná keramický depot, avšak na základě druhového zastoupení je lze interpretovat spíše jako potravinovou oběť nebo součást blíže nespecifikovaného rituálu (srov. Bláhová-Sklenářová 2018, 636–641). Nálezy z ostatních jam představovaly většinou tvary s delším přežíváním. Na základě datování nálezů byla tato poloha osídlena ve dvou fázích v rámci stupně BC.

V roce 2022 byly na nedalekých plochách prozkoumány další objekty (obr. 1: 6; 2: 3). V jednom případě byl zjištěn hrob (obr. 6), v jehož blízkosti se nacházel objekt podobného charakteru bez nálezů. V hrobu se vedle keramiky středodunajské mohylové kultury objevila netradiční kolekce předmětů. Kromě dvou náramků obsahoval také nůž a rozměrný bronzový hák (obr. 6: 4; 7: 4). Na základě analogických předmětů z jiných lokalit šlo pravděpodobně o hák na lov nebo zpracování ryb. Tuto interpretaci podporuje i blízkost řeky Moravy a jejích četných zaniklých ramen. Nůž nepatří k žádnému známému typu a podle stop na povrchu vznikl pravděpodobně překováním srpu (obr. 7: 3; 8: 3, 5). Typická amfora (obr. 7: 7), známá zejména z depotů (Bartík, Hajnalová 2004, obr. 8: 1–3; Eisner 1940, Abb. 1: 9; 2: 1, 2; Doneus 1991, Abb. 4: 1; Lindinger 1998–1999, Abb. 4: 3, 4, 6, 12, 15, 16, 18, 23, 24, 32, 40–44, 49–51; Neugebauer et al. 1998–1999, Abb. 26: 4, 10–13; Palátová, Salaš 2002, tab. 3: 5; 5: 5, 6; 9: 6; Willvonseder 1937, Taf. 16: 3), datuje tento hrob do stupně Maisbirbaum-Zohor.

Lokalita představuje ojedinělý případ jednoznačně prokázaného současného sídliště a pohřebiště. Na základě několika analogických situací v okolních regionech (Fröhlich et al. 2008, 122, obr. 1; Michálek 1999, 121; Podborský 1960; 1964; Šabatová et al. 2020, 223; Šmíd 1998) lze vyslovit hypotézu, že sídliště a pohřebiště byla ve střední době bronzové situována v těsné blízkosti.

Contacts

Pavol Bobek
Archeologický ústav SAV, v. v. i.
Akademická 2
SK-949 21 Nitra
pavol.bobek@savba.sk
ORCID: 0000-0002-4711-7009

Kristian Elschek
Archeologický ústav SAV, v. v. i.
Akademická 2
SK-949 21 Nitra
kristian.elschek@savba.sk
ORCID: 0000-0002-8265-730X

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Circular burial features of the Tumulus culture in the northern Carpathian Basin

Kruhové pohřební objekty mohylové kultury v severní části Karpatské kotliny

– *Jakub Godiš** –



KEYWORDS

Middle Bronze Age – Tumulus culture – Carpathian Basin – burial rite – grave construction – circular ditches – stone rings/wreaths

ABSTRACT

The paper is focused on reviewing the current state of research on the circular features around graves at burial grounds associated with Carpathian Tumulus culture and its related groups in the northern Carpathian Basin. During the Middle Bronze Age (16th to 14th centuries BC), features of this type appeared in southern Slovakia and Hungary in two basic forms, either as circular ditches or stone rings/wreaths. These are in most cases considered to be indirect evidence of mounds, now mostly non-existent, built of earth and even stone, which they encircled on the outside, however, this interpretative model is not always applicable. In the last two decades, the number of sites where their occurrence has been documented almost doubled. At present, there are known from at least 16 sites situated in the area between the Lower Váh valley, across the bend of the River Danube to the Middle Tisza Basin, which was the territory of the Carpathian facies of the Tumulus culture. Terrain features of this type are directly related to the long-debated terminology discussion of whether it is at all legitimate to attribute the adjective 'tumulus' to this archaeological cultural entity. This question arises when compared with the characteristics of the burial tradition practised in the western Tumulus culture zone, which extended from Moravia and eastern Austria further to Czechia, Germany, and eastern France. In the presented study, the geographical distribution of the circular burial features, their main characteristics, as well as some specific features are discussed. The way of the central graves are furnished and their chronological position is also briefly evaluated in the analysis, as this distinctive element of the burial rite had a wider temporal span. Finally, some comments are made on the graves surrounded by circular ditches and the interpretation of these structures as remnants of possible earthen tumuli, in light of some of the more recent and precisely documented discoveries. These support the opinion that during the Middle Bronze Age (Bz B–C stages), in some lowland areas of the vast Carpathian Basin, actual mounds could occasionally be built over the graves of socially prominent individuals.

* Corresponding author – E-mail address: jgodis@ukf.sk

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1. Introduction

One of the most distinctive attributes of the funerary rite in the prehistory of mankind is the construction of above-ground structures made of earth or stones over the final resting places of the dead, which occurred in various chronological periods, as well as distinct geographical regions of the World (see e.g. Harding 2012). During the European Bronze Age, it was most significant between 16th and 14th centuries BC, to the extent that it had given its name to a vast cultural complex extending from eastern France to central Hungary (see e.g. Makarowicz 2017, further references there). From the very beginnings of archaeology forming as a modern science, including the former Austria-Hungary in the late 19th century, prehistoric tumuli have attracted special attention, which usually resulted in unprofessional excavations of these often easily visually recognizable terrain relics in the landscape (e.g. Keszthely; Lipp 1885; see also Godiš, Styk 2019, 213–215, further references there; Smolenice; Sándorfi 1896; Dušek 1980).

The main intention of this paper[1] is to review the current state of research on sites associated with the (Carpathian) Tumulus culture and its related groups in the Pannonian Basin, where circular or slightly oval-shaped features in the form of ditches and stone rings/wreaths[2] surrounding the central grave have been found. If they were at least a few metres in diameter, they are usually considered to be indirect remnants of past earthen mounds. However, it must be made clear at the outset, that this interpretation model should not be generalised (see Trefný 2013, 133, further references there), although here presented article discusses some of the key terrain observations from this region that support it quite sufficiently. The studied area is primarily focused on the northern Carpathian Basin[3] lowlands, while to present a more complex picture; sites associated either to Piliny culture in the northeast or the Middle Danube Tumulus culture in the west were also briefly mentioned (cf. Fülöp, Váczi 2014, Fig. 3, 4; Mengyán, Hrabák 2023, Fig. 7). In addition to synthesising all available data, another purpose of the study is to contribute to the occasionally emerging debate about to what extent, if at all, it is legitimate to refer about a real 'Tumulus' period *sensu stricto* within the Carpathian Bronze Age (especially, its northwestern zone). This is in the context of what is customary called as *Hügelgräberzeit* in a wide geographical area reaching from Burgenland and Moravia in the east, through Bohemia and the Upper Danube region to Bavaria in the west and the adjacent regions there (see e.g. Píč 1900; Reinecke 1924, 43–44; Willvonseder 1937). The increasing number of circular features discovered lately on burial grounds in southern Slovakia and most of Hungary, but also a certain level of this phenomenon occurrence intensity should in fact justify the use of a more

or less accepted term among the scientific community – Carpathian Tumulus culture,[4] which was first introduced in the late 1950s by the leading Slovak archaeologist A. Točík (1956, 25; 1960a, 259–301; 1960b, 28–30). This term should also emphasize the distinct habitus of this archaeological entity (defined mainly by funerary rite and ceramic style based also on local older 'Carpathian' traditions) apart from the 'typical' Tumulus culture spread in the west, outside the Carpathian-Danube region. Preventive rescue excavations of the past two decades have substantially enriched the source base and offer a new perspective on this issue. Based on the collected data, it is time to discuss in more detail both the characteristics and specifics of circular burial features, as well as the graves that they delineated. This study comments mainly on their geographical distribution, then construction attributes (dimensions, adjacent specific features etc.), but also chronology, which is derived from the dating of the central graves, since this funerary tradition lasted in this region for several generations with varying intensity. Finally, a few remarks are made about a group of graves encircled by ditches, for which several key clues exist, that allow us to interpret at least some of them as the indirect remains of past tumuli.

2. Carpathian Tumulus period without tumuli or what the archaeological record shows

Anton Točík (1960a) in his candidate's dissertation, as a fundamental work on the Early and Middle Bronze Age conception of southwestern Slovakia, validated the use of the adjective 'Carpathian Tumulus' for the archaeological cultural entity, which he initially defined, mainly by the then excavation of the burial ground in Svätý Peter (formerly Dolný Peter). At this site several circular ditches around the inhumation graves dated to the beginning of the Middle Bronze Age were professionally documented most likely for the first time in the Carpathian-Danube region. He also assumed that these rarely occurring sunken features could '*...indicate also in the Carpathian Basin a custom of burial in a delineated area, which was respected, and the soil from the ditch was probably used to pile up the mound...*' (Točík 1960a, 265). Shortly thereafter, E. Jílková (1961, 88) responded rather sceptically to the legitimacy of this adjective used on the newly introduced archaeological culture, pointing to the acute need for detailed analysis of the material from other contemporary sites in Hungary and the surrounding areas, thus verifying the argument of A. Točík's assertion that the Carpathian[5] Tumulus culture was spread over the western and some eastern regions of the Carpathian Basin (later geographically specified, Točík 1978, 103; recently updated; Godiš 2019, 19–20; mapa 1–3). It should be noted, that E. Jílková at that time had already experience with the research of the Tumulus culture in western Bohemia (see Šaldová 1988, 572–574). She considered his argument that tumuli were built only where the material was available (usually stone or gravel covered with sand and earth) as insufficient to legitimately classify this archaeological entity within the Central European Tumulus cultural complex. Moreover, she pointed out that for basically all the Tumulus cultural groups in the west of the Carpathian Basin, burial under mounds reflected a characteristic attribute of their funerary rite, even where the raw material required for their construction had to be transported from longer distances. Eva Jílková (1961, 88) further added that in the Carpathian-Danube region it would be possible to name[6] it a 'real' Tumulus group (or culture) only if the occurrence of mounds was a relatively common phenomenon documented in burial sites.

More than 60 years have passed since this pertinent discussion, and field research in the area of interest defined here has made significant progress, mainly thanks to large-scale preventive excavations. Despite many of here discussed sites lack adequate publication, which is the task for the researchers in the future, it is at least possible for now to point out a few crucial discoveries that provide new insights into this interesting, lately much-discussed topic. At present, more than 25 sites dated to the Middle Bronze Age (Bz B–C stages), where circular burial features (including small-sized stone cairns) have been documented are known from the area between the Little Carpathians and Lake Neusiedl, across the Danube Lowland (Basin)

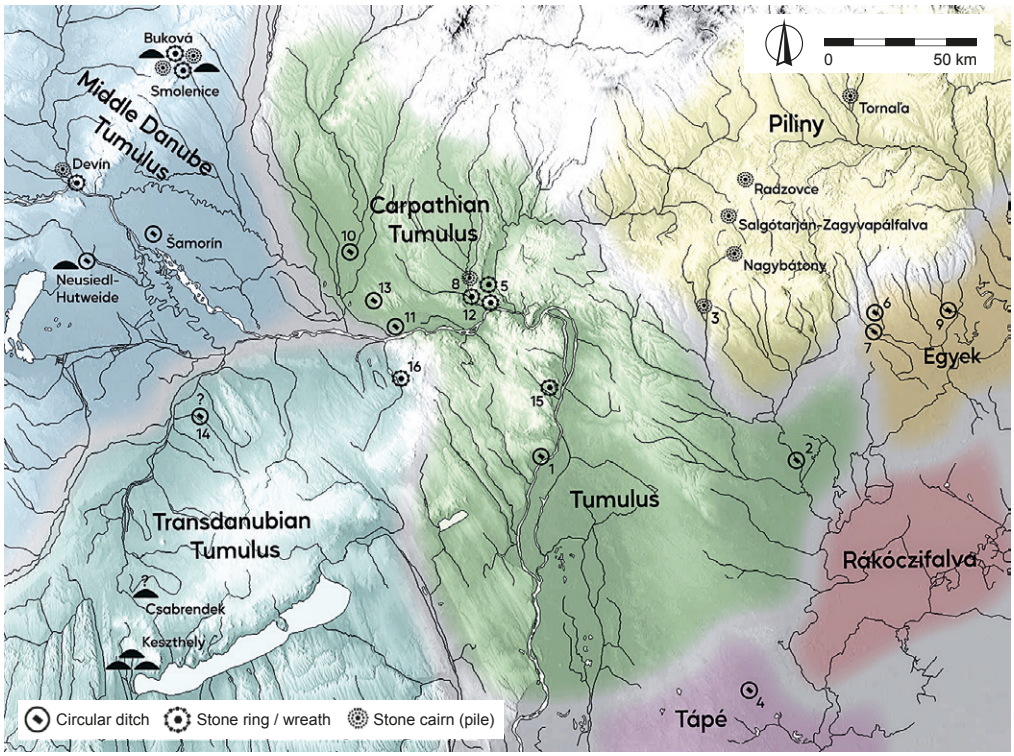


Fig. 1. Sunken and stone circular features around graves at Middle Bronze Age sites (Bz B–C stages) in the northern Carpathian Basin (numbering of sites – see Tab. 1). Author J. Godiš.

Obr. 1. *Zahloubené a kamenné kruhové objekty kolem hrobů na lokalitách střední doby bronzové (stupně Bz B–C) v severní části Karpatské kotliny (číslování lokalit – viz tab. 1). Autor J. Godiš.*

and the Danube Bend to the Middle Tisza Basin, including the mountainous regions of Cserhát, Mátra and Bükk in northern Hungary (Fig. 1). This number also includes sites in the territory of the Middle Danube Tumulus culture, which reached from the Moravia to the periphery of the northwestern Carpathian Basin, i.e. in western Slovakia and eastern Austria (Devín, Buková, Smolenice, Neusiedl-Hutweide, Šamorín-Šámot). In addition to those, sites from the milieu of Piliny culture, which is linked with the later historical regions of Nográd/Novohrad and Gemer-Malohont (Nagybátony, Salgótarján-Zagyvapálfalva, Radzovce, Tornaľa; formerly Šafárikovo) are also part of this count. However, it should be noted here that no ditches around graves are known from the latter regions; just stone rings and wreaths or especially cairns made of stacked rocks, which usually reach small dimensions, often just about 1 m in diameter and are not comparable to the burial structures analysed here (see Furmánek, Mitáš 2010, 85, obr. 17). Nevertheless, discoveries of the much larger circular grave features also within the Piliny culture cemeteries can be expected in the future excavations, similar to well-known richly furnished grave 216/69 found in Radzovce, over which was a stone cairn of about 7 × 8 m in size (Furmánek, Mitáš 2010, 82, obr. 37:b; Furmánek et al. 2016, 119, Abb. 175, Taf. CV:3).

As emphasized before, the aim of this study is to discuss in more detail larger-sized circular burial features (more than few metres in diameter) situated in the regions, where Carpathian Tumulus culture communities and its related groups (e.g. Egyek, Tápé) were distributed. Since the time of the A. Točík´s dissertation, at least 16 sites have been registered, or places where the adjoining material (mostly pottery stylistics) allows for a more precise cultural classification (Tab. 1). A total of over 41 circular ditches and 18 stone rings or wreaths surrounding the graves were documented. In some cases, however, such a determination is difficult, even impossible, for various reasons,[7] and therefore it should be avoided to attempt a strict cultural classification[8] of each individual site. The burial grounds in Jobbágyi and Maklár situated in the border zone with the western group of the southeastern Urnfield cultures (Piliny culture),[9] seem particularly problematic[10] in this context; but the 'influence' of the Tumulus culture on the communities who buried there was evident from the surroundings. Unequivocal grave finds of the Tumulus culture are known from this 'contact' territory, such as the sites of Szurdokpüspöki or Mezőnagymihály; Guba, Bácsmegi 2009; Fischl, Hajdu 2016). This is also true of the cemetery in Vértesszőlős located in the western foothills of the Gerecse Mountains or the recently discovered Koszider period[11] burial ground in Tét in northwestern Transdanubia, to which it will be possible to comment after their proper publication. Given its location, its association with the Carpathian Tumulus culture might seem unambiguous. Still, the preliminary excavation results of Vértesszőlős site suggest its strong ties to the west, i.e. eastern Austria. Defining the cultural affiliation of the Middle Bronze Age sites in this region or assessing the characteristics of the (mainly) ceramic material is a task for further research. There seem to be several indications that from the advanced phase of the Tumulus period (Bz B2–C1 stages) onwards we can speak of some attributes that can be considered as 'Transdanubian' specifics (e.g. distinctive cremations as a possible reminiscence of a Encrusted Pottery culture tradition, influences from the eastern Alpine zone). As far as goes for the Tumulus culture period in Western Transdanubia, this has been recently thoroughly summarised by G. Ilon (2024). Despite all the above, these sites located in 'peripheral' zones are considered in this study and once fully published, will shed more light on the way of interference between Carpathian lowland communities with the cultural regions either on the north (Piliny) or west (Middle Danube Tumulus).

3. The origins of burial under a mound on the Middle Danube in the 2nd millennium BC

The custom of mound burial had much deeper roots in the northwestern Carpathian Basin and the adjacent regions to the west, even before it was widely adopted in the Middle Bronze Age (more Stuchlík 1990a, 128–142; 2006, 131–134, further references there; also Jockenhövel 1999, 334–336, Abb. 5). These were evidenced in this territory only at the final stages of the Eneolithic, however, the earliest tumulus graves were usually not sunk below ground level but were placed directly on the surface. This way of burying continued into the Early and Middle Bronze Age, but with a change – the dead were placed in a sunken grave, over which the earthen mound was subsequently raised (Benkovsky-Pivovarová 1987, 167–172; Kern 2011, 161–168; Bátora 2012, 88–91). Apart from this, also in the eastern regions of the Carpathian Basin, the enclosure of graves with circular ditches and – the building of earthen mounds over them – has been documented during the Late Eneolithic / Early Bronze Age in the burial sites of the Grave Pit (Yamnaya) culture (see Scholtz 2010, 299, further references there). The large-scale excavations carried out in the 1970s and 1980s at the Mad'arovce-Věteřov-Böheimkirchen cultural complex burial grounds in

No.	Site	References
1	Budapest-Nagytétény-Érdliget	Bészédes, Szilas 2006; 2007; Szilas 2017
2	Jánoshida – Berek	Csányi 1980; 2003; 2016; 2017; 2019
3	Jobbágyi – Hosszú-dűlő	Fülöp, Váczi 2014; Fülöp 2016
4	Kiskunfélegyháza-Páka – Dósa-tanya	Kulcsár 1992; Somogyvári 1992; Wicker et al. 2001
5	Letkés – Kertészföldek	Nagy 1970; Kovács 1996
6	Maklár – Koszpérium	Szabó 1961; 1963a; 1963b; Mengyán et al. 2024
7	Maklár – Nagyrét II	Mengyán, Hrabák 2023
8	Malá nad Hronom – Rövid föld	Točík 1959; 1964; Ožďáni 1984; 2015
9	Mezőnagymihály – Nagyecsér-Észak	Fischl, Hajdu 2016
10	Nové Zámky – Berek	Rejholcová 1962; Točík 1982
11	Radvaň nad Dunajom-Žitava – Červený piesok	Hüssen et al. 2018
12	Salka I – Zsellér föld	Točík 1964
13	Svätý Peter I – Pasienky	Dušek 1959a; 1959b; 1969; Godiš 2015
14	Tét – Gyömörei útmelletti dűlő	Ujvári 2022; Ilon 2024
15	Üröm – Magyar-Bolgár Barátság TSz	Holport 1980
16	Vértesszőlős – Vasútvonal mente III	Pál 2010; Pál, Cseh 2013

Tab. 1. List of Tumulus culture sites (Bz B–C stages) in the northern Carpathian Basin with graves bounded by circular ditches or stone structures (rings/wreaths). Sites with stone usage are highlighted in grey.

Tab. 1. *Soupis lokalit mohylové kultury (stupně Bz B–C) v severní části Karpatské kotliny s hroby ohraničenými kruhovými žlaby nebo kamennými strukturami (kruhy/věnci). Lokality s použitím kamenů jsou zvýrazněny šedě.*

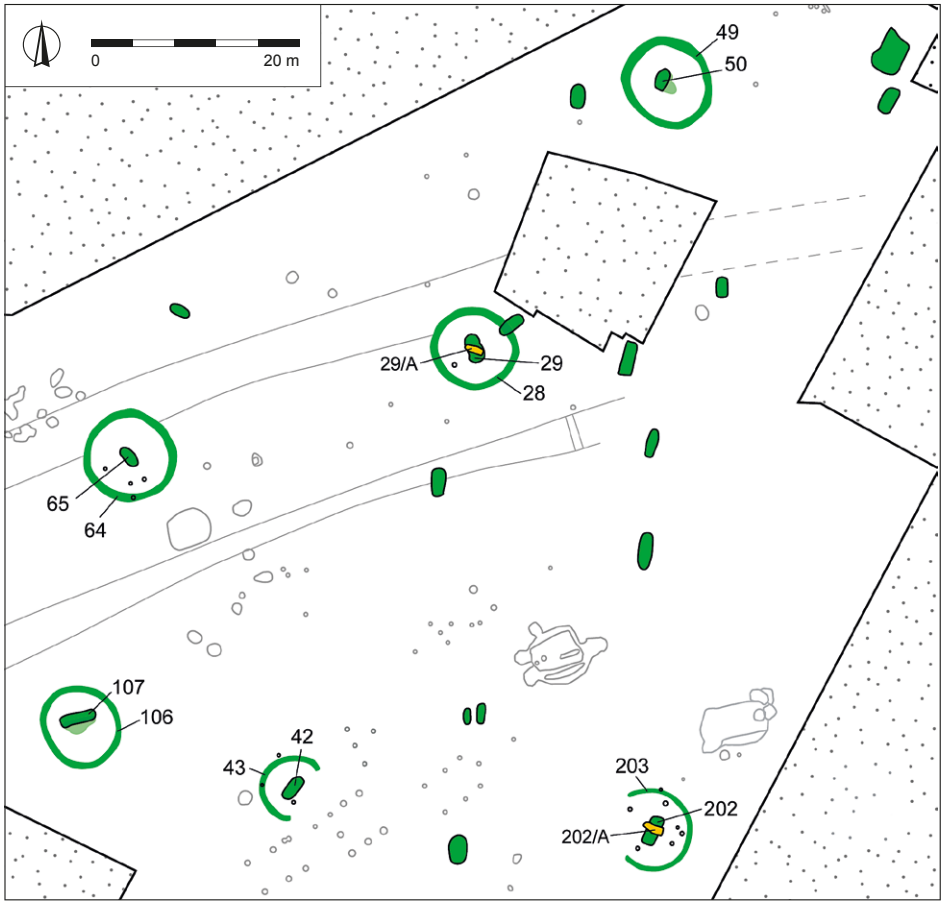


Fig. 2. Budapest-Nagytétény-Érdliget. Plan of the Tumulus culture burial ground. After Szilas 2017, Fig. 3; modified by J. Godiš.

Obr. 2. *Budapest-Nagytétény-Érdliget. Plán pohřebiště mohylové kultury. Podle Szilas 2017, Fig. 3; upravil J. Godiš.*

Jelšovce in southwestern Slovakia (Bátora 2000), Borotice in south Moravia (Stuchlík 2006), as well as at Traisen Valley in Lower Austria (Neugebauer 1994a, 90, further references there) provided a lot of important data on the research of the Early to Middle Bronze Age transition in this region. At these sites, several graves surrounded by circular ditches were discovered and since then, were considered as unequivocal evidence for the local continuity of this mound burial tradition, which preceded the 'classical' Tumulus period itself (Stuchlík 1990b; 1992). By some it can be even indication of the autochthonous origin of the Central European Tumulus culture, which should firstly emerge in the late Mad'arovce-Věteřov-Böheimkirchen cultural milieu (Bátora 2004, 253; 2012, 87, 92–95, Abb. 3). This complex question is still a matter of debate among researchers, while the western – Upper Danubian – origin of the Tumulus culture is generally assumed. From there, sometime around the early 16th century BC, smaller communities may have migrated eastwards and south-eastwards, also into the Middle Danube region, while their funerary traditions spread with them, elements of which could be adopted by the local population (see e.g. Dzięgielewski et al. 2010, 10–15; Makarowicz 2017, 129–131, further references there). The following chapter briefly introduces the individual sites located in the northern lowland regions of the Carpathian Basin, where circular burial features attributed to the Tumulus culture have been documented.

4. Summary of the studied sites attributed to the Tumulus culture

4.1 Budapest-Nagytétény-Érdliget

On the southwestern outskirts of Budapest in the Nagytétény-Érdliget[12] urban section (district XXII), a preventive rescue excavation was conducted in 2005–2006, which uncovered burial features from the Middle Bronze Age (Late Bronze Age in the Hungarian chronology; see the endnote),[13] Urnfield and Pre-Scythian period, as well as traces of Celtic settlement (Beszédes, Szilas 2006, 147–158; 2007, 233–235; Szilas 2017, 213–250). The most significant discovery was the 17 inhumation graves of the Tumulus culture, many of which had been robbed in the past. In six cases, the grave pits were surrounded by ring ditches

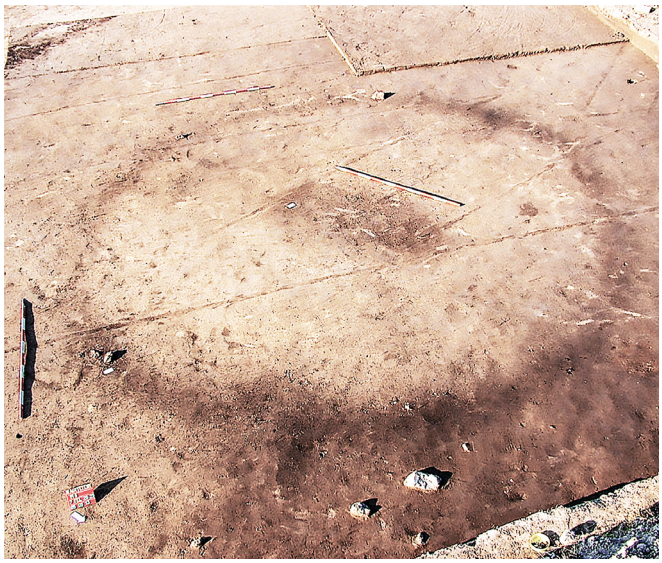


Fig. 3. Budapest-Nagytétény-Érdliget. Grave 29 with a circular ditch 28. After Szilas 2017, Fig. 5:1; Archive of the Aquincum Museum.

Obr. 3. *Budapest-Nagytétény-Érdliget. Hrob 29 s kruhovým žlabem 28. Podle Szilas 2017, Fig. 5:1; Archiv Aquincumi Múzeum.*

(graves 29, 42, 50, 65, 107, 202), which enclosed an area with an outer diameter ranging from 6.3–9 m. Ditches were 30–80 cm wide with a maximum depth of only 10–25 cm (Fig. 2, 3). In a few cases, the circular ditch was not preserved in its entirety, but most likely it was also closed, as well as these features were tens of metres apart and did not form any clusters. In the vicinity of some of the graves remains of post-holes were found, which could be related to its above-ground construction (see Chapter 7.3). At present, it is the first properly documented and published burial site from the earliest phase of the Tumulus culture in central Hungary, i.e. in the vicinity of today's Budapest. In addition, this excavation has provided important insights into the interpretation possibilities of ring ditches around graves as indirect remnants of earthen mounds, thanks to the rare superpositions of presumed Early Iron Age[14] graves over those dated to the Middle Bronze Age (see Chapter 9).

4.2 Jánoshida – Berek

Between 1974–1979, there was a systematic excavation in Jánoshida – Berek, where 278 graves associated to Tumulus culture were documented (135 inhumations, 109 urn graves, 34 scattered cremations, and 14 pithoi) (Csányi 1980, 153–164; 2003, 162–163; 2016, 109–119; 2017, 201–212; 2019, 47–64). The remnants of four ditches encircling the graves were also found in the excavated area – features A, B, C, D. In addition to these, another oblong ditch was identified, along with an arcuate post-pit structure of uncertain date[15] and questionable function – feature E (Fig. 4; to this issue see also Jockenhövel 1999, 340). The circular features reliably dated to the Middle Bronze Age were concentrated in the presumed central zone of the burial ground and were aligned on the NNE–SSW axis. Three of these surrounded the cremation graves B/46, B/114, C/118, D/151 and

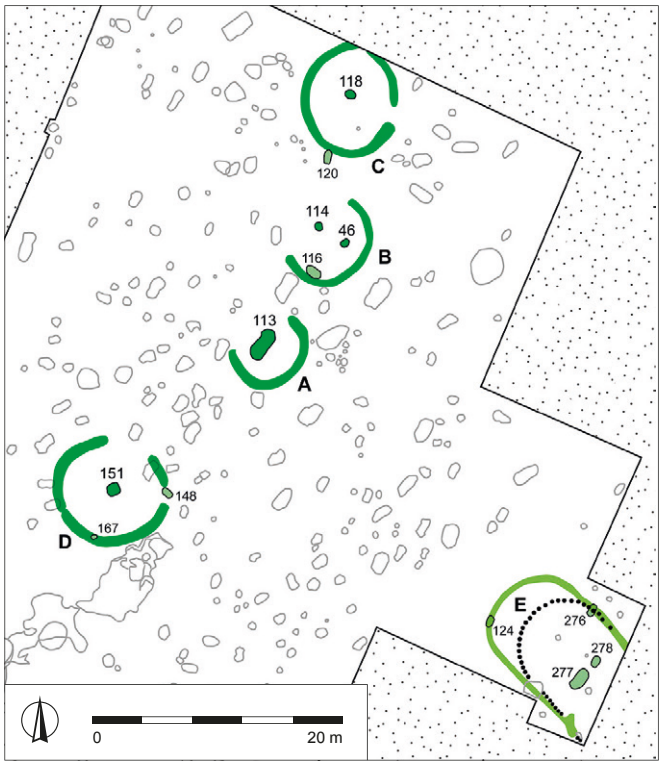


Fig. 4. Jánoshida – Berek. Plan of the Tumulus culture burial ground. After Csányi 2019, 1. kép; modified by J. Godiš.

Obr. 4. *Jánoshida – Berek. Plán pohřebiště mohylové kultury. Podle Csányi 2019, 1. kép; upravil J. Godiš.*



Fig. 5. Jánoshida – Berek. Grave 113 with circular ditch – feature A. After Csányi 2003, Fig. 27.

Obr. 5. *Jánoshida – Berek. Hrob 113 s kruhovým žlabem – objekt A. Podle Csányi 2003, Fig. 27.*

one partially disturbed ditch enclosed inhumation grave A/113 (Fig. 5). These burials were distanced 4 to 10 m apart by ditches and their outer diameter ranged from 6.1 to 8.9 m. The width of the ditches ranged from 50–75 cm, while their preserved depth was approximately 45–60 cm. Recently, radiocarbon data were published for a disturbed grave 113 (see Csányi 2019, 50, 1. táblazát), which supports the previous conclusions, that it was one of the earliest features from the time when the cemetery was established (DeA-7941, 3167 ± 24 BP). This was also suggested by stratigraphic observations, where cremation graves were found directly in some of the ditches (e.g. graves 148, 167 in ditch D; grave 124 in ditch E).

4.3 Jobbágyi – Hosszú-dűlő

In 2014, a preventive rescue excavation was carried out at the Jobbágyi – Hosszú-dűlő, where 207 Middle Bronze Age graves were documented (Fülöp, Váczi 2014, 413–421). Based on the informative report, it was a biritual cemetery with a significant predominance of cremation graves (inurned and scattered). Apart from this, it was characterised by the plentiful use of stone in the construction of the graves, which were substantially damaged due to agricultural activities. In some cases, small oval-shaped stone embankments (piles) over graves have been documented in an intact position, which were about 1 m in diameter and 0.5 m high (Fülöp, Váczi 2014, 413). The schematic plan of the excavation also shows that one symbolic and another pit grave were surrounded by circular stone structures of closely unspecified dimensions (Fülöp, Váczi 2014, Fig. 2).

4.4 Kiskunfélegyháza-Páka – Dósa-tanya

Between 1988–1993, rescue excavations at Kiskunfélegyháza-Páka – Dósa-tanya uncovered 25 Tumulus culture graves in the biritual cemetery (18 inhumations, 7 cremations), together with remnants of three partly disturbed circular ditches associated with inhumations (Kulcsár 1992, 9–21; Somogyvári 1992, 13–26; 2016, 137; Wicker et al. 2001, 69–71). These were superposed with later Sarmatian burials and other more recent features. Within the inner area bounded by the largest ditch (feature 71), about 12 m in outer diameter, which had probably an opening in its southeastern part, two disturbed graves 41 (central) and 59 (secondary) were found (Fig. 6). A second, half the size ditch about 6 m in diameter (feature 13), surrounded grave 7, which was also robbed (Somogyvári 1992, 4., 5. kép). Only grave 92 was intact, but the adjacent ditch (feature 177) had been heavily

disturbed by later features, so its diameter, as well as the exact shape is unknown.[16] The leader of the excavation does not exclude the possibility that there may have been other circular ditches on the site, of which no traces have survived due to earthworks activities (Somogyvári 1992, 16).

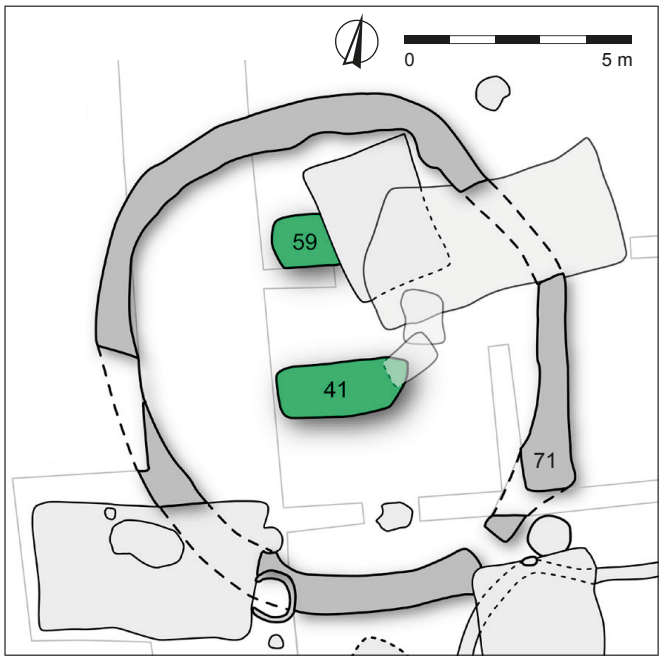


Fig. 6. Kiskunfélegyháza-Páka – Dósa-tanya. Detail of the excavation plan. Graves 41 and 59 bounded by ditch 71. After Somogyvári 1992, 1. kép; Archive of the Kiskun Museum; modified by J. Godiš.

Obr. 6. *Kiskunfélegyháza-Páka – Dósa-tanya. Detail plánu výzkumu. Hroby 41 a 59 ohraničené žlabem 71. Podle Somogyvári 1992, 1. kép; Archiv Kiskun Múzeum; upravil J. Godiš.*

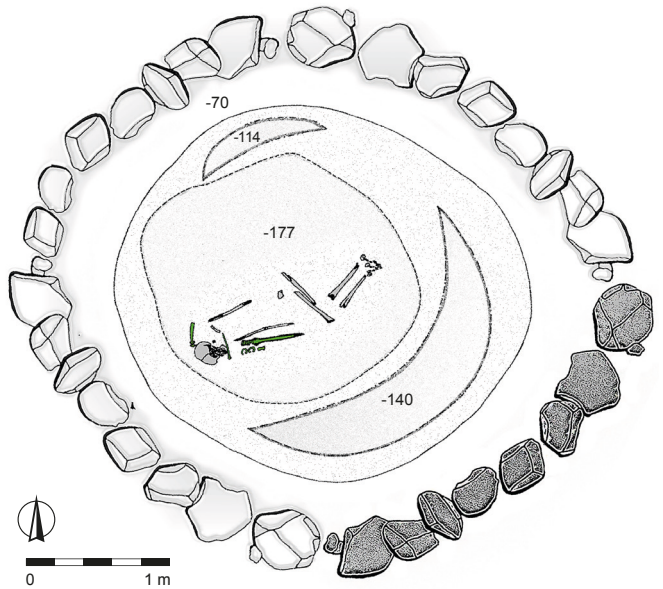


Fig. 7. Letkés – Kertészföldek. Grave 37 with a hypothetical reconstruction of a stone ring (dark highlighted stones indicate the preserved part of the feature; the scale is approximate). After Kovács 1996, Fig. 1a; modified by J. Godiš.

Obr. 7. *Letkés – Kertészföldek. Hrob 37 s hypoteticky rekonstruovaným kamenným kruhem (tmavě zvýrazněné kameny označují dochovanou část objektu; měřítko je přibližné). Podle Kovács 1996, Fig. 1a; upravil J. Godiš.*

4.5 Letkés – Kertészföldek

Rescue excavations conducted in Letkés[17] – Kertészföldek (site is also known as Ipolytölgyes – Vízállásjelző) between 1964 and 1967 uncovered about 53 Tumulus culture graves (at least 9 inhumations, 30 cremations of which 8 urn graves). The burial ground allegedly shared many similarities with the nearby cremation necropolis in Salka I, situated just a few km, on the other bank of the River Ipel'. It concerns mainly various forms of stone used in the construction of the graves, while those made in the form of rings or wreaths were documented in several cases (Papp 1965, 232; Nagy 1970, 111; Torma ed. 1993, 122–123). The only feature published[18] so far from this excavation is the inhumation grave 37, where an individual of elite social status was buried, as evidenced by both an oversized grave pit with a bench-like walls and a circular structure built of stones at the level of its surface with an outer diameter of circa 4 m (Fig. 7). The unique rank of the dead is also confirmed by the furnishing consisting of the short bronze sword (long dagger), a richly decorated battle-axe, bracelets, a pin, a tweezer, and gold jewellery (Kovács 1996, 115; 2000, 98–99).

4.6 Maklár – Koszpérium

In 1960 and 1962, around 142 Bronze Age graves[19] were excavated in Maklár – Koszpérium. Most of the cremations date to the Middle Bronze Age, and their ceramic furnishing significantly mixes stylistic elements of the Tumulus und and Piliny cultures (Szabó 1961, 286; 1963a, 23; 1963b, 299). Based on stratigraphic observations, several graves had been dated to an early Tumulus culture and these cremations were bounded by small circular ditches (13 cases in total). The results of the excavations have not been made to public, but recently a quite unique discovery of two ditch graves from this site was published (Mengyán et al. 2024; see also Kovács 2000, 104, Anm. 13). These were scattered cremations 41 and 42 inside rectangular pits with rounded corners, found close to each other with remarkable furnishing (stone polished axe, bronze dagger and jewellery), which were enclosed and joined by circular ditches (Fig. 8). The larger ditch around grave 41 had an outer diameter of ca 2.7 m and was no more than 30 cm wide, with a smaller oval-shaped ditch 170 × 90 cm in size, 'attached' to it from the southwest, bounding grave 42 (Mengyán et al. 2024, 6, Fig. 4:A).

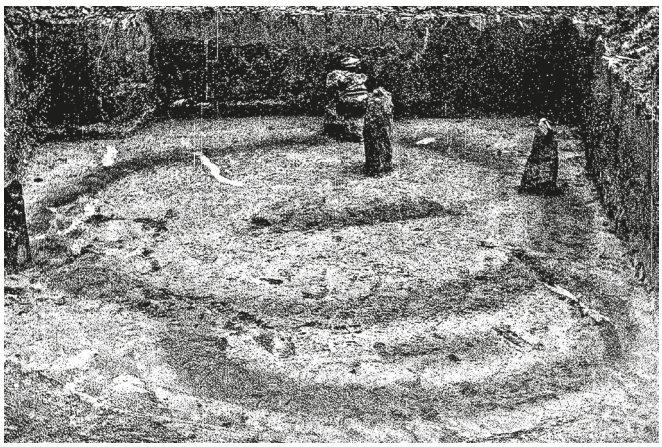


Fig. 8. Maklár – Koszpérium. Cremation graves 41 and 42 encircled by ditches. After Mengyán et al. 2024, Fig. 2.

Obr. 8. *Maklár – Koszpérium. Kremační hroby 41 a 42 ohraničené žlábky. Podle Mengyán et al. 2024, Fig. 2.*

4.7 Maklár – Nagyrét II

The more recently discovered circular ditches are known from Maklár – Nagyrét II, where preventive excavation took place in the 2021–2022 season. This site is located about 1 km from the above mentioned Koszpérium burial ground (Mengyán, Hrabák 2023, 8–16; Mengyán et al. 2024, Fig. 1). A total of 210 graves associated to the Tumulus culture were documented (112 urn graves, 95 scattered cremations and 3 graves without human remains). Within these were five scattered cremation graves bounded by small circular ditches with an outer diameter of about 3–3.5 m and a width of 30–40 cm (Fig. 9). Each of the features was open, i.e. it had an 'entrance', which for three graves was pointed towards the northeast, one to the north and another towards the northwest direction (see Mengyán, Hrabák 2023, Fig. 3).



Fig. 9. Maklár – Nagyrét II. Cremation graves with open circular ditches. After Mengyán, Hrabák 2023, Fig. 6.

Obr. 9. *Maklár – Nagyrét II. Kremační hroby s otevřenými kruhovými žlábky. Podle Mengyán, Hrabák 2023, Fig. 6.*

4.8 Malá nad Hronom – Rövid föld

In 1958–1959, a rescue excavation was conducted in Malá nad Hronom – Rövid föld, where about nine Tumulus culture graves within the disturbed biritual cemetery were documented (Točík 1959, 175–176; 1964, 39–41). One feature worthy of a special attention is the one labelled as 'grave 34', which had two circular stone enclosures[20] while four burials were allegedly found inside these (Fig. 10). The outer stone wreath was approximately 5.7 m in diameter and was damaged by ploughing (Točík 1976, 88). From the information presented by A. Točík, there were supposedly three Early Bronze Age urn graves, and one urn grave dated to the Tumulus culture (grave 34/III). This was discovered at a depth of 50 cm and deformed by the pressure of the inner cairn (?) with an empty centre. There was another feature also encircled by rocks of 4.5 m in diameter found in the same depth bounding the central grave 41 with rectangular ground-plan (190 × 80 cm) of unknown orientation, which was leaned by stones (Fig. 11; see Točík 1964, Taf. XXXII:6). This was according to excavation report also disturbed by tillage (or robbed), as only a few cremation remains and pottery sherds were found in its filling. Rescue excavation at the Rövid föld site continued in 1983, but then no grave circular structures made of rocks were discovered (Ožďáni 1984, 171; 2015, 140, obr. 137). In total, at least 31 graves (23 inurned and 2 scattered cremations, 6 inhumations) have been identified at the burial ground, including the previous excavation at the end of the 1950s (Furmánek, Ožďáni 1990, Abb. 1), but these have not yet been published.



Fig. 10. Malá nad Hronom – Rövid föld. Grave 34/III with a stone wreath and inner cairn. After Točík 1964, Taf. XXXII:3; Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra, T-28855.

Obr. 10. *Malá nad Hronom – Rövid föld. Hrob 34/III s kamenným věncem a vnitřním příkrovem. Podle Točík 1964, Taf. XXXII:3; Archiv Archeologického ústavu SAV, v. v. i., Nitra, T-28855.*



Fig. 11. Malá nad Hronom – Rövid föld. Grave 41 with a stone ring. After Točík 1964, Taf. XXXII:5; Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra, T-28873.

Obr. 11. *Malá nad Hronom – Rövid föld. Hrob 41 s kamenným kruhem. Podle Točík 1964, Taf. XXXII:5; Archiv Archeologického ústavu SAV, v. v. i., Nitra, T-28873.*

4.9 Mezőnagymihály – Nagyecsér-Észak

In 2008, a rescue excavation was carried out in the Mezőnagymihály – Nagyecsér-Észak , where six burial features of the Tumulus culture and seven urn graves dated to Bz D–Ha A stages were documented (Fischl, Hajdu 2016, 141–160). The most striking features were the two closed[21] ring ditches (41 and 87) identified around two inhumation neighbouring graves 58 and 88, equally oriented on the W–E, i.e. WSW–ENE axis (Fig. 12, 13). Directly above those graves, inurned cremations of the Urnfield culture were discovered (see Chapter 9). About a metre from Tumulus culture grave 58, which was located in the centre of the area bounded by the ditch, another (empty) rectangular pit was found, interpreted as a child's grave 91. The smaller circular ditch associated to grave 88 had a diameter of about 2.5 m, while the other adjacent to grave 58 was up to 5.3 m in size. The width of the ditches in both cases was no

more than 40 cm. Inside the smaller ditch (feature 87), a pyre (feature 89) was discovered, in which accumulated remains of charcoals and burnt pottery sherds were found. Apart from this, there were several post- or column-holes documented near the circular ditch, as well as near the wall of the grave pit (Fischl, Hajdu 2016, 153, 154; see Chapters 7.2 and 7.3).

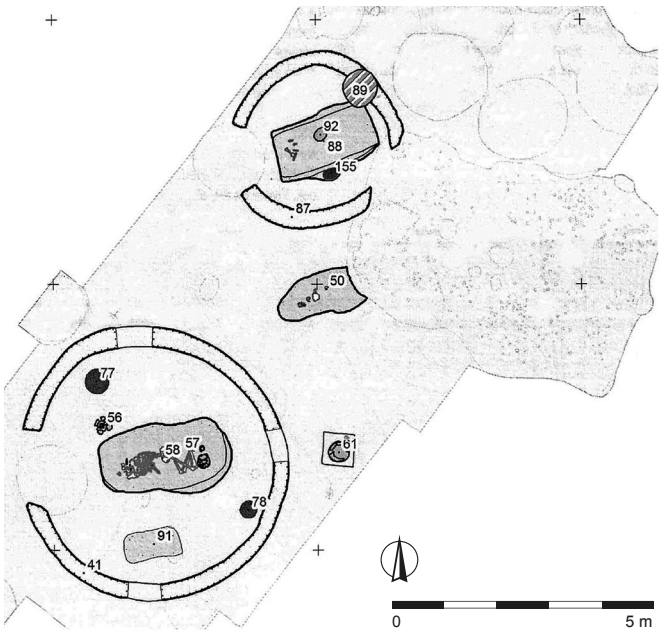


Fig. 12. Mezőnagymihály – Nagyecsér-Észak. Detail of excavation plan with the graves 58 (91) and 88 surrounded by circular ditches – features 41 and 87. After Fischl, Hajdu 2016, 2. kép; modified by J. Godiš.

Obr. 12. *Mezőnagymihály – Nagyecsér-Észak. Detail plánu výzkumu s hroby 58 (91) a 88 ohraničenými kruhovými žlaby – objekty 41 a 87. Podle Fischl, Hajdu 2016, 2. kép; upravil J. Godiš.*



Fig. 13. Mezőnagymihály – Nagyecsér-Észak. Graves 58 and 91 encircled by ditch 41. After Fischl, Hajdu 2016, 3. kép: 1; photo by G. A. Szörényi, Herman Ottó Museum.

Obr. 13. *Mezőnagymihály – Nagyecsér-Észak. Hroby 58 a 91 obkroužené žlabem 41. Podle Fischl, Hajdu 2016, 3. kép: 1; foto G. A. Szörényi, Herman Ottó Múzeum.*

4.10 Nové Zámky – Berek

So far in the literature a little-known site of the Tumulus culture where remnants of a circular ditch have been actually found around the grave is Nové Zámky – Berek. In 1955, a grave (1/55) was accidentally discovered when digging on a sandpit in a military training ground, from which a set of rare bronze jewellery of Central-Western European origin was rescued (Točík 1982, 28–30). Later, in 1962, a survey excavation was conducted at this site, where a small segment of an arcuate ditch was identified on one of the sand dunes (Dune I) close to the place, where the above-mentioned grave was found (Fig. 14). This feature was interpreted as the remnants of the ditch surrounding the grave, specifically A. Točík stated that '*...in addition to the remains of grave pit 1/55, almost half of the circular ditch of Ø 12 m was uncovered*'. According to him, the ditch had a depth of 60 to 80 cm in some places, and it reached a maximum width of 60 cm (Točík 1976, 119; 1982, 25). Revising the documentation of the survey excavation (Rejholcová 1962), the attached and apparently slightly schematised plan indicates that the dimensions of the ditch published earlier by A. Točík were probably highly overestimated.[22] Based on the known size of the survey trenches mentioned in the report and the dimensions of the nearby discovered grave pits, the scale on the plan was verified, which means that the outer diameter of the ditch associated with grave 1/55 was likely much smaller, approximately 6.5 m. Finally, further indication supporting past existence of the ditch and possibly the earthen mound is the fact that two Early Medieval graves (4/62 and 8/62) were partly sunken into the Bronze Age ditch, right at the 'foot' of the delimited space.

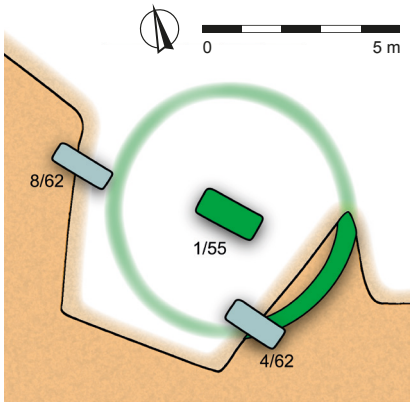


Fig. 14. Nové Zámky – Berek. Detail of a survey excavation plan with remnants of circular ditch around grave 1/55. After Rejholcová 1962; Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra; modified by J. Godiš.

Obr. 14. *Nové Zámky – Berek. Detail plánu zjišťovacího výzkumu se zbytky kruhového žlabu kolem hrobu 1/55. Podle Rejholcová 1962; Archiv Archeologického ústavu SAV, v. v. i., Nitra; upravil J. Godiš.*

4.11 Radvaň nad Dunajom-Žitava – Červený Piesok

The grave with a circular ditch was identified in 2010 during a large-scale geophysical survey in the Radvaň nad Dunajom-Žitava – Červený Piesok (Hüssen et al. 2018, 71–73). A trial excavation was carried out at the place of the magnetic anomaly in 2013, when an underground anthropogenic feature was documented in detail. The outline of a ditch began to appear at a depth of about 45–55 cm, as well as central rectangular oval grave pit oriented on the W–E axis (Fig. 15, 16). Dimensions of the feature varied from the level of its visual identification (280–285 × 150 cm) towards the bottom (225 × 130 cm), as the pit had sloping walls, so an actual depth was about 45 cm (or 90–95 cm from the current ground level). No furnishings were present in the grave as it had been robbed in the past. Only a few rocks (identified as limestone), small fragments of human bones and a few teeth of an adult were found in its fill. The circular ditch's outer diameter reached at most 11 m and its width was 75–80 cm at depth, where it was clearly identifiable (50 cm from ground level). It was open in the southeastern part at a width of circa 90 cm, while small, atypical pottery sherds were found here. These were interpreted as traces of grave robbing or ritual practices associated

with burial. The stratigraphy of the ditch filling indicated that it remained open after digging and was visible in the landscape for a long time. About 25 m south of the grave, there was a stray find of a bronze funnel-shaped pendant typical of the Koszider period (Hüssen et al. 2018, obr. 38:2). The geophysical survey did not detect any other anomalies in the surroundings (see Hüssen et al. 2018, obr. 39:B), and therefore either this was an isolated feature, or the other contemporary graves nearby have been destroyed in the past by agricultural activity.

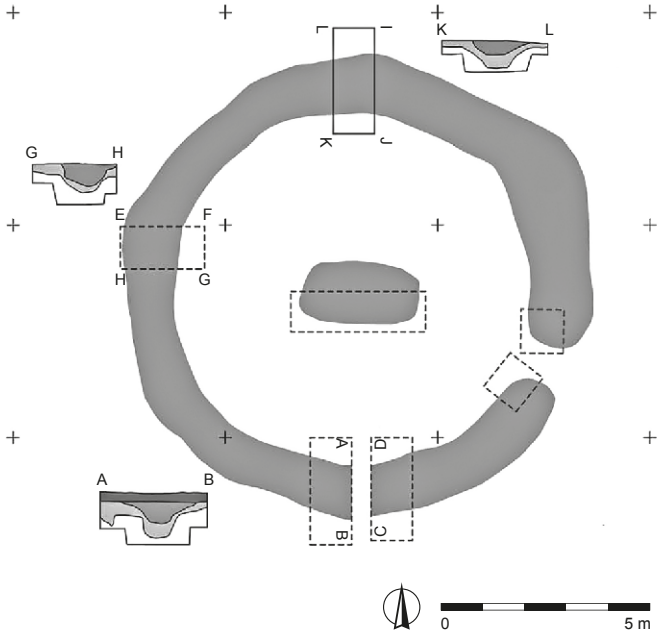


Fig. 15. Radvaň nad Dunajom-Žitava – Červený Piesok. Plan of circular ditch grave. After Hüssen et al. 2018, obr. 40:A.

Obr. 15. *Radvaň nad Dunajom-Žitava – Červený Piesok. Plán hrobu s kruhovým žlabem. Podle Hüssen et al. 2018, obr. 40:A.*



Fig. 16. Radvaň nad Dunajom-Žitava – Červený Piesok. Grave surrounded by a ditch. After Hüssen et al. 2018, obr. 40:B.

Obr. 16. *Radvaň nad Dunajom-Žitava – Červený Piesok. Hrob ohraničený žlabem. Podle Hüssen et al. 2018, obr. 40:B.*

4.12 Salka I – Zsellér föld

Circular burial feature in the form of the stone ring was discovered in 1962 in Salka I – Zsellér föld[23], which is till date the largest excavated Tumulus culture cemetery with 172 graves (68 inurned, 83 scattered and 12 inhumations[24]) in southern

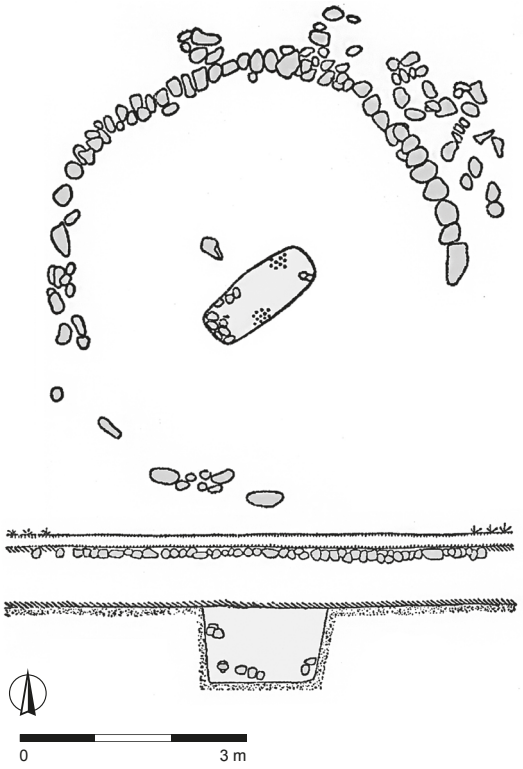


Fig. 17. Salka I – Zsellér föld. Plan of grave 181 with a circular stone enclosure. After Točík 1964, Abb. 3:6, 7; modified by J. Godiš.

Obr. 17. *Salka I – Zsellér föld. Plán hrobu 181 s kamenným kruhovým ohrazením. Podle Točík 1964, Abb. 3:6, 7; upravil J. Godiš.*

Slovakia (Točík 1964, 3–37). A distinctive feature of the burial ground is the frequent use of stone in the grave constructions, as is the case in the nearby site Letkés. Among these, grave 181 stands out, bounded by a stone ring with an outer diameter of 5.6–6 m (Fig. 17, 18; see also Točík 1964, Taf. VII:5). This was found at the eastern edge of the excavated area, although it is not confirmed that there was the burial ground's periphery. In the middle of the area demarcated by stones, there was a scattered cremation grave, but it had the rectangular ground-shape (180 × 70 cm) that is standard for the burial of an unburnt body (Točík 1964, 36). Anton Točík assumed that it



Fig. 18. Salka I – Zsellér föld. Cremation grave 181 bounded by a stone ring. Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra, T-33341.

Obr. 18. *Salka I – Zsellér föld. Kremační hrob 181 ohraničen kamenným kruhem. Archiv Archeologického ústavu SAV, v. v. i., Nitra, T-33341.*

reflected '*...a surviving tradition of graves with skeletons...*' as was probably also the case of another biritual double grave 34/60 with an extended rectangular pit (485 × 85 cm) found at the same site (1964, 10, 59, Taf. II:5). Close to the west of the stone ring of grave 181, there was an urn grave 170, which was also surrounded by a small circle made of rocks with a diameter of only about 1 m (Točík 1964, 34, Abb. 3:8, 9, Taf. VI:6).

4.13 Svätý Peter I – Pasienky

One of the first excavated sites of a crucial significance (in terms of the excavation extent and the state of preservation) to the understanding of the Tumulus culture origins in the northwestern Carpathian Basin so far is the burial ground in Svätý Peter I (formerly Dolný Peter) – Pasienky (or Salaš JRD – Unified Agricultural Cooperative). It was systematically excavated in 1958–1959 (Dušek 1959b, 21–34; 1969, 51–80), where a total of 56 Middle Bronze Age graves were found (39 inhumations, 5 cremations and one biritual double grave). It is important to emphasize that the necropolis, or a substantial part of it, appears to have been completely excavated (Fig. 19). In the central part of the burial ground there were six inhumation graves (7, 9, 16, 20, 21, 25), each bounded by a circular ditch with an outer diameter of 3.8–8.4 m, a width of 35–50 cm, and a preserved depth of about 20–35 cm (Fig. 20). In terms of spatial distribution, these features formed a coherent grouping aligned along the WNW–ESE axis, which is indicative of an organised selection of the burial spots within the necropolis. This is also confirmed by the absence of superpositions, which would be caused by digging new grave pits, as well as by the respecting of the inner area marked by ditches, which was allegedly without finds. One of the remarkable finds at this site were the concentrations of charcoal remains and burnt animal bones, which were found in the three ditches encircling the graves 7, 9, and 20 (see Chapter 7.2).

4.14 Tét – Gyömörei útmelletti dűlő

In 2021, there was a rescue excavation in Tét – Gyömörei útmelletti dűlő, where 22 early Tumulus culture graves (including stretched inhumations) were discovered yielding typical metal jewellery of the Koszider period (Ujvári 2022, 71). From the scarce published information, it is known that a circular ditch of unspecified dimensions was identified, which was situated among two grave groups, within the burial ground. It cannot be ruled out that it originally surrounded the previously destroyed central grave, as suggested by the very shallow level at which the other graves were recognised (Ilon 2024, 415–416).

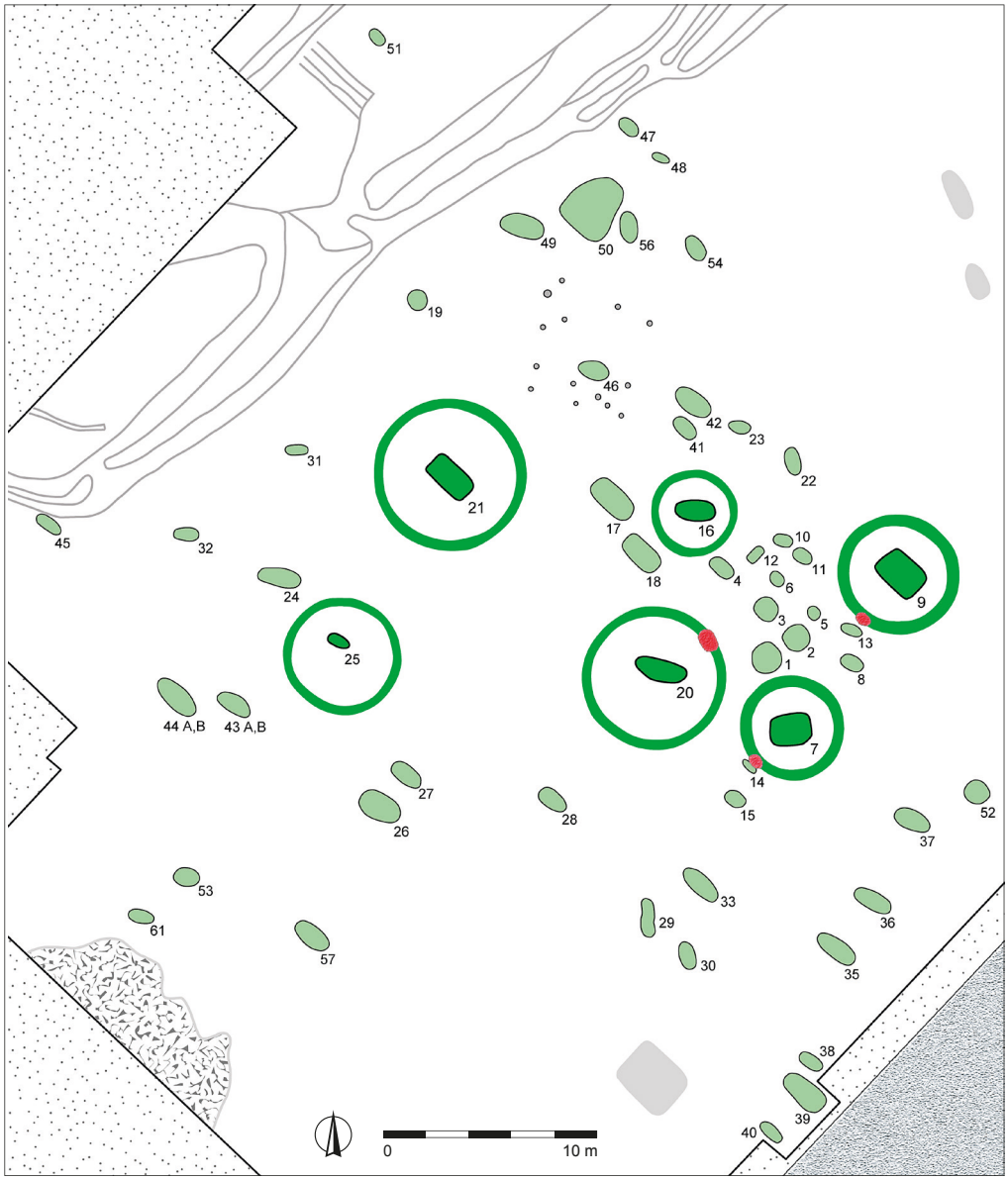


Fig. 19. Svätý Peter I – Pasienky. Plan of the Tumulus culture burial ground. After Dušek 1969, Plan 4; modified by J. Godiš.

Obr. 19. *Svätý Peter I – Pasienky. Plán pohřebiště mohylové kultury. Podle Dušek 1969, Plan 4; upravil J. Godiš.*

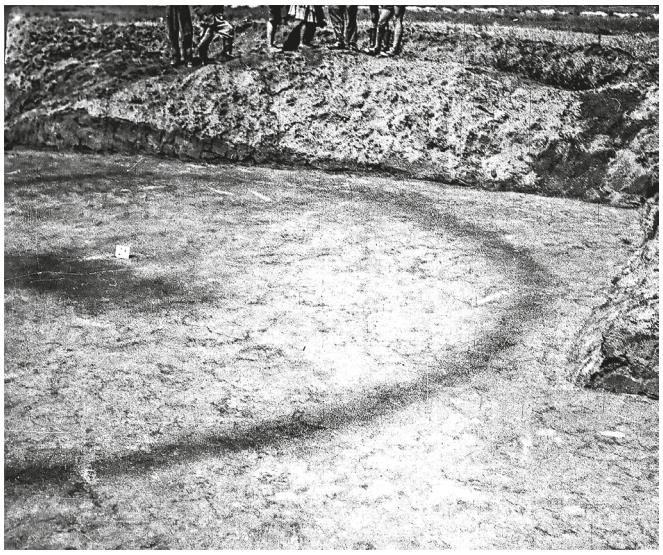


Fig. 20. Svätý Peter I – Pasienky. Grave 21 encircled by a ditch. After Dušek 1969, Taf. XXXI:5; Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra, T-25255a.

Obr. 20. *Svätý Peter I – Pasienky. Hrob 21 ohraničený žlabem. Podle Dušek 1969, Taf. XXXI:5; Archiv Archeologického ústavu SAV, v. v. i., Nitra, T-25255a.*

4.15 Üröm – Magyar-Bolgár Barátság TSz

A survey excavation was carried out in Üröm – Magyar-Bolgár Barátság TSz in 1977, which was evoked by the representative stray artefacts associated with Tumulus culture rescued from the previously destroyed graves located in vicinity of the local farmyard. The documented features were already heavily disturbed due to the previous earthworks at the site conducted with heavy machinery (Holport 1980, 57–78). In one of the trial trenches, at a depth of 50 cm, an irregular arched structure built of flat stones was discovered, while in the nearby trench this feature continued at the same depth, but its alignment had been disturbed (Holport 1980, 59, 1. kép). Finds of pottery and metal objects from the area marked by these structures show that some of the graves in what was undoubtedly biritual burial ground were originally surrounded by wreath of stacked rocks several metres in diameter.

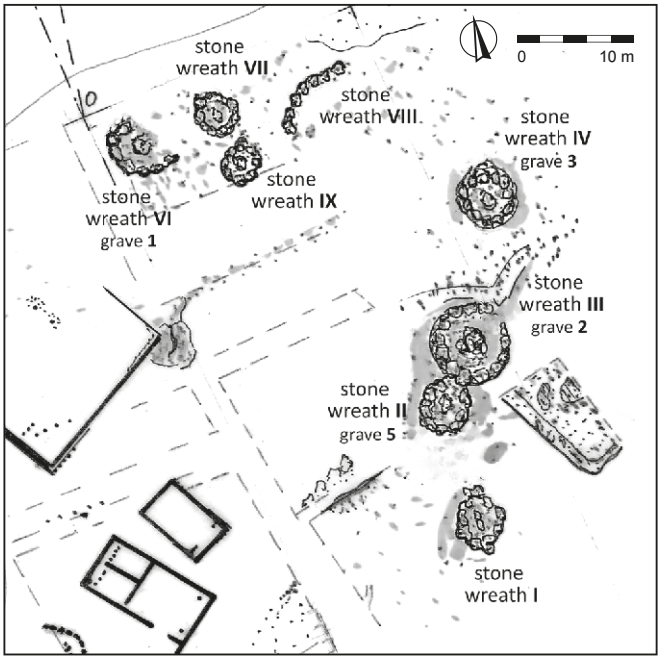


Fig. 21. Vértesszőlős – Vasútvonal mente III. Detail of an excavation plan of the Tumulus culture burial ground with circular stone structures around the graves. After Pál, Cseh 2013, 1. tábla; Archive of the Tatabánya Museum; modified by J. Godiš.

Obr. 21. *Vértesszőlős – Vasútvonal mente III. Detail plánu výzkumu pohřebiště mohylové kultury s kruhovými kamennými konstrukcemi kolem hrobů. Podle Pál, Cseh 2013, 1. tábla; Archiv Tatabányai Múzeum; upravil J. Godiš.*

4.16 Vértesszőlős – Vasútvonal mente III

In 2009, a preventive excavation took place in Vértesszőlős – Vasútvonal mente III, where a biritual cemetery of the Tumulus culture was discovered (Pál 2010, 388; Pál, Cseh 2013, 5–19). From the preliminary report it is known that 8 Middle Bronze Age[25] graves (3 scattered cremations, 4 inhumations and 1 symbolic) were found at a depth of about 50–80 cm, all of which were encircled by stacked stones in the form of a wreath, i.e. in several layers (Fig. 21). Their diameter[26] varied from approximately 3.5 to 7 m, but one of the disturbed enclosures ('VIII. kőkör') reached even up to 10 m (Pál, Cseh 2013, 1.–3. tábla). Several graves with wide stone wreaths had a cairn piled up in its centre (Fig. 22), while inhumations were rectangularly lined with stones. Structures were built of non-local sandstone, which had to be brought from the nearby Gerecse Mountains.



Fig. 22. Vértesszőlős – Vasútvonal mente III. Grave 3 with a stone wreath IV. After Pál, Cseh 2013, 3. tábla:5. kép; Archive of the Tatabánya Museum.

Obr. 22. *Vértesszőlős – Vasútvonal mente III. Hrob 3 s kamenným věncem IV. Podle Pál, Cseh 2013, 3. tábla:5. kép; Archiv Tatabányai Múzeum.*

5. Problems of identification of circular burial features in field excavations

Before discussing above presented features in depth, a few brief comments should be made on the possibilities of their preservation regarding erosion processes and anthropogenic activity (more on the detailed examination of this issue see e.g. Trefný 2013, 131–133). If the grave had a superior outer surface treatment (construction) in the form of earthen mounds, even combined with a stone ring or wreath, then archaeological traces of it may indeed not have survived at all to this day. Unless they were of more monumental dimensions, earthen embankments with little or no use of stone practically did not preserve in the lowland agriculturally exploited regions of the Pannonian Basin. Also, the rocks were generally simply piled up to the surface level and thus more easily exposed to destruction (tillage, extraction, etc.) after the burial had ceased. Therefore, when evaluating the results of the excavations of some burial sites with dense distribution of graves, sometimes researchers have tended to conclude that mounds (earthen or stone) may have originally stood over some of them, which were found surrounded by a wider 'empty space'. On the other hand, if a surrounding ditch was dug around the central grave pit at the level of its surface, the impact of the subsequent feature archaeologisation processes should – under the usual circumstances – result in the preservation of its negative (scouring of the ditch walls, weathering, etc.). Traces of these ancient earthworks can therefore be archaeologically observable even in the present day, moreover in the cases where there was some stone construction inside the area encircled by the ditch. It follows that identifying the nature of the original outer, i.e. surface treatment for graves of this type may not always be reliable, as it depends on the individual case which attribute of their arrangement has archaeologically 'survived'. Whether it is just a simple circular ditch around the grave, an embankment (earthen mound) above the grave with a surrounding ditch or, on the other hand, a stone ring or wreath reinforcing an earthen mound (or a cairn – pile of stones), possibly also with a circular ditch. Therefore, the occurrence of circular ditches, or rocks placed concentrically around a central grave, is not always rightly interpreted as mounds, although this may often have been the case. As was evidenced in other (pre)historical periods, the circular ditches may have been covered by an earthen mound too – excluding the cases of later overlaying (superpositions) with the secondary burials, when embankment could be altered – i.e. have not surrounded the tumulus, if it was even built (see Scholtz 2010, 300, Fig. 8, further references there). To add, it is suggested by many that the soil from the ditch was placed over the central grave to create embankments, but cases are known when it was used to build a low earthen wall from the ditch's outer side.

Shortly, a few remarks on the excavation methods should be made in relation to the fact that the traces of above-ground structural features are usually relatively rare to have been preserved.[27] Consideration must also be given to the suitability and extent of the using heavy machinery, i.e. an excavator when lowering the topsoil (hummus); the negatives of circular ditches – if their depth was only a few tens of centimetres – can be destroyed in the initial process of the excavation itself if carelessly handled. This could also explain cases where the 'isolated' grave pit on the larger uncovered cemetery had been found, which may have originally been surrounded by a shallow circular feature (e.g. Bátora 2004, 241, Abb. 1; Egry 2004, 122, 2. térkép; Ilon 2024, 415; Kustár, Wicker 2004, 79, I. tábla). The situation is much more favourable with stone rings and mainly massive wreaths, as their unintentional destruction, usually during rapid and poorly managed rescue excavations, is immediately apparent, so at least these features are identified, even when heavily disturbed. It follows from the above that the state of the archaeological record of circular grave features is affected not only by objective factors, such as the circumstances of the natural potential for preservation of the feature itself but also by the experience and carefulness of the lead archaeologist and their choice of technique used in the excavation.

6. Spatial distribution of Middle Bronze Age circular funerary features in the Carpathian Basin

The mapping of the studied sites in the northern Carpathian Basin clearly points to the fact that burial grounds with ditches around graves dated to the Middle Bronze Age are located exclusively in lowland areas, whereas presence of graves encircled by stone structures were rather linked to hilly or mountainous regions (Fig. 1). One can lean towards the 'common-sense' argument, which has been stated long ago by several researchers, that this can be simply explained with extent of availability of stone raw material needed for the construction of these structures (e.g. Kovács 1975, 40, note 29; Trogmayer 1975, 148; Pichlerová 1976, 18; Furmánek, Ožďáni 1990, 136). On the other hand, however, cases where this material was undoubtedly transported over a greater distance (at least several kilometres) should not be overlooked, as can be evidenced e.g. in Radvaň nad Dunajom (Hüssen et al. 2018, 71; see also Keszthely; Godiš, Styk 2019, 216). The use of the stone in such cases may have had a special meaning and emphasized the 'extra work' that the mourners were willing to do for the deceased to honour him even more. The absence of rocks in the grave, i.e. in the ditch was apparent at sites such as Šamorín-Šámot, Svätý Peter, Nové Zámky, Jánoshida, Mezőnagymihály and Kiskunfélegyháza. Still, this conclusion could be affected by the state of preservation of each individual site (Tab. 2). It is possible that structures made of rocks may have been in some of these sites, but the impact of tillage and other latter disturbances have erased any trace of their past existence. This was indicated for example in Budapest-Nagytétény burial ground, where dislocated stones (even of larger sizes) have been found in the filling of some circular ditches, which were not local and must had been brought there (Fig. 23; Szilas 2017, 238).



Fig. 23. Budapest-Nagytétény-Érdliget. Dislocated stones found in ditch 49 around grave 50. After Szilas 2017, Fig. 10:2; Archive of the Aquincum Museum.

Obr. 23. *Vértesszőlős – Vasútvonal mente III. Dislokované kameny nalezené v žlabu 49 kolem hrobu 50. Podle Szilas 2017, Fig. 10:2; Archiv Aquincumi Múzeum.*

Site / Feature	Circular ditch outer–inner diameter / width / depth	Note
Budapest-Nagytétény		
Grave 29 / ditch 28	825–690 / 40–60 / -15–20 cm	◎ + few rocks in the ditch's filling; other grave sunken to the ditch
Grave 42 / ditch 43	630–570 / 30–45 / -10 cm	◎ (?) + posthole in the W part of the ditch and in S part enclosed by ditch
Grave 50 / ditch 49	900–730 / 70–80 / -25–35 cm	◎ + few rocks in the grave and ditch's filling, as well as at its bottom
Grave 65 / ditch 64	890–765 / 60 / -20 cm	◎ + few rocks in the grave's and ditch's filling; postholes in S part enclosed by ditch
Grave 107 / ditch 106	755–635 / 45 / -15–25 cm	◎
Grave 202 / ditch 203	820–740 / 45 / -25 cm	◎ (?) + symmetrically positioned postholes in area enclosed by ditch
Jánoshida		
Grave 113 / ditch A	615–520 / 65–70 / -45–55 cm	◔ (?) – opening in NE part of the ditch
Grave 114 + 46 / ditch B	730–620 / 55–60 / -50–60 cm	◎ (?) – most probably not fully preserved circular shape
Grave 118 / ditch C	890–730 / 60–75 / -50–55 cm	◔ – opening in E part of the ditch; other grave sunken to the ditch
Grave 151 / ditch D	890–780 / 60–75 / -50–55 cm	◔ (?) – interrupted in E/NNE part of the ditch; other graves sunken close to it
Kiskunfélegyháza		
Grave 41 + 59 / feature 71	1200–1000 cm / -15 cm	◔ – opening in the SE part of the ditch
Grave 7 / feature 13	590–440 cm / – / -20 cm	◎ (?) – interrupted in the NE part of the ditch; cremation grave in the ditch
Grave 92 / feature 177	–	◎ (?) – only segments of irregular circular ditch were documented
Maklár – Koszpérium		
Grave 41	280–260 / 25–30 cm	◎ later urn grave sunken into the ditch
Grave 42	170–90 / 15–25 cm	◎ oblong circular ditch joined to grave's 41 ditch at its SW part
Graves (11)	–	◎
Maklár – Nagyrét II		
Graves (3)	350–300 / 30–40 cm	◔ opening in NE part of the ditch
Grave	350–300 / 30–40 cm	◔ opening in N part of the ditch
Grave	350–300 / 30–40 cm	◔ opening in NW part of the ditch
Mezőnagymihály		
Grave 58 + 91 / ditch 41	530 / 25–30 / -10–20 cm	◔ (?) + two postholes (pillars) – interrupted in the WSW part of the ditch
Grave 88 / ditch 87	255 / 45 / -15 cm	◔ (?) + pyre 🔥 (Ø 50 cm) + pillar – interrupted in the WSW part of the ditch
Nové Zámky – Berek		
Grave 1/55	~ 650 (?) / 60 / -60–80 cm	according to A. Točík (1982) ditch diameter reached about 12 m
Radvaň nad Dunajom		
Grave (P2)	1150–1070 / 75–80 / -65–85 cm	◔ opening in ESE part of the ditch + few rocks in the grave's pit filling
Svätý Peter I		
Grave 7	550–500 / 50 / -25 cm	◎ + pyre in the SW part of the ditch 🔥 (Ø 60 cm); grave sunken to it
Grave 9	560–520 / 40 / -30–35 cm	◎ + pyre in the SW part of the ditch 🔥 (40 × 80 cm); grave sunken to it
Grave 16	410–380 / 30 / -25 cm	◎
Grave 20	700–620 / 35 / -25 cm	◎ + pyre in the NE part of the ditch 🔥 (Ø 80 cm)
Grave 21	840–700 / 40 / -20 cm	◎
Grave 25	675–580 / 35 / -25 cm	◎

Legend: ◎ – closed ditch; ◔ – open ditch; 🔥 – pyre

Tab. 2. Characteristics of circular ditches at the Tumulus culture burial grounds in the Carpathian Basin. For better comparison, the values have been rounded to 0–5–10.
Tab. 2. *Charakteristiky kruhových žlabů na pohřebištích mohylové kultury v Karpatské kotlině. Pro lepší porovnání byly hodnoty zaokrouhleny na 0–5–10.*

The second group of sites, where burial structures made of concentrically stacked stones in form of rings or wreaths were excavated, is characterised by their association with the nearby mountain ranges (Tab. 3). This is apparent at the burial grounds of the Middle Danube Tumulus culture in Buková (Janšák 1959), Smolenice (Dušek 1980) and Devín (Plachá, Furmánek 1976) related to the Little Carpathian mountain range. Another geographically close grouping is represented by the necropolises in Salka, Letkés and Malá nad Hronom situated in the Lower Ipeľ valley, where the stone exploitation from the nearby Börzsöny Mountains can be assumed. The sites of Radvaň nad Dunajom,[28] Vértessződlős and Üröm situated close to the River Danube, located at the foothills of Vértes, Gerecse and Pilis Mountains, can also be included in this grouping. The third group of sites where circular burial structures appeared is associated with the southeastern Urnfield cultural region and clustered in the Mátra and Bükk mountain range in northern Hungary. The abundant stone exploitation for the grave arrangements documented at the large Piliny culture burial grounds with hundreds of graves in Radzovce (Furmánek, Mitáš 2010), Tornaľa (Furmánek 1977), Nagybátony (Patay 1954) and Salgótarján-Zagyvapálfalva (Guba 2020) is not surprising, because its sources were apparently easily available in the surrounding landscape. It seems that the use of rocks may even have sometimes been a 'necessity' when burying the socially significant cremated dead as part of the strict Urnfield funerary customs. The same applies to the lately discovered cemetery in Jobbágyi, located on the 'borderlands' between the Piliny and the Carpathian Tumulus culture, where rocks[29] from Mátra Mountain range were also frequently used for marking graves or for building various constructions for it, including small-sized circular cairns.

7. Characteristics and specifics of grave circular ditches

7.1. Dimensions

One of the outcomes of the comprehensive study by A. Jockenhövel (1999, 350) focused on prehistoric circular sunken funerary features – ditches around graves from the Final Eneolithic to the Late Bronze Age in the regions north of the Alps, was the comparison of the intervals of their dimensions in the various chronological sections. Its results showed that a certain pattern can be traced in this attribute, where ditches dated to the Final Stone Age, Early and Middle Bronze Age had a much smaller diameter compared to their later parallels from the Late Urnfield period (see Jockenhövel 1999, Abb. 8). It was concluded back then that the outer diameter of the Middle Bronze Age ring ditches (sometimes with a slightly oval shape) known from the Carpathian Basin usually ranged from about 5.5 to 9 m, while

Site / Feature	Stone enclosure outer diameter	Note
Jobbágyi		
Symbolic grave	–	Ring of stones
Scattered cremation grave	–	Ring of stones
Letkés		
Grave 37	~ 400 cm	Stone ring was identified in depth about 40–45 cm
Grave 22	–	Stone ring, rocks inside oblong grave pit
Grave 8	–	Stone ring, circular grave pit lined with stones
Malá nad Hronom		
Grave 34/III	570 cm	Outer stone ring, inner stone cairn with empty centre
Grave 41	450 cm	Rectangular stone lining of grave (cremation)
Salka I – Zsellér föld		
Grave 181/62	600–560 cm	Rectangular grave pit (as for inhumation grave)
*Grave 170/62	100 cm	Urn grave covered by small-sized stone ring
Üröm		
Grave (?)	~ 300–400 cm (?)	Remnants of circularly arranged rocks (wreath)
Vértesszőlős		
Stone wreath I	~ 450 cm	Central grave covered by stone cairn
Grave 5 / stone wreath II	~ 500 cm	Central grave covered by stone cairn
Grave 2 / stone wreath III	~ 700 cm	Central grave covered by stone cairn
Grave 3 / stone wreath IV	~ 550 cm	Central grave covered by stone cairn
Grave 1 / stone wreath VI (Str. 0264)	~ 700 cm	Central inhumation grave with stone lining
Stone wreath VII (Str. 0337)	~ 600 cm	Central grave covered by stone cairn
Stone wreath VIII	~ 1000 cm	Heavily disturbed, only NW segment preserved
Stone wreath IX	~ 350 cm	Central grave covered by stone cairn

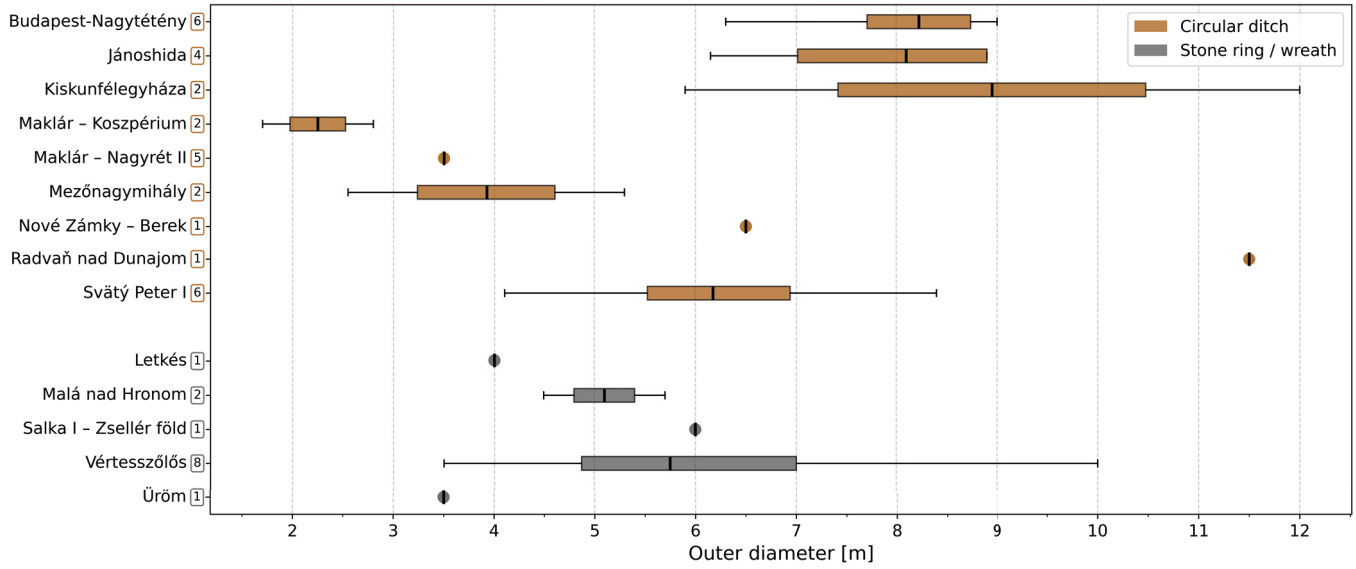
Tab. 3. Characteristics of stone structures (rings/wreaths) at the Tumulus culture burial grounds in the Carpathian Basin.

Tab. 3. *Charakteristiky kamenných struktur (kruhů/věnců) na pohřebištích mohylové kultury v Karpatské kotlině.*

such a features documented in the regions to the west, mainly in southern Germany, were about 7–18 m wide (Jockenhövel 1999, 340–342, Abb. 6). More than 25 years later, it can be stated that the observations for the Carpathian Tumulus culture settlement territories in present-day Slovakia and Hungary are still valid, with minor deviations reaching about 0.5–1 m (Graph 1). This is best exemplified by the extensive excavations of the burial grounds in Svätý Peter (6) and Budapest-Nagytétény (6) or Jánoshida (4), as a representative 'samples', where almost half of the circular structures listed here have been documented. The above-mentioned deviations mostly result from the fact that it is not always clear from the published text whether the dimension of the ditch (if plan is unavailable) refers to its inner or outer diameter, which distorts the conclusions, when sometimes the maximum preserved width of the ditch reached almost 1 m (e.g. Radvaň and Dunajom, Šamorín-Šámot, Neusiedl-Hutweide). As for the circular burial features represented by stone rings or wreaths, these are considerably less evidenced in the studied area (Salka I, Malá nad Hronom, Letkés), and their diameter was usually between 4 to 7 m, with some much larger structures documented in Vértesszőlős. These seem to be relatively smaller compared to similar but usually more structurally complex features (fully covered by rocks) known from the milieu of the Middle Danube Tumulus culture in the west. Moreover, their size was in some cases affected by the secondary stone embankments, as these could serve as family tombs (e.g. Buková, Čeložnice, Pitten; see Bobek 2016).

In this context, the outlined size-frame is being stepped out by grave 16 in Svätý Peter,[30] which was delineated by a small ditch approximately 4 m in diameter, where a child aged 7–12 years was buried (Dušek 1969, 59, Abb. 20). Another exception is the toddler's grave 88 bounded by a ditch about 2.5 m in width at Mezőnagymihály, in which remains of an individual aged 1.5–2.5 years were found (Fischl, Hajdu 2016, 153, 3. kép:6). Although such a statement may seem hasty, both cases indicate that ditches (and presumably mounds) of smaller dimensions may in some cases have been deliberately constructed over the graves of children or juveniles. We might consider whether there could be a potential correlation between the age (and with it possibly a social status, if not inherited) of the deceased and the size of the circular ditch (to this see also Cavazzuti et al. 2022, 66), and if so, whether this phenomenon is confined to certain burial sites or was more widespread within the Carpathian Tumulus culture communities. The lack of anthropological data from here studied sites is currently insufficient[31] for such an analysis. However, it is worth mentioning, for example, that grave 181e of an 8-year-old individual in Pitten was surrounded by a ditch 7.4 m in diameter (Hampl et al. 1978–1981, 108, Taf. 89, 174). On the other hand, at this cemetery smaller tumuli up to 3 m in diameter were mostly built over the children graves, while they had often more oval or almost rectangular shape (see Bobek 2016, 32). This seems to be primarily a site-specific issue and also depended on the burial forms (and thus the required size of the grave pit), which can be observed e.g. at burial sites in northwestern Hungary, namely around Maklár (Koszpérium and Nagyrét II), where small-sized ditches with a diameter of about 2–3.5 m appeared. Even the furnishing of some of them, where exclusive weapons (e.g. polished stone axe) were present, speaks against the idea that a child was buried there (see below Fig. 26:D). The explanation for these various sub-standard dimensions of the circular grave features must, therefore, perhaps be sought elsewhere.

In contrast to what was mentioned above, the circular ditch with an outer diameter of almost 12 m documented in Kiskunfélegyháza enclosing the area in which inhumation graves 41 and 59 were found, represents an above-standard dimension (Fig. 6). So far, the brief excavation results, published only informatively, do not allow us to comment further on the age of the buried and his grave furnishings, nor on the chronological relations of these features to each other. This group of 'oversized' ditches undoubtedly includes the newer discovery from Radvaň and Dunajom. Questionable is the true size of the heavily disturbed ditch,



Graph 1. Comparison of the outer diameter of circular burial features (ditch or stone ring/wreath) attributed to the Tumulus culture in the northern Carpathian Basin. Author T. Kondela.

Graf 1. *Srovnání vnějšího průměru kruhových pohřebních objektů (žlab nebo kamenný kruh/věnec) přisuzovaných mohylové kultuře v severní části Karpatské kotliny. Autor T. Kondela.*

which was later recognized and assigned to grave 1/55 from Nové Zámky – Berek (see Chapter 4.10), as the available information about it is contradictory (Fig. 14). In the case of Nové Zámky, another clue that could support information of A. Točík (1982, 28–29) that the ditch had a diameter of about 12 m is a presumed allochthonous origin of the buried female individual, which is supported by the provenance of the grave finds, namely unique wheel-headed bronze pin with a wider rim distinctive for the Hesse region in central Germany (see also Benkovsky-Pivovarová 2008, 259; Godiš 2019, 167, further literature there; lately e.g. Bunnefeld et al. 2021, 136, Abb. 14, 15). It is in this western Tumulus culture zone where circular burial features, including ditches, of mostly quite larger dimensions[32] (circa 9 to 13 m in diameter) have been documented, compared to those known so far from the Carpathian-Danube-Tisza territory (see Jockenhövel 1999, 341, Abb. 2:11). It is a matter for further research whether these large circular ditches may in some way also be related to the 'western' tradition or even identity of the buried individuals, at a time when the first communities of the Tumulus culture were probably infiltrating the Carpathian Basin during the late Koszider period (as indicated by the stretched-position burials in these cases; see Godiš, Javorek 2024, 123–124, further literature there).

7.2. Pyres

During excavations in Svätý Peter, features consisting of stacked layers of burnt wood and animal bones were discovered in three of the six circular ditches (graves 7, 9 and 20) and interpreted as fireplaces or pyres, which were related to the rituals accompanying the burying of the dead, i.e. funeral feast (Fig. 19; Dušek 1959b, 172; 1969, 51–52, Abb. 18, 19, 21). Stratigraphic observations point to the fact that these features were probably created during the burial process, as they were – according to M. Dušek – found at the bottom of the ditches or, as he stated, the ditch and the pyre were 'equally deep'. From all here studied cases evidenced at other sites, ditches usually had a standard U-profile, without special adjustments of its bottom (just rarely indications of its possible alignment were allegedly observed and described, e.g. Radvaň and Dunajom; Hüssen et al. 2018, 72, obr. 40). Based on the yet unpublished photograph taken during excavation in 1958, it is likely that at least in the case of grave 20 this feature holding the traces of fire was in fact found in the upper filling of (or above) the ditch (Fig. 24). Similarly, an unpublished plan of the pyre discovered in ditch associated with the grave 7 shows that it reached its



Fig. 24. Svätý Peter I – Pasienky. Remains of charred wood and burned animal bones found in the ditch associated with grave 20. Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra, T-25254.

Obr. 24. *Svätý Peter I – Pasienky. Zbytky zuhelnatělého dřeva a spálené zvířecí kosti nalezené ve žlabu souvisejícím s hrobem 20. Archiv Archeologického ústavu SAV, v. v. i., Nitra, T-25254.*

upper fill and not its bottom (Dušek 1959a; Godiš 2015, 13). It seems that their placement within the ditch did not have to be completely random, as can be evidenced by graves 7 and 9, where the fireplaces were set in its southwestern segment, while by grave 20 it was in an opposite side, i.e. on its northeastern edge. Albrecht Jockenhövel (1999, 337) suggests that their placement was subject to a certain 'regularity' that was culturally specific and emphasized the contextual relationship between the central grave, the ditch and the pyre. Animal sacrifices were apparently burnt there as part of the burial ceremony, while oak wood (*Quercus sp.*) served as fuel for the pyre in all the cases in Svätý Peter (Dušek 1969, 56, 63, 65). Also noteworthy is the positioning of graves 13 and 14 close to the pyres in the ditch graves 7 and 9. The upper filling of the grave 14 was, according to field documentation, partially overlain by the fireplace, indicating its earlier dating to a ditch grave 7 (Dušek 1959a; Godiš 2015, 17). So far, this has been a quite exceptional find of this kind, in wider Middle Danube region but more recent discoveries made in Mezőnagymihály showed that the occurrence of this phenomenon must be expected at other, geographically much distant sites (almost 200 km by airline). However, the situation at this site in the northeastern Hungary is slightly different in some ways. According to the observations made by leader of an excavation A. G. Szörényi, a burnt pyre consisting of charcoal and pottery fragments – feature 89 – was located above an already filled-in circular ditch – feature 87 (Fig. 25; Fischl, Hajdu 2016, 153, 155). Insofar as this information can be considered plausible, the question of its association with inhumation grave 88 or with the later cremation grave 92 dated to Urnfield culture remains unresolved. The interpretation that it is evidence of an additional, perhaps commemorative ceremony associated with the sacrifices dedicated to the child previously buried in grave 88, still at the time when this burial ground was used during the Middle Bronze Age is also possible. Such a hypothesis could be supported by the fact that the mentioned pyre was situated in the northeastern part of the ditch, i.e. in a same position as it was in the case of the already mentioned grave 20 in Svatý Peter, although having a differently oriented pit (cf. Dušek 1969, Abb. 21; Fischl, Hajdu 2016, 2. kép). These documented cases indicate a connection of these pyres with the ancestral cult and the veneration of the commemorative places where they were buried, also within the communities of the Carpathian Tumulus culture. In addition, animal bones and ceramic sherds disposed of in the ring ditches as remains of funerary feasts were documented in later prehistoric and historical periods in the Carpathian Basin, too, e.g. in the burial sites of the Vekerzug or the Sarmatian cultures (see Kulcsár 1998, 39; Scholtz 2010, 300–301).



Fig. 25. Mezőnagymihály – Nagyecsér-Észak. Feature 89 (on the left; detail in lower right corner) made of burnt soil mixed with ceramic sherds in ditch 87 encircling grave 88. After Fischl, Hajdu 2016, 3. kép: 6; 4.: 7; photo by G. A. Szörényi; Archive of the Herman Ottó Museum.

Obr. 25. *Mezőnagymihály – Nagyecsér-Észak. Objekt 89 (vlevo; detail v pravém dolním rohu) tvořený přepálenou zeminou smíšenou s keramickými střepy v žlabu 87 obklopujícím hrob 88. Podle Fischl, Hajdu 2016, 3. kép: 6; 4.: 7; foto G. A. Szörényi; Archiv Herman Ottó Múzeum.*

7.3. Post-holes

The earlier discussed graves at Mezőnagymihály are also distinguished from other sites by the presence of small-sized sunken features of circular shape, which most likely were negatives of the column holes. Specifically, there were two of them – features 77 and 78 – situated at the inner edge of ditch 41 (Fig. 12; Fischl, Hajdu 2016, 141, 153). A further analogous feature 155 was evidenced in the middle of the southern grave pit 88's wall, where its function associated with the grave's internal construction should rather be considered. This can be observed in the example of the robbed tumulus grave 153a at Pitten too, where post-holes reinforced with lining stones were found in each corner of the pit, fixing the hollow space of the grave chamber (Hampl et al. 1978–1981, 89, Taf. 68, 69). As a result, it is likely that in Mezőnagymihály could have been a number of these shallow sunken features associated with the grave and its surroundings, but that they were not preserved due to agricultural activities. The function of those documented traces of wooden posts is probably related to the reinforcement of the earthen mound over central grave 58 (Fischl, Hajdu 2016, 154). Such a method of grave construction was well-documented, for example, in Neusiedl-Hutweide, where a mound (tumulus II) surrounded by unusually large circular ditch (21–22 m in diameter) was discovered. By the inner side of the ditch, the traces of wooden above-ground reinforcement structure[33] was identified in consisting of at least 30 post-holes, which were arranged in a circle with diameter of 16 m (see Kaus 1994, 91, Taf. 2). Another comparable analogy is known from Borotice in south Moravia, where few remains of post-holes were found in the slightly oval ditch (690–825 cm) encircling the perimeter of one mound (tumulus 39). The wooden posts were set about 50 to 80 cm apart and the space between could be interlaced with twigs to prevent the piled-up earth mass from eroding (Stuchlík 2006, 126, 146, obr. 121, 139).

The evidence of post-holes related to studied Tumulus culture graves encircled with ditches were also found in Budapest-Nagytétény. Most striking were the symmetrically positioned post-holes (features 204–206) facing each other in the area enclosed by ditch 203, which seems to be the same dating as the central grave 202 (see Szilas 2017, Fig. 22:1, 2). This appears to have been analogous for grave 29 bounded by ditch 28, where a single post-hole was situated southwest of the grave pit (Szilas 2017, Fig. 5:5, 6). Apart from this, in the western segment of the ditch 43 associated to grave 42, a post-hole (feature 78) was discovered, which allegedly intersected it, so its contemporarity to the ditch grave is questionable (Szilas 2017, 221). Similar feature was located to the south of the central grave pit, within the surrounding ditch, but its association with this grave is also uncertain. Lastly, in the southern quarter of the area within the boundaries of the ditch 64 adjacent to grave 65, there was a trio of post-holes SE No. 89–91 (Szilas 2017, 227, Fig. 11). To add

this, no post- or column-holes located at the 'entrance' to open ditches, as has been evidenced in eastern Austria (e.g. Franzhausen, Unterradlberg), have yet been unambiguously documented from the here studied sites (see Neugebauer, Gattringer 1989, Abb. 16:3, 4; Neugebauer et al. 1991, Abb. 44; 1992, Abb. 45). This implies that in future field excavations of the Tumulus culture burial sites in regions studied here, it is particularly important to adjust the excavation method adequately to achieve the eventual identification of these relics of the past wooden constructions linked which could be linked to those graves. Finally, an alternative interpretation should be considered, according to which the wooden posts or columns in some cases were not only related to the stabilisation of the piled-up soil but rather may have functioned as markers of a 'resting place' with some stelae.

7.4. Entrances

Open or interrupted ditches[34] represent of the specificities, which occurrence in the Carpathian-Danube-Tisza region has been so far documented relatively rarely – apart from Pitten (tumulus 153a) and Neusiedl-Hutweide (tumulus II) – only in Radvaň nad Dunajom, Šamorín-Šámot (grave 5/16), Jánoshida (grave C/118), Maklár – Nagyrét II and Kiskunfélegyháza (grave 41).[35] It is evident that the 'entrance' to mostly inhumation graves was often regularly located in the southeastern quarter of the ditch or orientated in that direction (in principle towards the east). This phenomenon is usually interpreted as being related to astronomical observations, more specifically to the rising of the sun, which is in the southeast during the winter solstice and traditionally had an important role in the religious sphere and with the cult of the dead or was seen as a symbol of rebirth (Jockenhövel 1999, 351; Trefný, Dobeš 2008, 240; see also Švejcar et al. 2012, 458). Greater or lesser deviations from this inclination may also reflect the specifics of the local terrain configuration, and thus the fact that the sun does not always appear on the same direction during the year (see Moser et al. 2019, 170–174, Abb. 7). In addition to the paleoastronomical significance of this specific feature, the purely practical function of the ditch break has also been considered by some. If there was relatively flat terrain in the inner area enclosed by the ditch, or just a low earthen mound, this 'open' space could merely serve as an entrance through which to reach the grave place itself (Kostka 2008, 305; Trefný, Dobeš 2010, 337). Also, others suggest – based on detailed terrain observations – that these open enclosures were not always associated with the earthen mounds at all (mainly in cases when a central grave was absent), but rather demarcated the areas, where cultic activities were performed (Schütz 2006, 29–31; Küßner 2017, 175–177). Then, it cannot be ruled out that the ditch around the grave also had a meaning related to the spiritual world (afterlife) and those who came to honour the dead were not allowed to cross it but had to use the symbolic entrance. Finally, important in context of this study are the finds from the Alföld region (Jánoshida, Kiskunfélegyháza, Maklár – Nagyrét II), which are probably not only a bit later than the earliest features of this kind from the Lower Austria[36], dated to the BB1 stage (Neugebauer 1994b, 158; Bátora 2004, 251), but also represents the easternmost documented occurrence of this phenomenon in Carpathian Basin of that time, reaching up to the Middle Tisza Basin. The origin of the Middle Bronze Age open ditches around the graves are to be sought in the Tumulus culture milieu in eastern Austria and southwestern Germany (Godiš, Haruštiak 2020, 128–131, obr. 7). However, the earliest circular funerary sunken features with an east-facing entrance have been sporadically found in Central Europe since the Early Bronze Age (Schunke 2009, 304–306, further references there).

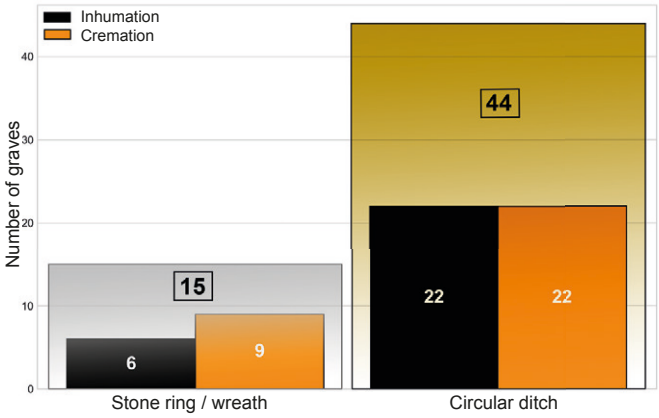
8. Graves encircled by sunken features or stone structures

8.1. Burial forms

From the territory of the Carpathian Tumulus culture widespread mainly in the eastern Danube Lowland, i.e. west of the River Váh and the northern Alföld (to geographical definition see Gaudenyi, Mihajlović 2022b, Fig. 4), as well as northeastern Transdanubia, more than 44 graves encircled[37] by ditches are known, which have been documented at nine sites. On the other hand, constructions built of circularly stacked stones either in the form of rings or wreath are evidenced so far in case at least 15 (or 17 including symbolic) graves in six burial sites. In evaluating summarized data (Graph 2; Tab. 4), it must be emphasized that conclusions are quite skewed due to the varying extent of excavation at individual burial sites.

Within the Carpathian Tumulus culture grave group with circular features in the northern Carpathian Basin, the custom of burying the unburnt body in a rectangular pit (inhumation) was documented at least in 28 cases (22 graves with ring ditch, 6 graves with stone ring/wreath). It can be assumed, that mostly the dead was placed in a crouched position on the side (Svätý Peter, Letkés, Budapest-Nagytétény, Mezőnagymihály), even when the skeleton was fully disintegrated, which was evidenced very frequently at these sites. A noteworthy exception is the grave group at the Kiskunfélegyháza in southern Hungary and Vértesszőlős in northeastern Transdanubia, where the dead were placed in stretched (extended supine) position. According to available information, disturbed grave 1/55 from Nové Zámky – Berek was most probably also this case, as evidenced in nearby contemporary graves 7/62 and 9/62.

Central graves with scattered or inurned cremation were evidenced at least in 31 cases (22 graves with ring ditch, 9 graves with stone ring/wreath) and its occurrence is apparent mainly in the north and northeastern Hungary (Maklár – Koszpérium and Nagyrét II sites, Jánoshida, Jobbágyi). When interpreting this, it has to be taken into consideration that both sites are on the northern periphery of the Alföld region, where the tradition of burning the dead was deeply rooted in the previous funerary rite of the local Hatvan culture from the Early Bronze Age and then the subsequent Vatya culture (e.g. Csányi 2003, 162; Vicze 2003, 155; Tárnoki 2003, 148). This did not change significantly during the Middle Bronze Age, when this region became a contact zone with the distinctive Piliny culture spread in the



Graph 2. Representation of burial forms of the graves surrounded by circular ditch and stone structures, i.e. ring/wreath. Author T. Kondela, J. Godiš.

Graf 2. *Znázornění zastoupení pohřebních způsobů u hrobů obklopených kruhovým žlabem a kamennými strukturami, tj. kruhem/věncem. Autor T. Kondela, J. Godiš.*

Site / Feature	Grave pit dimensions (length / width / depth)	Funerary rite	Grave pit / body orientation	Sex / Age determination
Budapest-Nagytétény				
Grave 29 / ditch 28	255 × 135 × -45 cm	Crouched inhumation	NNW–SSE	♀ 23+ y.
Grave 42 / ditch 43	265 × 118 × -35 cm	Inhumation	NE–SW	–
Grave 50 / ditch 49	215 × 80 × -120 cm	Inhumation	SSW–NNE	20+ y.
Grave 65 / ditch 64	205 × 100 × -95 cm	Inhumation	NW–SE	–
Grave 107 / ditch 106	380 × 195 × -70 cm	Inhumation	WSW–ENE	♂ (?)
Grave 202 / ditch 203	280 × 145 × -45 cm	Inhumation	NNE–SSW	♂ 50+ y.
Jánoshida				
Grave 113 / ditch A	245–155 × 105–50 cm	Inhumation	NE–SW	♂ (?) 20–25 y.
Grave 46 / ditch B	-60 cm	Inurned cremation	–	–
Grave 114 / ditch B	-70 cm	Inurned cremation	–	–
Grave 118 / ditch C	-70 cm	Inurned cremation	–	♂ (?)
Grave 151 / ditch D	–	Scattered cremation	–	–
Jobbágyi				
Grave	–	Symbolic	–	–
Grave	–	Scattered cremation	–	–
Letkés				
Grave 37	~ Ø 270 / ~ Ø 170 × -170 cm	Crouched inhumation	WSW–ENE	♂ 50–55 y.
Grave 22	–	Inhumation (?)	–	–
Grave 8	–	Cremation	–	–
Kiskunfélegyháza				
Grave 41 / feature 71	270 × 130 cm	Stretched inhumation	ENE–WSW	♂ (?)
Grave 59 / feature 71	– / 90 cm	Stretched inhumation	ENE–WSW	–
Grave 7 / feature 13	270 × 85 cm	Stretched inhumation	NE–SW	–
Grave 92 / feature 177	160 × 75 cm	Stretched inhumation	ENE–WSW	–
Maklár – Koszpérium				
Grave 41	100 × 45 cm	Scattered cremation	NW–SE	♂
Grave 42	~ 75 × 30 cm	Scattered cremation	NW–SE	♀
Graves (11)	–	Cremation	–	–
Maklár – Nagyrét II				
Graves (5)	–	Scattered cremation	NW–SE	–
Malá nad Hronom				
Grave 34/III	–	Inurned cremation	–	–
Grave 41	190 × 80 cm	Cremation (?)	–	–
Mezőnagymihály				
Grave 58 / ditch 41	240 × 115 × -50 cm	Crouched inhumation	W–E	♂ 20–25 y.
Grave 91 / ditch 41	110 × 50 × -5–10 cm	Inhumation (?)	W–E	–
Grave 88 / ditch 87	180 × 115 × -15 cm	Inhumation	WSW–ENE	1.5–2.5 y.
Nové Zámky – Berek				
Grave 1/55	180 × 80 × -85 cm	Stretched inhumation	NW–SE (?)	♀
Salka I – Zsellér föld				
Grave 181/62	180 × 70 × -195 cm	Scattered cremation	NE–SW	–
*Grave 170/62	60–65 / - / -105–110 cm	Inurned cremation	–	–
Svätý Peter				
Grave 7	230 × 180 × -70 cm	Inhumation	W–E	♀
Grave 9	250 × 170 × -50 cm	Crouched inhumation	NW–SE	–
Grave 16	180 × 90 × -40 cm	Inhumation	E–W	7–12 y.
Grave 20	250 × 110 × -40 cm	Inhumation	WNW–ESE	♂
Grave 21	260 × 200 × -150 cm	Inhumation	NW–SE	♂
Grave 25	160 × 60 × -30 cm	Inhumation	WNW–ESE	–
Radvaň nad Dunajom				
Grave (P2)	285–225 × 150–130 × -50 cm	Inhumation	W–E	♂ (?) 30–40 y.
Vértesszőlős				
Grave 1 / stone wreath VI	–	Stretched inhumation	NW–SE	♀
Grave 3 / stone wreath IV	–	Scattered cremation	–	–
Stone wreath I	–	Symbolic	–	–
Graves (2)	–	Scattered cremation	–	–
Graves (3)	–	Inhumation	–	–

Tab. 4. Characteristics of graves surrounded by circular ditches and stone structures (rings/wreaths) at sites of the Tumulus culture in the Carpathian Basin.

Tab. 4. *Charakteristika hrobů obklopených kruhovými žlaby a kamennými strukturami (kruhy/věnci) na lokalitách mohylové kultury v Karpatské kotlině.*

foothill's territory to the north. Another cluster of cremation graves surrounded by stone rings and wreaths is evident in the wider Danube Bend area (Salka I, Malá nad Hronom, Letkés). Apart from this, in two cases, features interpreted as symbolic graves, i.e. without human remains enclosed by stone circular structures, were also documented (Jobbágyi, Vértesszőlős).

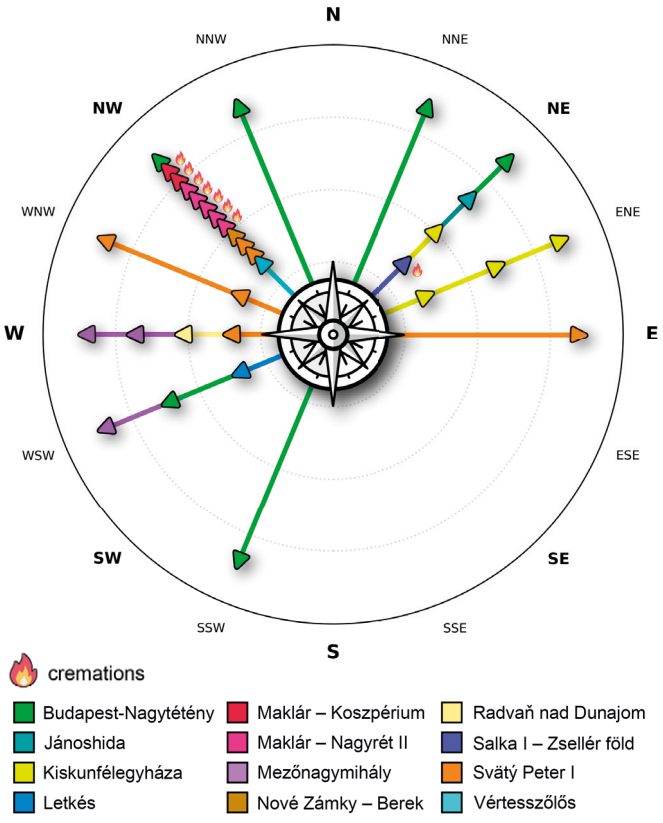
Specific group of graves consists of rarely documented cases, where the central grave pit had a rectangular shape, as if it were for an inhumation, but instead of a skeleton, usually cremation remains either scattered or inurned were discovered. These exceptional features, some of them bounded by sunken or stone circular feature are evidenced at Carpathian Tumulus culture burial sites in the Lower Ipeľ[38] (Salka I, Malá nad Hronom) and in the northern Hungary[39] (Maklár – Koszpérium); even in the milieu of the emerging Piliny culture[40] (Radzovce, Salgótarján-Zagyvapálfalva). The extraordinary phenomenon is interpreted as evidence of reminiscences of the disappearing traditions of the inhumation rite, which was relatively swiftly replaced by biritualism during the Middle Bronze Age and finally by strictly respected cremations (as part of so-called 'Urnfield package') at its final phase (Točík 1964, 59; Furmánek 2006, 22; 2015, 271; Furmánek, Mitáš 2010, 82). These rare features should reflect a relatively

short period, i.e. a transitional time, during which the form of the funerary ritual changed dynamically and some elements characteristic of both inhumations and cremations were transmitted in between (e.g. more Sørensen, Rebay-Salisbury 2009).

It needs to be underlined that the attributes of the burial ritual in the Middle Bronze Age of the Tumulus culture communities spread in different parts of the Carpathian Basin were very diverse and varied from region to region, which is interpreted as result of integrating 'newcomers' groups to the local populations, and subsequent interference of their traditions (see e.g. Kovács 1975, 40–43; Csányi 2017, 202–203; Cavazzuti et al. 2022, 53–55).

8.2. Grave pit orientation and its space

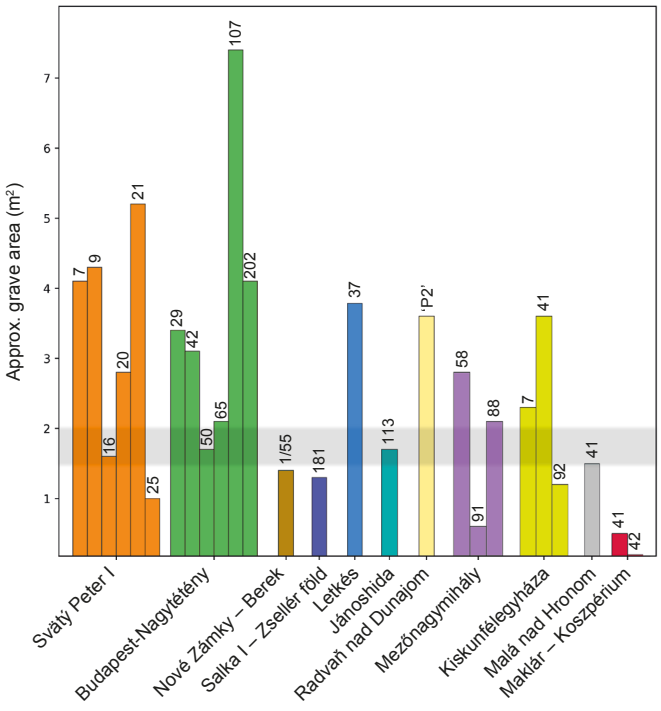
Three basic trends can be observed in the orientation of the – predominantly inhumation – grave pits encircled by ditch or stone rings, i.e. in the deposition (placement) of the body (Graph 3). The first is the grave pits oriented close to the NW–SE (or SE–NW) axis,[41] whose occurrence is concentrated in the northern Middle Danube region (e.g. Svätý Peter, Nové Zámky, Vértesszőlős), as well as northern Hungary (cremations from Maklár burial sites). The second group is defined by the opposite alignment in the NE–SW (or SW–NE) axis[42] and is more documented in the Central Tisza Basin (e.g. Jánoshida, Kiskunfélegyháza) and the Danube Bend area (e.g. Salka, Letkés). The orientation of these graves often corresponds with dominant preference on each individual site (if excavated in larger scale). In this context, the region of the central Hungary could stand out as a 'mixed' zone in which these two trends possibly overlap. This is observable at the Budapest-Nagytétény burial ground, where all the unmarked graves were variously oriented with an apparent inclination towards the N–S or S–N axis (see Szilas 2017, 238). The last group consists of the grave pits linked to W–E (or E–W) axis[43] including slight deviations. These were generally widespread in various sub-regions of the Carpathian Basin during the Tumulus culture period (e.g. Kiskunfélegyháza, Mezőnagymihály, Radvaň and Dunajom, Svätý Peter). In this regard, distinctive attention should be given to the burial ground in Mezőcsát – Hörcsögös, where no circular burial features were found (see Hänsel, Kalicz 1987, 9, Beil. 1), but a strict inhumation burying in above mentioned so-called equatorial orientation was observed. This bipolar placement of the dead[44] was conditioned by the sex (or gender) and largely confirmed by anthropological analyses (Blischke 2002, 160, Abb. 86). Apart from this, grave inventory from this site supports the hypothesis favoured earlier by T. Kovács (1975, 40–42; 1981, 87–88) of the possible physical infiltration of western Tumulus culture groups (i.e. from the eastern Upper Danube periphery, possibly the Vienna Basin) into the northern Alföld[45] region and its subsequent acculturation with the local 'post-Otomani-Füzesabony' or even late Hatvan culture communities (see also Cavazzuti et al. 2022, 74). In this context it is worth pointing out the recent excavation in Bátonyterenye – Aranyhegyi homokbánya, where a burial ground of the Hatvan culture was discovered and within it two unusually richly furnished graves with stone enclosures of about 6–7 m in diameter (see Larsson, Guba 2023, 38–39). Regarding the equatorial orientation of the grave pits some similarities arise when comparing the data about the contemporary funerary rite practised in the regions of Lower Bavaria, Upper Palatinate, and the Lüneburg group, where the burying the dead in the E–W axis strongly predominated during the BB stage (Endrigkeit 2014, 54, 69, 74, Abb. 88, 131, 145). However, an intuitive linking of the presented facts with the occurrence of mound graves in the Carpathian Basin during this period would be unreasonable without a more detailed and complex analysis.[46] Lastly, it should be noted that none of the studied graves was visibly oriented in the N–S (or S–N) axis, with the exception of the ditch graves 29, 50 and 202 in Budapest-Nagytétény[47] (NNE–SSW axis). However, such an orientation was observed, e.g. in the case of the afore mentioned Piliny culture cremation grave 216/69 from Radzovce.



Graph 3. Orientation of the grave pits delimited by ditch or stone ring/wreath in the studied sites. Arrow symbolises the known or suggested head placement within the pit (excluding cremations, where it represents the orientation of the grave pit). Author T. Kondela, J. Godiš.

Graf 3. *Orientace hrobových jam ohraničených žlabem nebo kamenným kruhem/věncem ve sledovaných lokalitách. Šipka symbolizuje známé nebo předpokládané umístění hlavy v jámě (s výjimkou kremací, kde znázorňuje orientaci hrobové jámy). Autor T. Kondela, J. Godiš.*

Another peculiarity of the grave pits surrounded by circular features is that many of them were of superior dimensions, i.e. its length often exceeded 250 cm. Sometimes their groundplan was even twice or more the size[48] of most other 'standard' graves on the burial ground (e.g. Svätý Peter, graves 7, 9, 21; Budapest-Nagytétény, graves 107 and 202; Kiskunfélegyháza, grave 41), where in the case of inhumations a pit was dug just large enough to accommodate the corpse, i.e. its surface area on its bottom was about 1.5–2 m^2 (Graph 4). Attempts to search for the correlation between the dimensions of a grave pit (not an earthen mound) and the 'uniqueness' of the buried would probably be presumptuous given the state of quality and publication state of the existing source material (see Krištuf et al. 2014, 23–35). The depth of the graves analysed here has not been compared, because it is a measure which, unlike other dimensions, is in principle the most distorted, both by the state of preservation of the feature (tillage, terrain adjustments etc.) and by the used excavation methods. It seems that also in this regards some better-preserved graves like in Salka I (grave 181), Letkés (grave 37) or Svätý Peter (grave 21) were sunken deep enough, up to 150–195 cm. As for the unusual arrangement of



Graph 4. Comparison of the grave pit area bounded by circular features in the studies sites. Horizontal grey stripe represents the 'standard-sized' grave pit, i.e. 200/180 × 100/80 cm. Author T. Kondela, J. Godiš.

Graf 4. *Srovnání plochy hrobové jámy ohraničené kruhovými objekty na sledovaných lokalitách. Vodorovný šedý pruh znázorňuje hrobovou jámu „standardní velikosti", tzn. 200/180 × 100/80 cm. Autor T. Kondela, J. Godiš.*

the interior of the pit, the mentioned grave from Letkés is quite a non-standard case (Fig. 7). The opposite walls of the large circular pit were modified into the shape of a vaulted bench, which may have been done purely for pragmatic reasons, to make it easier to enter the grave when treating the body of the deceased and adjusting its furnishings. In addition, it is also possible to consider that pits of these superior dimensions may have had an internal wooden structure, traces of which have not survived (or were not identified). For example, traces of most likely postholes were recognised in grave 41 in Kiskunfelégyháza, although it is questionable whether they were linked to the inner wooden construction of the grave because one of the holes cuts (?) the place where the dead was placed (see Somogyvári 1992, 2. kép; to this see also e.g. Kustár, Wicker 2004, 78–79, 2. ábra, II. tábla). Here it is only rational to conclude that the community put the effort into digging a larger pit for various reasons, but most likely to include offerings made of organic material (textiles and hides, flowers or deboned meat etc.), as well as an adjacent circular ditch wanted to properly emphasize the unique social status[49] of the deceased (see also Jockenhövel 1999, 352). This was either based on their prominent lineage or earned during life through having done important deeds.

8.3. Multiple graves surrounded by a single ditch

Occasionally, at some here studied sites, another grave pit was discovered in the area demarcated by the ditch, i.e. near the central grave. This phenomenon was relatively common in the vast territories of the western Tumulus culture groups, where secondary graves were sunk into the mound mass over time, in relation to which it is usually assumed that these were individuals in a mutually close relationship (Krištuf et al. 2014, 24; Bobek 2016, 46). The situation in the Carpathian region is different, however, as these 'additional' grave pits were, as far as is known, stratigraphically located at approximately the same level as the central grave, suggesting that they may have been burials from the same or very close timeframe. At Mezőnagymihály, a shallow sunken feature 91 of rectangular ground-plan (110 × 50 cm) was discovered, situated about 1.5 m south of the centrally positioned inhumation grave 58 surrounded by a ditch 41, while both features had an identical orientation in the W–E axis (Fig. 12, 13; Fischl, Hajdu 2016, 153, 3. kép: 1; 4.: 8). Osteological material was absent in feature 91, which was interpreted either as a trace of attempt to grave's disturbance, tillage, or the fact that it was a child's grave, where a reduced probability of bone preservation is naturally expected. Lastly, also considered was the option that it could have been a symbolic grave, as similar cases are known from other Tumulus culture sites in the Central Tisza Basin (Fischl, Hajdu 2016, 154). What is much more conclusive is the situation documented in Kiskunfélegyháza, where in the area delineated by the ring ditch (feature 71), another, also similarly oriented grave was discovered alongside the central inhumation grave 41 (Fig. 6). Grave 59 was located about 3 m to the north of it and was heavily disturbed by the digging of later settlement structures (Somogyvári 1992, 16, 1. kép). Their dating appears to be within relatively the same chronological framework, as indicated by the stylistically comparable ceramic offerings (jugs), which in both cases were placed to the lower limbs of individuals buried in a stretched position (Somogyvári 1992, 2., 3. kép). Another case was evidenced in Jánoshida, where three burial features[50] were found within circular feature B – graves 46, 114, 116 (Csányi 1980, 3. kép). Based on the observations in the field M. Csányi (1980, 156) concluded that urn graves 46 and 114 were linked to feature B. It should be added here that it was in the first-place grave 114 that was the closest to the geometrical centre of the area delineated by what was apparently only half of a preserved circular ditch. The direct association of the close inhumation grave 116 to feature B is unlikely due to its displaced position within the area it encloses, then the different burial form and in particular its orientation on a NW–SE axis (Fig. 4). This difference may be of chronological significance, as the nearby inhumation grave 113 with a ring ditch (feature A) had an oppositional orientation in the SW–NE axis. On the question of multiple graves within a circular structure, it is necessary to conclude with a brief comment on the situation already presented for grave 34 in Malá nad Hronom. According to the description of A. Točík (1964, 41) four cremations were identified under the inner stone wreath or cairn (?) – three of them were sunken deeper and dated to the Early Bronze Age. He assigned the fourth burial feature – grave 34/III – to the Carpathian Tumulus culture, as well as based on the terrain observations the adjacent circular stone structure was dated to this.[51] This quite unique burial feature will require further evaluation (Fig. 10). Cremation urn graves inside the area defined by the ditch (and within the ditch itself) were also discovered at the Maklár – Koszpérium site, but in this case, they are of later age, as proved by stratigraphic observations (Fig. 8), i.e. they were not directly related to the building of circular feature (see Szabó 1963b, 299; Mengyán et al. 2024, Fig. 4: B). The last example of another grave found within the defined area, apart from the central burial, was documented in the Vértesszőlős in the case of stone wreath VII. When it was dismantled during the excavation, an intact ceramic vessel, sherds and cremated human remains were found underneath,

which indicates that these features built of rocks delineated the 'funerary area', which could have contained more graves (Pál, Cseh 2013, 10, 4. tábla: 4. kép). To summarize this, within the Carpathian Tumulus culture it was an established tradition that circular features, either sunken or stone were predominantly built around only single grave in its geometric centre. If other individuals were buried there too, it is possible to think of some a kinship relation to the primary burial (e.g. Mezőnagymihály, Kiskunfélegyháza). On the other side, these 'additional' graves were usually of later dating (e.g. Urnfield period, Pre-Scythian Age, Sarmatian period), and were sunken close to the presumed standing mound because it was a visually attractive landscape monument (see Kulcsár 1992, 10).

8.4. Chronology of the central graves

Finally, one of the crucial questions regarding the studied graves is their chronological position, from which the dating of the circular feature itself can be deduced. In several cases, the 'ancientness' of the sunken ring features within the larger burial grounds is evidenced by additional later (mostly) cremation graves, which were found directly in the ditch or were in superposition to it (e.g. Kiskunfélegyháza, Jánoshida, Maklár – Koszpérium, Budapest-Nagytétény). The relative dating of the primary, i.e. centrally positioned graves bounded by ditch or stone ring/wreath, which is based on the typology of the artefacts (regarding other attributes of the burial rite), is strongly impacted by the circumstance that most of these had been disturbed in the past. Therefore, in some cases, their sometimes very exclusive furnishing was either fully absent or only partially preserved, and thus, it does not represent a closed ensemble. Nevertheless, based on the data obtained, it was possible to preliminarily assign the selected – mostly intact – graves from the northern Carpathian Basin to three chronological horizons within the Middle Bronze Age, which were synchronised with periodisation system developed by W. David (1998; 2002).

I. Horizon – After the abandonment of burial ground in Jelšovce at the boundary[52] between the Early to Middle Bronze Age (where ditches around graves 10, 152, 240 and 256 were evidenced), then the earliest circular burial features in southern Slovakia have been documented in Svätý Peter. This is supported by the jugs with chalice-shaped neck and spiked feet on the bottom typical of latest Mad'arovce culture pottery style, which were found in graves 16 and 25 (Dušek 1969, Abb. 7:8; 12:11), as well as the jewellery set of open heart-shaped pendants from grave 7 typical of the Koszider period. Grave 9, furnished with an aesthetic jug decorated with a distinctive Litzen motif, can be

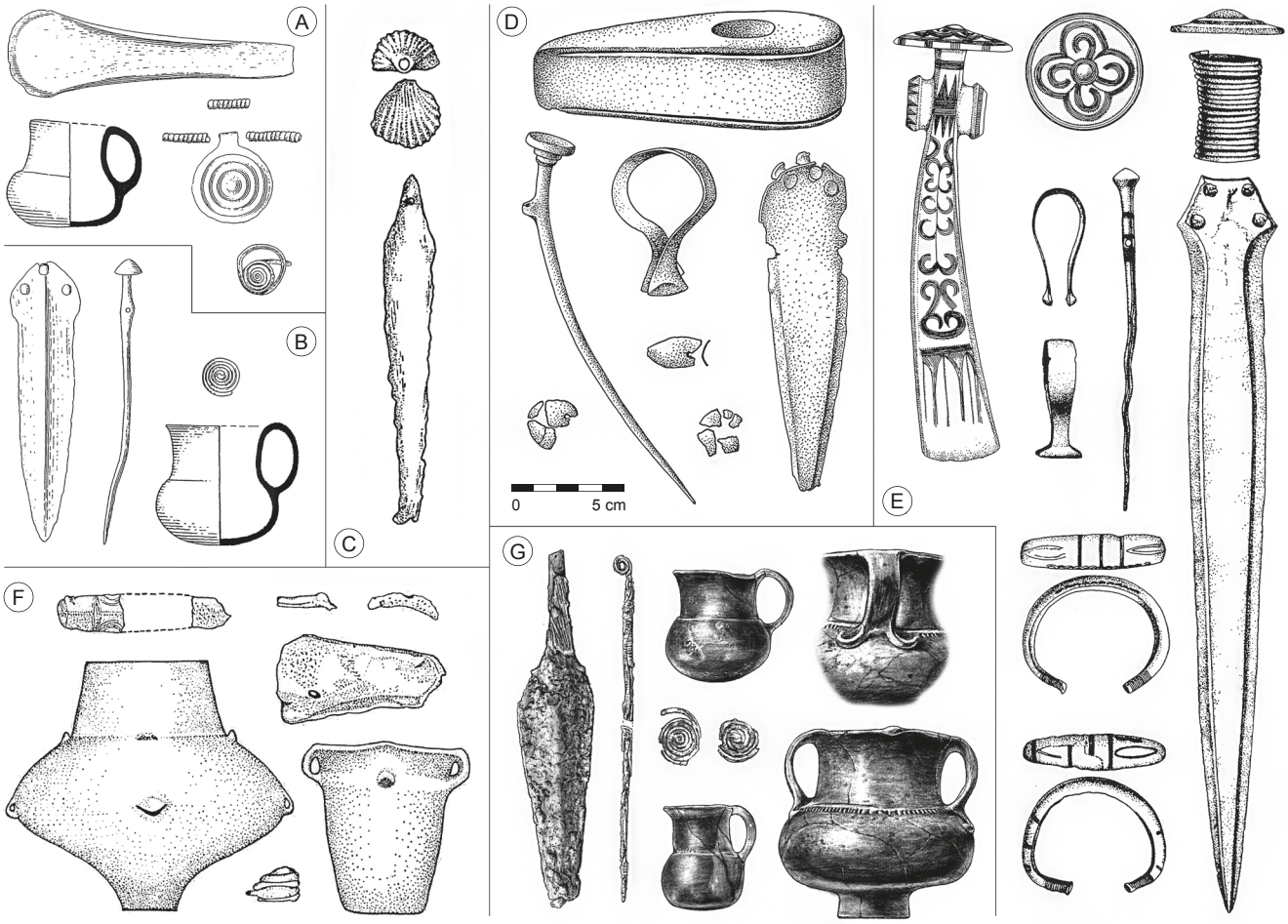


Fig. 26. Inventory of selected Tumulus culture graves surrounded by sunken and stone circular features in the northern Carpathian Basin. A – Svätý Peter, grave 20; B – Svätý Peter, grave 21 (after Dušek 1969, Abb. 10:1–11); C – Budapest-Nagytétény-Érdliget, grave 107 (after Szilas 2017, Fig. 13:5, 6); D – Maklár–Koszpérium, grave 41 (after Mengyán et al. 2024, Fig. 3:B); E – Letkés, grave 37 (after Kovács 1996, Fig. 1b, 2); F – Jánoshida, grave 118 (after Csányi 1980, 8. kép: 1–6); G – Mezőnagymihály, grave 58 (after Fischl, Hajdu 2016, 6.,7. kép: 1). Ceramics approximately in proportional scale.

Obr. 26. *Inventář vybraných hrobů mohylové kultury obklopených zahloubenými a kamennými kruhovými objekty v severní části Karpatské kotliny. A – Svätý Peter, hrob 20; B – Svätý Peter, hrob 21 (podle Dušek 1969, Abb. 10:1–11); C – Budapest-Nagytétény-Érdliget, hrob 107 (podle Szilas 2017, Fig. 13:5, 6); D – Maklár–Koszpérium, hrob 41 (podle Mengyán et al. 2024, Fig. 3:B); E – Letkés, hrob 37 (podle Kovács 1996, Fig. 1b, 2); F – Jánoshida, hrob 118 (podle Csányi 1980, 8. kép: 1–6); G – Mezőnagymihály, hrob 58 (podle Fischl, Hajdu 2016, 6.,7. kép: 1). Keramika přibližně v proporcionálním měřítku.*

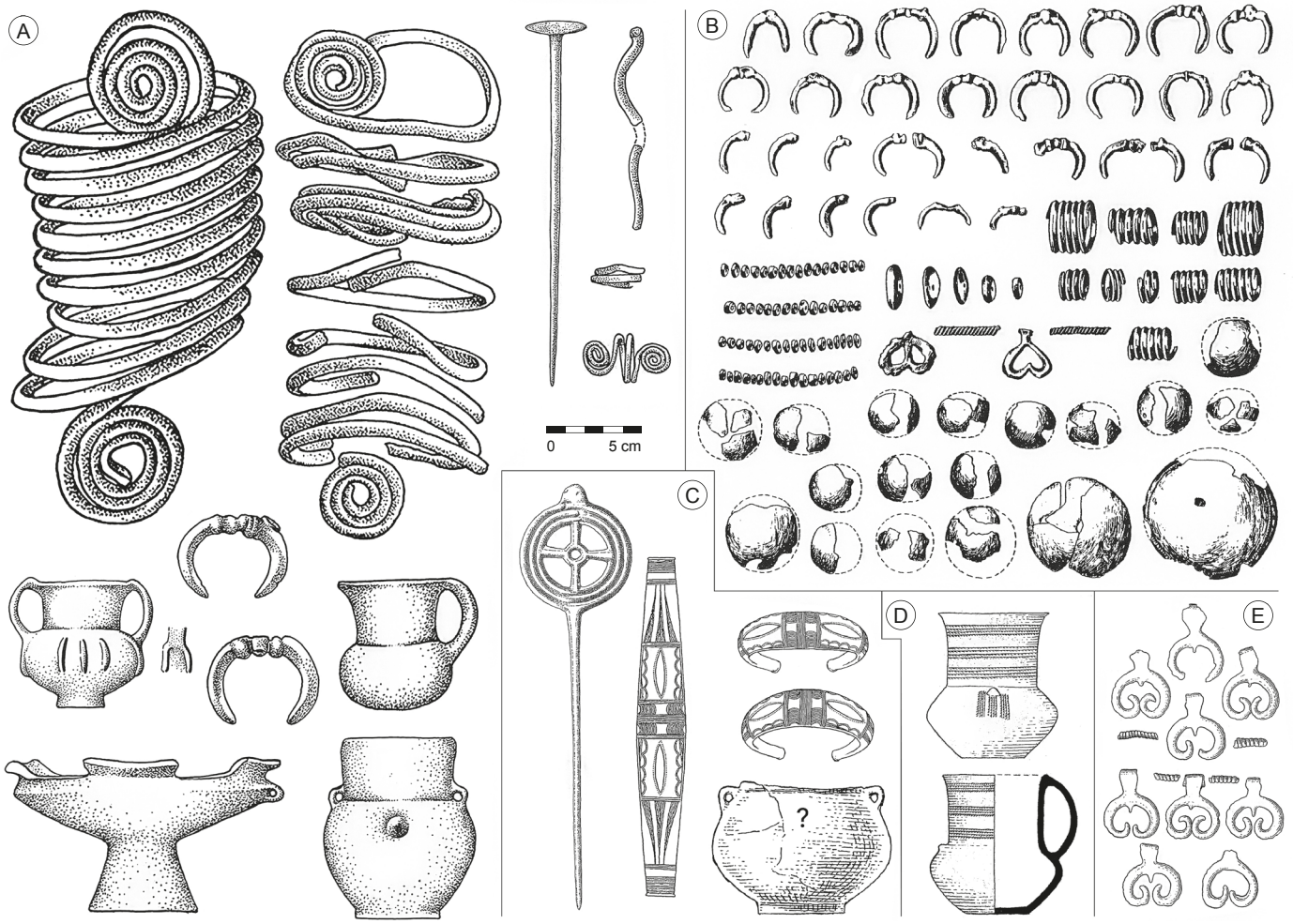


Fig. 27. Inventory of selected Tumulus culture graves surrounded by sunken circular features in the northern Carpathian Basin. A – Maklár–Koszpérium, grave 42 (after Mengyán et al. 2024, Fig. 4:B); B – Jánoshida, grave 113 (after Csányi 2016, 8. kép); C – Nové Zámky–Berek, grave 1/55 (after Točík 1982, obr. 5); D – Svätý Peter, grave 9; E – Svätý Peter, grave 7 (after Dušek 1969, Abb. 6:1–10, 13, 13a). Ceramics approximately in proportional scale.

Obr. 27. *Inventář vybraných hrobů mohylové kultury obklopených zahloubenými a kamennými kruhovými objekty v severní části Karpatské kotliny. A – Maklár–Koszpérium, hrob 42 (podle Mengyán et al. 2024, Fig. 4:B); B – Jánoshida, hrob 113 (podle Csányi 2016, 8. kép); C – Nové Zámky–Berek, hrob 1/55 (podle Točík 1982, obr. 5); D – Svätý Peter, hrob 9; E – Svätý Peter, hrob 7 (podle Dušek 1969, Abb. 6:1–10, 13, 13a). Keramika přibližně v proporcionálním měřítku.*

included in this or the following horizon (see below Fig. 27:D, E). It is very likely that some ditch graves from Budapest-Nagytétény site also could be dated here, but due to the lack of time-sensitive artefacts in them it cannot be confirmed. The first horizon can be synchronised with an early BB stage, i.e. Bz B1 stage (~ David Bz B-älter).

II. Horizon – In the final phase of the Koszider period, when the Carpathian Tumulus culture was fully established, rest of the burials surrounded by ditches (9, 20, 21) most likely took place in Svätý Peter (Fig. 26:A,B). Then it is elite warrior grave 37 bounded by a stone ring in Letkés and probably grave 41 with a ditch in Maklár – Koszpérium (Fig. 26:D,E). The furnishings of these included weapons like axes, daggers and swords, which also served as power insignia. Daggers[53] of a 'post-Koszider' type were then found in grave 107 in Budapest-Nagytétény and in grave 58 at Mezőnagymihály, while these could indicate burials of upper-class members of the Carpathian Tumulus culture communities too (Fig. 26:C, G). Richly furnished grave 42 from Maklár – Koszpérium and partly robbed grave 113 from Jánoshida containing numerous pieces of bronze jewellery including valuable amber necklace can be attributed to this group as well (Fig. 27:A,B), also because of the radiocarbon data, which are similar[54] to the grave 21 in Svätý Peter. Moreover, relative dating of grave group is in several cases supported by presence of conical- and disc- headed pins in its inventory, including grave 1 encircled by stone wreath found in Vértesszőlős. The disturbed grave 1/55 from Nové Zámky – Berek, which held a rare wheel-headed pin, can also be added to this horizon (Fig. 27:C). There is an abundance of relevant evidence, that since this period there may have been increased cross-cultural interaction accelerated with the mobility of the population from the western areas to the Carpathian Basin, especially from the Vienna Basin (e.g. the stone-axe from Maklár). The second horizon can be synchronised with the later BB stage, i.e. Bz B2 stage (~ David Bz B-jünger).

III. Horizon – The tradition of building the circular structures around graves more than few metres wide – apart from small-sized cairns made of piled-up stones – had presumably continued in the milieu of the so-called classical phase of the Carpathian Tumulus culture in the northern Pannonian Plain. Although clear evidence for this, a grave from this region that could be undoubtedly dated to the advanced Middle Bronze Age – to the BC stage, i.e. Bz C1 stage (~ David Bz C1), is apparently lacking or has not yet been published. It should be mentioned in this regard, that the set of bronze jewellery from the destroyed burial site in Üröm indicate that stone wreaths could

be occasionally built even during this period (see Holport 1980, 61–63, 2. kép: 1; 5.: 1, 2). Also, some published time-sensitive artefacts from non-ring ditch (!) grave in Kiskunfélegyháza do not rule out that possibility (see Kulcsár 1992, 10, 1.–3. kép). Nevertheless, thus arranged graves – tumuli – are well-documented in the region of the Middle Danube Tumulus culture (Smolenice, Buková, Pitten etc.). At that time, cremation of the dead became much more widespread in the Carpathian Basin, as part of emerging 'proto-Urnfield tradition' than previously and burial grounds with hundreds of graves were founded. Considering this changes in the funerary rite and ceramic offerings which have stylistic elements of the 'classic' Carpathian Tumulus culture, e.g. grave 46 from Jánoshida could be preliminarily classified to this horizon, even though it was not located in the centre of the inner space delineated by the ditch, which could in fact be much older (Csányi 1980, 8. kép: 13–15). Cremation grave 181 from Salka I and grave 34/III in Malá nad Hronom, which were both surrounded by stone rings, i.e. wreaths (Točík 1964, Taf. XXX: 8–11; XXXV: 4, 6), can be probably dated to this horizon, or rather to the early section of it (Bz B2/C1 stages).

The tradition of burying the dead under mounds persisted into the final Middle Bronze Age to the early Late Bronze Age transition (Bz C2/D1 stages) and then evolved into a building of the monumental barrows of the Middle Danube Urnfield culture (Čaka, Kolta, Očkov, etc.). The origins of this custom have been well-observed on the numerous burial grounds with preserved earthen mounds around Bakony Mountains near Lake Balaton in western Hungary and therefore named as the so-called '*spät- oder weiterlebende Hügelgräberkultur*'. However, discussing this is beyond the scope of this article and apart from that, it has been thoroughly evaluated by other researchers in numerous studies (see e.g. Kőszegi 1988, 19–20; Kemenczei 1990, 225, Abb.1; Jankovits 1992, 4–5; Ilon 2014, 101, Abb. 1, further references there).

9. Ring ditch as indirect evidence of an earthen mound

Traditional interpretation of the circular sunken features around the grave pits as indirect evidence of past earthen mounds' existence, and in particular its generalisation is sometimes rightly criticized in the scientific literature (e.g. Jockenhövel 1999, 351; Turek, Sofaer 2004, 286–305; Trefný, Dobeš 2008, 238; 2010, 329–340; Švejcar et al. 2012, 443, 456; Trefný 2013, 125–133). The aim of this chapter is to discuss this issue in relation to what has been presented here, based on the recent important discoveries in the regions of the northern Carpathian Basin. These are the stratigraphic situations (superpositions) that have been documented at the burial grounds in Mezőnagymihály and Budapest-Nagytétény providing valuable information.

A key argument supporting the possible existence of burials under barrows in the studied area during the Middle Bronze Age is to be found in Mezőnagymihály in northeastern Hungary.[55] In the area of the Tumulus culture necropolis roughly dated to the BB stage, 7 urn graves of late Piliny culture (56, 57, 61, 63, 65, 92) have also been discovered, as evidenced by pottery finds typical of Bz D–Ha A stages. What is crucial is the fact that the two urn graves (57 and 92) were sunk directly in the geometric centre, i.e. in superposition above the two Tumulus culture inhumation graves (58 and 88) encircled by ditches, which cannot be regarded as a coincidental event in this case (Fischl, Hajdu 2016, 3. kép: 5). This strongly support the hypothesis of the real presence of earthen mounds over the Middle Bronze Age graves at this site, which were visually identifiable even after about 200–250 years and then this place for recognised by Urnfield culture communities and chosen to serve as a place to bury the dead during the subsequent Late Bronze Age (Fischl, Hajdu 2016, 156).

The second important site is the Budapest-Nagytétény-Érdliget located in the central Hungary, near the right bank of the Danube. In relation to this, it is necessary to present in more detail the analysis made on the results of its excavation by G. Szilas (2017, 244–246). He discussed in greater detail the possible reconstruction of the six graves with ditches, interpreted as a tumuli, which were documented in the burial ground. Although the author states that direct traces of the earthen mounds were not identified during the excavation, he also points to several relevant arguments, which plausibly prove their past existence. First, he emphasizes that the circular ditches in fact underlined the significance of the space they demarcate. He attributes the incomplete preservation of the circular features associated with the three graves situated in the southern part of the cemetery to the improper excavation method (topsoil level removal by mechanism) regarding their presumably shallow depth (see Szilas 2017, Fig. 3). He assumes that the soil exploited by digging the grave pit and the adjacent ditch was deposited in the centre, thus forming a smaller mound. Moreover, the detailed field observations at the site revealed that the terrain had been landscaped within the burial ground. The prehistoric humus layer was only identified in the inner area bounded by the ditch, while it was completely absent outside the ditch, i.e. in the area between the other 'regular' flat (or unmarked) graves.

Further, there were large stones found in some of the ditches' filling, what indicate that they could have been originally set along the inner side of the ditch, to reinforce the earth embankment around the perimeter and thus also prevented its disintegration (Szilas 2017, 245). Due to erosion and other weathering factors, rocks eventually slumped into the already partially eroded ditch, where they were later discovered during the excavation. The strongest evidence supporting the real existence of the mounds at the site is presented by the analogous situation to that previously described in Mezőnagymihály. Here as well, a superposition of the graves 202A and 29A was documented above the central Middle Bronze Age inhumation graves 29 and 202 bounded by ditches. Those later graves were inhumations too, but without furnishing and oppositional orientation to the Tumulus culture graves under them. These were dated to the beginning of the Iron Age (8th–7th centuries BC) and were sunken directly into the geometric centre of the presumed Bronze Age barrow. This proves that even after more than 800 years, these earthen mounds were still visually recognizable in the landscape, despite the various natural impacts related to their erosion. The perception of these terrain relics, perhaps with sensing some genius loci, undoubtedly prompted the Early Iron Age communities to bury their dead at those specific places. Lastly, G. Szilas reminds that the detailed observations in Pitten in Lower Austria, which is till date the largest and uniquely preserved burial ground (Fig. 28; Hampl et al. 1978–1981; Windl 1988; Urban 2000, 180–182) confirmed that some of the earthen mounds had its outer circumference lined by a ditch. To be precise, this was documented in the cases of real tumulus graves 153a, 165, 181 (Hampl et al. 1978–1981, Taf. 65–67, 84, 88–89; see also Jockenhövel 1999, 340) surrounded by sunken features ranging from 7.4 to 10.5 m in diameter.

Moreover, G. Szilas not only concluded that mounds were erected at Budapest-Nagytétény-Érdliget in the Middle Bronze Age but even attempts to reconstruct their possible height (2017, 246, Fig. 24). His estimate was based on the premise that excavated soil from the ditches as well as from the outer surroundings of the grave (including levelling of the nearby terrain) was deposited above the grave pit. However, he is aware that during the excavation some reduction of the prehistoric cultural layer



Fig. 28. Pitten (Lower Austria). Tumulus 181 at the remarkably well-preserved Middle Bronze Age burial ground excavated in 1967–1973, with more than 221 documented graves. After Windl 1988, Abb. 5.

Obr. 28. *Pitten (Dolní Rakousko). Mohyla 181 na pozoruhodně zachovaném pohřebišti ze střední doby bronzové prozkoumaném v letech 1967–1973, kde bylo zdokumentováno více než 221 hrobů. Podle Windl 1988, Abb. 5.*

by mechanism must be considered, which more or less distorts the documented dimensions of the studied features. Based on this, he estimated that the original depth of the ditch may have been about 50–70 cm and its width ranged between 70–110 cm. To add to this, it should be noted here that the known dimensions of some better-preserved and precisely documented ditches, like in Radvaň nad Dunajom support such estimates. Furthermore, he also took into regard, that the soil[56] was exploited from an area surrounded by a circular ditch with a diameter of 7 m. By processing the data, the volume of hypothetically deduced mass of the earthen mound could have reached 13–15 m^3. It can be also added here that the weight of the soil mainly depends on its density, what means that the mass of the displaced soil (usually Chernozem and Cambisol in this area; ca 1300 kg/m^3) used for building the single mound, can be roughly estimated to about 17.5–19.5 tonnes. The mass of the structure, its shape and dimensions,[57] indicates that the original height of the mounds in Budapest-Nagytetény-Érdliget may have been at least 1–1.5 m. This estimation does not contradict the observations made at burial ground in Pitten, where relatively intact mounds of 1.5–2 m in height have been preserved thanks to tremendously favourable archaeologisation processes (see Hampl et al. 1978–1981, Taf. 67, 88, 158; Windl 1988, 28, Abb. 2–4).

10. Conclusions

Based on the summarised information, which was thoroughly discussed, it can be stated that mainly during the late Koszider period and possibly shortly after that circular ditches and stone rings or wreaths were mostly built around graves of the Tumulus culture in the lowland and foothill areas of the northern Carpathian Basin (Fig. 29). Moreover, stratigraphic observations made at burial grounds in Budapest-Nagytétény-Érdliget and Mezőnagymihály suggests that also in this region earthen mounds most likely were sometimes erected above the inner area encircled by ditch. It seems that all data collected in this paper should justify the legitimacy of the long-established naming of the archaeological entity – Carpathian Tumulus culture – introduced by A. Točík, which was to be understood as the easternmost periphery of the European Tumulus cultural complex. However, the current state of research suggests that the construction of tumuli was not at all as frequent in its settlement territory in comparison with the neighbouring Middle Danube Tumulus culture milieu in western Slovakia, south Moravia and eastern Austria. There are several indications that in the Carpathian-Danube-Tisza area, the circular ditches and stone rings/wreaths around graves were dedicated only to the dozens of male and female individuals who had exceptional social status such as local chieftains, warriors, religious leaders, healers or members of the nobility, which may also explain the burials of children and even toddlers. For the most part, these were single graves and not communal (or family) tombs. Apparently within the studied region, it was not common to build secondary embankments on the tumuli to bury additional persons, presumably blood-relatives, or even use areas delineated by circular ditches or stone rings for this, as is more evidenced in the western Tumulus culture zone. The only exception in this regard was the late Tumulus/early Urnfield culture milieu in the Bakony region in western Hungary, which 'wraps' up this peculiar burial custom on the threshold of the Late Bronze Age at the turn of the 14th/13th centuries BC. Also, during the Tumulus culture period in northern Carpathian Basin these circular features (even as a mounds) were built in burial grounds together within the flat graves and did not form separate groups, while regular graves of the 'common people' mostly respected the demarcated



Fig. 29. Detail of ideo-reconstruction of the early Carpathian Tumulus culture burial rituals. Author M. Horváth; see also Godiš 2020, obr. 1.

Obr. 29. *Detail ideové rekonstrukce pohřebních rituálů starší karpatské mohylové kultury. Autor M. Horváth; viz též Godiš 2020, obr. 1.*

area. Substantial part of the here discussed graves had obviously been robbed in prehistoric times (possibly even years or decades after the funeral), but the furnishings' composition and the character of those that remained intact does indeed support the presumed prominent status of the buried person. This is evidenced by the warrior male graves with ostentatious weapons, noble female graves with valuable metal and amber jewellery or exclusive, aesthetic pottery of foreign provenance. After all, even the deliberate disturbance of these graves suggests that easily recognizable artificial monuments of laboriously piled earth or stacked stones were erected on them, and this was the main reason why they so attracted the attention of the ancient robbers.

Acknowledgements

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Notes

1 The paper is edited and considerably expanded chapter from author's dissertation thesis '*Carpathian Tumulus culture in the Middle Danube region*' defended in 2019 at Department of Archaeology, Faculty of Arts, Constantine the Philosopher University in Nitra, to which the jubilarian S. Stuchlík was one of the opponents.

2 Narrow circular features, usually made of a single layer of rocks, are referred as 'rings', while wider ones built of multiple layers next to each other are called wreaths. A circle fully covered with stones is called a cairn.

3 In this study, circular burial features dated to Middle Bronze Age from the Moravia and eastern Austria are not included because they are related to a different cultural milieu on the westernmost periphery of the Carpathian Basin and Middle Danube region (see Stagl, Hattermann 2015, Fig. 2; Gaudenyi, Mihajlović 2022a, Fig. 3).

4 This naming was widely accepted in the Slovak archaeological literature, but among Hungarian researchers the term 'Tumulus culture' is now used only in general terms (see Benkovsky-Pivovarová 2015, 77–83).

5 In the paper by E. Jílková from 1961, this archaeological cultural entity had still original name as 'Southeastern Tumulus culture'. Anton Točík later modified this term, which was also reflected in the title of the catalogue work from 1964 '*Die Gräberfelder der Karpatenländischen Hügelgräberkultur*', where he published the excavation results of the Middle Bronze Age burial sites in Salka, Malá nad Hronom and Kamenica nad Hronom.

6 '*Without a detailed publication of the material and a justification of the new name, it would be impossible to continue using it from a Central European point of view, because if this is mainly the earliest stage of the Middle Danube Tumulus culture, which was already recognised by K. Willvonseder in the Mistelbach type, enriched in the course of time by new finds in which Mad'arovce-Věteřov elements were sometimes more, sometimes less predominant, the introduction of the new name would cause confusion in the terminology of the Bronze Age*' (Jílková 1961, 88).

7 For example, when only a small part of the burial site was excavated, or its results were not sufficiently published to be considered representative (e.g. evaluating the ratio of stylistic elements in the pottery).

8 Attempts at obligatory cultural classification can be counterproductive, where they complicate, rather than facilitate, scientific work. Sometimes it is neglected by some that the construct of archaeological culture is supposed to be useful in the classification of archaeological sources and it is still 'only' an auxiliary term.

9 For objective reasons, it is not yet possible to evaluate the ratio of the Piliny and Tumulus culture attributes in material from the sites mentioned above. The issue of cultural classification of the sites from the boundary zones has been commented by K. Pollet (2015, 199) in relation to the cremation graves from Megyaszó – Halom-oldal dűlő.

10 As examples, the burial sites in Detek and Halmaj in the northern Tisza region can be mentioned. Both were published by T. Kemenczei (1968, 159–186) and when discussing the influence between the Zagyvapálfalva and Barca cultural groups, he assigned them to the Carpathian Tumulus culture, which was later seen by others as artificially fabricated act (see Furmánek 1986, 321; Furmánek, Mitáš 2010, 45; to the question of the influences of the Egyek group of Tumulus culture into the milieu of the Piliny culture, see Furmánek, Ožďáni 1990, 132).

11 Cultural classification of the some Koszider period sites can be problematic, since the facies of the emerging Tumulus culture has not yet been fully established in this region (e.g. Bartík 2000, 23; Godiš, Javorek 2024, 125).

12 The site is later in text referred in abbreviated form only as Budapest-Nagytétény. Same goes for Kiskunfélegyháza-Páka and Radvaň nad Žitavou-Žitava sites, which are latter referred without the urban sections (i.e. Páka, Žitava).

13 The chronology of the Hungarian Bronze Age differs from the one applied in this study (P. Reinecke and his followers), shifting the Tumulus period in the region to the Late Bronze Age (see e.g. Kiss et al. 2019, 173–176).

14 In Hungarian literature it is also referred to as the so-called Pre-Scythian period.

15 Unusual feature E representing an oval ditch and post fence bounding graves 124 and 277 was found more than 25 metres from the ring ditches A–D and its relation with the burial ground is not clear (Csányi 1980, 162, 6. kép). It will be relevant to discuss it only after the complete publication of the excavation results.

16 Correct information on the dimensions of the graves and ditches were kindly provided by Á. Somogyvári.

17 The place known as Vízállásjelző (Kertészföldek) was originally part of the Ipolytölgyes cadastre, but during its excavation it was annexed to the neighbouring village of Letkés. Therefore, the latter became the naming of the site, which was introduced into the literature. To maintain clarity, it is referred to here as Letkés (see Torma ed. 1993, 122).

18 The results of the excavation in Letkés, which were processed by T. Kovács, who passed away in 2013 have not been published (Torma ed. 1993, 122). O. Ožďáni met him during his study trip to Hungary in 1978 and 1981 and had the

opportunity to get acquainted with the excavation report. From his notes he kindly provided me with, for which I thank him sincerely, it is apparent that stone rings (of unspecified dimensions) have been found around at least three graves (8, 22, 37). These likely could be the graves mentioned by L. Papp (1965, 232).

19 From the scarce information published by excavation's leader (G. Szabó) there were 142 cremation graves documented. There are discrepancies regarding this number, because the most recent paper mentioning this site refers to only 121 Bronze Age graves (Mengyán et al. 2024, 6) or around 130 (Mengyán, Hrabák 2023, 8).

20 The dimensions of the stone structure are not given in the publication, only a photograph is available (see Točík 1964, Taf. XXXII:3). These have been excerpted here from the unpublished manuscript of A. Točík (1976).

21 The published plan of the excavation gives the impression that the larger ditch 41 was interrupted in the western part in the form of an 'entrance'. However, the leader of the excavation argues that it was in fact closed in the same way as the smaller ditch (feature 87), which was only preserved in segments (Fischl, Hajdu 2016, 141). The possibility of an unpreserved entrance within the ditch (feature 41) is also indicated by the orientation of grave pit 58 (!). It is important to note here, however, that in the hitherto known cases of horseshoe-shaped ditches from the Tumulus period, as far as is known, none has been found with an 'opening' oriented in a westerly direction (see Jockenhövel 1999, 350, Abb. 9).

22 I was unable to find out, from where A. Točík obtained information about the width and the depth of the ditch.

23 The site known as Zsellér föld was introduced in the literature under the name – Salka I, while the second contemporary burial ground located about 1.5 km to the southwest is marked as Salka II (Točík 1964, 3, 37, 38).

24 This was evidenced more recently also at the Jobbágyi burial site (Fülöp 2016, 128). It appears that children did not have fully established social status, which exempted them from the burial canon intended for adults.

25 There were pair of a disc-headed pins in inhumation grave 1 found inside stone wreath VI (see Pál, Cseh 2013, 10, 3. tábla:1., 2. kép; Gyöngyösi et al. 2019, 25, Fig. 4, 7; information kindly provided by J. K. Cseh), which are typical of the early Tumulus culture (Lochham horizon).

26 This value was derived from the available plan and its scale. Only the range of diameters of the circular structures from 5 to 8 m is given in the informative article (see Pál, Cseh 2013, 10).

27 An example is the site Budapest-Nagytétény, where stone structures were most likely above the ditch grave pits, but traces of their existence were evidenced only by rocks found in the filling of the ditches. Instead, at tumulus burial ground in Pitten, several almost intact barrows with stone structures have been discovered (see Windl 1988, Abb. 7).

28 For example, the limestone or travertine stones found in the grave fill in Radvaň nad Dunajom must had been transported across the Danube from the opposite Gerecse Mountains (Hüssen et al. 2018, 71).

29 Although tumulus burials are a typical of the Middle Bronze Age, this tradition continued to prevail in varying intensity, mainly in the mountainous regions of the Lusatian culture in Slovakia (see Fülöp, Váczi 2014, Fig. 4).

30 Here I would like to point out the misinformation, which unintentionally appeared in A. Jockenhövel's study, on the circular ditches dimensions in Svätý Peter (1999, 330, Abb. 8). This was caused by deducing sizes from plans, which have incorrect scale in the original catalogue published by M. Dušek (1969, Abb. 19–25).

31 Only grave 202 in Budapest-Nagytétény with a ditch 203 of maximum diameter of 8.2 m can be mentioned, where a woman aged 50+ years was buried. However, this size is similar to other graves at the same site where younger, but already adult individuals (aged 20+ years) were buried (graves 29, 50). The stone ring diameter of about 4 m surrounding the grave 37 in Letkés is noteworthy too, where a man aged 50–55 years was buried.

32 E.g. Waldlaubersheim (Stümpel 1971, 135); Gießen (Kunter 1976, 88); Edelsberg/Kubach (Jockenhövel, Herrmann 1977, 90, 127); Windenhausen (Küßner 2017, 166, Abb. 2, 3); Salzmünde (Moser et al. 2019, 170, Abb. 2).

33 An analogous way of reinforcing the earthen mound was supposedly documented at excavation of tumulus I at Winklarn (Lower Austria), which was excavated at the end of the 19th century (Heger 1893, 135, Abb. 8, 9).

34 Referred to in German literature as '*Offene Kreisgräben mit Tor*' (see Jockenhövel 1999, 340, 350–351).

35 Neither grave 41 nor the nearby grave 59 matched their orientation to the place where the ditch (feature 71) was interrupted. Therefore, it is difficult to determine if it was a purposeful opening or a secondary disturbance. The orientation to the southeast indicates that it was indeed an 'entrance' (see Kulcsár 1992, 9).

36 Franzhausen II (Neugebauer, Gattringer 1989, 66, Abb. 16:3, 4; Neugebauer et al. 1992, 91, Abb. 45; Neugebauer 1994c, 447, Abb. 37); Pitten (Hampl et al. 1978–1981, Taf. 66); Unterradlberg (Neugebauer et al. 1991, 50, Abb. 33:2); Getzersdorf (Neugebauer, Gattringer 1990, 60, Abb. 30:1, 3, 4); Herzogenburg-Kalkofen (Neugebauer 1981, 29, Taf. 24, 47). It is to be noted that most of the circular ditches from these sites were dated intuitively, based on stray finds (e.g. sickle-shaped pins, conical-head pins with opening in the neck). Some facts point to the possibility of their later age, as is their often quite large diameter, as well as absence of central graves, which more likely were shallow or not even sunken and therefore not preserved. Also, within these excavated sites some graves dated to 'seal-headed pin horizon' were found (Neugebauer 1994b, 158; 1994c, Abb. 38:3, 4). For now, it is not possible to take a position on this from available informative reports.

37 If we exclude the graves of the Tumulus culture, which were found in the enclosure but not in the geometric centre of the space it delimited (as in Kiskunfélegyháza, Jánoshida, Mezőnagymihály), then the number is 41.

38 Salka I – grave 181 with a stone ring, graves 34, 160 (Točík 1964, 10, 32, 36, Taf. II:5, VI:2, VII:5, 6); Malá nad Hronom – grave 41 with a stone ring (Točík 1964, 41, Taf. XXXII:5, 6).

39 Maklár – Koszpérium – graves 41, 42 (Mengyán et al. 2024, Fig. 3, 4).

40 An analogy is known from the Radzovce, where urn grave 216/69 dated to the earliest burial horizon (BB2/BC1 stage) was deposited in a rectangular pit (200 × 80 cm) oriented in the N–S axis (recent radiocarbon dating suggests its later age; see Škvor Jernejčič 2021, 125, Fig. 9). Further parallels to this phenomenon of 'transforming funerary tradition' were documented in the milieu of the Piliny culture also in Salgótarján-Zagyvapálfalva – grave 105 (Guba, Vaday 2008, 18, 6. kép; Furmánek, Mitáš 2010, 82, obr. 12:1, 3; 37).

41 Budapest-Nagytétény – grave 65; Svätý Peter – graves 9, 21; Nové Zámky – grave 1/55; Maklár – Koszpérium – graves 41, 42; Maklár–Nagyrét II; Vértesszőlős – grave 1.

42 Jánoshida – grave 113; Budapest-Nagytétény – grave 42; Kiskunfélegyháza – grave 7; Salka I – grave 181; Letkés – grave 37.

43 Svätý Peter – graves 7, 16, 20, 25; Radvaň nad Dunajom; Mezőnagymihály – graves 58, 91; Kiskunfélegyháza – graves 41, 59, 92.

44 The predominance of similar grave orientation is also evidenced at other burial sites in the region between the Bükk Mountains foothills and the right bank of the River Tisza (Hänsel, Kalicz 1987, 73, Abb. 35).

45 The issue of the burial rite changes has been discussed in more detail by J. Blischke (2002, 189–195), who distinguished a group of graves of the so-called 'orthodox and reformers' at Tiszafüred – Majoroshalom site.

46 On the contrary, diverse or inconsistent trends in the orientation of the body placement are indicated by scarce information from old excavations at burial sites in Upper and Lower Austria (Teschler-Nicola 1985, 129; Gruber 1999, 30) and from Moravia and Bohemia (Praumová 2014, 19, 59, graf 3, 4).

47 The published information on the orientation of grave pit 107 is unclear (cf. Szilas 2017, 230, Fig. 3, 13: 1–4). The grave was in fact oriented in ENE–WSW axis, as G. Szilas confirmed to me.

48 The published dimensions of the ditch graves in Svätý Peter cannot be verified by their plans, as their are not in the excavation report (Dušek 1959a). Looking at the published plan, the size depiction of grave 21, which appears to be smaller than graves 7 and 9, do not correspond with the available metric data (260 × 200 cm to 250/230 × 180/170 cm).

49 Luboš Jiráň (2008, 123–124) concluded that in the funerary rite of the Tumulus culture in Bohemia '*...there was no strict canon and that each social unit (tribe, community, family) performed the funerary ceremony according to its own customs*.' He suggests that the archaeological source does not show visible differences between the burials of exceptional personalities, as no two mounds that were built identically have been reportedly documented so far. On the contrary, this inconsistency according to E. Čujanová-Jílková (1992, 271) was a sign of a certain rule, which encourages the interpretation that the uniqueness of each field monument of this type had a certain, archaeologically unobservable significance.

50 Two cremation graves (148 and 167) were also identified in feature D, but these were located directly within the ditch, indicating their later dating, so most likely they were unrelated to the central grave.

51 What is noteworthy is the information on the 'central grave 34/III', which was found about 50 cm '*from the middle*' of the stone wreath, while it is not clear in which axis – A. Točík (1976, 88) later states that '*under the pressure of the inner stone embankment, there was deformed cremation grave at a depth of 50 cm*'.

52 According to J. Bátora (2000, 542, Abb. 690), his defined horizon VII at the burial site represents the late Mad'arovce culture and can be synchronised with BA3 and BB1 stages (~ Reinecke BB1 / Hänsel MD I and MD II / Ruckdeschel BB). According to him, the BA3 stage matches to the Bühl-Ackenbach hoard horizon in southern Germany ('I. horizon of the Koszider bronzes') and BB1 is parallel to the Lochham-Wetzleinsdorf horizon ('II. horizon of the Koszider bronzes'). Note: The author was using separate BA2c and BA3 (!) stages.

53 Dagger was also found in disturbed grave 41 with a circular ditch in Kiskunfélegyháza (Somogyvári 1992, 16).

54 A study on a series of new radiocarbon data obtained from the Tumulus culture burial features in southwestern Slovakia is currently being prepared by the author and will be published in the foreseeable future.

55 The burial site is located in a micro-region situated between the foothills of the Bükk Mountains and the Tisza River Basin, from which intense settlement of the so-called Egyek group of the Tumulus culture are known – within a radius of about 30 km from the site there are cemeteries as Tiszafüred – Majoroshalom (Kovács 1975), Egyek – Szőlőhegy (Kovács 1966), Mezőcsát – Hörcsögös (Hänsel, Kalicz 1987), Igrici – Matata (Kalicz 1958), Emőd – Istvánmajor (Hellebrandt 2004) or Maklár – Koszpérium (Szabó 1961; 1963a; 1963b) and Maklár – Nagyrét II (Mengyán, Hrabák 2023).

56 The author attributes a standard value of 25% to soil looseness.

57 Excavations of well-preserved mounds in the surrounding regions show that many of them had a standard circular ground-plan. In Pitten, 57% of the excavated mounds (with a diameter of over 3 m) had this form, similar to the burial grounds in Borotice and Buková (see Bobek 2016, 32–33).

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Resumé

Příspěvek se zaměřuje na zhodnocení aktuálního stavu výzkumu kruhových objektů kolem hrobů na lokalitách karpatské mohylové kultury a jejích příbuzných skupin v severní části Karpatské kotliny. Za poslední dvě desetiletí se totiž počet nalezišť, kde byl zaznamenán jejich výskyt, téměř zdvojnásobil. V současnosti se jedná o nejméně 16 lokalit ze střední doby bronzové, situovaných mezi oblastí dolního toku Váhu přes ohyb Dunaje až po střední povodí Tisy (tab. 1). Tyto objekty se pojí s dříve diskutovanou otázkou, zda je vůbec oprávněné této archeologické kultuře přisuzovat přívlastek „mohylová“, a to zejména ve srovnání se situací na pohřebištích západního okruhu mohylových kultur, rozšířeného od oblasti Moravy a východního Rakouska až po Německo a východní Francii. Ve střední době bronzové se kruhové objekty kolem hrobů objevily na území jižního Slovenska a Maďarska ve dvou základních formách: jako koncentrické žlaby nebo kamenné věnce. Z daného kulturně-geografického regionu je známo minimálně 44 hrobů ohraničených žlaby na 9 lokalitách a nejméně 17 hrobů vymezených koncentrickými kamennými strukturami, které se zatím vyskytly na 6 pohřebištích.

Tyto útvary jsou obecně považovány za nepřímé doklady dnes již většinou zaniklých mohylových náspů z hlíny nebo kamene, které z vnější strany hroby ohraničovaly. Stále více se však zdůrazňuje, že tento interpretační model nelze bez výhrad aplikovat na všechny případy – každý takový kruhový pohřební objekt je třeba vyhodnocovat individuálně. V příspěvku je věnována pozornost jejich geografickému rozšíření, hlavním charakteristikám i specifikám, a to ve srovnání s „klasickými“ mohylami západně od Karpatské kotliny.

Hroby obklopené kamennými kruhy, resp. robustnějšími věnci, byly nejčastěji dokumentovány na lokalitách v blízkosti pohoří s lehčí dostupností suroviny, ale existují i případy, kdy byl kámen dopraven z větších vzdáleností. Naopak v zkoumané oblasti převládá spíše výskyt hrobů s kruhovými žlaby (nebo příkopy), které byly zatím nalezeny výhradně v nížinných oblastech (obr. 1). V tomto kontextu je však nutné zvažovat možnost, že některé z nich mohly původně mít i kamenné struktury, které se nedochovaly.

Jak už bylo dříve konstatováno, vnější rozměry těchto struktur v prostředí karpatské mohylové kultury se obvykle pohybují mezi 5,5 až 9 m (graf 1; tab. 2, 3). Rozměry žlabů byly většinou výrazně zredukovány zemědělskou činností, ale lépe zachované případy naznačují šířku nejčastěji mezi 40–80 cm a hloubku až 80–100 cm. Zdá sa, že někdy velikost ohraničení může souviset se sociálním postavením či věkem zemřelého, ale tento jev je spíše specifický pro každé pohřebiště zvlášť, podle zvyku komunity, která tam pohřbívala.

Převaha počtu nálezů kruhových žlabů je nepochybně výrazně zkreslena antropogenní činností (úpravy půdy, druhotné využití kamene), kvůli níž se kamenné konstrukce nemusely dochovat (graf 2). To komplikuje jejich interpretaci i rekonstrukci původního vzhledu, kterou lze často pouze domněle předpokládat. Pozoruhodné jsou zjištěná ohniště v prostoru žlabů (např. Svätý Peter, Mezőnagymihály), které pravděpodobně souvisejí s rituály při pohřbu nebo vzpomínkovými obřady (obr. 24, 25). Další zajímavostí jsou nálezy jam po kůlech či sloupech uvnitř ohraničených areálů (obr. 2, 12), které mohly být pozůstatky nadzemních konstrukcí – možná zpevnění mohylových náspů, nebo stély označující areály pohřebišť.

Analýza dále zohledňuje podobu a výbavu hrobů vymezených těmito kruhovými objekty. V jejich geometrickém středu se zpravidla nacházel jediný hrob, často výrazně větších rozměrů (graf 4), kde bylo tělo uloženo buď nespálené, nebo spálené v keramické urně, případně byl popel rozptýlen v jámě. Dodatečná pohřbení v rámci stejného objektu během doby mohylové jsou poměrně ojedinělá. Specifickým fenoménem jsou otevřené kruhové žlaby, přerušené obvykle na jihovýchodě (obr. 6, 15, 16), což vytvářelo tzv. vstupy (např. Radvaň nad Dunajom, Jánoshida, Maklár–Nagyrét II, Kiskunfélegyháza). Těmto otvorům se přisuzuje zejména paleoastronomický význam (např. východ slunce), ale také praktická funkce pro vstup do rituálního prostoru.

V příspěvku se diskutuje i chronologické zařazení těchto centrálně umístěných hrobů ohrazených příkopy nebo kamennými konstrukcemi. Tento výrazný pohřební rys má totiž širší časový přesah a určitý vývoj. Předběžná analýza dokládá, že kruhové objekty se kolem hrobů stavěly především ve starší fázi střední doby bronzové (stupeň Bz B), přičemž v severozápadní části středodunajského regionu se tato tradice objevila již na konci eneolitu. Podobně tomu bylo, ačkoli za jiných okolností, i východně od řeky Tisy (jámová kultura).

S ohledem na nové detailně dokumentované terénní situace bylo možné v závěru studie připojit poznámky k hrobům ohraničeným kruhovými žlaby, které byly interpretovány jako mohyly. Klíčová naleziště, jako Budapest–Nagytétény nebo Mezőnagymihály, přinesla důkazy o hrobech mladších o několik století, které byly záměrně v superpozici nad staršími centrálními hroby. To podporuje představu, že v severních částech Karpatské kotliny se ve střední době bronzové příležitostně stavěly nad hroby společensky významných lidí skutečné „hliněné pomníky“, které byly v krajině dlouhodobě viditelné. Prominentní status pohřbených mužů, žen a dětí (dokonce i batolat) dokládají případy neporušených hrobů s výbavou zahrnující honosné zbraně, šperky a další prestižní předměty (obr. 26, 27).

Author

Jakub Godiš
Department of Archaeology, Faculty of Arts
Constantine the Philosopher University in Nitra
Hodžova 1
SK-949 01 Nitra
jgodis@ukf.sk
ORCID: 0000-0001-6450-2323

Přehled výzkumů 66/1, 2025 ● 87–102



Clarifying the past: A synthesis of the research history of the Suciu de Sus culture according to sites and finds from the eponymous village

Objasnění minulosti: syntéza historie výzkumu kultury Suciu de Sus na základě lokalit a nálezů z eponymní obce

– *Carol Kacsó** –

KEYWORDS

Village of Suciu de Sus – Suciu de Sus culture – Lăpuș group – history of research – geophysical survey – pottery – bronze artefacts

ABSTRACT

The article focuses on a reconstruction of the history of archaeological research into the Suciu de Sus culture, particularly in the eponymous village of Suciu de Sus in northern Transylvania. The aim is to synthesise fragmented information on research conducted in this area from the late 19th century to the present. The author focuses on clarifying the origin of artefacts, especially those associated with this culture, and addressing controversies regarding their original find sites. In addition to historical overviews of the research, recent discoveries, including results from geophysical surveys conducted in 2024, are discussed, suggesting the presence of archaeological structures that may contribute to a better understanding of the function and organisation of sites in this area. The article also explores cultural connections in the Bronze Age, particularly those related to the Lăpuș group, and clarifies the relationship between the finds at Suciu de Sus and other sites in Transylvania. The study provides a more comprehensive view of the significance of the Suciu de Sus culture and its place within the broader context of the Bronze Age in Transylvania.

1. Introduction

The village of Suciu de Sus, whose medieval development dates to the 14th century, is located in northern Transylvania, in the eastern part of the Lăpuș Depression, in Suciu Valley, by the southern and south-western foothills of the Țibleș Mountains and those north-east of Breaza Peak (Fig. 1). This archaeologically significant settlement is particularly renowned for the important Bronze Age remains unearthed at several sites within its boundaries, complemented by a few random finds of bronze artefacts.

Over the course of the late 19th and early 20th century, pioneering archaeological investigations were conducted in the area by figures such as János Szendrei, Domokos Teleki, and Márton Roska. Their research focused on key sites like the flat cremation cemetery at Poduri pe Coastă (Fig. 2) and the barrow cemetery at Troian (Fig. 3). The mentioned cemeteries lie on the fourth step of the main tributary of Lăpuș River terraces and extend in a length of several kilometres, *Poduri pe Coastă* up to almost Suciu de Jos, *Troian* up to Grosii Țibleșului, also with considerable widths (Posea 1962, 133–140). However, the documentation of these early investigations is highly deficient, and a significant share of the discovered materials has regrettably been lost or

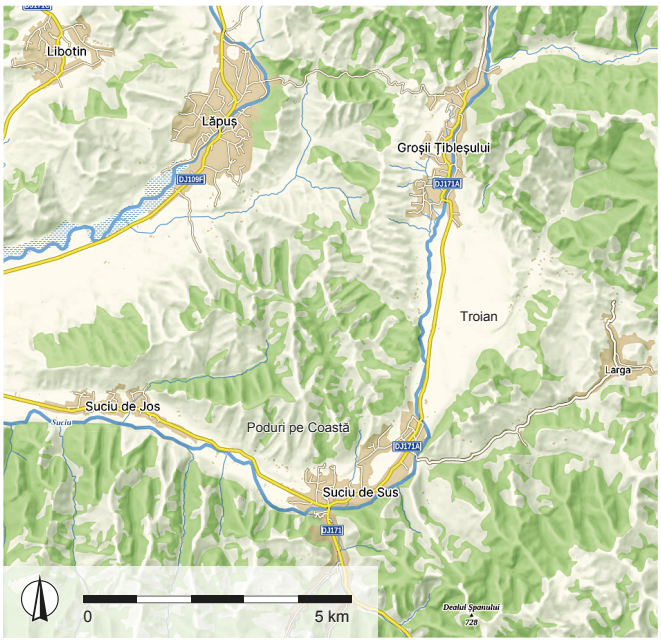


Fig. 1. Map of Suciu de Sus and neighbouring villages. Base map: mapy.cz; author M. Filip.

Obr. 1. *Mapa Suciu de Sus a okolních vesnic. Podkladová mapa: mapy.cz; autor M. Filip.*

* Corresponding author – E-mail address: carolkacso@yahoo.de

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Fig. 2. Suciu de Sus. *Poduri pe Coastă* terrace. Photo by C. Kacsó.
Obr. 2. *Suciu de Sus. Terasa Poduri pe Coastă. Foto C. Kacsó.*





Fig. 3. Suciu de Sus. *Troian* terrace. Photo by C. Kacsó.
Obr. 3. *Suciu de Sus. Terasa Troian. Foto C. Kacsó.*

mixed with artefacts from other sites. This historical fragmentation has led to sometimes contradictory accounts and ongoing debates, particularly concerning the precise origin and cultural affiliation of many finds.

This article aims to synthesise this dispersed history of archaeological research at Suciu de Sus by critically examining available records and materials. To achieve this, the study first provides a comprehensive reconstruction of the research history from the late 19th century to the present day, drawing upon historical accounts, excavation reports and museum collections. Building on this historical foundation, the article seeks to clarify the oft-debated provenance of key artefacts, especially those controversially attributed to both Suciu de Sus and Gorneşti, by analysing the available evidence to determine their most likely origins. Furthermore, the study integrates recent findings, including the results of geophysical surveys conducted in 2024, to highlight potential archaeological structures and discuss their implications for understanding the site's layout and function. Finally, by examining the discovered bronze artefacts and pottery fragments, the article contextualises these Bronze Age discoveries, contributing to a broader understanding of the Lăpuş group and its cultural connections within the Transylvanian region. By addressing these goals, this article seeks to provide a more coherent and nuanced understanding of the archaeological significance of the Suciu de Sus site and its place within the broader context of Bronze Age Transylvania.

2. Research history of the Suciu de Sus

Suciu de Sus appears for the first time in the archaeological literature in 1887, in the annual report of the National Society of Archaeology and Anthropology, albeit without further details, with excavations conducted in three different places under its supervision (Szendrei 1889, 42–44). In the same year, Szendrei issues a brief report on the research of Suciu de Sus, specifying that burial mounds unearthed on the *Troian* plateau contained Bronze Age urns with specific decorations similar to those on the pottery found at 'St. László' in Bihor (in fact, Biharszentjános [Sântion]) (Szendrei 1887, 378). The same author also references the Suciu de Sus excavations in the report published in 1888 (Szendrei 1888, 87) and resumes their discussion in the note published two years later, addressing mainly the finds from the Lăpuş barrow cemetery, maintaining that on the land on the *Troian* plateau, which belonged to Baroness Györgyné Bánffy, ten to fifteen burial mounds were scattered, the contents of which were identical with those of the Lăpuş barrows. The author also speaks of the '*padur*' site, the 25-metre-high terrace slope of '*Tökés*' valley ('*Groşi*') at Suciu de Sus, where he found burial urns placed directly in the ground (Szendrei 1890, 377). Szendrei's research is briefly commented on by József Hampel, who appreciates that the pottery discovered at Suciu de Sus and entered in the collection of the Magyar Nemzeti Múzeum (Hungarian National Museum) in Budapest (hereinafter MNMB) pertains, most likely, to the Late Bronze Age (Hampel 1888, 175–176; Hampel 1892, 41).

Information slightly different from the above is included in the monograph of Szolnok-Doboka County, published in seven volumes in the early 20th century. The first volume mentions that Szendrei discovered in the prehistoric settlement of Suciu de Sus poorly-fired urn fragments, highly ornate, which were brought to MNMB (Tagányi et al. 1901, 116), while in volume six references are made to the finds at the *Troian* site, with the mention that Count László Teleki discovered pottery fragments there as well as at *Mocsika*, which he assembled and included in the beautiful collection he owned in Budapest consisting of objects originating from said site (Kádár 1903, 501, nota 4).[1] Volume seven of the same monograph publishes a picture of an assemblage of vessels, specifying that these were dated to the prehistoric period and that their place of origin was Suciu de Sus (Kádár 1905, illustration on p. 171). Unfortunately, the illustration is of poor quality, and thus it is practically impossible to establish the features of pottery documented in this manner.

In the report published in 1900, Endre Orosz still speaks of the prehistoric settlement of Suciu de Sus, from which come fragments of decorated urns found in subsequent excavations conducted at the site by Szendrei; these artefacts attributed to the Late Bronze Age (Orosz 1900, 26, No. 37) were sent to the museum in Budapest.

As indicated in a later report, Orosz had visited the village of Suciu de Sus in the summer of 1898 in order to see, according to his statements, the place where the famous cemetery with prehistoric urns was situated. The report mentions the cemetery excavators: Károly Torma,[2] János Szendrei and Domokos Teleki, the latter being appreciated for having made the greatest contribution to knowledge of the Suciu de Sus remains and for establishing an important collection housed in his Gorneşti Castle (Orosz 1915). The graphic support of this work includes two vessels published in 1900 originating from the Gorneşti region (Hampel ed. 1900, 208, 213; Fig. 4), with the author specifying that these were in fact discovered at Suciu de Sus.

Interestingly, Orosz mentions the *Troian* terrace (‘*Troján*’) as the location of the flat cemetery, as he himself had discovered numerous small potshards in the yellow clayey-sandy soil. There is obvious confusion concerning the location of the two Bronze Age-dated cemeteries of Suciu de Sus, which further suggests that by the late 19th century, mound traces on *Troian* were no longer visible.

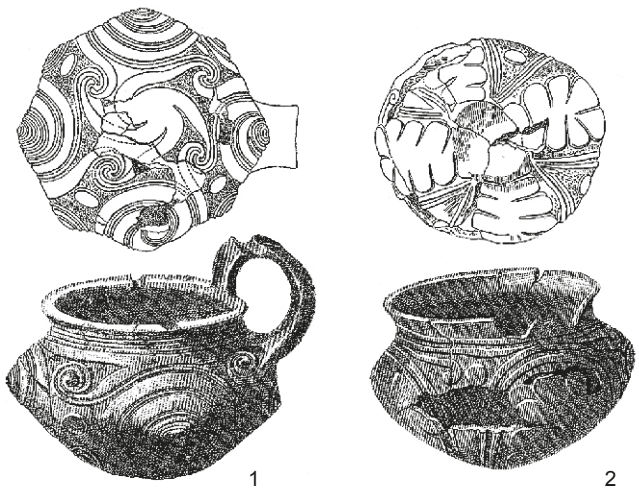


Fig. 4. Suciu de Sus. Pottery. After Hampel ed. 1900.
Obr. 4. *Suciu de Sus. Keramika. Podle Hampel ed. 1900.*

Novel data on the finds at Suciu de Sus were published in 1914. In a brief report, Roska mentions the research he conducted there during the previous year, with the main goal of identifying Teleki’s excavations (Roska 1914, 143–144). The author argued that Teleki carried out several excavation campaigns at Suciu de Sus. According to information obtained from a native inhabitant involved in the excavations, these occurred at two sites, at *Troian* (‘*Troján*’) and at *Poduri pe Coastă* (‘*Poduri pé kaszta*’), the first investigating, Roska argues, a settlement, the second, a cemetery. The 1913 excavations were conducted on the *Poduri pe Coastă* terrace, on a 19.50-metre-long and 5.25-metre-wide area located on the land of Ioan Bizo. Thirteen features were identified: eleven cremations and two cremation pyres. Although all the graves were disturbed, Roska makes a few observations:

1. The newly discovered graves date to the same period as those identified in Teleki’s ‘non-systematic excavations’.[3]
2. The cremated human bones and offering vessels were set in the east-west direction.[4]
3. The cremation pyres were set between the graves.

The Suciu de Sus finds are also mentioned in the reperts drafted by Iulian Marţian documenting urn mounds at *Tabăra*[5] and menhir remains on the *Troian* plateau (Martian 1909, 329, No. 193; Marţian 1920, 87, No. 644).

In the study published in 1940 on the excised decorated pottery of Transylvania, Roska mentions his own investigation at Suciu de Sus only by quoting the journal that published brief information on the 1913 excavations, though discussing in somewhat greater detail Teleki’s and Szendrei’s finds and mentioning several works that present or discuss the Suciu de Sus pottery, noting that some authors indicate Gorneşti as the place of origin for this pottery (Roska 1940, 6–7, No. 9). Roska also briefly examined the chronological framing of the pottery he termed the ‘Suciu de Sus type’, maintaining that most of the pottery dates to the Bronze Age, with a part also extending into the Early Iron Age as well, as evidenced by the wares (urns and cups) discovered in barrow IV at *Troian* (Roska 1940, 22).

Partially different data on the finds of Suciu de Sus are provided by Roska in the archaeological report he published in 1942 (Roska 1942, 90, No. 78). It is claimed that Teleki excavated at *Podini pe coaste*[6] a Copper Age cremation cemetery[7] with graves in a trough shape, located roughly a palm’s length beneath the ground, set at a distance of 2–3 m from one another. Each of the graves contained an urn with cremated human bones, covered by a cup set upside-down. The urns were topped each by a deep bowl. In a few cases, the urns were surrounded by slate slabs, and near one of the urns lay a copper chisel. The excavation conducted in the autumn of 1913 is also mentioned, though this time it is argued that twelve features were unearthed, graves (or rectangular cremation pyres) made of cobbles. No details are provided for Szendrei’s finds, only a mention that twenty-six pottery fragments and three charred bone fragments reached the MNMB (Fig. 5). The barrows with urns discovered at *Tabăra* are mentioned based on Marţian’s notes, together with the menhirs from *Troian*. The drawings document four vessels originating from the flat cemetery (Fig. 6; Roska 1942, Fig. 110–113). Given that Fig. 112 in Roska’s repertory reproduces the vessel already published in Archæologiai Értesítő (Hampel ed. 1900, 213), it seems rather likely that the remaining vessels, illustrated then for the first time, were part of Teleki’s Gorneşti collection.[8]

Although Orosz, then Roska on several occasions and also Pál Patay (1942, 113, note 29) noted that the two vessels published in the Archæologiai Értesítő journal were not discovered at Gorneşti or nearby, but in fact at Suciu de Sus, the site from central Transylvania still appears, especially in older works (Wosinsky 1904, 66, pl. XI, XII; Hoernes 1911, 12, Fig. 15; Kossina 1912, 178–179, Fig. 7;



Fig. 5. Suciu de Sus. MNMB collection. Pottery. Photo by A. Dabasi.
Obr. 5. *Suciu de Sus. Sbírka MNMB. Keramika. Foto A. Dabasi.*

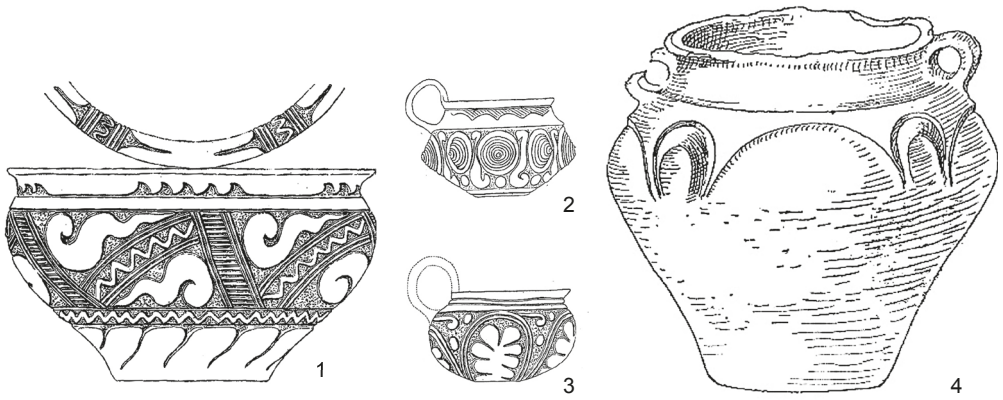


Fig. 6. Suciu de Sus. Domokos Teleki former collection. Pottery. After Roska 1942.
Obr. 6. *Suciu de Sus. Bývalá sbírka Domokose Telekiho. Keramika. Podle Roska 1942.*

Hoernes, Menghin 1925, 414–416; Pârvan 1926, 420–421, 427–428, Fig. 277, 278; Childe 1929, 380, Fig. 215; Reinecke 1942, 102–103) as the place of origin of these vessels.

Controversies on the place of origin, either Gornești or Suciu de Sus, also existed in connection with other pottery finds. Thus, the Cluj Museum collection comprises fourteen vessels recorded as having been originally discovered at Gornești (Gooss 1876, 222–223; Téglás 1887, 86, No. 132), yet which were identified, according to Popescu, at Suciu de Sus (Popescu 1944, 136–137).[9]

Still, in the old collection, the Cluj Museum holds even today a shallow bowl, a cup, and numerous fragments, all highly ornate with motifs typical for Suciu de Sus (Fig. 7).

Mór Wosinsky's monograph on white encrusted pottery publishes the discussed vessels for the first time (Wosinsky 1904, 66, pl. VII, 2, 3 and pl. X, 2, 3), noting that these originate from an unknown place in Transylvania and that they are held at the Cluj Museum.

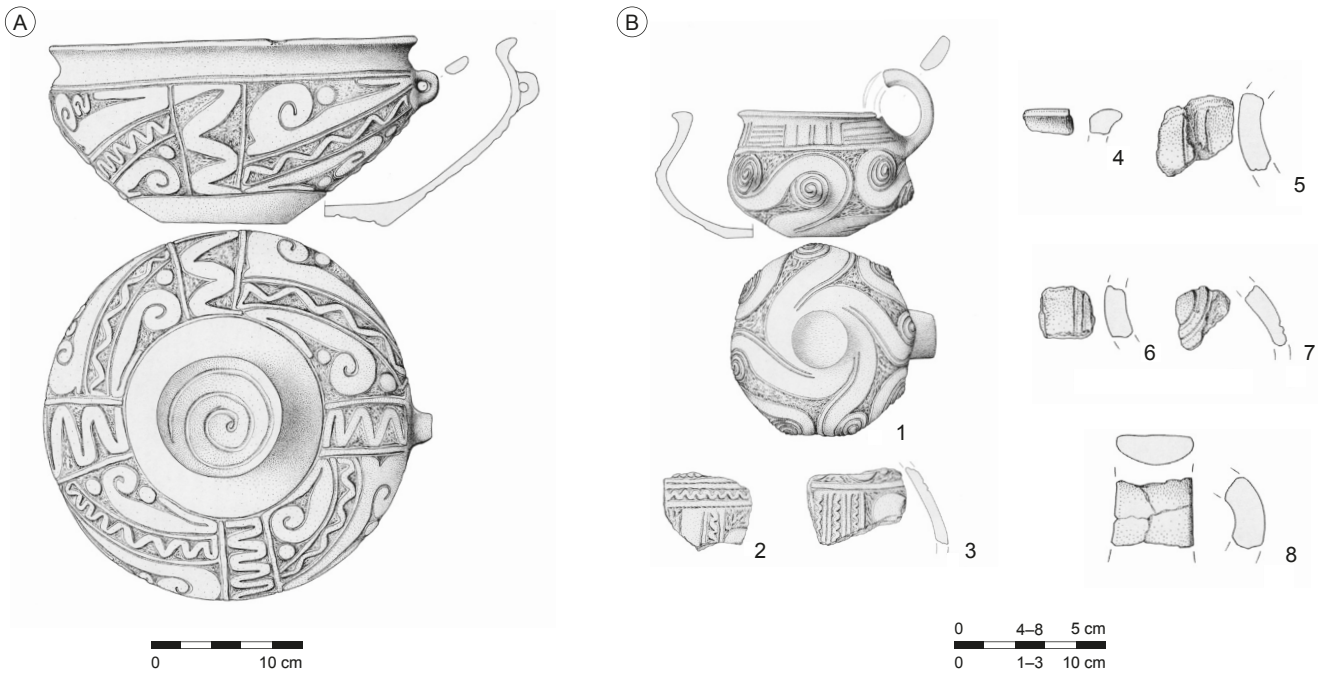


Fig. 7. Suciu de Sus. MNIT collection. Shallow bowl, cup, potshards. After Kacsó 2008.
Obr. 7. *Suciu de Sus. Sbírka MNIT. Miska, pohár, zlomky keramiky. Podle Kacsó 2008.*

The vessels are also reported in the study published by Roska in 1940 as well as in his archaeological repertoire of 1942 (Roska 1940, 6, No. 9; 1942, 91, No. 78). In both works, it is argued that these were more than likely discovered at Suciu de Sus according to their shape, decoration and colour.

The bowl and cup are photographically reproduced in the 1967 guide of the Cluj Museum exhibition with the specification, in the figure legend, that these originate from Suciu de Sus ('Suciul de Sus') (Daicoviciu 1967, Fig. 7). The same provenance is attributed to the cup by Constantin Daicoviciu and Emil Condurachi (Daicoviciu, Condurachi 1972, Fig. 50). These vessels in the Cluj-based Museum collection are probably the ones mentioned, albeit not very accurately, by Tiberiu Bader when discussing the older Suciu de Sus finds (Bader 1976, 39). The author states that the materials came from Teleki's excavations very likely performed in the cremation cemetery of *Poduri*, without yet indicating the source of his assertions. Still, Bader claimed in a later work presenting the assemblage of finds from Transylvania that the vessels published by Wosinsky possibly came from Suciu de Sus (Bader 1979, 28, No. 58).

The chapter addressing the Suciu de Sus culture within a volume issued in 1980 again reproduces the bowl and cup, the figure's legend mentioning Gorneşti as the place of origin (Miclea, Florescu 1980, Fig. 401, 402).[10] The same find place of the discussed vessels is indicated in the archaeological report of Mureş County compiled by Valeriu Lazăr (1995, 137). The intact vessels were more recently published in a new guide to the Cluj Museum exhibits (Vasiliev et al. eds. 1998, Fig. 7) and a work for public dissemination (Rotea 2009, Fig. 14, 15), though without any information provided on their provenance.

There is no information of any sort on the find location of this pottery in the Cluj-based museum collection. The presence of two restorable vessels makes rather plausible the hypothesis according to which these were grave goods. Given that the largest Suciu de Sus cemetery known in Transylvania is precisely that of Suciu de Sus-*Poduri pe Coastă*, it seems very likely that the pottery discussed here was in fact discovered in this cemetery (Kacsó 2008).

Gorneşti as the place of origin of Suciu de Sus-type artefacts re-emerges in the literature from the mid-1960s. Thus, in 1965 Nicolae Vlassa publishes several pottery fragments discovered at *Cserépcsűr* (*Şura hârburilor*) in Gorneşti, including several that are safely of the Suciu de Sus type (Vlassa 1965, 20, Fig. 2). Mentioning these materials without any comment, Bader includes Gorneşti among the places from Transylvania that yielded Suciu de Sus finds (Bader 1972, 513, No. 16; 1979, 27, No. 24), while Valeriu Lazăr speaks of a spread settlement, attributed 'either to the Gorneşti culture (as termed by some authors owing to the eponymous settlement), or the Suciu de Sus culture (by analogy with the pottery there and that of Lăpuş)' (Lazăr 1995, 138). In another work, the same author mentions the pottery of Gorneşti-*Şura hârburilor*, without yet providing a source for the information, that it was 'highly ornate with excised spiral motifs, grooves, straight, wavy and discontinued lines, grids in a rhombus shape as well as with plant motifs. It has many parallels in Lăpuş pottery' (Lazăr 1999, 51).[11]

In a relatively recent discussion on Bronze Age-dated finds of Gorneşti published by Vlassa as well as subsequent research conducted at the site already included by Roska in his report (Roska 1942, 97, No. 29), we argued that the *Cserépcsűr* (*Şura hârburilor*) settlement very likely belongs to the bearers of the Wietenberg culture, while the Suciu fragments found there, similar to others discovered in central and south-eastern Transylvania, are 'imports' in the Wietenberg milieu (Kacsó 2007, 54–55).

The archaeological excavations conducted in 1996 at Gorneşti-*Cserépcsűr* by Mihai Petică and Andrei Zrinyi, possibly also owing to their small sizes, failed to clarify the issue of the cultural affiliation of the settlement there, although the authors speak of finds dated to the 'Late Bronze Age – Early Hallstatt', yet also to a 'fully Hallstatt' chronological framing, or pottery of 'Late Bronze Age dating – delayed Wietenberg' (Petică, Zrinyi 2000, 333–334).

A possible explanation of the large number of Suciu de Sus pottery fragments present within the mentioned confines at Gorneşti, different than what was already proposed, has been

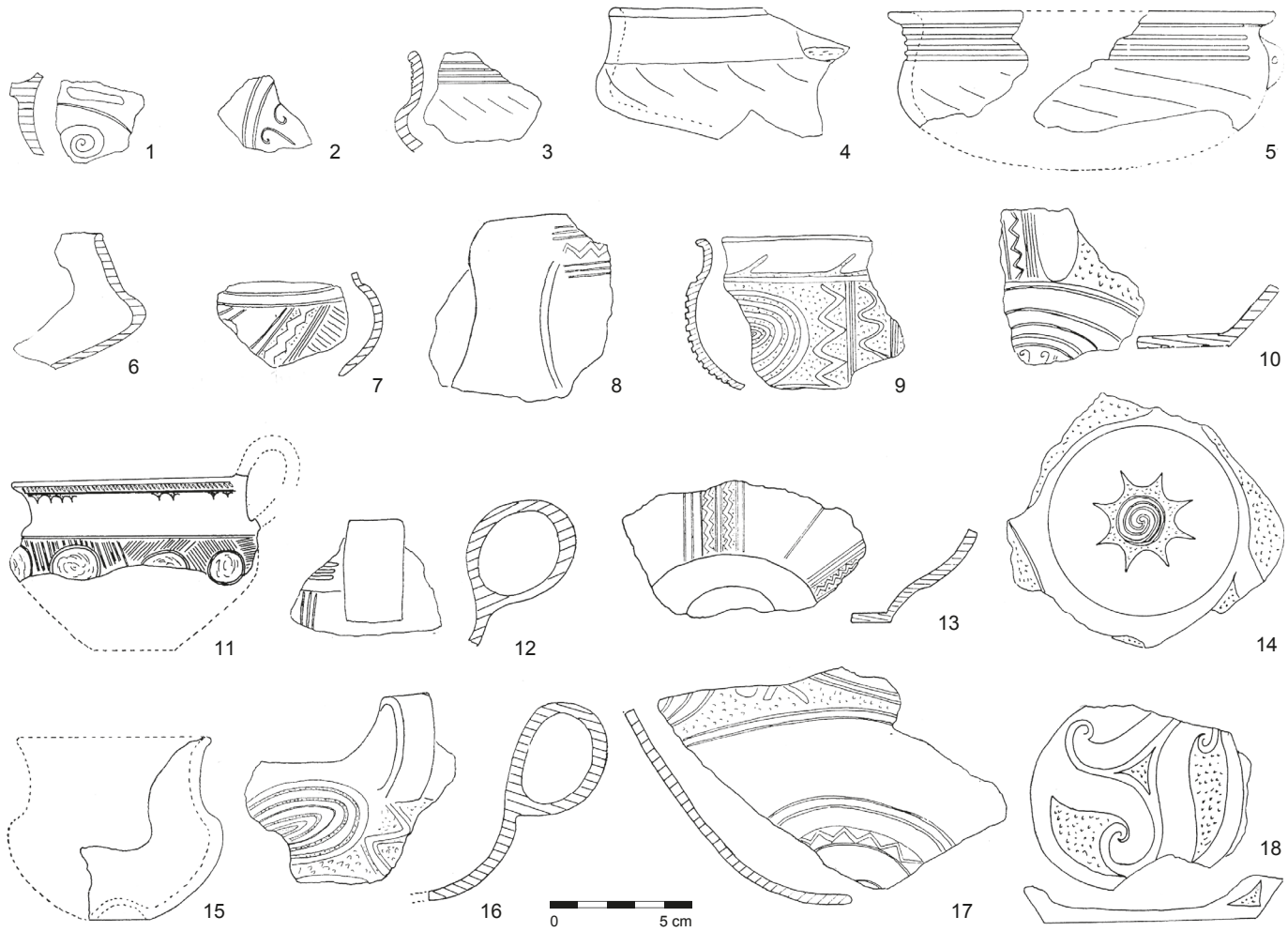


Fig. 8. Suciu de Sus. Domokos Teleki former collection. Pottery. After Bader 1976.
Obr. 8. *Suciu de Sus. Bývalá sbírka Domokose Telekiho. Keramika. Podle Bader 1976.*

suggested precisely by Vlassa in an informal discussion, namely that they in fact come from the Teleki museum collection, dispersed in a place located at a relatively small distance from Teleki Castle, purposefully or not in the location where such fragments had already surfaced, at a time when, by the end of WWII, the collection was to a large extent destroyed.[12]

The Teleki collection of Gornești also included other pottery items discovered at Suciu de Sus-*Poduri pe Coastă*, as well as in the barrow cemeteries on *Troian* terrace, or *Podanc* terrace at Lăpuș. Unfortunately, the intact vessels, like those published by Roska, did not survive. Only a relatively large quantity of pottery fragments was rescued (Fig. 8–10), of which a significant part reached the collections of the Mureș County Museum in Târgu Mureș (hereinafter MJM; Bader 1976).

The archaeological excavations at Suciu de Sus were continued during the second half of the 20th century. Thus, since 1961, during a field walk performed by Mircea Rusu on *Poduri pe Coastă* terrace, a partially destroyed cremation was discovered (Rusu 1969, 1400).[13] On the same terrace, approximately 250 m north of City Hall, we discovered pottery fragments during our repeated field walks, most decorated with striations. These could come from a settlement contemporary with the cemetery located nearby (Kacsó 1987, 59, No. 24a). Another Bronze Age settlement was identified in 1989, also during a field survey, at the *Pe Rât* site, near the house of Gavrilă Demian (Bătică), where, among other artefacts, a vessel fragment with a striated decoration was found (Kacsó 2003, 119, No. 32). On the high terrace to the right of the Suciu Valley, near the edge towards Suciu de Jos, in the vicinity of the former Jewish cemetery, at the *Poduri* site, we discovered several pottery fragments in a 2003 field survey, of which a few are decorated with striations, which suggest the likely presence there of a Suciu de Sus or Lăpuş settlement (Kacsó 2015, 539).

Important archaeological evidence surfaced at the site of *La Șes* (*Șesu*) located approximately 500 m from the north-eastern end of the village, on the flatland terrace to the left of Suciu Valley, on either side of the Suciu de Sus–Groşii Ţibleşului road, where a Late Bronze Age settlement is located, which we excavated in 1969 and 1989 (Kacsó 1993). The settlement is mostly destroyed owing to the river's displacement and floods caused by its tributaries. No settlement features were identified, only a few waste pits, which nevertheless supplied a relatively large quantity of pottery and a few fired clay objects (Fig. 11–15). Although the discovered pottery is entirely fragmentary, some of the vessel forms present in the settlement could be identified: deep bowls; shallow bowls; cups; small vessels; biconical vessels with a short neck and a slightly curving body; vessels with a short neck and bulging body; vessels with a wide border, a vertical neck and a protruding body, of which some are black on the exterior, red on the interior; storage vessels, etc. Most vessels

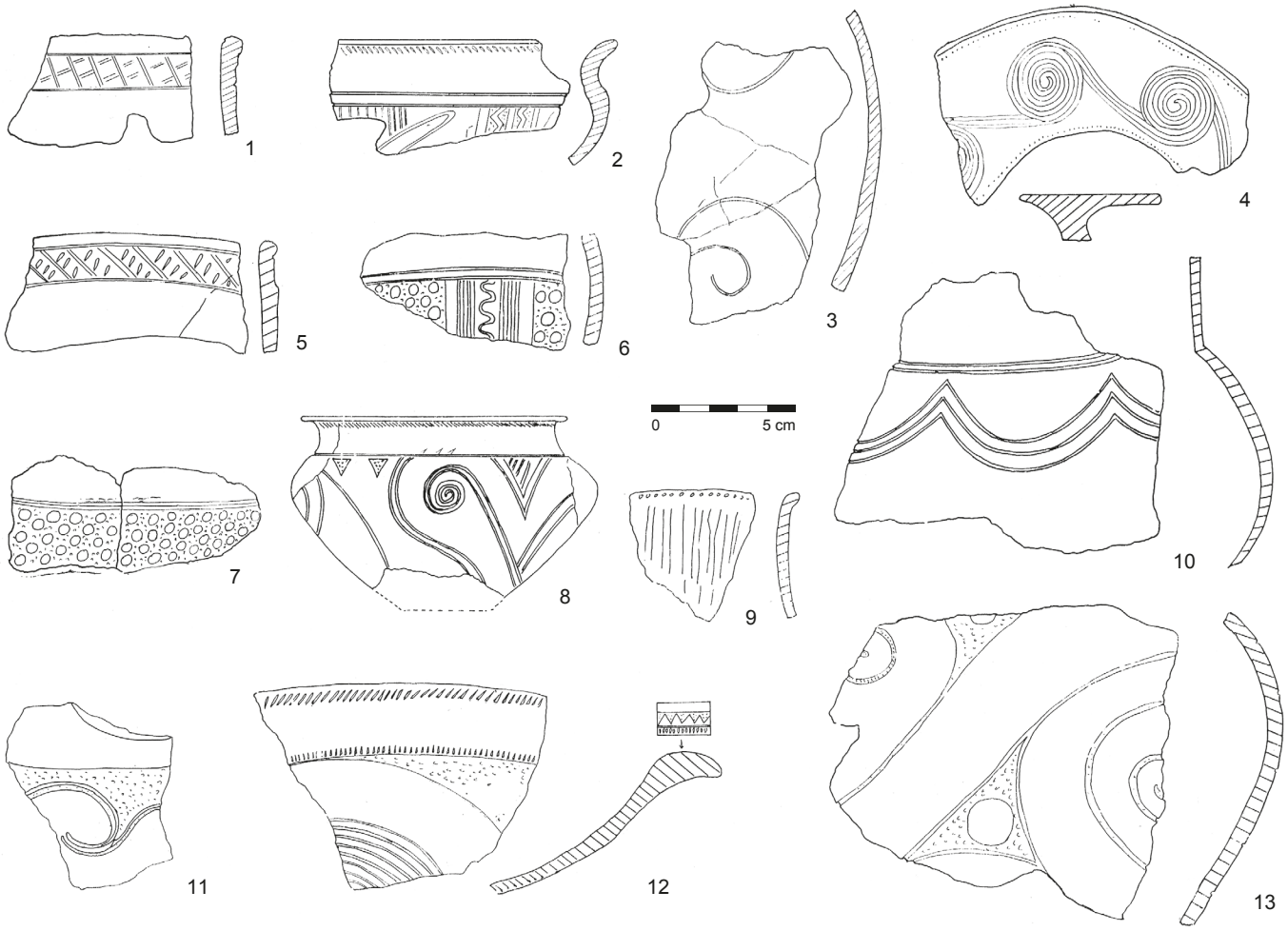


Fig. 9. Suciu de Sus. Domokos Teleki former collection. Pottery. After Bader 1976.
Obr. 9. *Suciu de Sus. Bývalá sbírka Domokose Telekiho. Keramika. Podle Bader 1976.*

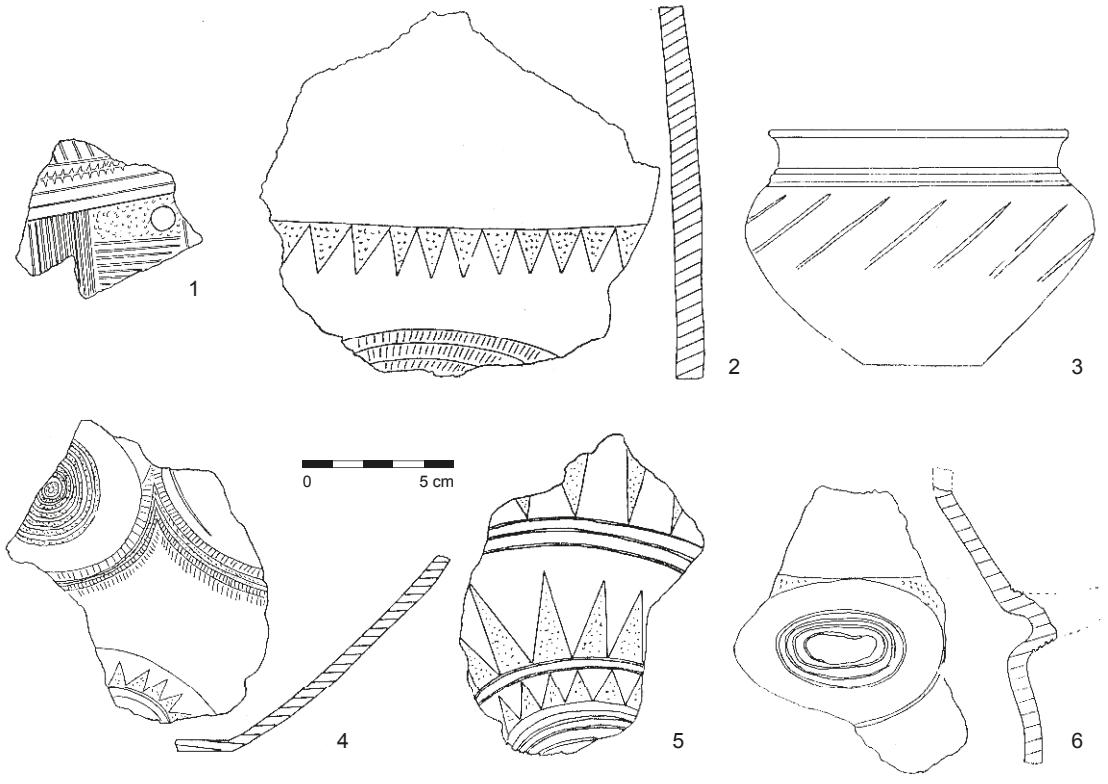


Fig. 10. Findings from surrounding sites: 1–5 – Lăpuș; 6 – Gornești. Domokos Teleki former collection. Pottery. After Bader 1976.

Obr. 10. *Nálezy z okolních lokalit: 1–5 – Lăpuș; 6 – Gornești. Bývalá sbírka Domokose Telekiho. Keramika. Podle Bader 1976.*

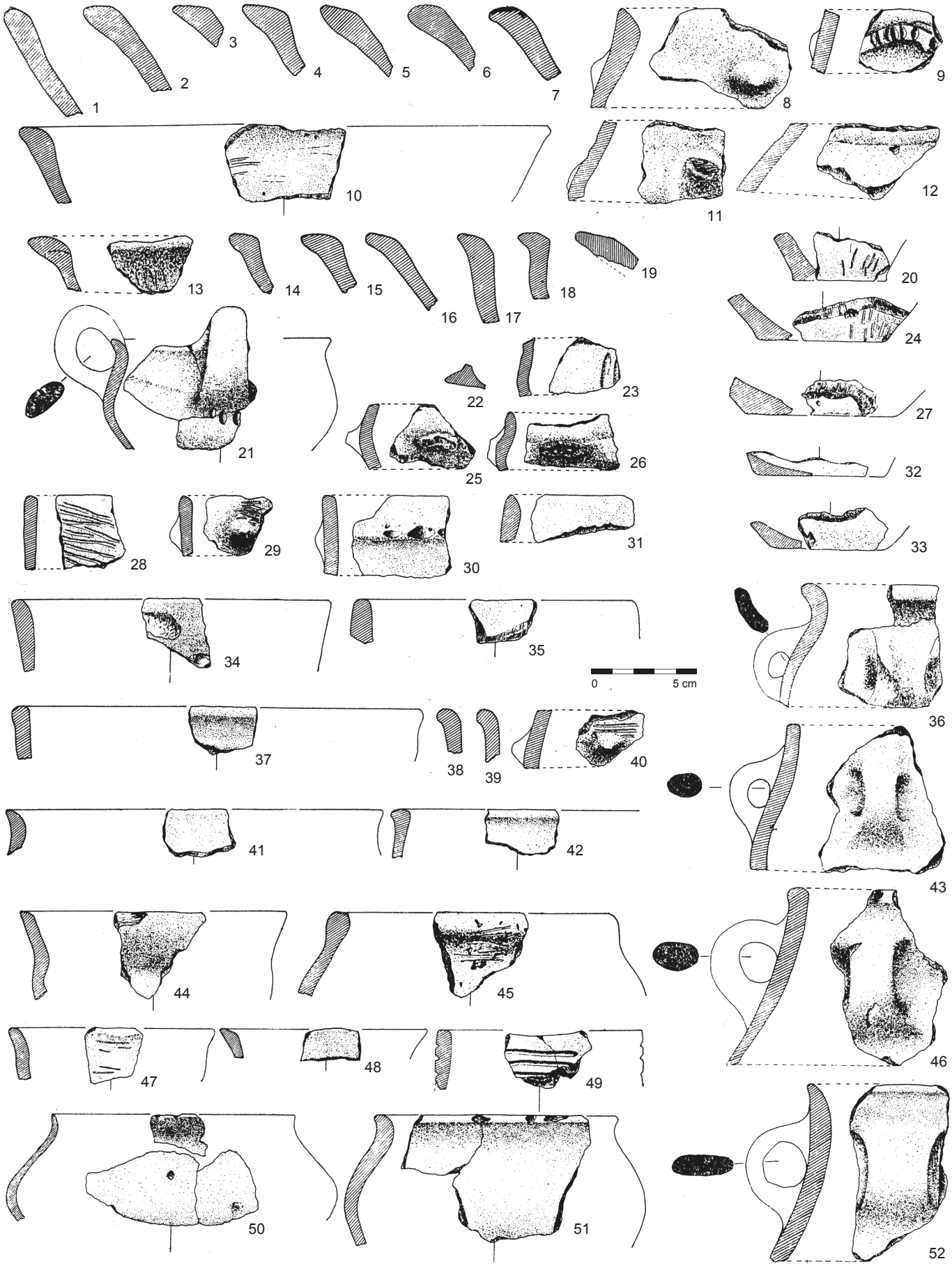


Fig. 11. Suciu de Sus. MJIA collection. Pottery. After Kacsó 1993.
Obr. 11. *Suciu de Sus. Sbírka MJIA. Keramika. Podle Kacsó 1993.*



Fig. 12. Suciu de Sus. MJIA collection. Pottery. After Kacsó 1993.
Obr. 12. *Suciu de Sus. Sbírka MJIA. Keramika. Podle Kacsó 1993.*

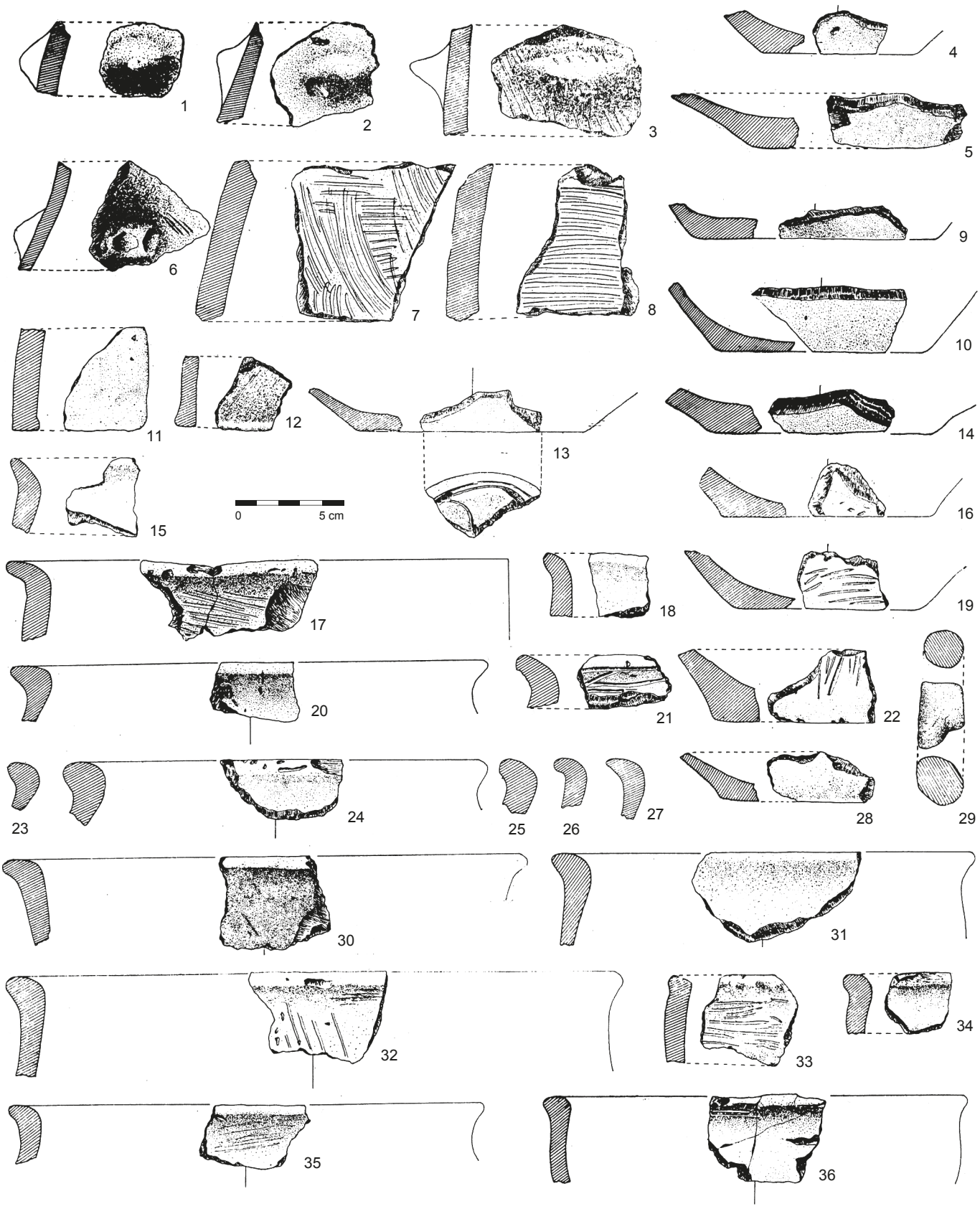


Fig. 13. Suciu de Sus. MJIA collection. Pottery. After Kacsó 1993.
Obr. 13. *Suciu de Sus. Sbírka MJIA. Keramika. Podle Kacsó 1993.*



Fig. 14. Suciu de Sus. MJIA collection. 1–29 – Pottery; 30 – fired clay weight. After Kacsó 1993.
Obr. 14. *Suciu de Sus. Sbírka MJIA. 1–29 – Keramika; 30 – závaží z pálené hlíny. Podle Kacsó 1993.*

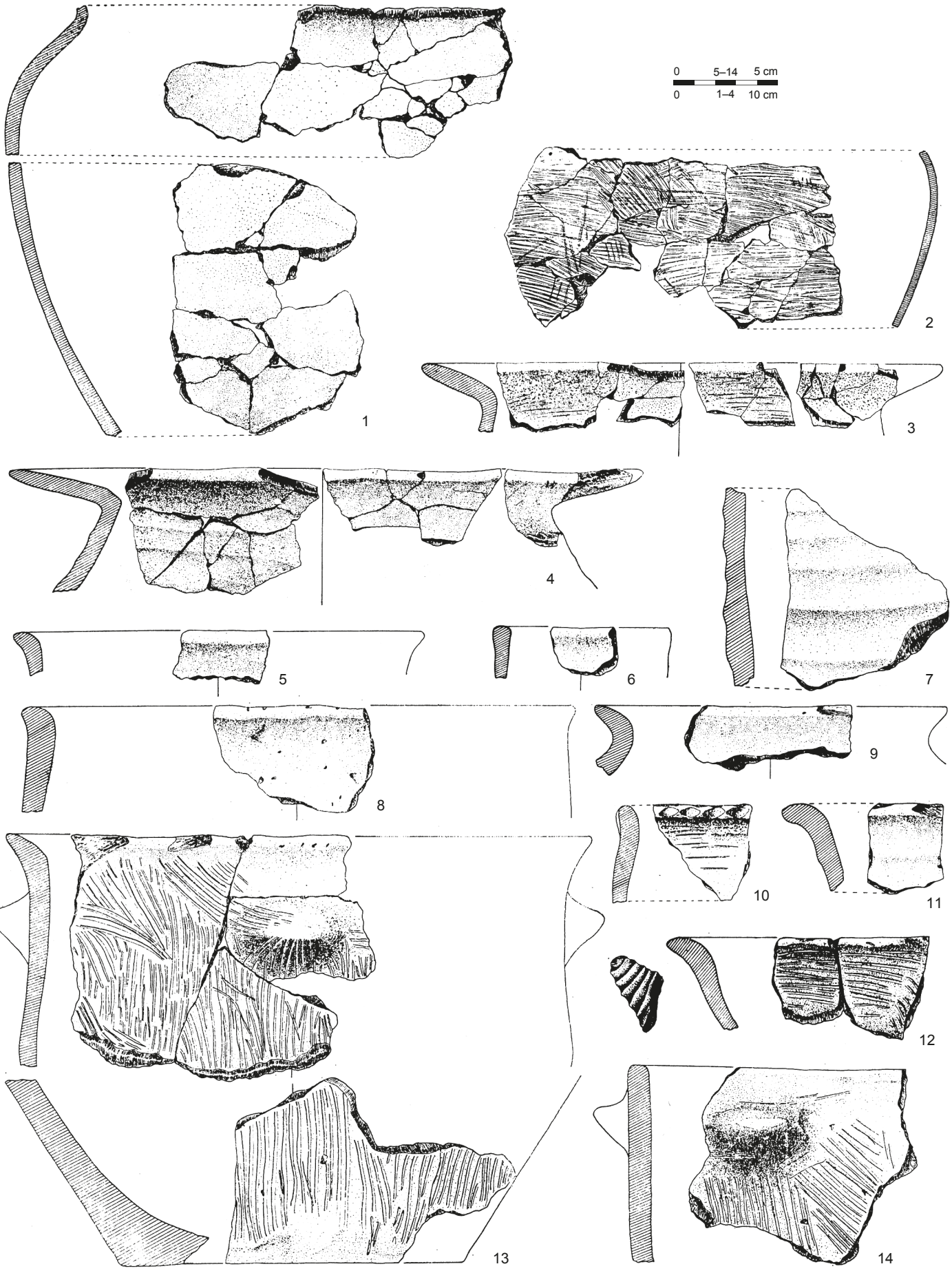


Fig. 15. Suciu de Sus. MJIA collection. Pottery. After Kacsó 1993.
Obr. 15. *Suciu de Sus. Sbírka MJIA. Keramika. Podle Kacsó 1993.*

are decorated with striations, frequently accompanied by motifs in relief or with grooves. A single fragment bears a decoration made using the excision-incision technique. The settlement belongs to the Lăpuş group and is directly connected to the barrow cemetery established in the vicinity, on *Troian* terrace. All of the material discovered at the settlement is held at the Baia Mare County Museum of History and Archaeology (hereinafter MJIA).

3. Bronze artefacts

While the archaeological record from Suciu de Sus is dominated by substantial ceramic assemblages, discussed in the preceding sections, the presence of bronze artefacts adds another crucial dimension to our understanding of the material culture and broader activities associated with the Bronze Age occupation of this territory. Although significantly less numerous than the pottery finds, several bronze objects are documented as originating from the Suciu de Sus village area. For most of these, however, the precise find spot is unfortunately not specified in the historical records, suggesting they likely represent isolated discoveries rather than finds from controlled archaeological excavations. These scattered finds nonetheless illustrate aspects of metallurgy, technology, and potentially exchange networks or deposition practices prevalent in the region during the Bronze Age, complementing the picture primarily derived from the ceramic evidence.

To date, three distinct bronze objects are reported from the territory of the village of Suciu de Sus:

1. A disc-butted axe of type B4, specifically noted as the Rohod variation. This artefact was reportedly discovered sometime in the 19th century but has since been lost. Its documentation is found in early publications (Temesváry 1897, 106, Fig. 58 on p. 105; Vulpe 1970, 93, No. 531, pl. 38, 531).
2. A chisel, documented as having been discovered at the site known as 'Prihadistea' in the Suciu de Sus area. This tool was included in the collection of a museum in Budapest (likely the Magyar Nemzeti Múzeum) according to Kádár's account from 1903 (Kádár 1903, 501, note 7).
3. A sickle with a distinctive knob and rib on the blade, broken at the tip. This agricultural tool was discovered in an unspecified location within the village territory sometime after 1965 and is currently preserved in the collection of the Țării Crișurilor Museum of Oradea (Kacsó 1977, 32, Fig. 4).

4. Geophysical prospection

Non-destructive archaeological excavations were also conducted at Suciu de Sus in the spring of 2024, namely magnetometer surveys (Fig. 16). These were carried out by a team from MNIT led by Dr. George Cupcea in cooperation with Ciprian Ciobanu and Maria Cristina Marton (Cupcea et al. 2024).

Two areas were surveyed on Troian terrace, to the south (Troian Sud), or north (Troian Nord) of the commune road running to the village of Strâmtura.

A 6,500 m^2 area was surveyed on Troian Sud (Fig. 17:A). The noticed anomalies are very likely indicative of fills composed of modern waste. An of area 7,500 m^2 (Fig. 17:B) was surveyed on Troian Nord. There no longer elevated modern fills, with two surfaces existing towards the centre and north of the investigated area that could reveal archaeological structures in nature. The central anomaly is very strongly outlined, which is specific to extensively fired structures or metal deposits (an area of approximately 50 m^2). Other archaeological features were suggested as well, whose nature can only be established by further archaeological excavations.

The third magnetometrically investigated site is called Valea Malului. It lies on a slight hill slope, to the right of Suciu Valley, by the exit from the village towards Groșii Țibleșului. According to reports by locals, large quantities of ancient pottery were discovered there. The total surveyed area is of 2,800 m^2 (Fig. 17:C). The research allowed the identification of a strongly burnt structure, originating from a modern brick firing kiln. Anomalies similarly intensive to those specific to archaeological features, pits or trenches emerged north of this structure.

5. Conclusion

This study highlights the pivotal archaeological significance of Suciu de Sus in northern Transylvania, a site characterised by critical Bronze Age burial complexes – the flat cremation cemetery at Poduri pe Coastă and the barrow cemetery at Troian. The historical trajectory of archaeological investigation at Suciu de Sus, dating back to the late 19th century with contributions from pioneering figures such as János Szendrei, Domokos Teleki, and Márton Roska, has been meticulously examined. This analysis reveals that despite their foundational importance, these early efforts suffered from significant limitations, including deficient documentation and the subsequent loss or mixing of crucial finds, problems explicitly highlighted and discussed in this article.

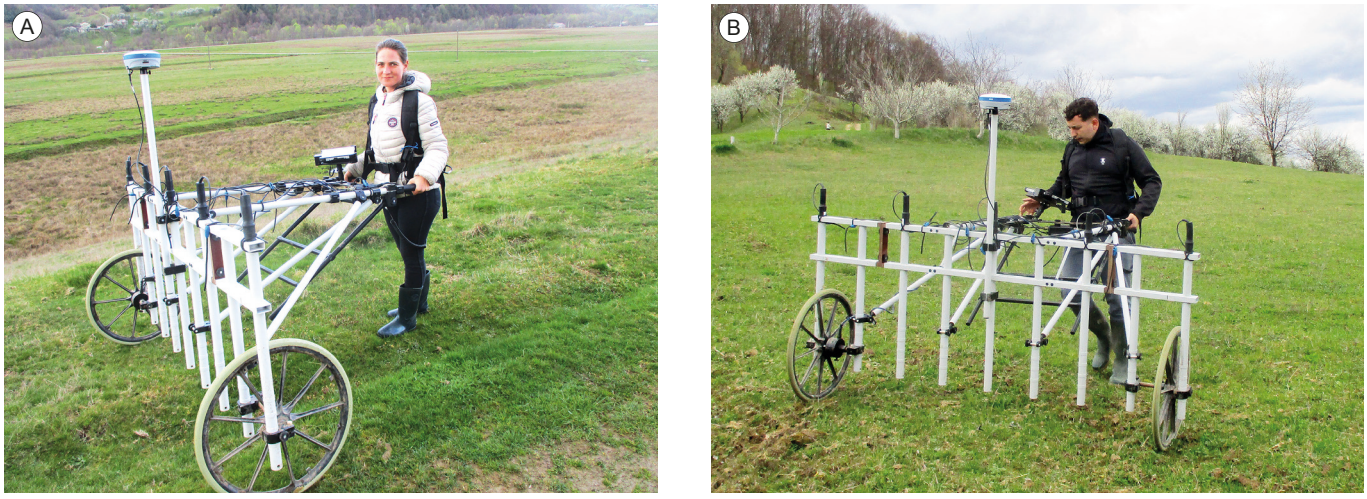


Fig. 16. Suciu de Sus. Magnetometer survey. A – Troian terrace; B – Valea Malului. Photo by C. Kacsó.
Obr. 16. *Suciu de Sus. Magnetometrický průzkum. A – terasa Troian; B – Valea Malului. Foto C. Kacsó.*



Fig. 17. Suciu de Sus. Magnetometer survey. A – map of the Troian-South area; B – map of Troian-North area; C – map of Malul Valley. After Cupcea et al. 2024.
Obr. 17. *Suciu de Sus. Magnetometrický průzkum. A – mapa oblasti Troian–jih; B – mapa oblasti Troian–sever; C – mapa údolí Malul. Podle Cupcea et al. 2024.*

A central accomplishment of this research lies in the systematic reconstruction and synthesis of this complex and fragmented history of archaeological investigation. By drawing together dispersed historical records, often published in various languages and formats, this study provides, in a consolidated manner, a clearer and more reliable account of past activities and discoveries at Suciu de Sus. This critical historical synthesis is not merely a chronological listing; it forms an essential backdrop for interpreting existing materials and planning future research.

Crucially, this article has directly confronted and, based on the available evidence, resolved the long-standing controversy regarding the provenance of numerous key artifacts, particularly those frequently and confusingly attributed to both Suciu de Sus and Gorneşti. Through a detailed re-evaluation of early publications, museum records, and the fate of collections like that of Domokos Teleki, this study provides compelling evidence supporting the argument that a substantial portion of the significant Bronze Age pottery and potentially other finds often labelled as originating from Gorneşti were in fact discovered at Suciu de Sus, most likely from the extensively documented flat cemetery at Poduri pe Coastă. This clarification is of paramount importance, as it corrects previous misattributions that have distorted the spatial understanding of the Suciu de Sus culture's material distribution and its relationship with other entities like the Wietenberg culture, as discussed in the context of the Gorneşti-Cserépcsűr finds. Accurate provenance is fundamental for correct cultural mapping and interpreting interaction spheres.

Furthermore, the integration of the very recent results from the 2024 geophysical surveys introduces a vital new dimension to the research potential at Suciu de Sus. The identification of distinct magnetic anomalies on the Troian Nord and Valea Malului terraces provides concrete, non-intrusive evidence suggesting the presence of previously unconfirmed archaeological structures, potentially representing settlement features, activity areas, or other elements of the site complex beyond the known burial mounds and surface scatters. While the precise nature of these anomalies requires targeted archaeological excavation for confirmation, they represent promising new targets that can significantly enhance our understanding of the site's layout, internal organisation, and functional diversity.

Notes

1 Kádár is the only author who speaks of a private Suciu de Sus pottery collection in Budapest.
2 Among the authors of the first half of the 20th century, only Orosz mentions Torma as a researcher of the Suciu de Sus archaeological sites.
3 As appreciated by Roska.
4 No urns are mentioned.
5 We could not identify this place in the field. It is unknown to the locals that we asked.
6 Slightly distorted transcription of the real name of the flat cemetery's location, Poduri pe Coastă.
7 The author changes, without explanation, the cemetery's chronological framing, possibly determined by the find there of a copper chisel. Evidently, the presence of such an artefact is not decisive for the establishment of the site's dating, as it is known that copper items are diffused throughout the Bronze Age as well; see Vulpe 1975, passim.
8 The illustration presented in Roska's report is also adopted by Dorin Popescu (1944, Fig. 59).
9 There are no data on the find conditions and current storage of these vessels. Their original description, which we owe to Carl Gooss, does not allow the reconstruction of their shape and decoration; however, it may be assumed, based on certain decorative elements specified by the Sighișoara scholar, e.g. the instance of parallel incised lines and hatched triangles, that they belonged to a Bronze Age site.
10 In the territorial extension maps of the various Bronze Age cultures published in the same work (on p. 38–39), the place of Gorneşti appears only as Wietenberg-type findspot, the Suciu de Sus culture being ascribed finds from Suciu de Sus, Lăpuş, Medieşu Aurit and Culciu.

11 It seems rather obvious that the author references the pottery in the Teleki collection and not that discovered within the territory of the village of Gorneşti.
12 See data on the fate of the Teleki Museum in Gorneşti in Serdült Benke 2008, 4–5; Berekméri 2014, 46.
13 During a field survey of 1968 at Suciu de Sus, the Cluj-based archaeologist showed me the place he had found the grave, namely the terrace head, towards the north-eastern edge of the village. We have unsuccessfully attempted to find the discovered material in the Cluj Museum collection. The artefacts emerging in Roska's excavations at Suciu de Sus in 1913, which very likely had reached the Cluj Museum, could also not be identified.

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Resumé

Článek představuje komplexní syntézu a kritické zhodnocení historie archeologického výzkumu kultury Suciu de Sus (jedné z významných kultur doby bronzové v Transylvánii), s primárním zaměřením na eponymní obec Suciu de Sus (obr. 1). Tato lokalita, proslulá svými významnými archeologickými pozůstatky z doby bronzové, zahrnuje především ploché žárové pohřebiště na terase Poduri pe Coastă (obr. 2) a mohylové pohřebiště na terase Troian (obr. 3). Průkopnické archeologické výzkumy zde probíhaly již od konce 19. a počátku 20. století zásluhou badatelů, jako byli János Szendrei, Domokos Teleki a Márton Roska. Tyto rané práce odkryly bohatý materiál, zejména charakteristickou keramiku a méně početné, avšak důležité bronzové artefakty.

Historický výzkum v Suciu de Sus je však poznamenán zásadními problémy, které autor článku systematicky rozebírá. Dokumentace z prvních výzkumů je často nedostatečná a roztříštěná, což vedlo ke ztrátě nebo smíchání značné části objevených artefaktů. Důsledkem této historické fragmentace jsou přetrvávající nejasnosti a někdy i protichůdné interpretace, především pokud jde o přesnou provenienci a kulturní zařazení mnoha nálezů. Klíčovou a dlouhodobě diskutovanou kontroverzí je otázka původu artefaktů, které byly střídavě připisovány lokalitám Suciu de Sus a Gorneşti.

Hlavním cílem a přínosem článku je právě objasnění této složité situace. Studie provádí systematickou syntézu rozptýlených historických pramenů, včetně raných publikací, zpráv o výzkumech a muzejních záznamů. Na základě této důkladné rešerše autor přehodnocuje provenienci klíčových artefaktů, a to jak početné keramiky (obr. 4–15), tak i zmíněných bronzových předmětů. Analýza dostupných důkazů vede k závěru, že značná část významných nálezů z doby bronzové, které byly v literatuře často uváděny s proveniencí Gorneşti, ve skutečnosti pochází ze Suciu de Sus, s nejvyšší pravděpodobností z rozsáhlého plochého pohřebiště v Poduri pe Coastă. Tato dezinterpretace, jak článek naznačuje s odkazem na neformální diskuse s dalšími badateli, mohla souviset s osudem sbírky Domokose Telekiho, která byla uložena na zámku v Gorneşti a v důsledku událostí konce druhé světové války částečně rozptýlena v okolí. Upřesnění provenience je zásadní pro správné prostorové mapování distribuce materiální kultury Suciu de Sus a pro interpretaci jejích vztahů s jinými soudobými kulturami, jako je například kultura Wietenberg.

Kromě práce s historickými prameny článek integruje i nejnovější poznatky z terénu. Prezentovány jsou výsledky nedestruktivního geofyzikálního průzkumu (obr. 16, 17), který byl na lokalitě Suciu de Sus proveden na jaře roku 2024. Tento průzkum se zaměřil na části teras Troian (oblasti Troian Sud a Troian Nord) a lokalitu Valea Malului. Zatímco na Troian Sud byly detekovány především anomálie odpovídající modernímu odpadu, na Troian Nord a Valea Malului byly identifikovány magnetické anomálie, které s vysokou pravděpodobností indikují přítomnost dosud neznámých nebo málo prozkoumaných archeologických struktur. Tyto anomálie mohou představovat pozůstatky sídelních či jiných typů objektů. Ačkoliv přesná povaha těchto struktur vyžaduje potvrzení cíleným archeologickým výzkumem, geofyzika jednoznačně naznačila perspektivy směru budoucího výzkumu.

Článek svým způsobem překračuje rámec pouhého chronologického přehledu historie výzkumu. Poskytuje nezbytnou kritickou analýzu a syntézu roztříštěných dat, která objasňuje klíčové nejasnosti ohledně původu významných nálezů, a vytváří tak pevnější základ pro další bádání a zároveň i poskytuje komplexnější pohled na význam kultury Suciu de Sus a její místo v širším kontextu doby bronzové v Transylvánii.

Contact

Carol Kacsó
Independent researcher
Str. George Coşbuc Nr. 14, Ap. 30
RO-430245 Baia Mare
carolkacso@yahoo.de

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Evidence of post-Eneolithic human activities at the Hlinsko – Nad Zbružovým site

Důkaz post eneolitických lidských aktivit na lokalitě Hlinsko – Nad Zbružovým

– *Filip Ševčík*, Matěj Kmošek* –

KEYWORDS

Hlinsko – surface survey – Eneolithic – Bronze Age – necklace – XRF – tin bronze

ABSTRACT

The Hlinsko – Nad Zbružovým site is considered one of the most significant Moravian locations for the study of the Middle Eneolithic period. Earlier research provided valuable insights into the cultural and technological aspects of this period. During a re-examination of metal artefacts from the site, it was discovered that one of the artefacts (spiral) was made of tin bronze, thus not of an Eneolithic dating. The tin bronze material of the find corresponds to a later period, based on the material composition presumably from the long period between the Middle Bronze Age until the Early Iron Age. This new discovery raises a crucial question regarding the interpretation of the bronze artefact. Could this be the first evidence of later human activities at the site? To explore this possibility, the study compares the bronze artefact with contemporary analogies, evaluates other finds from the same contexts as the spiral, presents results from a surface archaeological survey at the site, analyses the elemental composition of discovered bronze artefacts and compares them with other prehistoric copper-based finds in order to determine their dating.

* Corresponding author – E-mail address: 460938@mail.muni.cz

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(https://creativecommons.org/licenses/by-nc-nd/4.0/).
Competing interests: The authors have declared that no competing interests exist.

1. Introduction

The Hlinsko – Nad Zbružovým site is located in central Moravia on a trapezoidal promontory on the left bank of the Bečva River, approximately 1.5 km from its current course. It rises prominently above the valley with an elevation difference of 80 m. The longest axis of the trapezoidal plateau at the summit is oriented in a southwest-northeast direction. The plateau itself gently slopes towards the northeast, descending about 5 m from the highest part. The site is situated within the Kladnická Highland region but lies directly on its edge. Beneath the site is the Bečva floodplain, which merges into the floodplain of the Morava River (Fig. 1). Thanks to this geomorphological setting, the site offers extensive views of the surrounding areas to the southwest and northeast. The hillfort is one of the most significant Eneolithic sites in Central Europe. Archaeological excavations at the site have uncovered, for example, a fortification system that, in one phase, was supplemented with a stone wall, evidence of above-ground residential structures, a hoard of copper jewellery stored in a vessel, metallurgical activities, cult artefacts, etc. (Pavelčík 1979; Šebela 2007).

The site was first mentioned in academic literature in 1908 as the hillfort near Hlinsko (Šebela 2007, 13). The oldest archaeological find from the site is a stone mace discovered by J. Zbruž around 1970 (Pavelčík, Vencl 1970, 7; Šebela 2007, 13).

Significant interest in the site increased in connection with extraction activities at a nearby stone quarry. Due to the gradual expansion of the quarrying towards the hillfort, the Archaeological Institute of the Czechoslovak Academy of Sciences in Brno conducted an archaeological survey at the site in 1962 under the direction of J. Pavelčík. Subsequent research continued uninterrupted from 1968 until 1992. The site was explored through 107 excavation trenches and magnetometric surveys. Based on these investigations, it is known that the site's first occupation dates back to the Early Eneolithic period. However, the primary settlement activity belongs to the Middle Eneolithic, with additional occupation in the Late Eneolithic, which represents the latest documented settlement phase at the site (Šebela 2007, 13–16).

The site underwent its most recent archaeological investigation in 2006 during a rescue archaeological excavation on the eastern foreland of the hillfort, again linked to the quarry's expansion. This excavation uncovered material from the Eneolithic, the Late Paleolithic, and allegedly even the Iron Age (Šebela 2007, 16; Šebela et al. 2007; Škrdla 2007).

Due to Eneolithic metallurgical activities at the site, a re-evaluation of metal artefacts and finds associated with metallurgical activities was conducted by the authors of this study in late 2024. During a preliminary review using a handheld XRF device, an unexpected discovery was made. Among many other

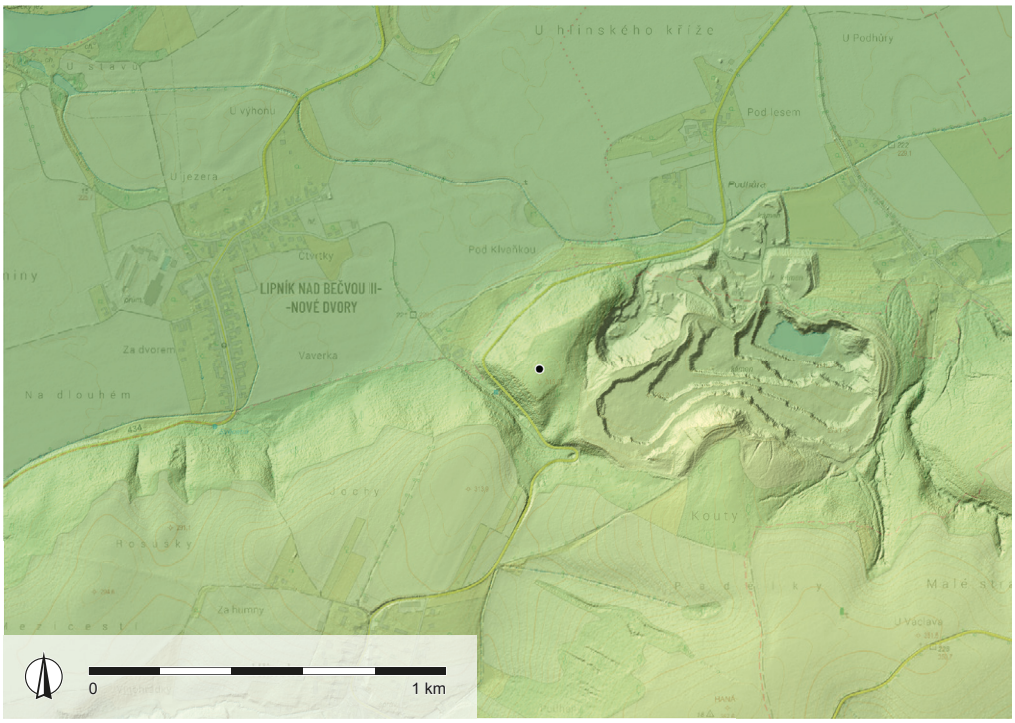


Fig. 1. Closeup of the site and its surrounding area. Base map: ČÚZK DMR5G; graphic by F. Ševčík.

Obr. 1. *Detail lokality a jejího okolí. Podkladová mapa: ČÚZK DMR5G; grafika F. Ševčík.*

Artefact	Cu	Sn	As	Sb	Ni	Bi	Pb	Zn	Fe	Cr
Spiral from feature 24/73	68.4	27.9	0.74	0.32	0.62		0.14	0.26	0.87	0.75
Spiral from feature 19/71	99.8					0.03	0.06	0.09		

Tab. 1. Results of surface XRF analysis on two spirals from necklace from feature 19/71 (wt. %).

Tab. 1. *Výsledky povrchové XRF analýzy dvou spirál z náhrdelníku z objektu 19/71 (hmotnostní %).*

finds, a unique necklace from feature 127 made of bone beads, animal teeth, and copper spirals was discovered at the site and is now displayed in the exhibition of the Comenius Museum in Přerov. This find is particularly exceptional, as no direct analogies have been found to date. Based on the context of the discovery, the necklace was dated to stage BK III of the Baden culture. During the aforementioned re-examination of metal finds from the site it was discovered that one of the spirals was made of copper, as initially assumed, but it is in fact made of tin bronze (Tab. 1). The author of the excavations (J. Pavelčík) mentions in the publication that the spiral on the reconstructed necklace does not come from the same context as the rest of the necklace but actually from feature 199, which is dated to stage BK Ib (Pavelčík 1989, 271). This discovery contradicts the original Eneolithic dating and points to previously unknown post-Eneolithic human activities.

2. Theoretical background

A unique necklace discovered at the site (Fig. 2) during the 1972 excavation season was composed of perforated animal teeth, bone beads, copper spirals, and mother-of-pearl beads, as well as parts of decorated shells (Pavelčík 1973; 1989). Not only is the necklace itself unique, so is the way it was deposited. The artefact was found in feature 19/71 (127). This feature was an irregular rectangular-shaped structure with dimensions of 215 × 137 × 25/30 cm, oriented at azimuth 35° (Fig. 3).

The feature was filled with dark brown soil in the upper part, which was heavily embedded with lumps of yellow, red, and black daub. The feature was outlined in the overlying yellow soil, and stones and fragments of a larger vessel lay on its surface. After their removal, it became clear that the walls of the feature were vaulted and that in the western part of the base was a cluster of large vessel fragments that descended towards the east and filled the entire area of the feature. Half of a ceramic vessel and an animal figurine were found (Fig. 3, 4) in the northwest part of the cluster. The vessel was lifted as a block, and upon disassembling its contents, a large quantity of charred grains and parts of the necklace made of animal teeth, their bone imitations, bone and mother-of-pearl beads, part of a decorated shell, part of a copper spiral, and small fragments of burnt bones were discovered. In the southeast corner of the feature stood the bottom part of a larger vessel. The pit created a recess towards the east, while the western side had a relatively shallow bottom sloping to the southeast. In the southwest part, the bottom even formed a triangular-shaped pedestal. The northern part of the western wall was also vaulted. In the central and eastern parts of the feature, a cluster of large, mostly worked stones appeared under the fragments, including a double polissoir, which extended into the recess. In the western part, only a larger smoothed stone and the bottom of a larger vessel were found. A 10 cm-thick grey ash layer covered the bottom of the pit (Pavelčík 1973).

Given the find situation described above, it is difficult to consider anything other than the intentional deposition of the necklace. The necklace was composed of fifteen perforated animal teeth from carnivorous mammals, three tubular bone beads, five bone imitations of animal teeth, one decorated shell pendant, twenty flat mother-of-pearl beads, and one copper spiral (Pavelčík 1973, 53–54; 1989, 256–271). Jiří Pavelčík made a hypothetical reconstruction of the necklace, taking care to preserve the principles of symmetry and weight distribution (Pavelčík 1989, 270–271). In the published illustrative reconstruction and also in the physical reconstruction is an additional metal spiral on the right side of the central decorated pendant (Fig. 2). However, this spiral was secondarily added to

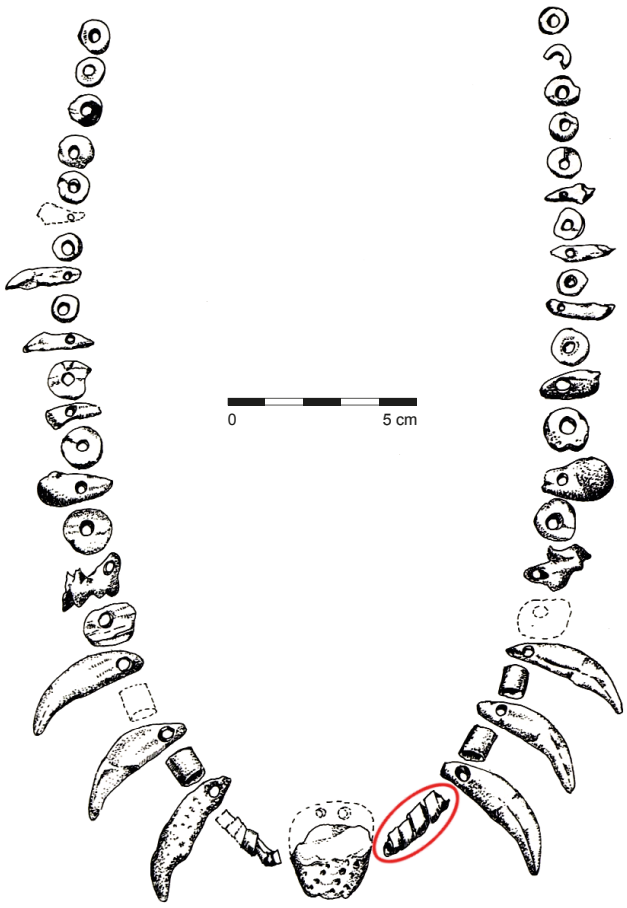


Fig. 2. Reconstruction of the necklace from feature 19/71 with bronze spiral from feature 24/73 highlighted in red. After Pavelčík 1989, 271, Fig. 6.

Obr. 2. *Rekonstrukce náhrdelníku z objektu 19/71 s bronzovou spirálou z objektu 24/73 zvýrazněnou červeně. Podle Pavelčík 1989, 271, obr. 6.*

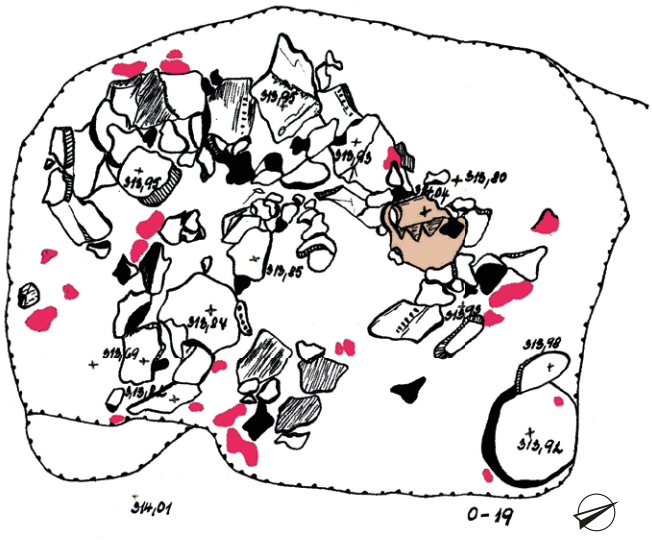


Fig. 3. Terrain documentation of feature 19/71 in the second phase of excavation with a vessel (highlighted in orange) under which the necklace was discovered. After Pavelčík 1973, 95.

Obr. 3. *Terénní dokumentace objektu 19/71 ve druhé fázi výzkumu s nádobou (zvýrazněnou oranžově), pod níž byl objeven náhrdelník. Podle Pavelčík 1973, 95.*

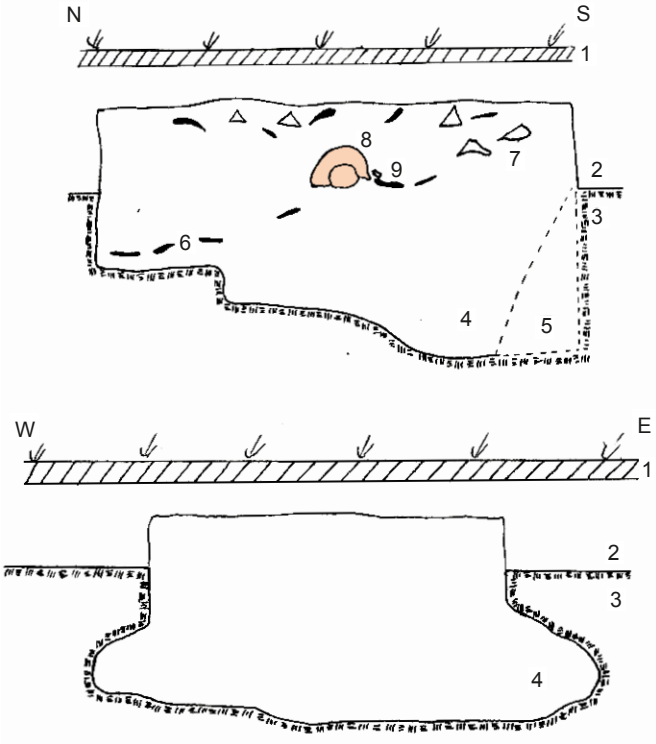


Fig. 4. Profiles of feature 19/71 with a vessel under which the necklace was discovered (highlighted in orange). 1 – Topsoil; 2 – light yellow layer; 3 – loess; 4 – brown layer with daub fragments; 5 – tree roots; 6 – pottery fragments; 7 – stones; 8 – vessel; 9 – bear idol. After Pavelčík 1973, 97.

Obr. 4. *Profily objektu 19/71 s nádobou, pod níž byl objeven náhrdelník (zvýrazněnou oranžově). 1 – Ornice; 2 – světle žlutá vrstva; 3 – spraš; 4 – hnědá vrstva s úlomky mazanice; 5 – kořeny stromů; 6 – keramické střepy; 7 – kameny; 8 – nádoba; 9 – medvědí idol. Podle Pavelčík 1973, 97.*

the necklace by J. Pavelčík and comes from a different feature (Pavelčík 1989, 271). Jiří Pavelčík mentions this secondary addition only briefly in the caption of the reconstruction drawing (Pavelčík 1989, 271).

The added spiral was discovered in feature 24/73 (199) two years later during the 1973 excavation season. This feature, with dimensions of 162 × 110 × 45/90 cm, was oriented at an azimuth of 300° and had an oval opening, straight walls and a flat bottom. The northwestern wall sloped in a step-like manner. Stones were found along the southeastern and northern walls. The entire feature was filled with dark brown soil along with many pottery shards, chipped stones and bones (Fig. 5; Pavelčík 1974, 68–71).

3. Discussion

3.1 The spirals

The spiral from feature 24/73 has a similar character to that from feature 19/71. It is coiled from a flat sheet of metal and has a diameter of ca 0.5 cm. Both spirals exhibit characteristics of the Eneolithic period and closely resemble other published Eneolithic copper spirals (cf. Goš 1982, 483; Podborský a kol. 1993, 210; Novotná et al. 2022). However, it is important to note that similar spirals also occur in contexts from the Early Bronze Age (e.g. Podborský a kol. 1993, 233).

A significant difference exists between material of the aforementioned spirals. Both of them were analysed on their surface by XRF (X-Ray Fluorescence) spectrometer (Niton Xl3t 980, mode General Metals, duration 60 seconds) and the results are shown in Table 1. Given the fact that it is only a surface measurement with heavy corrosion alterations, it is not possible to draw far-reaching conclusions, but general alloy composition can be

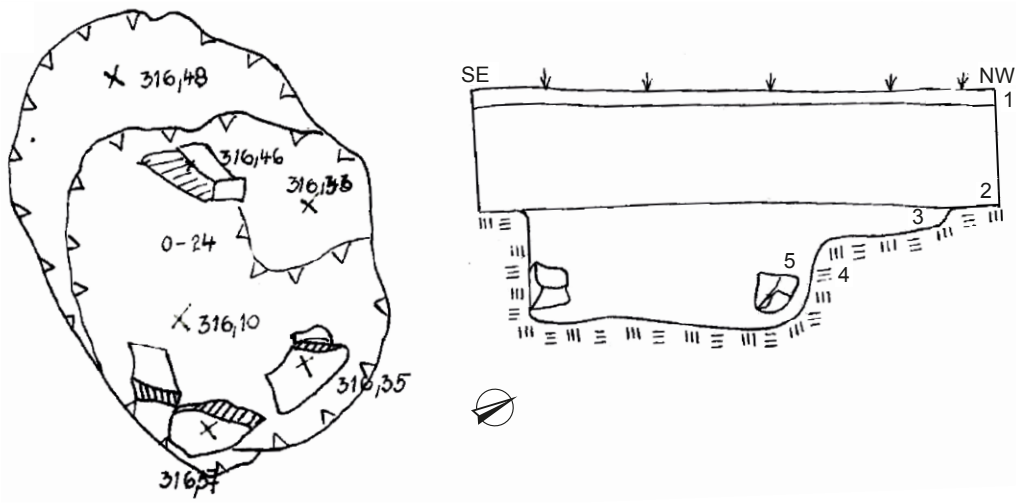


Fig. 5. Plan and profile of feature 24/73. 1 – Topsoil; 2 – light yellow layer; 3 – brown layer; 4 – loess; 5 – stone. After Pavelčík 1974, 122, 136.

Obr. 5. *Půdorys a profil objektu 24/73. 1 – Ornice; 2 – světle žlutá vrstva; 3 – hnědá vrstva; 4 – spraš; 5 – kámen. Podle Pavelčík 1974, 122, 136.*

distinguished. The spiral from feature 19/71 is made of pure copper, whereas the spiral from feature 24/73 is made of tin bronze. This find raises several questions, because the bronze spiral was found in a feature which dated to the Middle Eneolithic period. Could this represent one of the earliest experiments with tin bronze in Central Europe? Or is feature 24/73 misdated? The simplest explanation would be that over the years, the spiral artefact was mistakenly replaced in the depository. However, upon comparing the spiral with the original drawn and photographic documentation from the excavation report, it is undeniable that this is the same artefact (Fig. 6).

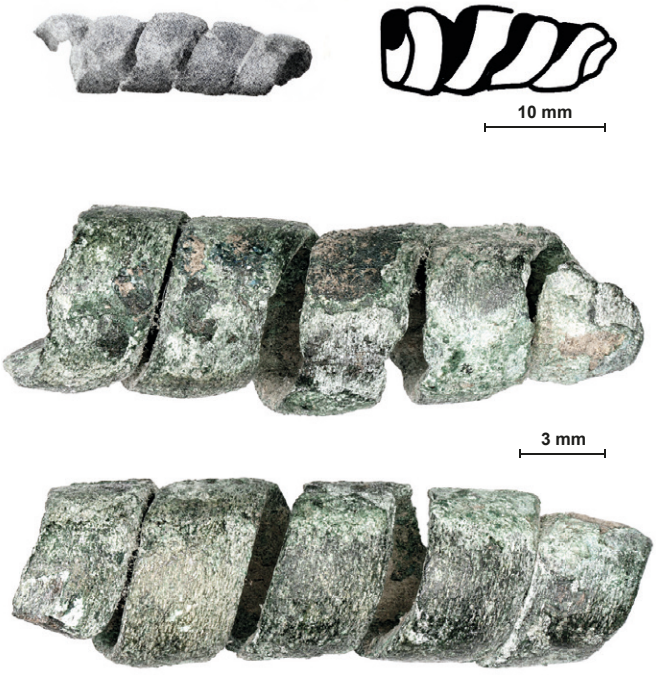


Fig. 6. Comparison of spiral from feature 24/73 with photographic (above left; after Pavelčík 1975, 640, Fig. 673) and drawn documentation (above right; after Pavelčík 1974, 255, Fig. 673) from excavation reports. Photo by F. Ševčík.

Obr. 6. *Srovnání spirály z objektu 24/73 s fotografickou (vlevo nahoře; podle Pavelčík 1975, 640, obr. 673) a kreslenou dokumentací (vpravo nahoře; podle Pavelčík 1974, 255, obr. 673) z nálezových zpráv. Foto F. Ševčík.*

3.2 Dating of feature 24/73

Based on the findings mentioned above, it was necessary to reexamine and reevaluate the material from feature 24/73. The feature contained a relatively large number of pottery fragments, most of which were atypical and could not be precisely dated. A smaller portion of the pottery fragments in the feature filling exhibited characteristics allowing for their dating to the Middle Eneolithic period. The most reliable artefact for dating was a vessel with inventory number 689/73 (Fig. 7: 1), decorated with 'wolf tooth' motifs below a double line of stamped ornamentation. The assemblage also included several pottery fragments decorated with fluting, which could similarly be attributed to the Middle Eneolithic period. Overall, the pottery displayed a Eneolithic character (Fig. 7: 7–13).

The fill of the feature also contained several pieces of chipped stone industry, which could likewise be dated to the Eneolithic period. These included blades (Fig. 7: 3), scrapers, retouched flakes, and one heart-shaped arrowhead (Fig. 7: 2). Polished stone industry was present in several pieces, including a preform, a hematite miniature axe (Fig. 7: 4), a fragment of an axe (Fig. 7: 5), an 'anvil', and an artefact interpreted as a reamer (Fig. 7: 6). Most of the ground stone tools could be dated to the Eneolithic period. The 'reamer' likely represents a modern stopper, ruling out its attribution to the Eneolithic period.

Finally, the aforementioned bronze spiral was found in the fill of feature 24/73. It is possible that the spiral was excavated from the upper layer of the fill and could be a later intrusion (possible surface loss) compared to other finds from the feature. Due to the nature of the excavation, which unfortunately did not record the depths of individual finds, this remains a hypothesis. Considering the modern intrusion classified alongside Eneolithic artefacts (modern stopper, Fig. 7: 6), this possibility is quite realistic.

To determine whether any later components, visually indistinguishable, were present among the atypical pottery fragments, an analysis of the elemental composition of all pottery fragments was conducted. The analysis was performed using a desktop XRF ElvaX Pro. Pottery fragments were measured at fractures and areas free of soil were selected. Each fragment was measured for 60 seconds (mode Soils, dual spectrum 8 and 35 kV, collimator 7 mm) without helium purge. The results were subsequently processed and plotted on a t-SNE (t-distributed stochastic neighbour embedding) chart, which is mainly used to visually represent multidimensional data in a reduced number of dimensions while preserving the structure of the data

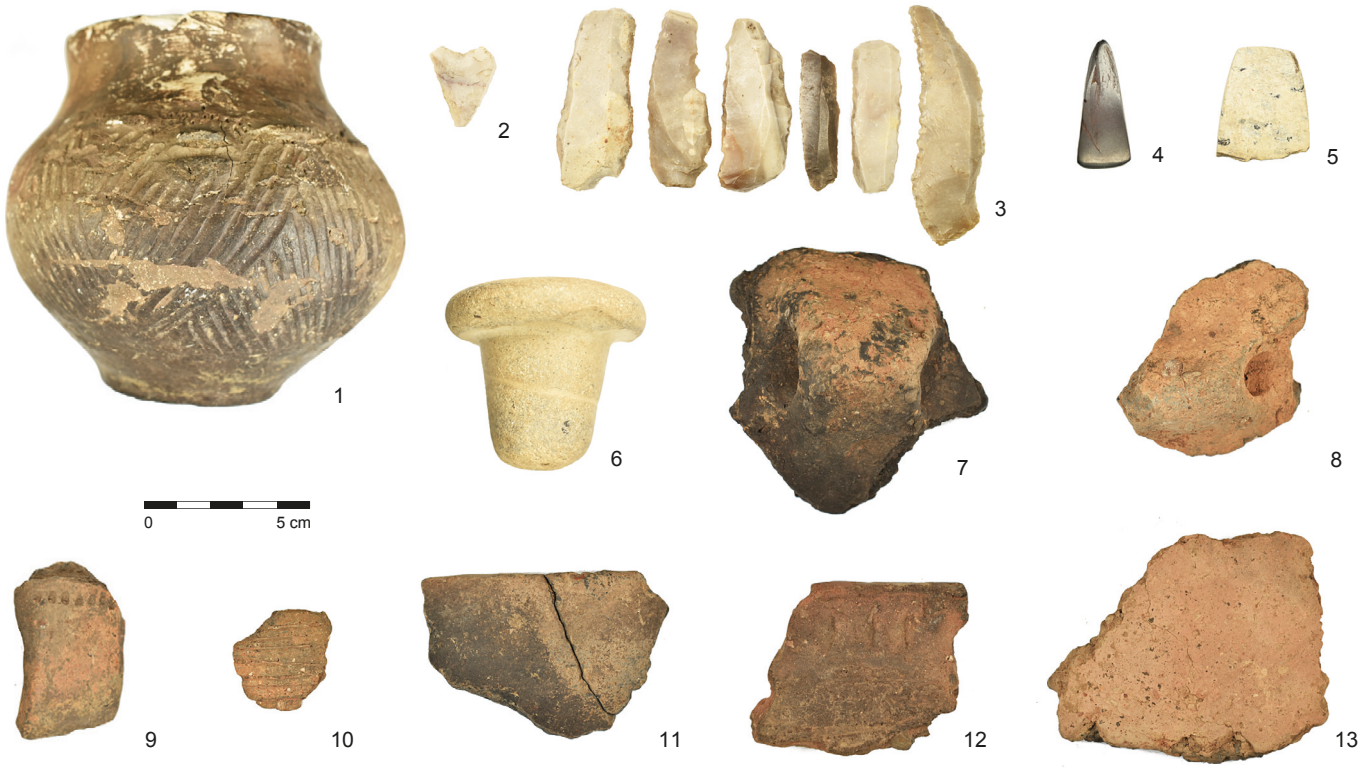


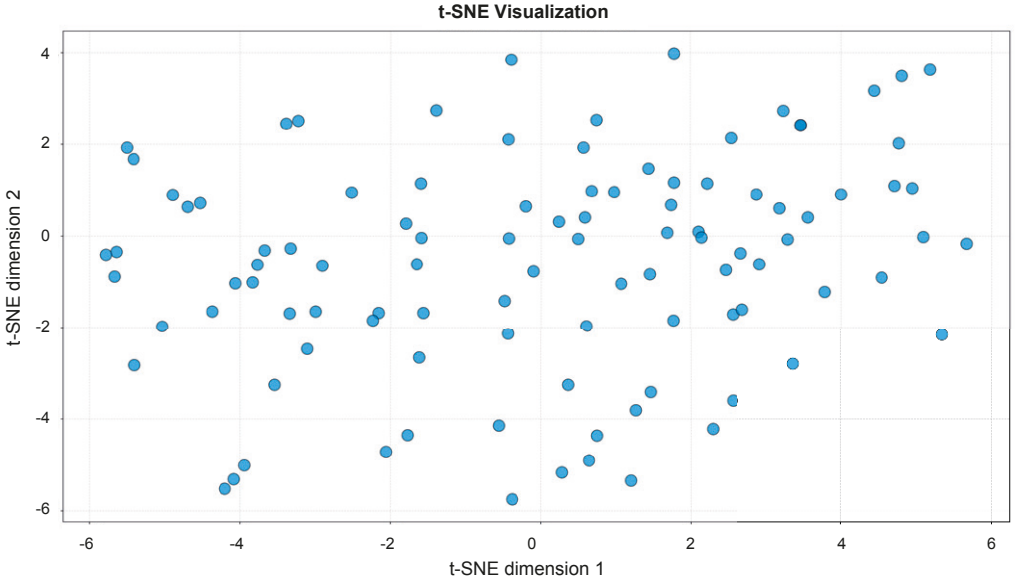
Fig. 7. Selection of finds from feature 24/73. Photo by F. Ševčík.
Obr. 7. *Výběr nálezů z objektu 24/73. Foto F. Ševčík.*

by maintaining pairwise distances when constructing a 2D visualisation. Therefore, the closer the points are in the T-SNE plot, the closer they were in the original n-dimensional space before dimensionality reduction (Balamurali et al. 2019, 79). This method revealed that there are no distinct clusters present (Graph 1). These results indicate no material differences in elemental composition among the pottery fragments, complementing traditional visual assessments to some extent, and it does not prove the presence of intrusions later than Eneolithic pottery in the material.

3.3 Eneolithic bronze?

If we were to consider the hypothesis that the archaeological feature is dated to the Middle Eneolithic period and the bronze spiral was discovered within the feature alongside Middle Eneolithic material, making it contemporaneous, it would undoubtedly represent the oldest tin bronze object in Central Europe. But is this even possible?

The oldest bronze artefacts in Europe appear during the 5th millennium BC in the context of the Vinča culture in the Balkans. From this region, we currently know of 15 artefacts



Graph 1. t-SNE plot of chemical composition of pottery fragments.
Graf 1. *t-SNE graf chemického složení keramických fragmentů.*

made of tin bronze, though only the bronze foil from the Pločnik site is reliably dated (Radivojević et al. 2013, 1035). However, the occurrence of these artefacts disappears by the end of the 5th millennium BC (Radivojević et al. 2013, 1042). This raises the question of whether the spiral might represent an import that arrived at the site much later, originating from this early phase of bronze production. The main problem with this hypothesis is that there is no evidence to this date of these early bronzes occurring outside the Balkan region. Tin bronze occurs sporadically in the second half of the 4th millennium BC in Afghanistan (Pare ed. 2000, 6), which chronologically aligns with the dating of the Hlinsko site. The alloy of copper and tin was first used on a widespread basis in Anatolia around 3000 BC. In Central Europe, artefacts made of tin bronze begin to appear only from 1800/1700 BC (Pare ed. 2000, 26). While the Bronze Age in Central Europe begins earlier, its onset is associated with arsenical and fahlore type copper rather than tin bronze (Kienlin 2013, 420).

For all the reasons mentioned above, dating the spiral from feature 24/73 to the Middle Eneolithic period is highly improbable.

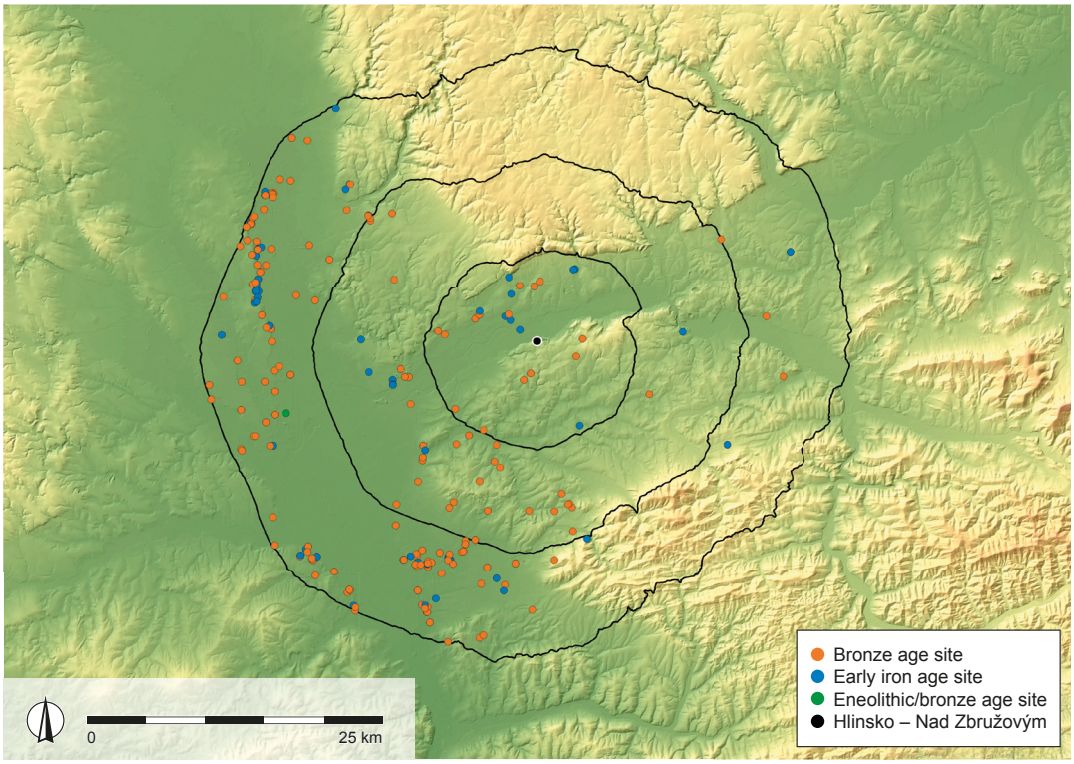


Fig. 8. Map of later sites in the vicinity of Hlinsko – Nad Zbružovým. Base map: ČÚZK DMR5G; graphic by F. Ševčík.

Obr. 8. *Mapa mladších lokalit v okolí Hlinska – Nad Zbružovým. Podkladová mapa: ČÚZK DMR5G; grafika F. Ševčík.*

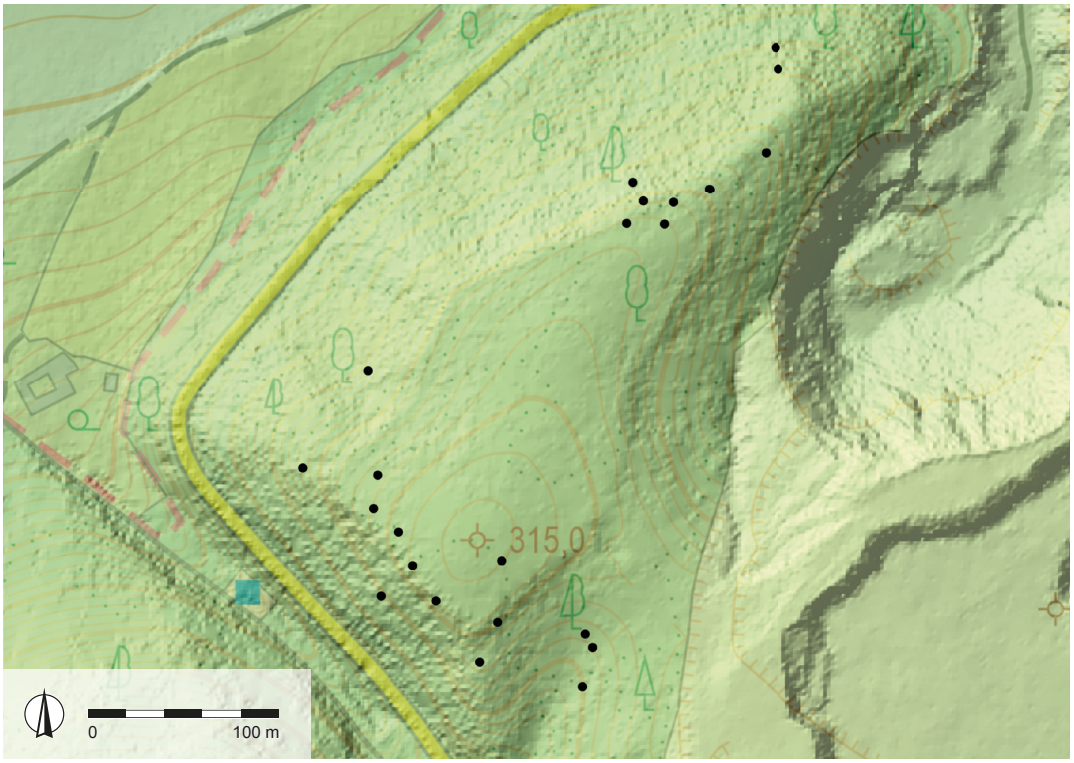


Fig. 9. Spatial distribution of artefact discovered during surface survey. Base map: ČÚZK DMR5G; graphic by F. Ševčík.

Obr. 9. *Prostorové rozložení artefaktů objevených během povrchové prospekce. Podkladová mapa: ČÚZK DMR5G; grafika F. Ševčík.*

3.4 Proximity of later sites

If we rule out the Eneolithic dating of the spiral, its origin must be assumed to belong to a later period. Since no later archaeological components have been recorded at the site to date, it is necessary to examine the occurrence of younger archaeological components in the surrounding area (Fig. 8). For this purpose, three buffer zones were created in QGIS, symbolising the distances that can be covered by foot in two, four, and six hours from the site, depending on the difficulty of the terrain. Archaeological site data for the Czech Republic (Demján et al. 2021) were then plotted within this area. Subsequently, only settlements from the Bronze Age and Early Iron Age were selected.

The first zone has a relatively large number of later archaeological components. The nearest Bronze Age component is located approximately 3,3 km away, while the closest Early Iron Age component is about 1,7 km away. Most nearby components are situated in the floodplain of the Bečva River. However, Bronze Age components also appear in the terrain of the Podbeskydská Upland, on whose edge the Hlinsko – Nad Zbružovým site is located.

In the subsequent zones, a significant number of later archaeological components can also be found. There is an appreciable increase in their density towards the southwest, while their absence is notable in the Nízký Jeseník area. From an overall perspective, the distribution of later archaeological components around the Hlinsko site indicates that the region was relatively intensively inhabited in later periods. A total of 413 archaeological components from the Bronze Age and Early Iron Age are present within a six-hour walking distance of the site, thus suggesting that the spiral may have reached the Hlinsko site as part of later human activities in the region.

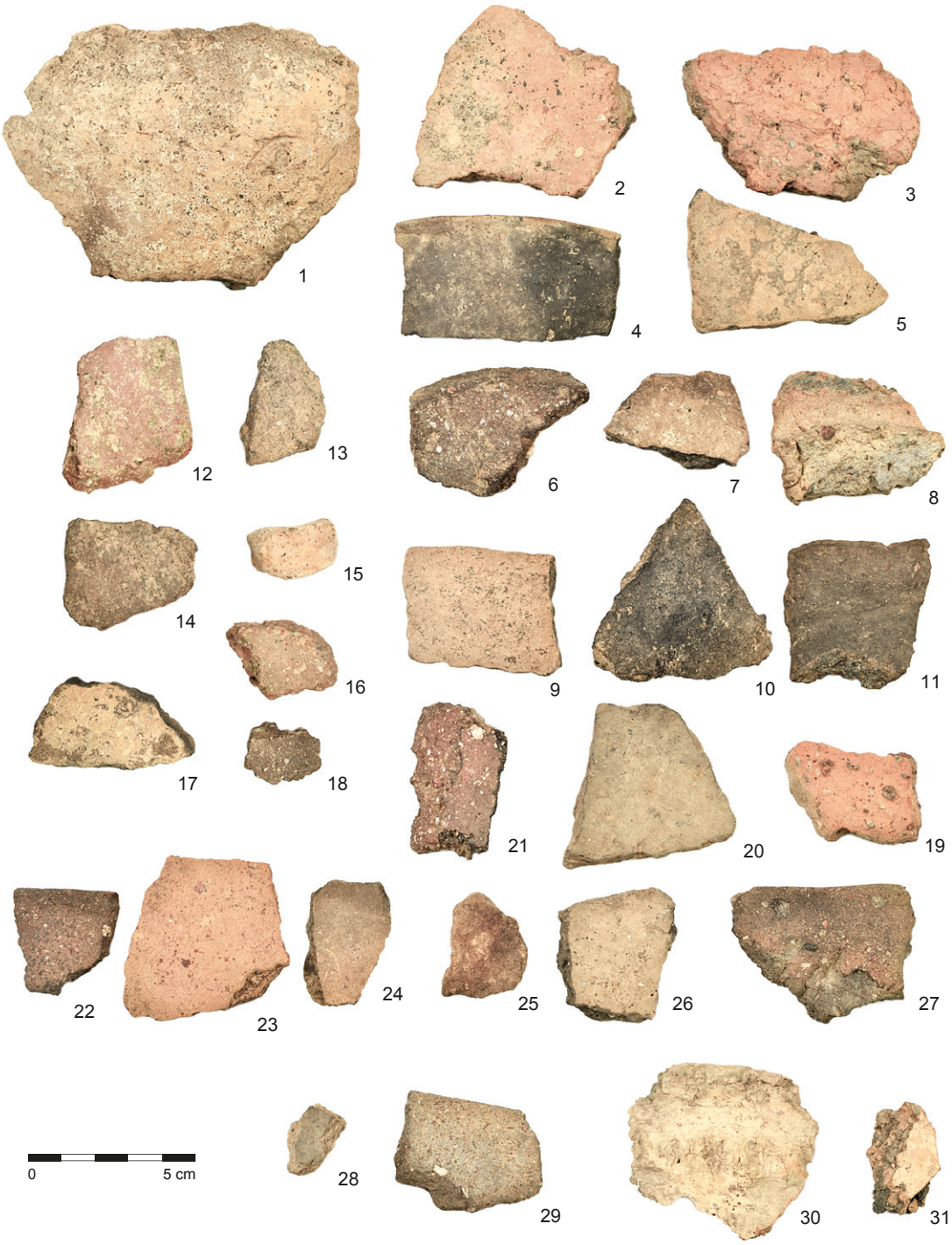


Fig. 10. Pottery fragments discovered during surface survey. Photo by F. Ševčík.

Obr. 10. *Keramické fragmenty objevené během povrchové prospekce. Foto F. Ševčík.*

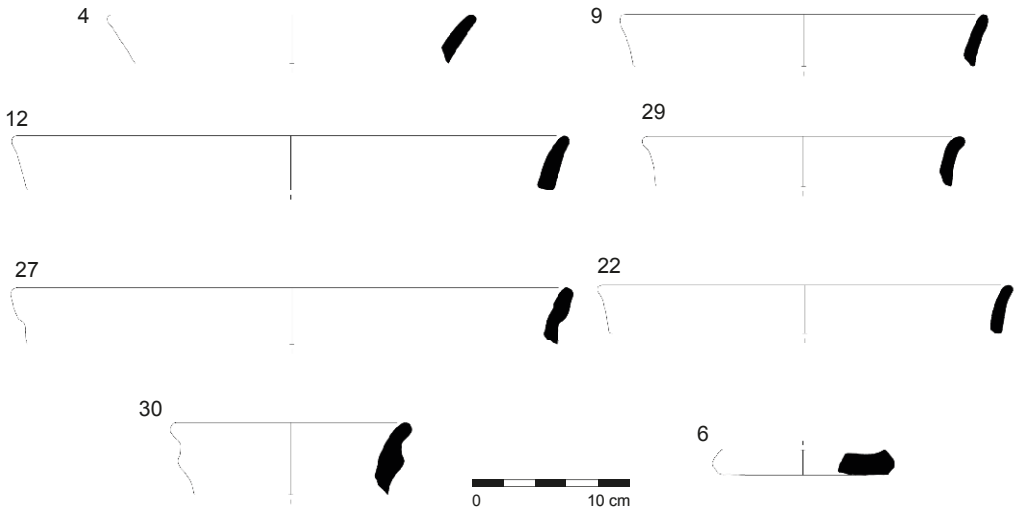


Fig. 11. Reconstruction of vessel profiles from characteristic pottery fragments (numbers correspond to those in Fig. 10). Drawing by F. Ševčík with Laiser Aided Profiler (LAP).

Obr. 11. *Rekonstrukce profilů nádob z charakteristických keramických fragmentů (čísla odpovídají číslům z obr. 10). Kresba F. Ševčík pomocí Laiser Aided Profiler (LAP).*

3.5 Archaeological survey

Based on the finding that the spiral may have originated from the upper layers of the feature, the fact that the earliest bronze objects appeared in Central Europe much later and given the proximity of later archaeological components in the vicinity of the site, it was concluded that the spiral was likely introduced to the site as part of later human activity. To verify whether additional artefacts later than the Eneolithic period might be present at the site, a metal detector survey was conducted across the area.

The archaeological survey (AMČRa) was conducted using the method of surface prospecting with metal detectors. Only artefacts from the topsoil were collected to avoid disturbing archaeological features. The coordinates of all finds were recorded using mobile GPS devices. Non-metallic artefacts from the surface were also collected and documented. Due to the current condition of the site, with the main part covered by dense, impenetrable vegetation, a systematic surface survey along predetermined lines was not feasible. Hillforts densely overgrown with vegetation thus represent another type of methodological challenge, as do, for example, hill-top sites that were partially quarried or flooded in the past (Čižmář 2004; Bartík et al. 2022).

4. Results of the survey

A total of 58 artefacts were recovered. These include 31 pottery fragments, 7 fragments of daub, 2 stone artefacts, 5 artefacts made of copper alloys, 2 artefacts made of silver alloys, 3 objects made of lead alloys, 2 artefacts made of zinc alloys, and 6 artefacts made of iron alloys (Fig. 9). All of these finds are described below, despite their mostly younger age, to provide complex data about the site. Two copper alloy artefacts relevant for this study are examined in more detail.

4.1 Pottery

The pottery assemblage is dominated by small fragments from vessel bodies. There are 21 pieces, ranging in size from a few centimetres to the largest fragment measuring 10 cm (Fig. 10: 1). The assemblage also includes seven rim fragments, one base fragment, and one fragment of a tube-shaped handle (Fig. 10, 11).

The pottery material is generally coarse, with prominent inclusions of crushed stone fragments. Decoration is present on only one fragment—a rim piece featuring ornament in the form of a raised, incised band (Fig. 10: 30).

Given the overall characteristics of the pottery fragments and the lack of diagnostic features, the assemblage can be reliably dated only broadly to the prehistoric period. However, based on the nature of the ceramic material, the presence of a tube-shaped handle, and the decorated fragment, which is consistent with all settlement horizons at the site, the assemblage can be cautiously assigned to the Middle Eneolithic period.

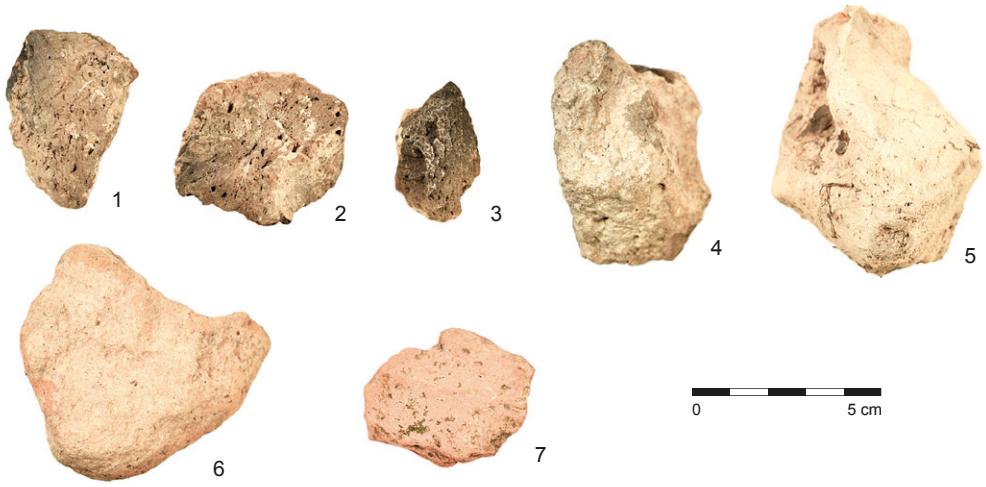


Fig. 12. Daub fragments discovered during surface survey. Photo by F. Ševčík.

Obr. 12. *Fragmenty mazanice objevené během povrchové prospekce. Foto F. Ševčík.*

4.2 Daub

Seven small fragments of daub were recovered in the survey (Fig. 12). The fragments rarely exceed 5 cm in size. With the exception of one piece, the daub fragments show no impressions of structural elements. One of the fragments (Fig. 12: 7) has impressions of wooden rods on one side. The daub fragments are most likely related to the settlement of the site during the Middle Eneolithic period.

4.3 Stone

During the survey, two stone fragments were recovered (Fig. 13). One is a fragment of a grinding stone with a clearly worn working surface (Fig. 13: 1). The other fragment is an elongated object with a rectangular cross-section and rounded corners (Fig. 13: 2). This object resembles a flint striker. The dating is problematic in this case due to the lack of an exact context. However, given the location of the find on a slope disturbed by illegal digging and where a number of pottery fragments belonging to the Middle Eneolithic period were found, it is reasonable to assume that both of these stone fragments could have the same dating.



Fig. 13. Fragments of stone artefacts discovered during prospection. Photo by F. Ševčík.

Obr. 13. *Fragmenty kamenných artefaktů objevené během prospekce. Foto F. Ševčík.*

4.4 Non-ferrous metals

A total of 12 objects made of non-ferrous metals were discovered. In terms of material, the finds can be divided as follows:

a) Finds from copper alloys (Fig. 14: 1–5, 7) – In this case, we can distinguish two categories of artefacts based on preliminary surface analysis using a handheld XRF spectrometer (Niton Xl3t 980).
- Brass finds (Fig. 14: 2, 4, 5, 7) – These artefacts are relatively recent, and their dating, according to typological classification, ranges from the Modern period to the present.
- Tin bronze finds (Fig. 14: 1, 3) – Tin bronze finds include two fragments closely relevant to this study and their elemental composition analysis will be examined in greater detail below. Unfortunately, their size is very small, so it is difficult to determine the artefact from which they originated. The larger of the fragments (Fig. 14: 1; AMČRb) has a visible casting seam. The smaller one (Fig. 14: 3; AMČRc) has a slight curvature in its shape and could come from a socket (e.g. socketed axe). Given the high tin content in both fragments (intentional alloying with tin), their dating to the Eneolithic is ruled out and they can be dated to the Bronze Age or possibly to later periods (see below for more details). Both of the finds come from the northeastern tip of the site from the upper edge of the slope.

b) Finds from silver alloys (Fig. 14: 8, 9) – This category includes two coin finds. The first is a kreuzer of Leopold I (Fig. 14: 8) minted between 1694 and 1704 (Numista 2025b). The second is a kreuzer of Ferdinand II from the mint in Olomouc (Fig. 14: 9), struck between 1625 and 1635 (Numista 2025a).

c) Finds from lead alloys (Fig. 14: 6, 11, 12) – Three artefacts made of lead alloys were discovered during the survey. These include a modern fishing weight (Fig. 14: 6), a modern projectile for a firearm (Fig. 14: 12), and an undatable ingot (Fig. 14: 11).

d) Find from zinc alloy (Fig. 14: 10) – This category includes one find: a Reichspfennig minted between 1938 and 1945 (Numista 2025c).

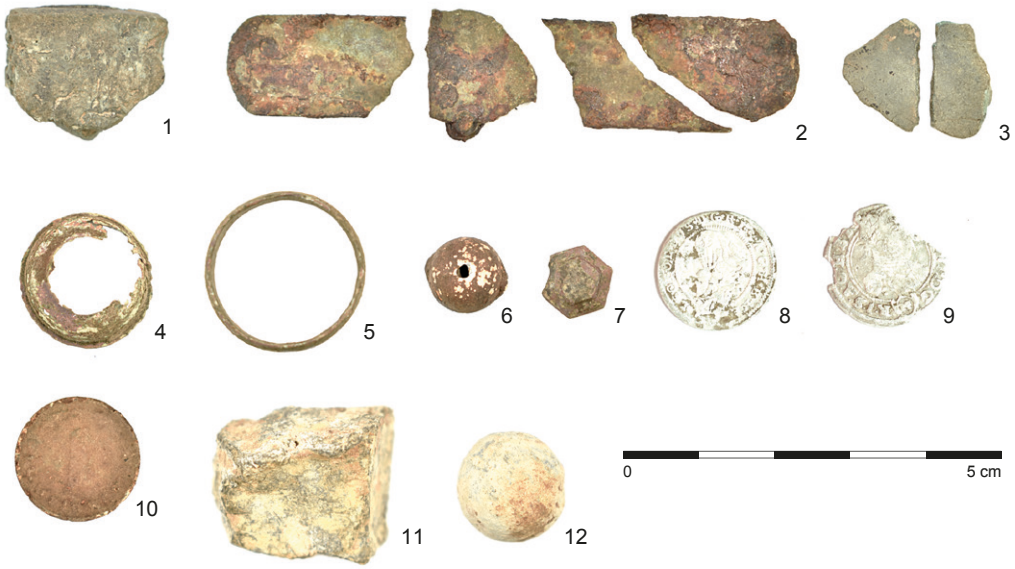


Fig. 14. Non-ferrous metal artefacts discovered during surface survey. Photo by F. Ševčík.

Obr. 14. *Neželezné kovové artefakty objevené během povrchové prospekce. Foto F. Ševčík.*



Fig. 15. Iron artefacts discovered during surface survey. Photo by F. Ševčík.

Obr. 15. *Železné artefakty objevené během povrchové prospekce. Foto F. Ševčík.*

4.5 Iron finds

During the metal detector survey, six artefacts made of iron alloys were discovered (Fig. 15). With the exception of the blade of a folding knife (Fig. 15: 3), which is undoubtedly of recent origin, and an undatable artefact (Fig. 15: 6), these objects can be dated with some degree of uncertainty to the Modern period. An artefact that could be older is an ox horseshoe (Fig. 15: 5), which occurs since the Middle Ages. Finds with a safe medieval dating include an iron knife with a rivet on the handle and a cutler/blacksmith mark on the blade (Fig. 15: 1), as well as a buckle frame (Fig. 15: 2).

5. Analysis of chemical composition

The two aforementioned bronze fragments from surface survey (Fig. 14: 1, 3) and the spiral from feature 24/73 were subjected to more precise analysis of the elemental composition of metal core samples. The results are used for a comparison with other analysed artefacts for an attempt to classify them in prehistoric time periods. Artefacts were sampled using an HSS-TiN drill with a diameter of 1 mm to avoid contamination from surface layers of corrosion. Samples were analysed by desktop ED-XRF spectrometer ElvaX Pro under the following conditions: duration 600 seconds, mode Cu, acceleration voltage 45 kV, collimator 5 mm. The results are given in Table 2.

All three artefacts are made of bronze alloyed with various amounts of tin (2.2–7.4%). The spiral has an elevated content of arsenic and nickel. One of the fragments (Fig. 14: 3) together with a higher arsenic and nickel content also have an elevated lead, antimony and cobalt content. The second fragment (Fig. 14: 1) generally has a low level of admixtures (total of 0.3 %). Given the high tin content, the dating of all the artefacts to the Eneolithic is ruled out/highly improbable (as stated above). Based on the absence/low amount of silver in the alloy, dating to the Early Bronze Age is also unlikely due to a predominantly high silver content during this period. The composition corresponds closely to artefacts from a long time period from the Middle Bronze Age to the Early Iron Age. This time period is characterised by material with a typically elevated content of nickel, and sometimes also lead, arsenic, antimony, cobalt and, on the other hand, the absence of silver. Later prehistoric periods are distinguished by alloying with lead beginning in the Late Iron Age or zinc starting in the Roman period (Frána et al. 1995, 1997; Kmošek 2019).

6. Conclusion

Based on the findings from the revision of artefacts associated with Eneolithic metallurgical activities at the Hlinsko – Nad Zbružovým site, a comprehensive analysis of selected artefacts was conducted along with field survey activities. Through a combination of these methods, it was discovered that this site also contains, in addition to numerous Eneolithic finds, previously undocumented human activities from a later period. Although the site has been extensively and systematically researched, traces of later human activities had not been detected until now. Expectedly, numerous finds from the Middle Ages and especially the Modern and recent periods were found during the surface survey. Artefacts presumably from the long time period from the Middle Bronze Age to the Early Iron Age were also found, thus suggesting human activities at the site during this time frame as well. This finding should serve as an impulse for more detailed exploration of the site, which is under immediate threat of destruction by stone extraction in the neighbouring quarry and apparently still has much to reveal to us.

CrediT authorship contribution statement

Filip Ševčík: Conceptualization, Supervision, Writing – review & editing, Writing – original draft, Investigation, Formal analysis, Visualization.

Matěj Kmošek: Conceptualization, Writing – review & editing, Investigation, Formal analysis.

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ID	Figure	Context	Cu	Sn	As	Sb	Ag	Ni	Pb	Co	Bi	Au	Fe
1/99 (257-673/73)	7	Feature 24/73	91.7	7.4	0.15	0.04		0.33		0.02			0.25
M-202405386-N00020	15: 3	Surface survey	95.9	2.2	0.72	0.14		0.34	0.54	0.07	0.01	0.04	
M-202405386-N00025	15: 1	Surface survey	95.7	4.0	0.04	0.05	0.01	0.01	0.10	0.02	0.02	0.05	

Tab. 2. Results of ED-XRF analysis of metal core samples from three bronze artefacts from Hlinsko – Nad Zbružovým (wt. %).

Tab. 2. *Výsledky ED-XRF analýzy kovového jádra tří bronzových artefaktů z Hlinska – Nad Zbružovým (hmotnostní %).*

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Resumé

Lokalita Hlinsko – Nad Zbružovým patří mezi nejvýznamnější eneolitická sídliště na Moravě, přičemž dosavadní archeologické výzkumy přinesly cenné poznatky o kulturních a technologických aspektech tohoto období. Dosavadní výzkumy na lokalitě odhalily například opevňovací systém s kamennou hradbou, relikty nadzemní obytné struktury, depot měděných šperků, náhrdelník z provrtaných zvířecích zubů a kostěných korálků,

doklady metalurgie a artefakty s možným kultovním významem. Nový výzkum zaměřený na revizi kovových artefaktů přinesl překvapivý objev – jedna ze spirál z výše zmíněného náhrdelníku, původně považovaná za měděnou, byla ve skutečnosti vyrobena z cínového bronzu. Tento fakt významně zpochybňuje její dřívější dataci do eneolitu, jelikož slitina mědi s cínem se v širším měřítku v Evropě začíná používat až ve starší době bronzové. Cílem studie bylo ověřit, zda nález této bronzové spirály představuje důkaz pozdějších lidských aktivit na lokalitě. Za tímto účelem byl detailně také zhodnocen kontext jejího objevu a zkoumány možné intruze jiných než eneolitických artefaktů v objektech odkud části náhrdelníku pocházejí. Dále byla provedena přesnější analýza prvkového složení kovového jádra a výsledky byly porovnány s jinými analyzovanými pravěkými předměty ze slitin mědi. Případná přítomnost mladších komponent na lokalitě byla ověřována a prokázána pomocí povrchového archeologického průzkumu včetně použití detektorů kovů. Při průzkumu bylo nalezeno celkem 58 artefaktů, z nichž většinu lze datovat jako středověké, ale především novověké a recentní. Nejvýznamnějšími nálezy jsou však dva drobné bronzové úlomky nalezené na severovýchodním okraji lokality. Spolu s bronzovou spirálkou odpovídají předměty materiálově předmětům z období od střední doby bronzové do mladší doby železné. Na základě kombinace revize kovových artefaktů, chemické analýzy a povrchového archeologického průzkumu studie prokázala, že na lokalitě Hlinsko – Nad Zbružovým je doložena lidská aktivita i v pozdějších obdobích, než se dosud předpokládalo. Toto zjištění by mělo posloužit jako impuls k podrobnějšímu prozkoumání lokality, která nám má zjevně stále co odhalit a která je navíc bezprostředně ohrožena těžbou kamene v přiléhajícím lomu.

Contacts

Filip Ševčík
Department of Archaeology and Museology
Faculty of Arts, Masaryk University
Joštova 13
CZ-602 00, Brno
460938@mail.muni.cz
ORCID: 0000-0003-4022-006X

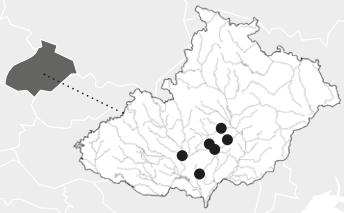
Matěj Kmošek
Institute of Classical Archaeology
Faculty of Arts, Charles University
Celetná 20
CZ-110 00 Prague
kmosekm@ff.cuni.cz
ORCID: 0000-0002-5471-2201

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Další ohrazené lokality z jižní a střední Moravy objevené s využitím letecké archeologie

Additional enclosures in south and central Moravia revealed by aerial archaeology

– *Jaromír Kovárník sen.*, Jaromír Kovárník jun.* –



KEYWORDS

Aerial archaeology – crop marks – digital elevation model – south and central Moravia – enclosures – monuments – long ditches 'Landgraben' – agricultural settlements

ABSTRACT

The article discusses discovered important enclosures in south and central Moravia (Hoštice – 'Světlová', Letonice 2 – 'Větrníky', Nevojice 4 – 'Malhotky', Nezamyslice – 'Končiny', Němčičky – 'Nová hora', Rajhradice – 'Stráně') and areas delimited by a ditch and rampart system (Kučerov – 'Větrníky'). Enclosures are significant phenomena of prehistoric archaeological research. The methods of aerial and landscape archaeology and analysis of the obtained data were used. The analyses show that enclosures, but also fortifications in the lowland, or socio-cult areas delimited by ditch and rampart systems, can be evaluated in the hierarchy as sites of a higher level compared to unfortified agricultural settlements. Other research results include the finding that not only enclosures but generally places delimited by ditches and ramparts as monuments appear in the period of an increasing degree of organisation of collectives at the end of the Neolithic and the threshold of the Eneolithic, a time of the expected gradual increase in the number of members of prehistoric communities due to the development of agriculture, prehistoric crafts including mining of stone and raw materials, but also copper, the development of metallurgy, mobility and exchange due to the development of a network of prehistoric trackways and roads. Based on the research results, it can be assumed that such fortified settlements probably played a multifunctional role.

* Corresponding author – E-mail address: jaromir.kovarnik@volny.cz

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Competing interests: The authors have declared that no competing interests exist.

1. Úvod a aplikované metody

Předložený text představuje nově zjištěné ohrazené nebo opevněné areály na jižní a střední Moravě. Jde o lokality Hoštice – „Světlová" (okr. Kroměříž), Kučerov – „Větrníky" / Letonice 2 – „Větrníky", Nevojice 4 – „Malhotky" (okr. Vyškov), Nezamyslice (okr. Prostějov), Němčičky (okr. Břeclav) a Rajhradice (okr. Brno-venkov). Hlavním cílem článku je podat základní informace o výše uvedených ohrazených nebo opevněných[1] (v některých případech výšinných a polyfunkčních) areálech, zjištěných za využití nedestruktivní metody letecké archeologie či díky aplikaci metody dálkového průzkumu Země zahrnující interpretaci ortosnímků (airborne imagery) zkoumané oblasti a studium digitálního modelu reliéfu (DMR). Ve většině případů bylo snahou využití vzájemné kombinace obou metod.

Text se zaměřuje na údaje o pozici těchto ohrazených nebo opevněných areálů v krajině, o jejich konstrukčních prvcích a rozměrech. V rámci výzkumu sídelní strategie byla sledována vazba uvedených lokalit na vodní toky. K jejich zakládání byla využívána příhodná výše položená místa v pramenných oblastech (např. Hoštice – „Světlová", Němčičky – „Stará hora", Kučerov–„Větrníky" / Letonice 2 – „Větrníky", případně Nevojice 4 – „Malhotky"), nebo na okrajích nízkých říčních teras nad nivou středních až dolních toků (Nezamyslice – „Končiny", Rajhradice – „Stráně"). K popisovaným nálezům ohrazených nebo opevněných areálů byly rovněž uvedeny příklady obdobných lokalit. Zmíněny jsou také názory na úlohu těchto útvarů. Jde o odlišný typ ve srovnání se zemědělskými osadami v jejich okolí. Vyhloubení příkopů a valů u těchto areálů vyžadovalo velké množství energie. Systémy příkopů a valů lze hodnotit jako monumentální stavby.

2. Stručná charakteristika studovaného území

Výzkum se uskutečnil v několika oblastech jižní a jižní části střední Moravy.

2.1 Dyjsko-svratecký úval

Příkopové ohrazení (s předpokládaným valem) Rajhradice – „Stráně", okr. Brno-venkov (obr. 1: 1; níže obr. 6, 7), se nachází na vyšší levé terase řeky Svratky na severním okraji Dyjsko-svrateckého úvalu VIIIA–1 v rámci Západní Vněkarpatské sníženiny VIIIA (Demek, Mackovčin a kol. 2006, 46, 130–131).

2.2 Litenčická pahorkatina

V Litenčické pahorkatině byla objevena řada ohrazených, v některých případech výšinných lokalit. Geomorfologický celek Litenčická pahorkatina patří do geomorfologické oblasti Středomoravské Karpaty jako součásti geomorfologické subprovincie Vnější Západní Karpaty (Demek 1992, 31, mapa 4: IXB–2A, B;



Obr. 1. Mapa popisovaných výšinných a nížinných ohrazených lokalit na jižní, jihovýchodní a střední Moravě. 1 – Rajhradice – „Stráně“ (okr. Brno–venkov); 2 – Kučerov 1 / Letonice 2 –„Větrníky“ (okr. Vyškov); 3 – Nezamyslice – „Končiny“ (okr. Prostějov); 4 – Hoštice – „Světlová“ (okr. Kroměříž); 5 – Nevojice 4 – „Malhotky“ (okr. Vyškov); 6 – Němčičky – „Nová hora“ (okr. Břeclav). Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 1. *Map of the described hilltop and lowland enclosures in south, southeast, and central Moravia. 1 – Rajhradice – ‘Stráně’ (Brno-venkov District); 2 – Kučerov 1 / Letonice 2 – ‘Větrníky’ (Vyškov District); 3 – Nezamyslice – ‘Končiny’ (Prostějov District); 4 – Hoštice – ‘Světlová’ (Kroměříž District); 5 – Nevojice 4 – ‘Malhotky’ (Vyškov District); 6 – Němčičky – ‘Nová hora’ (Břeclav District). Map base: ČÚZK AV; author J. Kovárník sen.*

Demek, Mackovčin a kol. 2006, 48, 89, 265, 511). K zjištěným lokalitám náleží výšinný ohrazený areál Hoštice – „Světlová“ (obr. 1: 4; 2, 3) na severovýchodním okraji Litenčické pahorkatiny. Další doložená dvojnásobně ohrazená lokalita Nezamyslice – „Končiny“, okr. Prostějov (obr. 1: 3; níže obr. 8, 9), se rozkládá na nízké pravé terase řeky Hané. V jihozápadní části Litenčické pahorkatiny je další možný výšinný ohrazený areál Kučerov – „Větrníky A“ / Letonice 2 – „Větrníky B“, okr. Vyškov (obr. 1: 2; níže obr. 10–13), který se nalézá asi 9 km jihozápadně a výšinné ohrazení Nevojice – „Malhotky“, okr. Vyškov (obr. 1: 5; 4, 5).

2.3 Kyjovská pahorkatina

Kyjovská pahorkatina je dalším územím s nálezem výšinného ohrazeného areálu Němčičky – „Nové hory“, okr. Břeclav (obr. 1: 6; níže obr. 14, 15). Lokalita leží v jihozápadní části. Kyjovská pahorkatina je součástí Západních Vněkarpatských sníženin (Demek 1992, 37–38, mapa 4: IXB–4A; Demek, Mackovčin a kol. 2006, 48, 253).

3. Popis ohrazených, případně opevněných lokalit

Tato část obsahuje výčet doposud neznámých výšinných i nížinných ohrazených lokalit pocházejících pravděpodobně z období pravěku.

Je všeobecně známé, že výšinná hradiště, jak již říká název, byla situována na výšinách, které poskytoval reliéf krajiny. Dominantní výšinné polohy zahrnovaly různě vysoké ostrožny nad meandry vodních toků nebo nad jejich soutoky, dále říční terasy o rozdílné výšce (horní, střední a dolní tok), vrcholy kopců a hor, ale také příhodné svahy většinou nad údolími vodních toků (dále uvedeny už zkráceně výšiny nebo výšinné polohy). Plochy na těchto vrcholech měly různé tvary od plateau (tabulové hory, okraje říčních teras) přes oblý tvar (podoby více či méně kulové úseče) až po tvar kamenitého hřbetu. Výšinná hradiště měla také různou plošnou výměru, která většinou vycházela z možností reliéfu těchto výšinných poloh, zejména však z potřeb dané komunity. Tvar plochy a sklonitost svahů a srázů ovlivnil také podobu a počet fortifikačních systémů, nebo obecně ohrazení. Příkopy, valy a palisády měly obloukový půdorys, přičemž se vyskytovaly na přístupných stranách u okrajů strmých srázů; mohly také vymezovat nepravidelně kruhovité a oválné, trojúhelníkovité, nebo čtyřúhelníkové plochy, které byly přístupné ze všech stran (srov. např. Nekvasil 1982; Dohnal 1988; Parma 1998; Čižmář 2004, 42). Uvedené faktory ovlivňovaly vytvoření typologie hradišť. Kombinace různých půdorysných tvarů skýtá možnost tvorby celé škály podtypů a variant výšinných hradišť (včetně uplatnění individuálního hodnocení badatelů).

3.1 Hoštice – „Světlová“ (okr. Kroměříž)

Rámcové souřadnice výšinného ohrazení a předpokládané mohyly jsou:

- trojúhelníkovité plochy výšinného ohrazeného areálu vymezeného reliéfními příznaky příkopu a valu:
  S: 49.2280469N, 17.2311558E; J: 49.2260256N, 17.2324539E; V: 49.2268189N, 17.2337039E; Z: 49.2270256N, 17.2314669E
- příkopu a valu na západní straně výšinného hradiště:
  S: 49.2274356N, 17.2337467E; J: 49.2262969N, 17.2328911E; V: 49.2268136N, 17.2334625E; Z: 49.2268311N, 17.2336128E
- poškozené mohyly cca 480 m severozápadně od severozápadního okraje výšinného hradiště 49.2289928N, 17.2251422E / 49.2290297N, 17.2249486E

Nově zjištěné reliéfní doklady příkopu a valu obloukovitého půdorysu (z přístupného jihovýchodního směru) ohrazení se nacházejí v katastrálním území obce Hoštice, okr. Kroměříž (obr. 1: 4; 2, 3), lesní trati „Světlová“, asi 2–2,15 km severně od středu obce (obr. 2). Výšinný ohrazený areál zaujímá strategicky výhodnou přírodou chráněnou polohu v cípu dvou sbíhajících se údolí, přítoku potoka Tištínka ve směru od severoseverozápadu k jihojihovýchodu (k prameni) a bezejmenného údolí probíhajícího ve směru od severozápadu k jihovýchodu. Převýšení vnitřního opevněného areálu oproti dnu obou údolí se pohybuje až okolo 16 m.

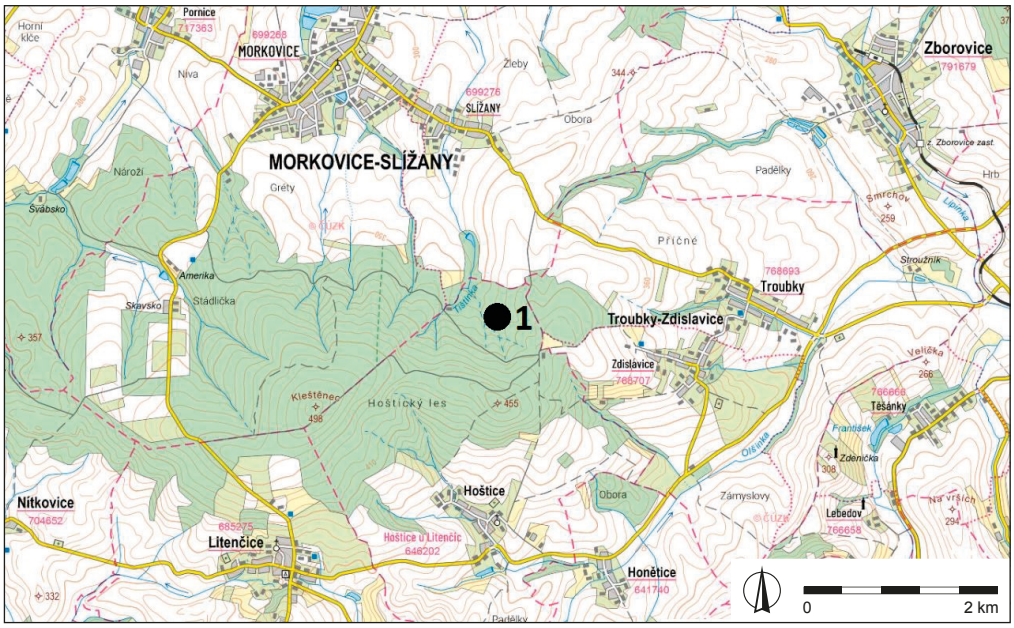
Lokalita v poloze „Světlová“, se nachází na ploše svahu nad potokem Tištínkou blízko pramene. Potok následně protéká odlesněnou částí Litenčické pahorkatiny přes Morkovice-Slížany. U Uhřic do něj vtéká Morkovický potok a pod návrším „Kříby“ (NPP Křéby), kde se nachází důležitý výšinný opevněný areál Prasklice (viz níže obr. 16), Švábský a Pačlavický potok. Tištínka dále teče kolem Koválovic do údolní nivy k Tištínu a Těšicím, kde se vlévá z pravého břehu do řeky Hané (Vlček 1992, 161, obr. 84).

Výšinná ohrazená lokalita Hoštice – „Světlová“ poskytuje nový pohled na soustavu výšinných ohrazených poloh na potoce Tištínka. Doposud byla známá pouze výšinná ohrazená lokalita v katastru obce Prasklice (viz níže obr. 16), okr. Kroměříž (např. Ondráček 1968; Nekvasil 1972; Čižmář 2004, 212–214), které leží ve vzdálenosti asi 7,7 km severovýchodně.

Jde o výšinnou ohrazenou lokalitu s trojúhelníkovitou plochou, orientovanou vrcholem k severozápadu. Popisovaný areál, ohraničují výrazné krajinné útvary, a to výrazná strž (vzniklá vodní erozí ve sprašovém podloží) na severovýchodní straně a hluboké údolí potoka Tištínky na jihozápadní straně. Georeliéf vytváří nevysokou ostrožnu na konci svahu snižujícího se k SZ. Plocha výšinného hradiště (378,5 m n. m.) vykazuje lokální převýšení nad vodním tokem okolo 16 m.

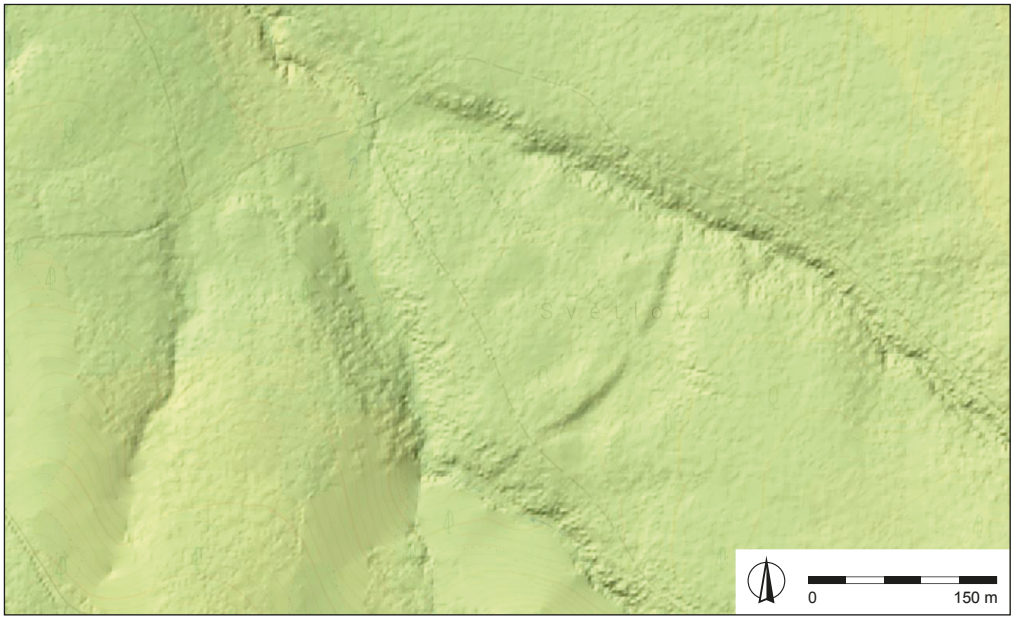
Opevňovací soustava se skládá z vnějšího příkopu a vnitřního valu obloukovitého půdorysu o délce 180 m (obr. 3). Ve srázu u jihozápadního konce příkopu se nachází lineární prohlubeň, která prodlužuje opevnění. Nelze přesně stanovit, zda je přírodního, nebo antropogenního původu. Ve valu jsou zřetelná dvě přerušení. Lze předpokládat, že to mohly být případné vstupy. Výrazné přerušení valu je v jeho polovině, v místě maxima oblouku. Vykazuje stávající šířku cca 20 m. Druhé přerušení, předpokládaný vstup, se nachází u jihozápadního konce valu a příkopu. Toto přerušení je široké okolo 10,5–11 m. Příkop je široký přibližně 1–3 m. Šířka destruovaného valu kolísá mezi 3 m v místech přerušení u vchodů a cca 7,5–10 m mimo ně. Stávající (dochovaná) výška valu dosahuje maximální převýšení asi 0,35 m z vnitřní plochy ohrazení. Maximální převýšení vrcholu valu oproti dnu příkopu (na vnější straně) je cca 1,30–1,85 m, zatímco po stranách vstupů jenom asi 0,1–0,2 m. Maximální šířka příkopu dosahuje asi 8,5 m. Příkop a val přetínají plochu od severovýchodu k jihozápadu (obr. 3). Rozloha ohrazeného areálu činí okolo 2 ha. Do vstupu ve středu fortifikace se sbíhají reliéfně dochované liniové struktury o šířce 2–3 m ze tří směrů od jihovýchodu, které pokračují na severozápadní okraj ohrazeného areálu. Obdobná reliéfní linie probíhá rovněž předpokládaným vchodem na jihozápadním konci fortifikačního systému. Jde o stopy starých cest, jejichž stáří není známé.

Výšinná ohrazená lokalita se nachází cca 700 m severovýchodně od pramene potoka Tištínky a jeho přítoků (obr. 1: 4; 2), významné pramenné oblasti zalesněné části Litenčické pahorkatiny. Tyto prameny byly dostatečně vydatnými zdroji vody.



Obr. 2. Hoštice – „Světlová“ (okr. Kroměříž). Umístění ohrazení areálu na mapě. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 2. *Hoštice – ‘Světlová’ (Kroměříž District). Location of the enclosure on the map. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 3. Hoštice – „Světlová“ (okr. Kroměříž). Digitální model reliéfu se systémem ohrazení tvořeným příkopem a valem obloukovitého půdorysu přerušeného v místě/místech (?) vchodů uprostřed a dalšího u jihozápadního okraje (?). Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 3. *Hoštice – ‘Světlová’ (Kroměříž District). Digital terrain model showing an enclosure system formed by a ditch and a rampart with an arched ground plan, interrupted at the assumed entrance(s) (?) in the central part and possibly another at the southwestern edge (?). Map base: ČÚZK AV; author J. Kovárník sen.*

Výšinné ohrazení Hoštice – „Světlová“ bylo založeno v relativně velké nadmořské výšce místní krajiny 360–380 m. Mohlo by dokládat trend zemědělského využívání výše položených oblastí. Litenčická pahorkatina navíc skýtá strategicky vhodné lokality s vyšší nadmořskou výškou na území Hané u Hornomoravského úvalu, Vyškovské brány (Demek, Mackovčin a kol. 2006, 511) a Napajedelské brány (Demek, Mackovčin a kol. 2006, 12, 49, 311).

Ohrazená lokalita není prozatím archeologicky datována. Pouze rámcově by mohla pocházet z období příznačných pro budování podobných útvarů. Přesné datování všech popisovaných ohrazení může podat pouze zjišťovací archeologický výzkum.

Neřešenou otázkou zůstává vztah hradiště a zatím také nedatované poškozené mohyly, která se nachází asi 480 m severozápadně od severozápadního rohu výšinného ohrazení.[2]

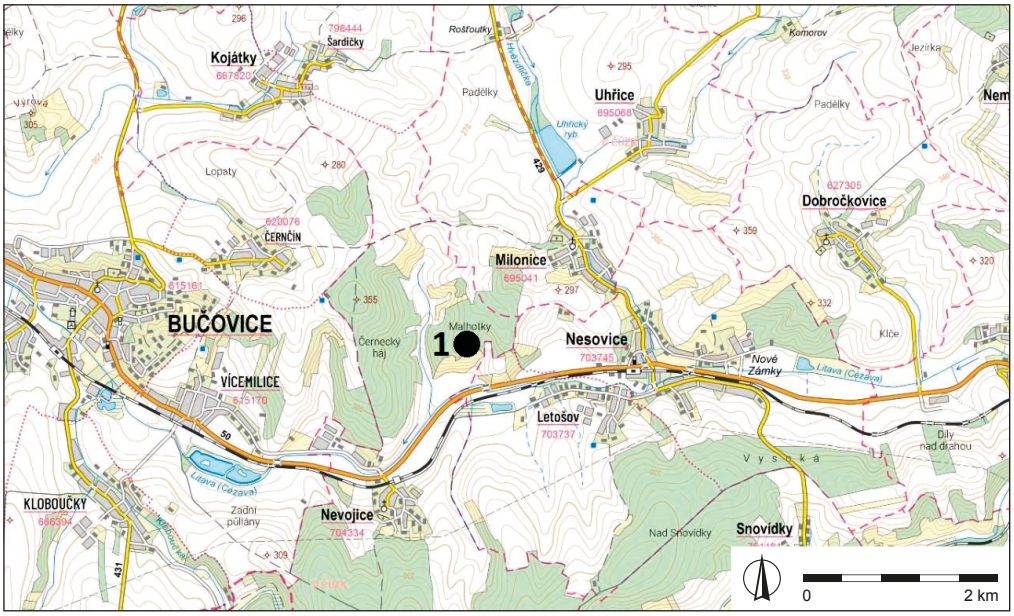
3.2 Nevojice 4 – „Malhotky“ (okr. Vyškov)

Rámcové souřadnice vegetačních příznaků příkopů:

- oválné plochy výšinného ohrazeného areálu s reliéfními příznaky příkopu, valu a jižního okraje jsou: S: 49.1508500N, 17.0561731E; J: 49.1492078N, 17.0559533E; V: 49.1496431N, 17.0579756E; Z: 49.1491131N, 17.0541078E

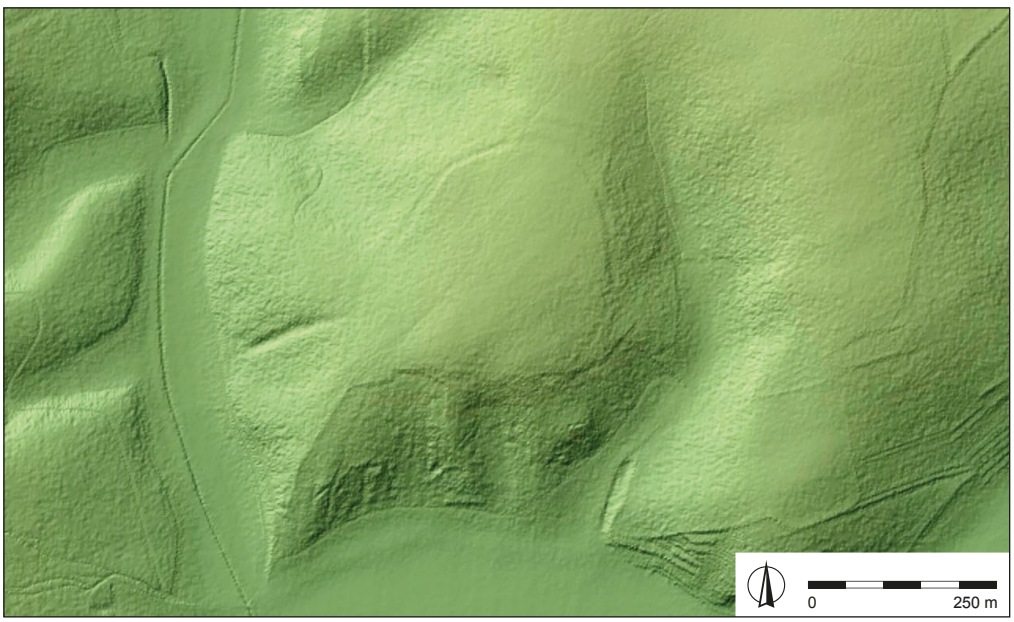
Systém výšinného ohrazení Nevojice 4 – „Malhotky“ (obr. 1:5; 4) v podobě výrazného příkopu, dále menšího vnitřního valu a většího vnějšího valu nepravidelně obloukovitého půdorysu (obr. 5) byl identifikován na digitálním modelu reliéfu (ČÚZK AV) přibližně 1 650–1 885 m SSV od středu obce Nevojice (obr. 4). Jde o původní vysoký pravý břeh, terasu řeky Litavy v Milonickém lese. Vzdálenost ohrazeného areálu od jižně protékající řeky Litavy činí cca 389–635 m a asi 648–985 m od soutoku bezejmenného potoka a řeky Litavy. Niva řeky Litavy leží 230 m n. m. Areál výšinné lokality je situován 62–83 m nad údolím řeky. Konfigurace terénu je po strategické stránce velmi příznivá. Plochu výšinného ohrazeného areálu lemují z východní, jižní a západní strany prudké svahy. Na východě se nachází hluboké úžlabí a na západě 30–40 m hluboké údolí potoka.

Nejnižší část opevněné plochy leží 292 m n. m. a nejvyšší 313 m n. m., s výškovým rozdílem 21 m. Val navršený podél vnitřního okraje příkopu je široký přibližně 3 m a vysoký cca 0,3–0,5 m. Šířka příkopu dosahuje asi 8–9 m a hloubka okolo 1,30 m. Příkop a val v jihozápadní části mají menší rozměry. Příkop vykazuje v jihovýchodní části jedno, případně až dvě přerušení (eventuálně porušení). Nelze vyloučit, že by mohlo jít o vstup/vstupy do vnitřního areálu (obr. 5).



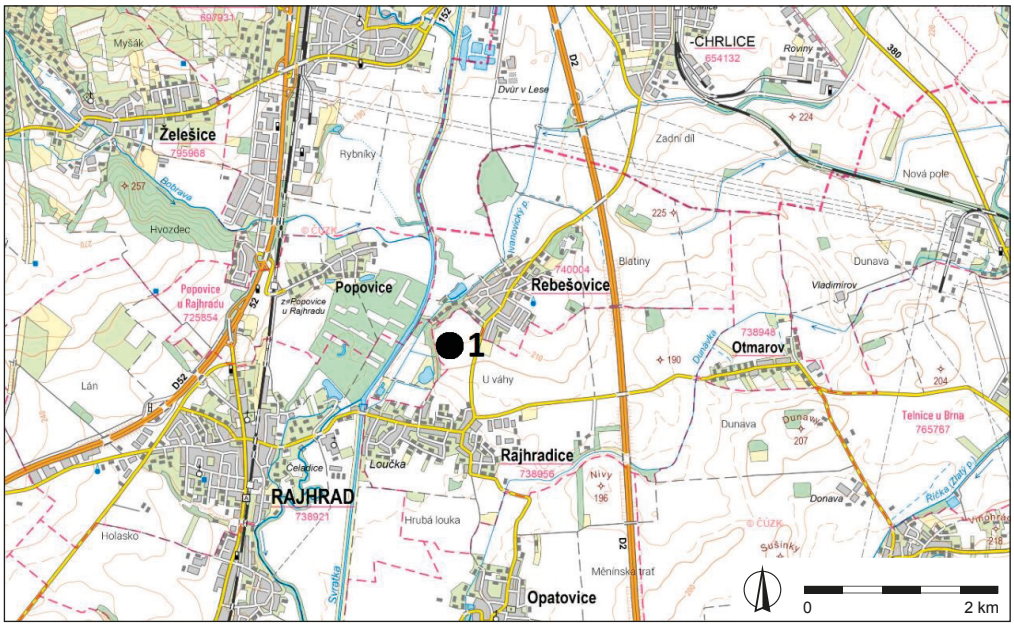
Obr. 4. Nevojice 4 – „Malhotky“ (okr. Vyškov). Umístění potenciálního výšinného ohrazeného areálu v mapě. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 4. *Nevojice 4 – ‘Malhotky’ (Vyškov District). Location of the potential hilltop enclosure on the map. Map base: ČÚZK AV; author J. Kovárník sen.*



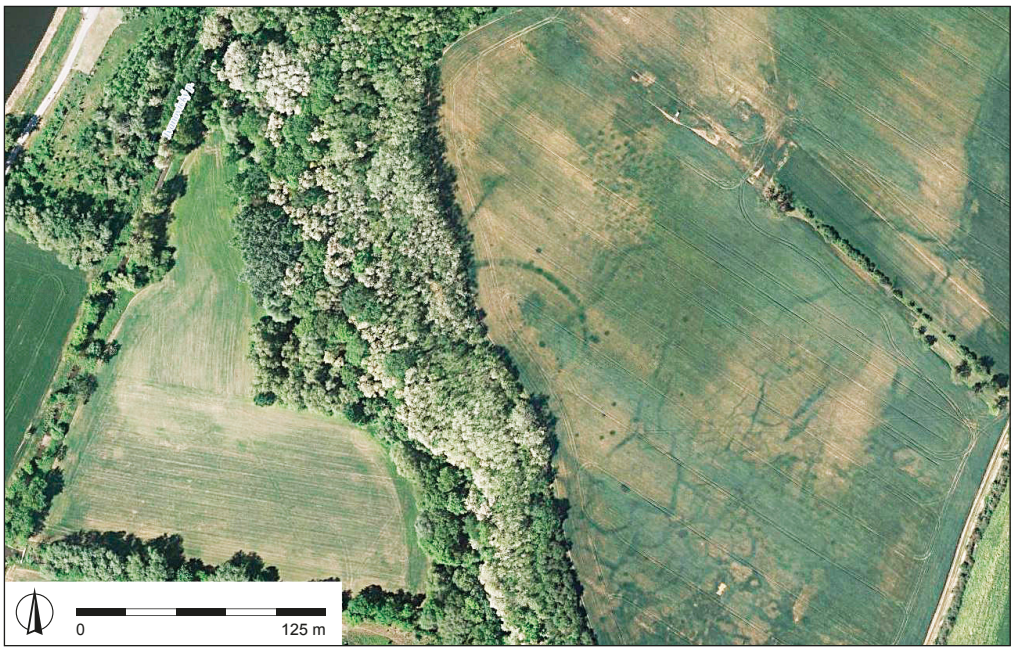
Obr. 5. Nevojice 4 – „Malhotky“ (okr. Vyškov). Digitální model reliéfu včetně příznaků průběhu příkopu a valu/valů nepravidelně obloukovitého půdorysu s dvěma přerušeními (vstupy?) v jihovýchodní části (ukazují šipky) a dvou útvarů mohylovitého tvaru na jižním okraji plochy potenciálního výšinného ohrazeného areálu. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 5. *Nevojice 4 – ‘Malhotky’ (Vyškov District). Digital terrain model showing traces of a ditch and rampart(s) with an irregular arched ground plan, featuring two interruptions (entrances?) in the southeastern part (indicated by arrows) and two mound-like formations at the southern edge of the area of the potential hilltop enclosure. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 6. Rajhradice – „Stráně“ (okr. Brno-venkov). Umístění ohrazené lokality v mapě. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 6. *Rajhradice – 'Stráně' (Brno-venkov District). Location of the enclosure on the map. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 7. Rajhradice (okr. Brno-venkov). Ortofotografie nedokončeného (?) příkopu obloukovitého půdorysu, pohřebiště únětické kultury a velkomoravského období. Mapový podklad: Mapy.cz_1 (7. 5. 2018); autor J. Kovárník sen.

Fig. 7. *Rajhradice (Brno-venkov District). Orthophotograph of an unfinished (?) ditch with an arched ground plan, a burial ground of the Únětice culture, and from the Great Moravian period. Map base: Mapy.cz_1 (7 May 2018); author J. Kovárník sen.*

Fortifikační systém má podle digitálního modelu reliéfu vnitřní obvod dlouhý cca 765 m a celkový vnitřní obvod ohrazené plochy asi 1012 m. Vnější obvod fortifikačního systému má délku asi 820 m a celkový vnější obvod výšinného ohrazeného areálu činí kolem 1100 m. Plošná výměra vnitřního areálu (bez fortifikačního systému) výšinné lokality dosahuje okolo 6,9 ha.

Přibližně uprostřed jižního okraje plochy výšinného ohrazení jsou dvě mírně vyvýšené struktury o průměru asi 8–10 m a dochované výšce asi 0,3 m.

Popisované výšinné ohrazení zvyšuje jejich koncentraci na území Litenčické pahorkatiny v povodí řeky Litavy (obr. 1: 5; 4). Lze předpokládat, že v údolí řeky probíhala důležitá pravěká stezka nebo cesta mezi severní částí Dyjsko-svrateckého úvalu, Vyškovskou bránou, Napajedelskou bránou a Dolnomoravským úvalem. Výšinná ohrazená lokalita Nevojice 4 – „Malhotky“ není osamocená. V katastrálním území na severovýchodním okraji geomorfologického celku Ždánický les se nachází ještě ohrazený areál Nevojice 3 – „Strašník“ (např. Čižmář 2004, 190–191) a dva další vrcholně středověké fortifikační systémy Nevojice 1, 2.

Výšinná ohrazená lokalita Nevojice 4 – „Malhotky“ není prozatím datována.

3.3 Rajhradice – „Stráně“ (okr. Brno-venkov)

Rámcové souřadnice porostových příznaků příkopu jsou:

- S: 49.1001444N, 16.6288631E; 49.0997544N, 16.6288603E; V: 49.0997667N, 16.6294558E; Z: 49.1001214N, 16.6286136E

Jde o polykulturní lokalitu (obr. 1: 1; 6, 7) s doklady sídlištních a pohřebních aktivit (Ondráček 1962; Staňa 1973; Hendrychová 2018) únětické kultury, pozdní fáze středodunajské mohylové kultury, velatické fáze kultury popelnicových polí, dále hrobů z doby stěhování národů a raně středověkého pohřebiště (hroby z období Velké Moravy), která je součástí severní části Dyjsko-svrateckého úvalu.

Příkop ohrazení, nebo opevnění (?) a původně také val obloukovitého půdorysu se nalézá asi 860–901 m severně od středu obce Rajhradice (obr. 6). Zřejmě nedokončený příkop se rozkládá na samotném okraji plošiny levé terasy řeky Svratky nad Ivanovickým potokem 211–212 m n. m. (obr. 6, 7). Převýšení levobřežní říční

terasy nad nivou Ivanovického potoka a Svratky (187 m n. m.) činí 25 m. Severozápadní konec (čelo) příkopu se nachází přesně na lomu plošiny terasy ve svah, nad inundačním územím. Nedaleko příkopu asi 27–90 m severovýchodně se však nalézá rozsáhlejší pohřebiště únětické kultury starší doby bronzové s 85 hroby (obr. 7) zkoumanými v letech 1952–1953 a 1975 (Ondráček 1962), pohřebiště z doby stěhování národů (11 hrobů) a raně středověkého období (239 hrobů z období Velké Moravy) v trati „Stráně" (Staňa 1973; Hendrychová 2018, 7–8, Pl. 1, 2).

Nedokončený příkop má délku vnějšího okraje asi 90 m a vnitřního okraje 81 m. Jeho šířka je kolem 2 až 3 m. Průměr ohrazené plochy lze odhadnout na 80 m a plochu vnitřního areálu po hranu svahu na 0,3 ha. Velmi zajímavé je to, že jihovýchodní konec obloukovitého opevnění (?) nebyl prokopán až k hraně říční terasy, čímž by splnil účel ohrazení, nebo opevnění (?). Je pozoruhodné, že vegetační příznaky patrně nedokončeného příkopového ohrazení/opevnění (?) obloukovitého půdorysu se skládají jakoby z dílčích segmentů (obr. 7). Tyto díly příkopu by mohly napovídat tomu, že příkop obloukovitého půdorysu mohl být hlouben po úsecích. V severní části (mezi 356° SSZ až 4° SSV) poblíž hrany terasy se nachází možné přerušení o šířce cca 6 m. Následuje výkop v úseku asi 2–3 m a za ním opět druhé přerušení široké okolo 6 m (mezi 10° až 17° SSV). Obdobná situace je také ve východní části nedokončeného příkopu s přerušením širokým 2–3 m (mezi 81°až 84° VSV). Uvnitř plochy vymezené nedokončeným (?) příkopem je nápadný vegetační příznak větších rozměrů cca 9 × 8 m (obr. 7). Budovatelům příkopu šlo patrně o to, aby ohradili příkopem co největší plochu. Příkop obloukovitého půdorysu záměrně ohraničuje místo, kde okraj říční terasy se rozšiřuje a vybíhá dále směrem do území nivy Ivanovického potoka a řeky Svratky. Obdobně vybíhala plocha terasy řeky Jevišovky také u trojitého opevnění staršího období únětické kultury v katastru Hrušovan nad Jevišovkou, okr. Znojmo (Kovárník 2007).

V okolí příkopu (a valu) obloukovitého půdorysu se vyskytují další početné vegetační příznaky pravděpodobných zemnic mírně obdélníkovitého půdorysu, předpokládaných zásobních jam na obilí (silo) a jiných sídlištních jam.

Datování příkopu (a předpokládaného valu) obloukovitého půdorysu není známé. Snad by mohl náležet stejně jako sousední pohřebiště do únětické kultury.

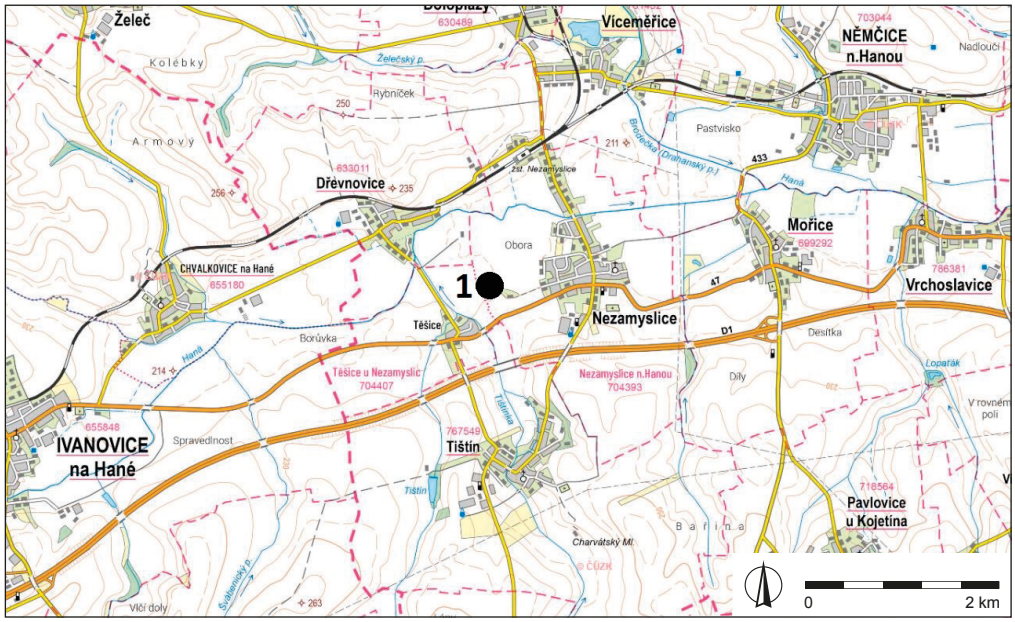
3.4 Nezamyslice nad Hanou – „Končiny" (okr. Prostějov)

- Rámcové souřadnice příkopů jsou: S: 49.3251942N, 17.1579400E; J: 49.3228411N, 17.1580847E; V: 49.3242500N, 17.1594794E; Z: 49.3240753N, 17.1567544E

Velmi významná lokalita se nachází na severním okraji pravobřežní terasy řeky Hané cca 1030–1120 m ZJZ od středu obce Nezamyslice (obr. 8). Rozkládá se na samotném okraji staré říční terasy vybíhajícím nad nížinu na pravém břehu řeky, který je příhodně orientován podélnou osou ve směru S–J k vybudování systému opevnění skládajícího se ze dvou příkopů [a dvou příslušejících valů (?)]. Půdorys fortifikace zcela zohledňuje průběh vrstevnic a má přibližný tvar oválu.

Maximální nadmořská výška terasy dosahuje 211,9 m, niva pod touto opevněnou polohou se nachází ve výšce 205,95 m n. m. Plocha ohrazení leží asi 6 m nad inundací řeky Hané. Plošina ohrazené lokality se mírně zužuje směrem k severu (obr. 8, 9). Dosahuje nejvyšší nadmořské výšky 211,9 m. Délka vnitřní plochy ohrazení činí v ose SSZ–JJV asi 218 m a šířka v ose VSV–ZJZ cca 173 m. Fortifikační systém má nepravidelně oválný půdorys a sleduje vrstevnice 206 a 208 m n. m. Porostové příznaky (světlejšího barevného odstínu) vnějšího příkopu mají délku asi 715 m a šířku 6–7 m. Obvod vegetačních příznaků vnitřního příkopu je poněkud kratší a jeho šířka dosahuje cca 3–4 m. Vzdálenost mezi příkopy je okolo 13 m. Umožňovalo by to navršit mezi nimi val ze zeminy pocházející z výkopu vnějšího, většího z příkopů. Celková délka opevněného prostoru včetně opevnění dosahuje cca 266 m a šířka asi 191 m. Vnitřní plocha má přibližnou délku 223 m a šířku kolem 137 m. Průběh porostových příznaků na západní straně není zřetelný, protože se zde nachází těleso cyklostezky vedoucí z Tištína směrem do Dřevnovic. Při této stavbě došlo patrně k narušení archeologických pozůstatků příkopů (a valů).

Porostové příznaky vnějšího příkopu pouze naznačují, že by mohl být přerušen vstupem v JJV části (obr. 9). Případné další přerušení opevnění naznačují vegetační příznaky v SSV části, nebo ještě ve středu jeho délky ve východní části (?). Čitelnost vegetačních příznaků dvojitého ohrazení není optimální. Zajímavé jsou porostové příznaky, které naznačují průběh reliktů až tří příkopů v místech SSV oblouku. Mohl by to být ale doklad oprav příkopů, protože obvod výšiny tvoří nezpevněný písčito-hlinitý až hlinito-písčitý sediment náchylný k erozi (ČGS_GM).



Obr. 8. Nezamyslice – „Končiny" (okr. Prostějov). Umístění dvojnásobně ohrazené lokality v mapě. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 8. *Nezamyslice – 'Končiny' (Prostějov District). Location of the double enclosure on the map. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 9. Nezamyslice – „Končiny“ (okr. Prostějov). Snímek vegetačních příznaků ohrazené lokality s dvěma příkopy (a valy) oválného půdorysu, detail. Mapový podklad: ČÚZK_VYSK26 (10. 7. 2020); autor J. Kovárník sen.

Fig. 9. *Nezamyslice – ‘Končiny’ (Prostějov District). Aerial photograph showing crop marks of the enclosure with two ditches (and ramparts) of an oval ground plan; detail. Map base: ČÚZK_VYSK26 (10 July 2020); author J. Kovárník sen.*

Vnitřní areál má výměru okolo 3,5 ha (obr. 9). Studované území mělo dostatek vodních zdrojů, a to nejen ve vodních tocích, ale také pramenité vody. Přibližně 195 m jihovýchodně je dodnes u kaple P. Marie studánka.

Toto dvojnásobné opevnění (obr. 8, 9) bylo záměrně situováno na důležitém místě asi 0,8 km jihozápadně od současného vtoku vodoteče Tištínky do řeky Hané. Je to v daném mikroregionu velmi příhodné místo pro situování opevněného centrálního sídliště. Ohrazený areál byl situován na důležitém pravěkém průchodu údolím řeky Hané mezi Vyškovskou a Napajedelskou bránou. Ve vzdálenosti 430 m jihozápadně od dvojitého ohrazení se nachází dnešní (recentní) soutok regulovaného Dětkovického potoka a Tištínky, která protéká západně v přibližném směru S–J a zřejmě tvořila určité ohraničení předpolí ohrazení a překážku zahrnující předpokládaná slepá ramena. Důležitá je také skutečnost, že cca 2 970 m VSV je dnešní soutok regulovaného toku řeky Hané a dalšího většího vodního toku sledovaného regionu Brodečky (Drahanský potok), přítoku na levém břehu u města Němčice nad Hanou (obr. 8), která protéká kolem významného obchodního a výrobního centra s dálkovými kontakty v katastru Němčic nad Hanou datovaného asi od stupně LT C1 přibližně do LT C2 (?) (např. Čižmářová 2004, 256–258; Čižmář, Kolníková 2006; Kolníková 2012). Vedly zde pravděpodobně staré stezky a cesty.

Nově zjištěná lokalita Nezamyslice – „Končiny“ (okr. Prostějov) představuje příklad dvojitého systému soustředných příkopů a valů oválného půdorysu (obr. 9). Ohrazující nebo opevňovací prvky korespondují s okrajem uvedené terasy v úrovni probíhající vrstevnice a zvedají se asi až 7 m nad úroveň nivy potoka Tištínky a řeky Hané. Přehrazují vybíhající terasu v jejím zúžení na JJV až JJZ. Na vnitřní ploše ohrazení jsou zřetelné porostové příznaky více než tří desítek sídlištních jam, bodových objektů, tzv. *maculae*. Dva z těchto objektů jsou větší a výraznější o velikosti cca 2 m. Nacházejí se naproti sobě asi uprostřed jednoho a druhého oblouku opevnění. Archeologický objekt v severní části vnitřního prostoru leží ve vzdálenosti asi 39 m od vnitřního příkopu. Nelze vyloučit, že v jeho půdorysu jsou vegetační příznaky čtyř až šesti sloupových (kůlových) jam. Druhý objekt v jižní části plochy se nachází cca 35 m od vnitřního příkopu, který může být přerušen. Oba archeologické objekty jsou od sebe vzdálené přibližně 139–140 m. Jejich spojnice tvoří podélnou osu plochy ohrazeného areálu.

Lokalita není prozatím přesně datována. Vyskytují se zde nálezy kultury se šňůrovou keramikou[3] a únětické kultury[4] (Tihelka 1953, 314, obr. 75). Antonín Telička zde zkoumal 12 hrobů únětické kultury (Tihelka 1953, 301).

3.5 Kučerov / Bohaté Málkovice – „Větrníky A“ (okr. Vyškov)

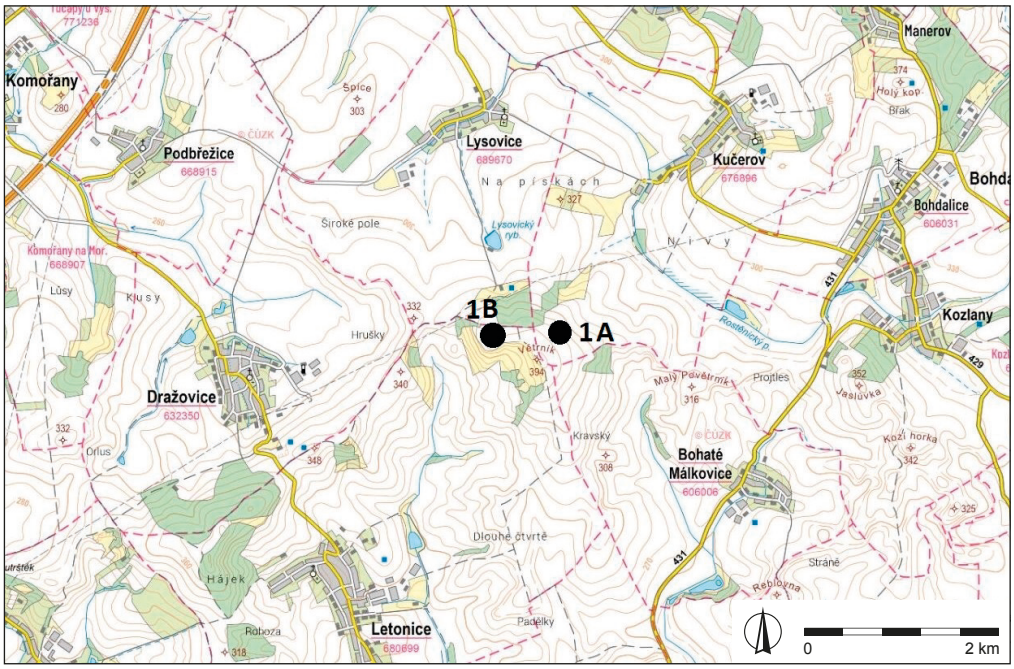
Systém ohrazení/opevnění (?) v podobě dlouhého dvojitého (?) příkopu nebo žlabu (a valů) obloukovitého půdorysu (se vstupem/vstupy)

3.6 Letonice 2 – „Větrníky B“ (okr. Vyškov)

Vegetační a půdní příznaky patrně výšinného ohrazeného (?) areálu

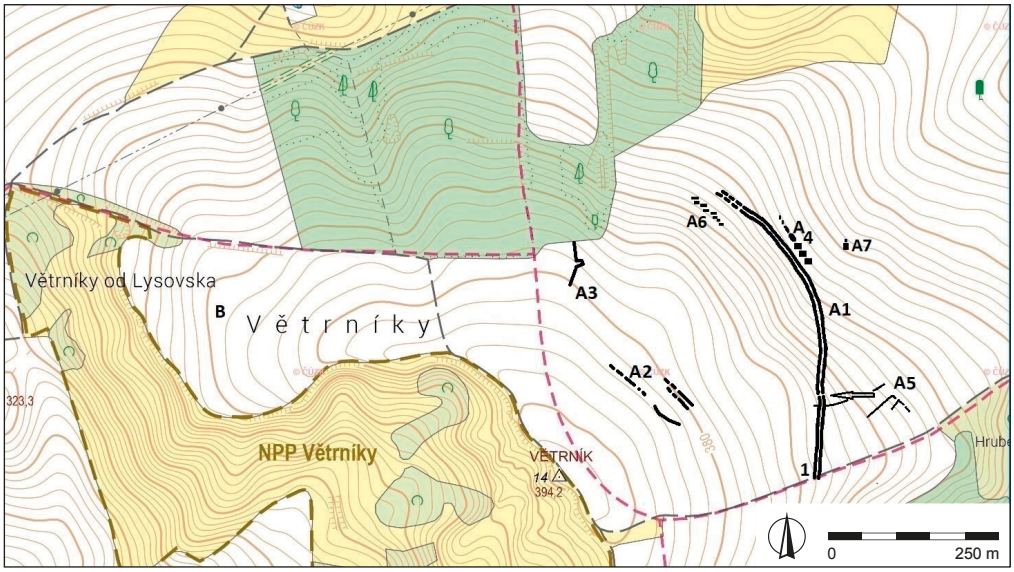
- Rámcové souřadnice plochy vymezené vegetačními příznaky jsou:
- Kučerov – „Větrníky A1“ (k. ú. Kučerov, Bohaté Málkovice, Letonice), vegetační příznaky vlastního dvojitého (?) příkopu/žlabu (?): S: 49.2018092N, 16.9854800E; J: 49.1973831N, 16.9894431E
- Letonice 2 – „Větrníky B“, předpokládané výšinné sídliště/hradiště/socio-kultovní zóna (?), plošina vymezená strmými svahy v západní části areálu: S: 49.2000000N, 16.9811844E; J: 49.1976936N, 16.9775044E; V: 49.1988294N, 16.9819569E; Z: 49.1997408N, 16.9752408E

Dlouhý dvojitý (?) příkop/žlab na východním okraji plochy předpolí/předhradí s dalšími příkopy Kučerov – „Větrníky A“ ve východní části a předpokládaný výšinný ohrazený (?) areál Letonice 2 –„Větrníky B“ v západní části lokality (obr. 1: 2; 10–13) byly objeveny na leteckých ortosnímcích (obr. 12–13) na portálu mapy.cz a na webových stránkách Českého úřadu zeměměřického a katastrálního (ČÚZK). Vegetační a půdní příznaky vyznačují přítomnost řady dalších předpokládaných archeologických objektů a případného příkopu (příkopů) v místě šíje B západním směrem na plochu předpokládané výšinné ohrazené (?) lokality Letonice 2 – „Větrníky B“ (obr. 12).



Obr. 10. Kučerov / Bohaté Málkovice – „Větrníky A1–A7“, Letonice 2 – „Větrníky B“ (okr. Vyškov). Umístění dvojitého (?) příkopu („Landgraben“)/žlabu (?) a valu/valů obloukovitého půdorysu a dalších lineárních objektů na předhradí potenciálního výšinného ohrazeného (?) areálu. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 10. *Kučerov / Bohaté Málkovice – ‘Větrníky A1–A7’, Letonice 2 – ‘Větrníky B’ (Vyškov District). Location of a double (?) ditch (‘Landgraben’)/trench (?) and rampart(s) with an arched ground plan, along with other linear features in the settlement area around a potential enclosure(?). Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 11. Kučerov / Bohaté Málkovice – „Větrníky A1“, Letonice 2 – „Větrníky B“ (okr. Vyškov). Orientační náčrt průběhu vegetačních příznaků dvojitého (?) příkopu/žlabu (?) a valu(ů) obloukového půdorysu a dalších liniových příznaků v prostoru před potenciální výšinnou ohrazenou (?) lokalitou. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 11. *Kučerov / Bohaté Málkovice – ‘Větrníky A1’, Letonice 2 – ‘Větrníky B’ (Vyškov District). Schematic sketch showing crop marks of a double (?) ditch/trench (?) and rampart(s) with an arched ground plan, along with other linear structures in front of a potential (?) enclosure. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 12. Kučerov / Bohaté Málkovice – „Větrníky A1“, Letonice 2 – „Větrníky B“ (okr. Vyškov). Letecký snímek umístění lokality potenciálního výšinného ohrazeného (?) areálu B a dlouhého dvojitého (?) příkopu/žlabu (?) (a valu/valů) obloukovitého půdorysu („Landgraben“) A v kulturní krajině. Mapový podklad: Mapy.cz_2 (13. 6. 2015); autor J. Kovárník sen.

Fig. 12. *Kučerov / Bohaté Málkovice – ‘Větrníky A1’, Letonice 2 – ‘Větrníky B’ (Vyškov District). Aerial photograph showing the location of the potential hillfort (?) B and the long double (?) ditch/trench (?) and rampart(s) with an arched ground plan (‘Landgraben’) A in the cultural landscape. Map base: Mapy.cz_2 (13 June 2015; author: J. Kovárník sen.*



Obr. 13. Kučerov – „Větrníky A" (okr. Vyškov). Ortofotografie vegetačních příznaků jižní části dlouhého dvojitého (?) příkopu/žlabu (?) obloukovitého půdorysu s detailem vstupu a s dalšími objekty. Mapový podklad: Mapy.cz_3 (13. 6. 2015); autor J. Kovárník sen.

Fig. 13. *Kučerov – 'Větrníky A' (Vyškov District). Orthophotograph showing crop marks in the southern part of the long double (?) ditch/trench (?) with an arched ground plan, including a detailed view of an entrance and additional features. Map base: Mapy.cz_3 (13 June 2015); author J. Kovárník sen.*

Nově objevený dlouhý dvojitý (?) příkop/žlab na východním okraji plochy předpolí/předhradí (obr. 11–13) ve východní části a předpokládaná výšinná hrazená (?) lokalita Letonice 2 – „Větrníky B" (obr. 10–11) v západní části se rozkládá na velmi výrazné dominantní poloze „Větrníky" kolem kóty Větrník. Dvojitý (?) příkop/žlab se nachází asi 2 360 m (severní část) až 2 625 m (jižní část), vegetační a půdní příznaky (možný dvojitý příkop) v šíji 2 790–2 810 m (severní část) a 2 880–2 910 m (jižní část) a západní okraj plošiny pravděpodobného výšinného ohrazeného (?) areálu asi 3 015 m (severozápadní část) až 3 080 m (jihovýchodní část) od středu obce Kučerov směrem k jihozápadu (obr. 10).

Výškový rozdíl mezi maximální (kóta Větrník 394,2 m n. m.) výškou plošiny a minimální nadmořskou výškou (260 m n. m. u soutoku bezejmenných potoků) dosahuje až 134,2 m.

Porostové příznaky velmi pozoruhodného dlouhého dvojitého (?) příkopu/žlabu (?) obloukovitého půdorysu (obr. 11–13) se nacházejí v jihozápadní části katastru obce v poměrně členitém terénu. Jižní část příkopu probíhá v délce asi 70 m ještě v severozápadním okraji katastrálního území obce Bohaté Málkovice. Archeologická lokalita leží na svahu orientovaném k východu až severovýchodu, který obloukovitě přetíná od severu k jihu. Oblouk dvojitého (?) příkopu/žlabu (?) se klene k východu. Nadmořská výška vegetačních příznaků dvojitého (?) příkopu/žlabu (?) v pozorovatelné délce cca 445 m se pohybuje mezi 357 m n. m. (severní část) až 368 m n. m. (jižní část). Šířka vegetačních příznaků dosahuje 2–3 m. Je pozoruhodné, že po obou stranách vstupu v délce asi 85 m (ortosnímky portálu mapy.cz z 13. 6. 2015 a 24. 7. 2021) vykazují vegetační příznaky snad dvojici užších příkopů/žlabů o šířce asi od 0,5 m do cca 1 m. Podle vegetačních příznaků je patrný prozatím jeden vstup vzdálený cca 162 m od jižního okraje dvojitého (?) příkopu/žlabu (?), který se lichoběžníkovitě rozevírá směrem ven (obr. 13). Vstup je široký 3 m na vnitřní a 4–5 m na vnější straně příkopu. Obvod předpokládaného předhradí/předpolí (?) činí asi 2 200 m a plocha přibližně 21,25 ha. Kulturní zařazení příkopu/žlabu (?) není prozatím známé.

Předpokládané výšinné ohrazení (?) zahrnuje příhodnou středovou část vrcholu „Větrníky", která je ohraničena na jihovýchodě až západě strmými svahy (obr. 10–12).[5] Na západním a jižním úpatí těchto strání se nacházejí dva prameny bezejmenných přítoků Letonického potoka a severně od lokality pramen Lysovického potoka. Plošina předpokládaného ohrazeného areálu se mírně zužuje směrem k východu do tzv. terénní šíje, kde by bylo možné očekávat (obranné) příkopy (obr. 11–13). Obvod předpokládané výšinné ohrazené (?) lokality je cca 1 220 m a její výměra asi 8,29 ha. Celkový obvod předpokládaného výšinného ohrazeného (?) areálu a zřejmě předhradí dosahuje asi 3 425 m a celková plocha přibližně 29,54 ha.

Vegetační příznaky v okolí vstupu by mohly signalizovat, buď že jde skutečně o dvě linie příkopů/žlabů (?) o šířce oscilující okolo 0,5 m až přibližně 1 m, nebo o nedokončený dlouhý příkop o větší šířce.

Dlouhý dvojitý (?) příkop/žlab obloukovitého půdorysu Kučerov / Bohaté Málkovice – „Větrníky A1" (obr. 11–13) na předpolí předpokládaného výšinného ohrazení(?) Letonice 2 – „Větrníky B" poukazuje, že se v oblasti Litenčické pahorkatiny nacházely důležité archeologické lokality včetně výšinných. Oprávněně lze předpokládat, že právě zde se rozvíjela síť pravěkých stezek a cest místního i dálkového významu.

Datování této lokality není prozatím známé.

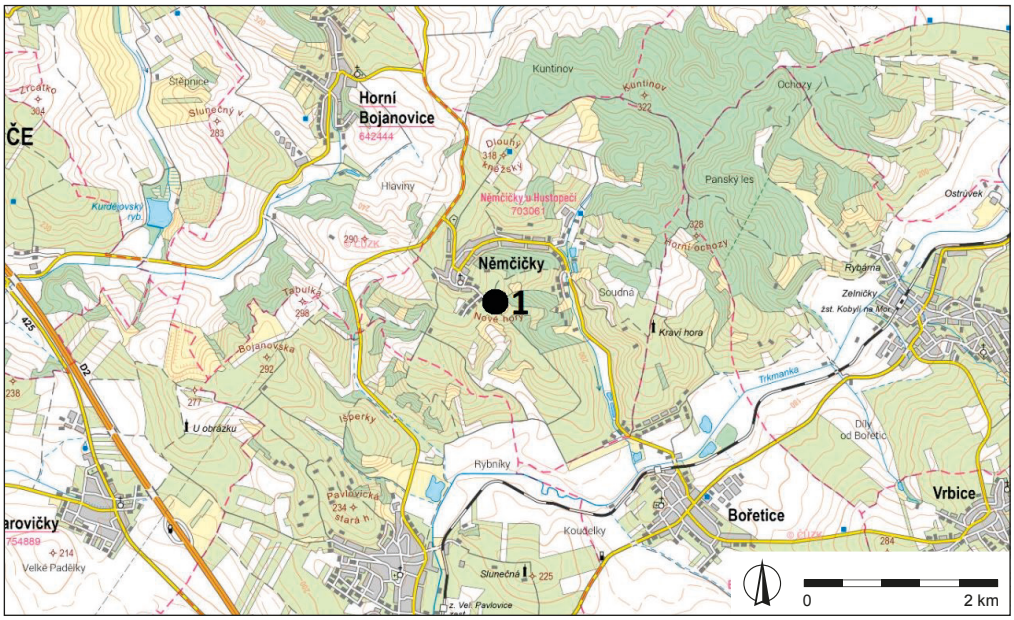
3.7 Němčičky – „Nové hory" (okr. Břeclav)

- Rámcové souřadnice porostových příznaků příkopu jsou: S: 48.9298289N, 16.8259614E; J: 48.9289794N, 16.8256744E; V: 48.9294675N, 16.8264550E; Z: 48.9293600N, 16.8249906E

Příkopové ohrazení/opevnění (?) nepravidelně oválného půdorysu Němčičky – „Nové hory" (obr. 1: 6; 14, 15) bylo podchyceno v rámci letecké archeologické prospekce v roce 2017 po vyklučení vinohradu a následné hluboké orbě pozemku, která významně porušila příkop. Situace je velmi zřetelná na snímcích portálu mapy.cz (ortofotografie ze 7. 5. 2018).

Rozměry příkopového ohrazení jsou prozatím velmi nesnadno stanovitelné (obr. 15). Délka vnitřní plochy ve směru od východu k západu by proto mohla dosahovat podle půdních příznaků kolem 117 m, šířka příkopu pak 4–5 m. Předpokládáme, že příkop nepravidelně oválného půdorysu obepínal prostranství o přibližné ploše necelého hektaru, tedy dostačující pro různé aktivity pravěké society, nebo několika komunit.

Nejbližším vodním tokem je Němčický potok, který protéká cca 693 m východně. Převýšení archeologické lokality vůči údolí potoka dosahuje úctyhodných 113–114 metrů (obr. 14).



Obr. 14. Němčičky – „Nové hory“ (okr. Břeclav). Umístění výšinné ohrazené lokality Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 14. *Němčičky – ‘Nové hory’ (Břeclav District). Location of the enclosure. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 15. Němčičky – „Nové hory“ (okr. Břeclav). Letecká fotografie výšinné ohrazené lokality s půdními příznaky severní poloviny příkopu (a valu) okolo vrcholu kopce. Podkladová mapa: Google Earth (5. 9. 2021); autor J. Kovárník sen.

Fig. 15. *Němčičky – ‘Nové hory’ (Břeclav District). Aerial photograph of the enclosure showing soil marks of the northern half of the ditch (and rampart) surrounding the hilltop. Map base: Google Earth (5 September 2021); author J. Kovárník sen.*

Lze předpokládat, že cílem bylo ohradit příkopem a valem (obr. 15) strategicky důležité místo výšiny (kóta 306,7 m n. m.) snad poblíž významných pravěkých průchodů krajinou.

Popisovaná centrální archeologická lokalita patrně značného významu pro sociální, hospodářský, nebo také religiózní (?) život tehdejších societ dokládá záměrný výběr výrazné kóty v polní trati „Nové hory“. Nachází se poblíž údolí Němčického potoka, který se vlévá jižně od tohoto místa do říčky Trkmanky. Tato okolnost může poskytovat podněty k úvahám o umístění poblíž místních pravěkých stezek probíhajících podél vzpomenutých vodotečí.

Značný význam má i samotná poloha příkopu ohrazujícího oválný útvar kolem jedné z nejvyšších kót, což také umožňovalo daleký výhled do důležitého údolí říčky Trkmanky a případně ještě dále. Taková výšina však byla také „blízko slunci“, a proto by mohla sehrávat úlohu „posvátné hory“.

Příkopové ohrazení/opevnění (?) oválného půdorysu by bylo možné zcela předběžně, pracovně datovat do období pravěku.

4. Diskuse

Ohrazené výšinné a nížinné lokality zaujímají důležité místo mezi archeologickými lokalitami. Vykazují různé formální znaky, které mohou souviset s jejich posláním. Je zapotřebí se nad nimi zamýšlet a porovnávat je s novými poznatky.

K otázce významu těchto ohrazených nebo opevněných areálů se vyslovila již celá řada archeologů. Vladimír Podborský spatřoval v maloplošných pozdně halštatských výšinných opevněných lokalitách „*střediska kmenové organizace*“ a „*sídla zchudlé velmožské vrstvy*“, nebo místa kultu (cf. Podborský 1972, 25; 1999, 268; 2006, 242). Miloš Čižmář (2004, 51–52, 54) se zabýval posláním výšinných a ohrazených lokalit od počátku eneolitu až po vývoj ve středověké hrady 13. století jako „*míst obrany*“, ale také „*hospodářských, obchodních a společenských středisek*“. Martin Kuna (2007, 108–109) hodnotí hradiště a kultovní areály jako součásti „*nadkomunitních, tzv. spádových areálů*“ atd.

Důležitý je nález vegetačních příznaků dlouhého dvojitého (?) příkopu/žlabu (?), „Landgraben“ u Kučerova, v trati „Větrníky“.

Podobné nálezy jsou známé ze středního Německa, ale z nížinných poloh, jako např. Neutz–Lettewitz, Sasko-Anhaltsko (Braasch 1995, 121, Abb. 17–20), Kitzen (Steinmann 1999, 31, Abb. 8, 9) a Zwenkau, Sasko (Campen et al. 1997, 49–51, Abb. 5; Stäuble 1999, 171–177, Abb. 9–11). K analogiím na Moravě by mohl přináležet dlouhý příkop s dvojitou palisádou („Landgraben", pit alignments) v katastrálním území obcí Pasohlávky – „U Křižovatky" (okr. Brno-venkov), Přítluky – „U Dubu" (okr. Břeclav) a Pohořelice – Nová Ves – „Hektary" (okr. Brno-venkov; Kovárník 2001a, 143–144, tab. 8, 9: 2; 2001b, 100, 103–104, obr. 1, 2). Existují názory, že tyto příkopy mohly plnit úlohu vymezení hranic v pravěku snad u centrálních sídlišť, nebo mezi územím jednotlivých komunit (Braasch 1993, 33; Stäuble 1999, 176–177; Kovárník 2001a, 143–144, tab. 8, 9: 2; 2001b, 100–102, 103–104, obr. 1, 2). Ohrazení typu řady jam, „*Grubenreihen*" nebo „*pit alignments*" se často vyskytují v Německu, například v Sasku Altranstädt (Braasch 1993, 33; 1995, 121, Fig. 19; 1997, 34 –35, Abb. D 1), Kyhna IV (Mikschofsky 1999, 110), Zauschwitz (Stäuble 1999, 172; Vogt 1989), Zitzschen (Braasch 1997, 34–35, Abb. 6, 7; D 22) a další.

Existuje vazba mezi terénním reliéfem konkrétního místa výšinných ohrazení, půdorysem a také počtem (násobením) prvků ohrazujícího nebo opevňujícího systému. Konfigurace terénu vždy hrála podstatnou roli. Typologií výšinných hradišť se zabývali např. M. Čižmář (2004, 42), M. Zápotocký (např. 2008, 68), J. Bátora (2018, 231) a další. Dvojnásobně ohrazený areál Nezamyslice – „Končiny" vykazuje strategický význam. Blízkost soutoku potoka Tištínky s řekou Hanou, který se v současnosti vlévá z pravé strany přibližně 710 m severozápadně od lokality (obr. 8), zvyšuje její důležitost. V místě soutoku potoka Tištínky a řeky Hané lze předpokládat křižovatku stezky nebo cesty pravěkého stáří vedoucí z oblasti Vyškovské do Napajedelské brány k řece Moravě (obr. 1: 3).[6] Je třeba ještě dodat, že důležitou úlohu sehrával ve zdejším mikroregionu také soutok potoka Brodečky (Drahanský potok), levobřežní přítok řeky Hané vzdálený cca 3 km VSV v katastru Němčic nad Hanou. Nebylo asi náhodné založení jiného hradiště v těchto místech, významného výrobního a obchodního nadregionálního centra datovaného do stupňů LT C1 a přibližně LT C2 (?), které se rozkládalo na levé terase řeky Hané asi 3,4–4,2 km SSV (např. Čižmářová 2004, 256–258; Čižmář, Kolníková 2006; Kolníková 2012). Důležitá je informace, že ca 11,4 km SSV se nachází další opevněný areál Křenovice – „Hradisko" (okr. Přerov; např. Dohnal 1988, 49; Peška 2002, 36–37; Čižmář 2004, 157–158).

Zajímavé je zjištění dalšího příkopového ohrazení kolem nejvyššího bodu kopce „Nové hory" u Němčiček (okr. Břeclav; obr. 1: 6; 14–15). Studovaný systém příkopu a valu oválného půdorysu ohrazující nebo opevňující (?) kótu 306,7 m n. m. v polní trati „Nové hory" v katastru obce Němčičky, vykazuje na Moravě některé paralely. Příkladem může být nedaleké dvojnásobné příkopové ohrazení, opevnění (?) v polní trati „Podsedky" v katastru Kyjov (okr. Hodonín; Kovárník 2004, 11, obr. 5). V blízkosti popisovaného příkopu asi 2,38 km východně se nacházejí dvě obdobná příkopová ohrazení ve vzájemné superpozici na lokalitě Kobylí – „Lumperky" (např. Hašek, Kovárník 2000; Čižmář 2004, 147–148; Kovárník 2004, obr. 4). Patřilo by mezi ně také příkopové ohrazení oválného půdorysu s dvěma vnějšími příkopy obloukovitého půdorysu v polní trati „Nivky" pod Hrubým kopcem v k. ú. obce Šardice (okr. Hodonín) a další.

Příkop dalšího ohrazení Rajhradice – „Stráně" (okr. Brno-venkov; obr. 1: 1; 6, 7) na plošině levé terasy Ivanovického potoka (a řeky Svratky) rozšiřuje počet ohrazení s příkopy (a valy) obloukovitého půdorysu. Vzhledem k přítomnosti velké nekropole únětické kultury, sídliště pozdní fáze středodunajské mohylové kultury, velatické fáze kultury popelnicových polí, dále z doby stěhování národů a hrobů z velkomoravského období v těsném sousedství a celé řadě dalších vegetačních příznaků je zřejmé, že tato lokalita pravděpodobně sehrávala důležitou úlohu. K analogiím by patřilo trojité opevnění staršího období únětické kultury v katastru Hrušovan nad Jevišovkou (okr. Znojmo; Kovárník 2007) umístěné na obdobně vybíhající ploše terasy řeky Jevišovky a obloukovitý půdorys příkopu [věteřovské (?) kultury] u ohrazeného areálu v katastru Šatov (Kovárník 2015).

Výšinná ohrazená lokalita Nevojice 4 – „Malhotky" (okr. Vyškov; obr. 1: 5; 4, 5), zvyšuje známou koncentraci opevněných areálů na území Litenčické pahorkatiny v povodí řeky Litavy. V údolí patrně mohla probíhat důležitá pravěká stezka nebo cesta mezi severní částí Dyjsko-svrateckého úvalu, Vyškovskou



Obr. 16. Prasklice – „Kříby" (okr. Kroměříž). Vegetační příznaky asi tří příkopů a valů obloukovitého půdorysu výšinného hradiště a koncentrace („baterie") více než 50 objektů uvnitř. Mapový podklad: Mapy.cz_4 (4. 7. 2018); autor J. Kovárník sen.

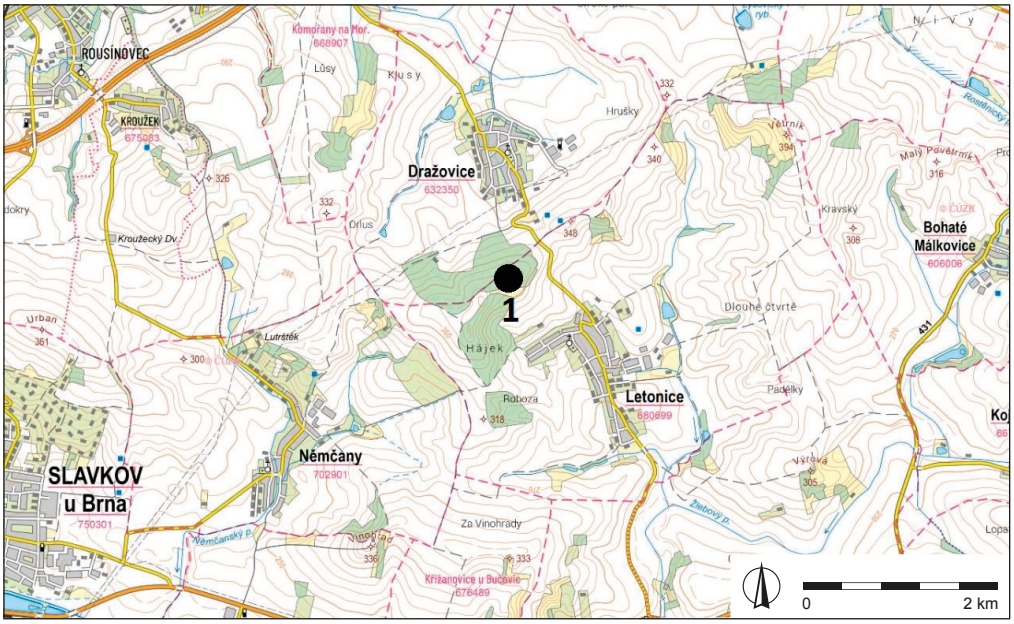
Fig. 16. *Prasklice – 'Kříby' (Kroměříž District). Crop marks of approximately three ditches and ramparts with an arched ground plan of an enclosure, and a concentration ('battery') of more than 50 features inside. Map base: Mapy.cz_4 (4 July 2018); author J. Kovárník sen.*

bránou, Napajedelskou bránou a Dolnomoravským úvalem. V katastrálním území na severovýchodním okraji geomorfologického celku Ždánický les se nachází ještě výšinný ohrazený areál Nevojice 3 – „Strašník“ (např. Čižmář 2004, 190–191) a dva další vrcholně středověké fortifikační systémy Nevojice 1–2.

Ohrazená lokalita Hoštice – „Světlová“ (okr. Kroměříž; obr. 1: 4; 2, 3) asi plnila úlohu důležitého sídliště v severovýchodní části Litenčické pahorkatiny. Je pravděpodobné, že to bylo území křížení významné pravěké stezky vedoucí podél řeky Moravy se stezkou z Vyškovské brány podél řeky Hané. Ohrazení Hoštice – „Světlová“ patří k ostrožním polohám (obr. 1: 4; 2, 3). Jeho objev může přinést nové pohledy na dosavadní výsledky archeologických výzkumů osídlení v povodí potoka Tištínky. Ve vzdálenosti 7,7 km SSZ se rozkládá významná opevněná lokalita Prasklice – „Kříby“ (okr. Kroměříž; obr. 16; např. Ondráček 1968; Nekvasil 1972; Čižmář 2004, 212–214), a 12 km SSZ od lokality Hoštice – „Světlová“ se nachází zjištěné ohrazení Nezamyslice – „Končiny“ (okr. Prostějov; obr. 1: 3; 8, 9). V blízkosti se nacházejí další ohrazené areály: v přibližné vzdálenosti 13,4 km severovýchodně u Hradiště – „Pod Hroby“ (okr. Kroměříž), 11,5 km SSV Křenovice – „Hradisko“ (okr. Přerov), 18–18,9 km ZJZ Kučerov/Letonice 2 (obr. 1: 2; 10–13), 21,3 km ZJZ Letonice 1 – „Kyhelec“ (obr. 17, 18) a 15,4 km jihozápadně Nevojice 4 – „Malhotky“ (obr. 1: 5; 4, 5) na okrese Vyškov.

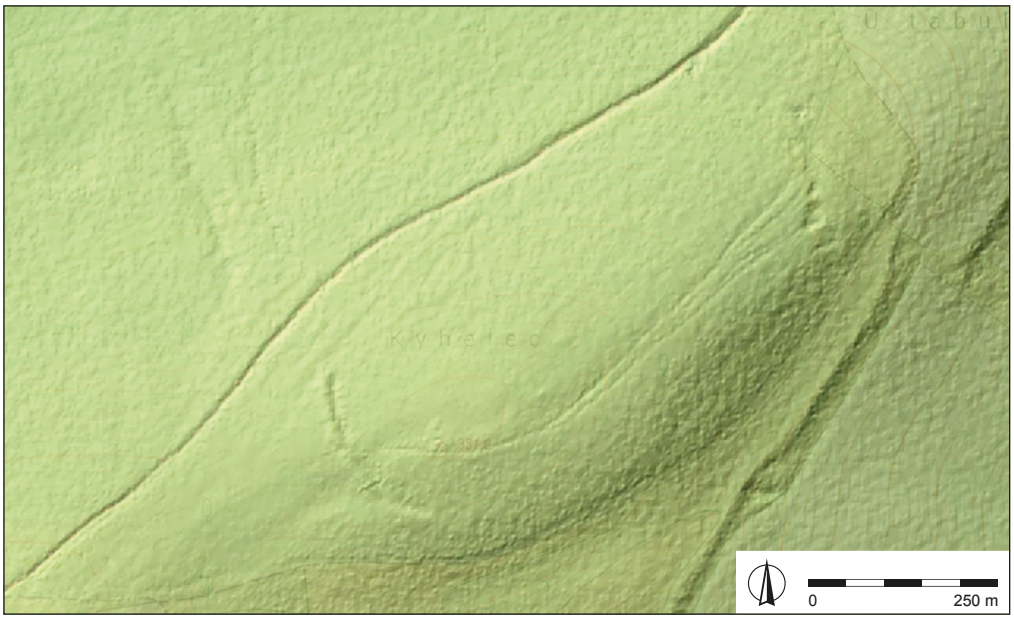
Ohrazené areály, ať již výšinného, nebo nížinného rázu zaujímají různou plochu od nejmenších asi 0,2–0,3 ha po největší okolo 37 ha, což může souviset s jejich významem.

Počet příkopů a valů včetně jejich velikosti se odvíjel také od úrovně významu vlastní ohrazené lokality. Méně významné lokality mohly mít jednoduchý systém ohrazení, zatímco centrální hradiště regionálního a zejména nadregionálního významu zřejmě mohla mít vícenásobný systém příkopů, valů a případně palisád a mnohdy také větší plošný rozsah.



Obr. 17. Letonice 1 – „Kyhelec“ (okr. Vyškov). Umístění výšinné ohrazené lokality. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 17. *Letonice 1 – ‘Kyhelec’ (Vyškov District). Location of the hilltop enclosure. Map base: ČÚZK AV; author J. Kovárník sen.*



Obr. 18. Letonice 1 – „Kyhelec“ (okr. Vyškov). Digitální model reliéfu a průběhu příznaků protilehlých příkopů a valů půdorysu krátkých oblouků výšinné ohrazené lokality. Mapový podklad: ČÚZK AV; autor J. Kovárník sen.

Fig. 18. *Letonice 1 – ‘Kyhelec’ (Vyškov District). Digital terrain model showing the course of opposing ditches and ramparts with a short, arched ground plan of the enclosure. Map base: ČÚZK AV; author J. Kovárník sen.*

5. Závěr

Výše popsané, dílem výšinné, ohrazené areály nejsou prozatím datovány.[7] Všeobecně se uvádí, že ohrazené a opevněné nížinné a výšinné lokality měly v sídelní struktuře vyšší hierarchickou úroveň ve srovnání se zemědělskými sídlišti. Zjištěné ohrazené lokality byly situovány na předpokládaných pravěkých stezkách na území Dyjsko-svrateckého úvalu (Rajhradice – „Stráně“), ve Vyškovské bráně (Kučerov 1 – „Větrníky“ a Letonice 2 – „Větrníky“), v povodí řek Haná (Nezamyslice – „Končiny“, případně Hoštice – „Světlová“), Litava (Nevojice – „Malhotky“) a v Kyjovské pahorkatině (Němčičky – „Nová hora“).

Nový poznatek představuje vnější dlouhý dvojitý (?) příkop/žlab (?) obloukovitého půdorysu, „Landgraben“ Kučerov – „Větrníky A“ (obr. 11–13) ohraničující území předpokládané ohrazené (?) lokality Letonice 2 – „Větrníky B“. Evidovány jsou další příklady takových „Landgraben“ a „pit alignments“ Pasohlávky – „U Křižovatky“, Pohořelice – Nová Ves –„Hektary“, nebo Přítluky – „U Dubu“. Na rozdíl od výšinných ohrazených reálů se nacházejí v nížině. Mohly by rovněž představovat určitá ohrazení o dlouhém průběhu.

Dosažené výsledky jsou pouze dílčím příspěvkem do procesu poznávání vzniku a významu opevněných center a ohrazených areálů na Moravě.

CRediT authorship contribution statement

Jaromír Kovárník senior: Conceptualization, Supervision, Writing – review & editing, Writing – original draft, Investigation, Validation, Formal analysis, Visualization.

Jaromír Kovárník junior: Conceptualization, Writing – review & editing, Investigation, Formal analysis.

Poznámky

1 Význam pojmů ohrazená, nebo opevněná lokalita obsahuje archeologická literatura (např. Čižmář 2004, 55–68).

2 K ověření přírodního nebo jiného původu by byly útvary tvaru kulové úseče. Jeden z nich se nachází cca 117 m západně od severozápadního okraje výšinného hradiště, další asi tři 118–230 m JJZ a poslední skupina kolem pěti takových útvarů asi 480–609 m JJV.

3 František Kalousek datoval archeologické nálezy z této polní trati z r. 1926 do kultury se šňůrovou keramikou (Kalousek 1952). Lubomír Šebela (1999) tuto lokalitu neuvádí.

4 Karel Tihelka přiřadil v soupisu zdejší nálezy z roku 1926 do únětické kultury podle zápisů I. L. Červinky (Tihelka 1951).

5 Pravděpodobně vznikly ve starších čtvrtohorách kvůli sesuvům (AOPK ČR).

6 Šlo o jednu z důležitých tras využívaných od pravěku s řadou regionálních větví, z nichž se vyvinuly základní trasy transkontinentální Jantarové cesty s vrcholem v době laténské a především v době římské (např. Duffy 2014, 40–42; Chytráček et al. 2017, 190–191, 193–197).

7 Úkolem do budoucna zůstává vypracování badatelského, finančně zajištěného projektu k uskutečnění tohoto cíle.

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Summary

The article discusses the discoveries of enclosures using airborne imagery and evaluation of a digital terrain model (LiDAR). Enclosures in relation to georelief can be roughly divided into various types. One is located on promontories with fortification systems of an arcuate or straight plan from the accessible direction, which include the enclosure (relief relics) of Hoštice – 'Světlová', Kroměříž District (Fig. 1: 4; 2, 3). Another type is represented by enclosures on heights with a settlement area around the potential enclosure fenced or fortified by a long ditch 'Landgraben' of an arc–shaped (or other) ground plan. The long ditch of the arc–shaped ground plan of Kučerov – 'Větrníky A' (Fig. 1: 2; 10–13) probably separates the presumed enclosure of Letonice 2 – 'Větrníky B', in the terrain isthmus of which another fortification system could have been located. The enclosure of Nevojice – 'Malhotky' (Fig. 1: 5; 4, 5) with a ditch and rampart captured both preserved in a relief form and the enclosure Rajhradice–Stráně (Fig. 1: 1; 6, 7) captured both in the form of crop marks, sometimes with a multiplication of fortification elements, as in the hillfort of Prasklice – Kříby (Fig. 16), were situated on terrain ridges, edges of terraces of watercourses above valleys. The system of ditches, ramparts and perhaps palisades was built partly around the perimeter of the area only from the directions of possible access. The subtypes are enclosures, e.g. on terrain ridges with partial enclosure (ditch, rampart, palisade) only on the side of the terrain isthmus and the opposite gentle slope, such as the enclosure of Letonice 1 – 'Kyhelec' (Fig. 17, 18). Another type would be enclosures on heights with a system of ditches, ramparts and as the case may be of palisades around the entire perimeter of the area of various ground plans (irregularly circular, oval, triangular or square) such as the enclosures with double ditches and ramparts of Nezamyslice – 'Končiny' (Fig. 1: 3; 8, 9) and the single ditch of Němčičky – 'Nové hory' (Fig. 1: 6; 14, 15). These would also include the high-altitude enclosure of Javorník – 'Hradisko', where the course of the western part of the fortification was specified.

Kontakty

Jaromír Kovárník senior
Nezávislý badatel
jaromir.kovarnik@volny.cz
ORCID: 0000–0003–4045–0850

Jaromír Kovárník junior
Nezávislý badatel
j.kovarnik@volny.cz
ORCID: 0000–0002–4696–7095

Přehled výzkumů 66/1, 2025 ● 131–152

A landscape without treasures? East Bohemia in the Hallstatt period from the perspective of hoards

Krajina bez pokladů? Východní Čechy v době halštatské z pohledu ukládání depotů



– *Tomáš Mangel*, Anita Kozubová, Tereza Jošková, Miroslav Novák, Martina Beková, Zuzana Bláhová-Sklenářová, Lucie Novotná, Dominika Schmidtová* –

KEYWORDS

Early Iron Age – Hallstatt period – Platěnice culture/group – Vekerzug culture – east Bohemia – hoards – boundaries

ABSTRACT

The beginning of the Early Iron Age is characterised by a considerable decrease in evidence of the deposition of hoards of metal artefacts in many parts of Central Europe. This phenomenon is usually explained as a result of the social and ideological changes that were taking place in the territory of the newly forming Hallstatt culture. Until recently, east Bohemia was believed to be one of the regions in which the custom of depositing metal hoards was completely abandoned. However, newly obtained data show the opposite. In east Bohemia, we currently have evidence of five such assemblages. The article is primarily focused on the culture-chronological evaluation of the contents of these hoards. However, issues related to their find circumstances, topography, and their relationship to the cultural landscape are also discussed. Selected results are subsequently compared on a basic level in the broader Central European context. While some of the east Bohemian hoards date to Ha D, it cannot be ruled out that the deposition of others may have already occurred during Ha C. Compared to the surrounding areas with evidence of the deposition of hoards, the higher frequency of hoards composed of iron tools and/or weapons is a striking phenomenon. It is not yet clear whether its causes are to be sought in methodological, chronological or rather cultural-geographical aspects. Some of the individual artefacts from the hoards illustrate long-distance contacts and show that east Bohemia was involved in a wide network of links with areas to the west, east, and north. The repeatedly observed deposition of hoards on the boundaries of the settled areas is probably related to the symbolic aspects of territoriality of the Early Iron Age communities.

* Corresponding author – E-mail address: tomas.mangel@uhk.cz

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1. Introduction

Hoards of metal objects rank among the most prominent phenomena of a greater part of European prehistory and have received considerable attention for many years (e.g. Montelius 1903, 3, 10–11; Stein 1979; Hansen 1991; 1994; Kurz 1995; Michálek 1999, 29–37; Smejtek et al. 2013). With the onset of the Hallstatt period (Ha C – Ha D), the custom of depositing metal artefacts decreased significantly across much of Europe (Salaš 2005, 9; Smejtek et al. 2013, 11; Maciejewski 2019a). Their much lower presence is particularly noticeable in comparison with the heavily documented Late and Final Bronze Age hoards (Kytlicová 2007; Šteffl 2014; Vachta 2016; Chvojka et al. 2017). These changes in hoard deposition practices, the causes of which are sought in socio-economic and religious transformations at the transition from the Final Bronze Age to the Early Iron Age, are mainly associated with areas of the newly forming Hallstatt culture. Hoards vanished in these territories only to reappear to a limited extent and merely in some regions during Ha D (Metzner-Nebelsick 1997, 94, 98; Chytráček et al. 2015, 219–220; 2017b, 146, 151–152; Westhausen 2019a). In contrast, in the more northerly territories, beyond the obvious limits of the Hallstatt culture's impact, deposition practices retained some degree of importance throughout the Hallstatt period (Gedl 1996; Blajer 2001; Dzięgielewski et al. 2020). Alpine passes, in which the deposition of hoards was intentionally linked to long-distance routes, also represent a case on their own (Gleirscher 1996; Egg 2002; Westhausen 2019b; Kirchmayr 2020).

That said, the number of hoards known in the eastern part of the Hallstatt culture has increased considerably in recent years. Such a change in the state of knowledge can be well illustrated by the example of Moravia, where it is caused on the one hand by revisions of old finds, on the other by intensified cooperation between archaeologists and volunteer metal detectorists. In 2005, only three hoards from the Hallstatt period were reported from the territory of Moravia (Salaš 2005, 9). Today, however, there are two dozen cases of evidence of deposition practices, almost exclusively related to the territories of the Platěnice culture/group (Golec, Fojtík 2020, 200–204; Golec et al. 2023, 13, 16, Fig. 1, Suppl. 3). An increasing number of Hallstatt period hoards can also be observed in other provinces of the Eastern Hallstatt culture, including, e.g. southwest Slovakia (overview in Dubec 2023), Transdanubia (Nagy et al. 2012; Soós et al. 2023) and Slovenia (Turk 2018). Their occurrence is also sporadically observed in eastern regions neighbouring on the Hallstatt cultural area but lying outside of it, such as Spiš, the Košice Basin and northern Hungary (Miroššayová 1980; Benediková, Soják 2021; Kozubová et al. 2022b; Szabó et al. 2022; 2023).

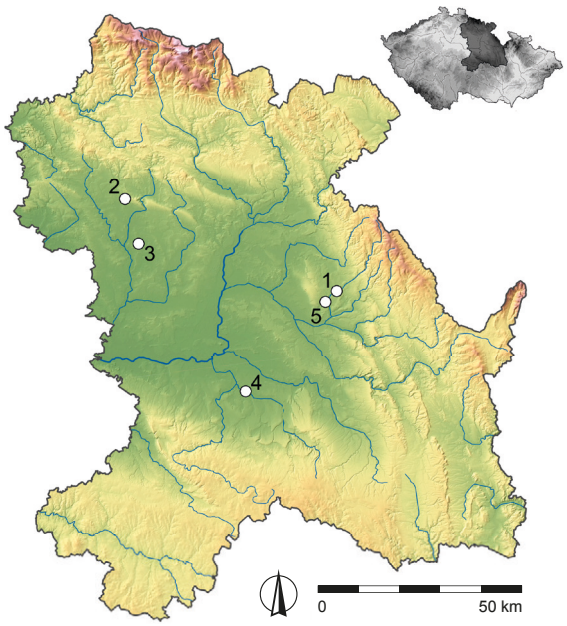


Fig. 1. Hallstatt period hoards in east Bohemia. 1 – Černíkovice (Rychnov nad Kněžnou District); 2 – Konecchlumí (Jičín District); 3 – Myštěves (Hradec Králové District); 4 – Stíčany (Chrudim District); 5 – Velká Ledská (Rychnov nad Kněžnou District). Base map ČÚZK. Graphic by T. Mangel.

Obr. 1. *Depoty z doby halštatské ve východních Čechách. 1 – Černíkovice (okr. Rychnov nad Kněžnou); 2 – Konecchlumí (okr. Jičín); 3 – Myštěves (okr. Hradec Králové); 4 – Stíčany (okr. Chrudim); 5 – Velká Ledská (okr. Rychnov nad Kněžnou). Mapový podklad ČÚZK. Sestavil T. Mangel.*

The situation is different in the western parts of the Central European Hallstatt culture. The deposition of hoards was less frequent there and only associated with certain regions. An illustrative example is provided by the situation in Bohemia, whose southern, western, central, and northwestern parts correspond to the easternmost area associated with Western Hallstatt cultures (Venclová ed. 2008, 11; Čisťakova, Chytráček 2019, 28). However, the only evidence from this area that could be interpreted as the remains of hoards is three assemblages from the territory of the Hallstatt Tumulus culture in south Bohemia (Chytráček et al. 2015; Michálek et al. 2015). No other hoards have been documented to date from the remaining areas.

Similarly, east Bohemia, inhabited by populations of the East Hallstatt Platěnice culture/group (Vokolek 1999; Venclová ed. 2008, 84–97), was for a long time regarded as an area where the deposition of hoards was not practiced during Ha C and Ha D. The discovery brought to light in 2014 in the Stíčany (Chrudim District) was therefore highly surprising precisely because of its cultural 'inappropriateness'. This assemblage of bronze and amber jewellery was interpreted as an exogenous element with no connection to the local cultural milieu (Jiráň et al. 2023). And yet, at least four other hoards from this period are currently documented in the area (Fig. 1),[1] although in only two cases do we have professionally made field documentation (Fig. 2). This number comprises exclusively hoards in the sense of multiple-piece deposits, i.e. assemblages of at least two artefacts deliberately and simultaneously deposited in the ground (excluding grave

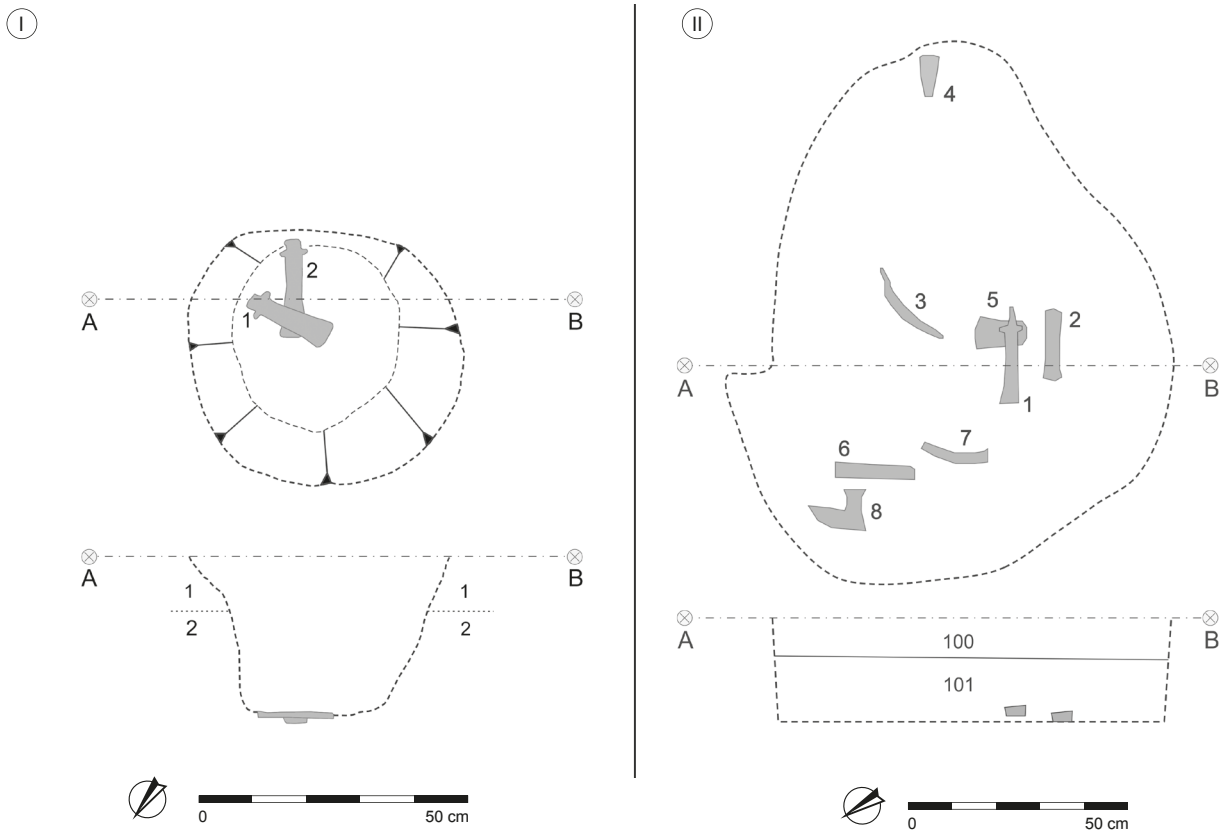


Fig. 2. Hallstatt period hoards in east Bohemia. I – Konecchlumí (Jičín District). Documentation of the partially reconstructed find situation of the hoard. Layers description: 1 – forest floor mulch; 2 – yellow sandy soil (subsoil). Drawing by J. Skala, graphic by T. Mangel. II – Myštěves (Hradec Králové District). Documentation of the partially reconstructed find situation of the hoard. Layers description: 100 – forest floor mulch, 101 – grey-yellow clay loam with roots. Drawing by R. Bláha, P. Rokoská; graphic by T. Mangel. For the numbers of finds, see Chapter 2.

Obr. 2. *Depoty z doby halštatské ve východních Čechách. I – Konecchlumí (okr. Jičín). Částečně rekonstruovaná nálezová situace depotu. Popis vrstev: 1 – lesní hrabanka; 2 – žlutá písčitá hlína (podloží). Kresba J. Skala, grafika T. Mangel. II – Myštěves (okr. Hradec Králové). Částečně rekonstruovaná nálezové situace depotu. Popis vrstev: 100 – lesní hrabanka; 101 – šedožlutá jílovitá hlína prorostlá kořeny. Kresba R. Bláha, P. Rokoská; grafika T. Mangel. Čísla nálezů viz kap. 2.*

goods) and random accumulations of settlement refuse (Montelius 1903, 3, 10–11; Salaš 2005, 12–15).[2] The objective of this paper is to provide a comprehensive assessment of the artefacts of which these assemblages consist and of their find contexts as well as to discuss their significance for the understanding of the East Bohemian Hallstatt period in a broader Central European context.

2. Catalogue of finds

The catalogue includes only the assemblages whose find circumstances and context make it realistically possible to consider them hoards.[3] Conversely, we have not included problematic or obscure cases, for which a connection to the period funerary activities cannot be ruled out.[4]

1. Černíkovice, Rychnov nad Kněžnou District (Fig. 1:1)

Site: Peak of Homole Hill; position WGS-84: 50.1912525N, 16.2172419E.

Find circumstances: Metal detector survey, 2010.

Find situation: In a trench-like formation at a depth of 20–30 cm. The axe blades were stacked with their blades forming a V-shape.

Find description:

(1) Iron axe with an enclosed oval socket. Dimensions: l. 122 mm, blade w. 42 mm, outer dimensions of the socket 37 × 28 mm (Fig. 3:1).

(2) Iron axe with an enclosed oval socket. Dimensions: l. 124 mm, blade w. 41 mm, outer dimensions of the socket 38 × 35 mm (Fig. 3:2).

Date: Ha C – Ha D.

Context: The assemblage was deposited on the northern edge of the settlement region in the Bělá River basin, at a distance of ca 4 km from the hillfort/hilltop settlement of Velká Ledská (see below).

Deposed in: Muzeum a galerie Orlických hor v Rychnově nad Kněžnou (Museum and Gallery of the Orlické Mountains in Rychnov nad Kněžnou), inv. No. A6988.

Bibliography: Vích 2024, 156, obr. 2:1, 2.

2. Konecchlumí, Jičín District (Fig. 1:2)

Site: Northwestern slope of Hůra Hill, plot No. 227; position WGS-84: 50.4028015N, 15.4882086E.

Find circumstances: Metal detector survey by J. Kracik and T. Zachoval, 18 May 2020. Subsequently, on 30 May 2020, the Regional Museum and Gallery in Jičín carried out a revision excavation and metal detector survey.

Find situation: According to the statement of the finder and the subsequent reconstruction of the find situation, the axes were buried at a depth of ca 30 cm in a yellow sandy layer of forest soil. No original dugout feature was identified, with the exception of the finder's trench (Fig. 2:I). The objects were laid across each other so that one axe (1) overlapped its central part with the blade part of the axe (2). No other Hallstatt period artefacts were found.

Find description:

(1) Iron trunnion axe. Dimensions: preserved l. 160 mm, blade w. 64 mm, shoulder w. 53 mm, h. 8 mm, distance between trunnions and back of the axe 13 mm. Inv. No. A30806A (Fig. 3:3).

(2) Iron trunnion axe, the trunnions are damaged. Dimensions: preserved l. 158 mm, blade w. 70 mm, h. 6 mm, distance of arms and back of the axe 15 mm. Inv. No. A30806B (Fig. 3:4).

Chronology: Ha C1b – Ha D.

Context: The assemblage was deposited ca 400 m from a hillfort/hilltop settlement of Hůra dated to Ha C – Ha D1 (Vokolek, Vencl 1974).

Deposed in: Regional Museum and Gallery in Jičín, inv. No. 30806.

3. Myštěves, Hradec Králové District (Fig. 1:3)

Site: Malý Komorný site, at the boundary of plots No. 603 and 606; approximate position WGS-84: 50.3035851N, 15.5346796E.

Find circumstances: Metal detector survey by Mr. Bažant, 7 January 2022. Subsequently, revision excavation was carried out by the staff of the Museum of East Bohemia in Hradec Králové. Objects (1) to (4) were extracted by the detectorists. Objects (5) to (8) were found afterwards by the museum staff (R. Bláha and P. Rokoská).

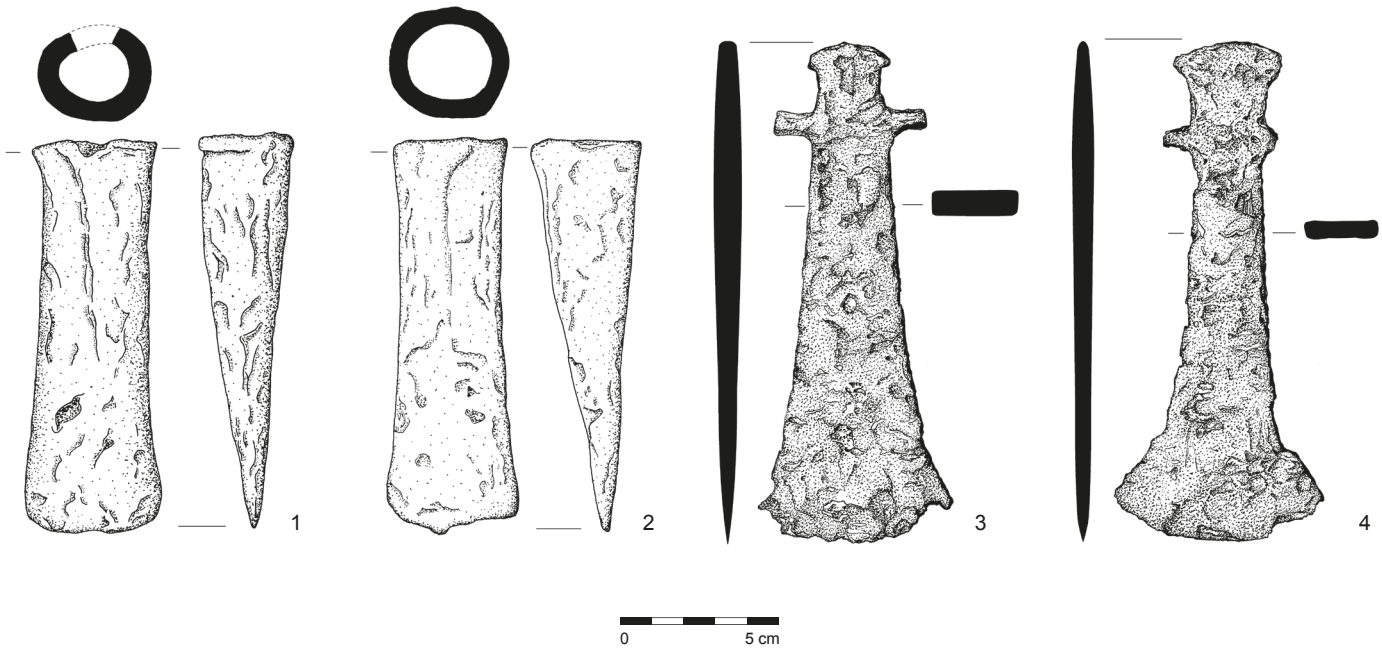


Fig. 3. Hallstatt period hoards in east Bohemia. 1, 2 – Černíkovice (Rychnov nad Kněžnou District); 3, 4 – Konecchlumí (Jičín District). 1, 2 – Drawing by T. Jošková; 3, 4 – drawing by. M. Pleska.

Obr. 3. *Depoty z doby halštatské ve východních Čechách. 1, 2 – Černíkovice (okr. Rychnov nad Kněžnou); 3, 4 – Konecchlumí (okr. Jičín). 1, 2 – Kresba T. Jošková; 3, 4 – kresba M. Pleska.*

Find situation: According to the information provided by the finders and the documentation made at the site (Fig. 2:II), the objects were located in a kidney-shaped area with dimensions of ca 120 × 100 cm. They were deposited at a depth of 20–30 cm in grey-yellow clay loam overgrown with roots (subsoil). Artefacts (1) and (2) were located approximately parallel to each other in an approximately west-east direction, with object (5) lying at a right angle below object (1). Object (3) was located 10–20 cm northeast of the described group. A lone object (4) was located at a distance of ca 30–40 cm to the east. Objects (6–8) lay next to each other to the northwest of the artefacts (1–3) and (5), with the longer sides in a more north-south direction. No traces of any other fill or wrapping were detected, and no other Hallstatt period artefacts were found in the vicinity.

Find description:

(1) Iron trunnion axe, its back partly broken off. Dimensions: preserved l. 206 mm, blade w. 55 mm, trunnion w. 53 mm, w. 5–7 mm, distance between trunnions and extension of the nape 53 mm (Fig. 4:1).

(2) Iron battle axe with an asymmetrically located shaft hole. Dimensions: l. 185 mm, h. of blade 46 mm, h. of the back 30 mm, maximum w. at the shaft 56 mm, diameter of shaft 34 × 31 mm (Fig. 4:3).

(3) Iron sickle, the tang is broken, the tip is not preserved, the blade is deformed. Dimensions: preserved l. 205 mm, maximum blade w. 18 mm, blade h. 4 mm, tang w. 6 mm (Fig. 4:6).

(4) Iron wedge-shaped anvil. Dimensions: l. 153 mm, dimensions of the irregularly rectangular working surface 45 × 33 mm, w. of the point ca 16 mm (Fig. 4:8).

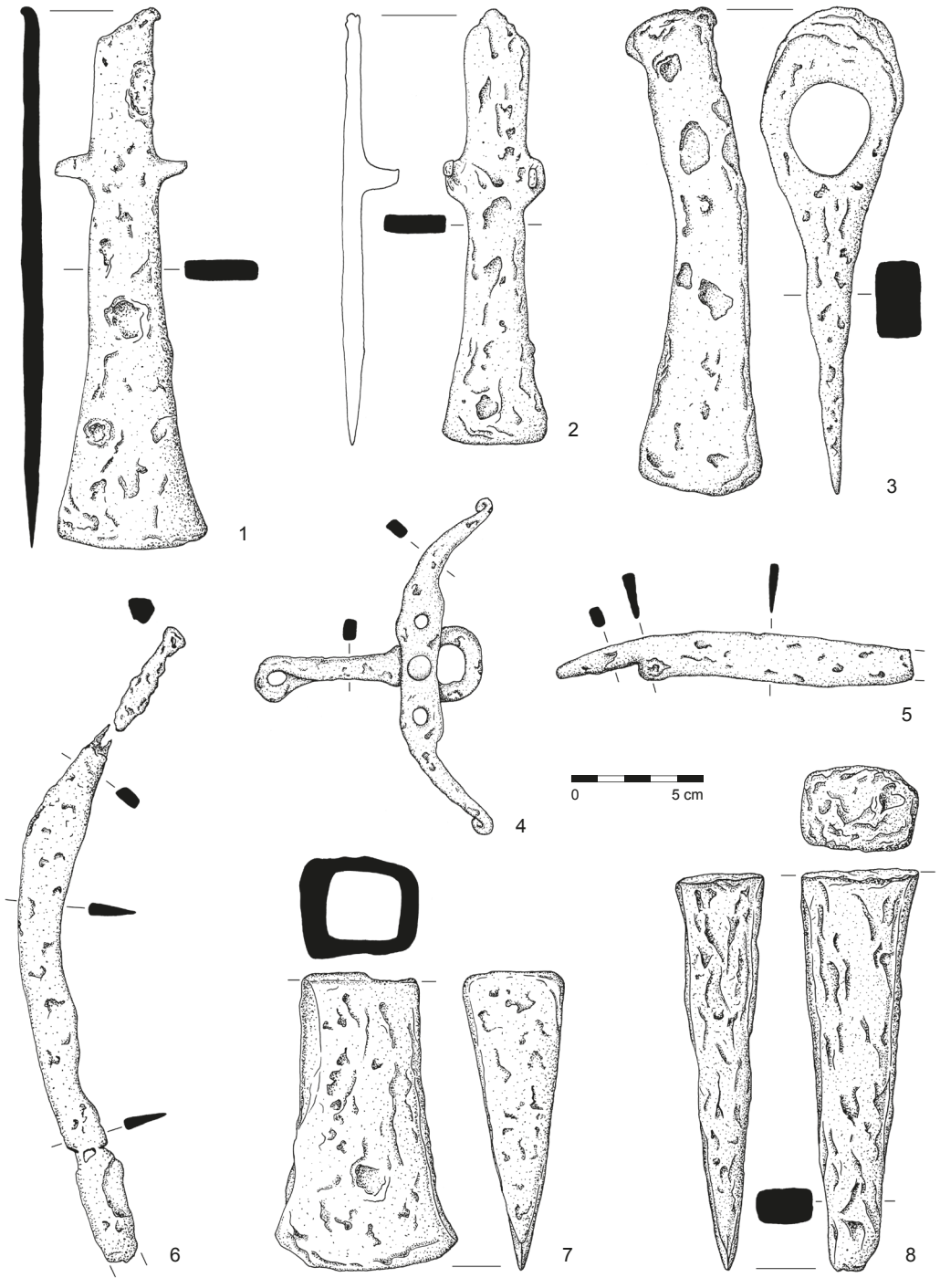


Fig. 4. Hallstatt period hoards in east Bohemia. Hoard from Myštěves (Hradec Králové District). Drawing by T. Jošková.

Obr. 4. *Depoty z doby halštatské ve východních Čechách. Depot z Myštěvsi (okr. Hradec Králové). Kresba T. Jošková.*

(5) Iron axe with enclosed rectangular socket. Dimensions: l. 112 mm, w. of blade 67 mm, outer dimensions of rectangular socket 41 × 37 mm (Fig. 4:7).
(6) Iron trunnion axe, the back of the axe is broken off, the trunnions are bent perpendicular to the plane of the blade. Dimensions: preserved l. 165 mm, w. of blade 41 mm, h. 4–8 mm (Fig. 4:2).
(7) Iron knife with arched back and flat tang, the tip is broken off. Dimensions: preserved l. 135 mm, w. of blade 18 mm, h. of blade 4 mm, l. of the tang 30 mm, cross-section of the tang 8 × 4 mm (Fig. 4:5).
(8) Half of iron horse bit, the mouthpiece and cheekpiece are connected by rivet. Dimensions: l. of the mouthpiece 87 mm, cross-section of mouthpiece 8 × 5 mm, l. of cheekpiece 125 mm (Fig. 4:4).

Chronology: Ha D2 – Ha D3.

Context: No other known context.

Deposed in: Muzeum východních Čech v Hradci Králové (Museum of East Bohemia in Hradec Králové), accession No. 15/2022.

4. Stíčany, Chrudim District (Fig. 1:4)

Site: Za Sady site, plot. No. 537; position WGS-84: 49.9705022N, 15.8977139E.

Find circumstances: Metal detector survey by V. Dotzauer, 8 February 2014. Revision excavation and metal detector survey were subsequently carried out by the staff of the East Bohemia Museum in Pardubice.

Find situation: The objects together with isolated fragments of daub and non-diagnostic pottery were found on an area of ca 50 × 60 cm in the lower part of the brown-black topsoil at a depth of 25–40 cm. No sunken feature was identified, with the exception of the finder's trench.

Finds description: At least 13 pieces of annular arm and leg ornaments (some fragmentary); 5 pieces of partially preserved neck-rings/pectoral, 1 piece of Beratzhausen-type loop; 184 pieces of decorative clamps of Thalmässing-type; 3 pieces of amber beads. For detailed description and evaluation, see Jiráň et al. 2023.

Chronology: Ha D1.

Context: The assemblage was found directly in or close to a settlement area dated approximately to the timespan of Ha B – Ha D (Kalferst et al. 1993, 26).

Deposed in: Chrudim Regional Museum, accession No. 205/2015.

Bibliography: Jiráň et al. 2023.

5. Velká Ledská, Rychnov nad Kněžnou District (Fig. 1:5)

Site: Northeastern slope of Hradiště Hill, plot No. 112/1; position WGS-84: 50.1674167N, 16.1762667E, accuracy ± 5 m.

Find circumstances: Metal detector survey by T. Janeček, 17 April 2008.

Find situation: The pin (1) was found with the anklet (2) around which it was bent, according to the finder's statement. The second anklet (3) was found at a distance of ca 5 m from the first one. It crumbled after being removed from the ground.

Find description:

(1) Larger fragment of a bronze double-spiral pin, flattened triangular neck, from which two spirals originally protruded (not preserved); the pin itself is deformed. Dimensions: preserved l. ca 157 mm, pin diameter 3 mm, neck w. 10 mm. Inv. No. A3536 (Fig. 5:2).
(2) Cast bronze saddle-shaped anklet with C-shaped cross-section and vertical ribbing, broad rounded ribs alternate with pairs of narrow ribs. Dimensions: internal ca 119 × 67 mm, w. 22–27 mm, thickness 3–6 mm. Inv. No. A3534 (Fig. 5:1).

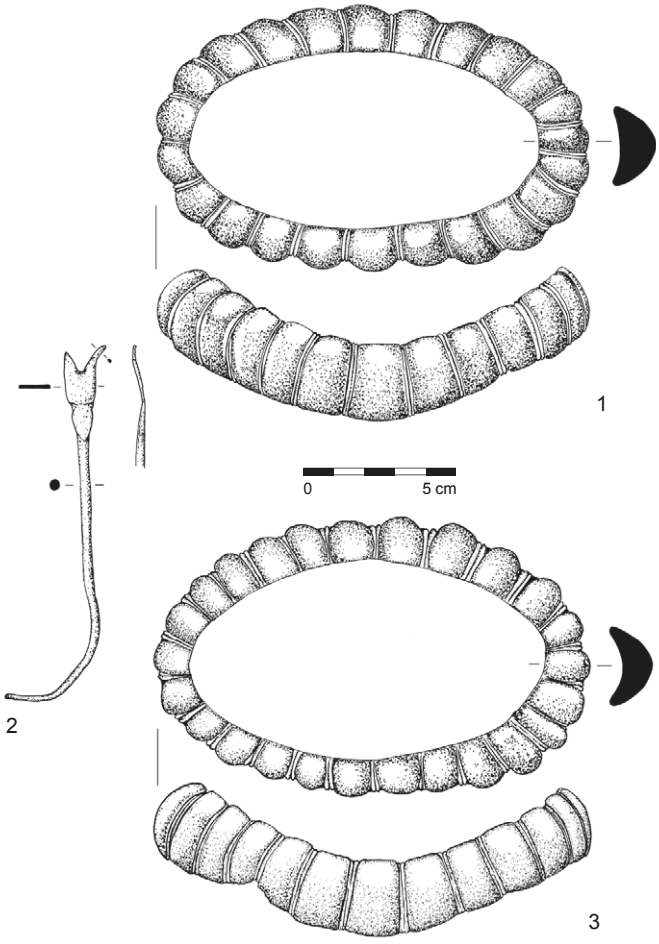


Fig. 5. Hoards from the Hallstatt period in east Bohemia. Hoard from Velká Ledská (Rychnov nad Kněžnou District). Drawing by T. Jošková, M. Pleska.

Obr. 5. *Depoty z doby halštatské ve východních Čechách. Depot z Velké Ledské (okr. Rychnov nad Kněžnou). Kresba T. Jošková, M. Pleska.*

(3) Cast bronze saddle-shaped anklet with C-shaped cross-section and vertical ribbing, broad rounded ribs alternate with pairs of narrow ribs. Preserved in four fragments. Dimensions: internal ca 114 × 67 mm, w. 21–27 mm, thickness 4–6 mm. Inv. No. A3535 (Fig. 5:3).

Chronology: Ha D1.

Context: The assemblage was found on the northeastern slope of the Hradiště site, near the northern end of the isthmus rampart of the hillfort dated to the Lusatian culture period (Kalferst et al. 1987, 24; Čtverák et al. 2003, 336); however, more recently the site also yielded some as yet unpublished finds from the Ha C – Ha D1 period.

Deposed in: Muzeum a galerie Orlických hor v Rychnově nad Kněžnou (Museum and Gallery of the Orlické Mountains in Rychnov nad Kněžnou), accession No. A32/2019, inv. No. A3534–3536.

3. Cultural and chronological evaluation of artefacts from the hoards

In addition to the jewellery assemblage from Stíčany, which has recently been studied in detail (Jiráň et al. 2023), there are four other hoards in east Bohemia containing a total of 15 iron and bronze artefacts. The analysed hoards consist of a functionally heterogeneous group of artefacts represented by axes and weapons, a horse harness, tools as well as jewellery and clothing accessories. The elements of the horse harness, weapons (an iron battle axe), jewellery and clothing accessories are of the greatest informational value in terms of the study of possible

interregional contacts of east Bohemia in the Hallstatt period. In contrast, trunnion axes, socket axes, and tools were common throughout the whole of Central Europe during the Hallstatt period and are of no greater cultural and chronological significance.

3.1 Horse harness

The horse harness is represented in the analysed assemblage by an incomplete iron horse bit from the Myštěves hoard (Fig. 4:4). One arm of a two-part mouthpiece with an enlarged round outer eyelet and a riveted cheekpiece is preserved from the bit. The cheekpiece is arcuated with two holes in its plate-like central part for threading the leather headcollar straps, while both ends are tapered and looped. The construction of the Myštěves specimen is identical to the bits referred to in the literature as horse bits of the Szentes-Vekerzug type. These are characterised by the fixed connection of the cheekpiece to the mouthpiece by means of a rivet. The construction of the horse bits of the Szentes-Vekerzug type differs not only from those of the Hallstatt culture, in which only the bits with movable cheekpieces were widespread, but also from those of the Late Bronze Age and Early Iron Age sites in Eastern Europe and the Caucasus. The attachment of the cheekpieces to the mouthpiece with rivets is documented only in the case of the Vekerzug-type horse bits. These probably resulted from the autochthonous development in the Vekerzug culture area, in which neither the areas lying to the west and east of this territory, nor its indigenous Final Bronze Age / Early Hallstatt predecessors played any role (cf. in further detail Kozubová 2011, 73–75, with references; 2021, 94, 95). Apart from the main distribution area in the Vekerzug culture with more than 60 specimens (Fig. 6:1–12, 14–26), smaller concentrations of finds of Vekerzug-type horse bits are documented in eastern Slovenia (Fig. 6:37–44) and in the Ferigile culture in the southern Carpathian-Danube region (Fig. 6:27–31; see e.g. Werner 1988, 15–24, Taf. 1:7; 2–9, 11–13; 3:14–17, 20; 4:21–23; 5:24–26; 6:27, 29–33; 7:34–40; 8:41, 43–46; 9:49; 10:55–58; 11:59, 60, 63, 65–67; 12:68–72; 13:73, 74, 80, 82, 83; 14:89, 91–93; 68A; Romsauer 1993, obr. 10:3; tab. VI:25; Kemenczei 2009, 181, Liste 5; Dular 2016, 77, Taf. 4:4; Kvietok 2017, 455, tab. VI:17; Pieta 2017, obr. 2:1; Măndescu 2019, Fig. 6:1; Kozubová 2021, 94, footnote 36, with references). However, sporadic pieces are also known from other areas of Central Europe – from Transdanubia, central Croatia, eastern Austria, east Bohemia, and Poland (Fig. 6:3, 13, 36, 45–50), as well as from southeastern Europe – from Serbia and northern Bosnia and Herzegovina (Fig. 6:32–35; see e.g. Werner 1988, 15, 19, 20, 23, 24, Taf. 2:10; 8:42, 47; 9:50–53; 10:54; 13:75–79, 81; 14:84–86; Križ 1997, t. 37:2; Čučković 2004, 183, sl. 5; kat. 33; Jevtić 2006, Fig. 18:13–16; Gleirscher 2009, Abb. 13:11; Teleaga 2017, Fig. 4; 5; Bochnak, Skowron 2022, ryc. 32:1–6; 33). In Eastern Europe, horse bits of the Szentes-Vekerzug type are rarely encountered, which is confirmed by two specimens from graves of the Kushtanovica culture and the Western Podolian group in western Ukraine (Fig. 6:51, 52; Popovich 1985, 59, rys. 8:4; Smirnova 1993, rys. 7:4).

Although most of the Vekerzug-type horse bits come from graves (Fig. 6:1, 4, 5, 7–11, 14, 22, 23, 25–33, 37–41, 46, 50–52), their stray finds, or finds with unclear find circumstances, are also relatively common (Fig. 6:2, 3, 6, 12, 13, 15–21, 24, 35, 36, 42–45, 47). On the contrary, finds of horse bits are at most rarely documented in settlements (Romsauer 1993, tab. VI:25). Similarly, hoards only rarely contained Vekerzug-type horse bits – apart from the Myštěves hoard, another bit find comes from the recently published hoard from Międzybrodzie (Sanok County) in southeastern Poland (Bochnak, Skowron 2022, ryc. 32:1–6; 33).

Horse bits of the Szentes-Vekerzug type, whose occurrence can be dated between the second half / end of the 7th century BC and the end of the 5th or beginning of the 4th century BC (Ha C2/D1 – LT A), have been studied by several researchers. The main criteria for their typological and chronological classification are, first, the type of two side threading openings on cheekpieces (eyelets or holes) and, secondly, the shape and cross-section of the cheekpieces (with or without plate-like central part) and their terminals (for the typology, see, e.g. Párducz 1965, 149–151, Fig. 4; Kemenczei 1985, 50–62, Abb. 2:3, 5;

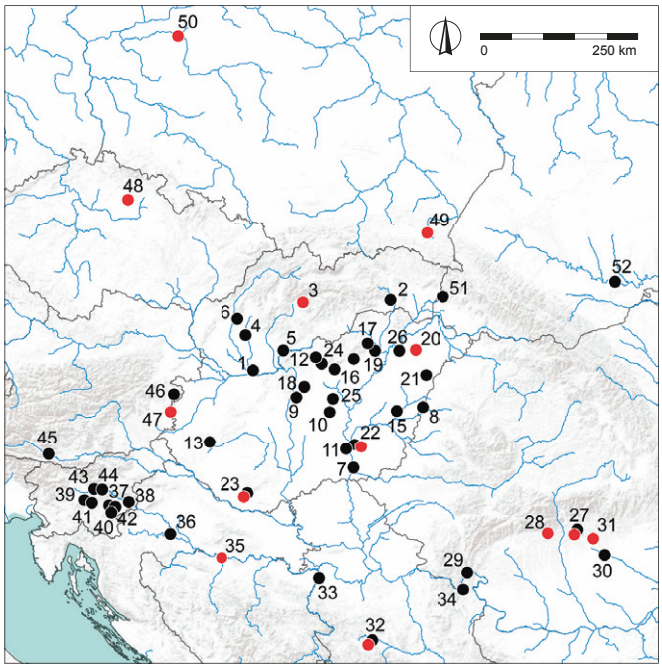


Fig. 6. The distribution of iron horse bits of the Szentes-Vekerzug type. Red dots – variant IIB1 after W. M. Werner (1988); black dots – other variants after W. M. Werner. Slovakia: 1 – Chotín IA; 2 – Košice; 3 – Ľubietová-Vysoká; 4 – Nitra-Dolné Krškany, Nitra-Mikov dvor; 5 – Presel'any nad Ipľom; 6 – Radošina-Pri Kornútovej chate. Hungary: 7 – Algyő-Bartók Béla utca; 8 – Ártánd-Zomlin puszta; 9 – Budapest-Soroksár-Akácos dűlő; 10 – Cegléd; 11 – Csanytelek-Újhalastó; 12 – Cserhátszentiván; 13 – Cserszegtomaj; 14 – Eger-Nagy Eged; 15 – Füzesgyamart; 16 – Gyöngyös; 17 – Miskolc-Diósgyőr-Kerekdomb; 18 – Nagytarcsa; 19 – Nyékládháza-Mezőnyék; 20 – Nyíregyháza-Nyírfa utca; 21 – Nyírmártonfalva-Kutyabagos puszta; 22 – Szentes-Vekerzug; 23 – Szentlőrinc; 24 – Szurdokpüspöki; 25 – Tápiószele-Szumrák; 26 – Tiszavasvári-Csárdapart, Tiszavasvári-Dózsa-telep. Romania: 27 – Curtea de Argeş; 28 – Ferigile; 29 – Ieşelniţa; 30 – Tigveni; 31 – Valea Stânii. Serbia: 32 – Atenica; 33 – Badovinci; 34 – Mihajlov ponor on Miroč. Bosnia and Herzegovina: 35 – Donja Dolina. Croatia: 36 – Sisak. Slovenia: 37 – Brezje pri Trebelnem; 38 – Libna; 39 – Magdalenska gora; 40 – Novo mesto; 41 – Stična; 42 – Šmarjeta; 43 – Vače; 44 – Zagorje ob Savi. Austria: 45 – Landskron; 46 – Oberpullendorf; 47 – Schandorf. Czechia: 48 – Myštěves. Poland: 49 – Międzybrodzie; 50 – Wymysłowo. Ukraine: 51 – Nevytske/Невицьке; 52 – Perebykivtsi/Перебиківці. After Werner 1988, with additions by A. Kozubová. Base map Esri. Graphic by T. Holbová.

Obr. 6. *Rozšíření železných koňských udidel typu Szentes-Vekerzug. Červené kroužky – varianta IIB1 podle W. M. Wernera (1988); černé kroužky – ostatní varianty podle W. M. Wernera. Slovensko: 1 – Chotín IA; 2 – Košice; 3 – Ľubietová-Vysoká; 4 – Nitra-Dolné Krškany, Nitra-Mikov dvor; 5 – Presel'any nad Ipľom; 6 – Radošina-Pri Kornútovej chate. Maďarsko: 7 – Algyő-Bartók Béla utca; 8 – Ártánd-Zomlin puszta; 9 – Budapest-Soroksár-Akácos dűlő; 10 – Cegléd; 11 – Csanytelek-Újhalastó; 12 – Cserhátszentiván; 13 – Cserszegtomaj; 14 – Eger-Nagy Eged; 15 – Füzesgyamart; 16 – Gyöngyös; 17 – Miskolc-Diósgyőr-Kerekdomb; 18 – Nagytarcsa; 19 – Nyékládháza-Mezőnyék; 20 – Nyíregyháza-Nyírfa utca; 21 – Nyírmártonfalva-Kutyabagos puszta; 22 – Szentes-Vekerzug; 23 – Szentlőrinc; 24 – Szurdokpüspöki; 25 – Tápiószele-Szumrák; 26 – Tiszavasvári-Csárdapart, Tiszavasvári-Dózsa-telep. Romania: 27 – Curtea de Argeş; 28 – Ferigile; 29 – Ieşelniţa; 30 – Tigveni; 31 – Valea Stânii. Srbsko: 32 – Atenica; 33 – Badovinci; 34 – Mihajlov ponor on Miroč. Bosnia and Herzegovina: 35 – Donja Dolina. Chorvatsko: 36 – Sisak. Slovinsko: 37 – Brezje pri Trebelnem; 38 – Libna; 39 – Magdalenska gora; 40 – Novo mesto; 41 – Stična; 42 – Šmarjeta; 43 – Vače; 44 – Zagorje ob Savi. Rakousko: 45 – Landskron; 46 – Oberpullendorf; 47 – Schandorf. Čechy: 48 – Myštěves. Polsko: 49 – Międzybrodzie; 50 – Wymysłowo. Ukrajina: 51 – Nevytske/Невицьке; 52 – Perebykivtsi/Перебиківці. Podle Werner 1988, doplněno A. Kozubovou. Mapový podklad Esri. Grafika T. Holbová.*

3: 6–10; 4–8; 2009, 51, 52; Werner 1988, 12–30, Taf. 1:7; 2–14; Kozubová 2011, 73–85; 2013b, 113–115, obr. 36; 2019, 92, 93; for the chronology, see e.g. Kemenczei 1985, 64; 2009, 51, 52; Vulpe 1990, 121–127; Kozubová 2011; 2019, 92–94; Teleaga 2017, 11, 21). For E. Teleaga (2017, 17–21), on the contrary, the criteria for the differentiation of horse bit types are the size of the cheekpieces and the degree of their curvature, which the author considers as a chronological indicator. The bit from the Myštěves hoard can be attributed to type II, variant B1 after W. M. Werner (1988, 19, 20), or to variant II4 after A. Kozubová (2011, 83) or to variant 2 after T. Kemenczei (1985, 51–54). In contrast to the specimen from Myštěves, the cheekpieces of most of the 16 bits of this variant are terminated either conically or with buttons (see Werner 1988, Taf. 8:43, 44; 9:49–51; Kvietok 2017, tab. VI:17; Măndescu 2019, Fig. 6:1).

Compared to other variants of the Vekerzug-type horse bits, those of type II, variant B1, are characterised by wider distribution especially outside the territory of the Vekerzug culture itself, from where only three specimens are known – two of them come from the cemetery of Szentes-Vekerzug (Fig. 6; Werner 1988, 19, Taf. 8:46, 18, 49). On the contrary, bits of this variant are more abundantly represented in the graves of the Ferigile culture and in the cemetery at Szentlőrinc (Werner 1988, 19, 20, Taf. 8:43–45, 50–52; Măndescu 2019, Fig. 6:1). Their sporadic finds are also known from northern Bosnia and Herzegovina, Burgenland, and western and southeastern Poland (Werner 1988, 19, 20, Taf. 8:42, 47; 9:53; Bochnak, Skowron 2022, ryc. 32:1–6; 33).

There is insufficient evidence for dating horse bits of type II, variant B1 exclusively to the LT A stage, as assumed by E. Teleaga (2017, 21) for all the Vekerzug-type bits of his third group with strongly arcuate cheekpieces. Most of the graves with bits of this variant contained chronologically indistinct accompanying finds. The inventory of grave 12 from Szentes-Vekerzug consisted, among other things, of bronze phalerae of the Magdalenska gora type, which were used during Ha D3 and LT A (see Dizdar 2023, 136–140, with references; Párducz 1952, 144, 145, pl. XLII:1; XLIII:2; XLIV; XLV:1–8, 10, 11; XLVI; XLVII:1–4; XLVIII; XLIX:1, 2, 10). Graves 52, 58, and 60 from Szentlőrinc contained no chronologically significant objects (Jerem 1968, 169–171, Fig. 26:52; 28:58, 60). The remaining graves from the cemetery with chronologically significant grave goods – mainly jewellery and clothing accessories – are dated to the Late Hallstatt and Early La Tène periods (see Soós 2020, 68, 97, 98). The graves with horse bits from Szentlőrinc can thus only be tentatively dated to this period (Ha D2/D3 – LT A/B1a), most likely to the first half of the 5th century BC (see Kozubová 2011, 83; Kmeťová 2014, 189). The occurrence of horse bits of type II, variant B1 before stages Ha D3 and LT A could be suggested by the inventory of grave 1 from burial mound 44 in Ferigile, which consisted of ceramic vessels with decoration typical for the 6th century BC (see Vulpe 1990, 55, 56, Taf. 52A:18, 19, 24; Topal 2022, 53). Although opinions differ as to the exact date of grave 28a from Wymysłówo containing a bronze fibula with a decorated foot, the grave in question is dated to stages Ha D3 and LT A (cf. further Bochnak, Skowron 2022, 74–76, with references). The Międzybrodzie hoard also did not contain chronologically sensitive artefacts, and its dating to the 5th century BC (more likely to its second half) is based on the dating of the horse bit based on E. Teleaga's classification (see Bochnak, Skowron 2022, 76). We can thus conclude that the occurrence of horse bits of type II, variant B1 is not limited to LT A, as the bits of this variant were already in use in the Late Hallstatt period. The lower chronological limit of the Myštěves hoards to Ha D2 – Ha D3 or Ha D3 is indicated by the lower limit of the occurrence of trunnion axes of variant III_3A1 after A. Wesse (see below).

3.2 Axes and weapons

The largest category of artefacts in the hoards is axes. Determining their purpose is not easy, however, as they may have served several simultaneous functions, and it is not possible to classify them in a clear functional way. Axes could have been used as tools as well as weapons (for trunnion axes, see Wesse 1990, 94, 95, 135–142). Their grave finds and presence in hoards also testify to their symbolic meaning.

The most distinctive representative of this category was present in the Myštěves hoard – an iron axe with a wide circular shaft hole. The body of the 18.5 cm–long axe is slightly arched, without a neck, with a massive rounded butt, and a broad, almost fan-shaped blade (Fig. 4:3). The Myštěves axe has strong morphological similarities to iron battle axes of the Vekerzug culture, specifically to those of type II after A. Kozubová (2010), i.e. axes with an asymmetrically located shaft hole. Vekerzug-type battle axes with an asymmetrically placed shaft hole differ from the Myštěves specimen only in the shape of their butt – the sporadically occurring variant II1 is characterised by a short neck and a hemispherical butt, while the more numerous variant II2 is characterised by a slightly elongated hammer-shaped butt (Kozubová 2010, 53–55, obr. 7:3a, 4, 4a, 5, 5a). The axe from Myštěves also corresponds to Vekerzug-type battle axes in its length – their lengths vary from 13.4 to 20.9 cm, but most of them are 16.5–18 cm long (Kozubová 2010, 55). In contrast to the much more frequent battle axes of A. Kozubová's type I with a symmetrically located shaft hole,[5] type II axes occurred almost exclusively at Vekerzug culture sites (Fig. 7). The exceptions from this

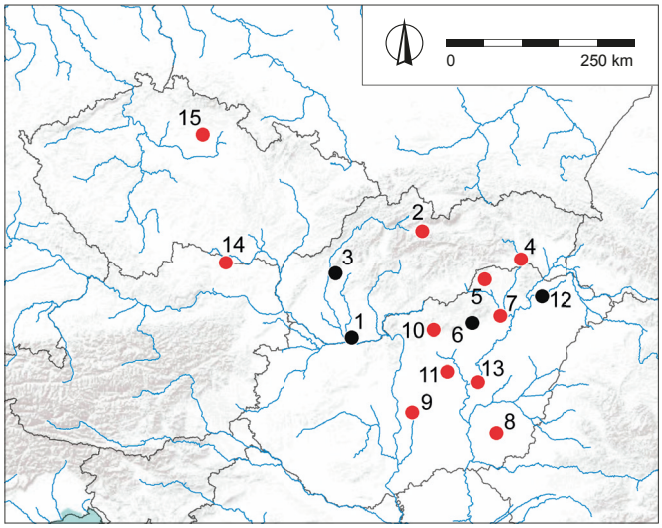


Fig. 7. The distribution of iron battle axes of variants II1 and II2 after A. Kozubová (2010). Black dots – variant II1; red dots – variant II2. Slovakia: 1 – Chotín IB; 2 – Demänovská Dolina – Liptovský Mikuláš-Ploštín, Demänovská hora; 3 – Marhát; 4 – Nižná Myšľa-Sazalík. Hungary: 5 – Alsótelekes-Dolinka; 6 – Eger-Nagy Eged; 7 – Hejőkeresztúr; 8 – Orosháza-Gyopáros; 9 – Szabadszállás-Józan; 10 – Szurdokpüspöki; 11 – Tápiószele-Szumrák; 12 – Tiszabercel (Paszab); 13 – Törökszentmiklós-Surján. Austria: 14 – Retz. Czechia: 15 – Myštěves. Base map Esri. Input data by A. Kozubová; graphic by T. Holbová.

Obr. 7. *Rozšíření železných bojových seker variant II1 a II2 podle A. Kozubové (2010). Černý kroužek – varianta II1; červený kroužek – varianta II2. Slovensko: 1 – Chotín IB; 2 – Demänovská Dolina – Liptovský Mikuláš-Ploštín, Demänovská hora; 3 – Marhát; 4 – Nižná Myšľa-Sazalík. Maďarsko: 5 – Alsótelekes-Dolinka; 6 – Eger-Nagy Eged; 7 – Hejőkeresztúr; 8 – Orosháza-Gyopáros; 9 – Szabadszállás-Józan; 10 – Szurdokpüspöki; 11 – Tápiószele-Szumrák; 12 – Tiszabercel (Paszab); 13 – Törökszentmiklós-Surján. Rakousko: 14 – Retz. Čechy: 15 – Myštěves. Mapový podklad Esri. Data A. Kozubová; grafika T. Holbová.*

statement include the axe from Myštěves (Fig. 7:15) and another new find of variant II2 from Demänovská hora in the cadastre of Demänovská Dolina and Liptovský Mikuláš-Ploštín (Liptovský Mikuláš District / SK; Fig. 7:2), as well as an incomplete iron axe from inhumation grave 2 from Retz (Hollabrunn District / AT; Fig. 7:14) dated to Ha C2 / Ha D1 (Teržan 1998, 516, 538, Taf. 3:1; Metzner-Nebelsick 2002, 380; Benediková et al. 2024, 292, pl. V:17). Its morphologically closest parallels are the Vekerzug battle axes of variant II2. The axe from Myštěves has its closest typological parallels among the battle axes from sites of the Vekerzug culture, especially from Hejőkeresztúr (Borsod-Abaúj-Zemplén County / HU) and Szurdokpüspöki (Nógrád County / HU; Kemenczei 2009, 122, Taf. 22:7; Tankó 2015, 435, Abb. 2:15).

A total of 15 finds of type II battle axes are currently known from the territory of the Vekerzug culture (three of them of variant II1 and 12 of variant II2).[6] Some of them come from graves (Fig. 7:1, 5, 8, 9, 11), while others are stray finds or surface finds from burial grounds (Fig. 7:3, 6, 7, 10, 12, 13; Párducz 1966, 73, 74, pl. LXV:3a, 3b; Juhász 1976, 245, 246, kép 6:2a, 2b, 4a, 4b; Patay, Kiss 2001–2002, 87, 88, ábra 9:3; Jakubčinová 2008, 53, obr. 1:13; Kemenczei 2009, 122, 134, 140, 158, 159, Taf. 22:6, 7; 62:10; 96:1; 129:1; 132:10; Kozubová 2013b, 129, tab. 101:6, 6a; Tankó 2015, 435, Abb. 2:15). An exception to this is the hoard from Nižná Myšľa (Košice-okolie District / SK; Fig. 7:4; Miroššayová 1980, 383, obr. 1:3).

In the Vekerzug culture, iron battle axes not only of type II but also of type I have weak chronological sensitivity. Their primary occurrence here dates between the 6th century and the first half of the 5th century BC (with a possible overlap into LT A), while some axes can be dated as early as the last quarter/end of the 7th century BC / early Ha D1 (Kozubová 2010, 54, 55, 61). Therefore, the presence of the iron battle axe has no bearing on the dating of the Myštěves hoard.

Four flat iron trunnion axes were present in the Konecchlumí and Myštěves hoards. These axes were widespread throughout much of Europe during the Early Iron Age, especially in the wider Central European area, where distinct concentrations of them can be observed especially in Poland and Austria (Wesse 1990, 73–185, Karten 15; 16–18; see also Půlpán et al. 2022, 40–43, with references, obr. 11). Since their comprehensive monographic overview by A. Wesse (1990), not only has the number of new pieces in Central Europe increased significantly, but several new studies have been devoted to them (e.g. Parzinger 1995, 66, Abb. 23; Studeníková 2000, 71–76; Derrix 2001; Stöllner 2002, 129; Hlava 2003, 126–128; Gedl 2004, 51–59, Taf. 10:91, 92; 11–13; Tecco Hvala 2012, 109–111; Fojtík, Popelka 2017; Gediga et al. 2020, 75, 76, ryc. 126–130; Michnik, Dzięgielewski 2022, 105, 106). Bohemia is among the regions in which they have been evaluated in detail most recently (see also Michálek et al. 2015, 120, 121, 125–127, obr. 10; Trefný 2017, 250–252; Půlpán et al. 2022; Mangel et al. 2023).

The trunnion axes from Konecchlumí and Myštěves differ from each other in certain typological features as well as in their proportions. Both specimens from Konecchlumí rank among the broad types with fan-shaped blades and distinctive trunnions. The short back is conspicuously set off and rounded. The distance between the upper edge of the trunnions and the lower edge of the set-off back is less than 2 cm (Fig. 3:3, 4). Both specimens can thus be classified as variant III_3C1 after A. Wesse (1990, 80, Abb. 19; Taf. 35). The occurrence of this variant with an approximate date to Ha C2 – Ha D2[7] is almost exclusively restricted to the territory of Bohemia (with a concentration of finds mainly in south Bohemia), Moravia and Lower Silesia. As a rule, these are isolated finds, though they are also sporadically documented in hoards (Wesse 1990, 80, 158–162, Karte 17; Michálek et al. 2015, 125–127; Půlpán et al. 2022, 7, 10). The two axes from Myštěves, on the other hand, represent a slender trapezoidal type with a long back, which is broken off at the upper end in both cases. The trunnions of both of these axes are set very low, with the distance between the upper edge of the trunnions and the preserved end of the back being greater than 3 cm (Fig. 4:1, 2). An exact typological classification of the two Myštěves trunnion axes is problematic due to the incomplete state of preservation. In the case of the better-preserved specimen with its original length of more than 20.6 cm, its long back seems to have been indented and rounded and the axe can therefore be classified as variant III_3A1 after A. Wesse (Fig. 4:1). The densest distribution of axes of this variant is in Upper Austria, where their finds are concentrated, especially at the cemetery of Hallstatt (Gmunden District). Sporadic finds of axes of variant III_3A1 are also known from eastern Austria, east Moravia, southwestern Slovakia, Hungary, Serbia, and Bosnia and Herzegovina, usually as components of grave furnishings (see Mayer 1977, Taf. 94:1405; 95:1406, 1411, 1415, 1419; 96:1420, 1424, 1429, 1432; Wesse 1990, 79, 193–196, Karte 17; Půlpán et al. 2022, 11, with references). Although the dating of the axes of variant III_3A1 is the same as that of variant III_3C1, their earliest occurrence in Bohemia is sporadically attested as early as Ha C1b, and some settlement finds attest their survival down to Ha D2 – Ha D3 (Koutecký 2014, 650, 653; Půlpán et al. 2022, 11, 39, 43, 44).

Iron socketed axes are represented in the analysed assemblage by three specimens of two basic types – two shorter axes with a circular to oval socket come from the Černíkovice hoard (Fig. 3:1, 2), while the Myštěves hoard contained one shorter axe with a rectangular socket and a slightly fan-shaped broadened blade (Fig. 4:7). Axes with a circular to oval socket are rare in the northern and eastern Alpine area (see e.g. Horváth 1969, kép 6:5; Dušek, Dušek 1995, Taf. 115:12, 14; 116:1, 14; Studeníková 2000, 66; Čambal, Makarová 2020a, 207, 218, 219, Fig. 6:15; 7:15). Their distinct concentration can be, on the contrary, observed in Poland (especially in its western part), where they appeared throughout the Hallstatt period as components not only of grave assemblages but also of hoards. Although most of their finds date to Ha D, their occurrence in Poland is already reliably documented to Ha C (Gedl 1991, 31, 32; 2004, 60–65, Taf. 13:144–146; 14; 15; 16:183–188; 39A; Derrix 2001, 53, Abb. 16; Gediga et al. 2020, 76; Michnik, Dzięgielewski 2022, 107–108).

The axe from Myštěves (Fig. 4:7) can be included in a large group of iron, relatively massive socketed axes of the northern Alpine type, which have a rectangular socket and usually attain a length in the range of 9–12.5 cm (Parzinger 1995, 68). Axes of this type were widespread from eastern France through southern Germany to Moravia and northwestern Slovakia up to eastern Slovakia, and from Saxony, western Poland, and Silesia to Upper Austria. Most of them are isolated finds, some come from hoards and sporadically from graves and settlements (see Parzinger 1995, 68, 268, Abb. 23:4; Studeníková 2000, 66–69; 2007, Abb. 7:3, 4; Gedl 2004, 65–67, Taf. 16:189–198; Benediková 2014, 19, 20, with references, obr. 3; Michálek et al. 2015, 125, obr. 8:3; Michálek 2017, tab. 302:7; Novák 2017, 208, 209, with references; Michnik, Dzięgielewski 2022, 107; Golec et al. 2023, 10, 11, with references). Northern Alpine-type socketed axes are among the Hallstatt period artefacts with weak chronological sensitivity – the heyday of their occurrence undoubtedly corresponds to Ha D, within which a finer chronology cannot be established. Their earliest specimens, however, are positively attested already in Ha C2. Their survival into the Early La Tène period is

documented by axes whose blades are more fan-shaped in comparison to the Ha D axes (see e.g. Parzinger 1995, 68; Gedl 2004, 66; Fröhlich et al. 2011, 142; Müller 2012, 224; Dzięgielewski et al. 2020, 228, with references; Golec et al. 2023, 10, 11).

3.3 Jewellery and clothing accessories

The hoard from Velká Ledská contained two cast bronze enclosed anklets (Fig. 5:1, 3) and a bronze pin preserved in fragments (Fig. 5:2). Both anklets are of the saddle-shaped type of annular jewellery. They are characterised by a C-shaped cross-section and decoration by broad vertical rounded ribs interlaid with pairs of fine ribs at regular intervals. The closest parallels to the anklets from Velká Ledská come from southern Bavaria from graves dated to Ha D1 (Nagler-Zanier 2005, 92, 93, 169, 170, Taf. 88:1679–1682, 1684, 1685; 89:1686, 1687; 207B). They are a foreign element in east Bohemia. Worn in pairs, the south Bavarian anklets form part of a small southeastern German group of saddle-shaped anklets characterised by various cross-sections and relief decoration, usually in the form of groups of grooves or ribs in combination with grooves. Within this group of annular jewellery, dated in general to Ha C – Ha D1, specimens with a C-shaped cross-section belong to the developmentally later variant (see Nagler-Zanier 2005, 89–95, 169, 170, Taf. 85–89; 90:1693–1704; 207A; 207B). Bronze saddle-shaped anklets are a typologically diverse group of circular jewellery that was widespread almost exclusively in the Western Hallstatt culture – primarily in Bavaria and Upper Austria, with their occurrence concentrated in Ha C and overlapping into Ha D1 (see e.g. Stöllner 2002, 82; Nagler-Zanier 2005, 89–98, 169, 170; Siepen 2005, 128–132, Taf. 81–88). Finds of iron saddle-shaped anklets are also sporadically known from south Moravia from contexts dated to Ha C2b – Ha D1a, as well as from western Poland from hoards dated to Ha C1b – Ha C2a (see Dzięgielewski et al. 2020, 229; Kos a kol. 2022, 141, 142, obr. 52).

The bronze pin from Velká Ledská is another foreign element in the east Bohemian Hallstatt culture milieu. It belongs to the type with a double spiral head whose neck and the lower part of the arms of both spirals are hammered flat. This pin type was widespread in the Hallstatt period in Poland, mainly in Wielkopolska and Kuyavia, in contexts dated to Ha D (see e.g. Gedl 1991, 88, Abb. 46:15, 16; Tribała-Zawiślak 2012, 82, 165, tab. 35:7; 2020, Fig. 5; Maciejewski 2019b, 20–34, ryc. 1; 4; 5; 6:c–g; 23). Outside the territory of Poland, finds of pins with a double spiral head and a hammered neck sporadically appear in central Moravia (see Golec, Fojtík 2020, 112, obr. 36:31), northern Slovakia (e.g. Novotná 1980, 162–164, Taf. 47:1097–1104; Benediková 2014, 24, 26, obr. 7:11),[8] Transdanubia (e.g. Říhovský 1983, 54, Taf. 26:652, 653), and their easternmost finds come from the Middle Dniester region in Ukraine (Mogilov 2020, 151, 153, rys. 10:42–44).[9]

Another jewellery hoard from east Bohemia comes from Stíčany. In addition to the annular ornaments – at least 13 bronze bracelets or anklets and 5 bronze neck-rings/pectorals – the hoard contained one bronze loop, almost 200 pieces of bronze clamps and 3 amber beads. The hoard of bronze artefacts from Stíčany has recently been studied in detail (see Jiráň et al. 2023) and therefore is not discussed further here. The authors of the publication date the hoard to the end of the Ha D1 and suggest its association with the cultural milieu of central and north Moravia.

3.4 Tools

Only the Myštěves hoard also contained three iron tools – a knife with a tang (Fig. 4:5), a wedge-shaped anvil (Fig. 4:8), and an incompletely preserved sickle (Fig. 4:6). Iron knives with a tang – being one of the most frequent types of tools – can be found throughout Central Europe during the entire Hallstatt period and have no major cultural and chronological significance. The absolute majority of their finds come from grave assemblages and settlement features (e.g. Gedl 1991, 37; Parzinger 1995, 81; Stöllner 2002, 102, 103; Rebay 2006, 162, 163; Müller 2012, 225, 226; Kozubová 2013a, 119, 120; Makarová 2017, 72, 73; Čambal, Makarová 2020a, 218; Gediga et al. 2020, 74; Kos a kol. 2022, 144–147). On the contrary, their occurrence in hoards is not yet documented in Bohemia (with the exception of the Myštěves hoard) and Moravia. Only sporadically have iron knives been found in hoards in Slovakia (e.g. Čambal 2015, obr. 2:1–3, 5; Čambal, Makarová 2020a, 207, Fig. 5:3; 6:17; 7:19), in northern Hungary (Szabó et al. 2022, 295, 296, Fig. 14; 15; 17; 2023, 610, Fig. 8), and in Poland (Blajer 2001, 114–116, mapa 31A, 32).

Iron anvils are a rare type of find in the Hallstatt period in Central Europe. Their occurrence is associated with graves (e.g. Hallstatt / Gmunden District / AT; Kromer 1959, Taf. 44:8; 83:8), settlement features (e.g. Heuneburg bei Herbertingen-Hundersingen / Sigmaringen District / DE; Sievers 1984, Taf. 164:1839) and cave finds (Habrůvka, Býčí skála Cave / Blansko District / CZ; Parzinger 1995, 81, 82, Taf. 47:419, 422; 48:423; 49:434).

Although its handle tang is not preserved and its blade is damaged in places, the incomplete iron sickle from Myštěves is most probably a specimen with a very narrow, arched blade. The shape of the Myštěves specimen most closely resembles the sickles of the not very numerous type III after E. Studeníková (2007, 56, 57), such as we know, for example, from the hoards from the Molpír hillfort in Smolenice (Trnava District / SK; Studeníková 2007, Abb. 6:7, 8), from the Nižná Myšľa hoard (Miroššayová 1980, obr. 2:1–5, 8), from Žilina-Zástranie hoard (Žilina District / SK; Studeníková 2007, Abb. 7), the Międzybrodzie hoard (Blajer et al. 2022, tabl. IV), from hoards from the hillfort at Dédestapolcsány-Verebce-bérc (Borsod-Abaúj-Zemplén County / HU; Szabó et al. 2022, 290, Fig. 9:1, 2) and from Vekerzug grave 1 from Törökszentmiklós-Surján (Jász-Nagykum-Szolnok County / HU; Csalog, Kisfaludi 1985, 317, Abb. 1:1), all dated to Ha D. The occurrence of iron sickles at sites from the Hallstatt period in Central Europe is relatively low compared to socketed axes and trunnion axes. With the exception of Poland, where grave finds are also known, the occurrence of sickles is almost exclusively associated with settlement features and hoards (see e.g. Gedl 1995, 94–103, Taf. 33–37; Blajer 2001, 108–111, mapa 28; 29; Studeníková 2007; Michálek et al. 2015, 122, with references; Gediga et al. 2020, 78; Golec, Fojtík 2020, 134, 135; Michnik, Dzięgielewski 2022, 107).

4. Hoards and their external find context

In addition to the hoard content, it is also important to analyse their external find context, which includes different levels of spatial relations. The studied topics may include the form of the find situation, including the arrangement of the objects, the topographical characteristics of the site, its relationship to other archaeological components, and – in a broader context – its relationship to the period settlement landscape (see Salaš 2005, 195; Chvojka et al. 2017, 206; Salaš et al. 2020; Golec et al. 2023, 16–18).

We know very little about the actual find situations. Verifiable information about the shape and size of the features in which the hoards were deposited is completely unavailable. This may be due to their poor legibility, as such a pit was probably rapidly dug and immediately backfilled; the circumstances of discovery and the limited extent of the revision excavations may also have played their part. In each case, we only have data on the depths of deposition of the objects from the present-day

Hoard	Landform	Height above sea level (m)	Distance from the water source (rounded to tens of metres)	Finding context	Spatial relation to the settlement region	Dating
Černíkovice	Top of a hill	348	230	Out of context	Border zone	Ha C – Ha D
Konecchlumí	Steep slope	330	280	In the vicinity of the hilltop settlement	Border zone	Ha C1b – Ha D
Myštěves	Slight terrain wave	253	380	Out of context	Border zone	Ha D2 – Ha D3
Stíčany	Slight terrain wave, terrace	244	540	In close relation to the lowland settlement	Within	Ha D1
Velká Ledská	Steep slope	321	220	In the vicinity of the hilltop settlement	Border zone	Ha D1

Tab. 1. Hallstatt period hoards in east Bohemia. Overview of chronological, topographic and settlement-geographic aspects of the sites with evidence of hoard deposition.
Tab. 1. *Depoty z doby halštatské ve východních Čechách. Sumarizace chronologických, topografických a sídelně geografických aspektů poloh s doklady deponování.*

surface, which in each case varied between 20 and 40 cm. We are somewhat better informed about the manner in which the objects were arranged, although even here we are mostly reliant on oral accounts or sketches by the finders and subsequent reconstructions. The objects were mostly grouped in a cluster in a small area. The spread of some objects over a wider area around the core of the hoard described in the case of the assemblages from Myštěves (Fig. 2:II) and Velká Ledská can be attributed to post-deposition transformation processes. The Černíkovice and Konecchlumí assemblages make it possible to form a more precise idea about the possible spatial arrangement. In both cases, the hoards consisted of pairs of axes, which were reportedly placed in the ground and arranged in a V-shape with the blades crossed (Fig. 2:I). The core of the Velká Ledská hoard consisted of an anklet onto which a pin was wound.

In terms of topography, the Hallstatt period hoards of east Bohemia were located in various landscape configurations (Tab. 1). The Myštěves and Stíčany hoards were deposited in the open lowland landscape, on slight terrain waves. In the case of the assemblages from Konecchlumí and Velká Ledská, the sites chosen for hoard deposition were on steep slopes of prominent elevated ridges. The hoard from Černíkovice was found on the top of a hill. The relationship of hoards to water sources is another important aspect of topography. It should be stressed, however, that the data available to us, which are not sufficient in number, are based only on the present-day hydrology. This may cause certain distortions due to the possible disappearance or alteration of the course of some streams. The results should therefore be treated with caution. The recorded distances to the nearest stream or spring are always in the order of a few hundred metres. It can therefore be concluded that at the moment the east Bohemian hoards do not reveal an immediate and interpretable link to water sources.

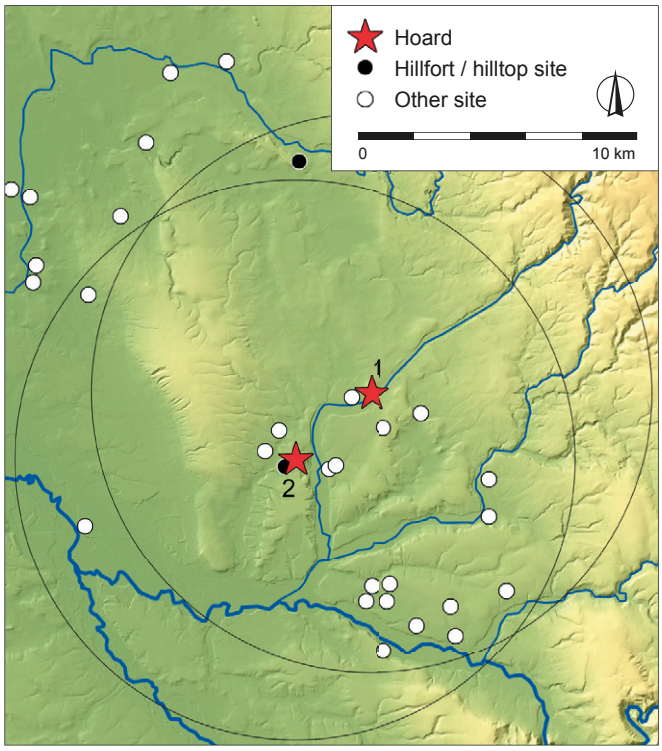


Fig. 8. Hallstatt period hoards in the context of contemporary settlement. Sites within a radius of 10 km were mapped. 1 – Černíkovice (Rychnov nad Kněžnou District); 2 – Velká Ledská (Rychnov nad Kněžnou District). Base map ČÚZK. Input data by M. Beková, Z. Bláhová; graphic by T. Mangel.

Obr. 8. *Depoty z doby halštatské v kontextu soudobého osídlení. Mapovány lokality v okruhu o poloměru 10 km. 1 – Černíkovice (okr. Rychnov nad Kněžnou); 2 – Velká Ledská (okr. Rychnov Nad Kněžnou). Mapový podklad ČÚZK. Data M. Beková, Z. Bláhová; grafika T. Mangel.*

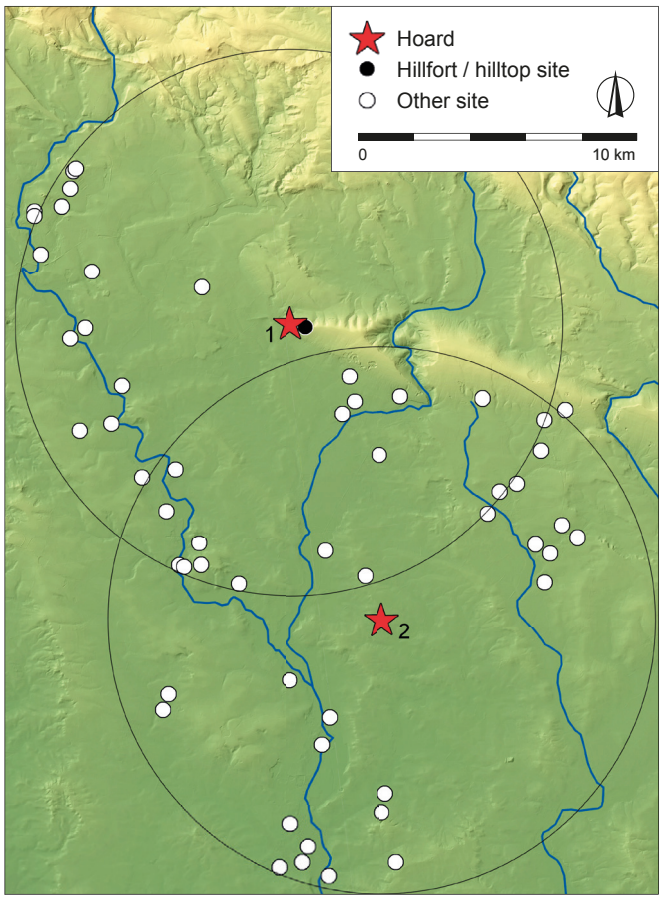


Fig. 9. Hallstatt period hoards in the context of contemporary settlement. Sites within a radius of 10 km were mapped. 1 – Konecchlumí (Jičín District); 2 – Myštěves (Hradec Králové District). Base map ČÚZK. Input data by M. Novák, L. Novotná; graphic by T. Mangel.

Obr. 9. *Depoty z doby halštatské v kontextu soudobého osídlení. Mapovány lokality v okruhu o poloměru 10 km. 1 – Konecchlumí (okr. Jičín); 2 – Myštěves (okr. Hradec Králové). Mapový podklad ČÚZK. Data M. Novák, L. Novotná; grafika T. Mangel.*

Most of the hoards were deposited outside the areas of the period residential and burial sites. The only exception is the hoard from Stíčany, which was discovered within or in close proximity to a contemporaneous lowland settlement (Jiráň et al. 2023, 277, 296). In other cases, a connection to the surroundings of highland settlements can be observed. The hoard from Konecchlumí is evidently related to the Hallstatt period hillfort of Hůra, about 500 m away (Vokolek, Vencl 1974; Ulrychová 2005, 252–253). The hoard from Velká Ledská was discovered in close proximity to the fortification of the hillfort dated on the basis of a few pottery fragments to the Late Bronze Age (Novák 2008, 109, tab. 1). It should be added, however, that recent isolated and as yet unpublished metallic finds from the inner area of the hillfort also testify to activity during the Hallstatt period; it is currently impossible to unequivocally define the nature and extent of the site's occupation during this period.

In order to trace the relationship of the hoards to the settlement landscape, settlements within a 10 km radius around the spot of the hoard deposition were mapped (Fig. 8–10; Tab. 1). All hoards come from locations closely related to settled areas; they are not documented in unsettled areas. They were discovered in different parts of east Bohemia, representing separate settlement regions (cf. Venclová ed. 2008, obr. 9 for the overall distribution of Hallstatt period sites in east Bohemia). Within these settlement groups, the sites of hoards are regularly associated with their boundary zones. The hoard from Stíčany is again an exception in this respect. It was the only one deposited within the settlement area, in the places where the presence of a long-distance travel corridor connecting east Bohemia with the territory of Moravia is assumed (Venclová ed. 2008, 84, obr. 94; Martínek 2019, 50, mapa 4).

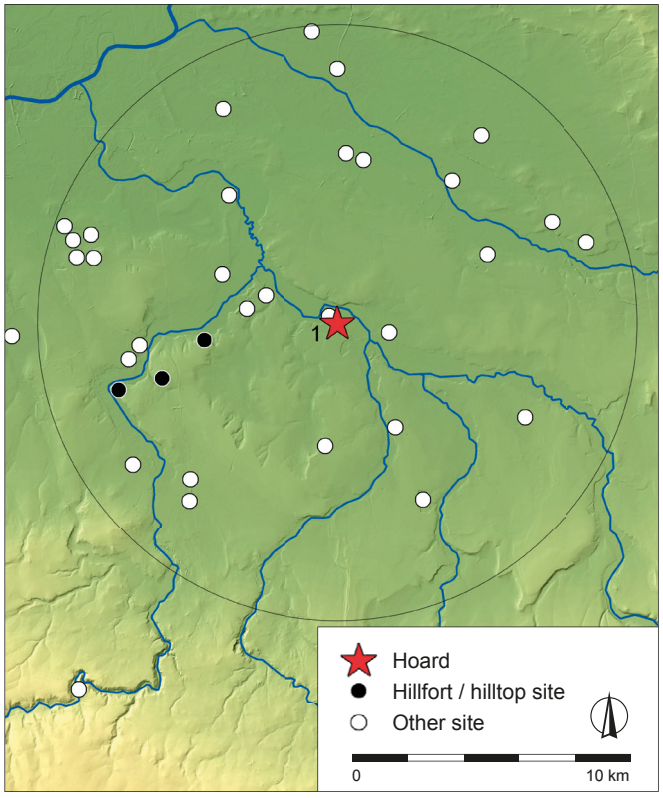


Fig. 10. Hallstatt period hoards in the context of contemporary settlement. Sites within a radius of 10 km were mapped. 1 – Stíčany (Chrudim District). Base map ČÚZK. Input data by T. Jošková; graphic by T. Mangel.

Obr. 10. *Depoty z doby halštatské v kontextu soudobého osídlení. Mapovány lokality v okruhu o poloměru 10 km. 1 – Stíčany (okr. Chrudim). Mapový podklad ČÚZK. Data T. Jošková; grafika T. Mangel.*

5. A brief overview of hoard deposition evidence in the surrounding regions of Central Europe

As already mentioned in the introduction, finds of hoards also come from other areas of Central Europe. Widening the perspective will thus allow us to place the study of hoard deposition practices of east Bohemia in a broader cultural and geographic context. Poland is a specific area in terms of Hallstatt period hoard deposition, as more than three hundred certain or probable cases of hoard activities are now registered there (Blajer 2001; Westhausen 2019a). Most of them come from the northern part of the current Polish territory, where the older indigenous cultural tradition of the Lusatian Urnfield cultures persisted. In contrast, in the territories of Silesia and southern Greater Poland, which were strongly influenced by the Hallstatt culture (Gediga 2011; Dzięgielewski et al. 2020), their evidence is scarce. Thanks to the large number of hoards, certain differences can be identified even in diachronic terms (cf. Blajer 2001, 289–297). In Poland – unlike other areas – hoards are more common in Ha C. This period is characterised by a higher share of assemblages consisting exclusively of jewellery (49%) or a combination of jewellery and other functional categories (40%). The share of hoards composed of tools and/or weapons is also relatively high (11%). This dropped to a mere 2.4% in the following Ha D, along with a decrease in the proportion of combined hoards (11%) and a significant increase in the number of assemblages composed purely of jewellery, which are represented in over 85% of cases. Hoards containing metal vessels now newly appeared and represented 1% of cases. Variations are also observed in the use of the individual metals. The dominant role in the hoards was undoubtedly played by bronze objects. In contrast, hoards combining iron and bronze objects or containing exclusively iron artefacts are in the minority. Moreover, hoards of purely iron objects (whether consisting of jewellery or tools/weapons) occur almost exclusively in Ha C (Ha C1b – Ha C2), especially in the areas immediately adjacent to the aforementioned Hallstatt zone in southwestern Poland. Their occurrence is only sporadic in the following Ha D (Dzięgielewski et al. 2020, 233, 235).

Hoards are also a relatively more frequent phenomenon in the Eastern Hallstatt culture. The geographically closest area with ample evidence of hoard deposition is Central Moravia (Golec, Fojtík 2020, 200–204; Golec et al. 2023, 13, 16, Fig. 1, Suppl. 3). This area is also culturally close to east Bohemia, as both are characterised by manifestations of the Platěnice culture/group. However, unlike east Bohemia, hoards in the Moravian Platěnice culture/group milieu are more frequent and also differ in their compositional profile. The vast majority of the 19 cases are represented by hoards predominantly of annular jewellery.[10] The presence of amber and glass components of necklaces is also more frequently documented in these hoards. Hoards made up of metal vessels and other artefacts associated with feasting occur, though only sporadically. In contrast, hoards of iron tool/weapon assemblages are marginal and are documented in only a single case from Náměšť na Hané (Olomouc District; Kalábek, Duřpek 2021). The peak of hoard deposition in Moravia occurred in Ha D1 – Ha D2 with possible isolated cases of continuity into Ha D3 (Golec, Fojtík 2020, 202).

In contrast to the numerous finds from central Moravia, the map of south Moravia – occupied in the period by the Horákov culture/group – is essentially empty. A single hoard is mentioned, supposedly discovered at the site of Diváky-Burberk (Břeclav District). It allegedly consisted of bronze annular jewellery, and glass and amber beads, all stored in a ceramic vessel (Čižmář, Čižmářová 2014, 53, footnote 2). However, neither the finds nor the find context can be verified and thus information about the hoard is of little value.

A great deal of evidence on Hallstatt period hoard deposition is available from Slovakia, almost exclusively from the western half of its territory,[11] from which 18 reliably interpreted hoards come (see Dubec 2023, obr. 3; 4, with references; for the hoards from the Spiš region, see Javorský 1982; Benediková, Soják 2021; Kozubová et al. 2022b). The territory of present-day Slovakia is a considerably heterogeneous region from a culture-geographical perspective. In the southern parts of western Slovakia, the period of Ha C – Ha D1 is characterised by the occupation of regional groups of the Eastern Hallstatt culture (including the Kalenderberg culture/group, and the group of the central and northeastern part of Transdanubian), and of the Vekerzug culture throughout Ha D (see e.g. Stegmann-Rajtár 2009, 84, obr. 13; Kozubová 2013a). The regions lying to the north, including the Central Váh region, Kysuce, Orava, Liptov, the Central and Upper Hron regions as well as Spiš, can be attributed to the Lusatian cultural area throughout the Hallstatt period (see e.g. Miroššayová 1992; Benediková 2014, 26–29; 2016, 67). With the exception of the Ha C1a hoard from Nitrianská Blatnica-Marhát (Piešťany District; Ondrkál 2020), the custom of hoard deposition is mainly associated with Ha D in the western half of Slovakia (see more Dubec 2023).[12] Hoards from the Hallstatt culture sites in southwestern Slovakia are dated to Ha D1 – these include six hoards from the Molpír hillfort in Smolenice (Trnava District) and one from Buková/Smolenice-Záruby (Trnava District; see Čambal, Makarová 2020a; 2020b). In contrast, hoards from sites associated with the Lusatian cultural sphere consisted of objects used over a longer time and can thus be dated, as a rule, only more broadly to Ha D (see Čaplovič 1987, tab. 27:2, 3, 7; 28:9; 39:1–6; 40; 49; 50:1–4, 7; Benediková 2004, 108, 112; Studeníková 2007, Abb. 7:1–7; Kozubová et al. 2022b).[13] In terms of the representation of individual categories of objects and their combinations, two types of hoards are documented in Slovakia. The first includes hoards containing only one functional category of objects: bronze, and sporadically also amber jewellery and clothing accessories (Čaplovič 1987, tab. 27:2, 3, 7; 28:9; 39:1–6; 40; Pieta, Veliačik 2014; Čambal, Makarová 2020b), iron axes/tools (Javorský 1982; Čambal, Makarová 2020a, Fig. 8; Benediková, Soják 2021), or iron weapons (Kozubová et al. 2022b). All hoards from Spiš fall into this first group. A larger group in Slovakia is mixed hoards, which contained a combination of iron tools and bronze jewellery/clothing accessories, occasionally supplemented by iron ingots (Čaplovič 1987, tab. 49; 50:1–4, 7; Studeníková 2007, Abb. 7:1–7; Čambal, Makarová 2020a, Fig. 4–7; 9). Hoards containing a horse harness (Čambal, Makarová 2020a, Fig. 3) or metal vessels (Novotná 1991, Taf. 13; 14; Ondrkál 2020) occur only rarely.

The territory of Transdanubia – one of the areas of the Eastern Hallstatt culture – is characterised by the presence of several regional groups – the Hallstatt culture groups of the northern and central part of Transdanubia, akin to south Moravia, Lower Austria, and Burgenland, formed the groups of the northeastern Alpine area, while the southern and southwestern part of Transdanubia, along with Styria, Carinthia, Slovenia, and Slavonia, are classified in the Hallstatt culture groups of the southeastern Alpine area (see e.g. Patek 1993, 47–139; Rebay 2006, 257, 258). After a relative boom in deposition practices in the Late Bronze Age (e.g. Metzner-Nebelsick 1997, 93, 94; 2002, 71, 72), in the Hallstatt period we observe a decline in the number of hoards in Transdanubia – for the time being, six hoards are known concentrating in Ha D (Fekete 1999; Nagy et al. 2012; Sooś et al. 2023). Four of them have been found in northwestern Transdanubia (Ikervár-Pinkóci-dűlő / Vas County, Ravazd-Kisravazd / Győr-Moson-Sopron County, Somló-hegy / Veszprém County, Vaskeresztes or Magyarkeresztes / Vas County;[14] Mozsolics 1942, 155–161, kép 1; t. XV; Fekete 1973, 342–348, Abb. 2–7; Patay 1990, 75, Taf. 49:126; Nagy et al. 2012, pl. 2; 3:3; 4; 5; 8:2; 11:2, 4, 6; 12; 13; Soós et al. 2023, 131, Fig. 6–10), the remaining two hoards come from its southeastern part (hoard I from Kurd / Tolna County, Regöly-Szárazdi bozót / Tolna County; Patay 1990, 74–78, Taf. 47:124; 51–62; 63:141; Fekete 1995). With the exception of the hoard from Kurd, which was the only one to contain only bronze vessels, all of the Transdanubian hoards are characterised by the presence of bronze jewellery and especially clothing accessories (fibulae) associated with the female sphere. These occurred in the hoards both alone (Kisravazd, Regöly) and in combination with either bronze vessels (Vaskeresztes) or iron tools (Somló-hegy). The Late Hallstatt period hoard from Ikervár is specific in that it is the only one coming from a settlement context. It consisted of a combination of fibulae, a bronze strainer, another bronze vessel, and tools.

No Hallstatt period hoards are known thus far from the territory of Lower Austria and Burgenland, which were occupied by the Kalenderberg culture/group (Rebay 2006, 258, Abb. 241).[15] Hoards are only sporadically documented further south, in Styria and Carinthia, where hoards from the turn of Ha B3 and Ha C1, or from Ha C, contained several functional categories of bronze objects (jewellery and clothing accessories, axes and weapons, tools, and vessels), which were usually intentionally damaged (Tomedi 2002, 337). Among these, the hoards from Wildon, Styria (Leibnitz District) and Fließ, Tyrol (Landeck District) – both of the Bologna / San Francesco – Šempeter type hoards (see below) – indicate at least the partial affinity of these regions with hoard deposition practices characteristic of the North Adriatic area (Müller-Karpe 1959, 283, Taf. 144a; Sydow 1995; Turk 2018, 398–400). Similarly, to Lower Austria and Burgenland, there are no multiple-piece hoards in Upper Austria and the Salzburg Region, which culturally belong to the Western Hallstatt culture. The sporadic occurrence of monodeposits, often fluvial, from Ha C – Ha D1 points to the similarities of the western part of Austria with the Hallstatt regions lying further west (see e.g. Stöllner 2002, 37; Westhausen 2019a, 285, Abb. 4–6).

On the contrary, the deposition of hoards is commonly documented in the southeastern Alpine groups of the Hallstatt culture in Slovenia. In its western part, two heavily represented types of hoards are documented during the Hallstatt period. They differ not only in the preference for certain categories of objects, but also in the choice of metals. Hoards of the first type, referred to as the Bologna / San Francesco – Šempeter (near Nova Gorica / SI) type, contained bronze, usually fragmentarily preserved objects, among which shaft-hole axes clearly prevail. Additionally, they also contained weapons, tools, jewellery, and clothing accessories as well as various semi-finished objects. The objects from these hoards chronologically cover a wide range spanning the 9th–8th and 6th–5th centuries BC. The occurrence of the hoards in question is clearly linked to settlements – from northern Italy to western Slovenia – and are probably indicative of long-standing hoard deposition practices of used and highly fragmented artefacts (see Turk 2018, 398–400, 403, Fig. 1; 3; Teržan 2021, 244). Hoards of the second type, referred to as the Tržišče-Porpetto type, contained a large number of iron weapons, among which spearheads clearly prevail. Axes and single-edged swords are less common. In addition to these, bronze weapons, horse harnesses, and components of armour were sporadically found in the assemblages. Individual hoards of this type date from the late 8th to the mid-6th century BC. Unlike the hoards of the first type, they were situated close to

contemporary settlements. These hoards of a distinctly male nature are documented precisely in those parts of *Caput Adriae* where weapons, horse harnesses, and armour were not customarily put into graves. The deposition of such a large number of weapons may have been related to a local form of tropaion (see Turk 2018, 400–404, Fig. 2; 3; Guštin, Božić 2021; Teržan 2021, 244, 245).

A completely different situation can be observed in the areas lying west of east Bohemia, culturally classified in the Western Hallstatt culture. No more than three other assemblages, which can be, albeit sometimes with caution (Michálek 2017, 505–507; Jiráň et al. 2023, 296), considered hoards come from the rest of Bohemian territory. They all come from the areas of the Hallstatt Tumulus culture in southern Bohemia. Two of them are assemblages of iron tools and/or weapons from Třebanice (Prachatice District) and Vráže/Zlivice (Písek District) and are dated to Ha C2 – Ha D1/D2 (Michálek et al. 2015; Půlpán et al. 2022, 10, tab. 3). As far as jewellery hoards are concerned, there is only the assemblage from Spolí (Český Krumlov District) consisting of bronze rings and a glass bead and dated to Ha D2 – Ha D3 (Chytráček et al. 2015; Chytráček et al. 2017a). No hoards are known from west, central or northwest Bohemia.

In the more westerly areas, between Bohemia and the Rhine, the deposition of hoards in the form of assemblages of finished products was equally rare (cf. Stein 1979, 219, Abb. 1; Westhausen 2019a, Abb. 4, 5). They can only be found in some specific areas such as Switzerland. However, even there, hoards in the form of complete assemblages of jewellery, weapons or tools appear only sporadically and only during Ha D (Dunning 2007; Westhausen 2019b). In contrast, a kind of specific hoards consisting of iron bipyramidal ingots is common in the western parts of Central Europe. They occur mainly in territories of southwestern Germany, Switzerland, and eastern France. Most of them have no datable find context or accompanying finds. With rare exceptions, therefore, these assemblages were in the past dated only on typological grounds, usually to the La Tène period (overview in Mangel 2012, 251–252, obr. 3; Senn et al. 2014, 147–150). However, the results of radiocarbon dating show that this sweeping chronology is not sustainable, and at least some of them can be dated to the Hallstatt period (Berranger 2014, 115–116; Bauvais et al. 2017, 301, Fig. 5).

6. Discussion

Some of the results of the study of east Bohemian Hallstatt period hoards can be set in a broader context. The activities related to their deposition (Tab. 1) undoubtedly place them in phases Ha D1 (Stíčany, Velká Ledská) and Ha D2 – Ha D3 (Myštěves). It is not possible to state unequivocally whether these activities could have taken place slightly earlier as well. For some of the hoards such a possibility is not ruled out, though it cannot be confirmed. As a matter of fact, the assemblages can only be dated to the broad time span of Ha C1b – Ha D (Konechlumí) and Ha C – Ha D (Černíkovice). In three cases, the east Bohemian hoards consist exclusively of iron tools and/or weapons, accompanied in the Myštěves case by a horse bit. The remaining two hoards contain mainly bronze annular jewellery and other clothing accessories as well as amber beads in the case of the Stíčany hoard from Ha D1.

The composition of the east Bohemian hoards reveals some specific characteristics, although their interpretation is still hindered by the low number of documented cases. Based on the current state of knowledge, we seem to be dealing with a relatively high number of assemblages consisting of iron tools/weapons. This sets east Bohemia apart from the rest of Central Europe, where, if hoards of finished products are recorded at all, they either have a completely different composition (Slovenia, southern Germany) or they are jewellery hoards or hoards in which jewellery combinations with tools and/or weapons are absolutely dominant (Moravia, Hungary, Poland, Slovakia). A similar situation is also recorded in south Bohemia, but again with a generally low number of known cases. We are not yet able to explain this phenomenon unambiguously, but it is clearly based on several levels. For the sake of completeness, we should take into account the methodological aspects, which would, however, mean that, e.g. the strategies of searching for hoards differ fundamentally between Bohemia and Moravia. This is unlikely. Let us therefore focus our attention instead on other possible domains – chronological and cultural-geographical aspects. In the first case, we should mention the higher representation of iron hoards in Poland during Ha C1b – Ha C2 (Blajer 2001, 289–293, ryc. 46; Dzięgielewski et al. 2020). The more frequent occurrence of hoards of iron objects in east Bohemia or even south Bohemia could mean that their deposition already took place during Ha C. Some assemblages do not rule this out. A final possibility is an explanation based on the specific cultural and geographical position of the east Bohemian Platěnice culture/group, which occupies a position at the intersection of the Eastern and Western Hallstatt areas and, moreover, developed on the cultural substrate of the Lusatian Urnfield cultures (for this, e.g. Filip 1936–1937, 87–106; Venclová ed. 2008, 15, 17, 29, 84–97). In any case, this issue requires a complex study beyond the scope of this paper and will be developed in the future.

The hoards presented in this article have another important dimension to them. East Bohemia is a region relatively poor in nonceramic finds from the Hallstatt period (e.g. for the burial evidence, see Vokolek 1999). However, these finds play a crucial role in the study of interregional contacts. The presented assemblages thus provide us with a unique opportunity to expand our knowledge in this respect as well. East Bohemia's openness to foreign influences and its cultural contacts with neighbouring areas are demonstrated in particular in the Myštěves and Velká Ledská hoards containing objects whose centre of distribution is located either in the territory of the Vekerzug culture in the east, in the Western Hallstatt culture in the south and southwest, or to the north in western Poland. The horse bit of the Szentes-Vekerzug type and the Vekerzug-type battle axe from Myštěves (Fig. 4:3, 4) are unique not only within the east Bohemian context, but also in the whole of Bohemia and Moravia. However, these are not the only finds in east Bohemia that illustrate contacts with the Vekerzug culture in the Hallstatt and Early La Tène periods. The same eastern influence is clearly indicated by snake-shaped temple rings of types I and II after A. Kozubová, bronze triblade and trilobate-triblade arrowheads with an inner socket of A. Kozubová's types I and II and their variants, wheel-turned pottery or a bone object decorated in animal style from Mikulovice – V Loučkách (Pardubice District). The occurrence of cowrie shells can also be related to the activities of the Vekerzug culture (see Kozubová et al. 2022a, 275–306, 313–317, Abb. 13; Fundliste 1:4, 6, 19A, 19B, 19C, 22, 24, 26, 34, 37A, 37B, 37C, 39B). The finds of the Vekerzug culture are concentrated in the regions in the northern half of Bohemia and their occurrence can be dated only broadly to the Ha D and LT A stages (Kozubová et al. 2022a, 304, 306).

The saddle-shaped anklet from Velká Ledská from Ha D1 (Fig. 5:1, 3) is a new addition to the small group of jewellery and clothing accessories documenting cultural contacts of east Bohemia with the territories of the Western Hallstatt culture.

While the occurrence of parallels to the rings from Velká Ledská is limited to Bavaria (see above), the cast melon-shaped bracelets from Pěčín (Rychnov nad Kněžnou District) and Úhřetice (Chrudim District) are a popular type of annular jewellery widespread mainly in southern Germany, Upper Austria, and south and west Bohemia in Ha C and Ha D1/D2 (see Mangel 2010, 264, 265, with references, obr. 2; 3). The group in question is further represented by finds of Late Hallstatt period fibulae – fibulae with a decorated foot/*Fußzierfibeln* and bossed fibulae/*Paukenfibeln* were widespread in the Western Hallstatt culture territories mainly in southwestern Germany (see Vencl 1967; Vokolek, Sankot 2001; Trefný 2016, 146–148, 151, with references, obr. 4:1; 6:1).[16] The pin with a double spiral head and hammered neck from Velká Ledská (Fig. 5:2) and the axes with a circular socket from Černíkovice (Fig. 3:1, 2) are types of objects whose origin and/or main distribution territory is located in the western part of Poland (see above). An iron sickle from Nová Ves near Bakov (Mladá Boleslav District) with its end bent at a right angle could also point to contacts of the Platěnice culture/group environment in a northerly direction (Vokolek 1999, 89, tab. 60:15). This is a type of sickle whose primary distribution territory is in Poland, with their finds mainly concentrated in the area from Lusatia through Greater Poland to Upper Silesia (Derrix 2001, 81, 214, 215, Abb. 40:1). Outside this area, they are also documented from the northern regions of Slovakia (Benediková, Soják 2021, Abb. 2–4). The Stíčany hoard plays a special role in terms of assessing the possible interregional contacts of east Bohemia. The objects of which the hoard consisted are unknown in the local environment and parallels to them are seen in both the Eastern and Western Hallstatt environments (see more Jiráň et al. 2023).

Although the primary aim of this article was not to address the question of the meaning of hoard deposition in either a profane or ritual sense, we will nevertheless touch on it at the end and add a brief commentary on the facts that emerged from the spatial analysis of their external find context. Unfortunately, information on the arrangement of objects within the find situations and on the relationship of the hoards to the topography of the landscape cannot be currently interpreted, given their number and the nature of available information. However, this is not the case of the relationship of the hoards to the settlement and social landscape. The majority of these hoards were deposited outside contemporary settlements or burial grounds, although in two cases in closer association with hilltop settlement sites. The most interesting finding, however, appears to be the fact that four of the five east Bohemian hoards were deposited at the interface of settled and unsettled areas. Studies in recent years show that similar locations of hoards are in no way exceptional. Evidence of hoard deposition at the boundary of a settled territory, and sometimes also in connection with hillforts, can be repeatedly observed in other regions for which we have the appropriate data. For the Late and Final Bronze Age, this phenomenon has been described in detail in Moravia, with some finds pointing to its continuation in later periods, including the Hallstatt period (e.g. Salaš 2017; Salaš et al. 2020, 50–52, obr. 15; Mírová, Fojtík 2021; Golec et al. 2023, 17). The presence of hoards on the borders of selected settlement regions and micro-regions has been repeatedly demonstrated in northern Poland (Maciejewski 2016). Last but not least, we can mention the south Bohemian hoards from Spolí (Český Krumlov District; Chytráček et al. 2017a, obr. 17) and from Třebanice (Prachatice District; Michálek et al. 2015, 125, obr. 13), which again show a link not only to contemporary highland settlements, but also to the border zones of settlement areas.

For the Hallstatt period, we still lack evidence of the so-called *hoard fields* (see e.g. Salaš 2007; Salaš, Jarůšková 2017; Mírová, Fojtík 2021, 17) documented for the Late and Final Bronze Age. Nevertheless, the regularity in the use of boundary zones for hoard deposition is striking. Its recurrence in different areas shows that it represents a universal and intentional behaviour associated with the perception and organisation of the landscape at that time. Boundary zones were repeatedly sought out as sites for ritual acts. This is suggested not only by the recurring similar landscape configurations of their deposition sites, but also by recurring, albeit somewhat regionally determined, patterns in their composition. The exact nature of these rituals is unknown. However, the links between hoards and boundaries suggest that it is to be sought in terms of symbolic behaviour reflecting the territorial perception of the landscape by the communities of the time (Maciejewski 2016; 2019a).

6. Conclusion

The fact that hoards were deposited in east Bohemia during the Hallstatt period is a relatively new discovery that contributes significantly to an understanding of cultural development in the region. Currently, there are five assemblages that can be classified in this category and it can be assumed that their number will grow in the future. It appears that the deposition of multiple-piece hoards, similar to the culturally related Platěnice culture/group of central Moravia, was a natural part of the life of the communities of the east Bohemian Platěnice culture/group in Ha C – Ha D1 and continued during the subsequent Late Hallstatt period. The distinction between the two geographical groups is thus no longer a matter of presence/absence of hoards, but can be seen in their frequency and content.

The deposition of hoards in the territory of east Bohemia undoubtedly occurred during Ha D. The question of whether this activity was already pursued during Ha C is not satisfactorily resolved at the moment, although some assemblages do not rule out this possibility. Issues related to some specific aspects of the composition of the east Bohemian hoards are also not satisfactorily resolved. These consist in the more frequent occurrence of hoards composed of iron tools and weapons, which, despite the (thus far?) low number of cases, distinguishes the region to some extent from most other Central European areas with evidence of hoard deposition. The reasons for this phenomenon can probably be sought in chronological or cultural geographical terms. In the future, we may hope to get a deeper understanding of this issue should Central European Hallstatt hoard deposition be studied in a broader context, but also if more local hoards are discovered and studied. This is also important for deepening our knowledge of interregional connections, since it is the hoards that can provide invaluable evidence in this regard in areas with a low presence of metallic finds in both grave and residential contexts – such as the east Bohemian Platěnice culture/group. Some of the objects from the studied hoards clearly show that during the Hallstatt period, east Bohemia was involved in a wide network of connections with areas to the west, east, and north.

The analysis of the relationship of hoard deposition sites to other archaeological components in the landscape also yielded important results. It is evident that not only in east Bohemia, but also in some other Central European areas, sites on the margin of settled areas were chosen for these purposes. This repeated deposition of hoards on the boundaries of settlement regions is probably related to the symbolic aspects of territoriality of Early Iron Age communities.

CRediT authorship contribution statement

Tomáš Mangel: Writing – original draft, Writing – review & editing, Investigation, Visualization, Conceptualization.
Anita Kozubová: Writing – original draft, Writing – review & editing, Investigation, Visualization.
Tereza Jošková, Writing – review & editing, Resources, Investigation, Visualization.
Miroslav Novák: Resources, Investigation.
Martina Beková: Resources, Investigation.
Zuzana Bláhová-Sklenářová: Writing – review & editing, Resources, Investigation.
Lucie Novotná: Resources, Investigation.
Dominika Schmidtová: Writing – review & editing, Resources.

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Notes

1 Some of them were found before 2014, but for a long time they remained in the possession of the finders, thus escaping the attention of researchers.

2 Although solitary finds can also be a manifestation of intentional deposition practices (e.g. Vencl 1967; Mangel 2010; 2012; Mangel et al. 2023), the intentionality of the deposition of these objects is in most cases difficult to prove and therefore we have set them aside for the time being.

3 The following abbreviations were used in the catalogue: h. = height; l. = length; w. = width.

4 Two assemblages can be mentioned in this category. The first is a set of bronze rings and multi-layered eye beads found in 1912 in Lípa (Hradec Králové District; Domečka 1914; Venclová ed. 2008, 135). The other is a find of two annular jewels discovered in 1905 in Rusek (Hradec Králové District; Vokolek 1999, 145).

5 On battle axes of type I, cf. Kozubová, Fojtík 2021, 81, with references, Abb. 16.

6 Another two axes are of variant II3 with a tubular shaft hole and discoid butt (see Kozubová 2010, 55, obr. 10:3, 3a).

7 With a possible overlap into Ha D3 (see Půlpán et al. 2022, 10, with references).

8 A more precise chronological classification, namely to Ha D, is possible only in the case of the Istebné-Hrádok hoard (Dolný Kubín District; Benediková 2004, 103, 108).

9 Burial mound 3 from Teklivka/Теклівка (Chortkiv Raion / UA) is dated to the second half of the 7th century BC. The occurrence of pins with a double spiral head and hammered neck in the Western Podolian group is associated with cultural influences from Central Europe (Gutsal et al. 2011, 104, 106, 107).

10 This number does not include the arbitrarily construed and recently questioned 'hoard from Uherské Hradiště' (Hlava 2017).

11 An exception is the hoard from Nižná Myšľa in southeastern Slovakia (Košice-okolie District; Miroššayová 1980).

12 It is unclear whether some of the iron artefacts from Trenčianske Teplice (Trenčín District), allegedly coming from the Čvirigovec hillfort, can be attributed to a hoard. The artefacts are dated to the Ha B3 – Ha C1 (see Čambal 2015).

13 An exception is to be made for the hoards from Nitrianske Rudno-Predný Rokoš (Prievidza District) dated to Ha C2 – Ha D1 and from Sklabinský Podzámok-Katova skala (Martin District) dated to Ha D1 – Ha D2 (Pieta, Veliačik 2014; Dubec 2023, 44, 45). Hoards from the Spiš region can be dated only broadly to the Hallstatt period – this concerns the hoards from Hrabušice-Pod Zelenou horou and Letanovce-Čertova sihoť (both Spišská Nová Ves District; Benediková, Soják 2021).

14 The assemblage of artefacts from Vaskeresztes/Magyarkeresztes is plagued by unclear find circumstances (Mozsolics 1942; Patay 1990, 75).

15 The dating of the hoard from Großweikersdorf (Tulln District) to the beginning of the Hallstatt period is disputed (Metzner-Nebelsick 2002, 72). In contrast, the jewellery hoard from Thunau am Kamp (Horn District) is dated by M. Lochner (1998–1999, 184) to the Late Bronze Age; however, based on the bronze circular perforated pendants with a double cross, a dating to the Hallstatt period appears more likely (see Golec, Kos 2020, 75, footnote 3).

16 The handle of a bronze vessel from Úhřetice (Chrudim District; Vokolek 1999, tab. 134:3; Trefný in print) may also have originated in the area of southwestern Germany and the Salzkammergut in Upper Austria.

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Resumé

Nástup časné doby železné je ve velké části střední Evropy provázen silnou redukcí dokladů ukládání depotů. Tento jev je obvykle dáván do spojitosti se společenskými a ideologickými změnami, k nimž docházelo na území nově se formujícího halštatského kulturního světa. K oblastem, v nichž bylo ukládání depotů kovových artefaktů opuštěno úplně, se donedávna řadily též východní Čechy. Nově získaná data ovšem vypovídají o opaku. Kromě již dříve publikovaného depotu ze Stíčan (Jiráň et al. 2023) dnes disponujeme informacemi o dalších čtyřech souborech, které náleží do uvedené kategorie nálezů (obr. 1). Depoty z Černíkovic (obr. 3:1, 2), Konecchlumí (obr. 2:I; 3:3, 4) a Myštěvsi (obr. 2: II; 4) byly tvořeny výlučně železnými nástroji a/nebo zbraněmi (čakan, sekery s raménky, sekery s tulejí, srp, nůž, kovadlinka), v případě Myštěvsi doprovázenými navíc koňským udidlem. Depot z Velké Ledské (obr. 5) obsahoval bronzové kruhové šperky a další oděvní doplňky. Obdobné složení měl též již zmíněný soubor ze Stíčan, jenž obsahoval navíc jantarové korály.

Z kulturně-chronologického vyhodnocení obsahu depotů vyplývá, že aktivity spojené s jejich ukládáním se nepochybně pojí s fázemi Ha D1 (Stíčany, Velká Ledská) a Ha D2 – Ha D3 (Myštěves). Zda k nim docházelo i o něco dříve, nelze jednoznačně konstatovat. Část depotů takový pohled nevylučuje, ale prokazatelná tato alternativa není. Jde totiž o soubory, které lze datovat pouze rámcově do širších chronologických úseků pokrývajících Ha C1b – Ha D (Konecchlumí) a Ha C – Ha D (Černíkovice). Některé předměty z dosud nepublikovaných depotů navíc poskytují oporu pro studium nadregionálních kontaktů. Depot z Myštěvsi obsahoval část udidla typu Szentes-Vekerzug (obr. 4:4) a čakan typu II (obr. 4:3) Hlavní oblast rozšíření těchto typů předmětů se kryje s prostředím vekerzugské kultury v Karpatské kotlině (obr. 6, 7). Sedlovité nánožníky z Velké Ledské (obr. 5:1, 3) doplňují nepočetnou skupinu šperků a součástí oděvu, která dokládá kontakty východních Čech s oblastmi západohalštatské kultury. Jehlice s dvojitou spirálovitou hlavicí a roztepaným krčkem z Velké Ledské (obr. 5:2) a sekery s tulejkou kruhového průřezu z Černíkovic (obr. 3:1, 2) patří k typům předmětů, jejichž těžiště výskytu leží v západní části Polska. Specifické postavení z hlediska nadregionálních kontaktů pak zaujímá depot ze Stíčan. Paralely k předmětům, které obsahoval, jsou spatřovány jak ve východo, tak v západohalštatském kulturním prostředí (Jiráň et al. 2023).

Ve srovnání s většinou dalších středoevropských území s doklady deponování jsou východní Čechy nápadné častějším zastoupením souborů tvořených železnými nástroji/militarii. Obdobný obraz v současnosti poskytují pouze Čechy jižní. Počet známých depotů je ovšem v obou oblastech stále příliš nízký, aby bylo možno tuto skutečnost jednoznačně interpretovat. Příčiny mohou spočívat jak v rovině metodické, tak v odlišné chronologii deponování či ve specifickém kulturně-geografickém postavení regionu.

Na základě vyhodnocení aktuálních dat o prostorových vztazích východočeských depotů ke krajině a k dalším komponentám halštatského osídlení vyplynulo, že k jejich ukládání byla ve většině případů volena místa na hranicích osídlených oblastí (obr. 8–10; tab. 1). Studie z posledních let ukazují, že obdobné umísťování depotů není ojedinělé. Doklady deponování na hranicích osídlení lze opakovaně pozorovat v dalších regionech i v jiných obdobích (např. Maciejewski 2016; 2019a; Salaš 2017; Salaš et al. 2020, 50–52, obr. 15; Mírová, Fojtík 2021; Golec et al. 2023, 17). Pravidelnost tohoto jevu vypovídá o jeho intencionální a univerzální povaze. Souvislosti mezi depoty a hranicemi naznačují, že vysvětlení je třeba hledat v rovině symbolického chování, které odráží teritoriální vnímání krajiny tehdejšími komunitami (Maciejewski 2016; 2019a).

Contacts

Tomáš Mangel
Filozofická fakulta, Univerzita Hradec Králové
Rokitanského 62
CZ-500 03 Hradec Králové
tomas.mangel@uhk.cz
ORCID: 0000-0001-8298-8128

Anita Kozubová
Archeologický ústav SAV, v. v. i.
Akademická 2
SK-949 21 Nitra
anitakozub@gmail.com
ORCID: 0000-0002-5052-9901

Tereza Jošková
Východočeské muzeum v Pardubicích
Zámek 2
CZ-530 02 Pardubice
joskova@vcm.cz
ORCID: 0000-0001-8448-7765

Miroslav Novák
Archeologické oddělení
Muzeum východních Čech v Hradci Králové
Eliščino nábřeží 7
CZ-500 03 Hradec Králové
m.novak@muzeumhk.cz
ORCID 0000-0002-7114-6993

Martina Beková
Muzeum a galerie Orlických hor v Rychnově nad Kněžnou
Jiráskova 2
CZ-516 01 Rychnov nad Kněžnou
bekova@moh.cz

Zuzana Bláhová-Sklenářová
Filozofická fakulta, Univerzita Hradec Králové
Rokitanského 62
CZ-500 03 Hradec Králové
zuzana.blahova@uhk.cz
ORCID: 0000-0001-9924-8863

Lucie Novotná
Regionální muzeum a galerie v Jičíně
Valdštejnovo náměstí 1
CZ-506 01 Jičín
novotnal@muzeumhry.cz

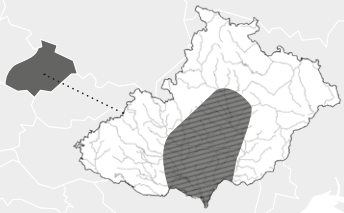
Dominika Schmidtová
Regionální muzeum a galerie v Jičíně
Valdštejnovo náměstí 1
CZ-506 01 Jičín
ORCID: 0000-0002-0276-304X

Přehled výzkumů 66/1, 2025 ● 153–167

Chemical composition of Moravian La Tène anklets and their fillings

Chemické složení moravských laténských nánožníků a jejich výplní

– *David Spáčil** –



KEYWORDS

La Tène – Iron Age – Moravia – jewellery – anklets – attire – chemical composition – analyses – XRF

ABSTRACT

This study examines the chemical composition of La Tène anklets and their fillings from Moravia, offering insights into technological advancements and crafting practices during the Late Iron Age. These anklets, integral to La Tène period attire and often worn in pairs, were categorised into eleven typological groups based on their design, such as wire anklets, rod-like anklets, caterpillar anklets, and anklets with hollow hemispheres. Up to seventy-one examples were analysed using X-ray fluorescence (XRF) and gas chromatography-mass spectrometry (GC-MS). The research identified a sudden increase in lead content within the copper alloys used for anklet production, reflecting broader Central European metallurgical trends during the LT B2/C1 periods. This shift may have been influenced by factors such as enhanced workability, aesthetic considerations, or production efficiency, but its exact purpose remains uncertain.

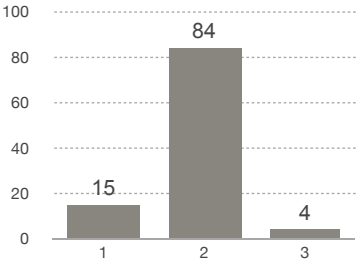
The study also investigates the origins and role of fillings found in hollow anklets, which included both dirt-like substances and textile remnants. Chemical analysis detected traces of pine resin; its presence could be linked to its use as an adhesive for textile stuffing (for structural support or comfort) or as a component in the lost-wax casting process of these artefacts.

1. Introduction

Anklets are a typical component of La Tène attire. The heyday of their popularity was in the Late Iron Age, when they gained favour among wealthier women (Waldhauser 1987, 38–45), although they appear more or less throughout the entire Iron Age. Chronologically, in the Late Iron Age, they belong to the 'flat cemetery' period dating from LT B to C1 (ca 410–175 BC in Central Europe; Venclová ed. 2008, 21). An anklet is a form of annular jewellery worn on the ankles. In Moravia, they were worn almost exclusively in pairs, and graves with more than two anklets are rare (e.g. grave 34 from Brno-Maloměřice with three anklets; Čižmářová 2005, 84), while those with only one anklet are a bit more common, though still non-standard (Graph 1).

Previous research on La Tène period anklets rarely focused on chemical analyses, and to the author's knowledge, there are no papers on the chemical analysis of the fillings found in some anklets. It is necessary to mention a few works dealing with the topic of anklets in general: of importance are certainly studies by P. Sankot (1981; 2002a; 2002b) about the decoration and spatial distribution of La Tène period anklets with a focus on Bohemia; a monumental work about annular jewellery in Slovakia by J. Bujna (2005); works of various authors on anklets in Slovakia and Hungary (Masse, Szabó 2005; Fábry 2012; Furman 2014), and Italy (Geschwind 2020); and one of the latest from the author of this paper (Spáčil 2023) on anklets with hollow hemispheres in Moravia.

A notable work on the chemical composition of Late Iron Age jewellery (not exclusively anklets) is a monograph focusing on the area of today's Bohemia (Frána et al. 1997). The authors used surface XRF (X-ray fluorescence) in combination with NAA (neutron activation analysis) to conclude that annular jewellery (anklets being the primary studied source) changes its composition throughout the La Tène period. According to them, the change happens in the LT B2 period with the emergence of anklets with hollow hemispheres, which tend to have a higher content of lead (Frána et al. 1997, 94–95). They also stated that the surface analyses represented a problem, since the corrosion



Graph 1. Histogram of graves with 1, 2, or 3 anklets. Data from Čižmářová 2005; 2009; 2011; 2013; 2017; 2019.

Graf 1. *Histogram hrobů podle počtu nánožníků – 1, 2, nebo 3 kusy v hrobě. Data převzata z Čižmářová 2005; 2009; 2011; 2013; 2017; 2019.*

* Corresponding author – E-mail address: david.spacil01@upol.cz

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layers of the anklets distort the results. Similar observations can be seen in a paper from Danielisová et al. (2021), which partially uses the data published in the previously mentioned publication (Frána et al. 1997). According to the paper, the first copper alloy artefacts with high (in this case more than 13%) lead concentrations appear in LT B2a, although they make up only about 10% of all studied artefacts from this subphase. Artefacts with high lead levels become standard only in the B2b and later subphases (over 50% of studied artefacts).

Although these types of publications are present in the surrounding regions, there are only a few works discussing the chemical composition of Late Iron Age artefacts in Moravia. For example, M. Kmošek's master's thesis deals with such analyses of prehistoric and protohistoric artefacts made of copper alloys; however, annular jewellery is of only marginal interest (Kmošek 2019). Also noteworthy are papers by Goláňová et al. (2020) and Danielisová et al. (2020), both of which focus on the chemical composition of artefacts (for example, belt parts, small figurines, amulets and pendants) from the Middle and Late La Tène period (more precisely from LT C–D; these sets chronologically overlap with the set of anklets studied in this paper only marginally) from – at least partially – Moravia. High lead levels (10–30, in extreme cases even up to 90% lead) can be observed in mentioned artefacts from this period in both publications.

In terms of anklet fillings, the research focused primarily on typically very well-preserved fillings of tubular/caterpillar anklets from the perspective of textile research. A few notable works cover anklets (or bracelets) and partially even those from Moravia. The textile fillings of two Moravian caterpillar bracelets (previously considered to be anklets; Salayová 2023, 534) from Mušov and anklets of the same type from Miroslav were covered by M. Kostelníková (2001), the textile research in the Czech and Slovak Republics was thoroughly described by T. Belanová-Štolcová (2012), although the La Tène period anklets make up only a part of this work.

This paper focuses on the two aforementioned matters: the first goal is to determine if the conclusions reached by Frána et al. (1997) about the 'chronological sensitivity' of the lead content in the La Tène period anklets apply also to the region of Moravia. The second goal is to hopefully trace the origin and significance of the dirt-like fillings from both caterpillar anklets and anklets with hollow hemispheres by means of an analysis of their chemical composition.

2. Materials

There are ca 310 anklets from the La Tène period in the region of Moravia (Filip 1956; Meduna 1980; Čižmářová 2005; 2009; 2011; 2013; 2017; 2019) and they come in various forms. These can be sorted into four main categories: wire anklets (a very thin body that usually meanders in loops; Fig. 1:4); anklets with a rod-like body (the body is composed of a rod with a circular cross-section and is always open, thus they have two terminals; some of these anklets are decorated; Fig. 1:2); caterpillar anklets (made from thin metal plate, which is curved inwards and makes up a hollow body of roughly a round cross-section with triplets of protrusions along it; Fig. 1:1); and anklets with hollow hemispheres (the largest kind with varying size, number of hemispheres, and decoration; Fig. 1:3; for further information about anklets with hollow hemispheres, see Spáčil 2023).

Of these anklets, 71 were selected for analysis (for the spatial distribution of the studied anklets, see Fig. 2). They were classified into eleven auxiliary categories, some defined specifically for this paper,[1] expanding the aforementioned types (Tab. 1). Although the original intention was to have the same or at least a similar number of anklets in each category, the scarcity of some anklet types prevented it. Anklets with hollow hemispheres and anklets with a rod-like body represent the majority (34 individuals [or 48%] and 27 individuals [or 38%], respectively) of all the anklets in the studied set. The remaining artefacts are eight caterpillar anklets (ca a third of all caterpillar anklets in Moravia) and two wire anklets (of a total of six potential[2] wire anklets in Moravia).

The majority of all Moravian anklets come from La Tène burial grounds or graves (around 280 individuals), while the remaining ca 30 anklets come either from settlements or their activity area cannot be determined. This can be partially explained by similarities between various annular ornaments: simply put, it is difficult to discern bracelets, armbands and anklets (Salayová 2023, 48) when presented with no context (the position of the annular ornament on the body), and thus a significant number of anklets from settlements or with no context might end up being broadly categorised as 'annular ornaments'.

Anklets from the La Tène period are typically made from copper alloys in Moravia. Of the aforementioned ca 310 anklets, less than 2% are made from iron, and there is no evidence of anklets being made from any other material (e.g. glass or sapropelite, materials from which bracelets and armbands are sometimes made), probably for practical reasons. Apart from being flexible enough to be put on ankles, jewellery from copper alloys allows the craftsman to produce more complex decorative elements than if they were produced from iron. The plastic style (Kruta 1975, 45–95, e.g. Fig. 44–48; Megaw, Megaw 2001, 135–144) is the best example of said complexity. The anklets with hollow hemispheres represent an extreme case of shape complexity even in their non-decorated form. This formal complexity may be connected to a higher level of lead content, as



Fig. 1. Four main categories of anklets. 1 – Caterpillar; 2 – with hollow hemispheres; 3 – with a rod-like body; 4 – wire. 1 – Vracov, inv. No. 70.441; 2 – Brno-Bohunice, inv. No. SAÚ 444/47; 3 – Holubice, inv. No. 107.215; 4 – Brno-Chrlice, inv. No. 314476. 1–3 – Moravian Museum (MZM); 4 – Brno City Museum (MMB). Photo by D. Spáčil.

Obr. 1. *Čtyři hlavní kategorie nánožníků. 1 – Housenkovité; 2 – puklicové; 3 – tyčinkovité; 4 – drátěné. 1 – Vracov, inv. č. 70.441, 2 – Brno-Bohunice, inv. č. SAÚ 444/47, 3 – Holubice, inv. č. 107.215, 4 – Brno-Chrlice, inv. č. 314476. 1–3 – Moravské zemské muzeum (MZM), 4 – Muzeum města Brna (MMB). Foto D. Spáčil.*

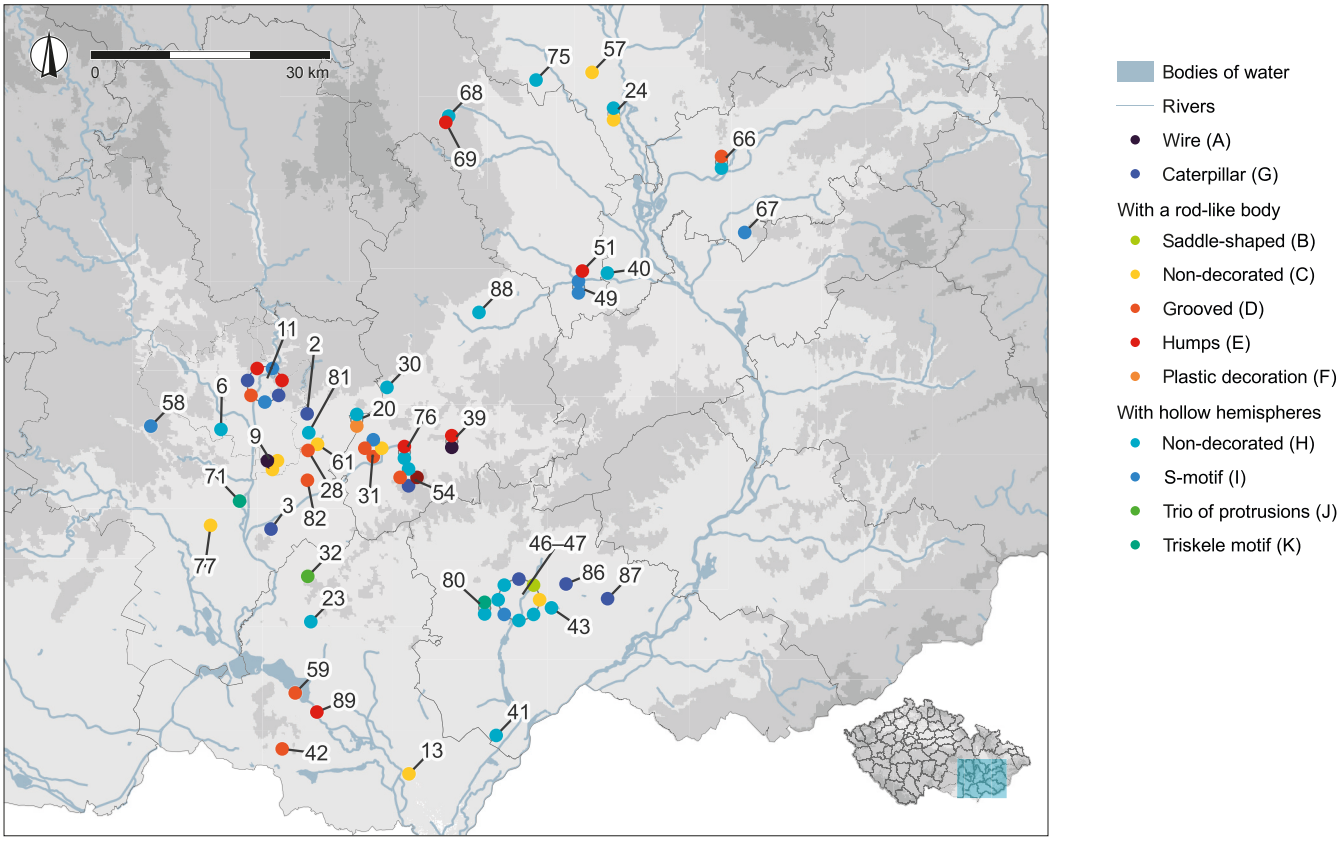


Fig. 2. The location of the studied anklets on the map of Moravia. 1 – Bedřichovice; 2 – Blučina; 3 – Brno-Bohunice; 4 – Brno-Chrlice; 5 – Brno-Maloměřice; 6 – Břeclav; 7 – Holubice; 8 – Hustopeče; 9 – Charváty; 10 – Kobylnice; 11 – Královopolské Vážany; 12 – Křenovice; 13 – Křepice; 14 – Marefy; 15 – Měrovice; 16 – Mikulčice; 17 – Mikulov; 18 – Milotice; 19 – Mistřín (both sites); 20 – Mořice; 21 – Němčice nad Hanou; 22 – Nížkovice; 23 – Olomouc-Slavonín; 24 – Omice; 25 – Pavlov; 26 – Ponětovice; 27 – Přerov-Předmostí; 28 – Přestavlky; 29 – Ptení – Mlýnisko; 30 – Ptení – Výmolův rybník; 31 – Rajhrad; 32 – Slatinice; 33 – Slavkov; 34 – Sobotovice; 35 – Šardice; 36 – Šlapanice; 37 – Telnice; 38 – Vlkoš; 39 – Vracov; 40 – Vyškov; 41 – Zaječí. Author D. Spáčil.

Obr. 2. *Lokace studovaných nánožníků na mapě Moravy. 1 – Bedřichovice; 2 – Blučina; 3 – Brno-Bohunice; 4 – Brno-Chrlice; 5 – Brno-Maloměřice; 6 – Břeclav; 7 – Holubice; 8 – Hustopeče; 9 – Charváty; 10 – Kobylnice; 11 – Královopolské Vážany; 12 – Křenovice; 13 – Křepice; 14 – Marefy; 15 – Měrovice; 16 – Mikulčice; 17 – Mikulov; 18 – Milotice; 19 – Mistřín (obě lokality); 20 – Mořice; 21 – Němčice nad Hanou; 22 – Nížkovice; 23 – Olomouc-Slavonín; 24 – Omice; 25 – Pavlov; 26 – Ponětovice; 27 – Přerov-Předmostí; 28 – Přestavlky; 29 – Ptení – Mlýnisko; 30 – Ptení – Výmolův rybník; 31 – Rajhrad; 32 – Slatinice; 33 – Slavkov; 34 – Sobotovice; 35 – Šardice; 36 – Šlapanice; 37 – Telnice; 38 – Vlkoš; 39 – Vracov; 40 – Vyškov; 41 – Zaječí. Autor D. Spáčil.*

some authors state that lead improves the properties of bronze (Bureš, Waldhauser 2005, 733). This very old statement dates back to Jan Erazim Wocel: 'Hotovitelé bronzových šperků této pozdější doby přidávali částky olova do kovoviny, aby tato tím snadněji tekutou se stala' [In this later period, bronze jewellery makers would add amounts of lead to the alloy so that it would become fluid more easily] (Wocel 1868, 196).

Fillings can sometimes be found in hollow anklets (categories G–K). They are either dirt-like (Fig. 3:3, 4) in consistency or appear as cloth (Fig. 3:1, 2). The cloth fillings in caterpillar anklets most likely serve as padding, since the sheet of metal used to create these anklets is very thin and fragile. Cloth stuffed inside like this adds almost no weight to the ring and, on the other hand, keeps the anklet from collapsing or otherwise damaging itself. The cloth is usually made from a plain-woven linen fabric (Kostelníková 2001; Belanová-Štolcová 2012; Štolcová 2019). In some cases, the cloth filling in caterpillar anklets is stiffened with some sort of glue (Kostelníková 2001). Fillings were preserved in three out of the eight studied caterpillar anklets (Tab. 1). On the other hand, the meaning and origin of

Symbol	Category	Count	With fillings
A	Wire	2	0
B	Saddle-shaped	1	0
C	With a rod-like body	9	0
D	With a grooved rod-like body	9	0
E	With a rod-like body and humps	7	0
F	With a rod-like body and plastic decoration	1	0
G	Caterpillar	8	3
H	With non-decorated hollow hemispheres	23	14
I	With hollow hemispheres decorated with an S-motif	8	3
J	With hollow hemispheres with a trio of protrusions	1	1
K	With hollow hemispheres decorated with a triskele motif	2	1

Tab. 1. Categories of anklets defined for this paper with their symbols used in the text, the count of individuals selected for the analyses, and the count of anklets with fillings from each category.

Tab. 1. *Kategorie nánožníků vytvořené pro tento článek a jejich symboly užité v textu, počet kusů studovaných nánožníků a počet nánožníků s výplněmi z každé kategorie.*

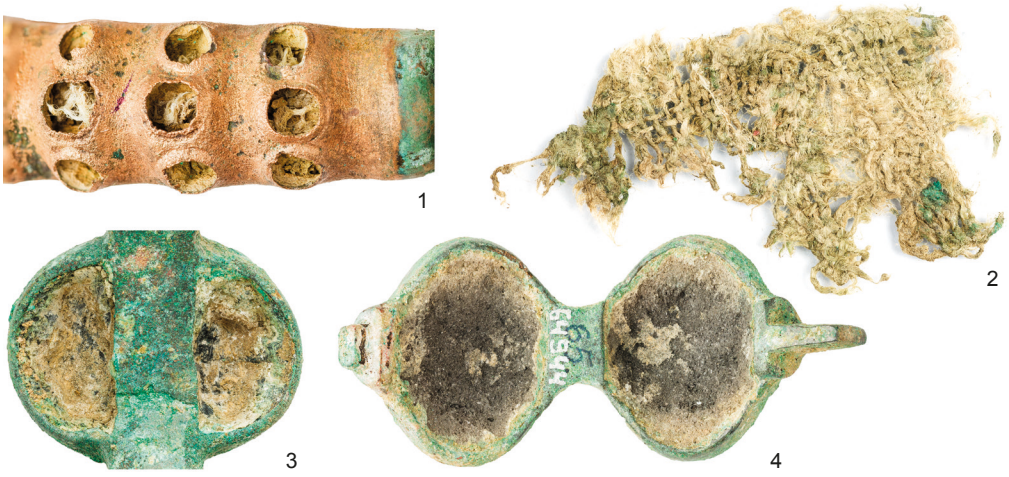


Fig. 3. Various examples of fillings in anklets. 1, 2 – Cloth filling; 3, 4 – dirt-like filling. 1 – Bedřichovice, inv. No. 156.834; 2 – Hustopeče, inv. No. 174.647; 3 – Brno-Bohunice, inv. No. SAÚ 444/47; 4 – Nížkovice, inv. No. 64.944. MZM. Not to scale. Photo by D. Spáčil.

Obr. 3. *Příklady výplní nánožníků. 1, 2 – Látková výplň; 3, 4 – hliněná výplň. 1 – Bedřichovice, inv. č. 156.834; 2 – Hustopeče, inv. č. 174.647; 3 – Brno-Bohunice, inv. č. SAÚ 444/47; 4 – Nížkovice, inv. č. 64.944. MZM. Bez měřítka. Foto D. Spáčil.*

dirt-like fillings are much less obvious. Concerning the anklets with hollow hemispheres, these fillings may originate simply from the dirt of the grave that got inside the hemispheres after the deposition. They could also be remnants from anklet production, e.g. from the clay mould. It might also be decomposed or petrified cloth padding (although no macroscopic traces of cloth have been identified in the studied set of anklets with hollow hemispheres), similar to the caterpillar anklets, although with a slightly shifted sense. Instead of supporting the anklet construction, the padding could protect the anklet wearer's ankles from bruising. Fillings were preserved in over 55% of the studied anklets with hollow hemispheres (Tab. 1).

All the studied anklets have been dated (if possible) according to the chronology of the La Tène graves in Bohemia (Waldhauser ed. 1978; Waldhauser 1987) and to a lesser extent also to the chronology of Moravian La Tène armbands and bracelets (Salayová 2023), based on the accompanying artefacts from their respective contexts.

3. Methodology and results

3.1 Analyses of metal composition

In the matter of finding the composition of the metal used to make the studied anklets, the surface XRF analysis was conducted in two main phases. Initially, 64 anklets were analysed using a portable Vanta XRF (pXRF) spectrometer (Olympus, MA, USA) in Analchem mode in the Department of Analytical Chemistry at Palacký University, Olomouc. For the evaluation of the results, Vanta data management software was used. In the second phase, another seven anklets were analysed using a Niton Xl3t 980 pXRF spectrometer in General Metals mode at the Institute of Archaeology of the Czech Academy of Sciences, Brno.

The surface XRF method was primarily chosen for its non-invasive nature, to avoid damaging the anklets by taking samples, and for the ease of use, so large quantities of samples could be measured in a relatively short time. The measured spots on the anklets were not polished for the same reason. Instead, the least corroded section of each anklet was selected (which is far from ideal) to lessen the distortion of the results. On every anklet, three different spots were measured, again, to minimise the error. In the first (Vanta) phase, each measurement took 30 seconds and was comprised of two internal sub-phases. The first sub-phase (with energy up to 8 keV) took 10 seconds, and the second one (up to 40 keV) took the remaining 20 seconds. The seven anklets analysed in the second phase with the Niton Xl3t 980 were also measured three times each, with each measurement lasting 60 seconds. The Vanta spectrometer has an elemental detection range of Mg–U, so it measures 80 elements, of which 32 were detected in a non-null quantity in at least one anklet. Apart from that, it measures for light elements, i.e. those with an atomic number of eleven or lower. In some cases, the raw results showed quite strong signals of these light elements (likely contamination of organic compounds), just as the signals of elements usually connected to soil (e.g. silicon, aluminium, calcium, phosphorus). Values of these elements were later filtered out and the results recalculated, so they would be closer to the actual composition of the metal and were not affected by the contamination. The values from the surface XRF can be found in Tab. 2 (Spáčil et al. 2025), although it shows only elements which make up at least 0.1% of at least one anklet.

Despite all efforts, the measurements were still very much affected by corrosion layers on the surface of the studied anklets. In some cases, the scatter of Cu and Sn went as high as 56%

Anklet No.	Group	Cu	Sn	Pb	Fe	Ti	Sb	Ag	Ni	Bi	Zn	Au	V	Cr	Pd	Sc
1	A	85.2%	10.8%	3.0%	0.3%	0.2%	0.3%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		7.0%	*5.2%*	*1.4%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
2	A	87.0%	10.1%	1.3%	0.9%	0.3%	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		1.8%	*1.5%*	*0.2%*	*0.0%*	*0.1%*	*0.1%*	*0.2%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
3	B	91.4%	5.0%	2.9%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.3%	*3.5%*	*0.8%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
4	C	83.4%	16.0%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.1%	*2.9%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
5	C	78.6%	19.7%	0.2%	0.6%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		7.3%	*6.9%*	*0.1%*	*0.2%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
6	C	72.7%	20.7%	2.0%	0.1%	0.9%	0.3%	0.2%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%
		7.4%	*8.7%*	*0.2%*	*0.0%*	*1.1%*	*0.3%*	*0.3%*	*1.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*2.8%*

Anklet No.	Group	Cu	Sn	Pb	Fe	Ti	Sb	Ag	Ni	Bi	Zn	Au	V	Cr	Pd	Sc
7	C	81.6%	14.0%	1.9%	2.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		2.3%	*1.9%*	*0.3%*	*0.5%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
8	C	87.2%	10.5%	1.3%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
		1.4%	*1.5%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
9	C	81.6%	14.8%	3.0%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		10.4%	*9.0%*	*1.0%*	*0.1%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
10	C	48.4%	48.8%	0.1%	1.9%	0.3%	0.4%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		20.4%	*19.3%*	*0.0%*	*0.9%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
11	C	78.3%	14.3%	4.7%	1.2%	1.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		5.1%	*3.2%*	*1.3%*	*0.3%*	*1.0%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*
12	C	69.6%	19.1%	7.6%	1.4%	0.3%	0.8%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		12.5%	*7.7%*	*3.9%*	*0.6%*	*0.2%*	*0.3%*	*0.2%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
13	D	78.5%	12.5%	7.5%	0.3%	0.2%	0.4%	0.2%	0.2%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		10.9%	*6.2%*	*4.0%*	*0.0%*	*0.2%*	*0.2%*	*0.1%*	*0.1%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
14	D	88.3%	10.4%	0.0%	0.6%	0.2%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		2.6%	*1.8%*	*0.0%*	*0.5%*	*0.2%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
15	D	85.2%	13.3%	0.8%	0.3%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		0.6%	*0.6%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
16	D	81.1%	11.9%	5.1%	0.4%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		13.1%	*7.4%*	*4.6%*	*0.2%*	*0.1%*	*0.3%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*
17	D	85.6%	11.2%	1.9%	0.2%	0.4%	0.2%	0.2%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		2.7%	*2.1%*	*0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
18	D	69.5%	20.5%	8.4%	0.1%	0.2%	0.5%	0.2%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		7.8%	*5.1%*	*2.3%*	*0.1%*	*0.0%*	*0.2%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
19	D	88.7%	10.9%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		0.2%	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
20	D	74.0%	14.5%	8.3%	0.7%	0.8%	0.5%	0.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		5.3%	*3.1%*	*1.8%*	*0.2%*	*1.7%*	*0.2%*	*0.2%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
21	D	81.2%	10.0%	7.8%	0.1%	0.2%	0.3%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		1.7%	*0.8%*	*1.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
22	E	74.7%	18.8%	4.2%	0.4%	0.2%	0.8%	0.4%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		11.8%	*8.2%*	*2.4%*	*0.2%*	*0.2%*	*0.3%*	*0.3%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
23	E	84.3%	11.4%	3.3%	0.2%	0.2%	0.0%	0.1%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.0%	*2.6%*	*1.2%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
24	E	83.4%	14.6%	0.9%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		1.1%	*1.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
25	E	59.1%	31.2%	2.6%	6.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		11.7%	*9.7%*	*0.4%*	*1.3%*	*0.4%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
26	E	85.8%	12.8%	0.6%	0.1%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		0.7%	*0.4%*	*0.3%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
27	E	82.4%	12.5%	3.6%	0.5%	0.3%	0.2%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.5%	*2.3%*	*0.9%*	*0.2%*	*0.2%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
28	E	73.9%	22.2%	1.8%	0.4%	1.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.2%
		4.1%	*3.0%*	*0.3%*	*0.1%*	*0.5%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.3%*
29	F	83.6%	14.3%	1.4%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.9%	*2.3%*	*1.6%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
30	G	91.0%	7.1%	0.7%	0.2%	0.1%	0.4%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		0.1%	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
31	G	78.3%	17.5%	3.1%	0.4%	0.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.6%	*4.2%*	*0.6%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
32	G	89.5%	8.0%	1.9%	0.2%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.2%	*2.2%*	*0.8%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
33	G	86.5%	12.2%	0.6%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
		2.3%	*2.3%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.3%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
34	G	85.7%	10.5%	3.0%	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		1.0%	*1.1%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
35	G	77.6%	17.9%	2.9%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%
		6.5%	*5.0%*	*0.8%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.7%*
36	G	77.2%	16.1%	5.1%	0.7%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		5.8%	*3.6%*	*1.5%*	*0.4%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
37	G	81.2%	14.7%	3.1%	0.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%
		0.8%	*0.6%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*
38	H	59.6%	20.2%	18.9%	0.6%	0.1%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		2.3%	*3.1%*	*2.4%*	*0.3%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
39	H	80.2%	14.0%	5.0%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.5%	*1.9%*	*1.8%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
40	H	70.4%	18.7%	9.3%	1.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		2.8%	*3.5%*	*1.5%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Anklet No.	Group	Cu	Sn	Pb	Fe	Ti	Sb	Ag	Ni	Bi	Zn	Au	V	Cr	Pd	Sc
41	H	39.3%	10.2%	49.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		16.7%	*0.4%*	*16.5%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
42	H	45.8%	18.3%	34.0%	1.0%	0.2%	0.3%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
		8.9%	*2.9%*	*5.7%*	*0.2%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
43	H	34.3%	14.8%	46.0%	4.4%	0.0%	0.2%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		2.8%	*0.9%*	*1.8%*	*1.6%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
44	H	69.9%	14.6%	14.3%	0.2%	0.0%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		5.5%	*1.7%*	*3.6%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
45	H	84.8%	12.0%	2.3%	0.4%	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.3%	*2.8%*	*0.4%*	*0.2%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
46	H	43.1%	10.1%	45.5%	1.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		19.1%	*2.8%*	*21.8%*	*0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
47	H	50.8%	11.6%	35.2%	1.9%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		10.2%	*2.7%*	*9.3%*	*0.9%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
48	H	54.5%	13.8%	30.6%	0.4%	0.3%	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
		11.4%	*1.1%*	*11.6%*	*0.3%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*
49	H	51.8%	21.0%	26.0%	0.7%	0.0%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		5.9%	*3.7%*	*9.3%*	*0.3%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
50	H	75.2%	5.9%	17.9%	0.1%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		8.3%	*1.3%*	*7.4%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
51	H	49.1%	13.9%	36.4%	0.4%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		8.4%	*5.8%*	*10.4%*	*0.3%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
52	H	21.2%	10.3%	67.9%	0.3%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.3%	*3.6%*	*7.9%*	*0.1%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
53	H	42.0%	9.8%	47.4%	0.2%	0.0%	0.2%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		21.9%	*4.9%*	*27.1%*	*0.1%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
54	H	25.9%	22.5%	49.9%	0.9%	0.0%	0.4%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		5.3%	*0.6%*	*6.1%*	*0.3%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
55	H	73.4%	15.9%	9.0%	1.2%	0.1%	0.2%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		2.1%	*1.4%*	*1.7%*	*0.4%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
56	H	70.4%	12.5%	4.7%	11.8%	0.0%	0.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.7%	*2.3%*	*1.7%*	*5.3%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
57	H	70.7%	13.4%	12.3%	2.0%	1.2%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
		3.5%	*0.2%*	*4.2%*	*0.1%*	*0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*
58	H	20.4%	13.7%	65.0%	0.3%	0.1%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		14.1%	*7.5%*	*20.8%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
59	H	73.5%	11.8%	14.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.8%	*0.9%*	*4.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
60	H	21.9%	13.4%	63.9%	0.2%	0.0%	0.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		7.7%	*5.0%*	*9.8%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
61	I	59.5%	21.2%	18.5%	0.3%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		25.8%	*17.4%*	*8.8%*	*0.3%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
62	I	85.3%	13.5%	0.2%	0.3%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
		1.6%	*1.7%*	*0.0%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
63	I	58.2%	9.2%	31.3%	0.9%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		20.6%	*2.1%*	*18.4%*	*0.2%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
64	I	71.9%	15.5%	6.4%	5.7%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		3.8%	*2.3%*	*2.6%*	*1.2%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
65	I	47.0%	18.4%	33.6%	0.4%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		0.0%	*4.6%*	*5.0%*	*0.1%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
66	I	42.9%	8.8%	47.0%	1.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		11.0%	*1.2%*	*12.4%*	*0.3%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
67	I	34.1%	51.2%	13.6%	0.3%	0.1%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.4%	*8.5%*	*4.7%*	*0.0%*	*0.1%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
68	I	56.4%	13.5%	27.9%	1.6%	0.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		7.2%	*0.3%*	*7.4%*	*0.3%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
69	J	71.3%	12.6%	13.0%	1.5%	0.5%	0.3%	0.2%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%
		11.6%	*2.7%*	*8.5%*	*0.3%*	*0.2%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*
70	K	59.6%	18.8%	19.6%	0.9%	0.1%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
		11.8%	*13.7%*	*7.5%*	*0.5%*	*0.1%*	*0.4%*	*0.3%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*
71	K	47.8%	7.9%	43.1%	0.7%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		4.3%	*0.3%*	*4.6%*	*0.6%*	*0.2%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*

Tab. 2. Composition of studied anklets according to surface XRF. Numbers in the first column correspond to anklet numbers in the catalogue. Each anklet record consists of two rows: the first row represents the mean values of individual measurements, and the second represents standard deviations calculated from these values. Only elements which make up at least 0.1% of at least one anklet are shown.

Tab. 2. *Složení studovaných nánožníků podle povrchové XRF analýzy. Čísla v prvním sloupci odpovídají číslům v katalogu. Záznam každého nánožníku sestává ze dvou řádků: první řádek představuje průměrné hodnoty jednotlivých měření téhož nánožníku, druhý pak směrodatnou odchylku získanou z těchto měření. Byly zahrnuty pouze prvky, které tvoří alespoň 0,1 % minimálně jednoho z nánožníků.*

	Surface XRF			Subsurface XRF			ICP-MS/ICP-OES		
Anklet No.	**Cu**	**Sn**	**Pb**	**Cu**	**Sn**	**Pb**	**Cu**	**Sn**	**Pb**
15	85.2%	13.3%	0.8%	92.7%	6.1%	0.8%	–	–	–
19	88.7%	10.9%	0.1%	94.8%	4.5%	0.3%	–	–	–
20	74.0%	14.5%	8.3%	89.3%	4.5%	5.0%	–	–	–
39	80.2%	14.0%	5.0%	91.2%	6.0%	2.1%	–	–	–
49	51.8%	21.0%	26.0%	82.3%	6.4%	10.8%	–	–	–
52	21.2%	10.3%	67.9%	88.4%	4.7%	6.9%	–	–	–
60	21.9%	13.4%	63.9%	87.9%	4.0%	8.0%	–	–	–
61	59.5%	21.2%	18.5%	–	–	–	84.4%	9.8%	5.4%
62	85.3%	13.5%	0.2%	–	–	–	88.1%	10.0%	1.4%

Tab. 3. The values of subsequent analyses made from drilled samples of seven anklets and the values for two anklets covered by this paper (Danielisová et al. in preparation), both in contrast with the surface XRF values. Anklet numbers correspond to the numbering in the catalogue.

Tab. 3. *Hodnoty z následných analýz provedených na odvrtaných vzorcích sedmi nánožníků a hodnoty získané pro další dva nánožníky probírané v tomto článku (Danielisová et al. v přípravě). Pro porovnání se v tabulce nachází i hodnoty z povrchové XRF analýzy. Čísla nánožníků odpovídají číslům v katalogu.*

throughout the three measurements taken on a single (!) anklet. The highest scatter in one anklet was even worse, with a Cu to Pb ratio of 65%. This is due to the chemical characteristics of these elements, the corrosion layer (as stated above) and the XRF spectrometer's way of operation. The spectrometer is not capable of taking measurements from the artefact's core; in fact, it is limited to only tens of micrometres (Kučera et al. 2021, 34). Copper, tin and lead also mix only to a limited degree; for example, it is presumed that during the solidification of the artefact, tin is pushed towards the surface, because it solidifies later than copper. On the other hand, lead forms 'islands' and layers around the copper crystal (Frána et al. 1997, 46), making the alloy less homogenous, and thus lead values can differ significantly between individual measurements (Kmošek 2019, 11). To conclude, results from the surface XRF are to be viewed very critically and as semi-quantitative.

To verify and possibly correct the error of the surface XRF, seven already damaged anklets were selected and samples were taken from the damaged spots with a drill. These anklets (Tab. 3; Fig. 4:1–7) are from categories D and H. First, a bit of material was removed by drill to eliminate the corrosion layers, and then the sample itself was taken (the samples were very small – under 5 mg in weight). The samples were analysed once more using the XRF method. A benchtop ED-XRF (energy dispersive X-ray fluorescence) spectrometer ElvaX Pro at the Institute of Archaeology of the Czech Academy of Sciences in Brno was used this time due to its capability to measure small samples more accurately than the portable model. Each sample was measured for five minutes with an energy up to 45 keV. This follow-up analysis (Tab. 3) yielded more plausible results when compared to the pXRF values. Two things are apparent when comparing the two methods: (1) there is a quite stable margin between the two sets of Sn values, which are about 9±4% lower in the samples taken from the artefact core, and (2) when there is a higher than negligible amount of Pb, it seems to be disproportionately more pronounced in the surface readings at the expense of Cu. Although finding number two does not apply unconditionally, because of the lead-induced inhomogeneities



Fig. 4. The anklets selected for reference analyses. 1 – Křenovice inv. No. 111.050; 2 – Pavlov, inv. No. 175.741; 3 – Přerov-Předmostí, inv. No. 66.140; 4 – Nížkovice, inv. No. 64.944; 5 – Vyškov, inv. No. 112.090; 6 – Mistřín, inv. No. 65.411; 7 – Holubice, inv. No. 64.850; 8 – Brno-Maloměřice, inv. No. 107.570; 9 – Brno-Maloměřice, inv. No. 107.508. MZM. Photo by D. Spáčil.

Obr. 4. *Nánožníky vybrané pro srovnávací analýzy. 1 – Křenovice, inv. č. 111.050; 2 – Pavlov, inv. č. 175.741; 3 – Přerov-Předmostí, inv. č. 66.140; 4 – Nížkovice, inv. č. 64.944; 5 – Vyškov, inv. č. 112.090; 6 – Mistřín, inv. č. 65.411; 7 – Holubice, inv. č. 64.850; 8 – Brno-Maloměřice, inv. č. 107.570, 9 – Brno-Maloměřice, inv. č. 107.508. MZM. Foto D. Spáčil.*

discussed above. Two other anklets covered by this paper (anklet No. 61 and 62;[3] Fig. 4: 8, 9) were recently analysed by a team of researchers, and values of Cu, Sn and Pb for these two anklets were measured via ICP-MS (inductively coupled plasma mass spectrometry) and/or ICP OES (inductively coupled plasma atomic emission spectroscopy; Danielisová et al. in preparation) was used with the permission of their authors as a reference. The measured values were very close in the surface XRF and the ICP-MS (mean difference of 2.5% in all three main compounds), in the case of anklet No. 62 (Fig. 4:8) with a heavily cleaned surface (the corrosion layer was probably removed during some phase of conservation). The difference in the second anklet (No. 61) was more pronounced (mean difference of 16.5% in Cu, Sn and Pb combined) since the corrosion layer was still in place.

3.2 Filling analysis

For the filling analysis, samples from thirteen anklets were used (Tab. 4; Fig. 5). Only groups G–K (hollow anklets) could be used, since the anklets from previous groups do not have cavities for fillings. Samples of fillings were taken for a GC/MS (gas chromatography with mass spectrometry) analysis with a drill from multiple spots for maximum possible homogeneity. They were extracted with a 10 ml mixture of acetone: CH_3Cl (1 : 1, v/v) afterwards, centrifuged, blown with a fine stream of nitrogen gas, and silanized with a mixture of pyridine (Lachner, 10 µl) and N,O-Bis(trimethylsilyl)trifluoroacetamide (Merck, 10 µl). The samples were then analysed with a gas chromatograph with a triple quadrupole Agilent 7010 running Mass Hunter software (Agilent Technologies). Separation was carried out in two (5%-phenyl)-methylpolysiloxane capillary columns connected in series with a constant flow rate of 1.0 and 1.2 ml^{-1}. The temperature program was set at 50 °C and was held for five minutes. With a rate of 6°C per minute, the temperature was raised to 300°C and was held at this level for 10 minutes, after which it was gradually raised again by 20°C for a minute and held at 320°C for another five minutes. The sample injection was carried out using the splitless injection method (injection volume was 1 µl). The detected chemicals can be seen in Tab. 4.

4. Discussion

4.1 Metal composition

The surface XRF analysis results appear to show a pattern in the copper, tin, and lead content. Starting from the middle, tin shows the highest stability of all three major elements throughout all categories A–K (Graph 2**:** top left). The categories with the lowest number of individuals (A, B, F, J) are the most stable, of course, although the values are really scattered only in categories C, I and K (standard deviation over 10%). The mean value lies between 10% and 20% in most categories (except for B, where it is only 5%). Until category G, the contents of Sn and Cu correlate, since almost no other elements are present (apart from some outliers in categories C, D and E, with Pb contents around 10%), mean values of Cu in categories A–G are between 76% and 91%.

A significant change occurs with category H (and the following categories) regarding Pb and Cu levels. Lead seems to be radically higher in anklets with hollow hemispheres (cat. H–K) than in others. It is noteworthy that the change is not apparent in the tin levels, as stated above. The sudden 'disbalance' involves only copper and lead. The mean content of lead in the aforementioned categories fluctuates between 13% and 31% (the values of copper, tin, and lead from surface XRF analysis can also be seen in Graph 2: bottom).

Compound	36	37	38	41	45	46	47	51	54	56	61	63	65
Pimaric acid				×							×		
Isopimaric acid				×		×	×	×			×		
Dehydroabietic acid	×	×	×	×		×	×	×			×	×	×
Piceatannol											×		
Resveratrol				×			×	×			×		
Nonanoic acid	×	×	×	×	×	×	×	×	×	×	×		×
Tridecanoic acid		×	×				×			×			
Myristic acid	×	×	×	×	×	×	×	×	×	×	×	×	×
Nonadecanoic acid	×	×	×	×	×	×	×	×	×	×	×	×	×
Palmitic acid	×	×	×	×	×	×	×	×	×	×	×	×	×
9-Octadecanoic acid	×	×		×		×	×				×		×
Stearic acid	×	×	×	×	×	×	×	×	×	×	×	×	×
1-Monomyristin	×	×	×	×		×	×		×	×	×		×
2-Palmitoylglycerol	×	×	×	×	×	×	×		×	×	×		×
1-Monopalmitin	×	×	×	×	×	×	×	×	×	×	×	×	×
2-Monostearin	×	×	×	×	×	×	×		×	×	×		×
1-Monostearin	×	×	×	×	×	×	×	×	×	×	×		×
Lignoceric acid													×
1-Octadecanol	×	×	×	×	×	×	×	×	×	×	×		×
1-Tetradecanol		×	×				×			×			
Tetracosanol		×	×	×						×		×	
1-Octacosanol	×	×		×			×	×				×	×
Cholesterol derivative		×										×	
Stigmastatrienol		×	×	×						×	×	×	×
2-Dodecanol	×	×	×	×							×		×
Phthalate-2	×	×	×	×							×	×	×
Phthalate	×	×	×	×	×	×	×	×	×	×	×		×
Dibutyl phthalate	×	×	×	×	×	×	×	×	×	×	×	×	×
Monobutyl phthalate		×	×										
Alkane-1	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-2	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-3	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-4	×		×	×	×	×	×		×	×	×		×
Alkane-5	×		×	×	×		×	×	×	×	×		×
Alkane-6		×	×	×	×					×	×	×	×
Alkane-7	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-8	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-9			×		×				×	×			
Alkane-10	×	×	×	×	×	×	×	×	×	×	×	×	×
Alkane-12	×	×	×	×	×	×	×		×	×	×	×	×
Alkane-14			×		×					×			×

Tab. 4. Organic compounds found in the sampled fillings. × – the compound is present in the sample.

Tab. 4. *Organické sloučeniny ve vzorkovaných výplních.* × *– sloučenina je přítomna ve vzorku.*

The shape of the curves of copper, tin and lead levels looks very similar when viewed from the perspective of relative chronology (Graph 2: top right): low values of Pb on the left side of the chart, high values on the right side, and vice versa for Cu. The content of lead starts to rise in the B2b sub-phase of the La Tène period, although it does not really rise until the C1a sub-phase.[4] Until the B2b period, the mean lead value remains relatively stable and low (around 3.5%), then rises to 8% and 27% in B2b and C1a, respectively. Copper levels change according to those of lead in B2b–C1a, while tin remains around 14% throughout the entire timeline.

Since very low levels of copper, just like very high levels of lead and a high standard deviation in some extreme cases[5] lower the credibility of the results substantially, the surface data were compared to those from the core of the artefacts. The reference set of anklets could be divided into two abstract parts: anklets with a very low standard deviation[6] and those with a very high



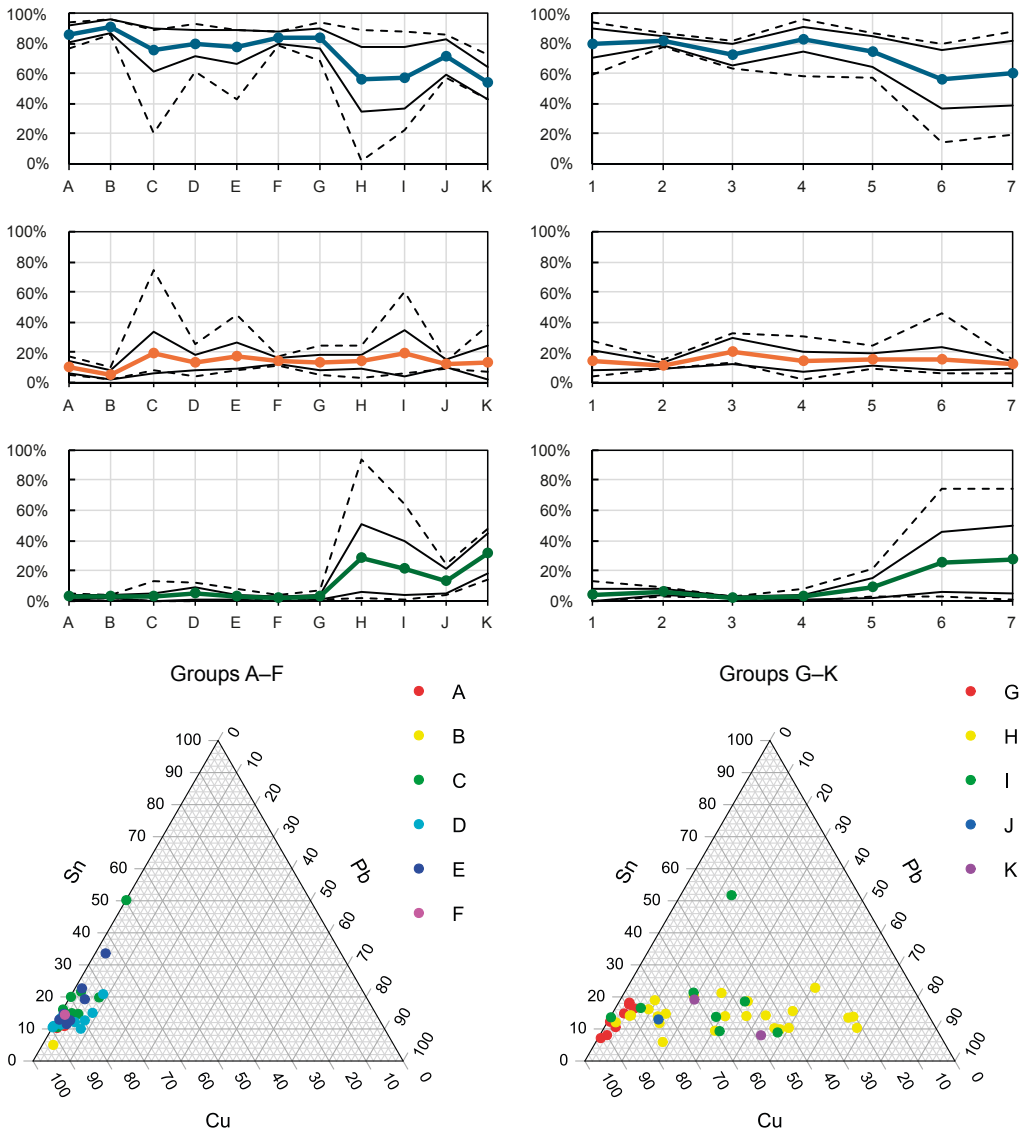
Fig. 5. Anklets with fillings subjected to GC/MS analysis.
1 – Vlkoš, inv. No. P 242b;
2 – Vracov, inv. No. 70.441;
3 – Brno-Bohunice, inv. No. SAÚ 444/47;
4 – Milotice, inv. No. 157.531;
5 – Mistřín, inv. No. P 301/8;
6, 7 – Nížkovice, inv. No. 64.944, inv. No. 64.924;
8 – Slavkov u Brna, inv. No. 64.910;
9 – Vyškov, inv. No. 112.090;
10 – Šardice, inv. No. P 55;
11 – Omice, inv. No. 66.115;
12 – Křepice, inv. No. SAÚ 881;
13 – Brno-Maloměřice, inv. No. 107.570.
1, 5, 10 – MMH; 2–4, 6–9, 11–13 – MZM. Photo by D. Spáčil.

Obr. 5. *Nánožníky s výplněmi podrobené GC/MS analyse.*
1 – Vlkoš, inv. č. P 242b;
2 – Vracov, inv. č. 70.441;
3 – Brno-Bohunice, inv. č. SAÚ 444/47;
4 – Milotice, inv. č. 157.531;
5 – Mistřín, inv. č. P 301/8;
6, 7 – Nížkovice, inv. č. 64.944, inv. č. 64.924;
8 – Slavkov u Brna, inv. č. 64.910;
9 – Vyškov, inv. č. 112.090;
10 – Šardice, inv. č. P 55;
11 – Omice, inv. č. 66.115;
12 – Křepice, inv. č. SAÚ 881;
13 – Brno-Maloměřice, inv. č. 107.570.
1, 5, 10 – MMH; 2–4, 6–9, 11–13 – MZM. Foto D. Spáčil.

standard deviation[7] (Graph 3). The comparison outcome was quite clear. Very high lead levels in anklet No. 52 and 60 were not confirmed at all by the reference analyses. In fact, in all nine verification samples, none of the main elements showed 'unexpected behaviour', i.e. a sudden radical change between anklet categories. Copper oscillated between 82.3% and 94.8%, tin between 4% and 10%, and lead was also quite stable, ranging from 0.3% to 10.8%, contrary to the surface XRF analysis.

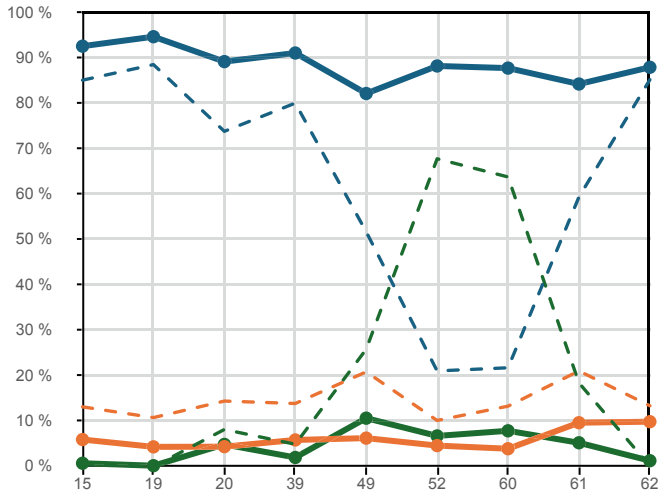
The surface XRF values of anklets No. 49, 52, 60 and 61 (Fig. 4:4–6, 9) deviated substantially from the follow-up analyses (up to 67%!). On the other hand, anklet No. 15, 19, and 62 (Fig. 4:1, 2, 8) showed the opposite tendency. Differences in mean values of the main elements from the surface XRF and reference analyses do not rise higher than 7.5% (Cu value in anklet No. 15) in these anklets. The standard deviation in none of these anklets (using the values from both the initial and follow-up analyses) does not exceed 3.3% (Cu value in anklet No. 15 again). Values from all three of these anklets have a relatively low standard deviation, and especially in values of Pb (σ under 0.5%). The correlation concerning the aforementioned issue is evident when looking at their pictures: the absence (Fig. 4:2, 8) or presence (Fig. 4:4, 5, 9) of the corrosion layer plays a major role in the surface XRF analysis.

Returning to the lead content from the perspective of the artefact core, although the Pb levels in the reference set are much lower than those from the surface XRF in anklets with hollow hemispheres, there is still a large difference compared to the anklets with a rod-like body (especially anklet No. 19). On the other hand, the core analysis indicates a low lead representation (below 8% in most cases) in comparison to that what seems to be standard in surrounding regions during LT B2 and C, although this might be partly due to the small sample size.



Graph 2. Graphic expression of surface XRF data. Top left: mean values of Cu, Sn, and Pb content in anklet groups A–K. Top right: mean values of Cu, Sn, and Pb in various periods of the Late Iron Age. 1 – B1b–c; 2 – B1b–B2a; 3 – B1c/B2a; 4 – B2a; 5 – B2b; 6 – B2b–C1a; 7 – C1a. Blue – Cu; orange – Sn; green – Pb; solid black line – ± 1 σ, dashed line – minimum and maximum values. Bottom: ternary plots of Cu, Sn, and Pb concentration in the studied anklets. Data taken from Table 2.

Graf 2. *Vyobrazení dat z povrchové XRF analýzy. Vlevo nahoře: průměrné hodnoty obsahu mědi, cínu a olova v kategoriích nánožníků A–K. Vpravo nahoře: průměrné hodnoty obsahu mědi, cínu a olova v jednotlivých úsecích doby laténské. 1 – B1b–c; 2 – B1b–B2a; 3 – B1c/B2a; 4 – B2a; 5 – B2b; 6 – B2b–C1a; 7 – C1a. Modrá – měď; oranžová – cín; zelená – olovo; plná černá čára – ± 1 σ, čárkovaná čára – minimální a maximální hodnoty. Dole: ternární diagramy koncentrace mědi, cínu a olova ve studovaných nánožnících. Data převzata z tabulky 2.*



Graph 3. A comparison of surface XRF data (dashed lines) with benchtop XRF or ICP-MS/ICP-OES data (solid line). Blue – Cu; orange – Sn; green – Pb. Data taken from Table 3.

Graf 3. *Srovnání dat z povrchové XRF analýzy (čárkovaná čára) s daty ze stolního XRF nebo ICP-MS-ICP-OES (plná čára). Modrá – Cu; oranžová – Sn; zelená – Pb. Data převzata z tabulky 3.*

4.2 Composition of fillings

The GC/MS analysis produced qualitative data about organic compounds present in the filling samples. Those compounds could be grouped based on their relevance to the matter: first, there was a group of aliphatic hydrocarbons (shown as 'alkane', plus a chain length, e.g. 'Alkane-1' in Tab. 4), which could represent contamination from conservation agents. These compounds were present more or less in every sample. Likewise, a group of fatty acids, fatty alcohols and sterols, suggesting a fat and wax content, was present in every sample. Although this could mean they were originally present in the anklet fillings, they could also be present in the agents used with the anklets during the conservation process. A group of phthalates was also detected in all the studied anklet fillings. They are probably also contamination from plastics, in which they serve as plasticisers.

In ten out of thirteen samples (anklet No. 36, 37, 38, 45, 52, 53, 57, 67, 69 and 71; Fig. 5:1–4, 6–8, 10–12), traces of acids usually connected to conifer resin were found, specifically pimaric, isopimaric and dehydroabietic acid, which are viewed as markers of pine resin (Bednář, Kurka 2021, 58, 70; Slavíková 2024, 10). The most common substance was dehydroabietic acid, which is a degradation product of abietic acid (Slavíková 2024, 10); it was present in all of the samples mentioned above. Traces of isopimaric and pimaric acids, which are also usually present in pine resin, were discovered in five and two samples, respectively.

Finally, resveratrol was present in the samples from anklet No. 45, 53, 57 and in the one from anklet No. 67, there was resveratrol along with its structural analogue – piceatannol. The former can be found, for example, in wine and grapes (*Vitis vinifera*), peanuts (*Arachis hypogaea*) and a wide range of berries (Jarošová et al. 2020, 1). Piceatannol can also be found in grapes and wine, although in a concentration roughly four times lower than resveratrol, in passion fruit (*Passiflora edulis*), Japanese knotweed (*Polygonum cuspidatum*) and *Picea abies*, the Norway spruce (Jarošová et al. 2019, 2). Although the presence of these two compounds is undoubtedly interesting, it remains unexplained. However, it could still originate from a mixture of oils used as a conservation agent.

5. Conclusion

From the evidence set forth above, it seems that the inference of the change in the bronze composition of annular jewellery in LT B2 made by Frána, Jiráň, Moucha and Sankot (1997) and also observed by Danielisová et al. (2021) holds in Moravian conditions as well. However, contrary to these publications, it seems that the change occurred a subphase later in Moravia. Truly high levels of lead do not appear in anklets fully until subphase LT C1a (although this statement should be verified on a larger and, most importantly, more varied set of artefacts in the future). This phenomenon could be caused by the transfer of the technologies connected to the metallurgy of copper alloys from Bohemia to Moravia or the relative chronology error in artefacts with a long 'lifespan'.

At this point, it should be emphasised that the surface XRF method did not prove reliable enough for copper alloy artefacts with a corroded surface (i.e. most prehistoric and protohistoric artefacts, unless the corrosion was mechanically removed), and especially those with higher amounts of lead or tin. Surface changes in the tin and lead content, at the expense of copper, are caused by corrosion processes. The preferential corrosion of copper leads to an overrepresentation of tin and lead on the surface (Kmošek 2019, 20). Although it is possible for leaded bronze to contain up to 40% lead, the surface XRF analysis in this study should be considered semi-quantitative, and the measured values should not be interpreted as absolute. On the other hand, the reference analyses (measuring the artefacts' cores) confirmed the tendency of adding more lead to the alloy, only on a much smaller scale: lead content was over 10% in only one out of six anklets, which *should* have had higher lead content compared to the situation in Bohemia.

But why was lead added to bronze anklets in higher amounts in the LT B2/C1 periods? The common explanation is that it allows the liquid bronze to flow more easily into the more complex moulds.[8] However, today's leaded bronzes are not used in artistic casting because of their inferior (!) properties in this respect (Jelínek 2024, 26). The reasons for the use of lead are therefore to be looked for elsewhere. Potential options could be, e.g. better workability[9] (Roučka 2004, 128), a change of colour, or maybe the lowering of production costs, possibilities that require further research.

Concerning the anklet fillings, presenting a clear conclusion based on the chemical analysis is difficult. All of the anklets from which the samples were taken come from quite old excavations and were subjected to conservation procedures, possibly even multiple times. All of the samples were thus contaminated with unidentified chemicals. Various detected compounds connected to fats and waxes are probably an outcome of this conservation. Multiple phthalates are also probably contaminants from an unknown (plastic) source. It is hard to explain piceatannol and resveratrol being present in some samples, as interesting as it might be. These two compounds both appear in grapes and wine and their connection to anklet fillings is unknown.

The presence of diterpenes (pimaric, isopimaric and dehydroabietic acid) might be much more significant. These three compounds are components of conifer resin (specifically in that of the genus *Pinus* – pine). Naturally occurring resin was used as a glue in the past (e.g. Langejans et al. 2022), which could explain its occurrence here. The traces of resin were detected in both analysed caterpillar anklets and in eight out of eleven studied anklets with hollow hemispheres. In caterpillar anklets, this is directly connected to the aforementioned findings of the preserved cloth filling appearing to be stiffened with a glue-like matter (Kostelníková 2001). On the other hand, the fillings of the two analysed anklets of this kind did not resemble a textile. They were, similar to those in anklets with hollow hemispheres, dirt-like in appearance, and no macroscopic fibre evidence could be observed in any of the anklets subjected to GC/MS analysis. In the case of the caterpillar anklets, it is probably safe to assume that the dirt-like fillings are in fact petrified cloth stuffing. Resin traces in anklets with hollow hemispheres could be an indication of glued stuffing preventing the anklet from bruising its wearer's ankle; however, the direct evidence for this premise is missing. On the other hand, resin was also added to wax when forming the model for lost-wax casting (which is the presumed method for the production of anklets with hollow hemispheres). Also, some of the fillings are black in colour, which could be caused by the wax model burning during the process.[10] These two thoughts suggest that the fillings of anklets with hollow hemispheres are actually remnants of a mould left from the lost-wax casting process, though this will have to be confirmed by future research.

6. Catalogue

The catalogue is structured as follows: site name, grave ID (or N/A if uncertain), type of anklet (and boss count combination if known – only concerns anklets with hollow hemispheres), archaeological dating (according to Waldhauser ed. 1978; Waldhauser 1987; and Salayová 2023), inventory number, depositing institution, and sources. ACO – Archeological Center Olomouc, MGP – Prostějov Museum and Gallery, MKP – Comenius Museum in Přerov, MMB – Brno City Museum, MMH – Masaryk Museum in Hodonín, MZM – Moravian Museum in Brno, VMO – Regional Museum in Olomouc.

ID	Site	Grave	Type of anklet	Dating	Inventory number	Depositing institution	Sources	Portable XRF	Invasive XRF	GC/MS
1	Brno-Chrlice – Přední roviny	10	A	B1b–c	314475	MMB	Čižmářová 2011, 82–86	✓		
2	Marefy – U Lišek	20	A	B1b–c	111.424	MZM	Čižmářová 2013, 143–151	✓		
3	Mistřín – Trávníky za kostelem	VII	B	B2a	P 307/6	MMH	Čižmářová 2017, 92–109	✓		
4	Brno-Chrlice – Přední roviny	7	C	B1b–c	314453	MMB	Čižmářová 2011, 82–86	✓		
5	Brno-Chrlice – Přední roviny	8	C	B1b–c	314461	MMB	Čižmářová 2011, 82–86	✓		

ID	Site	Grave	Type of anklet	Dating	Inventory number	Depositing institution	Sources	Portable XRF	Invasive XRF	GC/MS
6	Břeclav – Zvolence	gr. from year 1928	C	B1c/B2a	113.583	MZM	Čižmářová 2019, 133–135	✓		
7	Charváty – U sv. Jana	N/A	C	N/A	865, 866 (673/64)	VMO	Čižmářová 2017, 142–144	✓		
8	Křenovice – Přední díly	31	C	B1b–c	111.099	MZM	Čižmářová 2009	✓		
9	Mistřín – Trávníky za kostelem	VII	C	B2a	P 307/5	MMH	Čižmářová 2017, 92–109	✓		
10	Olomouc-Slavonín – U hvězdárny	4	C	B2	2/2000-804-4	ACO	Čižmářová 2017, 149–151	✓		
11	Ponětovice – Podíly	30	C	B1b–c	111.514 (Pa 243/36-119)	MZM	Čižmářová 2011, 124–147	✓		
12	Sobotovice	N/A	C	B1b–c	66.163	MZM	Čižmářová 2011, 150–151	✓		
13	Brno-Maloměřice – Plíže	10	D	B1b–c	107.476	MZM	Čižmářová 2005	✓		
14	Kobylnice – Nad Bezděkovem	8	D	N/A	112.042	MZM	Čižmářová 2011, 112–115	✓		
15	Křenovice – Přední díly	7	D	B1b–c	111.050	MZM	Čižmářová 2009	✓	✓	
16	Křenovice – Přední díly	30	D	B1b–c	111.091	MZM	Čižmářová 2009	✓		
17	Mikulov – Na rybníkách	N/A	D	N/A	157.526	MZM	Čižmářová 2019, 171–172	✓		
18	Nížkovice – Záhumenice	13	D	B1b–c	64.956	MZM	Čižmářová 2013, 154–162	✓		
19	Pavlov – Dolní pole I	H 48	D	B2a	175.741	MZM	Čižmářová 2019, 184–185	✓	✓	
20	Přerov-Předmostí – brick pit	N/A	D	N/A	66.140	MZM	Čižmářová 2017, 189–190	✓	✓	
21	Telnice – brick pit	1	D	B1b–B2a	66.161	MZM	Čižmářová 2011, 158–159	✓		
22	Brno-Maloměřice – Plíže	17	E	B2a	107.488	MZM	Čižmářová 2005	✓		
23	Brno-Maloměřice – Plíže	34	E	B2	107.517	MZM	Čižmářová 2005	✓		
24	Marefy – U Lišek	4	E	B2a	111.369	MZM	Čižmářová 2013, 143–151	✓		
25	Němčice nad Hanou – Za hájem	N/A	E	N/A	66.340	MZM	Čižmářová 2017, 178	✓		
26	Ptení – Výmolův rybník	N/A	E	N/A	38654	MGP	Čižmářová 2017, 183	✓		
27	Slavkov u Brna – Povětrníky	1	E	B1b–B2a	64.914	MZM	Čižmářová 2013, 174–179	✓		
28	Zaječí – gravel pit (Babeschhölzel)	10	E	B2	174.548	MZM	Čižmářová 2019, 208–211	✓		
29	Holubice – Dílce	27	F	B2a	107.215 (Pa 2643/38)	MZM	Čižmářová 2009	✓		
30	Bedřichovice – Malé pole	10/80	G	N/A	156.834 (00138-55/80)	MZM	Čižmářová 2011, 95–97	✓		
31	Blučina – Konopné zahrádky	20	G	B2a	55-107/63	MZM	Čižmářová 2011, 99–107	✓		
32	Brno-Maloměřice – Plíže	48	G	B2a	107.558	MZM	Čižmářová 2005	✓		
33	Brno-Maloměřice – Plíže	67	G	B2a	111.013	MZM	Čižmářová 2005	✓		
34	Mistřín – Trávníky za kostelem	XIV	G	B2b	P 316/6a	MMH	Čižmářová 2017, 92–109	✓		
35	Nížkovice – Záhumenice	4	G	B2a	64.919	MZM	Čižmářová 2013, 154–162	✓		
36	Vlkoš 2 – village area	N/A	G	B2a	P 242b	MMH	Čižmářová 2017, 122–123	✓		✓
37	Vracov – Na Babí sandpit	1	G	B2b	70.441	MZM	Čižmářová 2017, 123–125	✓		✓
38	Brno-Bohunice – Žlíbek	1	H (4+4 b.)	B2b	SAÚ 444/47	MZM	Čižmářová 2011, 74–75	✓		✓
39	Holubice – Dílce	4	H (6+5 b.)	B2	64.850	MZM	Čižmářová 2009	✓	✓	
40	Hustopeče – Šibenky	K 838	H (7+6 b.)	B2b–C1a	174.780	MZM	Čižmářová 2019, 139–159	✓		
41	Charváty – U sv. Jana	N/A	H	N/A	P 673/74	VMO	Čižmářová 2017, 142–144	✓		
42	Královopolské Vážany – Višňovce	N/A	H	N/A	66.184	MZM	Procházka 1937, 60; Anonym 1945	✓		
43	Měrovice – Před Gervízem	N/A	H	N/A	179.532	MZM	Čižmář et al. 2013	✓		
44	Mikulčice – Pískovna	N/A	H	N/A	A 2411	MMH	Ludikovský 1962	✓		
45	Milotice – state-owned farm	1/1962	H (7+6 b.)	B2–C1	157.531	MZM	Čižmářová 2017, 91	✓		✓
46	Mistřín – Trávníky za kostelem	I	H	C1a	P 301/8a	MMH	Čižmářová 2017, 92–109	✓		
47	Mistřín – Trávníky za kostelem	VIII	H	B2b–C1a	P 302/4c	MMH	Čižmářová 2017, 92–109	✓		
48	Mistřín – Trávníky za kostelem	I	H (5+2 b.)	C1a	P 301/8	MMH	Čižmářová 2017, 92–109	✓		✓
49	Mistřín – Trávníky, Rolka	N/A	H	N/A	65.411	MZM	Meduna 1980, 182–190	✓	✓	
50	N/A	N/A	H (3+3 b.)	N/A	N/A	MZM	unpublished	✓		
51	N/A	N/A	H	N/A	N/A	MZM	unpublished	✓		
52	Nížkovice – Záhumenice	7	H	N/A	64.944	MZM	Čižmářová 2013, 154–162	✓	✓	✓
53	Nížkovice – Záhumenice	1	H (5+5 b.)	B2	64.924	MZM	Čižmářová 2013, 154–162	✓		✓
54	Přerov-Předmostí – brick pit	N/A	H	N/A	65.047–65.049, 65.057–65.059, 70.451	MZM	Čižmářová 2017, 189–190	✓		
55	Ptení – Mlýnisko (Ptinky)	N/A	H (4+4 b.)	B2b	P 686/64	VMO	Čižmářová 2017, 182–183	✓		
56	Slatinice – railway construction site	from year 1882	H	N/A	A137383	VMO	Hlava 2014	✓		
57	Slavkov u Brna – Povětrníky	4	H (4+4 b.)	B2–C1	64.910	MZM	Čižmářová 2013, 174–179	✓		✓
58	Šardice – Kopec	N/A	H (4+2 b.)	N/A	3958 (698/64)	VMO	Čižmářová 2017, 119–121	✓		
59	Šlapanice – south end of village area	4	H (3+3 b.)	B2–C1	66.228	MZM	Čižmářová 2011, 156–158	✓		
60	Vyškov (Pustiměřské Prusy) – airport	2	H (6+6 b.)	B2b–C1a	112.090 (Pa 10904/39)	MZM	Čižmářová 2013, 163–170	✓	✓	✓
61	Brno-Maloměřice – Plíže	31	I (4+4 b.)	B2b–C1a	107.508	MZM	Čižmářová 2005	✓		
62	Brno-Maloměřice – Plíže	52	I (5+4 b.)	C1a	107.570	MZM	Čižmářová 2005	✓		✓
63	Křenovice – Přední díly	16	I (4+4 b.)	C1a	107.224	MZM	Čižmářová 2009	✓		
64	Mistřín – Trávníky za kostelem	VIII	I (5+2 b.)	B2b–C1a	P 302/4a-b	MMH	Čižmářová 2017, 92–109	✓		
65	Mořice – U můstku	N/A	I	N/A	170.663	MZM	Čižmář 2021	✓		
66	Mořice – U můstku	N/A	I	N/A	170.664	MZM	Čižmář 2021	✓		
67	Omice	N/A	I (?+2 b.)	N/A	66.115	MZM	Čižmářová 2011, 121	✓		✓
68	Přestavlky – Dvorský	N/A	I (5+2 b.)	B2b–C1a	348/65/2	MKP	Čižmářová 2017, 190–191	✓		
69	Křepice 1 – village area (Záhumenice)	N/A	J (3+3 b.)	N/A	SAÚ 881	MZM	Čižmářová 2019, 161	✓		✓
70	Rajhrad	N/A	K (4+3 b.)	N/A	66.224	MZM	Čižmářová 2011, 147–148	✓		
71	Šardice – Kopec	N/A	K	N/A	P55	MMH	Čižmářová 2017, 119–121	✓		✓

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Notes

1. This applies to the categories of anklets with a rod-like body; the anklets with hollow hemispheres were further categorised based on the author's bachelor's thesis (Spáčil 2023, 40–42). The categories of wire and caterpillar anklets were not divided further.
2. The determination of some of these anklets is uncertain. For example, an 'anklet' from Hustopeče – Šibenky (inventory No. 174.725, MZM) comes from an empty grave (the skeleton was probably completely decomposed) and is very small. With a diameter of 3.5 cm, it is small even for a bracelet. But it also comes from the bottom part of a very small grave (only 135 × 60 cm; Kos 2005), which might suggest it was a child's anklet.
3. The anklets numbers in the text correspond to those in the catalogue.
4. The lead values are also higher in a broader timespan of B2b–C1a, which in reality contains anklets mixed from those two sub-phases, but for the lack of data they cannot be sorted any further.
5. E.g. anklet No. 53 with a mean Pb value of 47.4% (σ = 27.1%), 46 with a Pb value of 45.5% (σ = 21.8%).
6. Three anklets from category D (15, 19, 20) and one from category I (62).
7. Two from category H (52, 60) and one from category I (61).
8. E.g. 'alloying bronze with lead in order to facilitate casting' (Kysela 2020, 258).
9. Working is the next step after casting, which involves manually removing the imperfections left from casting.
10. Thanks to Matěj Kmošek for insights concerning lost-wax casting.

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Resumé

Nánožníky představují charakteristický prvek doby laténské, kdy se staly oblíbeným šperkem, zejména mezi bohatšími ženami. I když byly rozšířeny v celé době železné, jejich vrchol popularity spadá právě do její mladší fáze. Tyto kruhové šperky byly nošeny nejčastěji v páru, po jednom nad každým kotníkem. Hroby s více než dvěma nánožníky jsou velmi vzácné (graf 1). Zatímco výzkumy laténských nánožníků se většinou soustředily na jejich tvarové a typologické rozdělení, případně rozšíření (např. Bujna 2005; Fábry 2012; Furman 2014; Geschwind 2020; Masse, Szabó 2005; Sankot 1981; 2002a; 2002b; Spáčil 2023), dosud téměř nebylo podrobně zkoumáno jejich chemické složení. Tento článek si klade za cíl prověřit platnost závěrů Frány et al. (1997) a Danielisové et al. (2021) ohledně chronologické citlivosti přítomnosti olova v nánožnících a zjistit původ a význam hliněných výplní housenkovitých a puklicových nánožníků.

Na Moravě bylo identifikováno okolo 310 nánožníků, které lze rozdělit do čtyř hlavních skupin, pro potřeby toho článku ale byly rozčleněny do 11 jemnějších kategorií (tab. 1). Nejpočetnější jsou tyčinkové, a především puklicové nánožníky. Nánožníky obecně byly vyráběny převážně z měděných slitin. Pouze malé procento nánožníků je vyrobeno ze železa. Výrobní preference bronzu pravděpodobně souvisí s jeho lepší tvarovatelností, což mohlo usnadňovat výrobu složitějších dekorativních prvků, jako je tomu převážně u puklicových nánožníků. U dutých typů nánožníků se vyskytují výplně, které mohou být hliněné nebo látkové (obr. 3). Látkové výplně sloužily především jako podpůrná struktura pro křehké kovové části, zatímco hliněné výplně mohou být pozůstatky hrobového zásypu nebo hliněné formy použité při výrobě šperků. Výplně v puklicových nánožnících by mohly představovat i pozůstatky látkového polstrování, které sloužilo k ochraně nositelky před zraněním.

Pro zkoumání složení 71 nánožníků byla použita metoda povrchového XRF, která umožňuje rychlé a neinvazivní zjištění chemického složení (tab. 2). Tato metoda však vykazuje vysokou míru chybovosti kvůli vlivu korozní vrstvy na povrchu artefaktů. Výsledky XRF analýz ukázaly, že obsah cínu, mědi a olova se u jednotlivých typů nánožníků výrazně liší. Zatímco cín je poměrně stabilní, olovo vykazuje vzestupný trend, přičemž v pozdějších úsecích sledovaného období dosahuje významného podílu (graf 2). Pro ověření výsledků byly vybrány poškozené nánožníky, z nichž byly odebrány vzorky pro analýzu provedenou tentokrát stolním XRF spektrometrem (obr. 4). Tato metoda poskytla přesnější výsledky, které v omezené míře potvrzují, že vyšší obsah olova je skutečně přítomen u mladších nánožníků (tab. 3; graf 3). Z výsledků výzkumu vyplývá, že závěry Frány et al. (1997) o změnách ve složení bronzu platí i pro moravské nánožníky, avšak lze zde změnu pozorovat až o subfázi později. Zatímco v Čechách se obsah olova začal zvyšovat ve fázi LT B2, na Moravě se tento trend projevuje plně až v LT C1a. Tento rozdíl může být snad způsoben transferem technologických postupů mezi Čechami a Moravou. Zároveň se ukazuje, že povrchová XRF analýza není ideální metodou pro artefakty s korodovaným povrchem, jelikož při ní dochází ke zkreslení výsledků a je potřeba ji korigovat.

Co se týče výplní nánožníků, byly analyzovány vzorky ze 13 exemplářů (tab. 4; obr. 5), přičemž většina zjištěných látek byla pravděpodobně kontaminací z okolního prostředí, a to především z aplikovaných konzervačních postupů. Kromě nich byly zjištěny stopy resveratrolu a piceatannolu, což jsou látky běžně obsažené ve víně. Kromě toho byly ve většině vzorků nalezeny pryskyřičné kyseliny (kyselina pimarová, isopimarová a dehydroabietová), které naznačují přítomnost borovicových pryskyřic snad použitých jako lepidlo k uchycení látkových výplní sloužících jako polstrování, aby nedošlo k poranění kotníků nositelky. Nelze vyloučit ani možnost, že výplně puklicových nánožníků jsou pozůstatkem po výrobě.

Contact

David Spáčil
Faculty of Arts, Palacký University Olomouc
Křížkovského 10
CZ-771 80 Olomouc
david.spacil01@upol.cz
ORCID: 0009-0002-8856-2501

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Glass vessels in graves from the 5th century in the Middle Danube region

Skleněné nádoby v hrobech z 5. století ve středním Podunají

– *Barbora Vymazalová** –

KEYWORDS

Glass vessels – 5th century – Middle Danube region – grave context

ABSTRACT

This article is devoted to glass vessels placed in graves dated to the 5th century AD in the territory of the Middle Danube region. The subject of typological analyses were 100 vessels, in a complete or fragmentary state of preservation, originating from 74 graves located in the territory of today's southwest Slovakia, south Moravia, Lower Austria and the northern part of Hungary. The goal was to find out what forms dominated the grave inventory of the Migration Period, the function they served, and their provenance. As was demonstrated, they were mainly dominated by vessels associated with so-called drinking services and included various glasses, cups, jugs and bottles. At the same time, glass products in the 5th century lost their function as an indicator of the social status and wealth of the buried individual, which was assumed by other accompanying grave goods such as precious metal jewellery and weapons. The question of the import and domestic production of glass containers remains unanswered. However, we can observe certain areas in which specific types of vessels were concentrated.

* Corresponding author – E-mail address: barbora.vymazalova@tvu.sk

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1. Introduction

Starting at the end of the 4th century, the following two hundred years meant for Europe, and to a no lesser extent also for the Middle Danube region, a fundamental civilisational, cultural, and ethnic change, which in a broader historical sense represents the end of antiquity and the beginning of the Middle Ages. However, ancient traditions are still evident in some regions of the Pannonian and Alpine areas. The short but dramatic period is characterised by the migration of small and large groups of the most diverse Germanic and Asian tribes. The migrating ethnic groups inhabiting the territory of the Northern Danube region established small inhumation burial grounds. General fashion trends in clothing and new technological procedures in craft production began to be more intensively applied.

New trends also influenced the production of glass vessels, and compared to the previous period, they differ in the shape, decoration, and colour of the glass. The original Roman tradition receded into the background and vessels based on models characteristic of the ethnic groups of Eastern Europe and the Black Sea region entered the Middle Danube region. They were often placed in graves as offerings. It is precisely such vessels that formed part of the inventory in graves from the 5th century in the Middle Danube region that are the subject of this article. A collection of 100 vessels from 74 graves, from sites located in southwest Slovakia, south Moravia, Lower Austria, and the northern part of Hungary, were analysed. These vessels come from necropolises as well as from isolated graves. This article aims to determine their typological classification, which depends on the production technique and decoration method. We will also outline the issue of the importance of glass vessels in grave goods, their provenance, and trade ties.

2. Methodology

Glass vessels in Late Antiquity and the Migration Period represent a complex topic that can be approached from multiple angles and still provide remarkable insights. Their occurrence in the Middle Danube region, in this case as part of the grave inventory, is tangible evidence of the existence of a dining culture, even if it perhaps did not correspond to Roman standards (Jiřík, Vávra 2015, 187).

The aim of the paper was primarily to determine the diversity of the spectrum of glass vessels that were found in the burial pit, their function and location. To monitor form preferences, a group of 74 graves from the region of the Middle Danube was selected; these graves provided a total of 100 artefacts (Tab. 1, Fig. 1). We worked with a selected group of glass vessels, the chronological definition of which begins with the horizon of graves from the turn of Late Antiquity (approximately 284–378 AD,

Varsik 2020, 14) and the beginning of the Migration Period (in Pannonia, burial sites such as Brigetio, Csákvár, etc., Tab. 1), continues through the period of Hunnic rule until the end of the 5th century, with the latest finds dating from the end of the 5th to the beginning of the 6th century (Zohor, Kraskovská 1963, 693–700). Another group of finds is represented by individual graves and small burial grounds (e.g. Untersiebenbrunn, Bratislava Podunajské-Biskupice, Tab. 1), where burials were only made in the 5th century. Only necropolises where burials began in the late 4th and early 5th century were included in the selection, not those where burials were made throughout the entire 4th century and ended at the turn of the century (e.g. Gerulata, Kraskovská 1974; Pichlerová 1981).

When determining the forms of vessels, we primarily relied on the typology of L. Barkóczi (1988), as it provides a broad and sophisticated overview of the occurrence of glass vessels in Pannonia over the course of several centuries, and part of this province also fell into the territory of the Middle Danube region. The typology of C. Isings (1957) was used for some finds. These were glass objects that L. Barkóczi did not take into account in his typology.

The role that these vessels played in the grave inventory is also important. Their function is analysed primarily from a typological point of view since the shape of the vessel itself has informative value. Of course, for some types, their function is debatable. Unfortunately, in the vast majority of cases, these vessels are from older research, during which analyses of their contents to clarify their purpose were not carried out. Other accompanying inventory can also serve to interpret the meaning of these vessels in the grave context, but we outline this issue only marginally, especially in connection with the question of whether the glass was placed only in richly furnished graves or not.

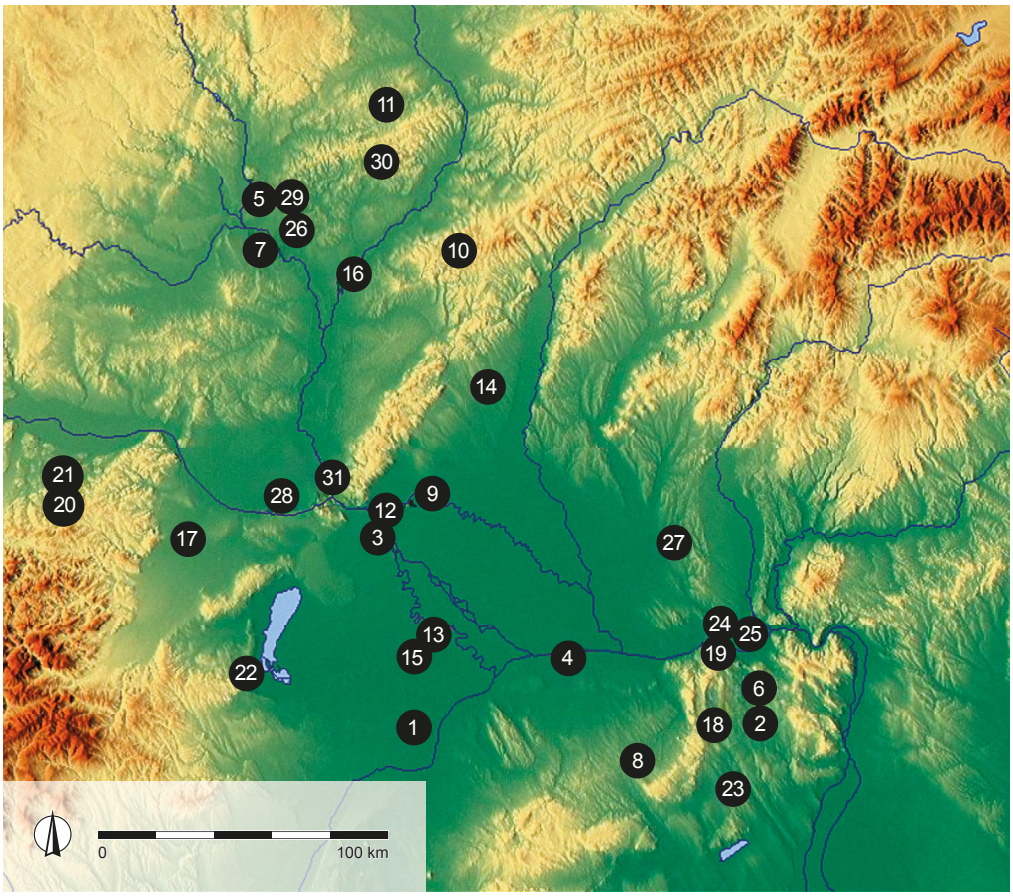


Fig. 1. Map of Middle Danube region with locations where graves with glass vessels were found. 1 – Árpás-Szérűskert (Hungary); 2 – Budapest – Bécsi út 42 (Hungary); 3 – Bratislava Podunajské-Biskupice (Slovakia); 4 – Brigetio (Hungary); 5 – Brno-Černá Pole (Moravia); 6 – Budakalász (Hungary); 7 – Cezavy u Blučiny (Moravia); 8 – Csákvár (Hungary); 9 – Čataj (Slovakia); 10 – Drslavice (Moravia); 11 – Charváty (Moravia); 12 – Ivanka pri Dunaji (Slovakia); 13 – Jánosházapuszta (Hungary); 14 – Krakovany-Stráže (Slovakia); 15 – Lébény-Magaspart (Hungary); 16 – Mistřín (Moravia); 17 – Mödling-Lerchengasse (Austria); 18 – Páty (Hungary); 19 – Pilismarót (Hungary); 20 – Pottenbrunn (Austria); 21 – Sankt Pölten (Austria); 22 – Sopron-Gräberfeld am Május 1st (Hungary); 23 – Százhalombatta (Hungary); 24 – Szob (Hungary); 25 – Szob-Kálváriadomb (Hungary); 26 – Šaratice (Moravia); 27 – Šarovce (Slovakia); 28 – Untersiebenbrunn (Austria); 29 – Velatice (Moravia); 30 – Vrchoslavice (Morava); 31 – Zohor – Bratislava countryside (Slovakia). Author B. Vymazalová.

Obr. 1. *Mapa středního Podunají s lokalitami, kde se našly hroby se skleněnými nádobami. 1 – Árpás-Szérűskert (Maďarsko); 2 – Budapešť – Bécsi út 42 (Maďarsko); 3 – Bratislava Podunajské-Biskupice (Slovensko); 4 – Brigetio (Maďarsko); 5 – Brno-Černá Pole (Morava); 6 – Budakalász (Maďarsko); 7 – Cezavy u Blučiny (Morava); 8 – Csákvár (Maďarsko); 9 – Čataj (Slovensko); 10 – Drslavice (Morava); 11 – Charváty (Morava); 12 – Ivanka pri Dunaji (Slovensko); 13 – Jánosházapuszta (Maďarsko); 14 – Krakovany-Stráže (Slovensko); 15 – Lébény-Magaspart (Maďarsko); 16 – Mistřín (Morava); 17 – Mödling–Lerchengasse (Rakúsko); 18 – Páty (Maďarsko); 19 – Pilismarót (Maďarsko); 20 – Pottenbrunn (Rakúsko); 21 – Sankt Pölten (Rakúsko); 22 – Sopron-Gräberfeld am Május 1. (Maďarsko); 23 – Százhalombatta (Maďarsko); 24 – Szob (Maďarsko); 25 – Szob–Kálváriadomb (Maďarsko); 26 – Šaratice (Morava); 27 – Šarovce (Slovensko); 28 – Untersiebenbrunn (Rakúsko); 29 – Velatice (Morava); 30 – Vrchoslavice (Morava); 31 – Zohor – Bratislava vidiek (Slovensko). Autor B. Vymazalová.*

Site	Grave number	Placement in the grave pit	Type of vessel	Dating	References
Árpás-Szérűskert, Hungary	Grave 1	Head area	Barkóczi 37b	2nd third of the 5th century AD	Tomka 2001, 161–176
Budapest – Bécsi út 42, Hungary	Grave 2	Foot area	Barkóczi 42; 67	Half of the 4th – 5 AD	Nagy 2005, 419–427
Bratislava Podunajské-Biskupice, Slovakia	Grave 1	Stemmed glass found in a clay jar on a step in the northern part of the grave	Isings 111	Migration Period	Unpublished
Brigetio, Hungary	Brick grave	–	Barkóczi 62	Last third of the 4th – beginning of the 5th century AD	Barkóczi 1988, 93
Brigetio, Hungary	Brick Grave 2	In the lower right corner of the grave	Barkóczi 67b	End of the 4th – beginning of the 5th century AD	Barkóczi 1988, 99
Brigetio, Hungary	Grave 1	–	Barkóczi 118	End of the 4th– beginning of the 5th century AD	Barkóczi 1961, 102–103
Brigetio, Hungary	Grave 3, Graveyard 1	–	Barkóczi 47c; 117	End of the 4th – beginning of the 5th century AD	Barkóczi 1961, 97–99; 1988, 137
Brigetio, Hungary	Grave 4	–	Barkóczi 118	End of the 4th – beginning of the 5th century AD	Barkóczi 1961, 103
Brigetio, Hungary	Grave 6, Graveyard 4	–	Barkóczi 90; unspecified bottle	Last third of the 4th – beginning of the 5th century AD	Barkóczi 1961, 106
Brigetio, Hungary	Grave 7	–	Barkóczi 118	End of the 4th – beginning of the 5th century AD	Barkóczi 1961, 106; 1988, 139
Brno-Černá Pole, Moravia	Inhumation grave II	South wall of grave	Isings 111	2nd half of the 5th century AD	Hochmanová 1952, 335–345; Tejral 1982, 199; Vaculíková 2015, 127
Budakalász, Hungary	Grave 1017	Head area	Barkóczi 126	5th century AD	Ottományi 2008, 229–254
Cezavy u Blučiny, Moravia	Inhumation grave	Foot area	2× Isings 105; Barkóczi 118	450–480 AD	Vaculíková 2015, 107, 129; Sedláčková 2016, 105–107
Csákvár, Hungary	Grave 1	Foot area	Barkóczi 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 39
Csákvár, Hungary	Grave 7	–	Barkóczi 37b	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 40
Csákvár, Hungary	Grave 9	Foot area	Barkóczi 37b; 126	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 40
Csákvár, Hungary	Grave 11	Foot area	Barkóczi 37b; 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 40
Csákvár, Hungary	Grave 19	–	Barkóczi 67b	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 41; Barkóczi 1988, 100
Csákvár, Hungary	Grave 23	Foot area	Barkóczi 17; 120	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 41
Csákvár, Hungary	Grave 26	(B 65c) pelvic area, (B 118) foot area	Barkóczi 65c; 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 41; Barkóczi 1988, 95–96
Csákvár, Hungary	Grave 29	Foot area	Barkóczi 13a	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 51
Csákvár, Hungary	Grave 41	(B 37b, 38) knees area, (B 126) head area	Barkóczi 37b; 38; 126	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 54
Csákvár, Hungary	Grave 49	–	Barkóczi 37b; 126	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 54
Csákvár, Hungary	Grave 51	On the left knee	Barkóczi 37b	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 54
Csákvár, Hungary	Grave 53	To the left of the head	Barkóczi 37b	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 54

Site	Grave number	Placement in the grave pit	Type of vessel	Dating	References
Csákvár, Hungary	Grave 56	Knee area	Barkóczi 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 55
Csákvár, Hungary	Grave 61	Foot area	Barkóczi 37b; 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 55
Csákvár, Hungary	Grave 63	Next to the left foot	Barkóczi 118	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 55; Barkóczi 1988, 139
Csákvár, Hungary	Grave 64	Next to the left foot	Barkóczi 37b	End of the 4th – beginning of the 5th century AD	Salamon, Barkóczi 1970, 55
Čataj, Slovakia	Grave 21	In Murga type jug head area	Isings 111	2nd half of the 5th century AD	Zábojník 2009, 189–191
Drslavice, Moravia	Inhumation Grave	–	Barkóczi 37b	Half of the 5th century AD	Tejral 2010, 81–122
Charváty, Moravia	Inhumation grave	–	Barkóczi 37b	1st half of the 5th century AD	Tejral 1982, 201; 2010, 104–122
Ivanka pri Dunaji, Slovakia	Inhumation grave	–	Barkóczi 37b	Migration Period	Točík 1962, 193; Tejral 2011, 407
Jánosházapuszta, Hungary	Grave 122	–	Barkóczi 179b	End of the 4th – 1st half of the 5th century AD	Barkóczi 1988, 201
Krakovany-Stráže Slovakia	–	–	Barkóczi 37b	Migration Period	Krupa, Klčo 2015, 83
Lébény – Magaspart, Hungary	Inhumation grave	Head area	Barkóczi 47c	End of the 4th – 1st half of the 5th century AD	Pusztai 1966, 98–116
Mistřín, Moravia	Inhumation grave	–	Unidentified fragment of the bottom of the vessel	2nd half of the 5th century AD	Křížek 1933, 75–77
Mödling-Lerchengasse, Austria	Grave 1	–	Glass cup	1st half of the 5th century AD	Kiss 2017, 115
Mödling-Lerchengasse, Austria	Grave 2	–	Barkóczi 37b; 118	1st half of the 5th century AD	Tejral 2011, 235; Kiss 2017, 115–116
Páty, Hungary	Grave 554	Next to the legs near the knees	Isings 105	5th century AD	Ottományi 2001, 37
Páty, Hungary	Grave 558	(B 37b) head area, (B 126) in the upper left corner	Barkóczi 37b; 126	5th century AD	Ottományi 2001, 37–38
Pilismarót, Hungary	Grave 1	Head area	Barkóczi 37b; 177	End of the 4th – 1st half of the 5th century AD	Barkóczi 1960, 112–113; 1988, 198
Pilismarót, Hungary	Grave 4	Next to the left foot	Barkóczi 37b; 126	End of the 4th – 1st half of the 5th century AD	Barkóczi 1960, 113
Pilismarót, Hungary	Grave 5	Next to the left foot	Barkóczi 37b	End of the 4th – 1st half of the 5th century AD	Barkóczi 1960, 114
Pilismarót, Hungary	Grave 17	Foot area	Barkóczi 37b; 126	End of the 4th – 1st half of the 5th century AD	Barkóczi 1960, 117; 1988, 148
Pilismarót, Hungary	Grave 27	Next to the feet in a pottery jug	Barkóczi 67b	5th century AD	Barkóczi 1960, 119–120; 1972, 84, 93
Pottenbrunn, Austria	Grave 162	Head area	Barkóczi 13a	2nd half of the 4th – 5th century AD	Hölbling 2008, 50
Pottenbrunn, Austria	Grave 168	Head area	Barkóczi 13a	2nd half of the 4th – early 5th century AD	Hölbling 2008, 54–55
Pottenbrunn, Austria	Grave 169	Head area	Barkóczi 67b	End of the 4th – 1st half of the 5th century AD	Hölbling 2008, 56
Pottenbrunn, Austria	Grave 170	(B 47c) on the left side of the skull, (B 118) foot area	Barkóczi 47c; 118	2nd half of the 4th –5th century AD	Hölbling 2008, 57–58
Pottenbrunn, Austria	Grave 172	Above the skull on the left side	Barkóczi 90	2nd half of the 4th – 5th century AD	Hölbling 2008, 59–60
Pottenbrunn, Austria	Grave 176	To the left of the skull	Barkóczi 118	2nd half of the 4th – early 5th century AD	Hölbling 2008, 64–65
Pottenbrunn, Austria	Grave 184	Head area	Barkóczi 47; small container with a narrow neck	2nd half of the 4th – early 5th century AD	Hölbling 2008, 68–69
Pottenbrunn, Austria	Grave 185	Head area	Barkóczi 47a	2nd half of the 4th – early 5th century AD	Hölbling 2008, 69–70

Site	Grave number	Placement in the grave pit	Type of vessel	Dating	References
Pottenbrunn, Austria	Grave 186	To the left of the skull	Barkóczi 97	2nd half of the 4th – 5th century AD	Hölbling 2008, 71–73
Pottenbrunn, Austria	Grave 190 – double-grave	(B 47c) to the left of the skull, (B 90) pelvic area	Barkóczi 47c; 90	2nd half of the 4th – early 5th century AD	Hölbling 2008, 74–77
Pottenbrunn, Austria	Grave 192	Head area	Barkóczi 13a	Half of the 4th – 5th century AD	Hölbling 2008, 77–79
Pottenbrunn, Austria	Grave 197	(B 90) foot area, (B 47c) head area	Barkóczi 47c; 90	End of the 4th – beginning of the 5th century AD	Hölbling 2008, 81–87
Pottenbrunn, Austria	Grave 199	Head area	Barkóczi 47a	2nd half of the 4th – early 5th century AD	Hölbling 2008, 88–89
Pottenbrunn, Austria	Grave 741	To the left of the skull	Barkóczi 47d	Half of the 4th – early 5th century AD	Hölbling 2008, 130–131
Pottenbrunn, Austria	Grave 742	Head area	Barkóczi 47c; 118; 121	Turn of the 5th century	Hölbling 2008, 131–132
Sankt Pölten, Austria	Grave 3173	Head area	Barkóczi 47a	Half of the 4th – early 5th century AD	Risy 2019, 117
Sopron-Gräberfeld am Május 1, Hungary	Grave 19	–	Barkóczi 67b	End of the 4th – 1st half of the 5th century AD	Barkóczi 1988, 100; Tejral 2011, 236
Százhalombatta, Hungary	Inhumation grave	Knees area	Barkóczi 65c	430–450 AD	Kovács 2004, 123–150
Szob, Hungary	Grave	–	Barkóczi 65b	5th century AD	Barkóczi 1971, 72, 76–77
Szob–Kálvária-domb, Hungary	Grave 1	Foot area	Barkóczi 37b	1st half of the 5th century AD	Kovrig 1959, 209
Szob–Kálvária-domb, Hungary	Grave 2	To the right of the skull	Barkóczi 62	1st half of the 5th century AD	Kovrig 1959, 209; Barkóczi, Salamon 1968, 31; Kiss 2017, 139
Šaratice, Moravia	Inhumation grave 1/55		Barkóczi 118	5th century AD	Staňa 1956, 26–32; Tejral 1982, 218
Šarovce, Slovakia	Grave 12/1955	Grave niche	Barkóczi 37b	4th – 5th century AD	Novotný 1976, 169–170
Untersiebenbrunn (Gänserndorf), Austria	Grave 1	–	Barkóci 37 b; 177	1st half of the 5th century AD	Barkóczi, Salamon 1968, 31–32; Nothnagel 2008, 18–33; Kiss 2017, 150–151
Untersiebenbrunn (Gänserndorf), Austria	Grave 2	Chest area	Barkóczi 67b; 177	1st half of the 5th century AD	Barkóczi, Salamon 1968, 31–32; Nothnagel 2008, 33–35; Kiss 2017, 150–151
Velatice, Moravia	Inhumation grave 10/36	–	Barkóczi 47b	2nd half of the 5th century AD	Tejral 1982, 220; Vaculíková 2015, 134
Vrchoslavice, Moravia	Grave 12	–	Snartemo II	5th century AD	Tejral 2013, 386, 391
Zohor (Bratislava-vidiek), Slovakia	Inhumation grave	On the left side of the grave pit under clay cup	Rüsselbecher	Vessel: half of the 5th century AD; Grave: 1st half of the 6th century AD	Kraskovská 1963, 693–700

Tab. 1. List of analysed glass vessels.

Tab. 1. *Přehled analyzovaných skleněných nádob.*

3. The situation in the 5th century in the Middle Danube region

The 5th century is characterised by political instability and significant population migrations in the Eurasian region and is referred to as the Migration Period. New cultural phenomena appear. This period dates to 375–568 AD (Droberjar 2008, 170–171). The beginning of the Migration Period in the Middle Danube region is reflected on the one hand in a small number of settlement finds, but on the other hand in rich finds in grave contexts. This is because the density of the autochthonous population decreases due to its departure, changes in the economic and social character, and overall barbarisation (Tejral 1985, 323). Significant geopolitical changes also had an impact on the production of glass vessels, the number of which is decreasing (Sklenář 1992, 258). The second half of the 5th century in particular saw a significant turning point in the distribution of glass in the Central European area (Jiřík 2019, 146). To some extent, ties with provincial workshops are broken, which results in an influx of forms whose origins are sought in the Black Sea region and Eastern Europe (Tejral 2011a, 33–34).

During the Migration Period, the inhumation rite is characteristic of the Middle Danube region, although we also occasionally encounter cremation graves. Some graves may contain the remains of two or more individuals (Tejral 1982, 51; Droberjar 2008, 189). Graves with horses are also not uncommon (Droberjar 2008, 179; e.g. Šarovec grave 3/1955, 12/1955 and 15/1955, Novotný 1976, 169), or burials of individuals with a deformed skull (e.g. grave 1, Bratislava Podunajské-Biskupice; grave 1/1954, Šarovec, Novotný 1976, 169; inhumation grave II, Brno-Černá Pole, Vaculíková 2015, 127). The custom of deforming skulls is primarily associated with the Huns. However, this custom was also adopted by some Germanic tribes. Therefore, the discovery of such a skull without other finds and Hun inventory is not sufficient to determine its affiliation with their tribe (Štefanovičová 1989, 14).

An important component of the funeral rite was the deposition of grave goods in burials. These included various types of artefacts such as jewellery, fibulae, weapons, parts of horse harnesses, and vessels (glass and ceramic), which were the personal belongings of the deceased or were specially made for funerary purposes (Droberjar 2008, 189). The grave furnishings could be modest, but also very lavish, as in the case of the rich graves of the Untersiebenbrunn group (Nothnagel 2008, 42–44). Grave goods also attracted the attention of grave robbers, which is undoubtedly related to the fact that most graves from this period were robbed (Doležal, Vávra 2015, 139–140). Although the reopening of graves is a phenomenon typical of the Migration Period, it is not limited by geographical area, as we can observe it across Europe from present-day Romania (Dobos 2014) through Hungary (Bóna, Horváth 2009), Austria (Aspöck 2005; Lauermann, Adler 2008), Slovakia (Schmidtová et al. 2009), the Czech Republic (Tejral 2011b), Germany (Codreanu-Windauer 1997), the Netherlands and Belgium (van Haperen 2015), France (Noterman 2015) to southern England (Klevnäs 2013). Despite the considerable prevalence of this phenomenon, the extent of the disturbance of individual burial grounds is not the same everywhere. While in Western Europe the rate of grave disturbances at burial grounds does not exceed 50%, the situation is different in Central and partly Eastern Europe, where the percentage of robbed graves is significantly higher than in the West (England, northern France, the Netherlands; Loskotová 2023, 307). The activity in question was practiced during the time of active use of the necropolis or shortly after its abandonment. To a lesser extent, reopening occurred shortly after burial (maximum within five years), as evidenced by the dislocation of parts of the skeletons in the period before the decomposition of connective tissues, e.g. pulling out an entire limb to a higher level of the grave (Loskotová 2023, 284). For many years, it was assumed that the main motivation for reopening graves in cemeteries during the Migration Period was to obtain rare and valuable objects with which the deceased were furnished for their final journey. This activity was classified by most scholars as 'illegal grave robbing' (Bóna 1964; Adler 1970; Roth 1978). However, the motivation of the 'thieves' could have been much more complicated and diverse. One reason could have been to obtain an object of symbolic value (Loskotová 2023, 285). Paolous Diaconus describes how Prince Giselpert of Verona reopened King Alboin's tomb to retrieve his sword and thus his strength and abilities (Paolus Diaconus 1878, 89). In women's graves, objects of symbolic value were probably fibulae and jewellery made of precious metals (Loskotová 2023, 285). There was evidently a preference for certain objects taken from the graves, because iron artefacts (e.g. spearheads and knives) and glass beads, which represented perhaps the most common alms, were often left behind (Loskotová 2023, 285). The intentional acquisition of artefacts of symbolic value and theft for profit are naturally two different activities (Noterman 2015, 153). Manipulation of human remains due to fear of their return is also considered (Aspöck 2011, 318–319).

Understanding the reasons for the secondary opening of graves is difficult. It is necessary to take into account the possible combination of several motives: the acquisition of material wealth in the form of objects made of precious metals, the retrieval of artefacts of symbolic significance that could be passed on to new bearers of tradition (swords, fibulae), or the manipulation of skeletal remains to reduce the supernatural power of the dead and thereby strengthen the position of the survivors. Another argument may also be purely practical reasons, because it is necessary to consider the possibility that after the decision was made to leave the inhabited territory, the grave pits were deliberately and legally opened, and valuable artefacts were retrieved by the departing community to facilitate their transfer to new settlements and the subsequent process of acculturation (Loskotová 2023, 307).

4. Typology of glass vessel forms in fifth-century graves in the Middle Danube region

Glass production offered a diverse range of forms and decorative ornament for glass vessels. However, in the funerary context of the Migration Period in the Middle Danube region, most of these refer to the connection with so-called drinking services (Tejral 2011a, 232), i.e. primarily cups, glasses, bowls, jugs, and bottles of various shapes and decoration (Fig. 2). Nevertheless, balsamaria are also present in the grave goods, though not in such abundance as in earlier periods (Fig. 2; Dévai 2016, 257). The presence of glass vessels among grave goods reflects not only funerary traditions but also glass production – domestic and foreign – and the export of individual products from various areas of the world at that time.

In the following part of the paper, the individual types of glass vessels that formed part of the grave inventory of the examined graves are presented along with information on their characteristics, dating, distribution, and possibly production. In the analysis, we primarily drew on the publication of L. Barkóczi (1988). Even though this is a local work, it is indispensable given that we are in the Middle Danube region. For forms that Barkóczi did not mention in his book, we turned to the work of C. Isings (1957). For easier orientation, a table with a basic overview of the occurring forms was created (Tab. 2; Fig. 2). The recognised

Beakers	Conical beakers	Barkóczi 47a–d
	Beakers with relief decoration	Barkóczi 42; 65
	Stemmed glasses	Isings 111; Rüsselbecher
Cups	Hemispherical cups	Barkóczi 13a
	Egg-shaped cups	Barkóczi 37b
	Egg-shaped cups with blue dots	Barkóczi 67b
	Cups with relief decoration in the form of an arcade	Barkóczi 62
Bottles	Cylindrical bottles with a groove	Barkóczi 126
	Low cylindrical bottles	Barkóczi 117
	Bottles with a flask-shaped body, a wide rim, and a long cylindrical neck and their variations	Barkóczi 118; 120; 121
Pitchers	Oval pitchers with fluted bodies	Barkóczi 177
	Pitcher with cut decoration	Barkóczi 179
Bowls	Bowls with pressed walls	Barkóczi 17
Perfume bottles and balsamaria		Barkóczi 90; 97; Isings 105

Tab. 2. Basic overview of vessel typology. According to Isings 1957; Barkóczi 1988.

Tab. 2. *Přehled typologie nádob. Podle Isings 1957; Barkóczi 1988.*

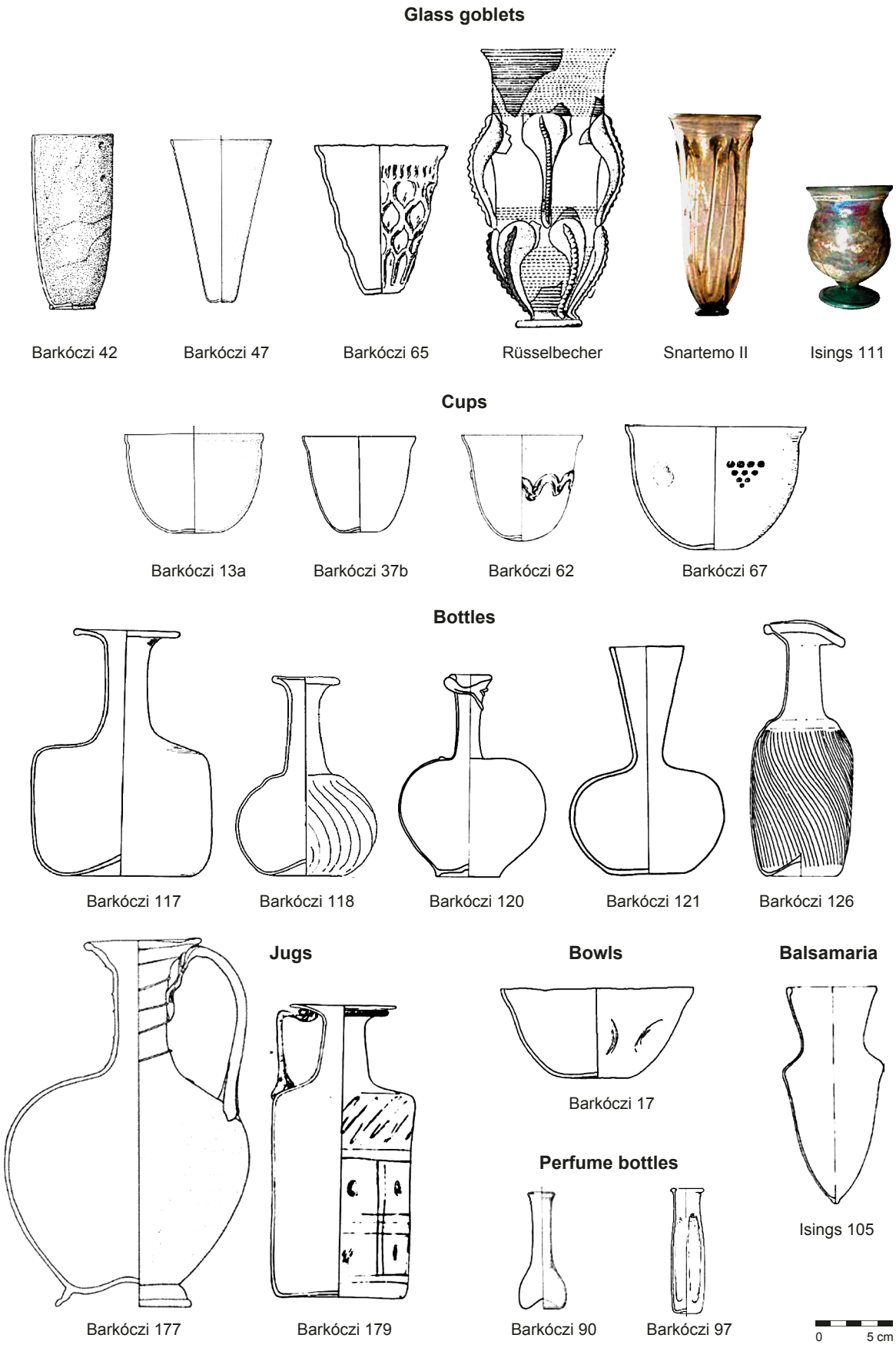


Fig. 2. Overview of the shapes of glass vessels. Author B. Vymazalová.
Obr. 2. *Přehled tvarů skleněných nádob. Autor B. Vymazalová.*

types of vessels are divided into basic vessel categories (beakers, cups, bottles, jugs, bowls, perfume bottles, and balsamaria), which are subsequently divided according to the specific characteristics of individual vessels. More detailed information about the vessels found in specific graves is given in Table 1, on which this contribution is based.

4.1 Beakers: conical beakers

Glass beakers were one of the most common grave goods in the Late Roman Period. They maintained this status even during the Migration Period. They were of high quality and made mostly of colourless or naturally coloured glass until the last third of the 4th century. In the late 4th and 5th centuries, moss-green and strong yellow-green tones became the dominant colours. The quality of the raw materials deteriorated, leading to vessels whose glass is full of air bubbles (Dévai 2016, 260).

During the entire 4th century and at the beginning of the 5th century, conical-shaped glasses were popular. The popularity of this form probably prompted the development of several variations, which were also found among grave goods. It could have been a variant with rounded walls and a ring base (Barkóczi 47a, Barkóczi 1988, Taf. VIII: 92–97), with straight walls and a wide (Barkóczi 47b, Barkóczi 1988, Taf. IX: 98, 99) or a small rounded base (Barkóczi 47c, Barkóczi 1988, Taf. IX: 100–104), or a form with polished bands on a foot pressed into the base (Barkóczi 47d, Barkóczi 1988, Taf. X: 105–107). Conical cups also exist in the variant Barkóczi 47e (with a round bottom, Barkóczi 1988, 84, Taf. X: 109) and 47f (thick-walled with polished bands around the circumference, Barkóczi 1988, 85, Taf. X: 110), but they were not present in the examined collections. Conical drinking vessels occur mainly at the end of the reign of Emperor Constantine (306–337 AD), often in the second half of the 4th century, but in some places their presence may persist until the beginning of the 5th century (Isings 1957, 130). In the western provinces, this shape occurs sporadically. However, its presence is largely attested throughout Pannonia, in the provinces southeast of Pannonia and the Orient. The occurrence of conical cups in present-day Hungary may also be related to the local glass trade. In addition to the pieces that were produced in local workshops, there is also the so-called Western group of glasses, which can be considered imported goods (Barkóczi 1988, 80). Type 47c has its origin in workshops in the Black Sea region (Barkóczi 1988, 80–81). It was originally assumed that type 47d beakers were blown into a mould, but the presence of bubbles in the glass refutes this theory. W. Haberey assumes that they were probably blown through a special closed ring. The same procedure was used for Frankish ribbed glasses (Haberey 1942, 253). The grinding of the walls is therefore not only a type of decoration but is directly related to a unique production process that was known in the earlier phase of the Late Roman Period (Fremersdorf 1961, 63–64). It is still unclear whether certain forms or variants of these cups are characteristic of a particular region. All types of conical cups are present, for example, in the Late Roman cemetery of Ságvár. After 380 AD, their use and production decreased significantly due to a new form – the egg-shaped cup (Barkóczi 37; Barkóczi 1988, 80–81).

There is a debate about whether conical cups were drinking vessels or were used as lamps (especially the Barkóczi 47e form, which corresponds to the Isings 106d form, Isings 1957, 130; Barkóczi 1988, 84). Clasina Isings argues that their base was too small and therefore they could not stand on a table (Isings 1957, 130). Indeed, undecorated conical cups of the so-called polycandelon type (Vroom 2007, 347) in the Roman Empire were often components of chandeliers (polycandelons) in churches (Jiřík, Vávra 2015, 182), but they also occurred in residential contexts (Vroom 2007, 347). Some of them still contained oil residues (Swift 2017, 104). However, can it be automatically assumed that these vessels were used in the Barbaricum the same way as in the provinces? Conical beakers were popular grave goods, especially in the Eastern European region of the fading Chernyakhov culture in the 4th century and the first half of the 5th century (Jiřík, Vávra 2015, 182). It can therefore not be ruled out that after they left Roman territory the function of the vessels changed in the hands of the barbarians from lamps to cups. The find from the Karanis site, where four game dice were found in a conical beaker, is also telling, and its use (probably secondary) thus took on a completely different dimension (Swift 2017, 105). In the case of beakers with a ring-shaped (Barkóczi 47a) or a wide base (Barkóczi 47b), they were likely used for drinking, as they were able to stand on their own. The interpretation is more problematic with the Barkóczi 47c and d types. Their narrow and rounded base did not provide sufficient stability. However, in the grave context, variant 47c was almost always found with another vessel, either made of glass (see Brigetio grave 3 – burial 1, Barkóczi 1988, Taf. XXIII: 258, Barkóczi 1961, 98, Fig. 25; Pottenbrunn, grave 170, Hölbling 2008, Taf. 28, 29; Pottenbrunn, grave 197, Hölbling 2008, Taf. 40; Pottenbrunn, grave 742, Hölbling 2008, Taf. 66, 67) or clay (see Lébény – Magaspart, inhumation grave Pusztai 1966, 102, Fig. 2). An exception is double grave 190 from the Pottenbrunn site, where, in addition to the conical beaker, there was another vessel, but it belonged to the remains of the second individual (Hölbling 2008, Taf. 36). In type 47d (Pottenbrunn, grave 741), there was no other vessel in the accompanying inventory with which it could form a service. When assessing the function of the conical cups, it is necessary to take into account the accompanying inventory, which can indicate the function it fulfilled. If accompanied by a bottle or jug, there is a possibility of a drinking service. The presence of perfume bottles or the absence of other vessels may, in turn, testify in favour of the theory of the function of lamps. Satisfactory answers could be provided by analyses of the contents of the cups, which is not always possible, especially with finds from earlier excavations. Therefore, the function of the conical beakers in barbarian graves is still a subject of speculation.

4.2 Beakers with relief decoration

4.2.1 Cylindrical and conical beakers with relief honeycomb decoration

Beakers decorated with relief decoration in the shape of 'honeycombs' (Barkóczi 65) are found in Pannonia as well as in neighbouring provinces. A conical shape is more common than cylindrical and can be divided into three variants: Barkóczi 65a–c (Barkóczi 1988, 95, Taf. XIII: 140, 141, 142). In the Middle Danube area, glasses with this decoration appeared only from the middle of the 4th century to the first third of the 5th century (Stuppner 1997, 220–221). Analogies to them were found in the Middle East and the Black Sea region (Barkóczi 1988, 95). In the context of the Migration Period, we have only the Barkóczi 65c variant represented in the territory of the Middle Danube region. Its production is attributed to a local glass workshop (Barkóczi 1988, 95). This conical shape, documented from the sites of Csákvár (Barkóczi 1988, 95–96) and Százhalombatta (Kovács 2004, 126), occurs somewhat more frequently. At both sites, there were graves containing beakers, dated to the last third of the 4th – early 5th century. A fragment with very similar decoration also comes from a grave connected to a watchtower

from the Szob site (Barkóczi 1971, 72, 76–77). Other fragments of cups decorated with the honeycomb motif come from the castle in Iža, where they are dated to the 4th and early 5th centuries (Kučeráková 2013, 101–104, tab. 20:406). A fragment of bluish glass was also found during a surface collection at the Cífer-Pác site (Varsik, Kolník 2021, Fig. 181:23, 182:18).

4.2.2 Narrow cylindrical beakers with a circular base

Beakers of the Barkóczi 42 type are rare in the Middle Danube region (Barkóczi 1988, Taf. VIII:84, 85). In addition to the find from the Budapest – Bécsi út 42 site (Nagy 2005, 428, Abb. 17:7), which is the only one dated to the mid-4th – 5th century based on the accompanying inventory, there are three additional pieces from a grave context dated to the end of the 3rd and beginning of the 4th century from Brigetio (Barkóczi 1988, Taf. VIII:84, 85) and one from Aquincus (Barkóczi 1988, 78). László Barkóczi believed that all four cups were the product of the same workshop. He also points out their connection with southern Pannonia, as they also occur at the Sirmium site (Barkóczi 1988, 78).

4.3 Stemmed cups

4.3.1 Stemmed glasses

Some cups could have featured a base. Relatively rare stemmed chalices begin to appear as early as the 3rd century (Isings 86; Isings 1957, 103; Barkóczi 1988, Taf. XVI:172–181). A fragment of a corroded stemmed cup from Bratislava-Podunajské Biskupice (Horňák, Hrnčiarik in print) discovered in an inhumation grave from the Migration Period should, however, be compared to later stemmed chalices (Isings 111, Fig. 2). Clasina Isings

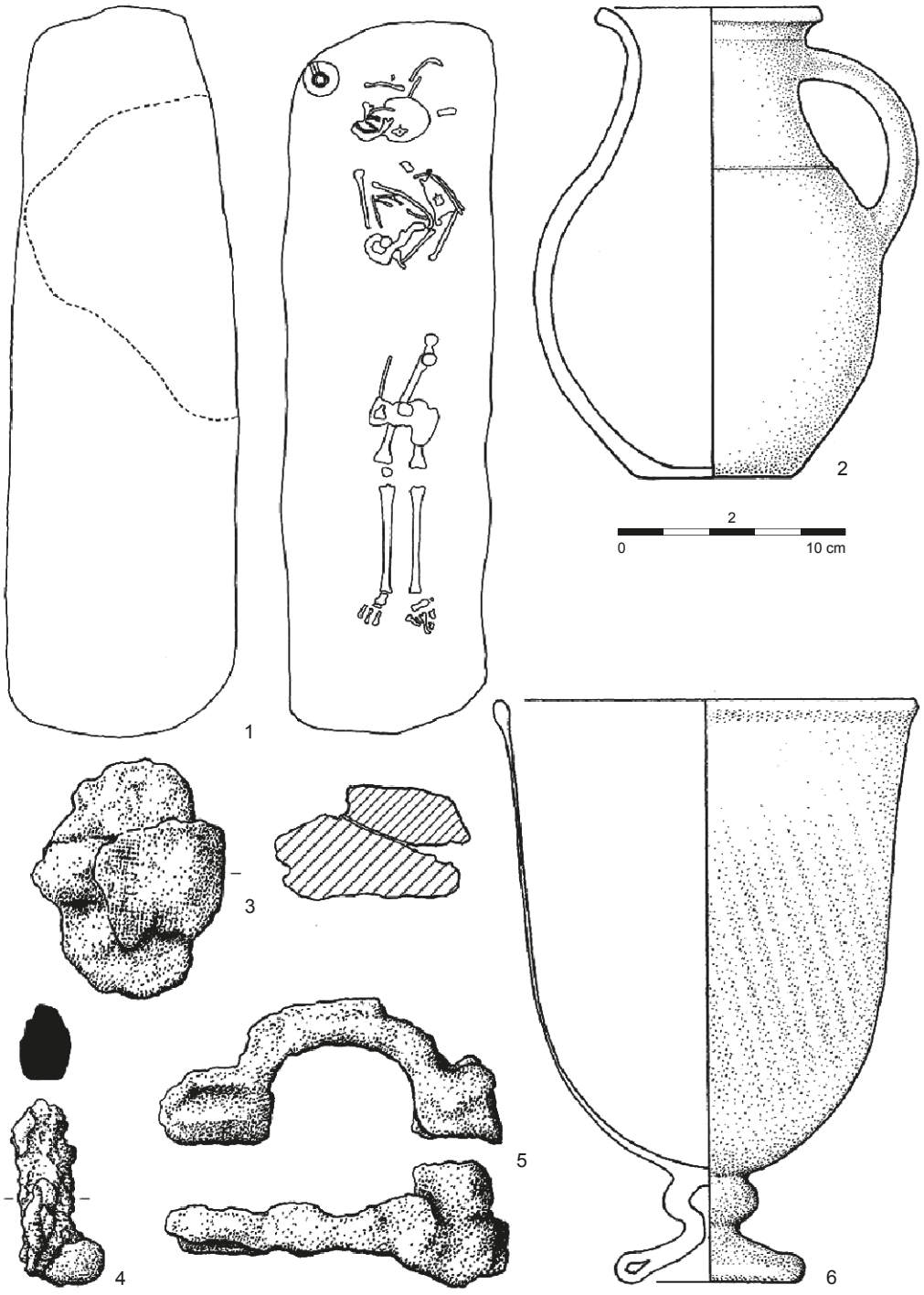


Fig. 3. Čataj. Grave 21. 1 – Plan of the grave; 2–5 – grave inventory; 6 – glass cup on a hollow stem. After Zábojník 2009, 190, obr. 2.

Obr. 3. *Čataj. Hrob 21. 1 – Plán hrobu; 2–5 – hrobový inventář; 6 – skleněný pohár na duté nožce. Podle Zábojník 2009, 190, obr. 2.*

considers them to be a Mediterranean type of vessel and cites several examples from the 4th century from the territory of Italy – including Rome (Isings 1957, 139–140). However, the main development of this form occurs only from the mid-5th century and is popular during the 6th and 7th centuries until the Middle Ages (Modrijan, Milavec 2011, 101–105). In the Adriatic-Mediterranean region, the chalice became a liturgical vessel or simply a glass for drinking wine (Modrijan, Milavec 2011, 103). In the context of the Migration Period, three specimens of this type of glass vessel are known from the Middle Danube region so far, namely from the locations Bratislava Podunajské-Biskupice, Brno-Černá Pole (Vaculíková 2015, 127, Fig. XXIII:2) and Čataj (Fig. 3; Zábojník 2009, 189–191). The fragment from Podunajské Biskupice was significantly damaged by corrosion, which turned the glass brown. Heavily corroded glass is a sign of low quality, reflecting the fact that late antique glass workshops in declining provinces were dependent on the increasingly frequent recycling of raw materials (Varsik in print).

4.3.2 Stemmed goblets

A significant decline in the distribution of glass from Eastern Europe and the provinces, which began in the second half of the 5th century, provided space for an influx of forms of Western provenance. Among the most significant form is a goblet on a ring-shaped stem, which is decorated below the rim with glass threads and, above all, with tall vertical wavy lines of the Snartemo type (Jiřík 2019, 147). The Snartemo type resembles tall conical goblets of the Kempston type, even though both types were distributed in different geographical areas (Jiřík 2019, 146). A cup of this type (Snartemo II, Fig. 2) comes from unspecified grave 12 from Vrchoslavice in Moravia (Tejral 2013, 391), which belongs to the eastern group of cups related to the Snartemo type, which is part of the grave inventory in the Hunnic Period in the Carpathian Basin in the D2–D3 stage (420–560 AD; Tejral 2007, 102). This type of cup appears in the Rhineland, in the Danube region, but their concentration is mainly in the Scandinavian and Baltic regions. It appears in grave contexts but also settlements (Tejral 2011a, 232). The Snartemo type exists in three different variants (I, II, III; Jiřík 2019, 146). Type II, to which the find from Vrchoslavice also belongs, differs from type I in the absence of decoration with glass thread below the rim. Two analogies come from Slovakia, namely from Kapušany (Kolník 1979, 72) and from Prša (Točík 1962, 200) and another from grave 1 in Ghenci – Akasztódomb in Romania (Németi 1967, 506). In the case of the find from Kapušany, T. Kolník considers a Black Sea origin (Kolník 1979, 108).

4.3.2 Claw beaker (Rüsselbecher)

Among the truly unique finds is a Rüsselbecher (Kraskovská 1963, 695, Fig. 228) from the inhumation grave from Zohor. These decorated cups are characterised by a pair of rows of hollow protrusions placed one above the other. These are curved downwards, where they connect again with the wall of the vessel. The aforementioned protrusions gave the name to the type of cup itself. Either the term Rüsselbecher ('cup with trunks') or claw beaker ('cup with claws') can be used. The cup from Zohor was placed near the southern wall of the grave, covered with a clay cup. Although it was preserved in a very fragmentary form, it was possible to reconstruct its appearance. So far, only finds from Germany are known. L'udmila Kraskovská dates the entire grave to the first half of the 6th century, although the vessel itself dates from the mid-5th century (Kraskovská 1963, 693–700). R. Stampfuss divides cups of this type into two types. The one from Zohor corresponds to an older, richly decorated form from the mid-5th century. Rudolf Stampfuss describes the Rüsselbecher type as Frankish glass and locates its production centres in the northern Gallic region, where glass workshops were transferred from the Rhineland. The closest analogy to the cup from Zohor is the find from the Stößen grave (Thuringia; Stampfuss 1940, 240). According to the above analogies, it is concluded that the cup from Zohor is a product of glass workshops either in the Rhineland or in the area of northern France (Kraskovská 1963, 693–700). Joachim Werner believes that the Rüsselbecher type is a product of a glass workshop in what is now Belgium and is found in the Franconian region, especially on the Rhine and Maas rivers, where they are abundantly represented. Occasionally this type of glass product reached Thuringia and southern Germany (Werner 1962, 93). Christiane Neuffer-Müller, however, thinks that cups of this type date from the 6th century and were the product of Frankish glassmakers on the Lower Rhine or in Belgium, from where they were exported to large parts of Europe. They were mainly placed in graves for men and were reserved for the wealthier population (Neuffer-Müller 1976, 89–94). However, another Rüsselbecher with an identical shape very similar to the one from Zohor is also dated to the 5th century (Evison 2008, 53–54, Fig. 58). The problem of dating the specimen from Zohor is thus more complex.

4.4 Cups

4.4.1 Hemispherical cups

Another relatively popular group of glass vessels was cups, which existed in several types. The first of these are hemispherical cups, which occur in thin-walled (Barkóczi 13a, Barkóczi 1988, 57, Taf. II:18–21) and thick-walled variants (Barkóczi 13b, Fig. 2). Their rim is slightly curved outwards. Type 13a spread throughout the Roman Empire in the 3rd, but especially in the 4th century. This form is commonly found in present-day Hungary. According to current knowledge, it is particularly characteristic of the northeastern part of the province of Pannonia, but it is also found in its southern part. The height of the cups is in the range of 4.5–6.8 cm, more often 5.5–6.4 cm. They are therefore smaller than ovoid cups (Barkóczi 1988, 58). The oldest cup so far is from the Halimba site (Burger 1968, 91, Fig. 46) from the reign of Licinius, and the latest comes from grave 29 in the Csákvár cemetery from the early 5th century (Salamon, Barkóczi 1970, 51). These vessels were distributed north of the River Dráva as well as south of Pannonia (Calvi 1968, pl. C. 4,6). The cups are associated with local glassworks and exports from provinces in the southeast (Barkóczi 1988, 57). This shape was most popular in the second half of the 4th century (Vessberg 1952, 114-115). A narrower variant resembling a cup shape was popular west of Pannonia (Barkóczi 1988, 57). One of the specimens from the Ságvár (Barkóczi 1988, Taf. II:17) and Brigetio sites had circular cut bands, which are typical for cups of oriental origin (Barkóczi 1988, 57). The colour scale of these thin-walled cups ranges from white to light green to green (e.g. grave 162, Pottenbrun, Hölbling 2008, 50; grave 168, Pottenbrun, Hölbling 2008, 54–55; grave 192, Pottenbrunn, Hölbling 2008, 77–79). Based on the analysis, it is assumed that these vessels were not the subject of long-distance trade but were produced directly on-site, as is suggested by their fragility (Barkóczi 1988, 57).

4.4.2 Egg-shaped cups

Perhaps the most popular and widespread form in the Middle Danube region is represented by egg-shaped cups (Barkóczi 37). They exist in two variants, which are chronologically distant

from each other. The earlier variant is thick-walled and the later one is thin-walled. An example of the thick-walled variant (Barkóczi 37a) is attested in the Late Roman cemetery of Ságvár (Barkóczi 1988, Taf. VII:75) and dates to the second half of the 4th century. The closest analogies come from southern Pannonia (the area between the Sava and Dráva rivers).

The thin-walled variant (Barkóczi 37b, Fig. 2) is the most numerous among the glass vessel forms. Its shape is based on its thick-walled predecessor (Barkóczi 37a), which was a product of Late Roman glassworks. Its appearance was significantly influenced by three older variants – Barkóczi 76–78 (Barkóczi 1988, Taf. XV:167, 168, Taf. XVI:169, 170). The cups could be supplemented with relief decorations of the same colour, as well as blue dots (Barkóczi 67b) (Barkóczi 1988, 75). They usually formed a service with cylindrical bottles or oval jugs decorated with a glass thread around the neck (Barkóczi 177, Barkóczi 1988, 197, Taf. LV:493–496). In the grave inventory, they often occur together with onion button crossbow fibulae, pottery jugs, and various types of jewellery. The cups are in most cases made of dark or light green glass. Bluish-green glass occurs only rarely. Considering the context of the finds, L. Barkóczi dates the occurrence of this type from approximately 375/380 AD, when it appeared for the first time, to the first half of the 5th century. Archaeological finds document their presence throughout Pannonia and in the western provinces (Barkóczi 1988, 75). An example is the finds from the Migration Period at necropolises such as Csákvár (Salamon, Barkóczi 1970, 40, 54–55) and Pilismarót (Barkóczi 1960, 113–114, 117; Barkóczi 1988, 198). Ovoid cups also occur in significant isolated graves or smaller burials of the 5th century. These include Árpás (Tomka 2001, 166), Charváty (Tejral 2010, 104), Drslavice (Tejral 2010, 103), Ivanka pri Dunaji (Tejral 2011a, 407), Krakovany Stráže (Krupa, Klčo 2015, 83), Mödling (Tejral 2011a, 235), Páty (Ottományi 2001, 37–38), Szob-Kalvária-domb (Kovrig 1959, 209), Šarovce (Novotný 1976, 169–170) and Untersiebenbrunn (Nothnagel 2008, 31). These are cups made of moss-green to yellowish glass. However, it is not ruled out that the yellow colour was caused by corrosion of the glass and their original colour was different. The find from Šarovce differs from other cups by its specific surface treatment in the form of grooves and fine flutes. An analogy to the Šarovce cup comes from the Prague-Zličín necropolis from grave 76 (Jiřík 2019, 172). Analogies from the burial grounds in Brigetio, Aquincum, and Arrabona are dated somewhat later. The mentioned shape occurs throughout the Danube region, but most often along the limes. Although the dimensions of the cups are almost identical, L. Barkóczi assumes that there was no central workshop, but that they had to be produced at several locations (Barkóczi 1988, 75). According to J. Jiřík, this form of cup appears in graves associated with the Goths, Alans, and Huns of Alathus and Safrak (Jiřík 2019, 141). However, these graves were not necessarily associated only with Alathus and Safrak. Jaroslav Tejral considers several groups of 'eastern barbarians' (Tejral 2007, 57–60).

4.4.3 Egg-shaped cups with blue dots

The egg-shaped cups decorated with blue dots (Barkóczi 67; Fig. 2) are based on the Barkóczi 37b form and are enriched with surface decorations. They appear in two variants, which differ from each other in colour, material, glass surface treatment, and also chronological classification.

The first group (Barkóczi 67a) is characterised by an ovoid shape and thick greenish-white to light green glass. Their decoration consists of one or more bands and a row of two, three, or six small blue glass dots. They appear in several designs and are the product of several glass workshops. The type first appeared around 340 AD and its use can be traced back to 375–380 AD. They occur in large and small forms (Barkóczi 1973, 69–94). Examples of small-form cups include the specimen from the Ságvár burial ground (Barkóczi 1988, Taf. XIII:147) and a find from an unknown site held at the Hungarian National Museum (Barkóczi 1988, Taf. XIII:146). The glass of both is coloured greenish-white and decorated with one large and several smaller dots. This type also includes the cup from Intercisa dated to the Valentinian period (Barkóczi 1988, Taf. XIV:148) as well as the find from Kisberény (Barkóczi 1973, 72). They are made of green, slightly translucent glass. It is assumed that they come from the later second half of the 4th century and may be a product of local production (Barkóczi 1988, 97). The cups of the large form have thick walls, a continuous band of blue dots, and a pair of cut lines around the circumference, as evidenced by a find in the Hungarian National Museum (Barkóczi 1988, Taf. XIV:149). Other examples are known from Carnuntum and Gorsium, where a significant number of such fragments were found. Local production is considered for the large forms. Several similar cups have also been discovered in the western provinces (Barkóczi 1988, 96–97). Among the finds of this type, the cup from the Budapest – Bécsi út 42 site stands out, the surface of which is decorated with engraving in the form of nine circles and a series of vertical lines imitating flutes (Nagy 2005, 428, Abb. 17:6). The engraved circles are perhaps intended to imitate the decoration with blue glass dots (Nagy 2005, 427).

Among the cups belonging to the second, later group (Barkóczi 67b), a small and a larger form are also distinguished. Their decoration is identical. They are characterised by thin glass, which is no longer exclusively light green. Usually, fused dark green and light green glass are combined in production. The decoration consists of a single row of blue dots around the circumference or a combination of one larger and several smaller dots. Horizontal grooves continue to occur below the rim (Barkóczi 1961, 104). The cup from the child's grave in Untersiebenbrunn was decorated with a group of four larger, evenly spaced dots (Nothnagel 2008, 34; Fig. 4). On the cup from Brigetio, which comes from one of the latest burials near the camp. It dates back to the turn of the 5th century (Barkóczi 1988, 99). A similar find also comes from the Sopron site. In its case, the cup is decorated with one large dot and ten smaller ones, which are arranged in a shape resembling a bunch of grapes (Tejral 2011a, 236). A cup from the Pottenbrunn necropolis (Hölbling 2008, 179) and a fragment from the Pilismarót site (Barkóczi 1960, 119) also had similar decoration in the form of a grape bunch. An analogy in the form of a cup from the grave of a woman from Regöly, thanks to the accompanying inventory, indicates an origin in the Black Sea region (Tejral 2011a, 237). A cup with similar decoration was also found in the Csákvár burial ground (Barkóczi 1988, 100). Artefacts such as earrings with polyhedral decoration and jugs with polished decoration were found in the necropolis, which indicate an origin from the Black Sea region. Burials began at this burial site at the end of the 4th century and continued into the first half of the 5th century (Barkóczi 1988, 98–99). As already indicated, cups of this type were very popular, especially among the barbarians who settled in the northern Black Sea region. A globular cup with blue dots from the Spanish site of L'Hostalot is important for tracing the various routes by which these specimens were imported. The vessel comes from a female grave furnished with a pair of 'East Germanic' pins with polyhedral decoration (Jiřík 2019, 80). In Bohemia, such a cup is known only from a rich grave in Měcholupy (Svoboda 1965, 110, tab. 28:6).

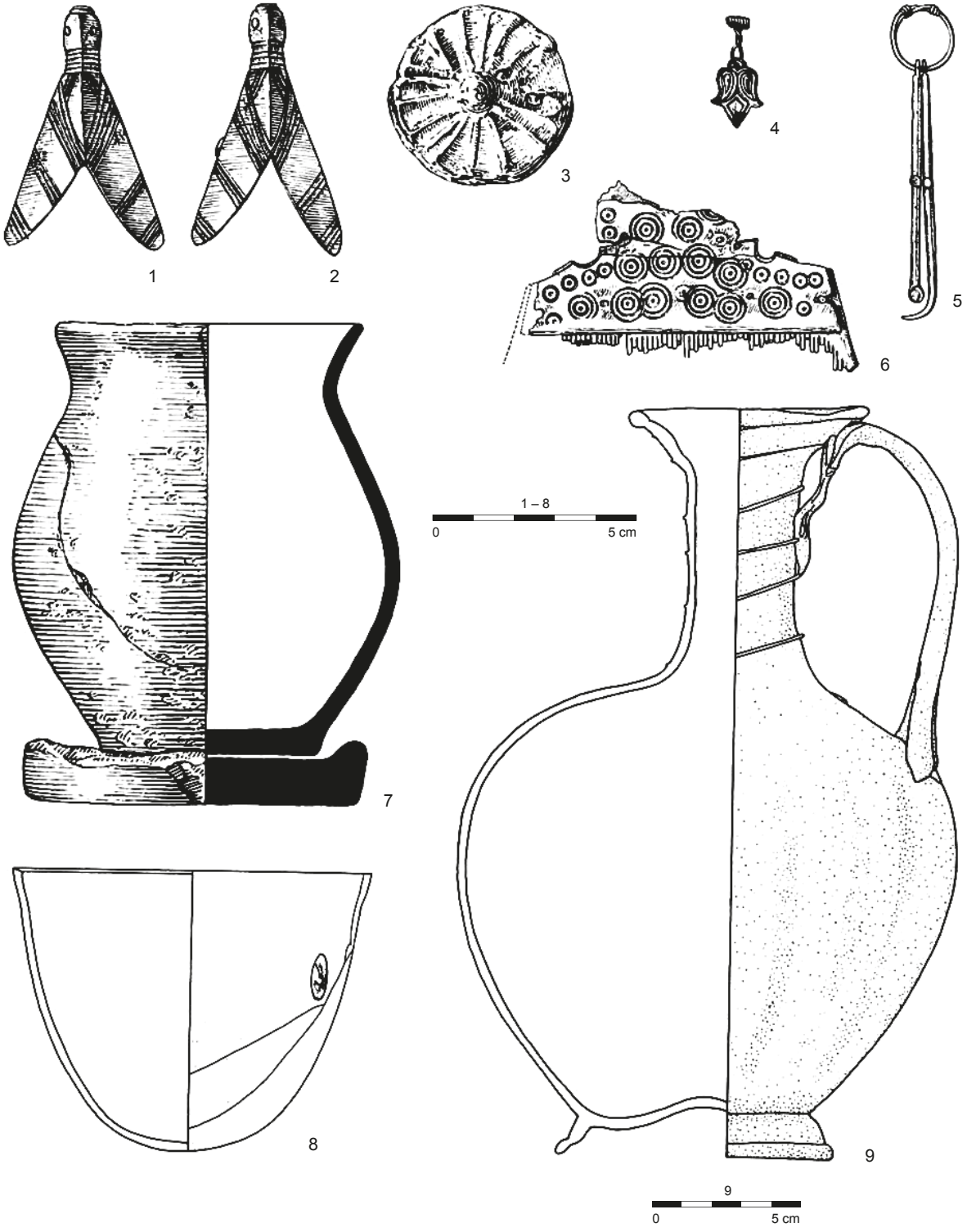


Fig. 4. Untersiebenbrunn, children's grave. 1, 2 – Cicada-shaped clasp; 3 – mirror; 4 – gold pendant; 5 – toiletries; 6 – three-layer comb; 7 – clay pot; 8 – egg-shaped cup with blue knobs (Barkóczi 67b); 9 – jug (Barkóczi 177). After Tejral 2011a, 129, Abb. 86.

Obr. 4. *Untersiebenbrunn, dětský hrob. 1, 2 – Cikádovitá spona; 3 – zrcadlo; 4 – zlatý přívěšek; 5 – toaletní potřeby; 6 – trojvrstvý hřeben; 7 – hliněný hrnec; 8 – vejcovitý šálek s modrými nopami (Barkóczi 67b); 9 – džbán (Barkóczi 177). Podle Tejral 2011a, 129, Abb. 86.*

Thin-walled cups with blue knobs are found throughout Pannonia. They occur in northern Italy, as well as in the lower Danube Limes section and in large quantities also in the Black Sea region, where their production can be assumed (Sorokina 1967, 79). They occur in the Pannonian region after 380 and thanks to finds in the grave context, this type can be traced back to the first half of the 5th century. The vessels were produced at several unidentified sites. László Barkóczi searches for these production centres north of the River Dráva (Barkóczi 1988, 98–99).

4.4.4 Cups with relief decoration in the form of an arcade

Cups with relief decoration (Barkóczi 62; Barkóczi 1988, Taf. XII:134, 135) are a variant of moss-green egg-shaped cups with smooth walls (Barkóczi 37b, Barkóczi 1988, Taf. VII:76–78). Their decoration consists of thinner or thicker wavy lines, or of several glass threads. They are found in Brigetio (Barkóczi, Salamon 1968, 33, Fig. 5) and at the sites of Várdomb (Barkóczi 1988, Taf. XII:135) and Sopron, mostly in a fragmentary state. In addition to the territory of Pannonia, one specimen was also

found at the Szob site (Kovrig 1959, 209). Cups of this type date back to the last third of the 4th century – the first decades of the 5th century. According to L. Barkóczi, they were produced in the same workshops as ovoid cups, cylindrical and fluted bottles, and jugs decorated with a glass thread around the neck (Barkóczi 1988, 93).

4.5 Bottles

4.5.1 Low cylindrical bottles

Beakers and cups were not the only types of glass vessels produced and deposited in graves during the Migration Period. Bottles of various shapes, sizes, and decoration were also popular.

A low cylindrical bottle (Barkóczi 117; Fig. 2) is represented only in one specimen from the grave complex from Brigetio, which dates back to the late 4th – early 5th century (Barkóczi 1961, 98). The same shape, but supplemented with a handle, can be found in Intercisa (Barkóczi 1988, Taf. XLIV:457) and at the Kisárpás site (Barkóczi 1988, Taf. XLV:458), where, however, the body had a square shape. Analogies from other areas are not yet known. It is probably a product of local glassworks in the territory of present-day Hungary. Their model was probably the low, prismatic, and cylindrical jugs known from the eastern Mediterranean (Barkóczi 1988, 137).

4.5.2 Bottles with a flask-shaped body, a wide rim, and a long cylindrical neck

Larger bottles with a long cylindrical neck and a flask-shaped body (Barkóczi 118; Fig. 5) begin to appear regularly from the Constantinian period. In the 1st century, they did not appear at all in find contexts, and even in the 2nd century this form occurs only occasionally. The same applies to the first half of the 3rd century. However, during the reign of Constantine, they became a very popular and frequent addition to Roman graves between 340 and 380 AD. Glass workshops, e.g. at the sites of Ságvár and Intercisa, produced these bottles mainly in the second half of the 4th century, but they also appeared at the end of the 4th and beginning of the 5th century. Alfried Wieczorek and Bernd Päffgen found that this shape also occurred in graves at the beginning of the 6th century (Wieczorek 1987, 39:7; Päffgen 1992, 356:6.; Pöppelmann 2010, 85). In the case of grave finds from Brigetio, the presence of a local glass workshop is assumed to have produced them (Barkóczi 1961, 102–103). The bottles are characterised by a moss-green colour. They were also produced, for example, at the Csákvár site. The products of this workshop are directly documented in a grave context (Salamon, Barkóczi 1970, 39-41, 55) and at various places near the limes (Barkóczi 1988, 137). Bottles of this type are also known from Lower Austria from a rich child grave discovered at the Mödling site (Tejral 2011a, 235) and four graves from the Pottenbrunn necropolis (Hölbling 2008, 113).

Analogies come from grave 70 from the Prague-Zličín site (Jiřík 2019, tab. 14:18) and from Prague-Podbaba-Dejvice (Svoboda 1965, 111, tab. 28:10). However, the find from the second location is decorated with an oblique groove, and its analogies are sought in the Pannonia area at the turn of the 5th century. (Barkóczi 1988, Taf. XXIII:287–289, XXIV:290–297, XXV:298–302). This form of bottle with an oblique groove is very popular in the north of Greece in Thessaloniki (Jiřík 2019, 144), where 59 specimens have been discovered to date. Nearly identical pieces are also known from the western part of the empire, as evidenced by the find of sarcophagus No. 1 at the Bad Kreuznach site in the Rhineland (Bernhard 1982, 99–101, Fig. 38–39; Jiřík 2019, 145).

4.5.3 Oval and flask-shaped bottles decorated with a glass thread on the neck and shoulders

For the first time, bottles with this type of decoration (Barkóczi 120; Fig. 2) appeared in Brigetio in the 2nd century, during the reign of Emperor Antoninus Pius (Barkóczi 1988, Taf. XXV:303). However, their production stops for a while and reappears only in the 4th century, in an oval and globular shape. Most finds of this type come from the Intercisa site (Barkóczi 1988, Taf. XXV:304) and date to the second half of the 4th century. The bottle from the Csákvár burial ground (Salamon, Barkóczi 1970, 41) originating from a grave context

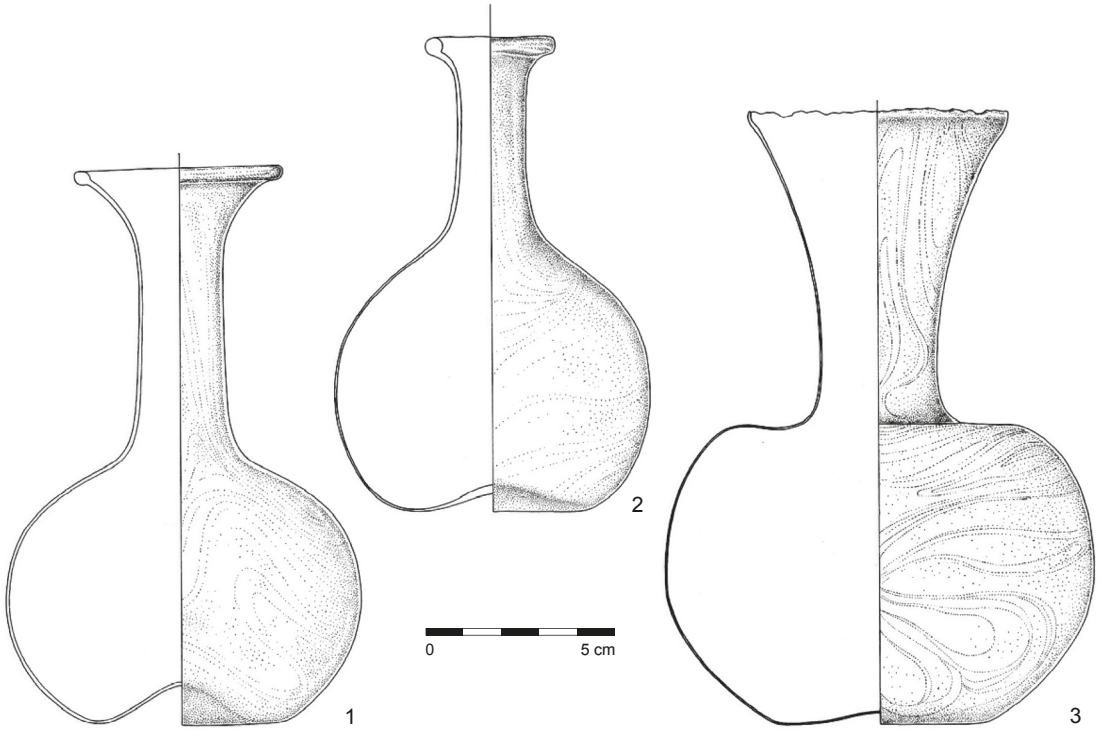


Fig. 5. Pottenbrunn, glass bottles. 1, 2 – Barkóczi 118 type; 3 – Barkóczi 121. After Hölbling 2008, 114, Abb. 24.

Obr. 5. *Pottenbrunn, skleněné lahve. 1, 2 – Typ Barkóczi 118; 3 – Barkóczi 121. Podle Hölbling 2008, 114, Abb. 24.*

is dated to the end of the 4th – beginning of the 5th century. The most beautiful and largest bottle comes from southern Hungary from the Majs site (Barkóczi 1988, Taf. XXV: 305) and is dated to the second half of the 4th century. In the case of the Csákvár site, it is assumed that the vessel is the product of a local workshop. The form is also found north of the Dráva in Poetovia and Carnuntum, and south of Pannonia in Dalmatia. It belongs to the range of Pannonian-Dalmatian products (Barkóczi 1988, 141).

4.5.4 Bottles with a globular body

The appearance of flasks with a globular body (Barkóczi 121; Fig. 2; Barkóczi 1988, Taf. XXVI: 306, 308–310) can be divided into an early and a late phase. In the early phase, these bottles are only available in Savaria and a relatively small form. One artefact comes from a burial site dating to the end of the 1st – beginning of the 2nd century (Barkóczi 1988, Taf. XXVI: 306). The specimens of the later group date to the last third of the 3rd or the first decades of the 4th century. They are characterised by their large dimensions. They come mainly from burial sites from the turn of the 4th century such as Brigetio, Aquincum, Intercisa, and Carnuntum. They partly reached the Pannonian region through trade with areas located south of Pannonia. However, the activity of glassmakers from the Black Sea region is also not excluded (Barkóczi 1988, 142).

The find from the Pottenbrunn necropolis is unique because the bottle is found in a grave dated to the turn of the 5th century. It has a globular body, compressed shoulders, a wide neck, and an even wider mouth. The bottle is thin-walled, currently transparent, but originally had a green colour (Hölbling 2008, 131–132).

4.5.5 Cylindrical bottles with a groove

Bottles with grooved bodies (Barkóczi 126; Fig. 2; Barkóczi 1988, Taf. XXIX: 324–327) exist in several variants, so it is possible to distinguish between three main types. The first type is characterised by an elongated body, grooved walls, and prominent shoulders. This form is known to date in four specimens, three of which were found in graves from the Csákvár burial ground (grave 9, Salamon, Barkóczi 1970, 40; grave 41, Salamon, Barkóczi 1970, 54; grave 49, Salamon, Barkóczi 1970, 54) and one comes from the site in Intercisa. These are products of the Late Roman workshop at the Csákvár site. Bottles with smooth walls can also be included among the products of this workshop (Barkóczi 1988, 147). The second type is characterised by obliquely rounded shoulders, and a wider, cylindrical, raised body with smooth or fluted walls. They occur along the limes, for example at sites such as Intercisa, Aquincum, Pilismarót, Budakalász, Páty, Brigetio, and Carnuntum (Ottományi 2001, 47). The third variant includes finds discovered on the Amber Road and at the sites of Sopron and Poetovio (Barkóczi 1988, 147).

The production centre of the second and third variants has not yet been located. The workshop at the Csákvár site is mentioned in connection with the production of the first variant. It is still unknown whether these finds come from a central workshop or whether they are products of several different workshops. In Pannonia, this form occurs mainly in the area north of the Danube and does not appear in the neighbouring provinces. Similar bottles later occur in Germania and Gaul (Barkóczi 1988, 147).

Bottles of this form and decoration appear in the context of finds after 380 AD and survive until the first half of the 5th century. They occur in burials and in grave complexes accompanied by ovoid cups, earrings with polyhedral decoration, and fibulae with a tied foot, which point to the first half of the 5th century (Barkóczi 1988, 147).

4.6 Pitchers

4.6.1 Oval pitchers with fluted bodies

Another, albeit less numerous, group of forms is represented by pitchers. Oval jugs decorated with flutes (Barkóczi 177; Fig. 2; Barkóczi 1988, Taf. LV: 492–496) are characteristic products of glass workshops that began their production around 380 and were still active in the first half of the 5th century (Nothnagel 2008, 177). The defining characteristics of this type of jug are its oval fluted body, a ring under the rim, and decoration using glass threads around the neck. They occur in a relatively closed area in the northern territory of the limes and its catchment area (Carnuntum – Intercisa). At the same time, they are products of different workshops. Such a jug from the Pilismarót burial ground dates from the Migration Period (Barkóczi 1988, 198). However, its appearance differs from the analogies (outside the grave context) from the sites of Sopron, Kisárpás, and Brigetio, which have certain common features (Barkóczi 1988, Taf. LV). Two similar jugs also come from graves at the site of Untersiebenbrunn (Barkóczi, Salamon 1968, 31–32; Nothnagel 2008, 31–32, 34–35). Researchers have not yet been able to determine the origin of the shape of this type of jug. It may therefore be a form typical of the Middle Danube region (Barkóczi 1988, 197).

4.6.2 Pitcher with cut decoration

Single-handled pitchers with cut decoration (Barkóczi 179; Fig. 2; Barkóczi 1988, Taf. LVII: 501) have an exceptional character in the group of glass products. In terms of shape and decoration, they occur in two variants, which are typical for different chronological periods. The earlier variant (Barkóczi 179a) was thick-walled and was produced in Cologne-Braunsfeld in the first half of the 4th century. The later variant (Barkóczi 179b) is documented thus far in only one vessel from a Late Roman grave at the Jánosházapuszta site. It is a single-handled, thin-walled pitcher with cut decoration. It is moss green, but the handle and ring are blue, which is characteristic of oriental products. It dates to the end of the 4th – beginning of the 5th century. Vessels of a similar shape can be found in the Orient, Egypt, Syria, and the Black Sea region (Barkóczi 1988, 200–201).

4.7 Bowls

4.7.1 Bowls with a pressed wall

Glass bowls were apparently not very popular in the Middle Danube region in the 5th century, as only one artefact was found. It was a bowl with pressed walls (Barkóczi 17; Fig. 2; Barkóczi 1988, Taf. III: 29, 30), which is common for the Late Roman Period (Isings 1957, 14). It exists in two different variations, thin-walled and thick-walled. The thin-walled variant was popular mainly at the end of the 4th century. It was also used in the Rhineland in the second half of the 4th century. The finds from Hungary and the Rhine region differ slightly from each other in terms of shape. László Barkóczi believes that these are products from southern Pannonia from northern Italy or northern Dalmatia. The thick-walled variant has a wide rim and is made of dark green glass of poor quality. One such specimen comes from the Csákvár burial ground from the end of the 4th – first half of the 5th century (Salamon, Barkóczi 1970, 41). It is probably a product of local glass workshops after the year 380 and represents an imitation of the thin-walled form (Barkóczi 1988, 60). Few analogies to the thick-walled variant are known. László Barkóczi reports one similar find, though the place of discovery and the remaining connections are unfortunately unknown (Barkóczi 1988, Taf. III: 29). Analogies to the thin-walled variant

on which it is based are known from the sites of Furfooz, Andernach, Cologne and Von Werthstrasse (Isings 1957, 147–148).

4.8 Perfume bottles and balsamaria

4.8.1 Perfume bottles from the second half of the 4th and first half of the 5th centuries

The perfume bottles that appeared in the first decades of the 4th century (Barkóczi 90; Fig. 2; Barkóczi 1988, Taf. XVIII:215, 220, 221) differed considerably from the forms of the previous centuries. In connection with the new glass products that appeared in the 330s and 340s, they lost their original significance. Their number in find contexts decreased significantly, the quality of the product deteriorated, and it seems that they appear only as a by-product alongside larger and better-quality glass products. The shape is not nearly as uniform as in the previous decades. Smaller pear-shaped or conical shapes are more common (Barkóczi 1988, 118). A bottle with a pear-shaped body was found in one case in the burial ground at Brigetio (Barkóczi 1961, 106) and in three cases in the Pottenbrunn necropolis (Hölbling 2008, 115–116) and they are dated to the turn of the 5th century. In addition to the pear-shaped and spherical variants, conical forms are also rarely found (Barkóczi 1961, 106). One such comes from the Ságvár site. Their counterparts occur in Intercis and also appear in the first half of the 5th century (Barkóczi 1988, 119).

4.8.2 Perfume bottles with extruded walls

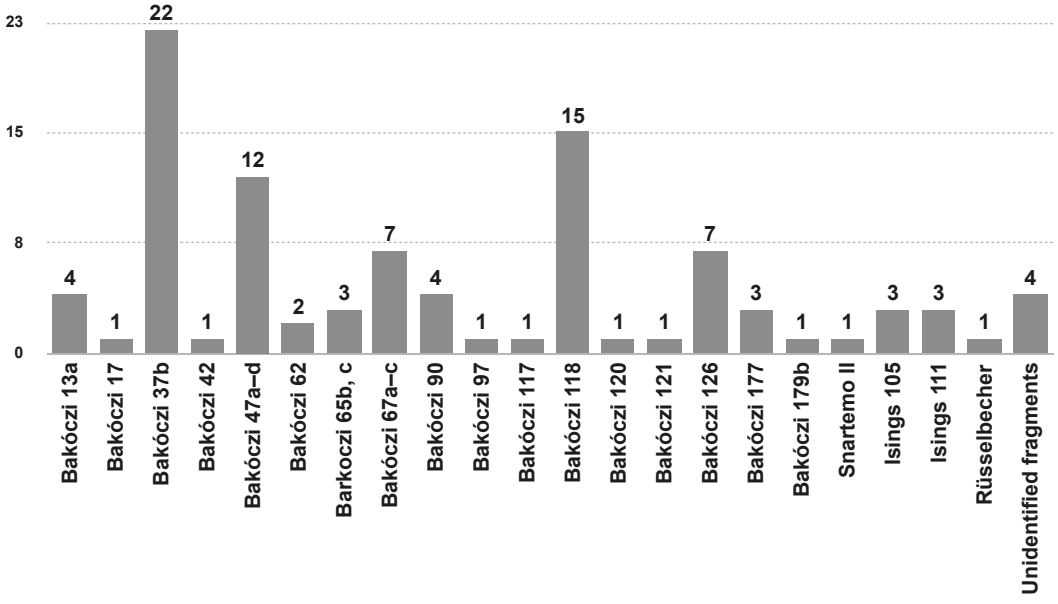
The type of perfume bottle with extruded walls (Barkóczi 97; Fig. 2; Barkóczi 1988, Taf. XVIII:236) is dated to the end of the 3rd – beginning of the 4th century based on finds from the Intercisa site (Barkóczi 1988, Taf. XIX:237). It is considered a local product. A similar form is known from southern Pannonia from Baranya county (Barkóczi 1988, 123). However, the find from grave 186 at the Pottenbrunn site, which is dated to the second half of the 4th–5th century, points to the possible survival of this form in a later period. The perfume bottle has a widened mouth and extruded walls. It is made of greenish glass containing small air bubbles (Hölbling 2008, 116).

4.8.3 Balsamaria

Balsamaria (Isings 105; Fig. 2) are a type of glass vessel that appears rarely in finds from the Migration Period. They were used mainly until the end of the 4th century (Dévai 2016, 257). Two specimens are supposed to come from a rich grave in Moravia – Cezavy u Blučiny (Vaculíková 2015, 74; Sedláčková 2016, 105–106), but their purpose is not entirely clear (Tihelka 1963, 483). The narrow shape rules out the possibility that they were cups, but it is possible that they were used as containers for writing utensils (Sedláčková 2016, 106). Both vessels were also subjected to chemical analyses, indicating that the glass raw material from which they were made was produced in the Levant in the 4th century (Sedláčková 2016, 106). A *balsamarium* was also found in inhumation grave 554 at the Páty site. It is shaped like an amphora with a wide neck and mouth and a pointed bottom ending with a knob. The glass contains a large number of air bubbles, which are a sign of glass production at the turn of the 5th century (Ottományi 2001, 37). An analogy, albeit in the form of a cup, but also with a knob-like ending, comes from grave 93 from the Prague-Zličín necropolis. Jaroslav Jiřík considers the connection of this shape with Mediterranean workshops. This particular vessel end may indicate their function as lamps. In the case of the find from Páty, its dimensions would have allowed for this use (Jiřík 2019, 147). Lamps with knob-shaped ends are known from southern France, specifically from the sites of L'oppidum de Saint-Blaise, Gardanne, and Marseille, which date back to the turn of the 6th century. They also appear in Italy (Jiřík 2019, 147 with further literature).

4.9 Evaluation

The range of forms of glass vessels during the Migration Period was diverse, despite the aforementioned complications with production and distribution. If we exclude four unidentifiable fragments, we have 21 different basic types of vessels represented in the studied sample. These can be divided into two groups: forms based on an older tradition, such as some *balsamaria*, and hemispherical or egg-shaped cups. However, completely new forms also appear, such as the so-called Rüsselbecher. We also noted types where older forms were combined



Graph 1. Quantitative representation of individual types of glass vessels in selected graves in the Middle Danube region.

Graf 1. *Kvantitativní zastoupení jednotlivých typů skleněných nádob ve vybraných hrobech ve středním Podunají.*

with new decorative elements, such as ovoid cups with blue dots (Barkóczi 67, Tab. 1). As we can see in Graph 1, the most popular were cups of the Barkóczi 37b type (22 times), conical beakers of the Barkóczi 47a–d type (12 times) and flask-shaped bottles of the Barkóczi 118 type (15 times). Given the limited number of graves examined, we are aware that we clearly did not manage to collect all types of vessels that could have been part of the grave inventory during the 5th century and that there are therefore forms that could expand this list in the future.

5. Glass vessels as grave goods – their role and significance

Glass vessels were present as part of the grave inventory throughout the Roman and Late Antiquity periods. In the Roman Period, they were mostly *unguentaria* and *balsamaria*. Goblets were rarely found (Dévai 2016, 255–258). However, in the 5th century, when the migration of various ethnic groups occurred, these typically Roman forms receded into the background and various vessels came to the fore, with their shapes indicating a connection with the consumption of beverages. Their analogies can be found in the Black Sea region and Scandinavia. Most glass vessels, by their shape, do indeed indicate a connection with the so-called drinking services. Usually, these are cups, conical beakers (alternative lamps), and bottles of various shapes and decorations. Jaroslav Tejral considers this deposition of drinking services in grave pits to be a kind of surviving custom of the Roman provincial burial method (Tejral 2011a, 232). However, it is questionable to what extent the ceremony, which included placing glass and ceramic vessels in graves, is necessarily connected with the prevailing idea that glass vessels were used to serve alcoholic beverages (mead, beer, wine, koumiss) (for discussion, see: Jiřík 2019, 33).

In graves from the Migration Period, both south and north of the Middle Danube, combinations of a glass cup and a glass or clay jug repeatedly appear. It was once assumed that the combination of a jug/pitcher with a cup/beaker was an indicator of the Christian faith of the buried individual. However, this theory has now been superseded, as the combination of such services also occurs in pagan graves (Kiss 2016, 165). The combination of glass and ceramic vessels mainly refers to the connection with drinking services, as has been mentioned several times (Tóth et al. 2016, 53). In some cases, the combination of a cup with a perfume bottle could be related to a cosmetic service, which was related to posthumous embalming (Jiřík 2019, 47). Also worth mentioning is the find from grave 1 at the Árpás – Szérűskert site. In addition to a glass and clay cup and a greyish jug, it also contained a bronze bucket. This combination is reminiscent of older services from Germanic graves from the 1st–2nd century (Hrnčiarik 2013, 40). However, the bucket was placed at the feet of the buried person, near animal bones, a position that suggests that some food was stored in the bucket.

On the question of whether glass in the Germanic environment is a sign of luxury and wealth, a long-held opinion published by, e.g. E. Droberjar suggests that glass objects and especially containers are luxury goods that are a sign of wealth and high social status (Droberjar 2002, 295). This theory is supported, for example, by finds of fragments of glass vessels from the Žuráň mound (Moravia), which bore traces of repair and thus prove that they were valued goods (Sedláčková 2016, 107, 113). However, finds from Pannonia indicate that access to glass products was relatively easy already in the 4th century and they were considered objects of daily use (Dévai 2016, 256). During the Migration Period, its spread in the Barbaricum may have been influenced not only by the intensification of trade contacts or the migration of barbarians to Roman territory but also by the service of various Germanic, Sarmatian, Alanian, and Hunnic corps in the Roman army. This led not only to the adoption of specific artefacts but also to behavioural patterns associated with their use (Jiřík, Vávra 2015, 182).

Even in the case of the funerary context, there is not much evidence to support the theory that glass vessels were luxury goods in the Middle Danube region during this period. Could the presence of two or three glass vessels indicate the financial capabilities or social status of the buried individual? However, this interpretation is problematic, because apart from the finds from the sites of Untersiebenbrunn, Budapest – Bécsi út 42 and Cezavy u Blučiny, the other graves did not show signs of significant social differentiation (presence of weapons, gold and silver jewellery, riding harness). A more likely model seems to be that glass cups were a relatively accessible commodity, which was more expensive than ceramics, but they were not such rare and expensive objects that only the upper social class could afford. They were probably owned by wealthier individuals within the given community, who, however, did not belong to the highest social classes (Vaculíková 2015, 106). We also find support for this argument outside the Middle Danube region, in the lower Polabian region of today's northern Germany. A detailed analysis of the contents of the graves of several large cremation burials from the 4th to 5th century has shown that fragments or ingots originally from glass vessels also occur in otherwise relatively poor graves (Jiřík, Vávra 2015, 186). For example, at the bi-ritual burial site in Issendorf (Stade district; Janssen 1968, 158, 162), glass fragments and ingots weighing less than 15 grams were found in 54 cremation graves, and in 40 graves even less than 10 grams. However, there were also examples of burials where the weight of the glass ingots reached more than 50 grams, which corresponds to the weight of the entire vessel (Jiřík, Vávra 2015, 186). Anthropological analysis has shown that glass fragments occur in both female and male graves, regardless of the age of the individuals (Jiřík, Vávra 2015, 187). Inhumation graves from the area between the Elbe and Weser rivers, e.g. the Wiepenkathen site (Stade district), also contain glass vessels (Böhme 1974, 132, 142–143), but the other offerings are nowhere near the level of noble burials (Jiřík, Vávra 2015, 187). This difference is also visible in the case of the extensive burial site in Liebenau (Nienburg district; Cosack 1975, 187, Abb. 5) on the River Weser. Fragments or casts of glass vessels come only from cremation burials, while rich inhumation graves are furnished with weapons and jewellery often made of silver, but never contain glass vessels (Cosack 1975, 188–198). A similar situation is also found at the Prague-Zličín cemetery, where glass vessels are of high aesthetic quality, but the graves from which they come probably do not represent the richest layer, which includes graves furnished with jewellery made of gold and gilded silver (especially graves 41, 42, 61, and 135), from which we do not know such vessels (Jiřík 2019, 192, Fig. 60; Jiřík, Vávra 2015, 188). However, the situation may be distorted by the phenomenon of grave robbery, which was recorded at this burial site (Jiřík 2019, 58, 189). However, the situation from grave 143 shows that robbers did discover a niche with a glass container while digging the shaft, but it did not attract their attention and was found fallen at the bottom of the grave (Jiřík 2019, 60). However, it is not ruled out that this 'lack of interest' in the container was caused by its fall from the niche, which damaged it and made it worthless to the robbers (Jiřík 2019, tab. 28:30).

The presence of glass vessels in the grave inventory is not directly related to the social status of the buried. However, regional peculiarities must be taken into account. During the

Migration Period, in the territory of the Middle Danube region, this function was fulfilled by jewellery, fibulae, belt and shoe buckles, parts of clothing such as gold patches from the Lébény-Magaspart inhumation grave, (Pusztai 1966, 105, Abb. 3:5) and in some cases also weapons (Budapest – Bécsi út 42, Nagy 2005, 426, Abb. 16; Cezavy u Blučiny, Vaculíková 2015, 127; Lébény Magaspart, Pusztai 1966, 106, Abb. 4). Therefore, if we want to answer the question of which social class the buried individuals belonged to, our attention must be focused on the entire grave inventory, not just glass vessels.

5.1 Placement of vessels in the grave pit

In addition to the typological classification of individual vessels, we also monitored their possible concentration in certain areas of the grave pit, which could indicate where they were most often placed. And whether there was a preference for any positions. The analysis of the grave complexes showed that when depositing glass grave goods, two positions were preferred, namely the head area (29 times) and the feet (27 times). Occasionally, vessels were also placed on the chest (twice), pelvis (twice), or knees (5 times) of the buried person. They could also be placed against the southern wall of the grave pit (twice), in the upper left corner of the grave pit (once), in the lower right corner of the grave pit (once) and in the grave niche (once). Unfortunately, this definition is very problematic, because in 30 cases it was not possible to determine the primary position of the glass grave goods, so it is necessary to take this statistic with a certain reserve. Despite this, it is clear that in general glass vessels were placed either at the head or at the feet (Fig. 6).

Barkóczi 47 conical beakers (10 pieces) were most often placed in the head area, followed by hemispherical cups of type Barkóczi 13a (4 pieces) and ovoid cups Barkóczi 37b (3 pieces). The last more numerous types were cylindrical bottles with grooves of the Barkóczi 126 type (3 pieces) and bottles with a globular body called Barkóczi 118 (2 pieces). In the burial ground on Jakobstraße in Cologne, U. Friedhoff determined that containers that could be identified as unguentaria were often located near the head, and therefore he interpreted the small bottles found in this position as *balsamaria* (Friedhoff 1991, 154; Pöppelmann 2010, 63). It is therefore not ruled out that in the case of the two specimens of the Barkóczi 118 type, which were found in the head area, they were balsamaria. The other glass vessels (Barkóczi 62, 67b, 90, 97, 177; Isings 111 and an unspecified fragment) were present in the head area of the buried person only in one case (see Tab. 1). Similar to the head area, a larger group of glass grave goods was concentrated in the area of the feet. Here, ovoid Barkóczi 37b cups (7 pieces) dominated, while conical beakers were completely absent. In contrast to the previous position, flask-shaped bottles were present in greater numbers near the feet (6 pieces). However, when we compare the situation with the Rhineland burial at the Jülich site, this type of bottle was concentrated exclusively in the head area (Pöppelmann 2010, 85, graves 10, Taf. 4, 10/4; 37/54, Taf. 13, 37/54/4; 140, Taf. 47, 140/15; 146, Taf. 54, 146/2–3; 200, Taf. 78, 200/2, 3). On the other hand, cylindrical bottles with a groove of the Barkóczi 126 type were also represented here in the same number (3 pieces) as in the previous category. Ovoid-shaped cups (Barkóczi 67b) as well as balsamaria (Isings 105) occurred twice in the grave inventory. The presence of other forms (Barkóczi 13a, 17, 42, 90, 120) was documented only once in each case (see Tab. 1).

For the remaining places where the vessels were deposited in the grave pit, it is impossible to conclude the correlation between the area of deposition and the typological classification of the object. This is primarily because all specimens in this category are represented by only one piece. This also applies to the cup with blue dots (Barkóczi type 67b) and the oval jug with an arcade around the neck (Barkóczi type 177) from child

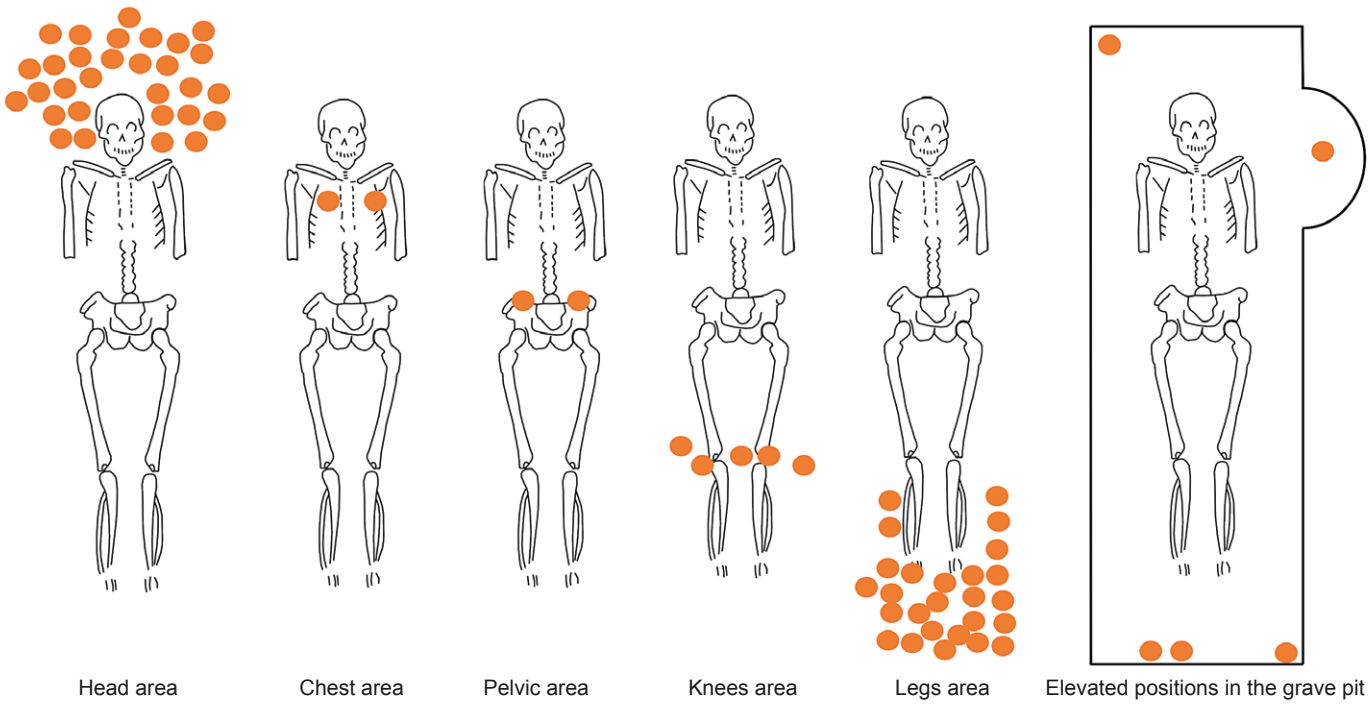


Fig. 6. Schematic representation of the positions of the glass vessels in the grave pit. Author B. Vymazalová.
Obr. 6. *Schematické znázornění umístění skleněných nádob v hrobě. Autor B. Vymazalová.*

grave 2 at the Untersiebenbrunn site. Both were found placed on the child's chest and together with other accessories (Nothnagel 2008, 33–35; Fig. 4). However, the location of the grave goods is only known from the drawing of director T. Eberl, so it should be viewed with caution (Nothnagel 2008, 8, Abb. 2) – first, because the grave was uncovered by amateurs and, secondly, because of the terrain in which it was excavated. The soil was composed mainly of gravel and sand, which was constantly poured into the grave pit during the excavation. Therefore, individual alms offerings could have been shifted. The original position of the vessels therefore did not have to correspond to the one in which they were drawn (Kubitschek 1911, 63). The presence of glass vessels in the pelvic area was also documented in two cases. However, each of the finds came from a different grave. These were a Barkóczi 90 type balsamarium and a conical cup with honeycomb decoration (Barkóczi 65c; see Tab. 1). From the waist down, near the knees, vessels were found in five cases. These were an egg-shaped cup with a slightly bevelled edge (Barkóczi type 38), a typical egg-shaped cup (Barkóczi 37b), a conical cup with a honeycomb motif (Barkóczi 65c), a flask-shaped bottle (Barkóczi 118) and probably an amphora-like perfume bottle (Isings 105; see Tab. 1). Glass vessels could also have been placed in less frequented parts of the grave pit. This is evidenced by the discovery of a cup with blue knobs (Barkóczi 67b) from brick grave 2 in Brigetio, which was placed in its lower right corner (Barkóczi 1988, 99). On the other hand, a cylindrical bottle with a groove (Barkóczi 126) from grave 558 at the Páty site was situated in the upper left corner of the grave pit. We cannot link this particular position with the head area category, because another cup (Barkóczi 37b) from the grave was placed right next to the head of the buried individual. The bottle was placed exactly in the corner of the pit (Ottományi 2001, 39, Fig. 4). The southern wall of the grave pit was used as a place of storage twice. This was the case with the stemmed cup (Isings 111) from inhumation grave II discovered at the Brno-Černá Pole site (Vaculíková 2015, 127), as well as the Rüsselbecher from the inhumation grave from Zohor (Kraskovská 1963, 693–695).

A rarer placement of a glass vessel or other accompanying grave good is deposition in a grave niche. In the Middle Danube region, this type of grave pit modification, in connection with the placement of a glass cup, is known thus far only from grave 12/1955 in Šarovce. However, the occurrence of a grave niche at this burial ground was not unique. It was also recorded in graves 3/1955 and 15/1955, where horse bones were found in the niches. The entire burial ground bears signs of the Hunnic period, therefore it is possible to assume a Middle Danube or East European origin of the tradition of grave niches at the burial ground in Šarovce (Novotný 1976, 169).

At the Prague-Zličín cemetery, the presence of grave niches was documented in almost thirty cases, which fundamentally changed the spread of the aforementioned phenomenon in Central Europe. Grave 28 in Lužice nad Vltavou was probably also equipped with a niche (Koreny, Kytlicová 2007, 425, Fig. 24), and grave 3 in Mochov, which even had two of them (Jiřík 2019, 28).

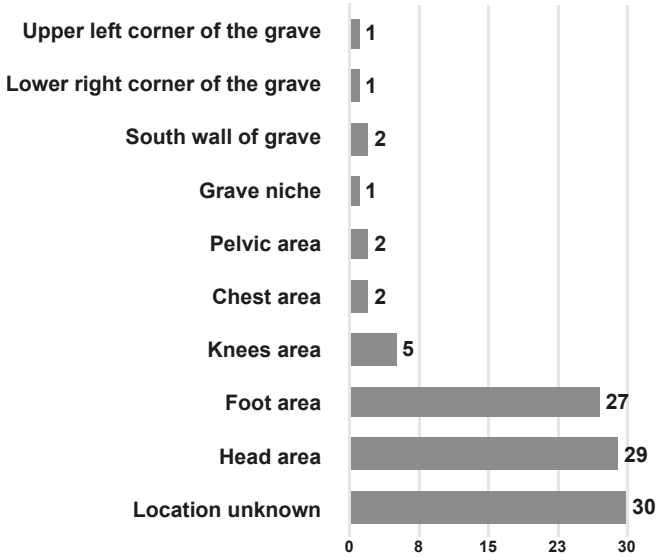
The issue of the occurrence of grave niches from the Migration Period was addressed, for example, by S. Codreanu-Windauer (1997) in a unique case of this phenomenon at the Pliening burial ground in Bavaria. On the one hand, she accepts the fact that this element already appears in the Late Roman Period, but on the other hand, she is more inclined to Middle Danube and Eastern European analogies. The Kenkol burial ground on the River Talas in Kazakhstan is mentioned as the easternmost occurrence, followed by Chutor Schulz in the Volga region (Codreanu-Windauer 1997, 25–28). She assumes that niches were also present in the graves in Csövar, Kom. Pést, Lengyeltóti, Lébény, and Kapolcsi, i.e. in important grave complexes associated with the foederati culture. She further argues that at the aforementioned south German sites where grave niches occurred, graves with artificially deformed skulls were also present. In the author's opinion, we can therefore connect the occurrence of niches with migrating nomads and their influenced populations (Codreanu-Windauer 1997, 25–28). This view is disputed by D. Beilharzová (2011), who processed the burial ground in Horb-Altheim, where 17 graves with niches were documented. She supports an older theory about the influence of the Late Roman Period in the Rhineland. But she also accepts the fact that in the case of south German and Swiss graves (Horb-Altheim, Barbing-Irlmauth, Fridingen, Hemmingen, Renningen, Flaach, Schletheim), the occurrence of grave niches is indeed linked to the eastern, or rather the Middle Danube inventory (Beilharz 2011, 30–35).

In the case of the West, we can therefore look for the geographical origin of this grave element at Late Roman necropolises. However, the same applies to the Middle Danube region. Moreover, if S. Codreanu-Windauer is right that niches were originally also in the graves from Lébény or Lengyeltóti, then this tradition is already connected with the early phase of the foederati culture, which was significantly influenced by provincial ideas. However, this statement is also largely true for the Chernyakhov culture. In the case of Prague-Zličín, it is the influence of the Late Roman Period, which is confirmed by the presence of terra sigillata in some of the graves (Jiřík 2019, 29).

In a way, however, the search for a geographical or cultural origin of this phenomenon distracts attention from the key question, which is the significance of the presence of tomb niches with vessels. The custom of placing glass and ceramic vessels in tomb niches is illustrated by a fresco from early Christian burial chamber No. II (the 'Chamber with Pitcher') in Sopianae/Pecs in Pannonia, dated to the 4th century. On the northern wall, a glass pitcher and a cup are painted in a niche. The remaining part of the tomb is decorated with motifs symbolising the Garden of Eden (Magyar 2007, 51; Jiřík 2019, 34).

According to some researchers, this phenomenon has a religious significance. They associate it with baptism for the dead, a ritual performed by a living person on behalf of the deceased. The origin of this ritual is generally sought in Paul's First Letter to the Corinthians: 'Otherwise, what will they gain who are baptized for the dead? If the dead are not raised at all, why are they baptized for them?' (Bible 2022, 1 Cor 15:29), which in Late Antiquity was often interpreted as baptism for the dead (Jiřík 2019, 42). The essence of this act was the posthumous baptism of members of a religious community who had not received this sacrament during their lifetime. Although baptism for the dead was practiced by a significant group of Orthodox communities in the 4th century, two synods at the end of the century forbade this practice and deemed it heretical. The prohibition appears in the fourth canon of the Synod of Hippo Regius in 393 and four years later we encounter it again in the sixth canon of the Third Council of Carthage (Schaff, Wallace 2007, 645). The popularity and frequency of this ritual is illustrated by another prohibition of the Council of Carthage in 419 (Schaff, Wallace 2007, 719; Doležal, Vávra 2015, 131; Jiřík 2019, 45). Baptism for the dead is one of the possible interpretations that explain the presence of tomb niches. Nevertheless, there is no clear answer that would clarify their function or meaning.

It is not possible to draw any major conclusions from our statistics, not only because of the missing data in the case of thirty vessels but also because of the relatively low quantitative representation of individual types in the case of specific locations



Graph 2. Placement of glass vessels in a grave pit in the studied area.
Graf 2. *Umístění skleněných nádob v hrobě ve zkoumané oblasti.*

(Graph 2). It would be interesting to follow the distribution of glass vessels in relation to the sex and age of the buried individual. In the case of our group of 74 graves, however, this is not possible, as the resulting statistics would be distorted. Especially in earlier research, the age and sex of the individual were not always determined based on skeletal remains. Sometimes this information cannot be determined even from the grave inventory, which was either very modest or the grave was robbed and there were no objects left in it that would allow (at least approximately) a determination of the sex. Such statistics could be gathered at more recently investigated burial grounds such as Prague-Zličín, or, if possible, a revision of earlier research could be performed and the data added.

5.2 Production of glass vessels and the question of import

The oldest route along which the glass trade between the Roman Empire and the barbarians was conducted connected the northern coast of the Adriatic Sea with the territory of the Middle Danube region with Scandinavia. This route copies the well-known Amber Road. According to G. Ekholm, the second route copied the Dnieper, Bug, and Vistula rivers and formed a connection between the coasts of the Baltic and Black Seas. An important position in mediation was occupied by the Chernyakhov culture, the so-called 'East Germanic complex' (Ekholm 1963, 29–32). K. Dévai also studied the distribution of glass in the province of Pannonia in the Late Roman Period. She managed to trace specific circuits where certain forms of glass vessels were concentrated (see Dévai 2016). However, at the turn of the 5th century, the distribution of glass and the interconnection of regions along the Amber Road were interrupted. During this period, the importance of the area around the Danube increased, as it represented an important river route along which goods were transported from the eastern part of the empire. In the subsequent period, products of eastern Roman glass workshops, as well as cups decorated with blue dots, reached Central Europe along the Danube. The distribution of such fragile products was not necessarily related only to trade (local or long-distance). Glass vessels could also have reached barbarian territory through foederati serving in the Roman army, who brought them with them as 'souvenirs', or by migrating barbarian groups (Jiřík 2019, 199; Jiřík, Vávra 2015, 182).

If we want to try to clarify the origin of glass vessels in the Middle Danube region, it is necessary to look into the territory of their primary and secondary production (Jiřík 2019, 140). In the Levant, there is evidence of the existence of primary glassworks that produced glass raw material. One of them was also located at the Bet She'arim site. For the entire area of Syria, Galilee, and Israel, the occurrence of several production centres is assumed, for example, Jerash, Decapolis, Hagoshrim, and Beit She'an (Dussart 1998, 189–194; Jiřík 2019, 196). However, the presence of secondary glassworks that produced finished forms is also documented in the Levant. Andrei Sazanov believes that conical glasses were produced at the Jalame site in Israel. The mentioned workshop was dated to the second half of the 4th century based on coins, but the assemblages also contained forms dated from the 5th to the beginning of the 6th century. The production of cups decorated with blue dots is also attributed mainly to a Syrian-Palestinian workshop. The author describes some other forms as 'east Roman' and, according to him, they come from a glass factory at the Chersonesos site in the second half of the 5th century (Sazanov 1995, 333). The globular-shaped cups decorated with blue dots, which are known from the area of the Middle Danube region (Brigetio, Csákvár, Pilismarót, Pottenbrunn, Sopron, Untersiebenbrunn) from the late 4th to the beginning of the 5th century have precisely this 'east Roman' origin (Barkóczi 1988, 24). A certain part of the production in the Rhineland area in the 4th century was also inspired by the Levant, Egypt, and Asia Minor. E. Stern notes that it must have been more than merely a transfer of technology, that this know-how was transported along with the glassmakers themselves (Stern 2001, 132). The so-called 'eastern' forms include some types of glasses, jugs with a narrow neck, a flask-shaped body, and a foot. Cups decorated with blue studs and mould-blown glasses decorated with a honeycomb motif also fall into this category (Jiřík 2019, 197).

Glass kilns have also been discovered in the Rhineland Hambach Forest. It was initially assumed that glass raw material was directly produced at the site, but recent analyses have refuted this claim. The consistency of the composition of the work waste and material from the kilns compared to glass finds from surrounding graves and settlements indicates that the undoubtedly significant local glass industry was exclusively focused on the (secondary) production of glass vessels. They had access to glass raw material imported from the eastern Mediterranean, but they also relied on the recycling of collected fragments (Rehren, Brüggler, 2020, 1, 12).

5.2.1 Local production

The Late Antique glass production known from Pannonia can be divided into two main stages based on form. The earlier phase, dated to the period 340–380, is characterised by the occurrence of a variety of shapes, among them jugs with trefoil mouths, glass cups decorated with blue knobs, diatret glass, and other examples based on the oriental tradition. The development of these forms was dependent on the presence of specialised manufacturers from Syria, Anatolia and the Balkan provinces in Pannonia. A similar situation is also known from the Rhineland in the same period. The second phase of the development of glass products in Pannonia dates back to the period between the 380s and the first half of the 5th century. This period is characterised by significant cultural divides. The shape repertoire is strongly reduced compared to the previous period. Egg-shaped cups (Barkóczi 1988, 44–47 appear) in the graves of the foederates, generally associated with the Goths, Alans, and Huns. In the area of the Middle Danube region,

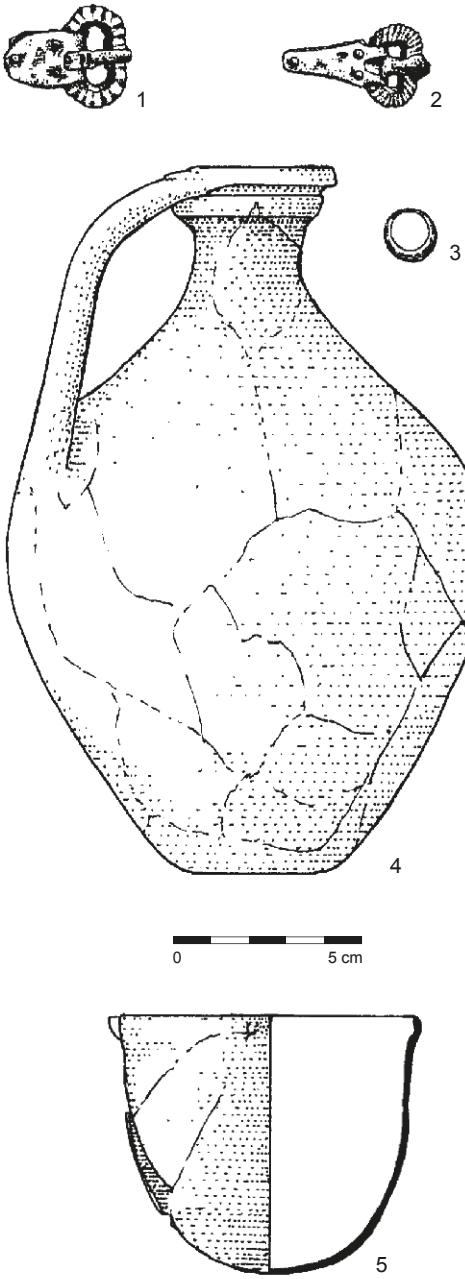


Fig. 7. Drslavice, grave inventory. 1, 2 – Iron gilded brooches; 3 – gold ring earring; 4 – Roman-provincial jug; 5 – glass cup. According to Tejral 2010, 103, Abb. 13.

Obr. 7. *Drslavice, hrobový inventář. 1, 2 – železné pozlacené spony; 3 – zlatá kruhová náušnice; 4 – římsko-provinciální džbán; 5 – skleněný šálek. Podle Tejral 2010, 103, Abb. 13.*

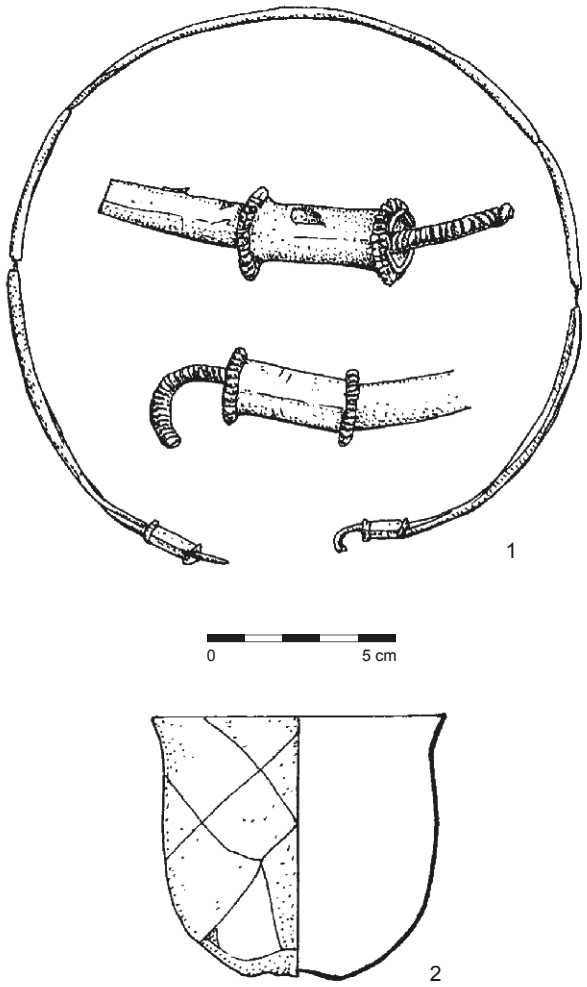


Fig. 8. Charváty, grave inventory. 1 – Glass cup; 2 – gold necklace. According to Tejral 2010, 104, obr. 14.

Obr. 8. *Charváty, hrobový inventář. 1 – Skleněný šálek; 2 – zlatý náhrdelník. Podle Tejral 2010, 104, obr. 14.*

egg-shaped cups occur in graves accompanied by grave goods of a nomadic character. In south Moravia, these are the sites of Drslavice (Fig. 7) and Charváty (Fig. 8), in northern Hungary the site of Árpás – Szérűskert, where even a bronze bucket was present (Tejral 2010, 100–105). An extraordinary find is the female and child grave from the Lower Austrian site of Untersiebenbrunn furnished with grave goods of east Germanic provenance. In both cases, the cups were found in combination with glass jugs (Nothnagel 2008, 177–181). L. Barkóczi is not entirely sure whether these cups were a product of domestic Middle Danube production or imported shapes. He suggests the possibility that this abrupt change was associated with the arrival of a new barbarian population, the ranks of which also included glassmakers. In his opinion, the workshop in which these migrating glassmakers settled should be located at the Csákvár site (Barkóczi 1988, 44–47). This reasoning is based on older research on itinerant craftsmen (Childe 1930, 4–11; 1958, 169–173), which is currently criticised (Ježek 2015, 121–122, 134–135). The remains of a glass workshop were discovered in Vindobon – the Judenplatz location, where, among other things, fragments of moss-green and yellow-green glass, typical of the late 4th century and 5th century, were found (Tarcsay 2010, 542–543). The presence of local glassworks is also assumed at the sites of Aquincum, Brigetio, Arrabona, and Intercisa. They were dependent not only on glass raw materials but also on external inspiration and influence, which was supposed to come from Italy, the Rhineland, and the Orient (Barkóczi 1988, 27–38). Doreen Götzen believes that no specialised workshops focused on certain forms of glass vessels were established (Götzen 1999, 41). This is in contradiction with the findings that assume that the area of distribution of these products coincides with the place of their production (Tarcsay 2010, 509). K. Tarcsay's claim is more likely because, in the Middle Danube region, some vessel shapes are indeed concentrated in certain areas, while they are absent in others (Fig. 9).

5.2.2 Import

The way in which some vessels could have reached the territory of the Middle Danube region and subsequently become part of grave inventories also includes the possibility of import. This alternative is considered in particular in the case of the transparent stemmed cup from Vrchoslavice in Moravia (Tejral 2013, 391). Fragments of a stemmed cup also decorated with vertical ribs come from the Prša burial ground in central Slovakia (Točík 1962, 200). A cup of the same shape may also be from the Kapušany site in eastern Slovakia and is dated to the 5th century. Its origin is sought in the Black Sea region (Kolník 1979, 156). However, conical cups with similar decoration in the form of applied vertical lines are also documented in Scandinavia, Belgium, the Netherlands, and Germany. Most of them were found in Scandinavia, where their production centre or largest outlet is assumed (Hunter, Sanderson 1982, 25). Unfortunately, in the case of finds from Slovakia and Moravia, chemical analyses that would provide a clear answer have not yet been carried out. The question therefore remains whether the cup from Vrchoslavice and examples from Slovak products are from a Scandinavian or Black Sea workshops and reached south Moravia as an object of trade. Vessels of this type occur locally in the territory of the Middle Danube region, occurring in spatial ranges; analogy suggests their relationship to the area around the Black Sea. Finally, due to their small representation in the grave context of the Middle Danube region, we assume that they were the subject of long-distance trade and were not produced in a local workshop.

The question of the import and domestic production of glass vessels is a complex problem that undoubtedly deserves an in-depth analysis. However, the aim of the paper was not to solve this puzzle but rather to outline the state of research. The future lies in chemical analyses of glass from vessels such as those from Vrchslavice or Kapušany, which would determine the origin of the glass raw material and thus resolve the question of their origin. Without cooperation with the natural sciences, we continue to move only at the level of constantly recurring long-known statements that do not advance research further. Although we do not have such analyses available in our article, we can also follow the distribution of individual vessel shapes in different parts of the Middle Danube region based on shape analysis. Ovoid-shaped cups (Barkóczi 37b) are present throughout the

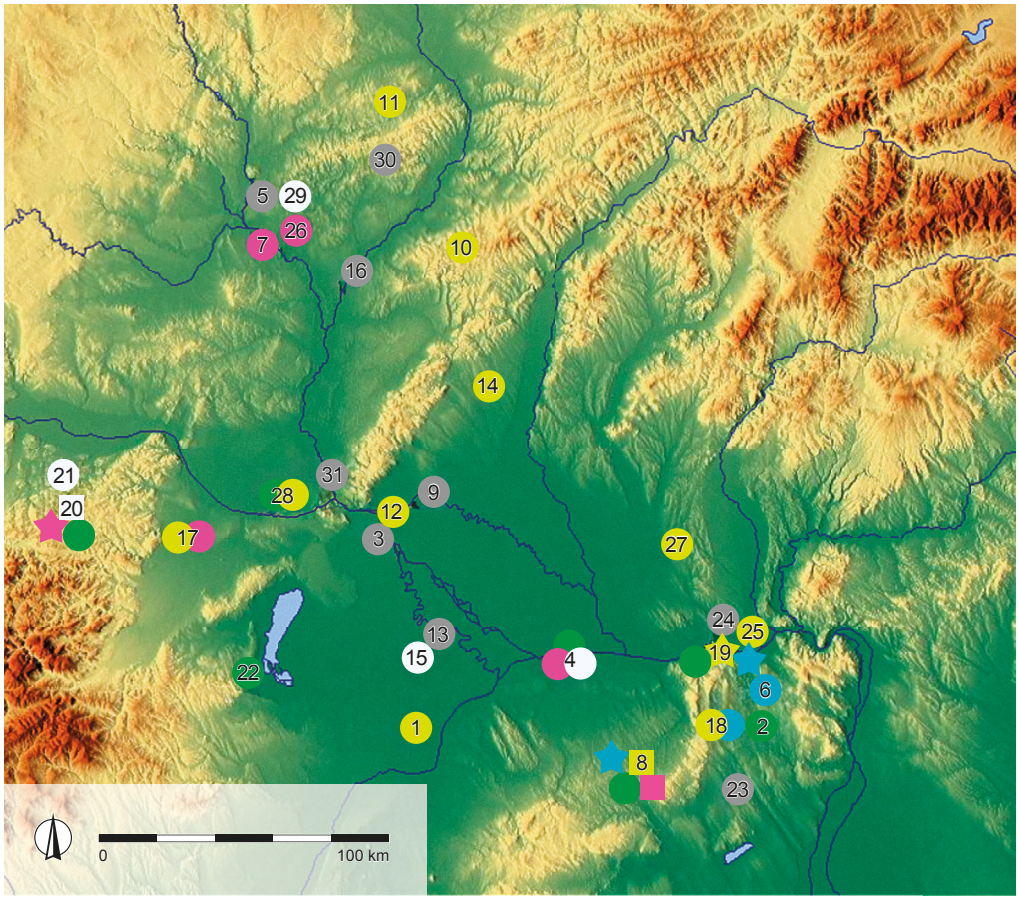


Fig. 9. Distribution of the five most numerous vessel types in the studied region. Circle – 1 piece; star – 2–4 pieces; square – 6–9 pieces. Yellow –Barkóczi 37b type; white – Barkóczi 47a–d type; green –Barkóczi 67b type; pink –Barkóczi 118 type, turquoise – Barkóczi 126 type; grey – sites where the observed vessel types did not occur. 1 – Árpás-Szérűskert; 2 – Budapest - Bécsi út 42; 3 – Bratislava Podunajské-Biskupice; 4 – Brigetio; 5 – Brno-Černá Pole; 6 – Budakalász; 7 – Cezavy u Blučiny; 8 – Csákvár; 9 – Čataj; 10 – Drslavice; 11 – Charváty; 12 – Ivanka pri Dunaj; 13 – Jánosházapuszta; 14 – Krakovany-Stráže; 15 – Lébény – Magaspart; 16 – Mistrín; 17 – Mödling–Lerchengasse; 18 – Páty; 19 – Pilismarót; 20 – Pottenbrunn; 21 – Sankt Pölten; 22 – Sopron-Gräberfeld am Május 1st; 23 – Százhalombatta; 24 – Szob; 25 – Szob–Kálváriadomb; 26 – Šaratice; 27 – Šarovce; 28 – Untersiebenbrunn; 29 – Velatice; 30 – Vrchoslavice; 31 – Zohor – Bratislava countryside. Author B. Vymazalová.

Obr. 9. *Rozmístění nejpočetnějších typů picích nádob ve zkoumané oblasti. Kruh – 1 kus; hvězdička – 2–4 kusy; čtverec – 6–9 kusů. Žlutá – typ Barkóczi 37b; bílá – typ Barkóczi 47a–d; zelená – typ Barkóczi 67b; ružová – typ Barkóczi 118; tyrkysová – typ Barkóczi 126; šedá – lokality, kde se nevyskytly sledované typy nádob. 1 – Árpás-Szérűskert; 2 – Budapešť – Bécsi út 42; 3 – Bratislava Podunajské-Biskupice; 4– Brigetio; 5 – Brno-Černá Pole; 6 – Budakalász; 7 – Cezavy u Blučiny; 8 – Csákvár; 9 – Čataj; 10 – Drslavice; 11 – Charváty; 12 – Ivanka pri Dunaji; 13 – Jánosházapuszta; 14 – Krakovany-Stráže; 15 – LébényMagaspart; 16 – Mistřín; 17 – Mödling-Lerchengasse; 18 – Páty; 19 – Pilismarót; 20 – Pottenbrunn; 21 – Sankt Pölten; 22 – Sopron-Gräberfeld am Május 1st; 23 – Százhalombatta; 24– Szob; 25 – Szob–Kálváriadomb; 26 – Šaratice; 27 – Šarovce; 28 – Untersiebenbrunn; 29 – Velatice; 30 – Vrchoslavice; 31 – Zohor – Bratislava vidiek. Autor B. Vymazalová.*

entire territory of the studied region. While cups with blue dots (Barkóczi 67b) are found mainly in northern Hungary and a few specimens also come from Lower Austria. In south Moravia and southwest Slovakia, this vessel was not represented in all in the examined graves. Similarly, bottles decorated with flutes (Barkóczi 126) are so far only known in the Middle Danube region from the territory of present-day Hungary. The concentration in this area may indicate that their production centre existed nearby. Conical beakers (Barkóczi 47a–d) are found mainly in Lower Austria, while only a few specimens are known from south Moravia and Hungary. Again, they are not represented in the territory of southwest Slovakia (see Fig. 9; Tab. 1). Therefore, there must have been some kind of trade or production corridor through which glass vessels reached this territory. The variety of shapes is great, but certain vessels are typical for certain territorial areas. The preference for certain types in specific areas is also indicated by the fact that at the end of the 4th and in the first half of the 5th century, imported Pannonian goods were more common in Lower Austria, while in the Rhineland and Upper Austria, respectively, northern Italian forms dominate (Tarcsay 2010, 511).

6. Conclusion

The influx of glass vessels did not stop even during the turbulent Migration Period in the 5th and 6th centuries. From this period come finds from the graves of the old settled population, but also of the Huns, Longobards, and other Germanic and nomadic tribes that moved into the territory of the Middle Danube region. The presence of glass vessels in the grave inventory is tangible evidence of the existence of a dining culture among the barbarians. This is evidenced primarily by the shape repertoire dominated by egg-shaped cups, conical beakers, bottles, and pitchers. Perfume bottles and *balsamaria*, common in Roman Period, are now found only sporadically (however, it is not ruled out that their function was taken over by other forms, e.g. bottles of the Barkóczi 118 type). Changes also affected the decorative techniques, which were limited to engraving, flutes, and fused glass threads of the same or different colour. The glass is predominantly green, sometimes supplemented with blue appliqués. However, whitish and yellow vessels also appear, though only rarely. Given the limited number of graves examined, we are aware that we certainly did not manage to collect all the types that could have been part of the grave inventory during the 5th century and that there are forms that could expand this list in the future.

The fact that glass vessels were found in a grave pit, however, does not necessarily indicate social differentiation between the buried individuals. The vessels had a certain status significance, especially in areas north of the Danube. However, they are not strictly associated with the societal elite of the time. From the 4th century onwards, access to glass products was relatively easy and they were considered everyday items. Even in the case of a funerary context, there is not much evidence to support the theory that glass vessels were luxury goods. A more likely model is that glass cups were a relatively accessible commodity, which was more expensive than pottery, but they were not such rare and expensive objects that only the upper social class could afford them. They were probably owned by wealthier individuals within a given community, albeit those who did not belong to the highest social classes. This argument is also supported by finds outside the Middle Danube region from the burial grounds in Issendorf, Wiepenkathen, and Prague-Zličín. During the Migration Period, this function was fulfilled by jewellery, fibulae, belt and shoe buckles, parts of clothing, and in some cases even weapons. Therefore, if we want to answer the question of what social class the buried individuals belonged to, our attention must be focused on the entire grave inventory, not just on glass vessels. Above all, we must observe the differences between graves that contained such vessels and those that did not.

Parts of glass services were most often placed near the head or feet of the buried person. They are rarely found in the chest, pelvic, or knee areas or even placed in the grave niche. Some researchers associate this special form of grave pit modification with 'baptism for the dead', but this hypothesis must be subjected to more thorough examination, especially directly in the field. The preference for placing grave goods in the grave pit remains a subject of speculation because, in the case of 30 graves, it was not possible to determine the original location of the glass vessels. Therefore, this assessment must be taken with some reserve.

Glass vessels represent one of the most interesting types of imported goods. During the Migration Period, the Roman glass-making tradition lives on in the background and is pushed to the side by production from Eastern Europe. In addition to domestic vessels, the origin of some forms is derived from glass products in the Black Sea region. The provenance of others is sought in Scandinavia. In the case of finds from northern Hungary, specifically from the Csákvár site, a local glass workshop is even considered. However, this has not yet been archaeologically documented. On the other hand, the remains of a glass workshop were discovered in Vindobona at the Judenplatz site. A reliable answer to these questions could be provided by chemical analyses that would determine the origin of the glass raw material. Despite the lack of analyses, the shapes of the vessels themselves indicate the relationships between the individual areas of the Middle Danube region. Ovoid cups are present throughout the studied region, while their variant decorated with blue dots is concentrated mainly in northern Hungary and a few specimens also come from Lower Austria. Similarly, bottles decorated with grooves are so far only known in the Middle Danube area from the territory of today's Hungary. Conical beakers are characteristic of Lower Austria. In the past, therefore, there must have been a trade route between the individual areas, along which these products reached the given territory. This typological preference of some forms can serve to trace the mutual links between the individual areas.

The issue of glass vessels in graves from the Middle Danube region during the Migration Period is far from being exhausted. There are still many unanswered questions that would be worth investigating. For example, it could be traced where graves with glass vessels were located within the burial ground. Alternatively, the concept of antiques or family heirlooms can be considered in the case of some older types of glasses deposited in later graves (e.g. Žuráň, Sedláčková 2016). It would also be worth considering tracking use-wear traces on the vessels and using this to determine whether they were placed in the grave as a new product or were deposited after a certain period of use. However, this idea has several pitfalls. The first is the state of preservation of the vessels, as several were found in a fragmentary state. Second is the poorer quality of the glass during the Migration Period. In addition, glass corrodes in the soil and loses its specific properties, such as translucency or colour, which greatly complicates the possibilities of accurate determination. Last but not least, newer finds could be subjected to chemical analysis, but finds from earlier research would also merit a review.

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Resumé

Článek se zabývá skleněnými nádobami umístěnými v hrobech datovaných do 5. století v oblasti středního Podunají. Předmětem typologických analýz bylo 100 nádob, které se nacházely v kompletním nebo fragmentárním stavu v celkem 74 hrobech, umístěných na území dnešního jihozápadního Slovenska, jižní Moravy, Dolního Rakouska a severní části Maďarska (obr. 1; tab. 1). Cílem bylo zjistit, jaké tvary dominovaly v pohřebním inventáři období stěhování národů, jejich funkci a původ. Ukázalo se, že převažovaly nádoby určenék uchovávání a konzumaci nápojů, jako různé sklenice, poháry, džbány a lahve. Tvary související s kosmetickými procedurami se vyskytovaly jen zřídka (obr. 2; tab. 2).

Tradice skleněných nádob na nápoje přišla do středního Podunají společně s migrujícími etnickými skupinami a nahradila zvyk pohřbívání s balsamarii a unguentarii charakteristickými pro římské období. Současně skleněné výrobky v 5. století ztrácejí svou funkci jako druh indikátoru sociálního statusu a majetnosti pohřbené osoby. V tomto období se stávají relativně dostupným zbožím, které bylo stále dražší než keramika, ale nebyly to tak vzácné předměty, které by si mohla dovolit pouze nejvyšší elita. Role sociálního indikátoru přebírají jiné doprovodné předměty, jako jsou drahocenné kovové šperky a zbraně (Dévai 2016, 256; Jiřík, Vávra 2015, 186; Jiřík 2019, 192).

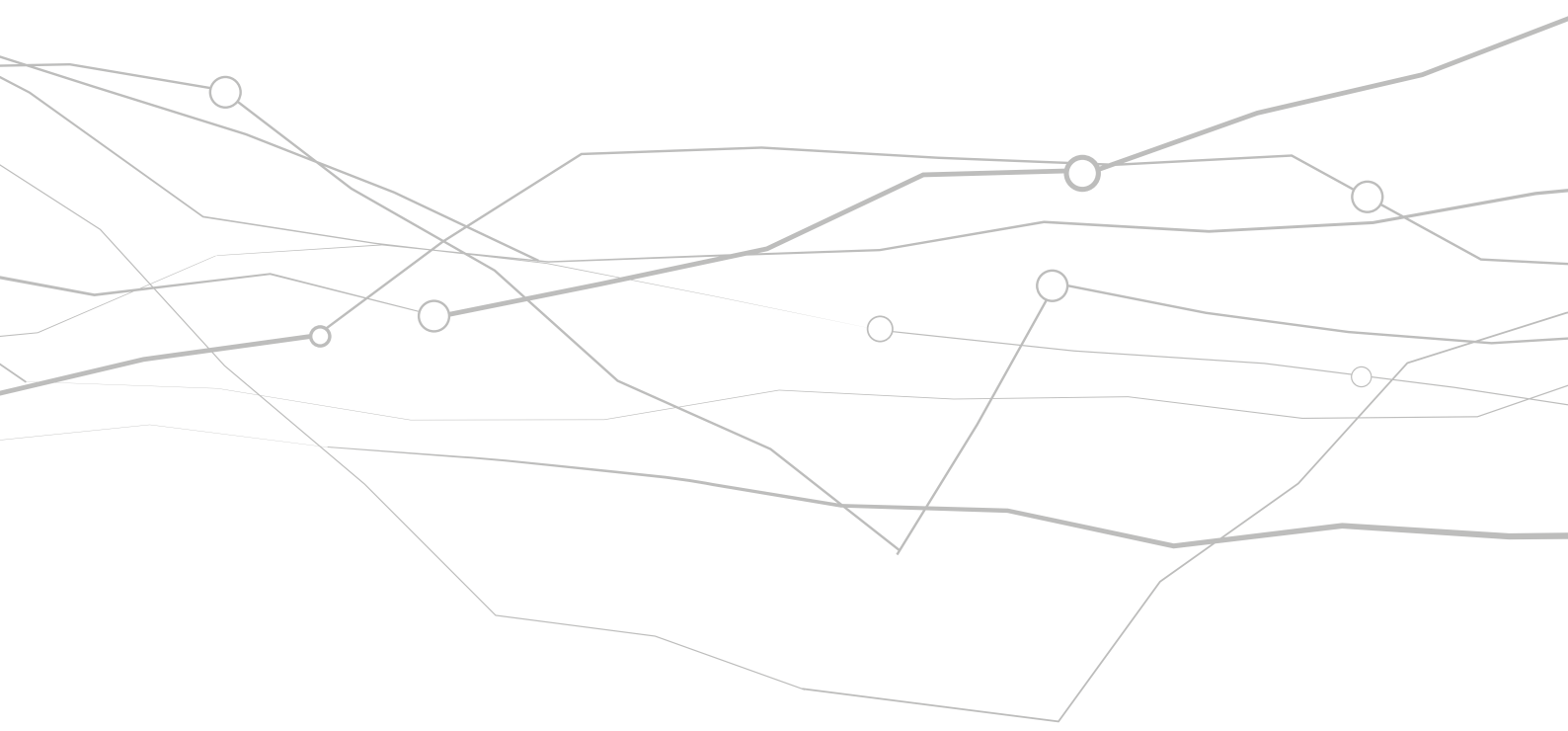
Analýza pohřebních celků ukázala, že při umístění skleněných nádob do hrobu byly preferovány dvě oblasti, a to partie hlavy a nohou. Občas byly nádoby umístěny v blízkosti hrudníku, pánve, kolen nebo v hrobové nice (obr. 6). Bohužel, toto určení je velmi problematické, protože ve 30 případech ze 100 nebylo možné zjistit primární situování skleněné nádoby, takže je třeba brát tuto statistiku s rezervou (graf 2).

Otázka dovozu a domácí výroby skleněných nádob zůstává předmětem výzkumu. Druhá polovina 5. století přinesla významný obrat v distribuci skla ve střední Evropě. Předchozí vazby na východní Evropu i východní provincie byly do jisté míry přerušeny (Jiřík 2019, 146). Repertoár tvarů je silně zredukován ve srovnání s předchozím obdobím a objevují se nové formy západního původu. Nicméně lze sledovat určitá území, kde byly koncentrovány specifické typy nádob. Vejcovité poháry jsou přítomny po celém území studované oblasti, zatímco poháry s modrými nopami se nacházejí převážně v severním Maďarsku a několik exemplářů pochází také z Dolního Rakouska. Na jižní Moravě a jihozápadním Slovensku nebyl tento tvar v prozkoumaných hrobech zastoupen vůbec. Podobně láhve zdobené žebry jsou ve středním Podunají dosud známy pouze z území dnešního Maďarska. Kuželovité poháry se nacházejí převážně v Dolním Rakousku, zatímco jen několik exemplářů je známo z jižní Moravy a Maďarska. Opět nejsou zastoupeny na území jihozápadního Slovenska (obr. 9).

Typologická preference některých tvarů může být použita k sledování vazeb mezi jednotlivými oblastmi. V minulosti musela mezi jednotlivými oblastmi patrně vést obchodní cesta, po které se tyto produkty na dané území dostávaly. Případně se v blízkosti okruhu, odkud se výrobky distribuovaly, nacházela specializovaná dílna.

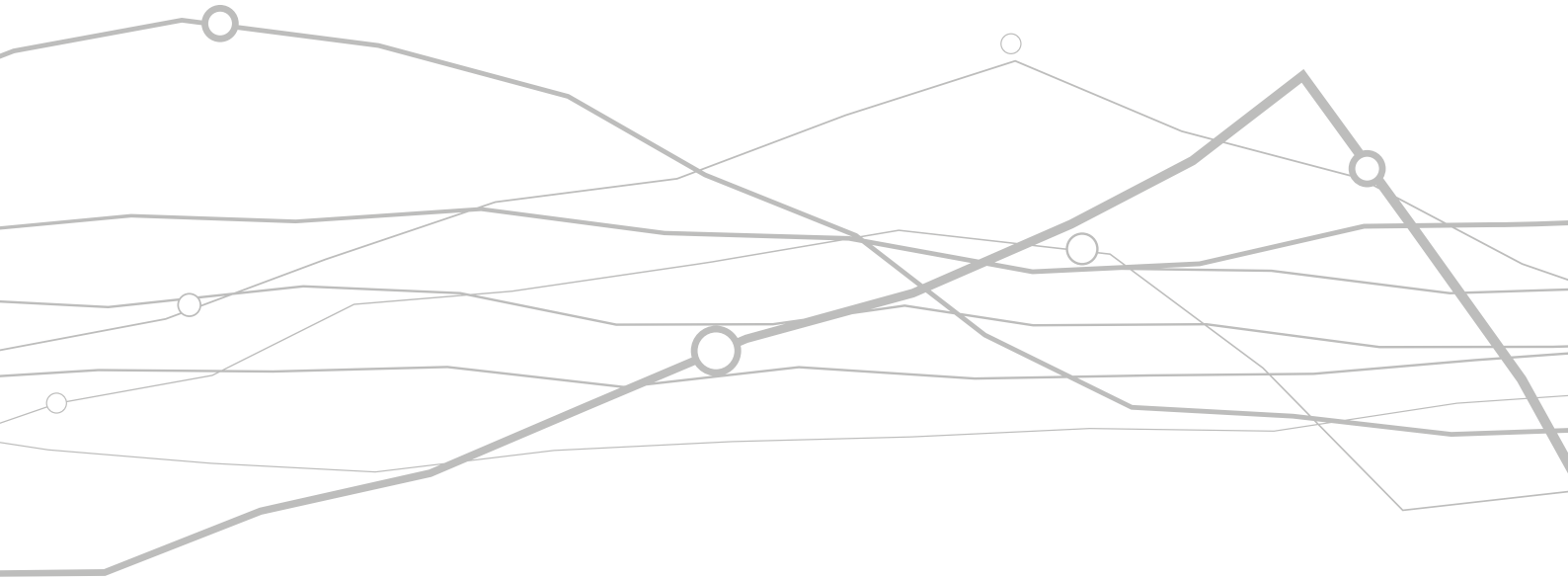
Contact

Barbora Vymazalová
Trnava University
Faculty of Philosophy and Art
Department of Classical Archaeology
Hornopotočná 23
SK-918 43 Trnava
barbora.vymazalova@tvu.sk
ORCID: 0009-0007-2853-1523



Přehled výzkumů na Moravě a ve Slezsku 2024

Overview of excavations in Moravia and Silesia 2024



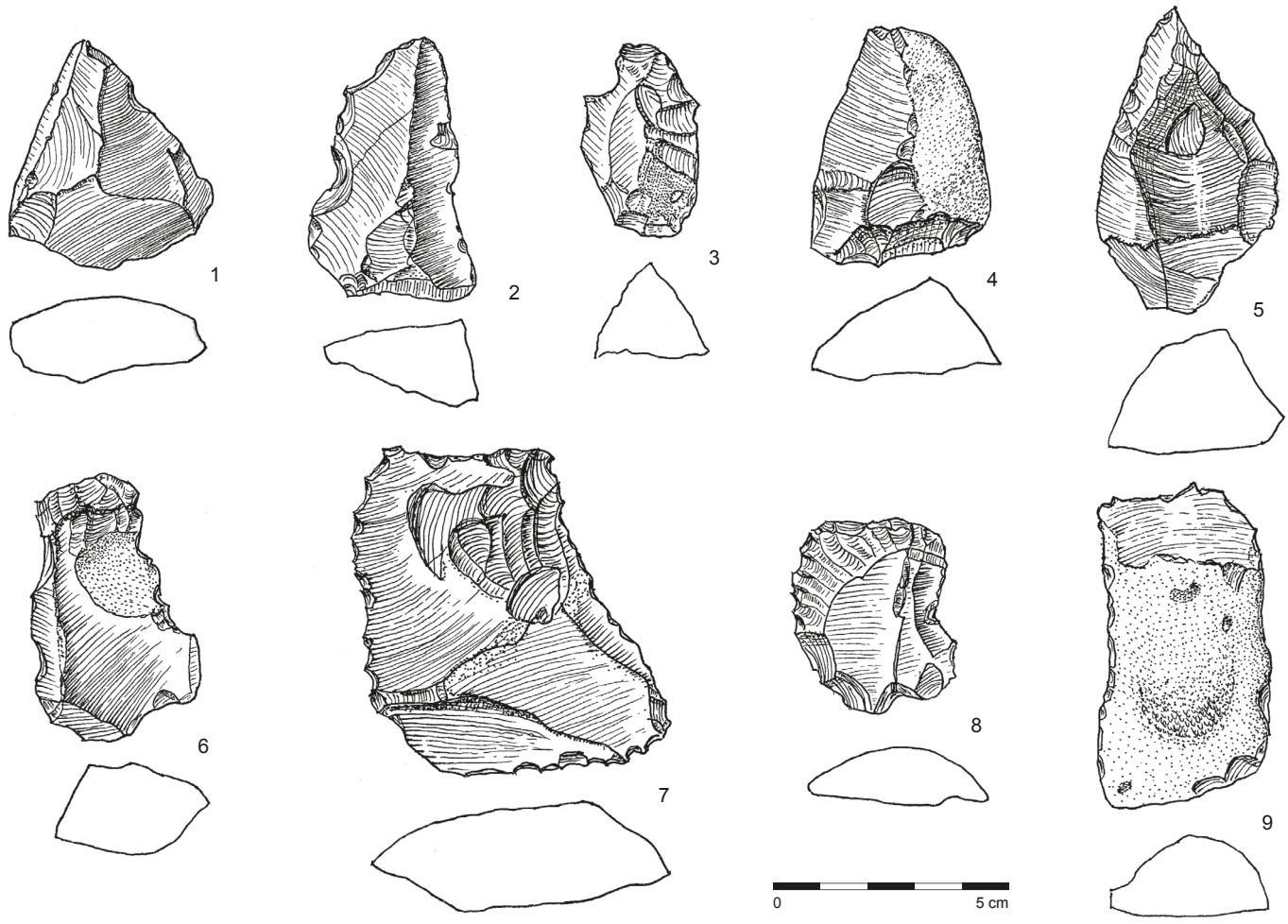
Paleolit
Paleolithic

Bílovec (k. ú. Bílovec-Horní Předměstí, okr. Nový Jičín)
Tísek 2

Střední paleolit. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: dočasně u autorů.

Lokalizace: WGS-84: 49.7779414N, 18.0037117E

Novou archeologickou lokalitu objevil člen Archeologického klubu v Příboře J. Diviš v dubnu 2022, jižním směrem od obce Tísek. Opakovanými povrchovými sběry bylo získáno do roku 2024 celkem 82 kusů kamenné štípané industrie (obr. 1). Na lokalitě se vyskytuje hojně břidlice a křemen, v menší míře byl zaznamenán také rohovec. Ze silicitů glacigenních sedimentů je vyrobena většina paleolitických nástrojů. Menší množství nástrojů bylo zhotoveno také z křemene. Silicity glacigenních sedimentů a samotné nástroje jsou převážně bez bílé patiny, přesto je jasné, že z hlediska morfologického, použité technologie a zastoupení jednotlivých typů nástrojů se jedná o nástroje ze starší doby kamenné, náležející pravděpodobně střednímu paleolitu. Z přehledu paleolitických nálezů vyplývá, že počtem dominují drásadla (18 ks) a škrabadla (11 ks), následují nevýrazné hroty na úštěpech (10 ks), rydla (5 ks) a kombinace – nejčastěji typu škrabadlo/rydlo (4 ks). Nejbližší paleolitická lokalita od popisované lokality Tísek 2 je lokalita Tísek – Folinky. Centra obou lokalit jsou vzdálená od sebe jen asi 0,5 km. Na nověji objevené lokalitě Tísek 2 nebyl dosud nalezen žádný listovitý hrot, naopak na lokalitě Tísek – Folinky bylo J. Divišem vyhledáno již sedm kusů těchto typů hrotů a další ještě ve zlomcích.



Obr. 1. Bílovec. Výběr z kamenné štípané industrie z lokality Tísek 2. 1 – Hrot; 2 – nůž s vrubem; 3, 4, 7 – drásadla; 5 – rydlo; 6, 8 – škrabadla; 9 – nůž. Kresba D. Fryč.

Fig. 1. *Bílovec. Selection of chipped stone industry from the Tísek 2 site. 1 – Point; 2 – notched knife; 3, 4, 7 – sidescrapers; 5 – burin; 6, 8 – endscrapers; 9 – knife. Drawing by D. Fryč.*

Přes prostorovou blízkost obou stanovišť je z rozboru kamenné industrie patrné, že se z technologického hlediska a ze zastoupení vůdčích typů nástrojů nejedná o stejnou technologickou skupinu. Na lokalitě Tísek 2 jsou nástroje středopaleolitické, kdežto nástroje na lokalitě Tísek – Folinky jsou zastoupeny typy nástrojů, které by mohly signalizovat také příslušnost ke starší fázi mladého paleolitu, a to aurignacienu.

Literatura

Diviš, J. 2022: Paleolit Poodří. *Archeologie Moravy a Slezska* XXII, 30–81.

Summary

In April 2022, a new Paleolithic site was discovered near Tísek (Bílovec-Horní Předměstí cadastral area, Nový Jičín District), where 82 pieces of chipped stone industry, mainly made of glacial silicites and quartz, had been collected by 2024 (Fig. 1). The typo-technological characteristics indicate that the tools belong to the Middle Paleolithic, with endscrapers and side scrapers being the most common. Despite the site's proximity to Tísek – Folinky, the tool assemblages differ significantly.

Jan Diviš, Daniel Fryč

Brankovice (okr. Vyškov)

„Široké galašky".

Mladý paleolit. Ojedinělé artefakty. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.1640539N, 17.1411697E

Severně od obce Brankovice na výrazném kopci v trati „Široké galašky", přibližně 10 m severovýchodně od triangulačního bodu kóty 308 m nalezl autor zprávy dne 28. 8. 2024 čepel ze silicitu gracigenních sedimentů a úštěp z rohovce typu krumlovský les, obojí se silnou patinou. Poloha je velmi nápadná, obtékána třemi vodotečemi a leží v přirozeném koridoru pro průchod ze Ždánického lesa do Zdounecké brázdy. Před rokem 1941 zde byl podle M. Mazálka nalezen fragment bíle patinované čepele.

Vyvozovat na základě nevýrazných typů štípané industrie závěry o kulturní příslušnosti k aurignacienu, jak je psáno v mapových aplikacích Národního památkového ústavu, se mi jeví jako poněkud odvážné, a ani výrazná poloha místa, která je jinak pro aurignacien typická, mě však již vzhledem k nově objeveným a dosud nepublikovaným bohatším stanicím v Litenčické pahorkatině (některé nálezy přísluší epigravettienu a epiaurignacienu) vede k opatrnosti. Než bude k dispozici typologicky výraznější kus, nebo ještě lépe soubor, držel bych se obecného zařazení této lokality do mladého paleolitu.

Literatura

Mazálek, M. 1960: Paleolitický výzkum Bučovska na Moravě. *Časopis Moravského musea v Brně* XLV, 27–68.

Summary

On the prominent hill in the 'Široké galašky' field (Brankovice cadastral area, Vyškov District), approximately 10 m north-west of the triangulation point at a 308 m elevation, a blade made from siliceous glacial sediments and a flake of Krumlovský-les type chert were recovered, both heavily patinated.

Petr Šmacho

Brno (k. ú. Bohunice, okr. Brno-město)

Bohunice; Ul. Jihlavská, ul. Dlouhá, parc. č. 1240/11.

Bohunicien. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.1726586N, 16.5848844E

Začátkem roku 2024 byla zahájena výstavba nové polyfunkční budovy v Brně-Bohunicích, u křižovatky ulic Jihlavská a Dlouhá. Během hloubení až cca 10 m hluboké základové jámy se v hloubce 2 až 3 m narazilo na geologickou vrstvu datovanou do období mladého paleolitu, do období bohunicienu (cca 40 000 až 35 000 př. n. l.), známého z minulých nedalekých výzkumů (Škrdla, Tostevin 2003; 2005). Na její úrovni bylo dokumentováno více než 20 uhlíkových čoček (možných zbytků ohnišť), víceméně rovnoměrně rozprostřených po ploše stavby. Na jednom místě bylo přistoupeno k dokumentaci profilu o výšce cca 7 m, na kterém lze v rámci Moravy unikátně sledovat vývoj prostředí od poslední doby meziledové (před cca 120 tisíci lety) po konec doby ledové (před 12 tisíci lety). Ve spolupráci s kolegy z Ústavu geologických věd Masarykovy Univerzity a Archeologického ústavu AV ČR, Praha, v. v. i., bylo odebráno množství vzorků pro přírodovědné analýzy (palynologie, makrozbytky, antrakologie, sedaDNA aj.), které budou dále zkoumány v rámci projektu „Připraveni na budoucnost: porozumění dlouhodobé odolnosti lidské kultury", což napomůže rekonstruovat vývoj osídlení a přírodního prostředí Střední Evropy v době ledové.

Literatura

Škrdla, P., Tostevin, G. 2003: Brno (k. ú. Bohunice, okr. Brno-město). *Přehled výzkumů* 44, 188–192.

Škrdla, P., Tostevin, G. 2005: Brno-Bohunice, analýza materiálu z výzkumu v roce 2002. *Přehled výzkumů* 46, 35–61.

Summary

In 2024, a rescue archaeological excavation was carried out in the cadastral area of Bohunice (Brno-City District), near the junction of Dlouhá and Jihlavská streets. The excavation revealed traces of human activity (hearths) dated to the Bohunician period.

Jiří Zubalík

Brno (k. ú. Holásky, okr. Brno-město)

Holásky, Tuřany; „U Tuřan".

Mladý paleolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.1432931N, 16.6607319E

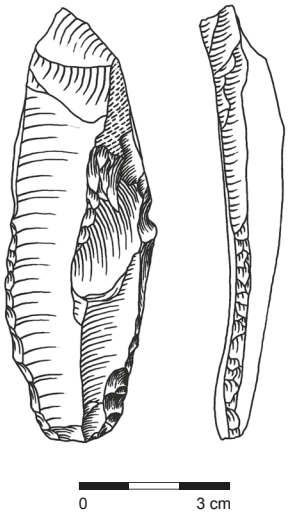
V roce 2019 byl při povrchovém průzkumu rozsáhlé dílny na broušenou industrii, nacházející se na pomezí katastrů Brno-Holásky a Brno-Tuřany v polní trati „U Tuřan" (Bílá 1974; Trnová et al. 2024) nalezen artefakt v podobě středního klínového rydla (obr. 2). Oblast výskytu neolitických nálezů je situována na mírném svahu, pozvolna klesajícím k jihovýchodu směrem k Tuřanskému potoku. Nadmořská výška v místě nálezu paleolitického artefaktu zhruba na jižním okraji neolitické dílny činí 227 m.

Bezprostřední podloží v místě nálezu je tvořeno hrubými až balvanitými štěrky pleistocenní tuřanské terasy pestrého litologického složení, v jejímž podloží se nachází miocénní písky a vápnité jíly odkryté v dnes již nefunkční a nepřístupné

pískovně při západním okraji lokality. V nadloží štěrků, které vystupují spíše ve východní části svahu s mírně nižší nadmořskou výškou, jsou uloženy sprašové hlíny.

Střední klínové rydlo je vyrobeno na distální části velké čepele z jemného pazourku. Šedobílá patina pokrývá stejnoměrně obě strany, nepravidelné proužky na obou plochách, zřejmě organického původu, jsou patinovány silněji do běla. Suportem je čepel s několika sériemi stejnosměrných dorsálních negativů, jejíž hřbet byl snížen dodatečnou reparací. Nejde tedy o čepel vodicí. Původně čepel nesla oboustrannou retuš, zachovanou nyní pouze v dolní polovině. Výše byla odstraněna rydlovými údery, zleva minimálně třemi, zprava asi dvěma. Dochovaly se ovšem jen stopy těch rydlových úderů, které nedosáhly distálních konců negativů po úderech starších. Poslední jsou dva krátké negativy na levé straně rydla.

Nástroj jeví vyspěle mladopaleolitický ráz a spadá pravděpodobně do některé z jeho mladších fází. Jiné patinované artefakty ze silicitů se na lokalitě nevyskytly.



Obr. 2. Brno-Holásky. Klínové rydlo. Kresba T. Janků.

Fig. 2. *Brno-Holásky, Dihedral burin. Drawing by T. Janků.*

Literatura

Bílá, M. 1974: *Štípaná, broušená a „ostatní" kamenná industrie z neolitického sídliště „U Holásek"*. Rkp. diplomové práce. Univerzita J. E. Purkyně v Brně. Přírodovědecká fakulta. Katedra mineralogie a petrografie. Uloženo: Ústřední knihovna Přírodovědecké fakulty Masarykovy univerzity.

Trnová, K., Gadas, P., Bartík, J., Buriánek, D., Přichystal, A., Slavíček, K. 2024: Metabasite Artefacts from the Neolithic Settlement at Brno-Holásky/Tuřany Compared to the Potential Source Rocks within the Želešice Metabasite Body Based on Petrography and Mineralogy. *Interdisciplinaria Archaeologica. Natural Sciences in Archaeology* XV(1), 77–92.

Summary

A medium-sized dihedral burin on a flint blade (Fig. 2) was found at the settlement site in the cadastral area of Holásky (Brno-City District), where a substantial assemblage of unpatinated chipped stone industry, along with evidence for the workshop production of polished tools, was also recovered.

Petr Gadas, Martin Oliva

Brno (k. ú. Líšeň, okr. Brno-město)

„Brněnská podkova".

Magdalénien. Ojedinělý artefakt. Náhodný zásah/nález. Průzkum. Uložení nálezu: Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.2342881N, 16.7233667E

V létě 2018 nalezl autor zprávy na hranici katastru Brna-Líšně na žluté turistické cestě pod hradiskem Chochola, cca 50 m západně od známého paleontologického naleziště trilobitů ve výchozu březinských břidlic, reziduum čepelkového jádra z kvalitního částečně patinovaného silicitu. Artefakt, který pravděpodobně souvisí s magdalenienským osídlením nedalekých jeskyní, byl vyplaven po bouřce a jen částečně vyčníval nad povrch pěšiny ve svahu.

Literatura

Neuvedeno.

Summary

In the summer of 2018, a residual blade core made of high-quality, partially patinated silicite was discovered on the yellow hiking trail below the Chochola hillfort, near the boundary of the Líšeň cadastral area (Brno-City District).

Petr Šmacho

Brno (k. ú. Líšeň, okr. Brno-město)

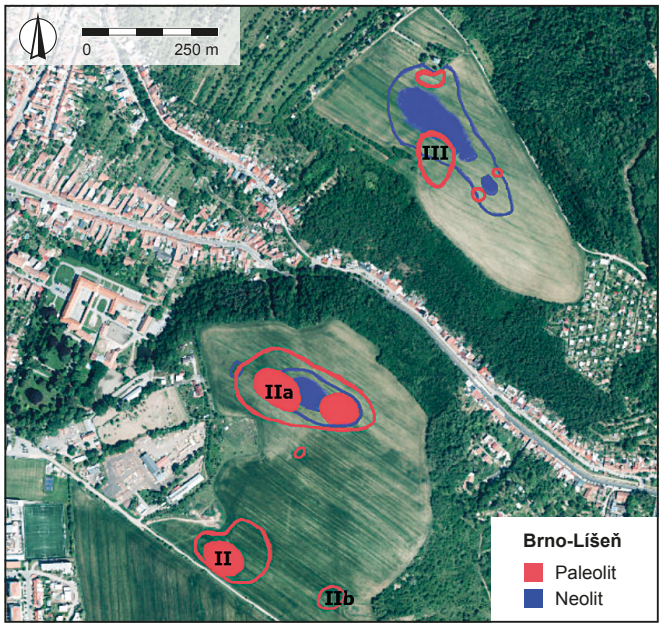
„Kostelíček"; Brno-Líšeň III.

Střední paleolit. Magdalénien. Ojedinělé artefakty. Povrchový sběr. Průzkum. Uložení nálezu: Moravské zemské muzeum – Ústav Anthropos.

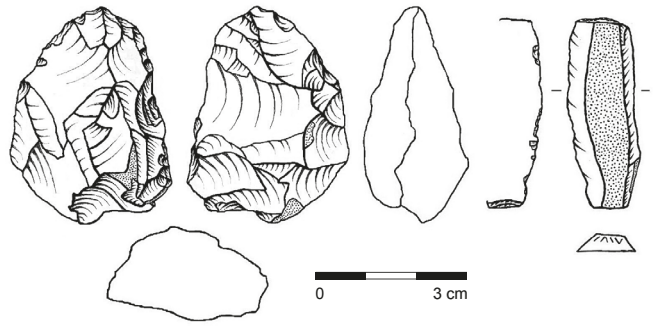
Lokalizace: WGS-84: 49.2083003N, 16.7055300E

Archeologická lokalita na nápadném návrší v Líšni v trati „Kostelíček" byla známa již před sto lety J. Kniesovi. V polovině třicátých let 20. století zde sbíral štípanou industrii J. Lavický, který ve svém archeologickém deníku (Lavický 1935–1943) uvádí, že zde na ploše 50 × 20 m na vrstevnici 330 m n. m. (podle Topografické sekce 3. vojenského mapování 1 : 25000) převažuje neolit. Jeho deník obsahuje i protokol ze dne 19. 12. 1936, z něhož vyplývá, že z této lokality předal 40 kusů nalezených artefaktů do Oddělení moravského pravěku Zemského muzea v Brně. Od roku 1936 a ve čtyřicátých letech zde sbírali V. Gebauer, E. Furthner a K.Valoch, který z této polohy souhrnně eviduje čtyři retušované paleolitické nástroje (malý bifas, zlomek listovitého hrotu, škrabadlo, dvojitý jádrovitý hoblík) a k nim průvodní debitáž.

V průběhu cca deseti sběrů autor zprávy na lokalitě zaznamenal čtyři drobné koncentrace paleolitické štípané industrie a nálezovou situaci se pokusil zachytit zákresem do ortofotomapy (obr. 3). Nejvýchodnější z nich se nachází na temenu kopce v polní trati „Kostelíček" a další nedaleko jižním směrem, v místě, kde se nad zásypem pro bažanty láme svah jiho- jihozápadním směrem. Tyto dvě polohy byly sice co do počtu nalezených kusů paleolitické štípané industrie nejbohatší, avšak jednalo se jen o úštěp a drobný výrobní odpad a ani jeden formální nástroj. Podle K. Valocha (1950) se paleolitická industrie nacházela ponejvíce na rozhraní dnes již zrušeného velkého třešňového sadu a pole. Toto zpřesňuje M. Oliva (Oliva 1985), který uvádí, že tomu tak mělo být v nadmořské výšce 335 m



Obr. 3. Brno-Líšeň. Nálezové klastry Brno-Líšeň II a III. Autor P. Šmacho.
Fig. 3. *Brno-Líšeň. Find clusters of Brno-Líšeň II and III. Author P. Šmacho.*



Obr. 4. Brno-Líšeň. Bifaciální artefakt a opotřebená čepel. Kresba P. Šmacho.
Fig. 4. *Brno-Líšeň. Bifacial artefact and blade with use-wear traces. Drawing by P. Šmacho.*

jihozápadně od kostelíčka, nezmiňuje však odtud ani jediný formální nástroj. Mám však za to, že v uvedené publikované zprávě se jedná o chybu ve velkém písmenu a správně se mělo jednat o „Kostelíček" jako označení pro polní trať, a nikoli kostelíček jako označení pro kapli Panny Marie Pomocné neboť místo jihozápadně od kaple podle historického leteckého snímkování z roku 1947 neodpovídá Valochově popisu, a navíc později zde povrchový sběr nebyl ani dost dobře možný, protože se prostor nachází v oplocené zahradě a při revizním sběru se mi jevil jako nálezově sterilní. Pokud ovšem Olivou uváděná nadmořská výška se nachází na jihozápadním svahu polní tratě (tj. jihovýchodně od kaple), pak to přesně odpovídá prostřední koncentraci mých povrchových nálezů na souřadnicích 49.2083003N, 16.7055300E. Z posledních dvou sběrů odtud pochází bifaciální artefakt z místy až korozivně patinovaného spongolitu, datací příslušející nejspíš na závěr středního paleolitu, a opotřebovaná čepel ze slabě patinovaného silicitu krakovsko-čenstochovské jury, která pochází nejspíše z magdalenienu (obr. 4). Za určení suroviny čepele děkuji A. Přichystalovi. V tomto místě bylo autorem zprávy v minulosti vyzvednuto čepelové jádro se složitými opravami, publikované již M. Olivou (Oliva 2020). Ve stejném článku publikované vyklenuté drásadlo však leželo v západní koncentraci nálezů, asi 10 m od okraje pole na souřadnici 49.2094619N, 16.7053906E pod vrcholem kóty 346 m n. m. (na některých mapách chybně uváděnou jako 363,5 m n. m., tato chyba výškopisu byla posledně převzata i M. Olivou).

Poměrně hojnou nepatinovanou neolitickou štípanou industrii lze na „Kostelíčku" sbírat po celém hřbetu, přičemž její největší výskyt a zároveň nejvýraznější kusy byly autorem zprávy nalezeny na jižním svahu v asi 100 m dlouhém a 50 m širokém pásu přibližně kopírujícím vrstevnici 340 m n. m. jiho- jihovýchodně od kaple.

Literatura

Lavický, J. 1935–1943: *Steinzeit* [deník]. Rkp. Uloženo: archiv Ústavu Anthropos, Moravské zemské muzeum, č. AD/28.

Oliva, M. 1985: Příspěvek k lokalizaci paleolitických nálezů v okolí Brna-Líšně (okr. Brno-město, Brno-venkov). *Přehled výzkumů* 1985, 19–21, obr. 12–13.

Oliva, M. 2020: Brno (k. ú. Líšeň, okr. Brno-město). *Přehled výzkumů* 61(1), 128.

Valoch, K. 1950: Sídliště diluviálního člověka na půdě Velkého Brna. *Příroda* 43, 22–26, 56–57.

Summary

At the historically multi-period site Líšeň III in the 'Kostelíček' field (Líšeň cadastral area, Brno-City District), a bifacial artefact made of heavily patinated spongolite, a worn blade of lightly patinated silicite from the Kraków–Częstochowa Jurassic flint, and accompanying Paleolithic debitage (Fig. 3, 4) were recovered during a surface survey. In addition to the Paleolithic artefacts, a relatively abundant assemblage of the Neolithic chipped stone industry, comprising approximately one hundred pieces, was also found at the site.

Petr Šmacho

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Brno (k. ú. Slatina, okr. Brno-město)

„Na Slatinsku"; Stránská skála III.

Bohunicien. Sídliště. Sonda. Badatelský výzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1858925N, 16.6838131E

Stránská skála III představuje důležitou polykulturní lokalitu, která byla zkoumána v letech 1981–1982 (např. Svoboda 1987; Svoboda, Šmíd 1996; Svoboda, Bar-Yosef, eds. 2003). Výzkum byl tehdy iniciován výkopem pro vodovod, který prořízl rozsáhlý eneolitický zahloubený objekt. Po vybrání výplně eneolitického objektu pokračovali K. Valoch a posléze i J. Svoboda (Svoboda, Bar-Yosef, eds., 2003) výzkumem intaktních sedimentů, a to na jeho bázi v několika segmentech vymezených ponechanými profily. Objeveno a částečně prozkoumáno bylo sídliště bohunicienu. Tento výzkum probíhal v časové tísni, a nebylo tak možno odkrýt kompletní plochu paleolitického sídliště (ústní sdělení J. Svobody). V roce 2024 jsme se rozhodli odebrat vzorky pro přírodovědné analýzy. Jako nejvhodnější místo jsme vybrali profil mezi sektory 4 (ve starší literatuře označeno mylně jako 5) a 7. Hustota nálezů v tomto prostoru byla vysoká a v profilu měla být ponechána část ohniště H1/1982, které poskytlo vzorek uhlíků na radiokarbonové datování. Vzorek byl tehdy datován konvenčně v laboratoři v Groningen a obdržené datum mělo hodnotu 38,500 +1,400 −1,200 BP (číslo vzorku: GrN12298; Svoboda 1987).

Výzkum v roce 2024 započal vyměřením vybraného profilu s využitím dat M. Bálka a D. Vitulové (poskytla D. Vitulová z ÚAPP Brno). Poté následoval odkryv nadloží, kdy se v hloubce přibližně 80 cm začal rýsovat výrazně tmavý humózní pás ponechaného profilu. Jeho šířka dosahovala v této hloubce jen 40–60 cm, což bylo zřejmě způsobeno erozí před zasypáním. V hloubce odpovídající paleolitickému horizontu (cca 2–2,5 m) jeho šířka dosahovala již 120–125 cm. Nutnost plavení výplně eneolitického objektu (viz oddíl Eneolit) prodlužovala skrývku, což mělo za následek, že bylo prozkoumáno pouze 6 m z osmimetrového profilu (v plánu je dokončit výzkum v roce 2025). Vzhledem k hloubce sondy v nestabilních sedimentech zásypu eneolitického objektu byl sediment paleolitického nálezového horizontu odebírán po sektorech o rozměru 0,5 × 0,5 m a veškerý objem byl plaven na sítech o rozměru ok 3 × 3 mm. Odkryv v roce 2024 umožnil drobné korekce planigrafie ploch prokopaných v letech 1981–1982 a doplnění plánu rozptylu (obojí bude dokončeno po výzkumu v roce 2025). Jelikož plavením byla získána značná část drobných artefaktů, které v původní kolekci chybějí, byly pro doplnění mapy plošné distribuce zahrnuty (z materiálu získaného v roce 2024) pouze nálezy s rozměry většími než 1,5 cm (obr. 5). Zbytek ohniště H1/1982 byl nalezen – to se neprojevovalo zahloubením zřetelným na fotografii J. Svobody z roku 1982 (Svoboda 2003, Fig. 2.3), ale spíše jen jako koncentrace uhlíků a drobných kousků červeného barviva. Předběžná analýza uhlíků naznačuje převahu modřínu, který doplňují jalovec a borovice. Odebrány byly vzorky na mikromorfologickou analýzu sedimentů a na sedimentární aDNA. Získána byla samozřejmě kolekce kamenných artefaktů a barviv, které po všech stránkách odpovídají nálezům z roku 1982. Ojedinělý nález představuje zlomek stoličky blíže neurčeného býložravce z čeledi jelenovitých (*Cervidae*). Jak již bylo výše zmíněno, cílem je dokončit výzkum profilu v roce 2025, což umožní zkompletování materiálu z ploch 4 a 7 (případně doplnění skládanek) a analýzu plošné distribuce nálezů v rámci celé plochy A (podle Svoboda 1987).

Literatura

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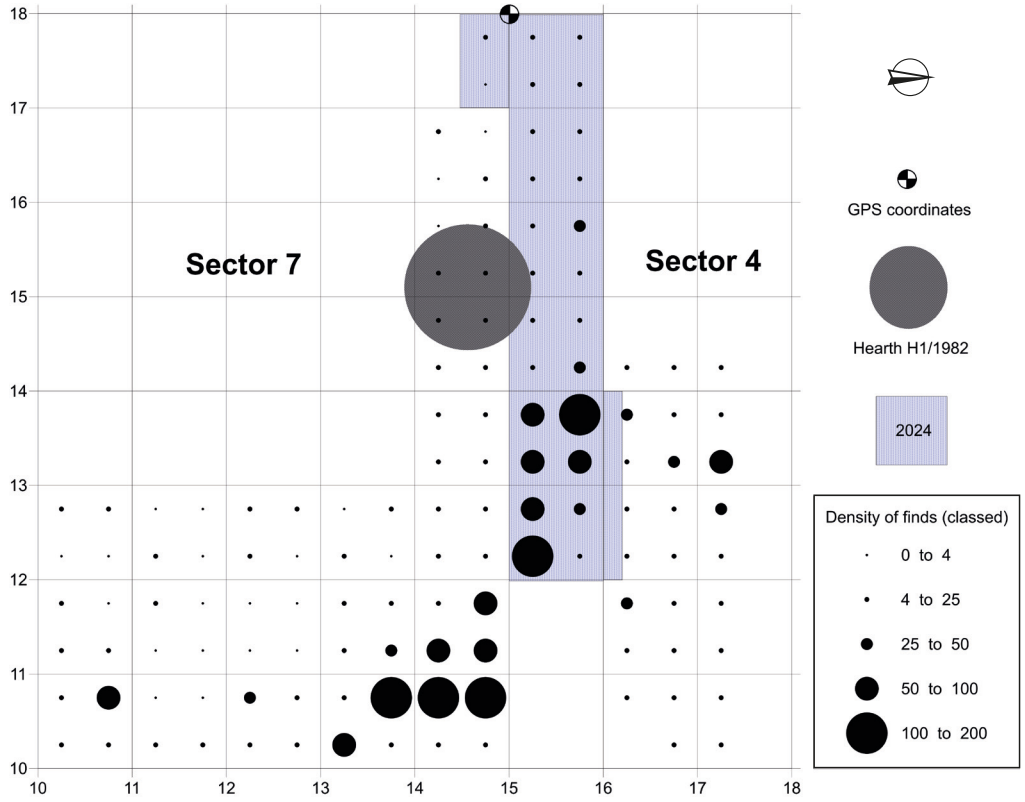
Svoboda, J. A., Bar-Yosef, O. (eds.) 2003: *Stránská skála. Origins of the Upper Paleolithic in the Brno Basin, Moravia, Czech Republic.* American School of Prehistoric Research Bulletin 47. Dolní Věstonice Studies 10. Cambridge, Massachusetts: Peabody Museum of Archaeology and Ethnology, Harvard University.

Svoboda, J. A., Šmíd, M. 1996: Dílenský objekt kultury nálevkovitých pohárů na Stránské skále. *Pravěk. Nová řada* 4 (1994), 79–125.

Summary

Stránská skála III (Slatina cadastral area, Brno-City District) is a poly-cultural site excavated during 1981–1982. The excavation was initiated by the construction of a pipeline trench that cut through a large subsurface feature filled with Eneolithic material. Later, the Paleolithic artefacts were excavated from the intact sediments beneath the Eneolithic deposit by Valoch and Svoboda (Svoboda, Bar-Yosef 2003). In 2024, we identified a profile between sectors 7 and 4 that had remained unexcavated during previous excavations (Fig. 5). This area is characterised not only by a high density of finds but also a partly unexcavated hearth, H1/1982 (Svoboda 2003). Radiocarbon dating of the hearth produced an age of 38,500 +1,400–1,200 BP (sample number: GrN12298; Svoboda 1987).

The artefact-bearing horizon was excavated using a 0.5 × 0.5 m square grid. All sediment was wet-sieved to recover small items. The recently excavated lithic artefacts closely resemble the



Obr. 5. Brno-Slatina. Stránská skála III. Analýza plošné distribuce artefaktů, lokalizace výzkumu 2024 a poloha ohniště H1/1982. Autor P. Škrdla.

Fig. 5. *Brno-Slatina. Stránská skála III. Spatial distribution of artefacts, location of 2024 excavation, and location of hearth H1/1982. Author P. Škrdla.*

earlier material in terms of raw material, technology, and typology. The excavated hearth contained quantities of charcoal and small lumps of red ochre. Charcoal analysis identified larch as the most common species, followed by juniper and pine. An isolated fragment of an undetermined deer molar was also found. Samples for soil micromorphology and sedimentary aDNA analyses were collected as well. Upon completion of the entire profile excavation in 2025, we will be able to finalise the artefact assemblage, complete refittings, and examine the spatial distribution of finds across the entire concentration A (after Svoboda 1987).

Petr Škrdla, Jaroslav Bartík, Katarína Adameková, David Cibulka, Jan Novák, Soňa Boriová

Čebín (okr. Brno-venkov)

„Nad Záhořím"; Čebín I.

Mladý paleolit. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.3044794N, 16.4754489E

Na základě archeologického deníku J. Lavického (1935–1943) byla dne 22. 8. 2024 v terénu pozitivně ověřena jeho první nálezová poloha z celkových pěti archeologických lokalit na katastru obce Čebín. Autorem zprávy bylo za dnešní kompostárnou, na hraně západního svahu kóty 345 m n. m. (přírodní památka Na Lesní horce), který v těchto místech přechází v malé sedlo, v polní trati „Nad Záhořím", nalezeno paleolitické jádro s negativy po těžbě čepelí a dva úštěpy z patinovaných rohovců.

Josef Lavický ve svém německy psaném deníku místo popisuje jako vzdálené 1 km jižně od vesnice, ve východní části malého sedla na jihozápadním kopci nad božími mukami, kde z nálezového klastru o rozměru 30 × 30 m získal 70 kusů paleolitické a 6 kusů neolitické kamenné industrie. V jeho deníku je modrou tužkou k původnímu černým inkoustem psanému záznamu dodatečně připsáno „Kaménky" a část původního zápisu na straně 147 je přeškrtána, avšak tato pozdější oprava neodpovídá realitě, neboť trať „Na Kaménkách" se podle Statní mapy 1 : 5000 nachází cca 1800 m dál na severním výběžku Velkého kopce – kóty 354,5 m n. m. a podle současné Základní topografické mapy ČR se pro změnu trať s označením „Na Kamínkách" nachází na severním svahu kóty 353,8 m n. m., tj. cca 700 m dále od nálezového klastru východním směrem. Toto chybně v deníku opravené a zavádějící označení paleolitické lokality Čebín I – „Kaménky" následně převzali – patrně z důvodu absence přesných map pro archeologickou veřejnost za minulého režimu – do svého článku M. Oliva a J. Doležel, kteří z lokality Čebín I v roce 1983 uvádějí již celkem 75 ks paleolitické a 7 ks neolitické industrie (Oliva, Doležel 1985).

Literatura

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Summary

In the cadastral area of Čebín (Brno-Country District), on the edge of the western slope of the 345 m elevation point in the 'Nad Záhořím' field, a Paleolithic core and two flakes made of patinated chert were discovered based on the archaeological diary of J. Lavický.

Petr Šmacho

Jasenice (okr. Třebíč)

„Za Jalovčím".

Mladý paleolit. Ojedinělé artefakty. Povrchový sběr. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.2559922 N, 16.1770317 E

Na základě upozornění M. Vokáče byla autorem zprávy pozitivně ověřena paleolitická lokalita na plató za vodojemem, kterou nedávno objevili hledači vltavínů, a údajně zde měli nalézt osm kusů štípané industrie. Při průzkumu dne 17. 9. 2024 byl autorem zprávy za ideálních podmínek ve vzdálenosti cca 70 m západně od kóty 492,4 m n. m. v polní trati „Za Jalovčím" vyzvednut úštěp ze strakatě patinovaného silicitu o rozměru 18 × 32 mm. Tento skrovný nález je dokladem o pronikání paleolitického člověka údolím Oslavy do nitra Českomoravské vrchoviny.

Literatura

Neuvedeno.

Summary

Based on information provided by M. Vokáč, the author of this report positively verified a Paleolithic site recently discovered by moldavite seekers. On 17 September 2024, a surface survey yielded a flake made of spotted, patinated silicite approximately 70 m west of the 492.4 m elevation, in the 'Za Jalovčím' field (Jasenice cadastral area, Třebíč District).

Petr Šmacho

Kobeřice u Brna (okr. Vyškov)

„Nad Vinohrady"; kóta 337 m n m.

Paleolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.1015969N, 16.8790361E

Na severozápadním výběžku Vlčí hory nalezl autor zprávy dne 14. 12. 2024 na katastru obce Kobeřice u Brna, ve vzdálenosti cca 10 m jihozápadně od nivelační tyče kóty 337,5 m n. m. v polní trati „Nad Vinohrady", hranu silně patinovaného jádra z rohovce typu Krumlovský les I se stopami negativů po těžbě. Na artefaktu jsou stopy vysráženého sintru. Z tohoto místa je dobrý rozhled do údolí Litavy, nedaleko jsou i drobné vodoteče; nadmořská výška i geomorfologie plošiny by byly pro paleolitické osídlení (zejména v aurignacienu) nejspíše příznivé, avšak severní svahy Ždánického lesa pro paleolitické lovce zřejmě nepatřily k oblíbeným sídelním oblastem a dosud publikované okolní nepočetné drobné lokality poskytly spíše nevýrazné nálezy.

Ve vzdálenosti přibližně 40 m jihovýchodním směrem od nivelačního bodu bylo ještě nalezeno nepatinované čepelové škrabadlo z rohovce typu Krumlovský les I a zlomek přepálené retušované srpové čepelky s leskem, které však přísluší mladšímu období pravěku.

Literatura

Neuvedeno.

Summary

In the cadastral area of Kobeřice near Brno (Vyškov District), at the levelling rod of the 337.5 m elevation, in the 'Nad Vinohrady'

field, the edge of a heavily patinated Paleolithic core made of Krumlovský-les I type chert was discovered. Additionally, an unpatinated blade scraper made of the same chert was found, along with a fragment of a burnt and retouched blade, which, however, belong to a later prehistoric period.

Petr Šmacho

Mikulčice (okr. Hodonín)

„Klášteřisko“.

Mezolit. Sídliště. Sonda. Badatelský výzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 48.8078853N, 17.0942625E

V roce 2024 navázal na předchozí sezónu (Bartík et al. 2024; AMČR) zjišťovací výzkum v poloze Mikulčice – „Klášteřisko“, jehož cílem bylo ověřit několik základních otázek týkajících se poznání rozsahu a datování zdejšího mezolitického osídlení, stratigrafie a míry poškození původních nálezových situací (obr. 6). V této sezóně jsme se zaměřili na dokončení výzkumu sondy č. 2/23. Díky plavení veškerého exkavovaného sedimentu se podařilo získat opět početnou kolekci štípané industrie včetně dvou desítek mikrolitů, mezi kterými se objevují i trojúhelníky. V surovinovém spektru nadále převládají lokální rohovce, ze vzdálených importů stojí za zmínku nálezy několika artefaktů z obsidiánu. Lokalita nadále skýtá potenciál pro pokračování výzkumu, který by se měl v budoucnu rozšířit i do dalších poloh v rámci mikulčického areálu.



Obr. 6. Mikulčice. Pohled na výzkum v roce 2024. Foto J. Bartík.

Fig. 6. *Mikulčice. A view of the excavation area in 2024. Photo by J. Bartík.*

Literatura

Bartík, J., Škrdla, P., Boriová, S., Herčík, O. 2024: Mikulčice (okr. Hodonín). *Přehled výzkumů* 65(1), 168–169.

AMČR: Záznam M-202501324 [cit. 2025-06-06]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/id/M-202501324.

Summary

In 2024, excavations resumed at the Mikulčice – ‘Klášteřisko’ site (Hodonín District), connecting to the previous season’s work (Bartík et al. 2024; AMČR). The aim was to explore several key research questions concerning the extent and chronology of the Mesolithic settlement, site stratigraphy, and the degree of disturbance to the original archaeological contexts. This season’s fieldwork focused on the completion of trench 2/23 (Fig. 6). The site continues to hold significant research potential, which should be further explored through excavations in other areas within the Mikulčice complex.

Jaroslav Bartík, Petr Škrdla, Soňa Boriová, Ondřej Herčík, Dominik Chlachula

Mohelno (okr. Třebíč)

„Plevovce“.

Pozdní fáze mladého paleolitu. Sídliště. Sonda. Záchranný výzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1041856N, 16.1509269E

V roce 2024 pokračoval systematický záchranný výzkum lokality. V této sezóně byla pozornost zaměřena na svrchní části úseku 3, kde došlo k rozšíření zkoumané plochy v rámci koncentrace nálezů AC 1. Odkryta zde byla sonda o rozměru 2 × 2,5 m (obr. 7), která navazovala z východu na původní zkoumanou plochu (Škrdla et al. 2015) a sondu z roku 2023 (Bartík et al. 2024). Oproti předchozí sezóně klesl počet získaných artefaktů. Na uvedené ploše se podařilo z intaktního sedimentu vyzvednout pouze deset vesměs drobných kusů štípané industrie. Jedinou výjimku představuje středně velké (rozměry: 51 × 32 × 23 mm), bipolárně sbíjené jádro. Všechny artefakty jsou opět vyrobeny výhradně z eratického silicitu. Vůbec poprvé byly v prostoru koncentrace nálezů AC 1 zjištěny zvířecí kosti. Podle předběžného určení půjde o zlomky zubů pravděpodobně koně či soba (obr. 8). V průběhu roku probíhalo taktéž pravidelné monitorování vodní eroze rozplavující pokryvné sedimenty lokality, při kterém byly objeveny v erozních korytech další štípané artefakty z vícera fází mladého paleolitu.

Literatura

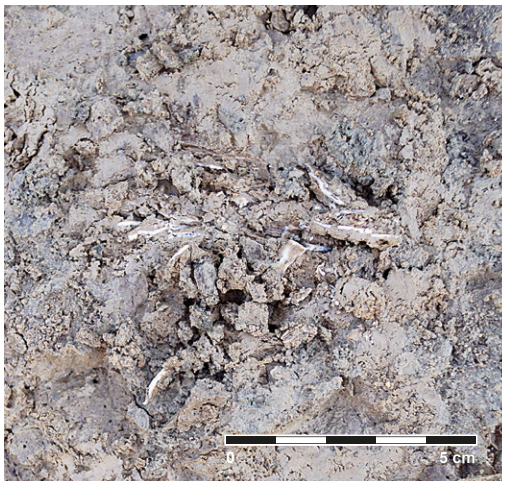
Bartík, J., Škrdla, P., Adameková, K. 2024: Mohelno (okr. Třebíč). *Přehled výzkumů* 65(1), 169.

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Obr. 7. Mohelno. Sonda v prostoru AC 1. Foto J. Bartík.

Fig. 7. *Mohelno. Test pit in the AC 1 area. Photo by J. Bartík.*



Obr. 8. Mohelno. Fragmenty zvířecích zubů v prostoru AC 1. Foto J. Bartík.
Fig. 8. *Mohelno. Fragments of animal teeth in the AC 1 area. Photo by J. Bartík.*

Summary

In 2024, a systematic rescue excavation continued at the Mohelno – Plevovce site (Třebíč District), with work concentrated on the upper part of Section 3. Here, the investigated area with find concentration AC 1 was expanded by a 2 × 2.5 m trench (Fig. 7), adjoining both the area excavated before (Škrdla et al. 2015) and the 2023 trench to the east (Bartík et al. 2024). A small assemblage of chipped stone artefacts was recovered, including a bipolar core made of erratic flint. For the first time within concentration AC 1, animal bones were also discovered – specifically teeth, most likely from a horse or a reindeer (Fig. 8).

Jaroslav Bartík, Petr Škrdla

Nevojice (okr. Vyškov)

„Strašník“.

Mladý paleolit, pozdní paleolit. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.1326967N, 17.0438283E; 49.1317842N, 17.0444078E

V polní trati „Strašník“, jihozápadně od obce, na výrazném hřbetu severního výběžku kóty 363,3 m n. m., byl na poli pod lesem podle M. Mazálka před r. 1941 vyzvednut silně přepálený listovitý hrot (Mazálek 1960).

Při pochůzce autora zprávy dne 28. 8. 2024 byly v těchto místech na poli pod lesem nalezeny na hraně prudkého svahu dvě koncentrace kamenné štípané industrie, od sebe vzdálené přibližně 100 m. Sběr proběhl za ideálních podmínek a bylo zde celkem nalezeno 18 kusů artefaktů. V surovinovém spektru převažují moravské jurské rohovce, dvěma kusy je zastoupen rohovec typu Krumlovský les II a jedním kusem radiolarit. Jeden artefakt je přepálený a u některých dalších z níže položené koncentrace je nápadný vyšší stupeň patinace, zejména u větších z jader a u artefaktu na rozhraní mezi jádrem a vysokým škrabadlem.

V koncentraci výše na svahu (okolo bodu 49.1326967N, 17.0438283E) byla nalezena dvě drobná jádra na čepelky, škrabadlo na čepeli kombinované s příčnou retuší s ventrálními výštěpky, zlomek čepelky s otupeným bokem se stopami po opotřebení ostří, tři čepelky a tři kusy výrobního odpadu. Analogicky podobné nálezy, a to jak typově, tak co do stupně patinace, se nacházejí na protější straně údolí, na 1300 m severozápadním směrem vzdálené nejbohatší stanici regionu Vícemilice I.

O přibližně 100 m níže na stejném poli (okolo bodu 49.1317842N, 17.0444078E) byla autorem zprávy nalezena druhá koncentrace kamenné štípané industrie. Zde bylo vyzvednuto jádro, artefakt na pomezí jádra a vysokého škrabadla, příčná retuš, čepelka, zlomek čepelky, úštěp a dva kusy výrobního odpadu. U těchto artefaktů se nabízí analogie s nálezy ze stanice Vícemilice III.

Literatura

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Summary

In the ‘Strašník’ field (Nevojice cadastral area, Vyškov District), on the edge of a steep slope, two concentrations of chipped stone industry were identified, located approximately 100 m apart. The assemblage comprises 18 pieces displaying varying degrees of patination. Typologically, it includes three cores, a hybrid tool exhibiting characteristics of both a core and a high scraper, a scraper combining transverse retouch and ventral removals, a fragment of a bladelet with a blunted edge, a fragment with transverse retouch, several blades, a flake, and production debris.

Petr Šmacho

Nížkovice (okr. Vyškov)

„U Větrníku“.

Mladý paleolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.1066300N, 16.8898467E

Dne 14. 12. 2024 na katastru obce Nížkovice v polní trati „U Větrníku“, na výrazné vyvýšenině za vodojemem, ve vzdálenosti cca 20 m západně od kóty 330,5 m n. m. nalezl autor zprávy reziduum silně patinovaného jádra z rohovce se stopami tří negativů po těžbě čepelí. Lokalita byla autorem zprávy vytipována na základě programu Analýza výškopisu (ČÚZK 2024 – LIDAR, sklonitost svahu, pole viditelnosti) jako perspektivní poloha s možností paleolitického osídlení kultury aurignacienu. Naproti přes Vážanský žleb s prameništěm drobné vodoteče se 1 km jihozápadně nachází polykulturní stanice Kobeřice – „Nad Vinohrady“.

Literatura

ČÚZK 2024: *Analýzy výškopisu* [online]. ČÚZK, © 2024. [cit. 2025-02-13] Dostupné z: https://ags.cuzk.cz/av/.

Summary

On 14 December 2024, a heavily patinated chert core was discovered in the ‘U Větrníku’ field (Nížkovice cadastral area, Vyškov District), approximately 20 m west of the 330.5 m elevation point.

Petr Šmacho

Nová Dědina (okr. Kroměříž)

„Mokrá hora“; Nová Dědina IV.

Aurignacien. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: 5 ks dočasně u autora, ostatní Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.2196686N, 17.4624983E

U silnice Nová Dědina – Kvasice na severozápadním svahu kóty 313,6 m n. m. se v polní trati „Mokrá hora“ nachází drobná lokalita aurignacienu, Nová Dědina IV. První nálezy z této polohy pochází již z roku 1936, avšak jméno objevitele neznáme. Martin Oliva (1987) uvádí, že zde bylo při starších sběrech nalezeno 80 kusů kamenné štípané industrie, zahrnujících 21 retušovaných nástrojů.

K výše uvedeným nálezům během sedmi sběrů v posledních pěti letech přidal autor zprávy nově z formálních nástrojů tři škrabadla (silicit glacigenních sedimentů), vrub (rohovec typu Troubky-Zdislavice) a otloukač (křemen). Mimo to byla nalezena ještě čepel a přibližně desítka různých zlomků vesměs ze silicitu glacigenních sedimentů.

Literatura

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Summary

A small Aurignacian site, located on the north-western slope of the 313.6 m elevation, in the ‘Mokrá hora’ field near the road between Nová Dědina and Kvasice (Kroměříž District), yielded three flint scrapers, a notch made of Krumlovský-les type chert, and a quartz hammerstone. In addition, a blade and around a dozen other fragments, mostly flint, were also recovered at the site.

Petr Šmacho

Ostrov nad Oslavou (k. ú. Suky, okr. Žďár nad Sázavou)

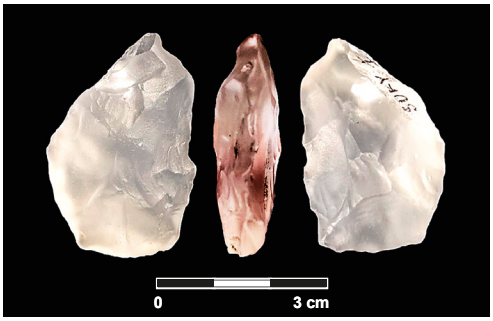
Sucká hora, Suky I; u polní cesty, Suky II; u železniční tratě, Suky III.

Micoquien. Dílenský areál. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.4733886N, 16.0074006E; 49.4719614N, 16.0137264E; 49.4748478N, 16.0167442E

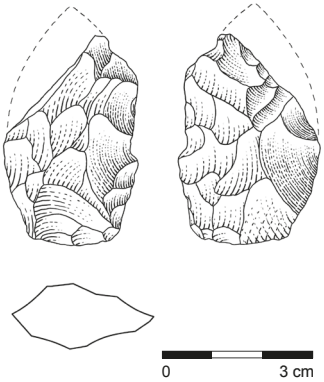
Na burze minerálů v Tišnově byly P. Šmachem získány koupí od brusičů minerálů dva zajímavé paleolitické artefakty z křišťálu. První ze zachráněných artefaktů byl nalezen na jaře 2023 L. Bukáčkem v blízkosti vrcholu kóty Sucká hora (lokalita Suky I). Jedná se o listovitý hrot silně matného povrchu z křišťálu s čerstvě odlomenou špičkou, a je tudíž zachován přibližně z cca 80 % (obr. 9, 10). Ze stejné lokality a od stejného nálezce pochází artefakt publikovaný jako křišťálové drásadlo v Přehledu výzkumů 63/1 (Šmacho 2022) a dokumentovaný dříve pouze fotograficky. Nyní je již k dispozici i perokresba, kterou zde uveřejňujeme (obr. 11).

Druhým z nově získaných artefaktů je klínový nůž z čirého a jen lehce matného křišťálu (obr. 12, 13), který byl nalezen na podzim 2023 na poli na jihovýchodním výběžku kóty 583,8 m n. m. Sucká hora mezi silnicí Ostrov nad Oslavou – Laštovičky (lokalita Suky II – u polní cesty), přibližně 300 m jižně od obce a 450 m od lokality Suky I sběratelem minerálů V. Krejčím ml.



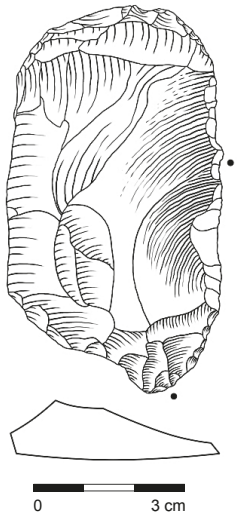
Obr. 9. Ostrov nad Oslavou – Suky I. Fragment listovitého hrotu. Foto P. Šmacho.

Fig. 9. *Ostrov nad Oslavou – Suky I. Fragment of a leaf-shaped point. Photo by P. Šmacho.*



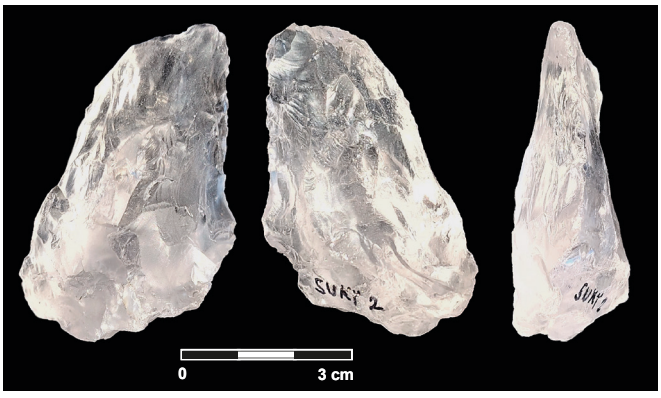
Obr. 10. Ostrov nad Oslavou – Suky I. Fragment listovitého hrotu z křišťálu. Kresba T. Janků.

Fig. 10. *Ostrov nad Oslavou – Suky I. Fragment of a leaf-shaped point made of rock crystal. Drawing by T. Janků.*



Obr. 11. Ostrov nad Oslavou – Suky I. Drásadlo z křišťálu. Kresba T. Janků.

Fig. 11. *Ostrov nad Oslavou – Suky I. Crystal side scraper. Drawing by T. Janků.*



Obr. 12. Ostrov nad Oslavou – Suky II. Klínový nůž. Foto P. Šmacho.

Fig. 12. *Ostrov nad Oslavou – Suky II. Keilmesser stone tool. Photo by P. Šmacho.*

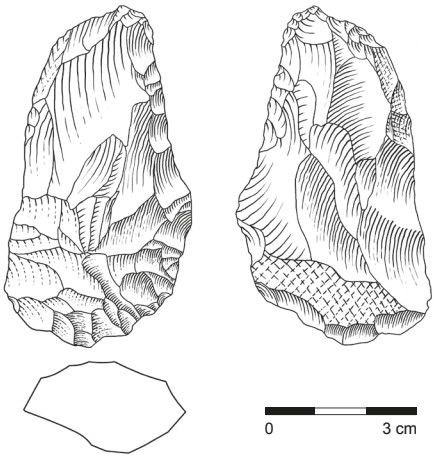
při sběru krystalů a suroviny určené především k broušení a výrobě šperků. Lokalita Suky II – u polní cesty byla známa již K. Valochovi (2004), který z ní uvádí podchycené tři paleolitické křišťálové artefakty, mezi nimiž vyniká malý srdčitý bifas s matným povrchem z kolekce S. Němečka, o němž se K. Valoch domnívá, že pochází z micoquienu. Dále zde byl v minulosti nalezen a podchycen zlomek čepele a zlomek retušovaného fragmentu.

Na podzim 2024 na základě doporučení známého sběratele minerálů a brusiče drahokamů Z. Hanzla se P. Šmachovi přihlásila paní M. V. Kuchařová s tím, že vlastní fragment – polovinu listovitého hrotu z lokality Suky III – u železniční tratě, který zakoupila v roce 2017 od nálezce Z. Hanzla na burze minerálů v Tišnově jako poškozený kámen určený ke šperkařskému zpracování. Ani jeden z nich tehdy netušil, že se jedná o pravěký artefakt, o čemž vypovídá i kupní cena ve výši 100,- Kč. Předmětný zlomek hrotu byl (naštěstí bez brusičských zásahů) majitelkou zasazen do šperku a pro vědecké účely dodatečně fotograficky zdokumentován (obr. 14). Reutilizace pravěkých křišťálových a citrínových artefaktů na Českomoravské vrchovině v moderních špercích není ojedinělým jevem a toto je již čtvrtý případ, který byl autory zprávy v nedávné době podchycen. Lokalitu Suky III – u železniční tratě K. Valoch nesprávně situuje na opačnou stranu železničního náspu do nivy Suchého potoka, avšak podle místních sběratelů minerálů se křišťály hojně nacházejí na východním svahu u železnice a blíže vsi (nikdo ze starší generace sběratelů nepotvrdil, že by se kdy sbíralo na opačné straně za tratí, která je nadto celá desetiletí povrchovým sběrům nepřístupná – dle archivního leteckého snímkování je to louka, a ne pole), kde byl také podle tvrzení nálezce artefakt vyzvednut. Na stejném místě nalezl Z. Hanzl mimo zlomek hrotu též velký úštěp z opálu. Přestože lidský podíl na vzniku opálového úštěpu je nesporný, jinak je tomu v případě jeho časového zařazení, neboť se jedná o netypický artefakt, nadto z nepatinující suroviny.

Křišťál, citrín a záhněda jsou jako suroviny pro výrobu štípané industrie obtížně zpracovatelné, avšak pokud jsou čiré, bez kazů, ve šperkařské kvalitě, tak se jejich použitelnost a předvídatelnost pro štípání značně zvětšuje. Bohužel ke škodě archeologie právě kusy z čiré suroviny a s hedvábně matným povrchem, které nadto nejsou nalezeny ve formě přírodního estetického krystalu, jsou považovány většinou hledačů minerálů za znehodnocené. Proto jsou brusiči zpracovávány přednostně, případně jsou nálezci jako kusy nehodné vystavení ve vitrínce odloženy do krabice sběratelských přebytků a zavržených neestetických mineralogických vzorků, určených často i na prodej na mineralogické burze jako surovina ke zpracování. Zaznamenán byl loni i případ, kdy vyšší desítky středopaleolitických artefaktů z křišťálu (Mirošov I) skončilo jako okrasná výsypka na zahradní zenové skalce, přičemž kusy menší než 2 cm, jenž neměly pro nálezce ekonomické, nebo estetické využití (typicky odpad z výroby štípané industrie), byly záměrně přehlížené a ponechané na lokalitě.

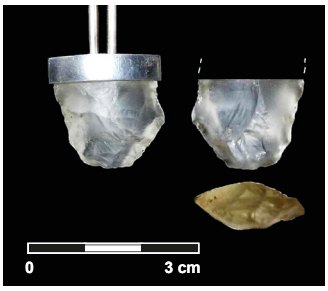
Mezi komunitou hledačů krystalů na Českomoravské vrchovině, zejména mezi těmi místními a nejaktivnějšími, byla autory zprávy již provedena osvěta, která průběžně vede k záchraně alespoň některých pravěkých artefaktů a pomohla též k podchycení V. Krejčím st. nově objevené (březen 2023) a dosud nepublikované stanice s poměrně hojnou křišťálovou industrií na katastru Bohdalce (Oliva, Šmacho, 2025 v tisku) a těžebně zpracovatelské stanice ze středního paleolitu na katastru Mirošova, objevené na podzim 2023 hledači minerálů sdruženými v tzv. „Citrín partě“ (Oliva et al. 2024).

Vzhledem k nadmořské výšce lokalit Suky I–III předpokládáme, že se z hlediska sídelních strategií jedná o dílny u zdrojů štípatelné suroviny a nikoli o sídliště. Nové nálezy potvrzují prvotní klasifikaci K. Valocha a nevymykají se z okruhu micoquienu.



Obr. 13. Ostrov nad Oslavou – Suky II. Klínový nůž z křišťálu. Kresba T. Janků.

Fig. 13. *Ostrov nad Oslavou – Suky II. Crystal Keilmesser stone tool. Drawing by T. Janků.*



Obr. 14. Ostrov nad Oslavou – Suky III. Polovina listovitého hrotu. Foto M. V. Kuchařová.

Fig. 14. *Ostrov nad Oslavou – Suky III. Half of a leaf-shaped point. Photo by M. V. Kuchařová.*

Literatura

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Oliva, M., Šmacho, P., Hanzl, Z. 2024: Středopaleolitická exploatace křišťálu u Mirošova na Českomoravské vrchovině. *Acta Musei Moraviae, Scientiae sociales* CIX(2), 95–109.

Šmacho, P. 2022: Ostrov nad Oslavou (k. ú. Suky, okr. Žďár nad Sázavou). *Přehled výzkumů* 63(1), 113–114.

Valoch, K. 2004: Křišťály jako surovina štípané industrie. *Acta Musei Moraviae, scientiae* LXXXIX, 129–166.

Summary

Two Paleolithic artefacts made of rock crystal were acquired at the Tišnov Mineral Exhibition. The first, a leaf-shaped point with a freshly broken tip (Fig. 9, 10), was discovered in spring 2023 near the summit of Sucká hora hill, at the Suky I site (Suky cadastral area, Žďár nad Sázavou District).

The second artefact is a Keilmesser-type tool made of transparent rock crystal (Fig. 12, 13), found in autumn 2023 in a field on the south-eastern promontory of the 583.8 m elevation of Sucká hora hill. It was discovered near a field track, approximately 300 m south of the village, between the road from Ostrov nad Oslavou to Laštovičky (Suky II site).

In 2017, a fragment of a leaf-shaped point was found by Z. Hanzl at the Suky III site, near the railway line. Unaware of its archaeological value, he sold it at a mineral fair as raw material intended for jewellery making. The artefact was eventually mounted, without modification, into a piece of jewellery (Fig. 14).

Petr Šmacho, Martin Oliva

Radešín (k. ú. Radešín nad Bobrůvkou, okr. Žďár nad Sázavou)

Horka.

Paleolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.4644644N, 16.0931494E

Na mineralogické burze v Tišnově byl autorem zprávy získán koupí pravěký artefakt. Jedná se o hranu z křišťálového jádra se dvěma negativy po pravěké těžbě, ze které byl odražen jeden úštěp a jedna čepel, přičemž celý artefakt je značně eolizován.

K nálezu došlo na podzim 2023 na jižním svahu kóty 560 m Horka, okolo vrstevnice 520 m n. m., ve vzdálenosti přibližně 100 m od Pivovarského potoka. Spolu s tímto kusem, jenž nese stopy pravěkého štípání, byly nalezeny ještě dva kusy eolizovaných křišťálových zlomků z většího krystalu, avšak ty jsou jako artefakty méně přesvědčivé. Nálezce V. Krejčí st. artefakt jako archeologický materiál nerozpoznal a spolu s dalšími rozbitými kusy křišťálových krystalů jej nabízel k prodeji jako brusičskou surovinu.

Literatura

Neuvedeno.

Summary

In autumn 2023, the edge of a rock crystal core was discovered on the southern slope of the 560 m elevation of Horka (Radešín nad Bobrůvkou cadastral area, Žďár nad Sázavou District). The heavily eolised core bears two negatives from prehistoric knapping – a removed flake and a blade.

Petr Šmacho

Sklené nad Oslavou (okr. Žďár nad Sázavou)

„K Velkému“.

Střední paleolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.4526253N, 16.0525228E

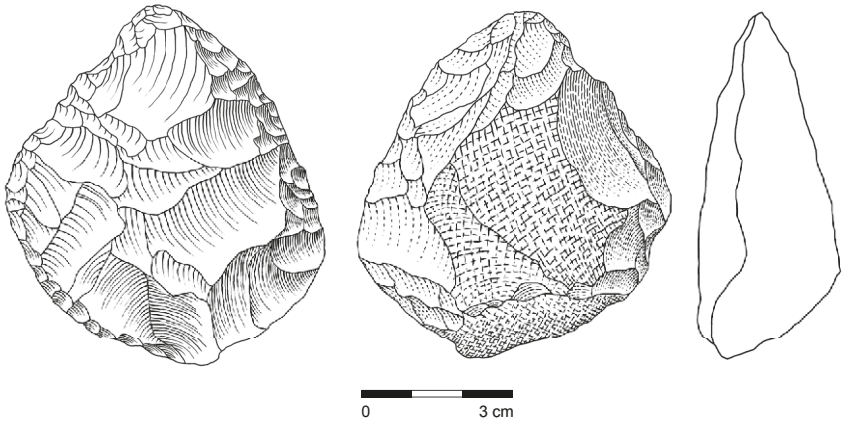
Náhodný povrchový nález z roku 2008 (obr. 15, 16), pořízený při rekognoskaci pegmatitových výskytů v okolí obce Sklené nad Oslavou, pochází z místní tratě „K Velkému“, z pole asi 70 m jihozápadně od kóty 567 m n. m.,cca 10 m nad hladinou Lesního rybníka, založeného na potoce Babačka. Geologické podloží území, kde byl artefakt nalezen, je tvořeno silně migmatizovanými biotitickými a biotit-sillimanitickými rulami centrální části stráženeckého moldanubika překrytými deluvioeluviálními až deluvio-fluviálními hlinitokamenitými sedimenty proměnlivé mocnosti, v nichž dominují navětralé různě velké úlomky podložních rul. Běžné jsou v nich i víceméně ostrohranné fragmenty tvořené neprůhledným bělavým křemenem, místy s nepatrnými přechody do bezbarvého křišťálu, pocházející nejspíše z křemenných žil, které proráží okolní metamorfované horniny. Spíše vzácněji lze nalézt krystalované odrůdy křemene (křišťál, světlá záhněda, světlý citrín) stejně jako jejich silně eolizované úlomky o velikosti obvykle do 10 cm, které vykazují jen nepatrné znaky transportu vodním tokem. Některé z nich ještě nesou i zbytky krystalových ploch. Z dosavadních výzkumů a pozorování (např. Gadas et al. 2014; Alembik et al. 2023) lze předpokládat, že světlé i tmavší průhledné a průsvitné formy křemene (křišťál, citrín i záhněda, kouřová záhněda) budou mít svůj původ v dutinách většinou drobných žil jednoduchých pegmatitů variského stáří, jejichž eluvium se v oblasti místa nálezu artefaktu rovněž běžně vyskytuje.



Obr. 15. Sklené nad Oslavou. Pěstní klín ze záhnědy. Foto T. Janků.

Fig. 15. *Sklené nad Oslavou. Small biface of smoky quartz. Photo by T. Janků.*

Nalezeným artefaktem je pěstní klínek pravidelně trojúhelníkovitého obrysu, oboustranně vyklenutý, o těchto rozměrech: délka 74 mm, šířka 66 mm, max. tloušťka 26 mm. Celá dorsální plocha je pokryta plošnou retuší s negativy po čepelovitých úštěpcích. Boční strany nesou ještě drobnější okrajovou retuši. Vrub vlevo nahoře je (jediným) recentním poškozením. Větší část ventrální plochy tvoří původní matný povrch (nikoli rovná plocha krystalu), jen na okrajích je patrné opracování hrubší retuší. Báze, sestávající ze dvou neopracovaných matných ploch, se v bokorysu sklání k dorsální ploše. Retušované plochy jsou jen mírně zmatnělé. Surovinou je nahnědlý křišťál (tj. záhněda), velmi čirý, černohnědé zabarvení je intenzivnější uprostřed dolní části.



Obr. 16. Sklené nad Oslavou. Pěstní klín. Kresba T. Janků.

Fig. 16. *Sklené nad Oslavou. Small biface. Drawing by T. Janků.*

Artefakt je typický pro střední paleolit, kde se bifaciální nástroje vyskytují především v micoquienu. Představuje dosud nejpřesvědčivější doklad tradice bifaciálních suportů, vyrobených z vysočinských křišťálů a nalezených přímo v oblasti zdrojů. Není ovšem sám, starobylých plošně retušovaných artefaktů se tu našlo už více (Valoch 2004; Vokáč 2004; Šmacho, Oliva – viz zpráva Ostrov nad Oslavou výše), Z toho lze usuzovat, že výchozy křišťálu zde navštěvovali i ti, kteří sami uměli podobné artefakty zhotovit. Na rozdíl od mladopaleolitického aurignacienu, jemuž patří vydatné naleziště s hojným výskytem křišťálu Nová Dědina I na východní Moravě, se typické středopaleolitické nástroje tedy vyráběly na místě výchozů, zatím co v aurignacienu až na zásobovaném místě. V oblasti zdrojů křišťálu lze ve středním paleolitu doložit i jeho exploataci (Oliva et al. 2024).

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Vokáč, M. 2004: Suroviny štípané industrie v pravěku jihozápadní Moravy. *Acta Musei Moraviae, Scientiae sociales* LXXXIX, 167–206.

Summary

A unique find of a small triangular biface, made of smoky rock crystal (Fig. 15, 16), was recovered from the area of rock crystal outcrops in the Bohemian-Moravian Highlands (Sklené nad Oslavou cadastral area, Žďár nad Sázavou District). This artefact indicates that such bifacial tools were produced directly at the raw material source, contrasting with the Aurignacian high scrapers with lamellar retouch, which are typical for the crystal industry production at the Nová Dědina I site in Eastern Moravia.

Petr Gadas, Martin Oliva

Soběsuky (k. ú. Milovice, okr. Kroměříž)

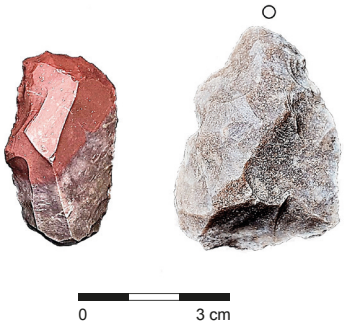
Horní Kuče, kóta 335 m n. m.; Milovice I.

Střední paleolit, aurignacien, epiaurignacien. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: 12 kusů dočasně u autora, ostatní Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.2267658N, 17.3572136E

Přibližně 400 m severně od Milovic se na návrší okolo kóty 335,4 m n. m. Horní Kuče nachází bohatá paleolitická stanice objevená v r. 1975 J. Strozerem, nebo A. Zemanem (Oliva 1987). Autor zprávy zde v letech 2017–2022 provedl cca desítku sběrů při nichž bylo z formálních nástrojů nalezeno 12 škrabadel (včetně dvou dvojitých a dvou typu Lhotka), tři odštěpovače a moustérienský hrot. Mimo výše uvedené bylo nalezeno i několik jader, většinou vytěžených až do malých zbytků a vyšší desítky kusů debitáže. V surovinovém spektru dominuje silicit glacigenních sedimentů, radiolarit je zde velmi vzácný. Mezi novými nálezy vyniká dvojité kýlovité škrabadlo z dvoubarevného radiolaritu, které je mimořádně pečlivě dokola retušované a jako celek s přihlédnutím k výraznému barevnému efektu inklinuje k užitému umění. Spolu s ním pak vyobrazujeme moustérienský hrot z rohovce typu Troubky-Zdislavice, který je nejspíše starší intruzí (obr. 17). V současnosti je lokalita již povrchovými sběry značně vyčerpaná, a nadto většina nálezové plochy byla nedávno zatravněna. Artefakty se koncentrovaly na východním a severovýchodním svahu od vrcholu kóty, nicméně sbírat štípanou industrii se zde dalo na ploše o průměru cca 200 m až k vrstevnici 328 m n. m.

Vzhledem k tomu, že se jedná v regionu o velmi nápadnou polohu, byla tato nejspíš využívána v paleolitu jako stanice opakovaně v různých časových obdobích. V dosavadních podchycených nálezech převládá na lokalitě sice aurignacien, vzácně se však vyskytují i starší intruze středopaleolitických prvků (drásadla a hroty quinson, tayac, moustérien) a poměrně hojná je zde i mladší intruze jako škrabadla typu Lhotka.



Obr. 17. Soběsuky. Dvojité škrabadlo z radiolaritu a moustérienský hrot z rohovce typu Troubky-Zdislavice. Foto P. Šmacho.

Fig. 17. *Soběsuky. A double scraper made of radiolarite, and a Mousterian point made of Troubky-Zdislavice-type chert. Photo by P. Šmacho.*

Literatura

Oliva, M. 1987: *Aurignacien na Moravě*. Studie Muzea Kroměřížska ‘87. Kroměříž: Muzeum Kroměřížska.

Summary

On the hill around the 335.4 m elevation point of Horní Kuče near Soběsuky (Milovice cadastral area, Kroměříž District), a new assemblage of formal tools was recovered, comprising 12 scrapers (including two double scrapers and two of the Lhotka type), three hammer tools, and a Mousterian point. In addition to these, several cores and several dozen pieces of debitage were found at the site. The raw material spectrum is dominated by flint, with radiolarite being very rare. Particularly noteworthy is a double scraper made of two-coloured radiolarite, and a Mousterian point made of the Troubky-Zdislavice-type chert, the latter likely representing an older intrusion (Fig. 17). The site has been heavily depleted by surface collections, and much of the investigated area has recently been grassed over. The finds were concentrated on the eastern and north-eastern slopes of the hilltop, but the chipped stone artefacts were recovered across an area roughly 200 m in diameter, extending down to the 328 m contour line.

Petr Šmacho

Tvarožná (okr. Brno-venkov)

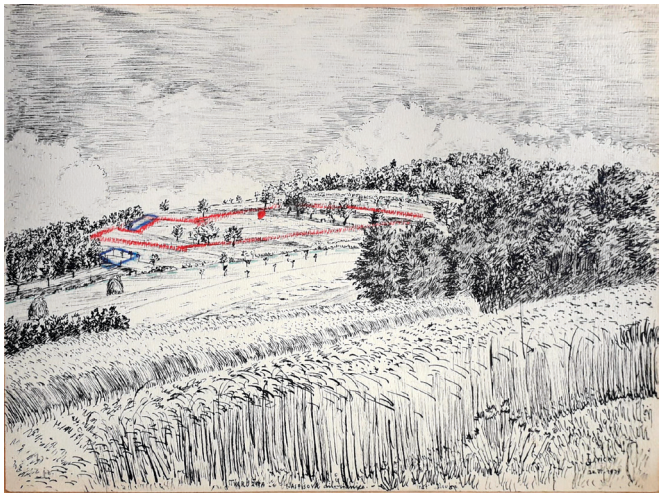
„Na Dlouhých“, „Nad Roketnicí“; Tvarožná I.

Aurignacien. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: 26 kusů dočasně u autorů, ostatní Moravské zemské muzeum – Ústav Anthropos.

Lokalizace: WGS-84: 49.2086347N, 16.7626892E

Přibližně 2,2 km severo- severozápadně od kostela sv. Mikuláše v Tvarožné, 250 m západně od kóty Na Krátkých (351,9 m n. m.), na mírném západním svahu se v klínu lesa v polní trati „Na Dlouhých“ nachází nejbohatší lokalita aurignacienu na Moravě. Do literatury ji jako první uvedl J. Skutil (1949), který jako jejího objevitele v roce 1936 uvádí J. Lavického, avšak o čtyřicet let později K. Valoch připsal zásluhy o tento mimořádný objev velatickému sedlákovi T. Ondráčkovi (Valoch 1976). Josef Lavický podle svého deníku (Lavický 1935–1943) provedl v letech 1936–1940 na tehdy nesceleném poli 35 sběrů, při nichž našel 2 215 artefaktů. V roce 1939 lokalitu zachytil na perokresbě, a přitom vyznačil barevně (červená paleolit, modrá neolit) nálezové plochy (obr. 18), k nimž dále uvádí, že nálezový klastr ve tvaru písmene L sestává ze dvou koncentrací paleolitické kamenné štípané industrie, v nichž na jedné převládají radiolarity a na druhé naopak bíle patinované kameny. Na lokalitě se též ve dvou malých koncentracích nachází neolitická kamenná industrie. Na jeho obrázku je jako červený bod vyznačen slabý vývěr asi artéské vody, který byl důvodem, proč se pravěcí lidé usadili právě zde, v této pro aurignacien netypické poloze na plošince ve svahu, kde by spíše bylo možno z hlediska sídelních strategií očekávat osídlení raně epigravettské, jako je tomu na nedalekém Vyškovsku a v okolí Zdounek. Podle Lavického poznámek měla nálezová plocha rozlohu 200 × 150 m a rozkládala se na třinácti pruzích úzkých políček a hruškových sadů. Přibližně ze stejného místa, z něhož Lavický zdokumentoval lokalitu perokresbou, pořídila E. Šmachová fotku, ze které lze porovnat stav lokality o 85 let později (obr. 19).

Lze se důvodně domnívat, že největší množství kamenné štípané industrie se zde našlo až v polovině šedesátých let krátce po scelování polí a vytrhávání pařezů při rušení sadů. V roce 1976 uvádí K. Valoch z lokality již 10 015 artefaktů a z toho 1 683 formálních nástrojů. V roce 2010 podle O. Mlejnka počet



Obr. 18. Tvarožná. Jaspisová diluviální stanice. Perokresba J. Lavický z roku 1939 s vyznačením nálezových klastrů. Kresba J. Lavický.

Fig. 18. *Tvarožná. Diluvial jasper site. Pen-and-ink drawing by J. Lavický from 1939, showing the find clusters. Drawing by J. Lavický.*

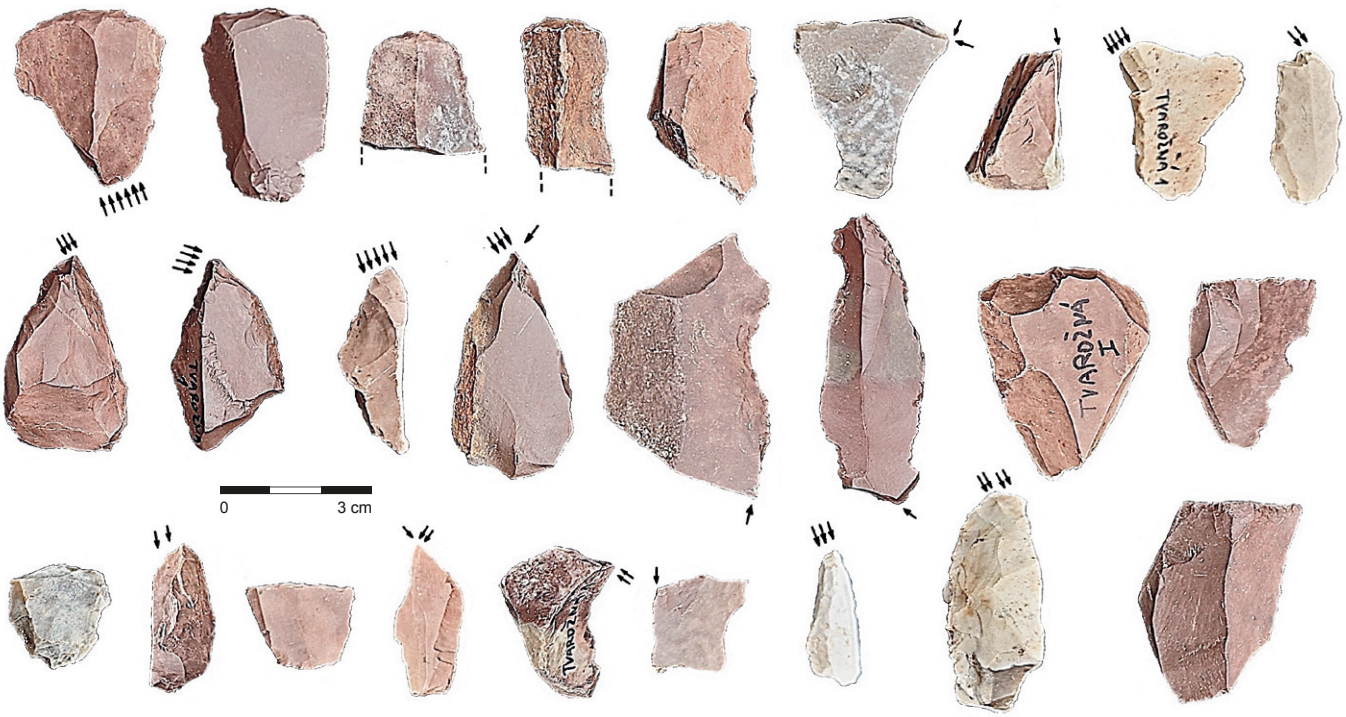


Obr. 19. Tvarožná. Foto lokality z roku 2024 – srovnávací pohled po 85 letech z místa Lavického perokresby. Foto E. Šmachová.

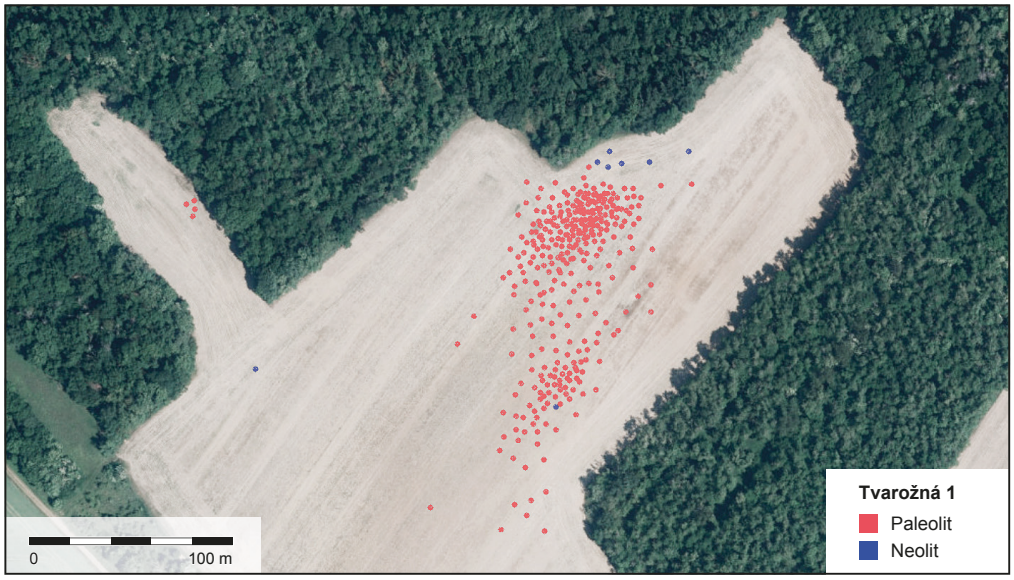
Fig. 19. *Tvarožná. Photo of the site taken in 2024 – a comparative view 85 years after Lavický's drawing. Photo by E. Šmachová.*

podchycených formálních nástrojů, které tak mohly být i statisticky vyhodnoceny, dosahoval počtu 2 351 kusů. Martin Oliva uvádí, že většina nálezového fondu v Moravském zemském muzeu – Ústav Anthropos, ve kterém z 80 % převažuje radiolarit, se našla na velmi malé ploše cca 15 × 20 m u nevysychající mokřiny, a podle K. Valocha bylo možné najít ojedinělé nálezy prakticky na celé ploše pole o rozměru 200 × 300 m.

Z nižších stovek kusů kamenné štípané industrie nalezených na lokalitě autory zprávy během cca 20 sběrů vyobrazujeme pouze vybrané, dosud nepublikované, formálně klasifikovatelné nástroje a tři jádra (obr. 20). Zvláštní pozornost zaslouží kombinace škrabadla–rydla, které je provedeno s mimořádnou a až zarážející pečlivostí, kdy nabýváme dojmu, že estetická forma zde zvítězila nad praktickou funkcí. Celkově je naše kolekce z více než z 90 % tvořená drobným výrobním odpadem a různými zlomky, obsahuje však i cca čtyři desítky formálních nástrojů s výraznou převahou rydel, půl tuctu jader v různých stádiích těžby, typologicky však nijak nevybočuje z již dříve publikovaných nevýběrových kolekcí jiných sběratelů zpracovaných M. Olivou (1987; 2023) a O. Mlejnkem (2010). I když kolekce objevená autory zprávy je jen malou výsečí v rámci dosud nalezeného sbírkového fondu, je vhodné na tomto místě dodat jeden z hlediska prostorového členění překvapivý postřeh spočívající v tom, že není i při relativně malém počtu námi nalezených kusů statisticky bezvýznamné, že z menší jihozápadní koncentrace (ve které podle Lavického převažovaly bíle patinované kameny) pocházela všechna námi nalezená škrabadla (8 ks) včetně kombinací škrabadlo–rydlo (2 ks) a škrabadlo–vrub (1 ks). Proti tomu výše ve svahu, kde sice co do počtu kusů i formálních nástrojů bylo nalezeno artefaktů nejvíce, nebylo námi nalezeno ani jediné škrabadlo, zato se zde nacházelo až nápadně mnoho rydel, která naopak v druhé koncentraci níže na svahu nebyla tak výrazně zastoupena. V současnosti je lokalita již prakticky vyčerpaná, a přestože jsme ji už nezachytili v dobách její největší slávy, tak jsme se pokusili zaznamenat to málo, co zbylo po předchozích čtyřech generacích sběratelů, alespoň zákresem nálezových klastrů do ortofotomapy (obr. 21). Lavického pozorování o nápadné převaze bíle patinovaných kamenů nad radiolarity ve spodní části lokality můžeme v zásadě potvrdit, a to přesto, že tyto barvou nápadnější kusy byly nejspíš vysbírávány v minulosti přednostně, neboť jsou pro sběratele lépe viditelné než radiolarit. Dnes zde již obvykle nedominují (s výjimkou dvou našich sběrů), přesto však je jejich zastoupení na tomto místě mnohem výraznější než v horní poloze u nevysychající mokřiny, kde z 95 % v našich sběrech dominoval radiolarit.



Obr. 20. Tvarožná. Výběr artefaktů. Foto P. Šmacho.
Fig. 20. *Tvarožná. Selection of artefacts. Photo by P. Šmacho.*



Obr. 21. Tvarožná. Polohy nálezů v ortofotomapě. Autor P. Šmacho.
Fig. 21. *Tvarožná. Location of finds on the orthophoto map. Author P. Šmacho.*

Literatura

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Oliva, M. 2023: Tvarožná. *Přehled výzkumů* 64(1), 165–166.

Skutil, J. 1949: Tvarožná u Brna, paleolitická stanice s radiolaritovou industrií. *Vlastivědný věstník moravský* 4, 195–198.

Valoch, K. 1976: Das entwickelte Aurignacian von Tvarožná bei Brno. *Časopis Moravského musea v Brně, vědy společenské* LXI, 7–30.

Summary

At the well-known Aurignacian site of Tvarožná I (Tvarožná cadastral area, Brno-Country District; Fig. 18, 19), several hundred lithic artefacts were recovered over a period of ten years, including around 40 formal tools (Fig. 20). The find clusters were plotted onto an orthophoto (Fig. 21) and compared with historical records from J. Lavický's archaeological diary (Fig. 18).

Petr Šmacho, Eliška Šmachová

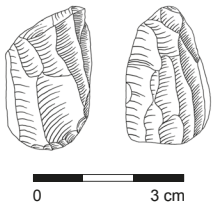
Vídeň (okr. Žďár nad Sázavou)

Obecník.

Pozdní fáze mladého paleolitu. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.4039619N, 16.0296811E

Na hrázi rybníka Obecník v nadmořské výšce asi 544 m vyzdvihl L. Jurek jádro, z něhož byly ve dvou různých směrech odráženy čepelky – jde tedy o čepelkové jádro se změněnou orientací redukce. Vyrobené je z čirého křišťálu a nejeví žádné stopy alterace povrchu. Úzké pravidelné negativy svědčí o perfektním zvládnutí odbíjení čepelek, s jakým jsme se v oblasti zdrojů křišťálu na Českomoravské vrchovině dosud nesetkali. Podobně vyspělá technika redukce křišťálové suroviny je doložena pouze na stanici aurignacienu Nová Dědina I na východní Moravě, vždy však jde o kýlovitá škrabadla či jednopodstavová jadérka (Oliva 1987, obr. 32:1–13). Ta naopak chybějí v oblasti zdrojů křišťálů na Českomoravské vrchovině, zatímco bifaciálně opracované artefakty, typické pro střední paleolit, se tu vyskytují opakovaně (Oliva et al. 2024, 103–104). Artefakt lze zařadit do vyspělé fáze mladého paleolitu, nebo dokonce do doby pozdější, čemuž by nasvědčoval nález příčně retušovaného úštěpku z nepatinovaného šedohnědého rohovce jižně od rybníka. Souvislost obou nálezů však není jistá.



Obr. 22. Vídeň. Čepelové jádro z křišťálu. Kresba T. Janků.

Fig. 22. *Vídeň. A crystal core for blades. Drawing by T. Janků.*

Literatura

Oliva, M. 1987: *Aurignacien na Moravě.* Studie Muzea Kroměřížska '87. Kroměříž: Muzeum Kroměřížska.

Oliva, M., Šmacho, P., Hanzl, Z. 2024: Středopaleolitická exploatace křišťálu u Mirošova na Českomoravské vrchovině. *Acta Musei Moraviae, Scientiae sociales* CIX(2), 95–109.

Summary

A core for blade production made of rock crystal, showing a change in orientation during reduction (Fig. 22), was found on the dam of the Obecník pond in the cadastral area of the village of Vídeň (Žďár nad Sázavou District).

Lukáš Jurek, Martin Oliva

Výrovice (okr. Znojmo)

„U Radatínky".

Mladý paleolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 48.9199597N, 16.1189778E

Na podzim roku 2024 se podařilo při jednorázovém povrchovém průzkumu u jižního okraje katastru obce Výrovice, v poloze „U Radatínky", objevit ojedinělý štípaný artefakt. Jedná se o bilaterálně, z ventrální strany retušovaný, semikortikální úštěp s výraznou plochou patkou. Artefakt je zhotovený z rohovce typu Krumlovský les, variety I a pokrývá jej lehce prosvítající bílá patina. Vzhledem k tomu, že nejde o typologicky specifický artefakt, může být datován pouze obecně do mladého paleolitu. Nelze vyloučit, že v budoucnu zde může být identifikována nová paleolitická lokalita – nález byl objeven na příhodném místě s dobrým výhledem do krajiny, respektive v nejvyšším bodě ostrožny protáhlé směrem k severovýchodu a situované nad hluboce zařízntým údolím řeky Jevišovky, v nadmořské výšce okolo 274 m. Prozatím ojedinělý artefakt rozšířil dosavadní stopy po paleolitickém osídlení v této oblasti. Nejbližší mladopaleolitická lokalita se nachází cca 800 m jihozápadně v trati „U Lesa", po pravé straně silnice z Únanova do Tvořihráze, a další ojedinělý patinovaný artefakt je uváděn i přímo z katastru Výrovic, v nedaleké poloze „Kopec" (Kovárník 1993, 105, 123).

Literatura

Kovárník, J. 1993: Další archeologické nálezy ze Znojemska a Třebíčska. *Přehled výzkumů* 1990, 115–126.

Summary

An isolated patinated flake made of Krumlovský les-type chert was discovered in the 'U Radatínky' field, on the southern edge of the Výrovice cadastral area (Znojmo District). The artefact can broadly be dated to the Upper Paleolithic period.

Jaroslav Bartík, Jaromír Kovárník, David Cibulka

Zdounky (k. ú. Cvrčovice u Zdounek, okr. Kroměříž)

„Háje".

Aurignacien. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: Moravské zemské muzeum.

Lokalizace: WGS-84: 49.218358N, 17.3494614E

Z jediného sběru (druhý byl neúspěšný) pochází tableta (odražená úderová plocha jádra) z pazourku, přepálená silicitová čepelka se stopami opotřebení, tlustý úštěpek z přepáleného silicitu, nekortikální úštěp z bíle patinovaného silicitu a pazourkový úštěpek.

Soubor pochází z bohaté sídelní oikumeny aurignacienu (Oliva 1987, 2022), i když o příslušnosti k tomuto technokomplexu nic přímo nesvědčí (ale ani neodporuje).

Literatura

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Summary

Several artefacts, mostly made of flint and likely associated with the rich Aurignacian occupation of the area, were recovered in Zdounky, on the slope between Cvrčovice and Milovice (Cvrčovice u Zdounek cadastral area, Kroměříž District).

Martin Oliva, Petr Šmacho

Neolit
Neolithic

Boleradice (okr. Břeclav)
„Vorlíčky“, parc. č. 3725/2.
Lengyelská kultura. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o.

Lokalizace: S-JTSK: -586279, -1187551; -586334, -1187629; -586337, -1187681; -586241, -1187675

Záchranný archeologický výzkum byl vyvolán stavbou základní technické vybavenosti pro následnou stavbu rodinných domů, tedy inženýrskými sítěmi a komunikací. Vlastní výzkum probíhal v souběhu s vlastní stavbou, a sice od září do prosince 2024.

Stavba se nacházela na mírném svahu orientovaném na severovýchod, a především na jeho spočinku, odkud se otevírá široký pohled nad údolí říčky Haraska. Lokalita je známá z leteckých snímků, na kterých je možné rozeznat několikanásobné kruhové porostové příznaky. V létě roku 2009 zde provedl sondáž J. Unger a na řezu struktury se mu podařilo zachytit dvojitý kruhový příkop, který interpretoval jako rondeloid z doby bronzové (Unger 2009). Jeho dataci však lze vzhledem k nízkému množství získaného materiálu považovat za problematickou.

Stavební zábor do prostoru kruhového areálu nezasahoval, nacházel se však v jeho těsné blízkosti. Geologické podloží lokality je tvořeno sprašemi, které jsou uloženy relativně mělko pod povrchem (do cca 40 cm). Ve středu stavby se však nachází cca 1 m mocná terénní deprese/rýha vyplněná svahovými sedimenty. Přibližně 1 m pod vrstvami spraše je možné rozeznat pohřbenou půdu ze starších fází pleistocénu. Je však bez archeologických nálezů. Nadmořská výška se zde pohybuje od 225 do 240 m.



Obr. 1. Boleradice. Objekt lengyelské kultury č. 514. Foto R. Bíško.
Fig. 1. *Boleradice. Feature No. 514 of the Lengyel culture. Photo by R. Bíško.*

V průběhu zemních prací se podařilo zachytit několik desítek archeologických objektů. Na základě získaného materiálu je můžeme datovat do období lengyelské kultury a dále do doby halštatské a laténské (viz oddíl Doba železná).

Období lengyelské kultury bylo na lokalitě zastoupeno především stavebními a sídlištními jámami (obr. 1) obsahujícími četný především keramický inventář (také fragmenty bíle malované keramiky), méně potom kostí a štípané kamenné industrie. Lokalizováno bylo také několik žlabovitých objektů o rozměrech cca 2 × 0,5 m a hloubce 1 m, ovšem téměř bez datovacího materiálu. Vyšší struktury, případně jejich orientaci, se nepodařilo identifikovat. Částečně odkrytému půdorysu dlouhého domu by mohlo náležet 10 kůlových jam situovaných v jedné řadě.

Během výzkumu se podařilo zdokumentovat část polykulturní lokality s osídlením zastoupeným několika pravěkými obdobími, což dokládá oblíbenost místa. Strategičnost lokality zřejmě spočívala i ve velmi dobrém výhledu do okolí. V současné době se však na místě nenachází vodní zdroj, a celý prostor je navíc značně ovlivněn svahovou erozí.

Literatura
Unger, J. 2009: *Boleradice 2009.* Rkp. nálezové zprávy č. j. 32/10. Uloženo: Archiv nálezových zpráv, Ústav archeologické památkové péče, v. v. i. DOI: 10.60585/M-TX-202300220. Dostupné také z: https://doi.org/10.60585/M-TX-202300220.

Summary
Part of a multi-period settlement at the site known as ‘Vorlíčky’, including several features dating to the Lengyel culture period (Fig. 1), was uncovered during a rescue archaeological excavation on the south-western edge of the built-up area of Boleradice (Břeclav District).

Richard Bíško

Bošovice (okr. Vyškov)
„Příděl u háječka“, „Novosady“.
Lengyelská kultura. Sídliště, příkopové ohrazení. Geofyzikální průzkum. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.0512936N, 16.8521072E

Již od roku 2020 probíhá systematický výzkum lengyelského osídlení v prostoru Ždánického lesa a jeho blízkého okolí, v rámci kterého se zde podařilo prokázat dříve neznámý fenomén budování ohrazených areálů zpravidla nepravidelně oválného tvaru. Těchto, příkopy a valy vymezených areálů, registrujeme aktuálně

šest, přičemž z prostorového hlediska se váží především do střední a východní část Ždánického lesa (cf. Čižmář et al. 2021; Urban, Bartík 2022; Bartík, Urban 2023a; 2023b; Bartík et al. 2023). V roce 2024 se podařilo prokázat existenci dalšího ohrazení, tentokrát však na západním okraji zájmové oblasti, u jižního okraje katastru obce Bošovice, v poloze „Příděl u háječka“. Ohrazení bylo identifikováno díky porostovým příznakům na ortosnímcích zemského povrchu (obr. 2) a následně zkoumáno povrchovými sběry a geofyzikálním měřením. Lokalita se rozprostírá na mírném svahu uklánějícím se k jihu až jihozápadu od kóty „Novosady“ (350,3 m) s nadmořskou výškou oscilující od 325 do 352 m n. m. Geologické podloží je tvořeno převážně spraší. Ohrazení má nepravidelně oválný tvar o rozměrech 300 × 200 m a sestává z dvojice příkopů, které probíhají paralelně vedle sebe ve vzdálenosti 6–8 m. Geofyzikální prospekcí se navíc podařilo prokázat i existenci cca 0,8 až 1 m širokého palisádového žlabu, který není patrný na leteckých snímcích, a jenž obíhá vnější příkop téměř po celém obvodu ve vzdálenosti 5–6 m od jeho vnější hrany. Ohrazení je přerušeno několika vstupy s bránami v podobě vně vytažených nebo do tvaru písmene „L“ zahnutých antů. Uvnitř ohrazení se nachází stovky zahloubených objektů, navíc s náznaky urbanistického uspořádání zástavby. Další, avšak ne již tak husté, koncentrace potenciálních objektů se nacházejí i mimo prostor ohrazení, a to do všech světových stran. Za zmínku stojí především výskyt charakteristických rozměrných hliníků, z nichž některé jsou prstencovitě rozmístěny okolo ohrazeného areálu, a další skupina se nachází zejména severovýchodně od něj. Dosavadními povrchovými průzkumy byla získána menší kolekce archeologického materiálu obsahujícího kromě několika atypických střepů především štípanou kamennou industrii, zhotovenou primárně z rohovce typu Krumlovský les, variety II a tři kusy broušené industrie (dva úštěpy a polotovar sekerky) z metabazitu typu Želešice. Uvedené nálezy korespondují s předpokládaným datováním osídlení do mladší až pozdní fáze mladého neolitu. Reálné stáří fortifikace odhalí až řádný sondážní výzkum. Ohrazený areál je pravděpodobně součástí mnohahektarového sídliště, jehož celkový rozsah a struktura budou předmětem dalšího výzkumu. Je vysoce pravděpodobné, že s tímto sídlištěm souvisejí (a mohou tvořit jeho jižní okraj) nepočetné nálezy lengyelské kultury, které byly v minulosti získány povrchovými sběry přibližně 350 m jihozápadně od jižního okraje ohrazení (cf. Kuča, Škrdla 2011).

Literatura

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Čižmář, I., Hajnalová, M., Martínek, J., Parma, D., Popelka, M., Urban, E. 2021: Nová pravěká ohrazení na Vyškovsku. Výsledky využití digitálních výškopisných modelů a terénní prospekce v roce 2020. *Pravěk. Nová řada* 29, 193–208.

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Summary

In 2024, a Lengyel enclosed site was discovered on the western edge of the Ždánický les, near the southern boundary of the Bošovice cadastral area, in the ‘Příděl u háječka’ field (Vyškov District). The enclosure was identified through cropmarks visible on orthoimages of the Earth’s surface (Fig. 2) and was subsequently investigated using surface and geophysical survey. The enclosure has an irregularly oval shape measuring 300 × 200 m and consists of two parallel ditches situated 6–8 m apart. A geophysical survey also confirmed the existence of a palisade trench, which runs around the outer ditch, 5–6 m from its outer edge for almost the entire perimeter. The enclosure is interrupted by several entrances. It forms part of a multi-hectare settlement, which will be the subject of further research.

Jaroslav Bartík, David Cibulka, Eliáš Urban



Obr. 2. Bošovice. Porostové příznaky ohrazení. Podkladová mapa: mapy. cz; autor J. Bartík, D. Cibulka.

Fig. 2. *Bošovice. Cropmarks of the enclosure. Base map: mapy.cz; author J. Bartík, D. Cibulka.*

Brno (k. ú. Kníničky, okr. Brno-město)

Ul. K Bukovinám, ul. U Památníku.

Lengyelská kultura. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2354428N, 16.5268242E

V průběhu záchranného archeologického výzkumu uskutečněného na katastrálním území Kníničky (okr. Brno-město) byly při realizaci projektu „Kníničky. REKO MS Brno – K Bukovinám + 1" objeveny čtyři sídlištní objekty v ulici K Bukovinám a jeden sídlištní objekt v ulici U Památníku. Všechny zahloubené objekty byly zjištěny v přípojkách k jednotlivým rodinným domům. Zdá se tedy, že sídliště pokračuje na mírné návrší severozápadním směrem. Nově objevené objekty představují pozůstatky dosud neevidované lokality lengyelského stáří (případně jeden objekt můžeme zařadit do období jordanovské kultury).

Literatura

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Summary

A total of five sunken features of the Lengyel culture were identified during a rescue archaeological excavation prompted by the construction of utility networks for family houses in the cadastral area of Kníničky (Brno-City District), in K Bukovinám and U Památníku streets.

Andrea Matějíčková

Brno (k. ú. Maloměřice, okr. Brno-město)

Ul. Obřanská č. p. 63600, parc. č. 644/1.

Kultura vypíchané keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2257378N, 16.6462936E

V průběhu skrývky předcházející výstavbě nového Centra obchodu a služeb v Brně-Maloměřicích byl v blízkosti areálu tepláren na Obřanské ulici objeven jeden sídlištní objekt, který lze na základě získaného keramického materiálu přiřadit patrně kultuře s vypíchanou keramikou.

Literatura

Neuvedeno.

Summary

During topsoil stripping conducted before the construction of a new Commercial Centre in Brno (Maloměřice cadastral area, Brno-City District), a single settlement feature was discovered near the heating plant complex in Obřanská Street. Based on the recovered pottery, it can most likely be attributed to the Stroke-Ornamented Ware culture.

Jiří Zubalík

Brno (k. ú. Ponava, okr. Brno-město)

Ul. Štefánikova č. p. 32.

Zemědělský pravěk. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: S-JTSK: -598353.3, -1158941.5

Během stavební akce v průběhu měsíců března až června 2024 vyvolané opravou havarijního stavu kanalizace a zrušení vodovodních přípojek, došlo na ulici Štefánikova v Brně-Ponavě v průjezdu do vnitrobloku domu č. p. 32 ke zjištění sídlištní jámy pravděpodobně pravěkého stáří.

Literatura

Matějíčková, A. 2024: *Brno-Ponava, ul. Štefánikova 32*. Rkp. nálezové zprávy č. j. 502/24. Uloženo: Archiv nálezových zpráv, Ústav archeologické památkové péče, v. v. i. DOI: 10.60585/M-TX-202500076. Dostupné také z: https://doi.org/10.60585/M-TX-202500076.

Summary

A settlement pit, presumably of prehistoric origin, was discovered in the courtyard entry at 32 Štefánikova Street in Brno (Ponava cadastral area, Brno-City District) during construction work carried out between March and June 2024, which was prompted by emergency sewer repairs and the removal of water connection.

Andrea Matějíčková

Brno (k. ú. Veveří, okr. Brno-město)

Brno-střed; Ul. Dřevařská, parc. č. 1673/1.

Zemědělský pravěk. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2095139N, 16.6028608E

V roce 2024 došlo v Dřevařské ulici v městské části Brno-střed k rekonstrukci vodovodu, během které byla objevena dosud neznámá pravěká lokalita. Výkopem v blízkosti křižovatky s ulicí Štefánikovou byly porušeny tři zahloubené archeologické objekty, které lze dle nepočetného keramického materiálu datovat obecně do období zemědělského pravěku (od mladší doby kamenné do starší doby železné).

Literatura

Neuvedeno.

Summary

In 2024, during water supply reconstruction in Dřevařská Street in Brno (Brno-City District), a previously unknown prehistoric site was discovered. Excavation near the junction with Štefánikova Street disturbed three sunken archaeological features which, based on a small amount of ceramic material, can be broadly dated to the prehistoric farming period (from the Neolithic to the Early Iron Age).

Jiří Zubalík

Bulhary (okr. Břeclav)

„Au Äcker“, parc. č. 910/4.

Kultura lineární keramiky, želiezovská skupina, kultura vypíchané keramiky. Příkopové ohrazení, sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., př. č. 57/2024.

Lokalizace: S-JTSK: -591898, -1202526

Přítomnost neolitického osídlení v trati „Au Äcker“ je známa již z konce 70. let 20. století (Dočkal 1980), později v této poloze prováděli sondážní výzkum J. Peška a I. Rakovský (1990). Na jaře roku 2024 provedlo Regionální muzeum v Mikulově, p. o., záchranný archeologický výzkum v rámci připravované stavby nové vozovky a inženýrských sítí pro další výstavbu rodinných domů. Lokalita se nachází na jihovýchodním okraji intravilánu Bulhar na vysoké pravobřežní terase řeky Dyje. Podloží je zde tvořeno sprašemi, místy promísenými s písky. Během záchranného výzkumu zde bylo objeveno celkem 27 zahloubených objektů a 26 kůlových jamek z neolitu, eneolitu, starší doby bronzové a laténu včetně možných hrobových jam z konce 2. světové války.

Do období kultury s lineární keramikou byly datovány čtyři objekty, které obsahovaly charakteristický materiál reprezentovaný notovou výzdobou s ojedinělým výskytem želiezovského motivu, v jednom případě byla na drobném fragmentu zjištěna hřebenová výzdoba, která by mohla být spojená s bukovohorskou keramikou. S lineární keramikou jsou spojeny i nálezy mazanice, zvířecích kostí, malého množství štípané a ostatní kamenné industrie.

Významnou komponentu zde tvoří následné osídlení s vypíchanou keramikou staršího stupně, ze kterého bylo objeveno pět zahloubených struktur, včetně hrotitého příkopu (obr. 3), který byl součástí ohrazeného areálu. Dva objekty obsahovaly velké množství nálezů, přičemž obj. 516 charakterizuje vysoká koncentrace běžného odpadu s výrazně fragmentární keramikou a zvířecími kostmi. Nálezy v obj. 513 byly méně fragmentární a byly zde objeveny početné pozůstatky dílenského odpadu na výrobu šperků z ulit zubovce dunajského a ojediněle i jiných druhů plžů. Ve hrotitém příkopu o max. hloubce 260 cm od úrovně ornice, bylo nalezeno menší množství odpadu, ovšem díky nálezům kostí v celém průběhu stratigrafie bude možné stáří ověřit díky radiokarbonovému datování, dále byly odebrány i vzorky na OSL datování. Na sousedních parcelách východně od výzkumné plochy bylo v červenci provedeno geofyzikální měření, které prokázalo přítomnost průběžného příkopového ohrazení.

V objektech s vypíchanou keramikou bylo nalezeno velké množství zvířecích kostí a štípané kamenné industrie, v jejímž surovinovém spektru dominoval rohovec typu Krumlovský les, varieta II. Dále odtud pochází fragmentární broušená i ostatní kamenná industrie a menší množství mazanice a kostěné industrie. Ojedinělý je nález koprolitu masožravého zvířete. Další fáze výzkumu by měla následovat v roce 2025.

Literatura

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Summary

In spring 2024, the Regional Museum in Mikulov carried out a rescue excavation ahead of construction work for a new road and housing development. The site, situated on the southeastern edge of Bulhary (Břeclav District), revealed 27 sunken features and 26 postholes dating to the Neolithic, Eneolithic, Early Bronze Age, and La Tène periods. In four Linear Pottery culture features, ceramics were found bearing music-note decoration, and more rarely, motifs associated with the Želiezovce and Bükk styles. The Stroke-ornamented ware culture pottery was discovered alongside numerous finds of chipped stone industry, animal bones, and workshop waste from the production of jewellery, primarily made from Theodoxus danubialis bones. A significant find was a V-shaped ditch (Fig. 3) containing pottery of the Stroke-ornamented Ware culture, which formed part of an enclosed settlement.

Kristína Piačková, František Trampota



Obr. 3. Bulhary. Profil neolitického hrotitého příkopu. Foto F. Trampota.
Fig. 3. *Bulhary. Profile of a Neolithic V-shaped ditch. Photo by F. Trampota.*

Bystřice pod Hostýnem (okr. Kroměříž)

Ul. Holešovská, parc. č. 459/42 a 459/58.

Neolit. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o., inv. č. AU544–AU546.

Lokalizace: WGS-84: 17.66059E, 49.39490N

Při zemních pracích souvisejících s pokládkou kabelového vedení do zemní rýhy (přeložka vedení vysokého napětí) byly v listopadu 2024 na parcelách č. 459/42 a 459/58 registrovány dva zahloubené archeologické objekty, které byly v rámci záchranného archeologického výzkumu zdokumentovány, ovzorkovány a zaměřeny. Po funkční stránce se jednalo o rozsáhlejší, nejspíše exploatační objekt a sídlištní (snad zásobní) jámu. Situace jsou datovány ojedinělým materiálem získaným vzorkováním výplně jednoho z objektů do neolitu (pravděpodobně do kultury s lineární keramikou). Prozkoumané objekty indikují přítomnost neolitické osady ležící jihozápadně od města Bystřice pod Hostýnem, v místě původního průmyslového areálu (zrušené Impregny). Mohou souviset s osídlením uváděným ve Státním archeologickém seznamu (SAS) v prostoru cca 200 m severně vzdálené čerpací stanice, odkud jsou vzpomínány nálezy sběrového charakteru už z devadesátých let minulého století. Podle

zápisu se zde J. Kohoutkovi z Ústavu archeologické památkové péče Brno, v. v. i., podařilo při sledování výkopu doložit existenci pravěké osady z období mladší/pozdní doby kamenné. V odkazu na literaturu (Kohoutek 1994, 261–273) ani v katalogu výzkumů provedených stejným pracovištěm (Čižmář et al. eds. 2000) se však tuto informaci nepodařilo verifikovat.

Literatura

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SAS: Čerpací stanice – Území s archeologickými nálezy. Bystřice pod Hostýnem. In: *Národní památkový ústav. Státní archeologický seznam ČR* [online]. © 2025. [cit. 2025-06-10]. ID SAS 27958. Dostupné z: https://isad.npu.cz/cerpaci-stanice-27958.

Summary

Two archaeological features broadly dated to the Neolithic period (most likely to the Linear Pottery culture) were investigated during the high-voltage cable installation in Holešovská Street (Bystřice pod Hostýnem cadastral area, Kroměříž District).

Miroslav Popelka

.....

Černá Hora (okr. Blansko)

Selkov; Ul. Pod Kaštany, parc. č. 1292/15.

Mladší neolit. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Muzeum Blanenska, p. o.

Lokalizace: WGS-84: 49.4148383, 16.5644117

Při výkopu pro kabel nízkého napětí vedoucí přes známou archeologickou lokalitu Selkov, ležící zhruba 1 km západně od centra Černé Hory nad potokem Býkovkou, byl 31. 10. 2024 na parcele č. 1292/15 v ohybu výkopu zjištěn jediný tmavě zbarvený objekt 501 mísovitě zahloubený do sprašového podloží, který však neobsahoval žádné archeologické nálezy, pouze ojedinělé drobky mazanice a uhlíky. Objekt byl zhruba 1,7 m široky a hluboký 0,3 m. Vzhledem k jeho blízkosti s nedávno zkoumaným mladoneolitickým objektem 501 na sousední parcele (viz Novák 2023), lze předpokládat, že objekt bude součástí stejného sídlištního areálu kultury s moravskou malovanou keramikou, který byl v této lokalitě v minulosti již několikrát doložen příležitostnými výzkumy a sběry (Štrof 1985, 93; Lečbych 2010; 2011; Přichystal 2012; Bartík 2020, 83).

Literatura

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Summary

A settlement feature, most likely dating to the Late Neolithic period, was investigated during the installation of a low-voltage cable on plot No. 1292/15 in Černá Hora (Blansko District). The location is known as the Selkov site, and the feature is probably associated with the nearby Lengyel culture settlement (cf. Štrof 1985, 93; Lečbych 2010; 2011; Přichystal 2012; Bartík 2020, 83).

Marek Novák

.....

Dešná (k. ú. Hluboká, okr. Jindřichův Hradec)

„Mühlfeld“, „U Remízku“, parc. č. 1022–1030.

Lengyelská kultura. Sídliště. Dílenský areál. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i..

Lokalizace: WGS-84: 48.9228792N, 15.5093492E

V rámci systematických povrchových prospekcí zaměřených na poznání neolitického osídlení v regionu meziříčí Želetavky a Moravské Dyje na západní Moravě se podařilo objevit několik desítek nových, doposud neznámých sídlišť lengyelské kultury. Již na několika z nich pak byla identifikována existence sekundárních dílen na produkci broušené kamenné industrie, které zpracovávaly lokální porfyrické mikrodiority (Bartík et al. 2024). Prozatím největší množství dat a nálezů pochází ze sídlištně-dílenského areálu identifikovaného v původní trati „Mühlfeld“ (dnes „U Remízku“), na katastru Hluboká (část obce Dešná), nedaleko od státní hranice s Rakouskem. Lokalita se rozprostírá v centrální a severní části nad okolním terénem mírně vyvýšeného plató, s vrcholovou kótou 500,9 m, bez přímé vazby na vodní tok. V okruhu několika set metrů od lokality se však na české i rakouské straně hranice nachází několik pramenišť. Geologické podloží je zde tvořeno rekrystalizovanými granulity moldanubika, a částečně deluvioeolickými sedimenty a sprašovými hlínami. Podle údajů na některých geologických mapách zde má vystupovat také žíla „monzonitischer Porphyrit“ (Thiele et al. 1987, N. 17) či mikromonzodioritu orientovaná ve směru SV–JZ (Jenček et al. 1991, 26). Ve skutečnosti byl ovšem geologickým mapováním vyznačen rozptyl archeologických artefaktů, tedy úštěpů porfyrického mikrodioritu, které byly na lokalitu doneseny pravěkým člověkem (viz níže).

Díky zaměřování polohy každého nalezeného artefaktu jsme byli schopni blíže sledovat prostorovou distribuci jednotlivých skupin archeologického materiálu. Dosavadní výsledky ukazují rozptyl nálezů na ploše o rozměrech cca 250 × 150 m. Mezi nálezy převládá odpad z výroby broušené kamenné industrie (převážně úštěpy středních a malých rozměrů, v menší míře polotovary a vývrtky z porfyrického mikrodioritu; obr. 4), získána byla ale i kolekce štípané kamenné industrie (zhotovená převážně z lokálních surovin) a nevýrazné keramiky, která umožnuje prozatím pouze rámcové datování do mladšího stupně lengyelské kultury. S intenzivní výrobní činností pak souvisí nálezy několika otloukačů.

Z hlediska plošné distribuce netvoří výrobní odpad výraznější koncentrace a je rozptýlen po celé ploše sídliště. Cílem budoucího výzkumu bude realizace geofyzikální prospekce a dalších povrchových sběrů, které by zahustily množství povrchových nálezů a umožnily by ověřit existenci určité specializované zóny v rámci sídliště či vazbu výroby na konkrétní objekt/y.

Zpracovávané porfyrické mikrodiority pochází s největší pravděpodobností z nedávno objeveného zdroje a primární dílny na katastru Václavova u Chvaletína (část obce Písečné), nacházející se cca 8 km severozápadně od sídliště u Hluboké. Surovina byla do prostoru sekundární dílny transportována

v podobě hrubě osekaných bloků a iniciálních polotovarů, které zde byly dále jemněji tvarovány do podoby finálních polotovarů určených k vrtání a broušení. Po typologické stránce máme doloženou výrobu vrtaných sekeromlatů a motyk a v menší míře nevrtaných seker. S ohledem na fakt, že podobných sídlišť mladšího stupně lengyelské kultury s různou mírou intenzity zpracovávání této suroviny na produkci broušené industrie evidujeme na katastrech sousedních obcí (včetně rakouské strany) již více jak tři desítky, odkrývá se před námi velmi zajímavý exploatační a výrobně-distribuční mikroregion, jehož výzkum si zaslouží v budoucnu náležitou pozornost.



Obr. 4. Dešná. Výběr dílenského odpadu z porfyrického mikrodioritu. Foto J. Bartík.

Fig. 4. *Dešná. Selection of the workshop waste from porphyritic microdiorite. Photo by J. Bartík.*

Literatura

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Thiele, O. et al. 1987: *Geologische Karte der Republik Österreich 1 : 50 000. Blatt 7 Gross Siegharts (6911)*. Wien: Geologische Bundesanstalt.

Summary

In 2024, a settlement dating to the later stage of the Lengyel culture was discovered and investigated through surface surveys in the 'Mühlfeld' field (nowadays 'U Remízku') in the cadastral area of Hluboká (part of Dešná, Jindřichův Hradec District). The site yielded evidence of a secondary workshop for the production of polished stone tools using local porphyritic microdiorites. The prospections to date recorded artefacts scattered across an area measuring approximately 250 × 150 m. The majority of finds consist of waste from the production of polished stone tools (mostly medium and small flakes, with a smaller number of semi-finished products and drillcores; Fig. 4). An assemblage of chipped stone industry (mostly made of local raw materials), non-characteristic pottery, and several hammerstones were also recovered. Given that over 30 settlements from the later stage of the Lengyel culture with varying intensity of raw material processing for polished stone industry production have already been recorded in the cadastral areas of neighbouring villages (including sites on the Austrian side; Bartík et al. 2024), an interesting micro-region focused on exploitation, production, and distribution is beginning to emerge, which certainly calls for detailed future research.

Jaroslav Bartík, Milan Vokáč, Tomáš Klouda

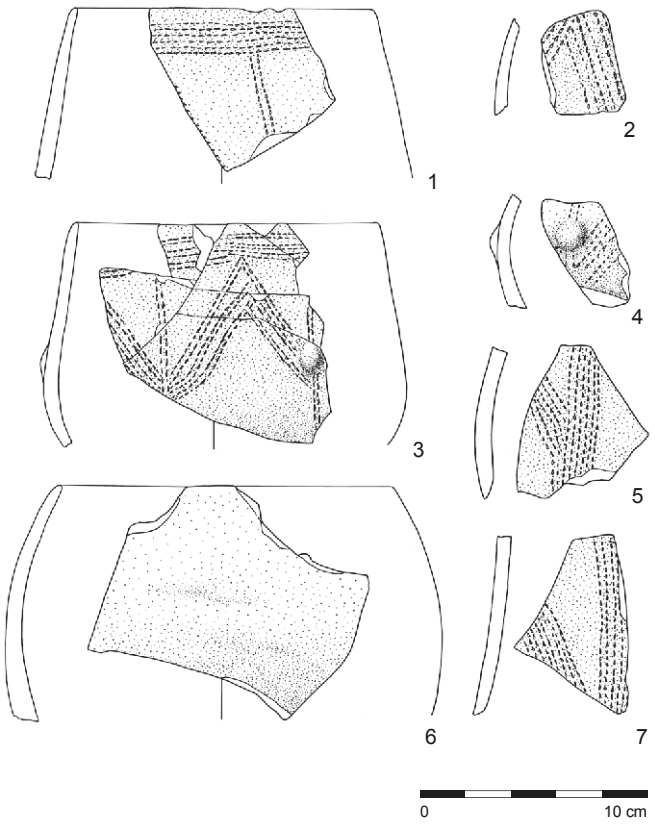
Dobšice (k. ú. Dobšice u Znojma, okr. Znojmo)

Ul. Sadová č. p. 614, parc. č. 524/1.

Kultura vypíchané keramiky. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Jihomoravské muzeum ve Znojmě, p. o., inv. č. A 31679/1-13.

Lokalizace: WGS-84: 48.8516994N, 16.0874525E

Dne 19. 10. 2024 byl pracovníkům Jihomoravského muzea ve Znojmě ohlášen nález pravěké keramiky, ke kterému došlo v souvislosti s výkopem základového pasu pro plot. Po příjezdu na lokalitu byl ve výkopu zjištěn jeden porušený archeologický objekt, patrný v půdorysu i na profilu základového pasu. Objekt byl následně začištěn a neodbagrovaná část v půdorysu exkavována. Jednalo se o nevelkou, 160 cm dlouhou a 50 cm hlubokou sídlištní jámu s rovnými stěnami, které se sbíhaly směrem k nepravidelnému dnu. Na základě získané kolekce keramického materiálu (obr. 5) můžeme zahloubený objekt datovat do kultury s vypíchanou keramikou.



Obr. 5. Dobšice. Vybrané nálezy keramiky. Autor R. Hetflaiš.

Fig. 5. *Dobšice. Selected pottery finds. Author R. Hetflaiš.*

Literatura

AMČR: Záznam M-202405166 [cit. 2025-06-10]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/id/M-202405166.

Summary

A sunken feature, disturbed by a foundation trench for a fence, was excavated in Sadová Street (Dobšice cadastral area, Znojmo District). The recovered pottery (Fig. 5) attributes the feature to the Stroke-Ornamented Ware culture.

David Rožnovský, Rostislav Hetflaiš, Zdeněk Veselý

Dukovany (k. ú. Skryje nad Jihlavou, okr. Třebíč)

„Hřebec“.

Lengyelská kultura. Neurčený areál. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1062167N, 16.1472333E

V rámci realizace projektu regionální spolupráce „Střední Pojihlaví jako součást historické stezky spojující Českomoravskou vrchovinu s jihomoravskými úvaly“ probíhaly v roce 2024 v prostoru vodních nádrží Mohelno a Dalešice terénní povrchové prospekce. Jejich hlavním cílem bylo monitorování a dokumentace intenzivní vodní eroze, která díky neustálému kolísání hladiny způsobuje rozplavování pokryvných sedimentů na březích nádrží, a tím i odkrývá dosud neznámé archeologické lokality. Při pravidelných odstávkách přečerpávací elektrárny Dalešice jsou proto prováděny celodenní prospekce s pomocí raftu, který umožňuje efektivní pohyb v prostoru nádrží a zároveň možnost průzkumu i některých ze břehů špatně dostupných míst.

Průzkum v roce 2024 přinesl, mimo jiné objevy, nové informace o lidských aktivitách v poloze „Hřebec“, situované 15–25 m nad pravým břehem řeky Jihlavy na severním okraji katastru obce Dukovany (k. ú. Skryje nad Jihlavou). Zájmová poloha je tvořena ostrožnou vybíhající směrem k severovýchodu do jednoho z původních meandrů řeky Jihlavy s nadmořskou výškou oscilující od 290 do 325 m. Archeologické nálezy se prozatím daří nalézat pouze na jihovýchodních svazích ostrožny v nadmořské výšce 290 až 300 m. Doposud byly z této polohy evidovány pouze nepočetné štípané artefakty z období mladého paleolitu (cf. Knotek, Škrdla 2015), nově však bylo při povrchovém průzkumu erodovaných svahů zájmové lokality nalezeno také několik kamenných artefaktů indikujících zde lidské aktivity v období neolitu. Reprezentovány jsou drobnou, kompletně dochovanou, mírně trapézovitou sekerkou se zaobleně obdélným příčným průřezem z metabazitu typu Jizerské hory (rozměry: 44 × 40 × 12,5 mm, hmotnost: 35,7 g, obr. 6) a čtyřmi nepatinovanými štípanými artefakty (tři fragmenty čepelí a čepelové škrabadlo s bilaterální retuší), které můžeme datovat do období mladého neolitu. Magnetická susceptibilita sekerky se pohybuje mezi 0,280–0,320 × 10^{-3} SI jednotek.



Obr. 6. Dukovany. Kamenná sekerka. Foto J. Bartík.

Fig. 6. *Dukovany. Stone axe. Photo by J. Bartík.*

Dosavadní nálezy prozatím neumožňují přesně specifikovat charakter lidských aktivit, nebo je označit jako sídlištní. Nelze ani vyloučit, že výše popsané nálezy z polohy „Hřebec“ souvisejí s rozsáhlým sídlištěm lengyelské kultury, které se rozprostíralo na druhém břehu řeky v poloze Mohelno – „Plevovce“ (Bartík et al. 2019). Lokalita bude nadále průběžně monitorována.

Literatura

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Bartík, J., Škrdla, P., Novák, J. 2019: Mohelno-Plevovce v kontextu lokálního lengyelského osídlení a přírodního prostředí. *Přehled výzkumů* 60(1), 43–76.

Summary

In 2024, several surface surveys were conducted in the area around the Mohelno and Dalešice reservoirs. The investigation was prompted by the regional cooperation project ‘Middle course of the River Jihlava as part of the historical route connecting the Bohemian-Moravian Highlands with the South Moravian valleys’ and recorded previously unknown human activity in the ‘Hřebec’ field, located in the cadastral area of Skyje nad Jihlavou (Třebíč District). Finds from the site include a small, well-preserved, slightly trapezoidal stone axe with a rounded rectangular cross-section made of Jizerské hory-type metabasite (Fig. 6), and four unpatinated chipped stone artefacts. It cannot be ruled out that these finds from the ‘Hřebec’ field are connected with the extensive Lengyel culture settlement situated on the opposite bank of the river at the Mohelno – ‘Plevovce’ site (Bartík et al. 2019). The area will continue to be monitored.

Jaroslav Bartík, Petr Škrdla, Milan Vokáč, Aleš Hoch, Tomáš Rohovský, Marcel Lengyel

Holasovice (okr. Opava)

„Extravilán“, parc. č. 642/14.

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Národní památkový ústav – územní odborné pracoviště v Ostravě.

Lokalizace: WGS-84: 49.9955578N, 17.8141883E

V jarních a letních měsících let 2023 a 2024 probíhal záchranný archeologický výzkum na katastru Holasovic, na parcele číslo 642/14, který souvisel se zemními pracemi při výstavbě rodinného domu a garáže. Na skryté ploše a v liniových výkopech bylo identifikováno celkem 98 objektů. Většinu z nich tvořily sloupové jámy, které však jen výjimečně obsahovaly nálezy. Podle celkové situace lze ale usuzovat, že na zkoumané ploše byla zachycena část dlouhého domu pětiřadé konstrukce. Sloupovou stavbu z každé strany lemovaly stavební jámy obsahující keramických materiál (obr. 7) náležející kultuře s lineární keramikou, přesněji jejímu mladšímu stupni, fázi IIb. Dům byl orientován přibližně ve směru SZ–JV. Neolitické stavební jámy byly částečně porušeny mladšími zásahy. Totožnou orientaci vykazovala i třetí zjištěná stavební jáma stejné datace, podél níž se opět nacházely sloupové jamky, zbytek stavby však pokračoval

mimo zkoumanou plochu. Do stejného období bylo možné zařadit i dvě zdokumentované pece a dalších osm sídlištních jam. Jednu z nich lze pravděpodobně interpretovat jako předpecní jámu. Vedle keramických nálezů zdobených rytými liniemi, notovými značkami, vrypy a plastickými výčnělky byla získána i menší kolekce štípané kamenné industrie a několik zlomků drtících podložek. Z nejbližšího okolí parcely je kultura s lineární keramikou známa ze záchranného výzkumu z roku 2011 (Hlas 2012, 129) a 2016 (Marethová 2017, 155). Na lokalitě bylo zachyceno také osídlení ze starší doby železné a doby římské (viz oddíly Doba železná a Doba římská a doba stěhování národů).



Obr. 7. Holasovice. Torzo keramické nádoby. Foto J. Motěšický.
***Fig. 7.** Holasovice. Fragment of ceramic vessel. Photo by J. Motěšický.*

Literatura

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Marethová, B. 2017: Holasovice (okr. Opava). *Přehled výzkumů* 58(1), 155.

Summary

During the spring and summer of 2023 and 2024, a rescue archaeological excavation was carried out on plot No. 642/14 in the cadastral area of Holasovice (Opava District). The excavation revealed part of a settlement dated, based on the pottery finds (Fig. 7), to the later phase of the Linear Pottery culture. Several partially preserved longhouse foundations, kilns, and other settlement features were documented.

Jindřich Hlas, Jiří Motěšický

Hulín (okr. Kroměříž)

Ul. Holešovská; „Višňovce“, parc. č. 4451/7 a 4451/1.

Zemědělský pravěk, kultura lineární keramiky, moravská malovaná keramika (neolit). Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o., inv. č. AU312–AU322.

Lokalizace: WGS-84: 49.3187300N, 17.4817200E

Při pokládce kabelového vedení do zemní rýhy byly v lednu 2024 na parcelách č. 4451/7 a 4451/1 na katastru Hulína, na ul. Holešovská registrovány celkem tři zahloubené archeologické objekty, které byly v rámci záchranného archeologického výzkumu zdokumentovány, ovzorkovány a zaměřeny. Jednalo se o dvě sídlištní jámy a jeden rozměrný objekt nejspíše exploatační funkce. Situace jsou datovány do neolitu (kultura s lineární keramikou, kultura s moravskou malovanou keramikou) a obecně do pravěkého období (zemědělský pravěk). Prozkoumané situace souvisí s rozsáhlým sídlištěm, zkoumaným v trati „Višňovce“ nejintenzivněji v letech 2007 a 2010 v souvislosti s výstavbou trasy a mimoúrovňového křížení komunikace R55 na lokalitě Hulín-Pravčice 2 (Kalábek et al. 2010, 42–58).

Literatura

Kalábek, M., Kalábková, P., Kočár, P., Kočárová, R. 2010: Největší lengyelská stavba z Hulína-Pravčic 2 (struktura 45). In: M. Bém, J. Peška (eds.): *Ročenka 2009*. Olomouc: Archeologické centrum Olomouc, 42–58.

Summary

Three archaeological features were documented in a trench for the cable installation on plot No. 4451/7 and 4451/1 in Holešovská Street (Hulín cadastral area, Kroměříž District). Two of them were settlement pits, and one was a large feature, probably of an exploitation function. The features are dated to the Neolithic period (Linear Pottery culture, Moravian Painted Ware culture) and, more broadly, to the farming prehistoric period. The excavated archaeological contexts are associated with an extensive settlement previously investigated in the ‘Višňovce’ field during the construction of the R55 road and grade-separated junction at the Hulín – Pravčice 2 site (Kalábek et al. 2010, 42–58).

Miroslav Popelka, Martin Paulus

Ivančice (k. ú. Hrubšice, okr. Brno-venkov)

Hrubšice; „za zámkem“.

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Moravské zemské muzeum.

Lokalizace: WGS-84: 49.0898889N, 16.3075294E

V průběhu roku 2024 proběhlo v katastru Hrubšic několik záchranných archeologických výzkumů před výstavbou rodinných domů. Zkoumáno bylo rovinné sídliště kultury s lineární keramikou na polykulturní lokalitě, která byla identifikována už v roce 2021 při výstavbě místní komunikace a sítí (Bučová Čerňavová 2022). Lokalita leží v rovinatém terénu nivy řeky Jihlavy, který se mírně zvedá v západním směru. Kromě sídlištních a exploatačních jam byla identifikována také jednokomorová pec a torza půdorysů dvou dlouhých domů s orientací SZ–JV. Pec byla situována v hliníku a její dno bylo tvořeno říčními valouny s hliněným výmazem. Inventář movitých nálezů obsahoval fragmenty keramiky, kamennou i kostěnou industrii a zvířecí osteologický materiál.

Literatura

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Summary

In 2024, several rescue excavations were conducted behind the chateau in the Hrubšice cadastral area (Brno-Country District) prior to the construction of family houses. The excavations focused on a flatland settlement of the Linear Pottery culture

within a multi-period site that had already been identified in 2021 during the construction of a road and utility networks (Bučová Čerňavová 2022). In addition to settlement and exploitation pits, a single-chambered kiln and partially preserved foundations of two longhouses were identified. The finds included pottery fragments, stone and bone industry, and animal bone material.

Katarína Bučová Čerňavová

Ivančice (k. ú. Letkovice, okr. Brno-venkov)

Ul. U Kapličky.

Moravská malovaná keramika (neolit). Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: WGS-84: 49.0945514N, 16.3598817E; 49.0945197N,16.3588678E; 49.0939928N, 16.3573817E; 49.0941342N, 16.3573256E

V průběhu rekonstrukce návsi proběhl v roce 2024 v Letkovicích (městská část Ivančic) archeologický výzkum, který zachytil pozůstatky neolitického osídlení z období kultury s moravskou malovanou keramikou (Bučo 2024). Jednalo se o sídlištní a sloupové jámy a jednu exploatační jámu. V prostoru před kaplí byl identifikován půdorys obytné stavby sloupové konstrukce. Lokalita byla zkoumána již v roce 1996 v průběhu výkopů inženýrských sítí společností Ústav archeologické památkové péče Brno, v. v. i. (Vitula 1999, 296, 405).

Literatura

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Vitula, P. 1999: Ivančice – Letkovice (okr. Brno-venkov). *Přehledy výzkumů* 39 (1995–1996), 296, 405.

Summary

In 2024, an archaeological excavation was conducted in Letkovice in connection with the reconstruction of the village green (local part of Ivančice, Brno-Country District), revealing traces of Neolithic occupation dated to the Moravian Painted Ware culture (Bučo 2024). The site had previously been investigated in 1996 during trenching for utility networks (Vitula 1999, 296, 405).

Michal Bučo

Jiřice u Moravských Budějovic (okr. Znojmo)

„Široké“.

Moravská malovaná keramika (neolit). Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: dočasně u nálezce.

Lokalizace: WGS-84: 48.9970061N, 15.9306339E

Povrchovým průzkumem byla objevena nová lokalita kultury s moravskou malovanou keramikou na katastru obce Jiřice. Nachází se severně obce a východně od zelené turistické značky směrem ke zřícenině hradu Bukovina ze 14. století.

Lokalita je situována v poměrně rovinaté poloze, mírně se zvedá směrem k potoku Nedveka, odkud poté prudce spadá do jeho koryta. Nadmořská výška naleziště se pohybuje kolem 390 m. Opakovanými povrchovými sběry odtud byla získána především kolekce štípané kamenné industrie zhotovené z křemičitých zvětralin serpentinitů, přičemž zastoupeny jsou zejména chalcedonové variety okrové barvy. Získané artefakty na sobě často mají stopy bělavé obalové vrstvy. Kolekce sestává především z čepelových a úštěpových jader, zastoupena je však i debitáž v podobě čepelí i úštěpů. Ojediněle se objevila jádra z křišťálu a ze záhnědy. Broušenou kamennou industrii zastupuje polotovar ploché sekerky lichoběžníkového průřezu z metabazitu typu Želešice. Keramika je nepočetná a nevýrazná, ale podle základních charakteristických znaků ji lze zařadit ke kultuře s moravskou malovanou keramikou.

Podle celkového charakteru industrie (častá jádra, úštěpy) lze hovořit o zpracovatelské lokalitě v bezprostřední blízkosti zdrojů dané suroviny. Geologická mapa ČR 1 : 50 000 (Matějovská red., 1983) ukazuje, že podloží vlastního naleziště tvoří granulit jevišovického tělesa, jenž je uzavřen v gföhlských ortorulách až migmatitech. Čtyři drobná tělesa serpentinitů však vystupují již ve vzdálenosti 0,8 a ž 1,8 km na severovýchod, dvě z nich jsou zachycena přímo v údolí potoka Nedveky. Zda přímo tato tělesa byla mateřskou horninou křemičitých zvětralin, zatím nedokážeme rozhodnout, každopádně v blízkém území mezi Jiřicemi, Jevišovicemi a Bojanovicemi existují takové zdroje včetně dokladů o jejich pravěkém využívání (cf. Kovárník 1992).

Lokalita se nachází v oblasti, jež byla v mladším neolitu hustě osídlena, a pro kterou je charakteristické zpracovávání lokálních křemičitých zvětralin serpentinitů (např. Podborský, Vildomec 1972, 170–171; Přichystal 1984, 209).

Literatura

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Přichystal, A. 1984: Petrografické studium štípané industrie. In: E. Kazdová: *Těšetice-Kyjovice I. Starší stupeň kultury s moravskou malovanou keramikou*. Brno: Universita J. E. Purkyně, 205–212.

Summary

A new site of the Moravian Painted Ware culture was discovered in the ‘Široké’ field in the cadastral area of Jiřice u Moravských Budějovic (Znojmo District). The site yielded a rich assemblage of chipped stone industry predominantly made of local serpentinite rocks, which were intensively processed here during the Neolithic period (Podborský, Vildomec 1972, 170–171; Přichystal 1984, 209; Kovárník 1992).

Martin Kuča, Antonín Přichystal

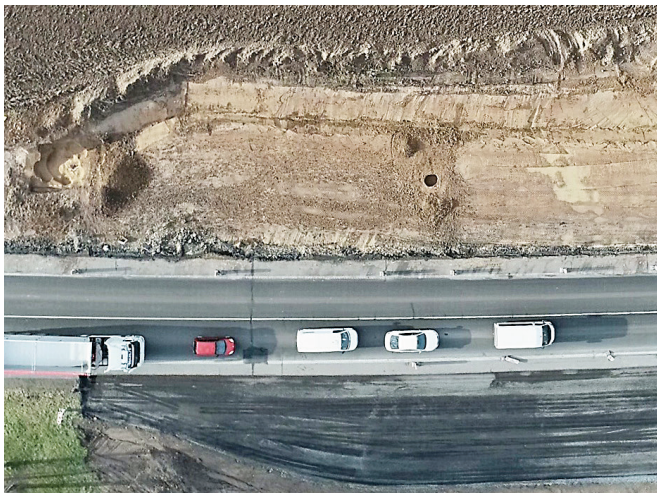
Krnov (k. ú. Opavské Předměstí, okr. Bruntál)

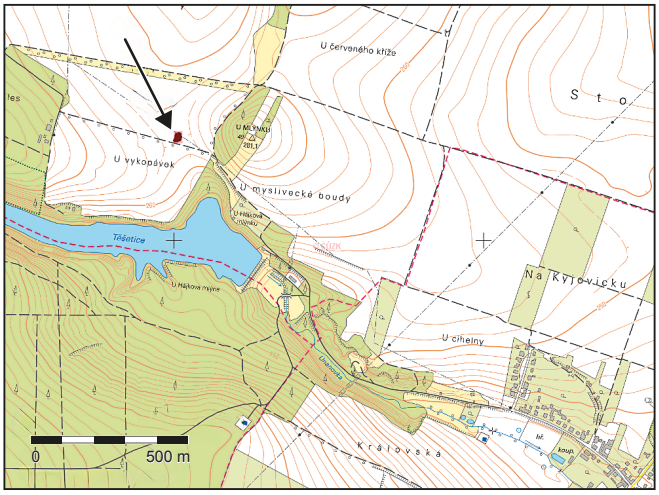
„Červený dvůr“, parc. č. 2786/2.

Mladší neolit/časný eneolit. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Slezské zemské muzeum.

Lokalizace: WGS-84: 50.0661808N, 17.7390436E

V listopadu roku 2024 proběhl v prostoru silnice č. 57 záchranný archeologický výzkum vyvolaný výstavbou kontrolního stanoviště pro policii ČR. V rámci strojní skrývky (obr. 8) byly zachyceny tři zahloubené objekty, které lze na základě keramických nálezů a štípané industrie datovat rámcově do mladšího neolitu až staršího eneolitu (kultura nálevkovitých pohárů?).





Obr. 8. Krnov. Letecký pohled na zkoumanou lokalitu. Foto J. Juchelka.
Fig. 8. *Krnov. Aerial view of excavated area. Photo by J. Juchelka.*

Literatura

Neuvedeno.

Summary

In November 2024, a rescue archaeological excavation (Fig. 8) was conducted in connection with the construction of a police checkpoint in the area of Road 57 in Krnov (Opavské Předměstí cadastral area, Brutnál District). Based on the recovered pottery finds and chipped stone industry, three features can be broadly dated from the Late Neolithic to the Early Eneolithic (Funnel Beaker culture?).

Jiří Juchelka, Monika Kokešová, David Galia, Ondřej Klápa, Marek Pietoň

Kyjovice (okr. Znojmo)

„Sutny“.

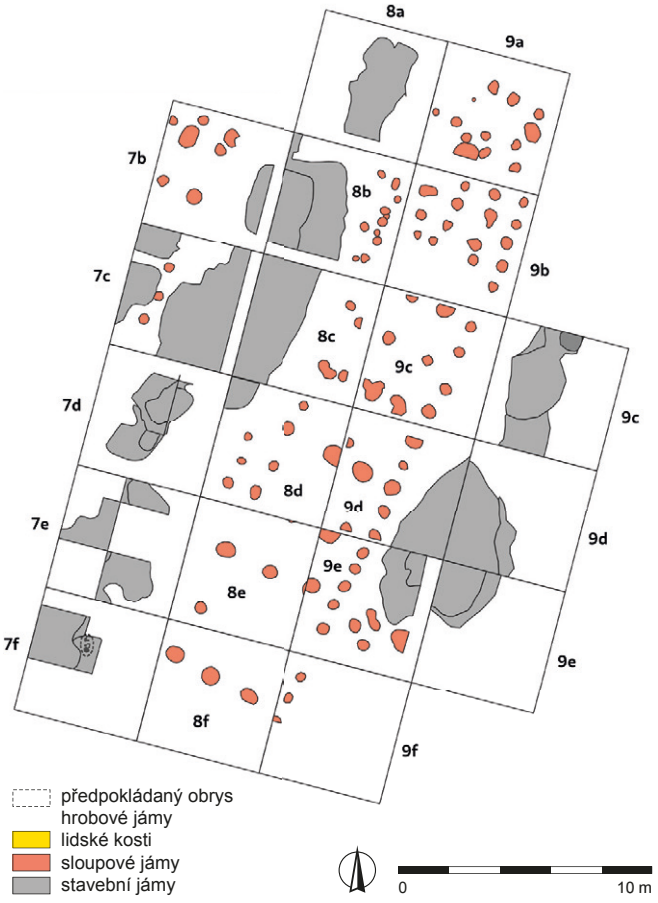
Neolit, kultura lineární keramiky, lengyelská kultura. Sídliště, izolovaný pohřeb. Skupina/síť sond. Badatelský výzkum. Uložení nálezu: Masarykova univerzita – Filozofická fakulta.

Lokalizace: WGS-84: 48.89893933N,16.13752335E

V letech 2023 a 2024 pokračoval systematický výzkum domu č. 33 kultury s lineární keramikou (dále jen LnK) na lokalitě Kyjovice v poloze „Sutny V“, jehož exkavace byla zahájena v roce 2019. Výzkum probíhal v sektoru X8 ve čtvercích 7d, 7e, 7f, 8a, 8e, 8f, 9a, 9f, 10a (obr. 9) a navázal na širší výzkumný záměr zabývající se studiem socio-ekonomických strategií domácností v období kultury s lineární keramikou (Tóth et al. 2022; 2023).

Archeologickým výzkumem bylo zachyceno pokračování dlouhého domu o současné šířce 5,5 m a délce 26,5 m. Archeologický materiál pochází převážně ze stavebních jam lemujících dům po delší ose, v menší míře pak z prostoru vlastního domu. Nejčastějšími nálezy jsou fragmenty keramických nádob, mazanice, štípaná, broušená a ostatní kamenná industrie, stejně jako zvířecí osteologický a antropologický materiál.

Na základě stylistické a typologické analýzy keramiky lze půdorys domu zařadit do mladšího stupně kultury s lineární keramikou (obr. 10; fáze II–III podle Čižmář 1998). Ojedinělé nálezy keramiky ve svrchních vrstvách lze přiřadit lengyelské kultuře. Osteologický materiál ze zásypu stavebních jam představuje



Obr. 9. Kyjovice. Aktuální stav výzkumu dlouhého domu kultury s lineární keramikou. Autor P. Tóth.
Fig. 9. *Kyjovice. Current state of excavation of the Linear Pottery culture longhouse. Author P. Tóth.*

odpad po konzumaci a bourání zvířat. Vyskytují se běžné druhy domácích zvířat (tur domácí, prase domácí, ovce/koza). Nálezy měkkýšů a koně divokého naznačují suché klima a travnatou step. V souboru se nachází také pozůstatky lišky obecné a psa.

V blízkosti jižní části domu, pod stavební jámou, byl objeven dětský pohřeb (H30). Obrys hrobové jámy se nepodařilo zachytit. Dítě leželo ve skrčené poloze na levém boku. Přestože nebylo vybaveno hrobovými přídavky, nálezový kontext a poloha těla naznačují jeho přiřazení ke kultuře s lineární keramikou. Kosti byly na povrchu částečně erodované. Z kostry se ve fragmentech

zachovala lebka, drobné fragmenty žeber a obratlů, fragmenty horních a dolních končetin. Věk byl na základě vývoje chrupu stanoven na 3–4 roky; určení pohlaví nebylo z důvodu nízkého věku jedince provedeno. Dítě trpělo zubním kazem na mléčné stoličce, hypoplázie zubní skloviny je důkazem stresového období mezi druhým a třetím rokem života. O vysoce abrazivní stravě již od útlého věku svědčí zubní abraze na mléčných zubech.

Vzhledem k tomu, že se výzkum tohoto dlouhého domu blíží ke konci, plánujeme komplexní analýzu keramického souboru, která bude zahrnovat výsledky typologické a stylistické analýzy s přihlédnutím k fragmentarizaci a post-depozičním procesům. U osteologického materiálu plánujeme provést radiokarbonové analýzy, zjištění stravy zvířat a environmentu na základě stabilních izotopů uhlíku a dusíku. Antropologický materiál bude podroben analýze archaické DNA, radiokarbonovému datování a budeme také zjišťovat složení stravy.

Výzkumné aktivity jsou realizovány s podporou grantového projektu Masarykovy univerzity „Archeologické terénní prospekce, exkavace a dokumentace V (MUNI/A/1481/2024)“, „Připraveni na budoucnost: porozumění dlouhodobé odolnosti lidské kultury (RES-HUM)“ a TKLit.

Literatura

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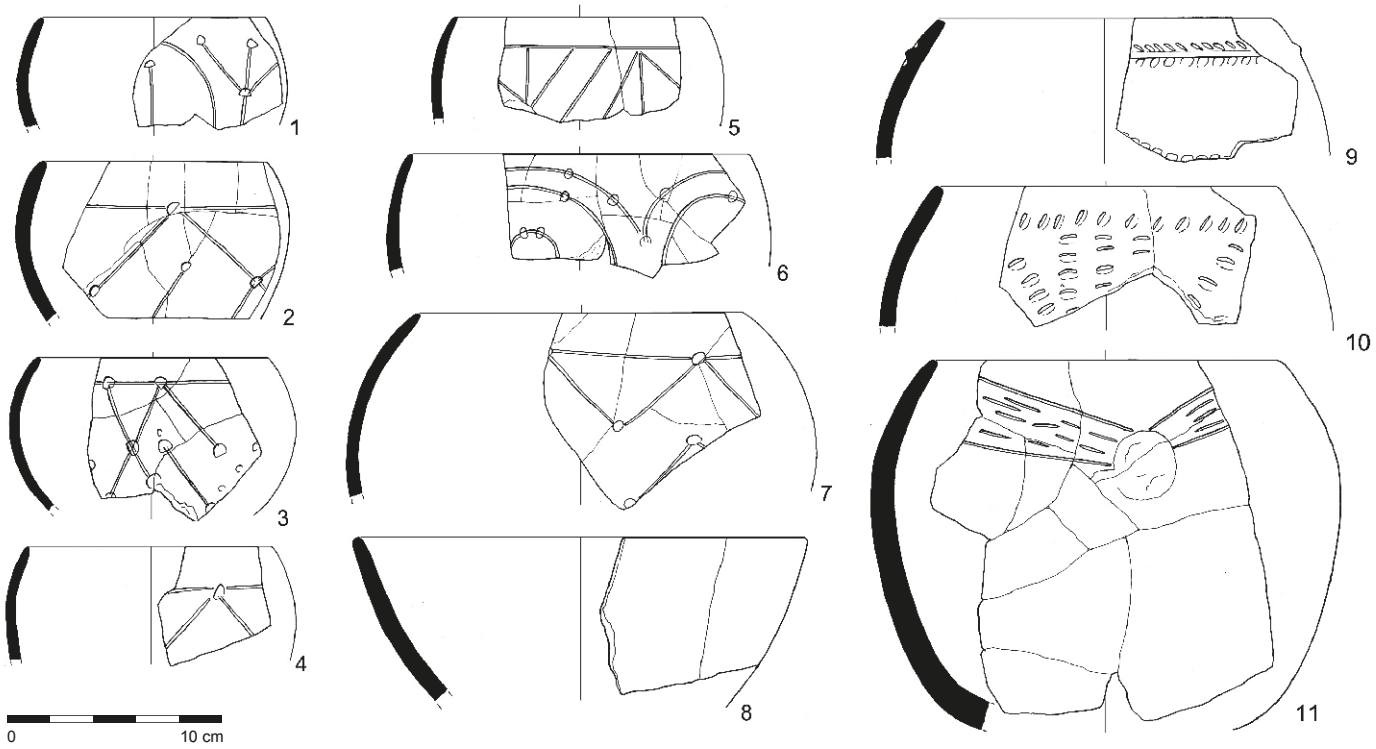
Tóth, P., Malíšková, J., Čerevková, A. 2022: Kyjovice (okr. Znojmo). *Přehled výzkumů* 63(1), 130–131.

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Summary

Between 2023 and 2024, systematic archaeological research continued at the Kyjovice ‘Sutny V’ site (Znojmo District), focusing on a longhouse of the Linear Pottery culture (LBK). The current fieldwork builds on the investigation of house No. 33 (Fig. 9), first explored in 2019 as part of a broader project examining the socio-economic strategies of Neolithic households. The uncovered house foundations measure 5.5 × 26.5 m and, based on the ceramic material (Fig. 10), can be dated to the late LBK (phases II–III). Most archaeological finds originate from construction pits alongside the house structure and include fragments of ceramic vessels, daub, chipped, polished and other stone tools, as well as osteological and anthropological material. Isolated finds from the Lengyel culture were identified in the upper layers. The osteological material largely represents kitchen waste, predominantly comprising remains of domesticated animals (cattle, pig, sheep/goat), supplemented by bones of fox and dog. The presence of molluscs and wild horse points to dry climatic conditions and a steppe-like environment. A particularly significant discovery was a child burial (H30) beneath a construction pit in the southern part of the house. Although no grave goods were found, the burial context and body position suggest an attribution to the LBK. The anthropological analysis determined the child to have been 3–4 years old at the time of death and identified dental caries, enamel hypoplasia, and pronounced tooth wear indicating the consumption of abrasive food.

Peter Tóth, Zdeněk Tvrdý, Miriam Nývltová Fišáková, Johana Malíšková, Filip Ševčík, Solène Denis



Obr. 10. Kyjovice. Výběr keramického materiálu z domu č. 33. Kresba J. Malíšková.

Fig. 10. *Kyjovice. Selection of ceramic material from house No. 33. Drawing by J. Malíšková.*

Lysice (okr. Blansko)

Ul. Brněnská č. p. 671.

Neolit. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: S-JTSK: -600062.88,-1131947.52

Od června 2023 do září 2024 probíhal na katastru obcí Lysice, Drnovice a Bořitov archeologický dohled při realizaci stavby „Vodovod Marek“. Porušení archeologických situací bylo zaznamenáno pouze na území obce Lysice. Při ulici Brněnská souběžně se zahradou domu č. p. 671 byly v rýze zjištěny a zdokumentovány tři sídlištní objekty datované rámcově do neolitu.

Literatura

AMČR: Záznam M-202302927 [cit. 2025-06-10]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/id/M-202302927.

Summary

From June 2023 to September 2024, an archaeological watching brief took place in cadastral areas of Lysice, Drnovice, and Bořitov (Blansko District) in connection with the construction of the Marek water supply system. Archaeological contexts were disturbed only in Lysice, where three settlement pits, broadly dated to the Neolithic period, were investigated next to the garden of house No. 671 in Brněnská Street.

Andrea Matějíčková

Mohelno (okr. Třebíč)

„Plevovce“.

Lengyelská kultura. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1043875N, 16.1500289E

V roce 2024 pokračovalo průběžné monitorování poškozování archeologických situací vodní erozí na polykulturní lokalitě Mohelno – „Plevovce“. Povrchovým sběrem se v prostoru erozních koryt a jejich okolí podařilo získat kolekci několika desítek kusů otřelých zlomků keramiky a štípané kamenné industrie lengyelské kultury. Za bližší pozornost stojí pouze jeden z nálezů, který můžeme klasifikovat jako fragment z nohy figurální plastiky. Zlomek o dochovaných rozměrech 55 × 33 × 13 mm ztvárňuje stylizovaně nohu, přičemž chodidlo a patrně i koleno je pouze naznačeno mírným rozšířením (obr. 11). Plastika je zhotovena z hrubozrnné hmoty, která se nijak neliší od zbytku běžné keramické produkce z lokality. Z hlediska prostorových vztahů pochází nález z bezprostředního západního okolí objektu 500, který zde byl prozkoumán v roce 2017 a interpretován jako polozemnice (Bartík et al. 2019). Nejedná se pak o první nález tohoto druhu na lokalitě, tvarově velmi podobný fragment nohy plastiky byl vyzvednut již z objektu 501 (Bartík et al. 2019, 57, obr. 9). Nálezy zlomků figurálních plastik, které byly patrně záměrně rozbíjeny (cf. Hložek, Kazdová 2007), vypovídají o rituálním chování člověka v mladší době kamenné a odpovídají stavu zjištěnému i na dalších sídlištích staršího stupně lengyelské kultury na Moravě.

Literatura

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Obr. 11. Mohelno – „Plevovce“. Fragment nohy figurální plastiky. Foto J. Bartík.
Fig. 11. *Mohelno – ‘Plevovce’. Fragment of a figurine’s leg. Photo by J. Bartík.*

Hložek, M., Kazdová, E. 2007: Fragmentárnost nálezů lengyelské figurální plastiky ve světle experimentů. In: R. Tichý (ed.): *Otázky neolitu a eneolitu našich zemí. Sborník referátů z 25. zasedání badatelů pro výzkum neolitu Čech, Moravy a Slovenska. Hradec Králové 30. 10.–2. 11. 2006.* Archeologické studie Univerzity Hradec Králové. Hradec Králové: Gaudeamus, 55–60.

Summary

In 2024, the monitoring of archaeological contexts damaged by water erosion continued at the multi-period site of Mohelno – ‘Plevovce’ (Třebíč District). The surface survey within and around the erosion gullies yielded several dozens of ceramic fragments and chipped stone industry of the Lengyel culture. Of particular interest is only one artefact – a fragment of a figurine (Fig. 11) depicting a stylised leg, with the foot and possibly the knee merely indicated by a slight widening.

Jaroslav Bartík, Petr Škrdla

Mohelno (okr. Třebíč)

„Topoly“.

Lengyelská kultura. Exploatačně-dílenský areál. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1070142N, 16.1436392E

V rámci realizace projektu regionální spolupráce „Střední Pojihlaví jako součást historické stezky spojující Českomoravskou vrchovinu s jihomoravskými úvaly“ probíhaly v roce 2024 v prostoru vodních nádrží Mohelno a Dalešice terénní povrchové prospekce. Jejich hlavním cílem bylo monitorování a dokumentace intenzivní vodní eroze, která díky neustálému kolísání hladiny způsobuje rozplavování pokryvných sedimentů na březích nádrží, a tím i odkrývá dosud neznámé archeologické lokality. Při pravidelných odstávkách přečerpávací elektrárny Dalešice jsou proto prováděny celodenní prospekce s pomocí raftu, který umožňuje efektivní pohyb v prostoru nádrží a zároveň možnost průzkumu i některých ze břehů špatně dostupných míst. Mezi jednu z nově objevených lokalit patří poloha „Topoly“, která je situovaná v západní výspě katastru

obce Mohelno. Z topografického hlediska se nachází na relativně příkrém svahu cca 30 m nad jedním z ohybů původního meandru řeky Jihlavy, v nadmořské výšce okolo 300 m. Popisovaný svah tvoří úpatí protáhlé ostrožny, která pozvolna klesá směrem k jihovýchodu do údolí řeky Jihlavy z plošiny nad ní s vrcholovou kótou 432 m n. m. Při sníženém stavu hladiny má lokalita podobu cca 200 m dlouhé a 20 m široké obnažené pláže (obr. 12). Podloží pláže tvoří granulity gföhlské jednotky moldanubika, které zde překrývá různě mocná vrstva spraší a svahových hlín. Díky zaměřování každého nalezeného artefaktu je zřejmé, že archeologické nálezy jsou rozptýleny na menší ploše o maximálních rozměrech 80 × 15 m s jednou výraznou kumulací na jejím východním okraji, nacházejícím se při vyústění hluboké strže do bývalého koryta řeky Jihlavy, kterou při vlhčích fázích roku protéká periodická vodoteč. Západně od vyústění strže se nacházejí zbytky pleistocénní terasy řeky Jihlavy, která obsahuje mimo štěrkopísky i různě velké ploché valouny amfibolitu, které zde byly v pravěku povrchově exploatovány a zpracovávány. Svědčí o tom zmíněná koncentrace nálezů na východním okraji lokality, která se projevovala jako cca 3 × 2 m velký, oválný klast dílenského odpadu spočívajícího v pokryvném svahovém sedimentu a sestávajícího z několika rozštípaných valounových desek amfibolitu, doprovázených drobnou amfibolitovou debitáží a zlomeným polotovarem sekeromlatu. Z dalších nálezů se zde podařilo vyzvednout ještě tři štípané artefakty z rohovce typu Krumlovský les variety II (včetně drásadla na masivním semikortikálním úštěpu), šest drobných zlomků středozrnné keramiky, dva celé a jeden poškozený valounový otloukač a tři úštěpy z lokálního jemnozrnného granulitu. Menší kolekce štípaných artefaktů v počtu dalších sedm kusů byla získána bez náznaku dílčích koncentrací v prostoru pláže. Jedná se o dva zlomky čepelí a počátkové jádro z rohovce typu Krumlovský les variety II, dírovač na čepeli a další zlomenou čepel z přepáleného silicitu. U dvou zbývajících artefaktů (patinovaný zlomek rohovce a masivní úštěp z vínově hnědého radiolaritu) nelze vyloučit oproti zbytku souboru jejich větší stáří (mladý/pozdní paleolit?). Dosavadní poznatky o využívání amfibolitu na produkci broušené kamenné industrie na jihozápadní Moravě (cf. Vokáč 2008, 154–159; Bartík 2013) dovolují, ve spojení s charakterem nalezené keramiky a štípaných artefaktů, datovat zdejší lidské aktivity do neolitu, s největší pravděpodobností do lengyelské kultury. Právě v tomto období, konkrétně z fází Ia a Ib (Lengyel I), jsou známy v nedalekém okolí sekundární dílny na sídlištích (Mohelno – několik poloh, Dukovany, Březník, Rešice-Kordula ad.), které zpracovávaly valouny amfibolitu na výrobu broušených sekeromlatů, motyk i seker (Vokáč 2008, 154–159). V případě zájmové lokality „Topoly“ se jedná se o vůbec první přímé doklady exploatace amfibolitu (ze sekundárního zdroje) na jihozápadní Moravě spojené s primární dílnou situovanou mimo areál sídliště. Nejbližší primární výchoz amfibolitu proti proudu řeky se nachází necelé 2,5 km od lokality, v místech dnešní hráze Dalešické vodní nádrže. Lokalita bude vzhledem ke svému významu a potenciálu pro další výzkum dále monitorována.



Obr. 12. Mohelno – „Topoly“. Pohled na lokalitu od západu. Foto J. Bartík.
Fig. 12. *Mohelno – ‘Topoly’. View of the site from the west. Photo by J. Bartík.*

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Summary

In 2024, several surface surveys were conducted in the area around the Mohelno and Dalešice reservoirs. The investigation was prompted by the regional cooperation project ‘Middle course of the River Jihlava as part of the historical route connecting the Bohemian-Moravian Highlands with the South Moravian valleys’ and resulted in the discovery of a new archaeological site at the bottom of the Mohelno reservoir, in the ‘Topoly’ field (Mohelno cadastral area, Třebíč District; Fig. 12). It can be interpreted as an exploitation and primary workshop site for processing amphibolite cobbles used in the production of polished stone tools. These workshop activities can be tentatively dated to the Lengyel culture period. Given the site’s significance and research potential, it will be further monitored.

Jaroslav Bartík, Petr Škrdla, Milan Vokáč, Aleš Hoch, Tomáš Rohovský, Petr Knotek, Marcel Lengyel

Nechvalín (okr. Hodonín)

„Bílé hlíny“, „Nádědiny“.

Neolit, lengyelská kultura. Sídliště, příkopové ohrazení. Geofyzikální průzkum. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.0461247N, 17.0756242E

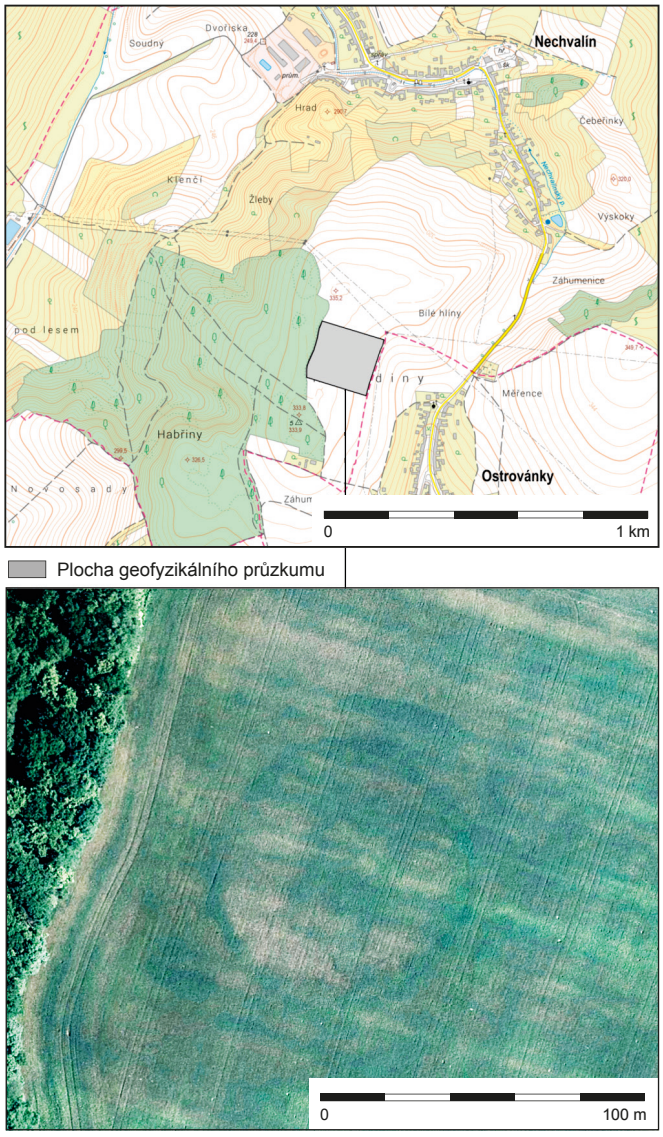
V rámci systematického výzkumu lengyelského osídlení v prostoru Ždánického lesa a jeho blízkého okolí se v roce 2024 podařilo při analýze ortosnímků zemského povrchu identifikovat porostové příznaky většího množství potenciálních zahloubených objektů a také kruhové struktury v polních tratích „Bílé hlíny“ a „Nádědiny“. Porostové příznaky byly zjištěny u jižního okraje katastru obce Nechvalín a na jeho rozhraní s katastrem obce Ostrovánky, pod kterým byla v minulosti lokalita uvedena poprvé do literatury. Polykulturní neolitické sídliště ze staršího stupně kultury s lineární keramikou a staršího stupně kultury s moravskou malovanou keramikou (nejstarší fáze MMK Ia) zde na přelomu milénia objevil M. Hložek (2001). Nepočetný lengyelský materiál odtud později analyzoval J. Šmarda (2007). Oproti původnímu předpokladu, který kladl hlavní část lokality na jižní svah podél severozápadního okraje Ostrovánek, se

zdá, že lokalita se rozkládá na mnohem větší ploše a výrazně zasahuje i na katastr Nechvalína. Většina porostových příznaků byla zjištěna v širším okolí kóty 335 m, která je nejvyšším bodem rozlehlého plató, jež přechází ve svahy do všech světových stran, přičemž směrem k severovýchodu pak formou protáhlé ostrožny. Geologické podloží je tvořeno spraší.

K nejzajímavějším zjištěním se řadil porostový příznak kruhového tvaru o průměru 85 m a šířce 5–6 m (obr. 13), který zde predikoval výskyt doposud neznámého příkopového ohrazení. Výrazně méně zřetelné pak byly náznaky dalšího (vnějšího) příkopu s šířkou okolo 115 m. S ohledem na doložené osídlení lokality ve fázi MMK Ia zde byla následně provedena geofyzikální prospekce, která již spolehlivě prokázala existenci nového dvojitého rondelu opatřeného čtyřmi protilehlými vstupy orientovanými v osách SSV–JJZ a SZZ–JVV. Uvnitř rondelu se podařilo zjistit i palisádový žlab, který obíhá ve vzdálenosti cca 5 m přinejmenším část obvodu vnitřního příkopu. Zajímavé je technické provedení vnějšího přikopu, který má na mnoha místech značně nepravidelný tvar a velmi špatně čitelnou vnitřní hranu. Ve vzdálenosti 20–25 m západně od vnějšího příkopu rondelu byl zjištěn další palisádový žlab (v některých úsecích dvojitý), který vymezoval plochu, jejíž celkový rozsah prozatím nemůže být stanoven, jelikož žlab pokračoval severním i jižním směrem mimo měřenou plochu. Je tedy možné, že rondel byl součástí většího ohrazeného sídlištního areálu, jehož podrobnější strukturu objasní až další měření a cílený výzkum. Na výsledném magnetogramu bylo identifikováno ještě několik stovek dalších anomálií, které zde dokládají velmi husté osídlení. Zmínit lze především několik dobře viditelných půdorysů dlouhých domů (stavebních komplexů) náležejících pravděpodobně sídlišti kultury s lineární keramikou, které je s mladším sídlištěm lengyelské kultury s rondelem v částečné superpozici.

Intenzivní neolitické osídlení zde dokládají i movité nálezy získané na povrchu lokality v širším okolí rondelu, mezi kterými převládá štípaná kamenná industrie vyrobená převážně z rohovce typu Krumlovský les, několika kusy je však zastoupen také, pro nejstarší fázi MMK charakteristický, obsidián.

Objev dvojitého kruhového areálu u Nechvalína představuje významný nález, který přinese nové poznatky o charakteru rondelové architektury lengyelské kultury na Moravě.



Obr. 13. Nechvalín. Plocha geofyzikální prospekce a porostové příznaky dvojitého rondelu. Podkladová mapa: mapy.cz; autor J. Bartík, D. Cibulka.

Fig. 13. *Nechvalín. Area of geophysical survey and cropmarks of the double rondel. Base map: mapy.cz; authors J. Bartík, D. Cibulka.*

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Summary

In 2024, cropmarks of a ditched enclosure (Fig. 13) and other settlement features were discovered at a multi-period Neolithic site located between the villages of Nechvalín and Ostrovánky (Hodonín District). As previous research had confirmed occupation from the Moravian Painted Ware culture Ia phase (Šmarda 2007) at the settlement in the 'Bílé hlíny' field, a verification geophysical survey was conducted, confirming the presence of a double rondel with four entrances and both inner and outer palisade trenches. The discovery of this double circular enclosure in Nechvalín represents an important find that will bring new insights into the Lengyel culture rondel architecture in Moravia.

Jaroslav Bartík, David Cibulka

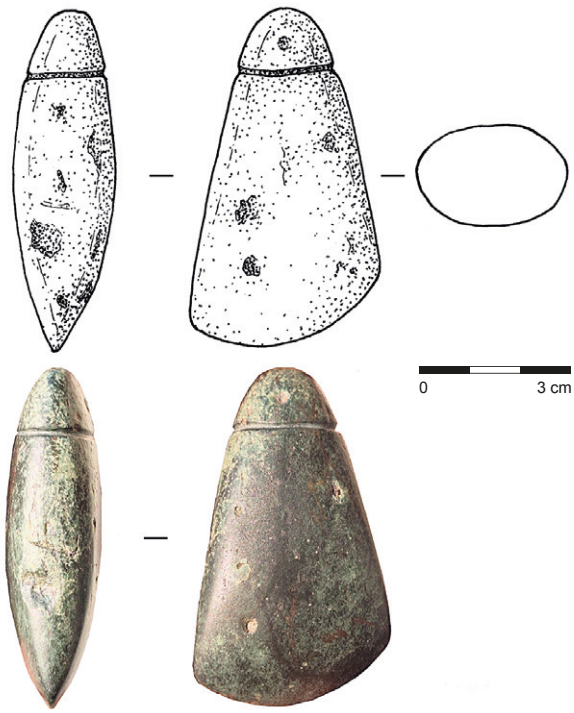
Němčice nad Hanou (okr. Prostějov)

„Podsedky ve višňůvkách", parc. č. 6657.

Lengyelská kultura. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.3611914N, 17.1785858E

V roce 2014 byl terénním archeologem Muzea Komenského v Přerově prostřednictvím povrchového sběru na katastru obce Němčice nad Hanou v poloze „Podsedky ve višňůvkách" nalezen ojedinělý exemplář kamenné broušené industrie (obr. 14). Místem nálezu je poloha situovaná na pravobřežní straně potoka Žlebůvka, který představuje levostranný přítok říčky Haná. Jde o severní okraj táhlého zarovnaného hřbetu zakončený terasovitými úpravami. Nadmořská výška místa okolí nálezu činí 250 m.



Obr. 14. Němčice nad Hanou. Sekerka z jadeititu upravená jako závěsek. Foto Z. Schenk, kresba P. Holcová.

Fig. 14. *Němčice nad Hanou. Jadeitite axe modified into a pendant. Photo by Z. Schenk, drawing by P. Holcová.*

Na ploše sousedních tratí „U červeného kříže“, „Zadní dlátko“, Přední dlátko“ v katastru Němčice nad Hanou a trati „Kratiny“ na katastru obce Víceměřice se rozkládá polykulturní lokalita známá již od závěru 19. století. Doklady nejstaršího osídlení předmětné lokality lze klást do období neolitu. V literatuře jsou zmiňovány nálezy kultury s lineární keramikou a moravskou malovanou keramikou. V současnosti na lokalitě probíhá systematický průzkum Ústavu archeologické památkové péče Brno, v. v. i., a Moravského zemského muzea zaměřený především na centrální aglomeraci z mladší doby laténské (Fojtík, Veselá 2013, 63–88; Čižmářová, H., Čižmářová, J. 2023, 10–16, 61, Tab. 95:2).

V případě nálezu se jedná o kompletní dokonale vybroušenou sekerku trojúhelníkovitého tvaru s oválným příčným průřezem a obloukovitým ostřím, opatřenou v oblasti týlu unikátním obvodovým žlábkem (obr. 15). Mezi tímto žlábkem a hrotitým týlem se nachází nápadný okrouhlý důlek, jehož interpretace není zatím jednoznačná. Jednu z možností by mohl představovat zamýšlený pokus o provrtání otvoru určeného pro zavěšení předmětu, nelze ovšem ani vyloučit, že jde o prohlubeň po vyvětralém granátu.

Celková délka artefaktu je 67 mm. Maximální šířka činí 49 mm. Maximální tloušťka je 19 mm. Hmotnost kamenného předmětu činí 78,48 g. Předmět byl zhotoven z jadeititu či eklogitu tmavě zeleného zabarvení. Magnetická susceptibilita dosahuje hodnoty 0,28 × 10^{-3} SI jednotek. Hustota horniny byla stanovena na 3,42 g/cm^3. Z toho lze předběžně konstatovat, že se jedná buď o jadeitit s vysokým zastoupením jeho tmavé variety omfacitu anebo eklogit, jenž by rovněž pocházel z oblasti hory Monte Viso, v regionu Piemont v severozápadní Itálii, kde eklogity vystupují společně s jadeitity (Přichystal 2009, 188–190).

S ohledem na odolnost této horniny představuje hypotetický náznak provrtu a žlábek vyrytý po obvodu týlové části sekery z Němčic nad Hanou zcela unikátní příklad úpravy, s jakým se u neolitické a eneolitické kamenné broušené industrie nalezené na území České republiky setkáváme jen ve velmi ojedinělých případech. Experimentální pokusy s vrtáním různých typů hornin totiž ukázaly, že jadeitit patří k nejhůře vrtatelným horninám (Tichý et al. 2021). Jako obdobu našeho nálezu lze uvést drobný kopytovitý klín opatřený žlábkem v týlové části pocházející z lokality „Staré Zámky“ v Brně-Líšni, zhotovený z temně zeleného metabazitu typu Želešice, který byl interpretován jako závěsek (Přichystal et al. 2018, 144–145, obr. 4). V oblasti západní Evropy jsou příklady provrtání jadeititových seker doloženy ve větším počtu například na lokalitách ve Francii (Pétrequin, P., Pétrequin, A. M. 2012, Fig. 30).

Z chronologického hlediska lze nestratifikovaný exemplář sekery z Němčic nad Hanou datovat na základě současných poznatků rámcově do období lengyelské kultury, přičemž není vyloučeno, že předmět mohl být opatřen žlábkem pro případné zavěšení až později.

Vzhledem k velké koncentraci laténského osídlení v okolí místa nálezu je třeba zmínit i hypotetickou možnost, že jadeititová sekera byla coby prestižní předmět (amulet) druhotně upravena do formy závěsku zručným řemeslníkem, kterými tamější keltské centrum disponovalo.

Při pohledu na úpravy provedené na neolitickém nástroji importovaném z velké vzdálenosti se nelze ubránit dojmu, že by mohlo jít rovněž o antropomorfní symbolické znázornění mužského principu.

Německý exemplář rozšiřuje počet dosud zveřejněných (či v současnosti předložených do tisku) předmětů zhotovených z jadeititu a eklogitu typu Viso, které byly nalezeny na území Moravy (Přichystal et al. 2019, 289–304) na celkových 23 kusů. Spolehlivé zařazení suroviny německé sekerky k jadeititu nebo eklogitu typu Viso bude možné až po provedení nedestruktivní rtg-difrakční analýzy.



Obr. 15. Němčice nad Hanou. Detail týlové části sekerky z jadeititu. Foto Z. Schenk.

Fig. 15. *Němčice nad Hanou. Detail of the butt-end part of the jadeitite axe. Photo by Z. Schenk.*

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Obr. 16. Neslovice. Zlomek sekery z jadeititu. Foto A. Přichystal.

Fig. 16. *Neslovice. Fragment of a jadeitite axe. Photo by A. Přichystal.*

Summary

A unique small polished axe made of jadeitite (or Viso type eclogite), modified into a pendant, was found by Z. Schenk in 2014 during a surface survey in the 'Podsedky ve višňůvkách' field (Němčice nad Hanou cadastral area, Prostějov District; Fig. 14, 15). This very rare polished artefact can be generally dated to the Lengyel culture.

Zdeněk Schenk, Antonín Přichystal

Neslovice (okr. Brno-venkov)

„Hranice".

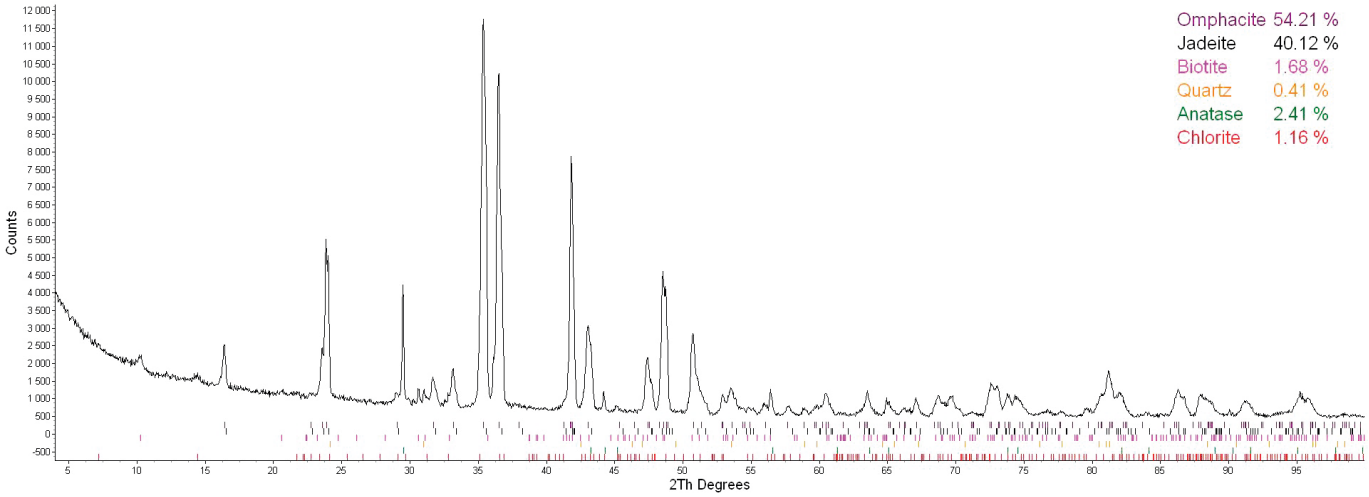
Lengyelská kultura. Místo sběru. Povrchový sběr. Revizní výzkum. Uložení nálezu: Moravské zemské muzeum, inv. č. 90051.

Lokalizace: WGS-84: 49.1347650N, 16.3811439E

Při charakteristice neolitického a eneolitického osídlení Neslovicka (okres Brno-venkov) popsali Hájek et al. (2017) z trati „Hranice" zajímavý nález špičaté týlové partie trojúhelníkovité sekerky s oválným příčným průřezem a zařadili jej do staršího stupně lengyelské kultury. Původní, precizně vybroušená sekera kapkovitého tvaru byla velmi pravděpodobně záměrně rozbita, a známe z ní nyní jen její týlovou partii. Autoři si všimli, že byla použita výjimečná surovina, kterou označili jako nefrit. Dosud žádná z nefritových seker nalezených na Moravě a v českém Slezsku nemá tímto způsobem zhotovenou týlovou partii, tento tvar je po celé Evropě charakteristický pro sekery produkované z jadeititu. To vedlo autora k petrografickému přezkoumání suroviny.

Zlomek sekery o délce 3,9 cm, maximální šířce 3,3 cm a maximální tloušťce 1,7 cm je zhotoven z temně zelené horniny se světlejšími nažloutle zelenými skvrnami (obr. 16). Hmotnost artefaktu je 31,4 g, orientační magnetická susceptibilita 0,13 × 10^{-3} f (malý zlomek nepokrývá hlavu kappametru ani nedosahuje potřebné tloušťky) a hustota zjištěná metodou dvojího vážení dosahuje 3,34 g/cm^3. Již podle vysoké hustoty je zřejmé, že se nemůže jednat o nefrit, např. švýcarské nefrity mají hustoty kolem 2,87–2,92 g/cm^3, hustota nefritu z polského Jordanowa vychází mírně vyšší (2,990–2,995 g/cm^3; podrobněji viz Přichystal et al. 2023). Hustota odpovídá jednoznačně jadeititu, což potvrdil i rtg-difrakční záznam provedený na vyleštěném povrchu. Podle D. Všianského obsahuje vzorek přes 94 % pyroxenů (54 % omfacitu a 40 % jadeitu), necelá 2 % biotitu a přes 2 % anatasu, dále křemen a chlorit (obr. 17).

Neslovice tak představují 20. spolehlivě doložený nález jadeititové respektive omfacit-jadeititové sekery na Moravě a v českém Slezsku. I v tomto případě musíme předpokládat provenienci suroviny ze severozápadní Itálie, buď z primárních zdrojů na hoře Monviso, případně ze štěrků řeky Po (Pád) pod jejími svahy nebo z převážně sekundárního zdroje (valouny v třetihorních slepencích) v masivu Beigua, jenž leží od Monvisa asi 120 km vzdušnou čarou na jihovýchod.



Obr. 17. Neslovice. Rtg-difraktografický záznam sekery. Autor D. Všianský.

Fig. 17. *Neslovice. XRD pattern of the axe. Author D. Všianský.*

Literatura

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Přichystal, A., Rataj, P., Všianský, D. 2023: Petroarchaeological investigation of three nephrite axes from Moravia and Czech Silesia. *Přehled výzkumů* 64(1), 53–60.

Summary

The raw material of a stone axe (Fig. 16) found in Neslovice (Brno-Country District; Hájek et al. 2017), originally believed to be made of nephrite, was analysed petrographically. The shape and cultural context of the find corresponds most closely to axes made of jadeitite. Density measurements and X-ray diffraction analysis (Fig. 17) confirmed that the artefact is made of jadeitite/omphacitite originating from north-western Italy, specifically the Monviso Mountain or Voltri Massif in the Beigua UNESCO Global Geopark.

Antonín Přichystal

Oslavany (okr. Brno-venkov)

„Stará hora“.

Kultura lineární keramiky, kultura vypíchané keramiky. Sídliště, hrob. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Moravské zemské muzeum.

Lokalizace: WGS-84: 49,120605N, 16,333695 E

V průběhu března až listopadu proběhla další výzkumná sezóna záchranného archeologického výzkumu na lokalitě Oslavany – „Stará hora“ pod záštitou Moravského zemského muzea v Brně a společnosti Archaia Brno z. ú. vyvolaná stavbou „Oslavany Stará hora – nová čtvrť pro bydlení“ prováděnou společností Winning Estate Delta s.r.o. (Bučo 2025). Výzkum byl realizován v prostoru plánovaných stavebních prací. V roce 2024 se jednalo o pokračování výzkumu v prostoru budoucích cestních komunikací a retenčních nádrží. Nejstarší doložené archeologické situace náleží kultuře s lineární keramikou. Jednalo se o pokračování sídliště zachyceného v první fázi výzkumu (Bučová Čerňavová et al. 2023). Kromě klasických sídlištních jam byl objeven i atypický pohřeb jedince uloženého vsedě (obr. 18). Kostra patřila pravděpodobně muži ve věku 25–30 let. Jedinec trpěl hypoplazií zubní skloviny, paradentózou a četnými entezopatiemi. V rámci této výzkumné sezóny bylo doloženo i mladší osídlení kultury s vypíchanou keramikou.



Obr. 18. Oslavany. Hrob č. 804. Foto M. Bučo.
Fig. 18. *Oslavany. Grave No. 804. Photo by M. Bučo.*

Literatura

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Bučová Čerňavová, K., Bučo, M., Bedáňová, A. 2023: Oslavany (okr. Brno-venkov). *Přehled výzkumů* 64(1), 191.

Summary

In 2024, a rescue archaeological excavation continued at the Oslavany – Stará Hora site (Brno-Country District; Bučo 2025). The excavation documented another part of the settlement dated to the Linear Pottery and Stroke-Ornamented Ware cultures (cf. Bučová Čerňavová et al. 2023). The solitary burial of an adult man buried in a sitting position within a settlement pit (Fig. 18) was a unique discovery.

Katarína Bučová Čerňavová, Michal Bučo

Písečné (k. ú. Václavov u Chvaletína, okr. Jindřichův Hradec)

„Sadeln“, „Modleticko“.

Lengyelská kultura. Exploatačně-dílenský areál. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 48.9797000N, 15.4395200E

V posledních dvou dekádách prováděli autoři zprávy s pomocí řady spolupracovníků (T. Klouda, J. a Z. Vavruškovi, M. Mejzlíková, M. Steffel a další) intenzivní povrchové prospekce v regionu Jemnicka na západní Moravě. Díky nim můžeme dnes prostor meziříčí řek Želetavky a Moravské Dyje označit za periferii stabilního osídlení lengyelské kultury na Moravě a vše nasvědčuje tomu, že na téže úrovni pokračuje okraj osídlení také v oblasti přilehlého Dolního Rakouska. Kromě značně variabilní sídelní strategie a objevu mnoha desítek nových archeologických lokalit se zde podařilo prokázat i intenzivní využívání lokálních surovin na produkci kamenné industrie (Bartík 2012; 2013; 2014; Bartík, Krmíček 2013). Několik posledních let jsme se proto věnovali cílenému vyhledávání a výzkumu exploatačně-dílenských areálů. Na počátku roku 2024 se podařilo učinit další významný posun ve výzkumu, jelikož byl objeven primární výchoz porfyrického mikrodioritu, který můžeme zároveň na základě získaných nálezů determinovat jako potenciální exploatační areál a primární dílnu. Lokální porfyrické mikrodiority byly v zájmovém regionu intenzivně využívány na produkci vrtané i nevrtané broušené industrie v mladším stupni lengyelské kultury a dnes již víme, že na jejich redistribuci se podílelo několik sekundárních dílen na sídlištích nacházejících se ve vzdálenosti do 10 km od nově identifikovaného zdroje. Distribuční rádius polotovarů a hotových nástrojů je však výrazně větší (nižší desítky kilometrů).

Sekeromlaty i motyky vybroušené z porfyrického mikrodioritu pravděpodobně ze zdrojů v horním Podyjí, jsme předběžným průzkumem doložili až na lokalitách: Lindau u Raabs an der Thaya, Vevčice u Znojma, Rešice, Březník, Jihlava – Čajkovského ulice, Pleše u Kardašovy Řečice ad.

Nově objevená primární dílna se nachází na rozhraní katastrálních území obcí Václavov u Chvaletína a Modletice v polní trati „Sadeln", dnes známé také jako „Modleticko". Lokalita leží na svahu orientovaném k severovýchodu v nadmořské výšce 470 až 480 m. Přibližně 200 m severně od ní protéká Slavětínský potok, který se o několik set metrů dále vlévá do Moravské Dyje. Jednotlivé kusy porfyrického mikrodioritu byly při erozi pole splaveny až do sedimentů Slavětínského potoka. Díky podrobnému geologickému mapování byla na lokalitě Václavov doložena velká žíla granitového porfyru až granodioritového či monzonitového porfyritu s biotitem (Jenček et al. 1987, č. 15). Žíla protíná světlé migmatity až ortoruly gföhlského příkrovu a okrajově i úzké polohy amfibolitů. Amfibolity patří do jednotky označované rakouskými geology jako „Karlsteiner Schuppe". „Karlštajnská šupina" vyznačuje výrazné geologické rozhraní mezi gföhlskou jednotkou a biotitickými pararulami až migmatity, které vystupují severně od sledované žíly mikrodioritu a jen náleží do monotónní jednotky moldanubika. Zajímavou skutečností však je, že na dalších geologických mapách žíla porfyrického mikrodioritu vyznačena není (cf. Suess et al. 1925; Thiele et al. 1987). Žíla měla podle geologického mapování údajně směr SV–JZ, ale novým podrobným průzkumem se ukazuje, že situace je značně zkreslena druhotným rozptylem kusů mikrodioritu v období, kdy zde fungovala neolitická dílna. Výrazné přemístění úlomků mikrodioritu také zřejmě nastalo díky intenzivním splachům po poměrně příkrém svahu ve svrchním pleistocénu a holocénu. V úvahu musíme také vzít fakt, že kusy mikrodioritu byly dlouhodobě vysbírávány z povrchu vrcholně středověkých polí a poté byly deponovány někam po okrajích pole na agrární hromady či do různých roklí. Bohužel přemísťování velkého množství kusů mikrodioritu pokračuje i v současnosti, neboť se při pěstování brambor všechny větší kameny z pole odstraňují mechanizací. Podle novějších poznatků by tak měla žíla mikrodioritu mít spíše orientaci ve směru V–Z, délku asi 100 m a šířku několik metrů.

Neolitická dílna se projevuje jako výrazný povrchový klastr výrobního odpadu (obr. 19), ale i přirozených zlomků suroviny, které se rozpadají do kulovitých útvarů. Na základě dosavadního stavu mapování plošné distribuce výrobního odpadu dosahuje klastr nálezů rozsahu přibližně 80 × 50 m v ose SVV–JZZ. Doposud realizované povrchové sběry přinesly nálezy více jak dvou stovek úštěpů různých velikostí, několika iniciálních polotovarů a také masivních otloukačů/palic. Fragmenty keramiky, finální vybroušené výrobky či jiný doprovodný materiál zde však prozatím získány nebyly. Na základě známých dokladů distribuce této suroviny na okolní sídliště můžeme zdejší dílenské aktivity datovat pravděpodobně do mladšího stupně lengyelské kultury.

Na povrchu terénu dnes nejsou patrné žádné terénní deprese, přesto zde lze oprávněně očekávat pozůstatky pravěké exploatace, která sledovala k povrchu vystupující žílu. Na její přesnější lokalizaci se proto zaměří budoucí výzkum. Stejně tak bude věnována pozornost petrografické analýze, která napomůže definovat variabilitu těžené horniny a odlišit ji od porfyrických mikrodioritů původem z brněnského masivu, či z dalších primárních zdrojů nejen v českém masivu. V nejbližším okolí primárního zdroje u Václavova, na lokalitách Modletice – „Luss" (pouze 600 m JVV od zdroje), Písečné – „bei Oberluss" a Nové Sady – „Staubleiten" se již dříve objevily jednotlivé zlomky sekeromlatů i motyk, které byly vybroušeny z lokálního porfyrického mikrodioritu (Franz 1933, 81; děkujeme Mgr. J. Kocinovi za možnost studovat výše zmíněné kamenné artefakty ve sbírkách Muzea Jindřichohradecka). Podle revize lokalit Modletice a Písečné jsme však zjistili, že dřívější nálezy zlomků vrtané kamenné industrie z porfyrického mikrodioritu pochází z prostor ležících mimo typická neolitická sídliště, neboť v uvedených místech jsme dosud potvrdili jen ojedinělé kusy štípané kamenné industrie, bez doprovodné keramiky a dalších neolitických artefaktů.



Obr. 19. Písečné. Pohled na exploatačně-dílenský areál od západu. Foto J. Bartík.
Fig. 19. *Písečné. View of the exploitation-workshop area from the west. Photo by J. Bartík.*

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Summary

In 2024, a potential exploitation area and primary workshop for porphyritic microdiorite was discovered near Písečné, at the boundary of the cadastral areas of Václavov u Chvaletína and

Modletice (Jindřichův Hradec District), in the 'Sadeln' field, also known today as 'Modleticko'. The workshop site is a distinct surface cluster of production waste and raw material fragments, extending over an area of approximately 80 × 50 m (Fig. 19). Surface collections carried out to date have yielded over 200 flakes of various sizes, several preforms, and massive hammerstones. Based on the recorded distribution of this raw material to nearby settlements, the workshop activity at the site can likely be dated to the later stage of the Lengyel culture.

Jaroslav Bartík, Milan Vokáč, Tomáš Rohovský

Polešovice (okr. Uherské Hradiště)

„Nivy".

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.0148306N, 17.3731067E

Při pokračování pravidelného záchranného výzkumu v polešovické pískovně patřila v roce 2024 většina prozkoumaných objektů neolitickému horizontu zdejšího polykulturního osídlení. Prozkoumáno bylo osm rozlehlejších objektů charakteru stavebních jam, které se na neolitických sídlištích vyskytují podél delších stran nadzemních domů. Přesvědčivé stopy pravidelných konstrukcí typických nadzemních staveb se však v blízkosti tohoto objektu nedochovaly. Do stejného období pak patří i další prozkoumané sídlištní jámy. V menší míře se vyskytly i objekty z období popelnicových polí a halštatu.

Podle vyzvednutých keramických zlomků náleží tyto objekty nejstarší fázi kultury s lineární keramikou. Vedle keramických nálezů se podařilo získat také několik kamenných nástrojů, ať už drobnějších úštěpů z rohovcové suroviny, či kamenných brousků a zlomků zrnotěrek.

Literatura

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Summary

In 2024, a systematic rescue archaeological excavation was conducted in the 'Nivy' field (Polešovice cadastral area, Uherské Hradiště District), revealing another part of the settlement from the earliest phase of the Linear Pottery culture period.

Marek Lečbych

Pozořice (okr. Brno-venkov)

Ul. Nová, parc. č. 1546/2, 1547.

Neolit. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2053328N, 16.7901914E

Při novostavbě rodinného domu na ulici Nová v Pozořicích bylo ve výkopech základových pasů zdokumentováno několik sídlištních jam, které mohly být s ohledem na nepočetné nálezy datované pouze rámcově do neolitu.

Literatura

Neuvedeno.

Summary

Several settlement pits were recorded in the foundational trenches for a new family house in Nová Street in Pozořice (Brno-Country District). Based on the few finds, the features can only be tentatively dated to the Neolithic period.

David Parma

Přerov (k. ú. Dluhonice, okr. Přerov)

Ul. K Poli, parc. č. 607.

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: S-JTSK: -537182.7, -1137798.28; -537169.7, -1137796.03; -537052.69, -1137992.81; -537052.44, -1137992.68

V září až listopadu 2024 uskutečnili pracovníci Archeologického centra Olomouc, p. o., záchranný archeologický výzkum na stavbě nové komunikace k rodinným domům. Dosud neznámá lokalita je situovaná na východním okraji obce na mírném svahu obráceném k jihu s nadmořskou výškou 215–217 m. Stavbou bylo na ploše 14 × 330 m odkryto 309 sídlištních objektů a 51 hrobů z období neolitu, doby popelnicových polí, laténu a střední doby hradištní.



Obr. 20. Přerov. Pohled na výzkum sídliště kultury s lineární keramikou. Foto V. Záhorák.

Fig. 20. *Přerov. View of the excavation area of the Linear Pottery culture settlement. Photo by V. Záhorák.*

Většina objektů (cca 300) je datována do staršího i mladšího stupně kultury s lineární keramikou. Po typologické stránce se mezi objekty vyskytly sloupové jamky, žlábky, zásobní jámy, stavební jámy i rozsáhlé hliníky. Osada byla v severní části ohraničena žlabem (obj. 28–29) zachyceným v celé šířce komunikace (obr. 20). Na celé ploše sídliště bylo prozkoumáno několik koncentrací sloupových jamek, které ovšem netvořily jednoznačné půdorysy dlouhých domů. Na okrajích několika soujámí se podařilo objevit pece, jejichž dna byla vyložena říčními oblázky. Výplně objektů obsahovaly hojné nálezy keramiky, štípané kamenné industrie, mazanice a dvoudílných ručních mlýnků. Zvířecí kosti se až na výjimky nedochovaly.

Literatura

Neuvedeno.

Summary

In autumn 2024, a rescue excavation was carried out in connection with the construction of a new access road to family houses in Přerov-Dluhonice (Přerov District), in the K Poli Street. More than 300 sunken features were excavated, most of which have been attributed to a previously unknown settlement of the Linear Pottery culture (Fig. 20).

Marek Kalábek

Rokytnice (k. ú. Rokytnice u Přerova, okr. Přerov)

„Nad Oborou“, parc. č. 457/1.

Kultura lineární keramiky. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.4692733N, 17.3861194E

V roce 2023 se podařilo terénnímu archeologovi Muzea Komenského v Přerově během povrchového sběru provedeného v trati „Nad Oborou“ na katastru Rokytnice u Přerova lokalizovat dosud neznámé sídliště kultury s lineární keramikou. Orbou porušené sídlištní objekty byly zaznamenány na parc. č. 457/1, při nezpevněné polní cestě vedoucí k pravému břehu bezejmenné vodoteče napájející Návesní rybník poblíž severního okraje intravilánu obce. Lokalita se nachází v jihovýchodní části táhlého zaobleného hřbetu v nadmořské výšce 222 m. V předmětném prostoru jsou naorávány podložní pestré písčité štěrky pleistocenního stáří, v nichž byl zaznamenán početný výskyt valounů révaitu.

Během prospekce byl shromážděn menší soubor zlomků keramiky. Jeden fragment výdutě je zdoben kurvilineárním ornamentem. Keramická hmota zlomků silnostěnných nádob vykazuje nápadné množství ostřiva.

Kolekci kamenné štípané industrie tvoří pouze úštěpy silicitu glacigenních sedimentů a silicitu krakovsko-čenstochovské jury.

Kamenná broušená industrie je zastoupena pouze jedním exemplářem. Jedná se o torzo sekerky lichoběžníkovitého tvaru se zaobleným příčným průřezem (obr. 21). Celková délka sekery je činí 70 mm. Maximální dochovaná šířka činí 46 mm a tloušťka 10 mm. Hmotnost torza artefaktu činí 49,8 g. Povrch sekerky byl nerovnoměrně obroušen. Předmět byl zhotoven z metabazitu pocházejícího patrně z oblasti Jeseníku, čemuž by odpovídala i magnetická susceptibilita, jejíž naměřená hodnota dosahovala hodnoty okolo 0,30 × 10^{-3} SI jednotek.

Stopy pravěkého blíže nedatovaného osídlení polohy „Nad Oborou“ byly prokázány již v minulosti, kdy byly pracovníky Ústavu archeologické památkové péče Brno v rámci záchranného výzkumu zachyceny nevýrazné sídlištní aktivity (Šmíd 2004, 179).



Obr. 21. Rokytnice. Neolitická sekera. Foto Z. Schenk.
Fig. 21. *Rokytnice. Neolithic axe. Photo by Z. Schenk.*

Literatura

Šmíd, M. 2004: Rokytnice (okr. Přerov). *Přehled výzkumů* 45, 179.

Summary

In 2023, a surface survey conducted in the ‘Nad Oborou’ field (plot No. 457/1) in the Rokytnice u Přerova cadastral area (Přerov District) yielded evidence of a Neolithic settlement, probably associated with the Linear Pottery culture. The finds included pottery fragments, a chipped stone industry, and a polished stone axe (Fig. 21). Traces of prehistoric occupation in the ‘Nad Oborou’ field had already been documented in the past when archaeologists from the Institute for Archaeological Heritage Brno recorded indistinct settlement features during a rescue excavation (Šmíd 2004, 179).

Zdeněk Schenk, Antonín Přichystal

Sivice (okr. Brno-venkov)

Východní okraj intravilánu, parc. č. 799/1.

Neolit. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2039658N, 16.7868067E

Při novostavbě rodinného domu na parcele č. 799/1 byla na východním okraji obce Sivice dokumentována superpozice kruhových pecí rámcově neolitického stáří s pracovními plochami vyloženými fragmenty zrnotěrek. Plocha výzkumu byla součástí lokality rozprostírající se na rozmezí katastrů Sivic a Pozořic (Geislerová, Parma eds. 2018, 288–289).

Literatura

Geislerová, K., Parma, D. (eds.) 2018: *Výzkumy – Ausgrabungen 2011–2016.* Brno: Ústav archeologické památkové péče Brno, v. v. i.

Summary

During the construction of a new family house on plot No. 799/1, located on the eastern edge of Sivice (Brno-Country District), a superposition of circular kilns of broadly Neolithic date was documented, along with working surfaces lined with fragments of quern stones. The investigated area forms part of a large site that extends across the cadastral areas of Sivice and Pozořice (Geislerová, Parma eds. 2018, 288–289).

David Parma

Slavětice (okr. Třebíč)

„Zabitý“.

Neolit–eneolit. Neurčený areál. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1089667N, 16.1362333E

V rámci realizace projektu regionální spolupráce „Střední Pojihlaví jako součást historické stezky spojující Českomoravskou vrchovinu s jihomoravskými úvaly“ probíhaly v roce 2024 v prostoru vodních nádrží Mohelno a Dalešice terénní povrchové prospekce. Jejich hlavním cílem bylo monitorování a dokumentace intenzivní vodní eroze, která díky neustálému kolísání hladiny způsobuje rozplavování pokryvných sedimentů na březích nádrží, a tím i odkrývá dosud neznámé archeologické lokality. Při pravidelných odstávkách přečerpávací elektrárny Dalešice jsou proto prováděny celodenní prospekce s pomocí raftu, který umožňuje efektivní pohyb v prostoru nádrží a zároveň možnost průzkumu i některých ze břehů špatně dostupných míst. Nově se tímto způsobem podařilo doložit lidské aktivity na nevýrazné ostrožně situované nad pravým břehem řeky Jihlavy, u východního okraje tratě „Zabitý“ se stejnojmennou vrcholovou kótou 427 m. Lokalita se nachází na rozhraní katastrů obcí Slavětice a Dukovany (k. ú. Skryje nad Jihlavou) v nadmořské výšce 290–300 m. Jedná se o polohu skrytou v hluboce zaříznutém údolí řeky Jihlavy, která je navíc chráněna od jihozápadu prudkými skalnatými svahy, které nad lokalitou utvářejí amfiteátr otevřený k severovýchodu. Při povrchovém sběru erodovaného svahu (částečně pokrytého většími kameny; obr. 22) byl nalezen jeden otřelý keramický střep a odštěpovač na zlomku masivní retušované čepele z rohovce typu Krumlovský les variety I, který lze však klasifikovat i jako sekundárně použité mikrojádro těžené rozštěpovací technikou. Nalezeny zde byly také dva drobné úštěpy zhotovené z valounového křemene a křišťálu, jejichž artificialita je však nejistá. Prozatím blíže nespecifikovatelné lidské aktivity v této poloze můžeme jen předběžně rámcově datovat do období neolitu až eneolitu. Lokalita bude nadále průběžně monitorována.



Obr. 22. Slavětice. Pohled na lokalitu od východu. Foto J. Bartík.
Fig. 22. *Slavětice. View of the site from the east. Photo by J. Bartík.*

Literatura

Neuvedeno.

Summary

In 2024, several surface surveys were conducted in the area around the Mohelno and Dalešice reservoirs. The investigation was prompted by the regional cooperation project ‘Middle course of the River Jihlava as part of the historical route connecting the Bohemian-Moravian Highlands with the South Moravian valleys’ and recorded previously unknown human activity on an indistinct promontory above the right bank of the River Jihlava, on the eastern edge of the ‘Zabitý’ field (Fig. 22). The site lies on the boundary between Slavětice and Dukovany (Skryje nad Jihlavou cadastral area, Třebíč District). The as-yet-unspecified human activities, represented by a few pottery and chipped stone finds, can only be broadly dated to the Neolithic to Eneolithic periods.

Jaroslav Bartík, Petr Škrdla, Milan Vokáč, Aleš Hoch, Tomáš Rohovský, Marcel Lengyel

Stálky (okr. Znojmo)

„Zedlitzfeld“.

Mladší neolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 48.8736314N, 15.6745417E

Při povrchovém průzkumu byl cca 350 m od severozápadního okraje obce Stálky na Znojemsku objeven polotovar masivní sekery z páskovaného amfibolitu. Polotovar má protáhle trapézovitý tvar o rozměrech 133 × 72 × 27 mm a váží 335 g. Artefakt je pouze hrubě oštípán beze stop po jemnější piketáži či broušení (obr. 23). Jedná se o solitérní nález mimo sídlištní prostředí, avšak v prostoru primárního výchozu zmíněné suroviny. Zdejší amfibolity patří z geologického hlediska do podhradské jednotky, která je právě na amfibolity neobyčejně bohatá (Matějovská et al. 1992). Další doprovodný materiál nebyl povrchovým průzkumem v okolí místa nálezu získán, nelze však v tomto prostoru vyloučit existenci drobné dílny. Magnetická susceptibilita osciluje mezi 0,198–0,206 × 10^{-3} SI jednotek. Amfibolity, včetně páskované variety, byly doplňkově využívány na produkci broušené kamenné industrie v prostoru jihozápadní Moravy takřka po celý neolit a eneolit (Přichystal 2001; 2009, 183;



Obr. 23. Stálky. Polotovar sekerky z páskovaného amfibolitu. Foto J. Bartík.
Fig. 23. *Stálky. Semi-finished axe made of striped amphibolite. Photo by J. Bartík.*

Bartík 2013, 132). Těžiště jejich využívání však spadá do období mladšího neolitu, kam bychom mohli na základě tvaru zamýšleného cílového produktu, s určitou rezervou, datovat i popisovaný polotovar. Tomu na základě současných poznatků odpovídá i intenzita neolitického osídlení v oblasti západního Vranovska, kde dominují pozůstatky sídlišť z fáze IIb (v sousedním Waldviertelu typ Wolfsbach). Jde o první známý nález z doby kamenné, který byl na katastru Stálek učiněn.

Literatura

Bartík, J. 2013: Broušená a ostatní kamenná industrie kultury s moravskou malovanou keramikou z prostoru nejzápadnější Moravy. In: M. Metlička (ed.): *Příspěvky z 31. pracovního setkání Otázky neolitu a eneolitu našich zemí*. Archeologie v západních Čechách 6. Plzeň: Západočeské muzeum v Plzni, 118–154.

Matějovská, O. et al. 1992: *Geologická mapa ČR 1:50 000. List 33-22 Vranov nad Dyjí*. Praha: Český geologický ústav.

Přichystal, A. 2001: Neolitické-eneolitické broušené artefakty v České republice z hlediska kamenných surovin. *Pravěk. Nová řada* 2000/10, 41–70.

Přichystal, A. 2009: *Kamenné suroviny v pravěku východní části střední Evropy*. Brno: Masarykova univerzita.

Summary

A semi-finished massive axe made of striped amphibolite (Fig. 23) was discovered during a surface survey, approximately 350 m from the north-west edge of Stálky (Znojmo District). It is a solitary find outside the settlement but in the area of the primary raw material source. No other archaeological material was recovered by surface prospections in the vicinity of the site, but a small workshop, likely dating to the Late Neolithic period, could be identified here in the future.

Jaroslav Bartík, Milan Vokáč, Petr Kotrba

Štítary (okr. Znojmo)

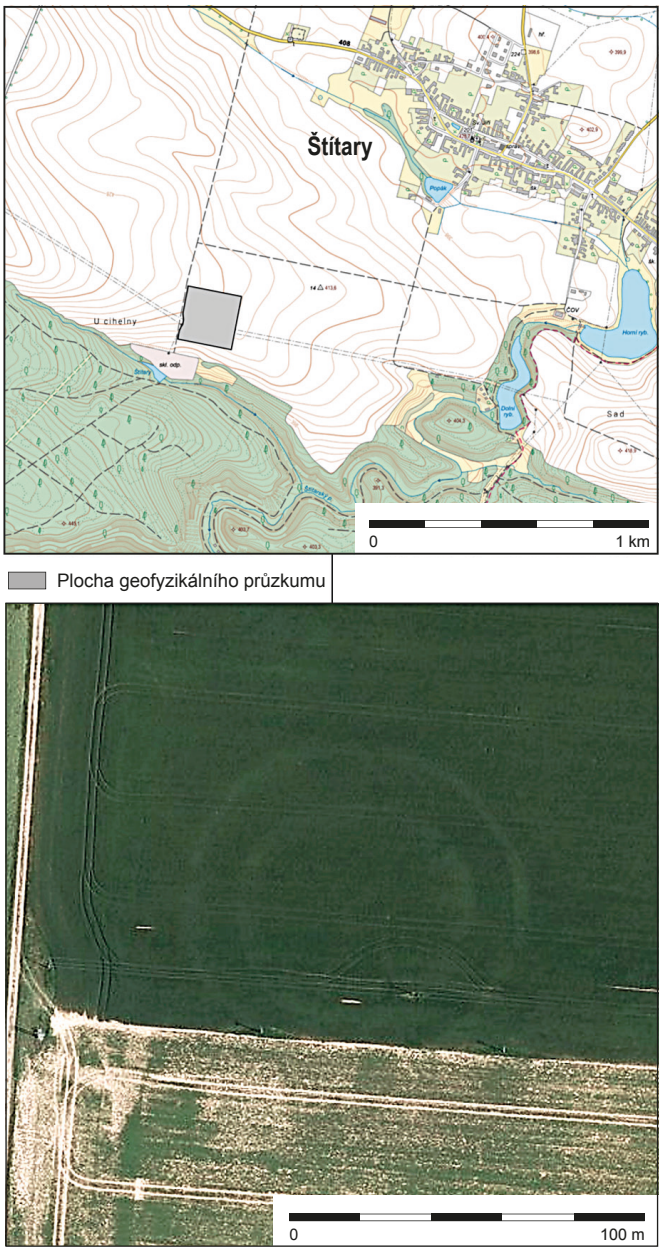
„U Cihelny“, „Hofbreiten“, „Baadfeld“.

Lengyelská kultura. Sídliště, příkopové ohrazení. Geofyzikální průzkum. Průzkum. Uložení nálezu: Jihomoravské muzeum ve Znojmě, p. o.

Lokalizace: WGS-84: 48.9288000N, 15.8307122E

Na jaře roku 2024 objevil pan M. Steffel při prohlížení ortofotomap zemského povrchu porostové příznaky dvojitého kruhového areálu (obr. 24) v jižní části katastru obce Štítary na Znojemsku. Svůj nález ohlásil územně příslušné organizaci a následně zde pod záštitou Jihomoravského muzea ve Znojmě proběhly ověřovací povrchové sběry, které potvrdily v širším okolí příznaků existenci doposud neznámé neolitické lokality. Ta se nachází cca 1,2 km jihozápadně od kostela ve Štítarech, v původní trati „Hofbreiten“ (dnes známé jako trať „U Cihelny“), a pokračuje východním směrem do tratě v minulosti zvané „Baadfeld“. Z geografického hlediska se sídliště rozprostírá na táhlém, plochém hřbetu ukloněném mírně k JVV, pouze při jižním okraji polohy je svah prudší a klesá do údolí drobné bezejmenné vodoteče, jež se o několik set metrů dále vlévá do Štítarského potoka. Nadmořská výška v prostoru sídliště osciluje mezi 417–421 m. Geologické podloží je tvořeno sprašovými hlínami.

Vícečetnými povrchovými sběry zde bylo získáno již několik stovek artefaktů, mezi kterými se nachází zlomky keramiky (staršího i mladšího stupně lengyelské kultury a vyloučit nelze u několika nezdobených výdutí ani příslušnost ke kultuře



Obr. 24. Štítary. Plocha geofyzikální prospekce a porostové příznaky dvojitého rondelu. Podkladová mapa: mapy.cz; autor J. Bartík, D. Cibulka.

Fig. 24. *Štítary. Area of geophysical survey and cropmarks of the double rondel. Base map: mapy.cz; author J. Bartík, D. Cibulka.*

s lineární keramikou) a štípaná, broušená i ostatní makrolitická kamenná industrie. V surovinovém spektru štípané kamenné industrie převažuje rohovec typu Krumlovský les varieta II nad varietou I a dalšími lokálními surovinami jako například křemičitou zvětralinou serpentinitů typu plazma či kusovým až mírně krystalovaným křišťálem, který pochází zejména z trhlin v místních biotitických rulách a světlých ortorulách gföhlské jednotky moldanubika. Prozatím ojediněle se zde vyskytují i suroviny importované ze vzdálenějších zdrojů. Jedním kusem jsou zastoupeny plattensilex typu Arnhofen a obsidián. Za zmínku stojí také čepelové škrabadlo zhotovené z rohovce typu Olomučany (76 km vzdušnou čarou od zdroje). Soubor je relativně bohatý na nástroje, mezi kterými převládají škrabadla. Dosavadní výsledky analýzy ekonomie zacházení se surovinami štípané industrie naznačují, že sídliště mělo převážně spotřební charakter. Suroviny broušené kamenné industrie jsou zastoupeny zejména

amfibolitem, který pochází nejspíše z lokálních zdrojů, a výjimečně také metabazitem typu Jizerské hory nebo porfyrickým mikrodioritem původem ze zdrojů v horním Podyjí.

Na základě pozitivního povrchového sběru zde následně proběhl ve spolupráci s pracovníky Archeologického ústavu AV ČR, Brno, v. v. i., geofyzikální průzkum (obr. 24), který definitivně potvrdil existenci dvojitého rondelu se čtyřmi vstupy, orientovanými přibližně ke světovým stranám. Vstupy vnějšího příkopu rondelu jsou opatřeny dovnitř zatažených anty, které zasahují přibližně do poloviny délky plochy mezi vnějším a vnitřním příkopem a svým způsobem tak dělí rondel do čtyř téměř uzavřených segmentů. Uvnitř rondelu se nacházejí dva palisádové žlaby spojené v místech vstupů a několik dalších kruhových objektů různé velikosti. Nápadná je zejména kumulace menších kruhových jam lemujících vnitřní hrany žlabu v západní polovině rondelu. Šířka vnitřního příkopu se pohybuje mezi 5–7 m. Šířka vnějšího příkopu je více variabilní a kolísá od 5 do 12 m, přičemž v severozápadním a jihozápadním segmentu rondelu jsou patrná zvláštní nepravidelná rozšíření příkopu (pokud se nejedná o superpozici s jiným typem objektu). S konstrukcí rondelu pravděpodobně souvisejí i další dvě protáhle oválné až liniové anomálie v severovýchodním segmentu, přičemž obě přiléhají těsně k dovnitř zataženému ukončení vnějšího příkopu u severního a východního vstupu do areálu. Celkový průměr kruhového areálu mezi vnějšími hranami vnějšího příkopu činí 100 m. Vnitřní příkop dosahuje průměru 70 m a uvnitř vymezuje plochu o rozloze okolo 2,5 ha.

Aktuálně se podařilo proměřit plochu o rozloze cca 3,7 ha, na které byly determinovány kromě rondelu také stopy velmi intenzivního osídlení. Zjištěno bylo několik stovek anomálií, reprezentujících potenciální zahloubené objekty různých velikostí a tvarů, včetně několika pravidelných kvadratických/obdélníkovitých útvarů. Z jižní strany přiléhá k rondelu několik větších anomálií – pravděpodobně hliníků.

K celkovému rozsahu a struktuře sídliště se bude možné vyjádřit až po realizaci další etapy geofyzikálních a povrchových prospekcí, kterým se budeme věnovat v nadcházejících sezónách. Je však zřejmé, že dvojitý příkopový areál u Štítar představuje prozatím nejzápadněji položený rondel na Moravě, a zároveň přilehlé sídliště nově vymezuje severozápadní hranici doposud známých dokladů osídlení kulturou s moravskou malovanou keramikou fáze Ia. V rámci našich aktivit probíhá rovněž studium archivních pramenů, které by se mohly týkat eventuálních starších archeologických průzkumů na této lokalitě, zejména v období od konce 19. století až do roku 1945.

Literatura

Neuvedeno.

Summary

In spring 2024, M. Steffel discovered cropmarks of a double circular enclosure (Fig. 24), while viewing aerial orthophotos in the southern part of the Štítary cadastral area, 'U Cihelny' field, Znojmo District). He reported the discovery to the relevant institution, and under the auspices of the South Moravian Museum in Znojmo, a surface survey was subsequently carried out, confirming the existence of a previously unknown Neolithic site. Multiple surface surveys and artefact collections have yielded several hundred artefacts, including pottery fragments (belonging to both the early and probably also later stage of the Lengyel culture), and chipped, polished, and other macrolithic stone industry. A geophysical survey was conducted at the site in cooperation with the Institute of Archaeology of the Czech Academy of Sciences in Brno (Fig. 24), which definitively confirmed the existence of a double rondel with four entrances roughly oriented to the cardinal points. The entrances of the outer ditch have inwardly bent antae reaching approximately halfway into the space between the outer and inner ditch, effectively dividing the rondel into four almost closed segments. Inside the enclosure, two palisade trenches are connected at the entrances, along with several other circular features of various sizes. The inner ditch is 5–7 m wide, while the width of the outer ditch varies from 5 to 12 m, with irregular extensions documented in the northwestern and southwestern segments. The overall diameter of the circular enclosure between the outer edges of the outer ditch measures 100 m. The inner ditch encloses an area of 70 m in diameter, covering approximately 2.5 hectares. The double-ditched enclosure at Štítary is currently the westernmost known rondel in Moravia.

Alena Nejedlá, Milan Vokáč, Jaroslav Bartík, David Cibulka, Michal Steffel, Vladimír Kouba

Tvarožná (okr. Brno-venkov)

„Kroukarty“, parc. č. 1065/1.

Kultura lineární keramiky. Sídliště. Náhodný zásah/nález. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.1907936N, 16.7631933E

Na skryté ploše novostavby rodinného domu byly na západním okraji Tvarožné, v trati „Kroukarty“, zachyceny ve sprašovém podloží tři sídlištní objekty. Jeden z nich bylo možné na základě keramických nálezů datovat do kultury s lineární keramikou a další lze spojovat snad s obdobím středověku.

Literatura

Neuvedeno.

Summary

Three settlement pits were identified in the loess subsoil in connection with a new family house construction west of Tvarožná (Brno-Country District), in the 'Kroukarty' field. Based on the pottery finds, one of the features could be dated to the Linear Pottery culture period.

Petr Kos

Tvořihráz (okr. Znojmo)

„U Radatínky“.

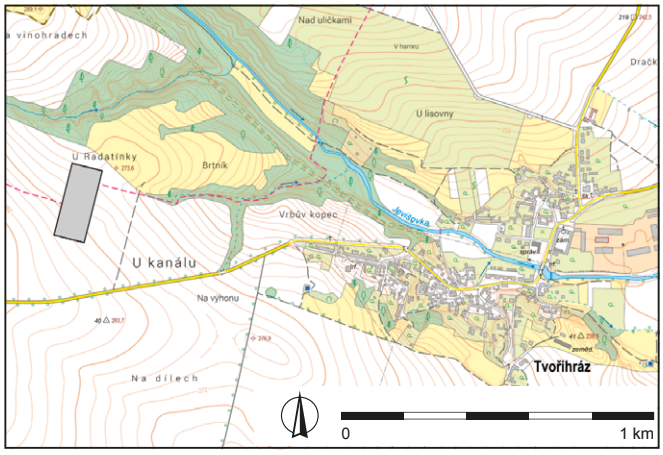
Zemědělský pravěk. Sídliště. Geofyzikální průzkum. Průzkum. Uložení nálezu: Archeologický ústav AV ČR, Brno, v. v. i.

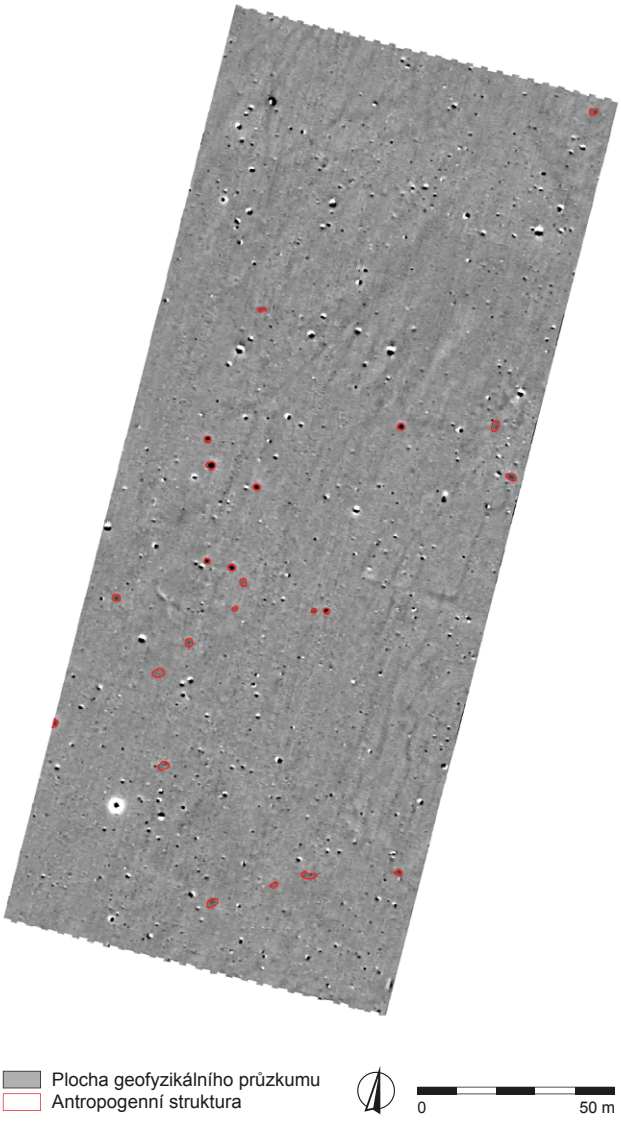
Lokalizace: WGS-84: 48.9186664N, 16.1195644E

Na podzim roku 2024 proběhl v trati „U Radatínky“ rozprostírající se na severozápadním okraji katastru Tvořihráze (a při jeho rozhraní s katastrem obce Výrovice) geofyzikální průzkum a povrchový sběr. Cílem realizovaných prospekcí bylo ověření kruhového porostového příznaku, který mohl představovat stopu dosud neznámého příkopového ohrazení (rondelu). Geofyzikální průzkum o rozsahu 2,37 ha byl realizován čtyřsondovým gradiometrem (sondy typu Fluxgate) FEREX 4.034 od společnosti FOERSTER.

Na výsledném magnetogramu bylo možné identifikovat celkem 23 anomálií, které s velkou pravděpodobností představují antropogenní struktury sídlištního charakteru. Zjištěno bylo taktéž několik zřetelných liniových projevů geofluviálních sedimentů, které respektují svah lokálního reliéfu (obr. 25). Lokalita je situována na mírném svahu uklánějícím se k severovýchodu do údolí řeky Jevišovky protékající ve vzdálenosti 600 až 700 m. Nadmořská výška se zde pohybuje mezi 273 až 280 m. Geologické podloží je tvořeno sprašovými hlínami, přičemž na východním okraji zájmové polohy vystupuje na povrch žíla biotitického granitu a terén je zde výrazně kamenitý.

Kruhovou strukturu viditelnou na aktuálních ortosnímcích zemského povrchu se geofyzikálním měřením ověřit nepodařilo. Výše zmíněné anomálie potencionálních zahloubených objektů v kombinaci s nepočetnými nálezy z povrchového sběru zde přesto dovolují předpokládat stopy lidských aktivit datovaných prozatím pouze rámcově do zemědělského pravěku.





Obr. 25. Tvořihráz. Poloha a výsledek geofyzikálního průzkumu. Autor J. Bartík, D. Cibulka.

Fig. 25. *Tvořihráz. Location and results of the geophysical survey. Author J. Bartík, D. Cibulka.*

Literatura

Neuvedeno.

Summary

In autumn 2024, geophysical and surface surveys were conducted in the ‘U Radatínky’ field, located at the northwestern edge of the Tvořihráz cadastral area and bordering the cadastral area of Výrovice (Znojmo District). The prospections aimed to verify a circular cropmark potentially indicating an unknown ditched enclosure (rondel). The geophysical survey, covering 2.37 ha, identified a total of 23 anomalies, most likely representing anthropogenic structures of a settlement character (Fig. 25). However, the circular structure visible on current aerial photographs could not be verified through the geophysical survey. The few surface finds indicate traces of human activity dated only broadly to the farming prehistory.

Jaroslav Bartík, David Cibulka, Jaromír Kovárník, Otakar Jansa

.....

Uničov (k. ú. Nová Dědina u Uničova, okr. Olomouc)

„Valcha“, parc. č. 301.

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum.
Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -554029.97, -1097679.31; -554028.84, -1097686.19; -553939.33, -1097670.44; -553939.08, -1097676.06

V srpnu a září 2024 provedli pracovníci Archeologického centra Olomouc, p. o., záchranný výzkum na stavbě polní cesty. Lokalita leží na mírné terásce po pravé straně mezi silnicí Uničov–Šumvald a Mlýnským potokem s nadmořskou výškou 244 m. V ploše stavby bylo zachyceno 62 sídlištních objektů z neolitu a pozdní doby bronzové a pět žárových hrobů z mladší doby bronzové. Většina zahloubených objektů však náleží sídlišti kultury s lineární keramikou. Zkoumané situace lze po typologické stránce interpretovat jako zásobní a stavební jámy, sloupové jamky a žlábek.

Literatura

Neuvedeno.

Summary

In 2024, a rescue excavation was carried out in connection with the construction of an unpaved road in the ‘Valcha’ field (Nová Dědina u Uničova cadastral area, Olomouc District) by the Archaeological Centre Olomouc. The excavation uncovered part of a settlement dated to the Linear Pottery culture period. The investigated contexts can be interpreted as storage and construction pits, postholes, and a narrow trench.

Marek Kalábek

Valašské Meziříčí (k. ú. Bynina, okr. Vsetín)

„Paseky“, „Kopečky“, parc. č. 564/1.

Neolit–eneolit. Ojedinělé artefakty. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum regionu Valašsko, p. o.

Lokalizace: WGS-84: 49.5005061N, 17.9691261E

V rámci dlouhodobé prospekce severního břehu Rožnovské Bečvy a následně vlastní Bečvy se postoupilo do oblasti Byniny/Mštěnovic. Na rozhraní katastru těchto obcí byla kromě dvou kovových artefaktů z doby římské (viz oddíl Doba římská a stěhování národů) nalezena také štípaná kamenná industrie zřejmě neolitického až eneolitického stáří. Reprezentativní je zejména přibližně 4 cm dlouhý zlomek čepele. Ostatní nálezy reprezentují především drobné zlomky. V roce 2025 bude na této nové lokalitě probíhat opakovaná povrchová prospekce.

Literatura

Neuvedeno.

Summary

As part of long-term prospection along the northern bank of the River Rožnovská Bečva and the main course of the River Bečva, the survey progressed into the area of Bynina/Mštěnovice (Bynina cadastral area, Vsetín District). At the boundary between these two cadastral areas, chipped stone industry dating from the Neolithic to Eneolithic periods was discovered in the ‘Paseky’ and ‘Kopečky’ fields. Further surface surveys are planned at this newly identified site in 2025.

Samuel Španihel

Věrovany (okr. Olomouc)

„Zadní celky“, parc. č. 1568/2.

Neolit–eneolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.4635290N, 17.2479120E

Dne 15. 2. 2024 nalezl M. Komínek, spolupracovník Muzea Komenského v Přerově, p. o., při západním okraji katastru obce Věrovany v poloze „Zadní celky“ ojedinělý exemplář kamenné broušené industrie – kompletní sekerku. Místem nálezu je poloha situovaná na levobřežní straně říčky Blata, která představuje pravostranný přítok řeky Moravy. Jde o severní okraj zarovnané táhlé vyvýšeniny, která převyšuje okolní říční nivu. Artefakt byl nalezen poblíž vrcholové kóty 205,7 m n. m.

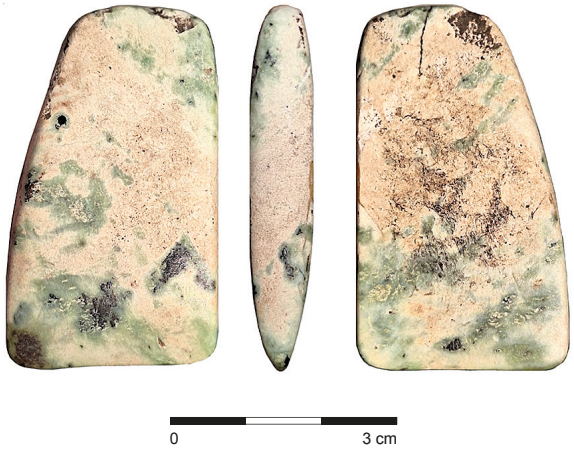
Doklady nejstaršího osídlení na katastru obce Věrovany lze klást do období neolitu. V literatuře jsou zmiňovány nálezy kultury s lineární keramikou a moravskou malovanou keramikou (Vránová 2011, 71–80).

V případě popisovaného nálezu se jedná o kompletní dokonale vybroušenou sekerku lichoběžníkovitého tvaru s obdélným příčným průřezem a rovným ostřím (obr. 26).

Celková délka artefaktu je 47 mm. Maximální šířka činí 28 mm a tloušťka 9 mm. Hmotnost kamenného předmětu dosahuje 22,65 g. Předmět byl zhotoven ze skvrnitého nefritu (světle a černozelené skvrny na bělavě okrovém pozadí) a makroskopicky je v podstatě totožný s dobře doloženou surovinou tří nefritových seker z Moravy popsaných dříve (cf. Přichystal et al. 2023). Zejména sekera z Hlinska je rozměrově, váhově i hodnotou magnetické susceptibility téměř identická (45 × 21 × 10 mm, hmotnost 26,95 g; MS 0,22 × 10^{-3} SI jednotek). Magnetická susceptibilita sekery z Věrovan dosahovala hodnoty kolem 0,16 × 10^{-3} SI jednotek. Přírodní zdroj nefritu ve východní části střední Evropy se nacházel u Jordanóva v jižním Polsku (Přichystal 2009, 190–191).

Z chronologického hlediska lze nestratifikovaný nález sekery z Věrovan rámcově datovat od období neolitické lengyelské kultury až do po závěr vývoje eneolitické kultury nálevkovitých pohárů.

Exemplář sekery z Věrovan na Olomoucku rozšiřuje počet dosud zveřejněných (či v současnosti předložených do tisku) předmětů zhotovených z nefritu, které byly nalezeny na území Moravy (cf. Přichystal et al. 2019, 289–304; Přichystal et al. 2023, 53–60).



Obr. 26. Věrovany. Nefritová sekerka. Foto Z. Schenk.
Fig. 26. *Věrovany. Nephrite axe. Photo by Z. Schenk.*

Literatura

Přichystal, A. 2009: *Kamenné suroviny v pravěku východní části střední Evropy.* Brno: Masarykova univerzita.

Přichystal, A., Kovář, J. J., Kuča, M., Fridrichová, K. 2019: The jadeitite-omphacitite and nephrite axeheads in Europe. The case of the Czech Republic. In: R. Gleser, D. Hofmann (eds): *Contacts, boundaries & innovation in the fifth millennium. Exploring developed Neolithic societies in central Europe and beyond*. Leiden: Sidestone Press, 289–304.

Přichystal, A., Rataj, P., Všianský, D. 2023: Petroarchaeological investigation of three nephrite axes from Moravia and Czech Silesia. *Přehled výzkumů* 64(1), 53–60.

Vránová, V. 2011: Archeologické nálezy a lokality na katastru Věrovan, Nenakonic a Rakodav. *Střední Morava* 31, 71–80.

Summary

A unique small polished nephrite axe (Fig. 26) was discovered in 2024 during a surface survey in the ‘Zadní celky’ field (Věrovany cadastral area, Olomouc District). The artefact measures 47 mm in length, with the width ranging from 28 mm at the cutting edge to 17 mm at the butt. Its maximum thickness is 9 mm, and the artefact weighs 22.65 g. The axe has a mottled surface, featuring green spots on a whitish-grey background. This rare polished artefact can be broadly dated to either the Neolithic Lengyel culture or the Eneolithic Funnel Beaker culture.

Zdeněk Schenk, Antonín Přichystal, Miroslav Komínek

Veverské Knínice (okr. Brno-venkov)

„Stráž“.

Neolit. Neurčený areál. Povrchový sběr. Průzkum. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.2329250N, 16.3959522E

Při přípravě publikace o pravěkém osídlení obce Veverské Knínice byla náhodně zjištěna v místní škole kolekce archeologických nálezů sestávající převážně z kamenné industrie. Hned při prvním ohledání se ukázalo, že se jedná o velice cenné nálezy s poměrně solidní základní doprovodnou dokumentací u některých artefaktů. V současné době se hledají další prameny k doplnění celé sbírky, která byla získána v minulých desetiletích 20. století. Na první pohled je u místního badatele patrné zaměření především na kamennou industrii. Keramiku reprezentuje pouze několik kusů střepů mladohradištního až pozdněhradištního stáří někde z širšího prostoru obce.

Několik kusů broušené kamenné industrie pochází z polohy „Stráž“. Ta je situována jižně až jihovýchodně od obce. Proveden byl ověřovací průzkum zájmové tratě, zatím se však nepodařilo zjistit přesnou polohu lokality, která není z dřívější literatury známa.

Seznam nálezů:

1. torzo štíhlého sekeromlatu; uražený týl v místě provrtu; amfibolický diorit.
2. torzo masivní sekery s rovným ostřím a s oválným příčným průřezem, poškozená týlová část; amfibolický diorit.
3. torzo masivní sekery s rovným ostřím a s oválným příčným průřezem, podélný průřez je nepravidelný, poškozena je týlová část; metabazit typu Želešice.
4. břitová část sekery s mírně plankonvexním průřezem; metabazit typu Jizerské hory.
5. torzo drobné ploché sekerky s poškozeným týlem a odraženou břitovou částí a oválným příčným průřezem; metabazit typu Želešice.
6. hraněná mírně lichoběžníková sekerka s rovným ostřím s obdélným příčným ostřím; metabazit typu Želešice.

Podle předběžného posouzení se jedná o artefakty, které by šlo chronologicky zařadit do mladého neolitu s přesahem do eneolitu, u jednoho artefaktu lze uvažovat i o starší komponentě (kultura s lineární keramikou?). Více informací snad přinese další průzkum.

Literatura

Neuvedeno.

Summary

While preparing a publication on the prehistoric occupation of Veverské Knínice (Brno-Country District), a collection of archaeological finds, consisting mostly of the stone industry, was accidentally discovered at the local school. Several pieces of polished stone industry (fragments of axes and battle axes) originate from the ‘Stráž’ field, located to the south and southeast of the village. A verification survey was carried out in the area of interest; however, the precise location of the site, unknown in the literature, has not yet been identified.

Martin Kuča, Antonín Přichystal

Viničné Šumice (okr. Brno-venkov)

„Za Humny“, parc. č. 1812/1.

Neolit–eneolit. Sídliště. Náhodný zásah/nález. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2118547N, 16.8239092E

V roce 2024 proběhl záchranný archeologický výzkum vyvolaný výstavbou mateřské školy ve Viničných Šumicích v poloze „Za Humny“. Na severovýchodním okraji stavební plochy bylo zachyceno a následně zdokumentováno několik větších sídlištních objektů (stavební jáma, hliníky?), které je možné na základě získaného materiálu zařadit rámcově do období mladšího neolitu až eneolitu.

Literatura

Neuvedeno.

Summary

In 2024, a rescue excavation was conducted prior to the construction of a kindergarten in the ‘Za Humny’ field in Viničné Šumice (Brno-Country District). Several large settlement features (a long pit, clay pits?) were identified. Based on the recovered material, the site can be broadly dated from the Late Neolithic to the Eneolithic period.

Petr Kos

Zábřeh (k. ú. Zábřeh na Moravě, okr. Šumperk)

„Měkkýš“, parc. č. 4248/1.

Kultura lineární keramiky. Sídliště. Povrchový sběr. Průzkum. Uložení nálezu: Vlastivědné muzeum v Šumperku, p. o.

Lokalizace: WGS-84: 49.8853592N, 16.9051775E; 49.8868939N, 16.9003925E; 49.8871150N, 16.9032033E

Opakovanými povrchovými sběry místních nadšenců do historie (M. Ján, J. Zapletal, D. a S. Kučerovi) byla na jaře 2024 v poloze „Měkkýš“ objevena dosud neznámá pravěká lokalita. Situována je v rovinatém terénu severně silnice Zábřeh–Lesnice a západně od drobné bezejmenné vodoteče (umělé strouhy). Identifikovaná koncentrace nálezů se v její západní části zřejmě překrývá s budoucí trasou plánované silniční stavby I/44 Zábřeh, obchvat.

Nalezen zde byl větší soubor štípané kamenné industrie (různé nástroje, zbytek jádra a odpad z výroby), broušená industrie (malá plochá sekerka a část vrtaného nástroje) a také zlomky keramiky náležející patrně kultuře s lineární keramikou. Relikt vrtaného broušeného nástroje by však mohl naznačovat i přítomnost osídlení v mladším neolitu či eneolitu.

Nejbližší soudobou lokalitou je známé sídliště v poloze Postřelmov – „U Františka“ (Goš, Halama 2006), vzdálené cca 1,7 km severozápadním směrem.

Literatura

Goš, V., Halama, J. 2006: Postřelmov (okr. Šumperk). *Přehled výzkumů* 47, 112–114.

Summary

A new prehistoric site was identified in 2024 through surface surveys in the ‘Měkkýš’ field (Zábřeh na Moravě cadastral area, Šumperk District). Finds included a larger assemblage of chipped

stone industry (tools, a core remnant, and production waste), polished industry (a small flat axe and part of a drilled tool), and also pottery fragments, likely associated with the Linear Pottery culture.

Jakub Halama

Zdounky (okr. Kroměříž)

Ul. Cvrčovská; „U Kaple“, parc. č. 1057/17, 1057/18, 1057/20, 1057/21, 1057/24.

Kultura lineární keramiky. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o., inv. č. AU230–AU234; AU235–AU254; AU256–AU258; AU517–AU542; AU543.

Lokalizace: WGS-84: 17.32868E, 49.22735N

Při rozšiřování zástavby individuálního bydlení v lokalitě „U Kaple“ (ul. Cvrčovská) v katastru Zdounky bylo zkoumáno pět parcel, na kterých byly doloženy další archeologické objekty (obr. 27, 28) náležející k jedné či druhé ze dvou dříve doložených sídlištních komponent, a to buď ke kultuře s lineární keramikou (Popelka, Paulus 2022) nebo kultuře zvoncovitých pohárů (Popelka, Paulus 2023). Průběžně tak dochází ke zpřesňování a aktualizaci rozsahu a prostorové struktury této archeologické lokality.

Literatura

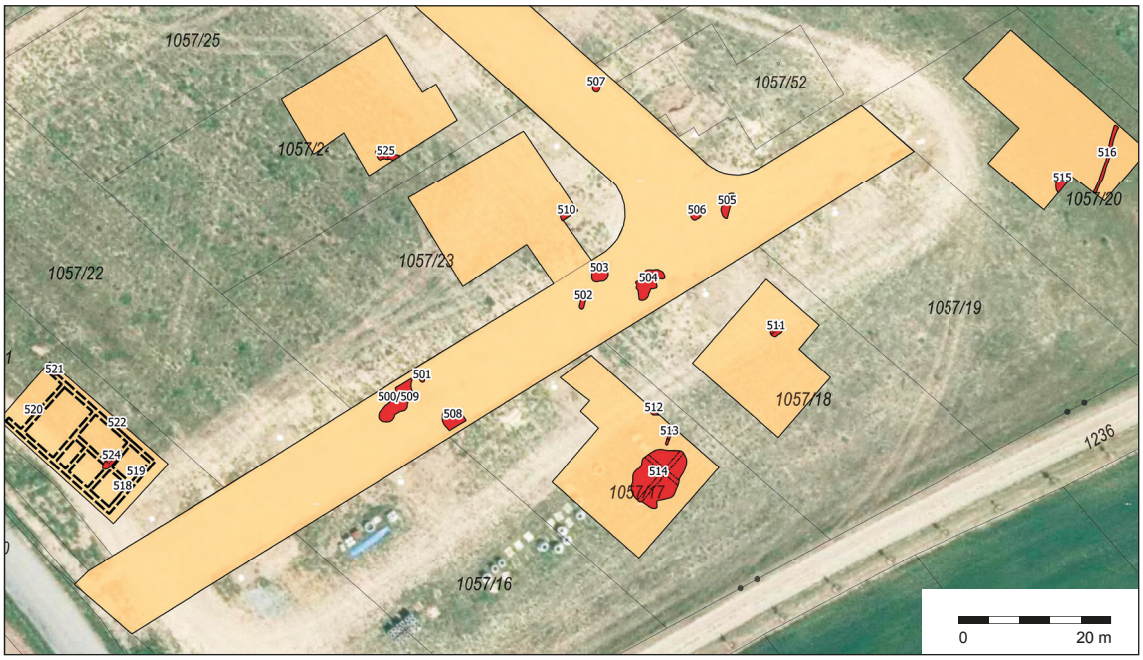
Popelka, M., Paulus, M. 2022: Zdounky (okr. Kroměříž). *Přehled výzkumů* 63(1), 146.

Popelka, M., Paulus, M. 2023: Zdounky (okr. Kroměříž). *Přehled výzkumů* 64(1), 219–220.

Summary

The ongoing construction of family houses in the ‘U Kaple’ field (Cvrčovská Street) in Zdounky (Kroměříž District) continues to yield new insights into a previously documented archaeological site comprising two occupation phases: the Linear Pottery culture and the Bell Beaker culture (Popelka, Paulus 2022; 2023). In 2024, settlement activity of varying intensity was recorded on five additional plots (Fig. 27, 28).

Miroslav Popelka, Martin Paulus



Obr. 27. Zdounky. Aktualizovaný celkový plán lokality. Autor M. Popelka.

***Fig. 27.** Zdounky. Updated overall plan of the site. Author M. Popelka.*



Obr. 28. Zdounky. Letecký pohled na lokalitu. Foto M. Popelka.

***Fig. 28.** Zdounky. An aerial view of the site. Photo by M. Popelka.*

Eneolit
Eneolithic

Blatec (okr. Olomouc)

Kocanda; „Za Nádražím", parc. č. 442/52, 442/53.

Kultura nálevkovitých pohárů, kultura šňůrové keramiky, kultura zvoncovitých pohárů. Sídliště, hrob. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -547987.57, -1128931.53; -547987.2, -1128954.28; -547963.2, -1128954.16; -547963.7, -1128931.53

V červenci 2024 prozkoumali pracovníci Archeologického centra v Olomouci, p. o., stavební parcelu (p. č. 442/52, 442/53) s pozůstatky sídliště kultury s nálevkovitými poháry (KNP) a hrobem kultury se šňůrovou keramikou (KŠK). V kruhové zásobní jámě KNP (obj. 57) byly zachyceny fragmenty nádob, štípaná, broušená a kostěná industrie. Na lokalitě byl prozkoumán kostrový komorový hrob KŠK (obr. 1), kterou překryl objekt (?) s keramikou kultury se zvoncovitými poháry. Hrob KŠK obsahoval kolekci osmi keramických nádob (amfory, džbán, poháry), plochou štípanou sekeru, štípanou industrii, měděné šídlo a zvířecí kosti. Skelet mladého jedince byl uložen na dně v severní polovině jámy v neanatomické poloze a zároveň byl z části překryt zlomky z hrdla velké hrncovité nádoby (č. 7). Prostor výzkumu je součástí polykulturní lokality zkoumané v roce 2023 (Záhorák et al. 2024a; 2024b).

Literatura

Záhorák, V., Kalábek, M., Johančík, M. 2024a: Blatec (okr. Olomouc). *Přehled výzkumů* 65(1), 201–202, 233.

Záhorák, V., Kalábek, M., Johančík, M. 2024b: Blatec (okr. Olomouc). *Přehled výzkumů* 65(2), 206.



Obr. 1. Blatec. Kostrový hrob kultury se šňůrovou keramikou. Foto L. Šín.

Fig. 1. *Blatec. Inhumation grave of the Corded Ware culture. Photo by L. Šín.*

Summary

A storage pit of the Funnel Beaker culture and an inhumation grave of the Corded Ware culture (Fig. 1) were investigated in Blatec (Olomouc District) in June 2024. The grave was later overlapped by a Bell Beaker feature.

Marek Kalábek, Lukáš Šín

Brno (k. ú. Líšeň, okr. Brno-město)

Staré Zámky.

Eneolit. Hradiště. Povrchový sběr. Průzkum. Uložení nálezu: dočasně Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.2161000N, 16.7156269E

V roce 2024 byla na Archeologický ústav AV ČR, Brno, v. v. i., předána sbírka archeologických nálezů, které byly získány na akropoli polykulturního hradiště Staré Zámky v Brně-Líšni panem J. Černým z Brna, jenž zde prováděl povrchové sběry od 90. let 20. století až do roku 2015. Kromě mladšího materiálu obsahovala jeho sbírka i čtyři pravěké kamenné artefakty, zařaditelné ve dvou případech do kategorie broušené a ve dvou do kategorie ostatní makrolitické industrie. Broušené artefakty reprezentuje drobný sekeromlat bez týlové partie, který byl zlomen v oblasti provrtu a na svém hřbetu (pod původním provrtem) nese náznak dalšího pokusu o provrtání, k němuž však již nedošlo (dochované rozměry: 79 × 32 × 27,5 mm, průměr provtu na hřbetní straně: 14 mm, hmotnost 100 g; obr. 2:1), a masivní trapézovitá sekerka se zaobleně obdélným průřezem a výrazně hraněnými boky, která je zlomena v podélné ose tak, že chybí větší část jednoho z boků i ostří (dochované rozměry: 88 × 32 × 24 mm, hmotnost 116 g; obr. 2:2). Povrch sekerky je precizně vyleštěn a surovinu, ze které byla vyrobena, lze označit jako jemnozrnný amfibolit s magnetickou susceptibilitou okolo 0,360 × 10^{-3} SI jednotek. Pro výrobu miniaturního sekeromlatu byl použit porfyrický mikrodiorit z brněnského masivu (magnetická susceptibilita: 0,132 × 10^{-3} SI jednotek). Skupinu ostatní makrolitické industrie zastupují dva kulovité drtiče s výraznými pracovními stopami po celém jejich obvodu. Zatímco první z nich je vyroben z amfibolického dioritu (rozměry: 76 × 61 × 54 mm, hmotnost 440 g; obr. 2:3), surovinou druhého drtiče se stal valoun křemene (rozměry: 69 × 74 × 58 mm, hmotnost 495 g; obr. 2:4). Obě suroviny jsou lokální provenience. Z chronologického hlediska můžeme broušené artefakty zařadit rámcově do eneolitu (doloženo je zde vícero fází eneolitického osídlení, cf. Čižmář 2004, 92–93), v případě datace drtičů je jejich zařazení s ohledem na výraznou polykulturnost lokality ještě výrazně širší – zemědělský pravěk.

Literatura

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Obr. 2. Brno – Staré Zámky. Kamenné artefakty. Foto J. Bartík.
Fig. 2. *Brno – Staré Zámky. Stone artefacts. Photo by J. Bartík.*

Summary

In 2024, a collection of archaeological finds was donated to the Institute of Archaeology of the Czech Academy of Sciences, Brno. The assemblage originates from the well-known multi-period hillfort site of Staré Zámky in Brno-Líšeň (Brno-City District), and was recovered through amateur surface surveys conducted from the 1990s to 2015. Alongside more recent material, the collection comprises four prehistoric stone artefacts: a damaged trapezoidal axe, a miniature hammer-axe with a broken butt, and two spherical grinding tools (Fig. 2). Chronologically, the two polished tools can be associated with the Eneolithic. The grinders are more difficult to date – given the multi-period character of the site, they may be only generally dated to the agricultural prehistory.

Jaroslav Bartík, Pavel Kouřil

Brno (k. ú. Slatina, okr. Brno-město)

„Na Slatinsku“, „Stránská skála III“.

Kultura nálevkovitých pohárů. Sídliště. Exploatačně-dílenský areál. Sonda. Badatelský výzkum. Uložení nálezu: dočasně Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.1858925N, 16.6838131E; 49.1858731N, 16.6839267E

V roce 2024 navázal na předchozí sezóny systematický výzkum exploatačně-dílenského areálu na Stránské skále v Brně (souhrnně Bartík 2023). Výzkum se soustředil na polohu SS III, kde byla provedena další etapa geofyzikální prospekce, jež přiléhala k ploše měřené v roce 2017 a také zde proběhl menší revizní odkryv objektu kultury nálevkovitých pohárů 1/81. Geofyzikální prospekce o rozloze 2,1 ha potvrdila přítomnost několika desítek magnetických anomálií představujících potenciální zahloubené objekty, a doložila tak pokračování pravěkých lidských aktivit dále k jihovýchodu. Pro revizní výzkum byl vybrán jeden z ponechaných kontrolních profilů v severní polovině rozsáhlého soujámí situovaný mezi sektory 4 a 7 v ose V–Z. Výzkum byl koncipován jako sonda obdélníkovitého tvaru o rozměrech 5 × 1 m a jeho cílem bylo ověření stratigrafické situace ve výplni objektu (obr. 3), doprovázené odběrem vzorků na datovací, geoarcheologické a archeobotanické analýzy. Nová data by měla přispět k lepšímu pochopení formativních procesů výplně objektu, jeho funkce a upřesnit stáří jednotlivých vrstev. Jednou z výzkumných otázek bylo také ověření přítomnosti drobné frakce štípaných artefaktů, která v původní kolekci z 80. let 20. století takřka zcela chybí (cf. Svoboda, Šmíd 1996; Bartík 2023). Díky kompletnímu proplavení vytěženého sedimentu a zisku velkého množství drobné frakce štípané industrie jsme si nově dokázali udělat představu o míře podreprezentování původní kolekce a také o charakteru nejmenších kategorií výrobního odpadu. Kromě bohaté kolekce štípané industrie byl získán menší soubor silně fragmentarizované keramiky a zvířecího osteologického materiálu a z báze objektu se podařilo vyzvednout masivní zrnotěrku. Za zmínku stojí také nález parohové rukojeti s dutinou pro zasazení blíže neznámého typu nástroje, která bude v laboratoři podrobena detailní analýze. Po dokončení exkavace výplně objektu pokračoval výzkum hlouběji a zaměřil se na dokumentaci paleolitické vrstvy s bohatými nálezy z období bohunicienu (viz oddíl Paleolit). Ve výzkumu polohy Stránská skála III bude nadále pokračováno.



Obr. 3. Brno – Stránská skála III. Revizní výzkum stratigrafie v objektu 1/81. Foto J. Bartík.
Fig. 3. *Brno – Stránská skála III. Re-excavated stratigraphy in feature 1/81. Photo by J. Bartík.*

Literatura

Bartík, J. 2023: *Prehistoric exploitation and workshop area at Brno-Stránská skála. Prehistoric exploitation and workshop areas in Moravia I.* Spisy Archeologického ústavu AV ČR Brno 77. Brno: Czech Academy of Sciences, Institute of Archaeology, Brno.

Svoboda, J. A., Šmíd, M. 1996: Dílenský objekt kultury nálevkovitých pohárů na Stránské skále. *Pravěk. Nová řada* 1994/4, 79–125.

Summary

In 2024, a systematic excavation continued at the exploitation and workshop area at Stránská skála in Brno (Brno-Slatina cadastral area, Brno-City District), focusing on the Stránská skála III site. The fieldwork comprised phase of geophysical survey alongside a small-scale re-excavation of feature 1/81, attributed to the Funnel Beaker culture. The geophysical survey, covering an area of 2.1 ha, identified several dozen new anomalies interpreted as potential subsurface features, thereby indicating a continuation of prehistoric human activity towards the south-east. The re-excavation involved a rectangular trench measuring 5 × 1 m, aimed at verifying the stratigraphic sequence within the feature's infill. Excavation was accompanied by sampling for dating, geoarchaeological, and archaeobotanical analyses (Fig. 3). The new data are expected to contribute to a clearer understanding of the formation processes of the infill, the function of the feature, and the chronological refinement of its layers (cf. Svoboda, Šmíd 1996; Bartík 2023).

Jaroslav Bartík, Petr Škrdla, Katarína Adameková, David Cibulka

Břeclav (okr. Břeclav)

Severně od dálničního nájezdu.

Eneolit. Ojedinělý artefakt. Povrchový nález. Průzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., přír. č. 63/2023.

Lokalizace: WGS-84: 48.787200N, 16.927900E

V roce 2023 byla do Regionálního muzea v Mikulově, p. o., nálezcem předána broušená kamenná sekyrka, kterou našel někdy v průběhu 80. let 20. století. Přesné místo nálezu nelze zrekonstruovat i s ohledem na skutečnost, že artefakt byl objeven v pásu zemědělského stroje v průběhu polních prací. Obecně lze oblast nálezu lokalizovat cca 300 m severně od nájezdu na dálnici D2 ve směru na Brno.



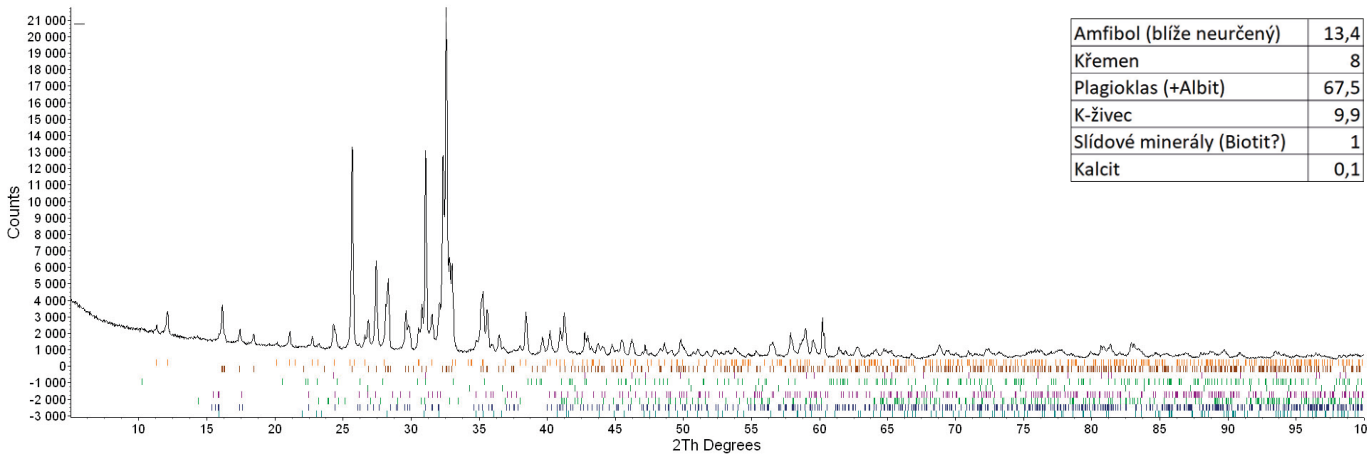
Obr. 4. Břeclav. Kamenná sekyra. Foto K. Piačková.

Fig. 4. *Břeclav. Stone axe. Photo by K. Piačková.*

Sekyrka (obr. 4) má rozměry 109 × 54 × 27 mm a váží 283,6 g. Jedna strana a týl jsou bíle patinované, patina zasahuje částečně i do boků a na přední stranu v oblasti ostří. Až na malé výjimky je sekyrka velmi jemně vybroušená, ostří je mírně zakulacené, místy drobně poškozené. Tvarově je půdorys mírně lichoběžníkovitý, podélný profil je téměř symetrický a ostří má bikonvexní příčný profil.

Hornina je světle nazelenale šedá vyvřelina, magmatická (Munsell greenish gray 5GY 6/1), jemnozrnná, občas s výskytem vyrostlic tmavého minerálu. Podle rtg-difrakčního záznamu (obr. 5) převažují plagioklasy (68 %) nad K-živcem (10 %), zastoupen je též křemen (8 %), z tmavých minerálů amfibol (13 %) a slídy (biotit? – 1 %). Hornina má z hlediska složení v podstatě charakter vyvřeliny na hranici granodioritu a monzodioritu, na druhé straně přítomnost vyrostlic v jemnozrnné základní hmotě naznačuje nejspíš subvulkanický charakter. Hustota činí 2,73 g/cm^3, magnetická susceptibilita pouze 0,18 × 10^{-3} SI.

Pokud jde o provenienci, předběžně by se mohlo uvažovat o hornině ze skupiny banatitů, což jsou vyvřeliny svrchnokřídového stáří v rumunském pohoří Apuseni a v rumunském Banátu. V mladší a pozdní době kamenné byly ale používány spíše kontaktní horniny (tzv. hornfelsy), které vznikly kolem banatitů přeměnou okolních sedimentů. Podle mad'arských autorů se objevují



Amfibol (blíže neurčený)	13,4
Křemen	8
Plagioklas (+Albit)	67,5
K-živec	9,9
Slídové minerály (Biotit?)	1
Kalcit	0,1

Obr. 5. Břeclav. Rtg-difrakční záznam suroviny sekery. Autor D. Všianský, Ústav geologických věd, Přírodovědecká fakulta, Masarykova univerzita.

Fig. 5. *Břeclav. X-ray diffraction analysis of the raw material from which the axe was made. Author D. Všianský, Institute of Geological Sciences, Faculty of Science, Masaryk University.*

jako hotové nástroje poměrně často v Maďarsku. Naše hornina těmto hornfelsům neodpovídá ani složením, ani hustotou. Je pravděpodobné, že se brousily i vlastní banatity, ale zatím jsme v archeologických pracích spolehlivé údaje nenašli. V dostupné petrografické literatuře je pro charakteristiku banatitů uváděn převážně charakter granodioritů s přechody k monzodioritům, často porfyrická struktura zejména pro okrajové facie (Ionescu, Har 2001, 65). Každopádně se se jedná o horninu k výrobě broušené industrie na Moravě neobvyklou.

Z hlediska chronologie lze vyloučit neolitické stáří, především na základě typologie artefaktu. Výrazná patinace na jedné straně sekyrky naznačuje, že mohla být uložena v hrobě, kde by patina vznikla následkem kontaktu s rozkládajícími se měkkými tkáněmi. Pravidelný výskyt broušených sekyrek v hrobovém prostředí evidujeme koncem eneolitu, méně ve starší době bronzové, a výjimečně i ve střední době bronzové. Právě z posledně jmenovaného období byl zaznamenán i podobný artefakt nalezený v hrobovém prostředí v Mikulově (Šabatová et al. 2020, 286), rovněž se vzácně se vyskytující surovinou, byť je to v tomto případě eklogit.

Literatura

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Šabatová, K., Parma, D., Trampota, F., Jarošová, I., Kaňáková, L., Přichystal, A., Vargová, L., Vymazalová, K. 2020: Hrob s kamennou konstrukcí ze střední doby bronzové z Mikulova. *Archeologické rozhledy* LXXII(2), 194–237. DOI: 10.35686/AR.2020.7.

Summary

In 2023, a polished stone axe (Fig. 4), originally found in the 1980s, was donated to the Regional Museum in Mikulov. Discovered near the D2 motorway entrance in Břeclav, the artefact measures 109 × 54 × 27 mm, weighs 283.6 g, and is made of a greenish-grey igneous rock (Munsell 5GY 6/1). X-ray diffraction analysis (Fig. 5) revealed a composition dominated by plagioclase (68%), with characteristics suggesting a subvolcanic origin, possibly banatite from Romania. The axe's typological attributes exclude a Neolithic date. Its surface patina suggests burial-related deposition, typical of Late Eneolithic or Bronze Age contexts. A comparable axe made of similarly rare raw material was found in Mikulov, highlighting its unique provenance.

Antonín Přichystal, František Trampota

Bulhary (okr. Břeclav)

„Au Äcker", parc. č. 910/4.

Starší eneolit. Sídliště, hrob. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., přír. č. 57/2024.

Lokalizace: S-JTSK: -591898, -1202526

V průběhu záchranného výzkumu (více viz oddíl Neolit) byl částečně prozkoumán objekt s nálezy eneolitické keramiky, kterou z důvodu absence výzdoby nelze kulturně zařadit. Dále bylo v objektu nalezeno malé množství mazanice, štípané industrie, zvířecích kostí a dvou broušených kamenných destiček.

Ve vzdálenosti asi 110 m od tohoto objektu byl objeven pohřeb v natažené poloze (H 800), který částečně narušil objekt s vypíchanou keramikou. I přesto, že zásyp hrobu obsahoval několik keramických fragmentů a jednu čepelku, nepovažujeme tyto nálezy za součást hrobové výbavy. Díky provedenému radiokarbonovému datování můžeme spolehlivě tento pohřeb datovat do starého eneolitu, pro který jsou specifické právě pohřby v natažené poloze bez hrobové výbavy.

Literatura

Neuvedeno.

Summary

During a rescue excavation (see Neolithic section) in the Bulhary cadastral area (Břeclav District), a subsurface feature containing unidentifiable Eneolithic pottery was partially investigated. Additionally, a grave with an individual buried in a stretched position, without any grave goods, was uncovered and radiocarbon dated to the Early Eneolithic period.

Kristína Piačková, František Trampota

Dřevohostice (okr. Přerov)

Dřevohostický les, parc. č. 1154/2.

Eneolit. Ojedinělý artefakt. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V roce 2024 byl M. Bulíčkem prostřednictvím preventivního detektorového průzkumu na katastru městyse Dřevohostice nalezen ojedinělý exemplář eneolitické kovové industrie.

Místo nálezu se nachází na parcele č. 1154/2. Jedná se o polohu situovanou v severozápadní části Dřevohostického lesa na levobřežní straně potoka Šišemka, který představuje pravostranný přítok říčky Moštěnky. Nadmořská výška místa okolí nálezu činí 285 m.

V případě nálezu se jedná o kompletní exemplář měděné ploché sekerky s mírně trapézovitým obloukovitým břitem (obr. 6).

Celková délka artefaktu je 76 mm. Maximální šířka v úrovni obloukovitě rozšířeného ostří činí 32 mm, v úrovni týlu 19 mm. Maximální tloušťka činí 10 mm. Hmotnost měděného předmětu je 122 g.



Obr. 6. Dřevohostice. Měděná sekera. Foto Z. Schenk.
Fig. 6. *Dřevohostice. Copper axe. Photo by Z. Schenk.*

Příčný průřez je obdélníkový s mírně zaoblenými hranami. V podélném průřezu se zužuje směrem k ostří i k mírně vkleslému týlu. Povrch artefaktu je nerovnoměrně pokryt světle zelenou oxidační patinou s hnědavým bahnitým povlakem. Na jedné z bočních stran, v úrovni ostří i týlu, je původní hladký povrch nástroje. Z typologického hlediska se popisovaná sekera nejvíce blíží typu Rudimov. Nově zachráněný exemplář ploché sekery rozšiřuje počet dosud nalezených měděných seker na katastru městyse Dřevohostice na Přerovsku (Dobeš et al. 2019, 7, 9, 33, 46).

Literatura

Dobeš, M., Fikrle, M., Drechsler, A., Faltýnek, K., Fojtík, P., Halama, J., Jarůšková, Z., Kalábek, M., Langová, J., Schenk, Z., Španihel, S., Peška, J. 2019: Eneolitická měděná industrie na Moravě. Nové a staronové nálezy ve světle stávajících poznatků o vývoji středoevropské metalurgie. *Památky archeologické* CX, 5–58.

Summary

An isolated flat copper axe (Fig. 6) was discovered in 2024 during a metal detector survey on the left bank of the Šišemka Stream, in the northwestern part of the Dřevohostický les (Dřevohostice cadastral area, Přerov District). The artefact can be broadly dated to the Eneolithic period.

Zdeněk Schenk

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Dukovany (okr. Třebíč)

„Nad Studánkou“, „Pohaniska“.

Kultura zvoncovitých pohárů. Hrob. Povrchový sběr. Průzkum. Uložení nálezu: dočasně Archeologický ústav AV ČR, Brno, v. v. i.

Lokalizace: WGS-84: 49.0933900N, 16.1750500E

V rámci realizace projektu regionální spolupráce „Střední Pojihlaví jako součást historické stezky spojující Českomoravskou vrchovinu s jihomoravskými úvaly“ probíhaly v roce 2024 v prostoru vodních nádrží Mohelno a Dalešice a jejich nejbližším okolí povrchové prospekce. Při jednom z průzkumů se podařilo na severním okraji katastru obce Dukovany v trati „Nad Studánkou“ nebo též „Pohaniska“ objevit rozoraný žárový hrob. Nálezová situace měla podobu ostrůvkovitě roztroušených spálených kostí doprovázených drobnými zlomky keramiky na ploše cca 3 × 3 m. Většina nálezů se však soustředila ve dvou sousedních brázdách hluboké orby. V inkriminovaném prostoru jsme provedli skrývku ornice za účelem zdokumentování hrobové jámy, ta však byla téměř celá zničena orbou a o její velikosti a tvaru se nedá říci nic bližšího. Zachytit se podařilo jen malou část její báze, která byla vyplněna tmavěji zbarvenou půdou, v níž se nacházely další pozůstatky kremace, včetně drobných uhlíků. Hrob byl patrně poškozován orbou dlouhodobě, o čemž svědčí i velmi špatné zachování milodarů. Z několika desítek drobných střepů se podařilo vyčlenit na základě podobnosti hmoty a úpravy povrchu celkem šest keramických nádob, které jsou ve všech případech značně torzovité. Na základě charakteru profilace některých keramických jedinců můžeme žárový hrob datovat do období kultury zvoncovitých pohárů. Nelze vyloučit, že v budoucnu by zde mohlo být dalšími průzkumy objeveno doposud neznámé pozdně eneolitické pohřebiště.

Literatura

Neuvedeno.

Summary

In 2024, a ploughed-in cremation burial was discovered on the northern edge of the Dukovany cadastral area, in the ‘Nad Studánkou’ field, also known as ‘Pohaniska’ (Třebíč District). Based on several poorly preserved ceramic vessels, the grave can be dated to the Bell Beaker culture. It cannot be ruled out that a Late Eneolithic burial ground may be discovered in the future at this site.

Jaroslav Bartík, Petr Škrdla

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Holasovice (k. ú. Štemplovec, okr. Opava)

Kamenec; „K Šopě“, parc. č. 320, 288, 352, 295.

Eneolit. Sídliště. Záchranný výzkum. Uložení nálezu: Slezské zemské muzeum, p. o.

Lokalizace: WGS-84: 49.9773442N, 17.7815833E

Na přelomu let 2023 a 2024 proběhl v místě záchranný archeologický výzkum spojený s kladením kanalizačního potrubí mezi obcemi Kamenec a Štemplovec. V prostoru nad potokem Žabina v trati „K Šopě“ byla zachycena část pravěkého sídliště, reprezentovaného 16 zahloubenými objekty. Výrazně fragmentární keramický materiál by snad mohl prokazovat v prostoru existenci sídliště lidu kultury nálevkovitých pohárů. Je ovšem na tomto místě nutné přiznat, že skromně zastoupené keramické nálezy postrádají výrazné chronologické znaky.

Literatura

Neuvedeno.

Summary

A rescue archaeological excavation was carried out in connection with the installation of a sewer line between the villages of Kamenec and Štemplovec (Štemplovec cadastral area, Opava District). Prehistoric subsurface features, most likely associated with the Funnel Beaker culture, were uncovered in the ‘K Šopě’ field.

Jiří Juchelka, Ondřej Klápa, Marek Piętoň, David Galia

.....

Holubice (okr. Vyškov)

„Podsedky“, parc. č. 1280/1.

Kultura zvoncovitých pohárů. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Vyškovska, p. o.

Lokalizace: WGS-84: 49.1846722N, 16.8107944E

Během výstavby Technologické centra jsme v roce 2024 během tří týdnů prozkoumali devět archeologických objektů. Všechny byly součástí sídliště kultury zvoncovitých pohárů (obr. 7). Ve třech případech se jednalo o velice rozsáhlé stavební jámy – hliníky o průměru 10 až 13 m. Dalšími objekty byly různé jámy sídlištního charakteru. Hliníky obsahovaly velké množství nálezů. Především se jednalo o keramiku (nalezeno i několik zlomků zdobených pohárů se zachovalou inkrustací), dále velký soubor broušené a štípané industrie, kostěné nástroje, nátepní destička, kamenná šipka, zvířecí kosti. Sídliště mohlo patrně souviset s existencí kostrového pohřebiště, které jsme zkoumali v roce 2020 (Mikulková 2021) zhruba 1 km jihozápadně od současného výzkumu.



Obr. 7. Holubice. Objekt 508 – stavební jáma, pohled z dronu. Foto J. Jagoš.

Fig. 7. *Holubice Feature 508 – construction pit, aerial view (drone). Photo by J. Jagoš.*

Literatura

Mikulková, B. 2021: Holubice. *Přehled výzkumů* 62(1), 211–212.

Summary

During the construction of the Technology Centre in the 'Podsedky' field (Holubice cadastral area, Vyškov District), nine settlement features associated with the Bell Beaker culture were excavated (Fig. 7).

Blanka Mikulková

.....

Kojetín (okr. Přerov)

„U Křenovické lávky", parc. č. 1818/53.

Mladší/pozdní eneolit. Ojedinělý artefakt. Povrchový sběr. Průzkum.
Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.3372490N, 17.2729430E

Dne 8. 9. 2023 byla při povrchovém sběru nalezena silicitová šipka v trati „U Křenovické lávky" (obr. 8). Jedná se o polohu situovanou na levobřežní straně Rybničního potoka, který představuje pravobřežní přítok říčky Haná. Nadmořská výška místa nálezu činí 198 m.

Z typologického hlediska se jedná o oboustranně retušovanou šipku s křidélky a konvexně vykrojenou bází. Artefakt s odlomeným hrotem náleží mezi symetrické rovnoramenné dlouhé tvary. Dochovaná délka trojúhelníkovité šipky symetrického tvaru činí 36 mm, čímž ji můžeme zařadit k velmi dlouhým tvarům, s kterými se setkáváme na moravských lokalitách v období pozdního eneolitu spíše ojediněle (Olivík 2009, 35–46). Maximální šířka exempláře z Kojetína činí 25 mm a tloušťka 4 mm. Hmotnost je 2,816 g. Na základě poměru délky a šířky byl stanoven index 1,44. Artefakt byl zhotoven ze silicitu glacigenních sedimentů světle šedohnědého zabarvení.

V poloze „U Křenovické lávky" a v prostoru sousední trati „Babiny" se nachází rozsáhlá polykulturní archeologická lokalita, kde bylo prostřednictvím povrchových sběrů doloženo především intenzivní osídlení z pozdní doby bronzové, starší a mladší doby železné a doby římské. Se starším horizontem osídlení lze prozatím spojit ojedinělé nálezy kamenné štípané a broušené industrie neolitického a eneolitického stáří. Popisovaný nález silicitové šipky lze rámcově zařadit do období pozdního eneolitu.

Literatura

Olivík, J. 2009: *Silicitové šipky a nátepní destičky – jejich typologie a postavení v pohřebním ritu kultury zvoncovitých pohárů na Moravě* [online]. Rkp. magisterské diplomové práce. Masarykova univerzita. Filozofická fakulta. Ústav archeologie a muzeologie. [cit. 2025-5-5]. Dostupné z: https://is.muni.cz/th/ejukm/.



Obr. 8. Kojetín. Silicitová šipka. Foto Z. Schenk.

Fig. 8. *Kojetín. Silicite arrowhead. Photo by Z. Schenk.*

Summary

A silicite arrowhead (Fig. 8) made of erratic flint was found in 2023 during a surface survey in the 'U Křenovické lávky' field (Kojetín cadastral area, Přerov District). The artefact can be broadly dated to the Late Eneolithic.

Zdeněk Schenk

Olomouc (k. ú. Slavonín, okr. Olomouc)

„Zahrady“, parc. č. 501/8.

Jordanovská kultura. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -548230.35, -1123463.71; -548233.86, -1123473.46; -548195.6, -1123488.22; -548191.6, -1123478.71

V dubnu 2024 prozkoumali pracovníci Archeologického centra Olomouc, p. o., pět sídlištních objektů jordanovské kultury na lokalitě Olomouc-Slavonín, Arbesova ulice, v trati „Zahrady“, parcela č. 501/8. Zkoumaná stavba leží v zahradě na mírném svahu obráceném k východu v nadmořské výšce 213 m. Ve dvou jamkách, dvou zásobních jamách a jednom menším soujámí byly zachyceny zlomky keramiky, štípaná industrie, mazanice a kostí. Objekty náleží k již známému sídlišti zkoumanému při předchozích výzkumech v letech 2004–2023 (Kalábek 2021; 2022; Kalábek, Kalábková 2021) a tvoří prozatím jeho severní hranici.

Literatura

Kalábek, M. 2021: Olomouc (k. ú. Slavonín, okr. Olomouc). *Přehled výzkumů* 62(1), 217.

Kalábek, M. 2022: Olomouc (k. ú. Slavonín, okr. Olomouc). *Přehled výzkumů* 63(1), 155.

Kalábek, M., Kalábková, P. 2021: Domy jordanovské kultury z Olomouce–Slavonína. *Pravěk. Nová řada* 28, 103–118.

Summary

In 2024, five features associated with the Jordanów culture were excavated in the ‘Zahrady’ field (Slavonín cadastral area, Olomouc District). The site is located at the northern edge of a previously known Jordanów settlement.

Marek Kalábek

Přerov (k. ú. Čekyně, okr. Přerov)

„Žalkov“, parc. č. 937.

Kultura zvoncovitých pohárů. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.494945N, 17.420668E

Během povrchové prospekce realizované dne 2. 11. 2023 byla nalezena silicitová šipka v poloze „Žalkov“. Jedná se o polohu na levobřežní straně říčky Olešnice, poblíž západního okraje intravilánu Čekyně, místní části města Přerova. Nadmořská výška úrovně současného povrchu lokality rozkládající se na mírném severovýchodním svahu klesajícím od táhlého hřbetu směrem do údolí k intravilánu (zástavbě ulice Borošín) se pohybuje okolo 275–280 m. Z typologického hlediska se jedná o oboustranně plošně retušovanou šipku s křidélky a konvexně vykrojenou bází, kterou lze zařadit mezi dlouhé symetrické rovnoramenné tvary (Olivík 2009, 94–96). Délka trojúhelníkovité šipky symetrického tvaru činí 27 mm, šířka 18 mm a tloušťka 3 mm. Hmotnost je 1,58 g. Na základě poměru délky a šířky byl stanoven index 1,5. Artefakt byl zhotoven ze silicitu glacigenních sedimentů světle šedobílého zabarvení.

V minulosti byly v poloze „Žalkov“ prostřednictvím povrchových sběrů zaznamenány doklady osídlení kultury s lineární keramikou a lengyelskou kulturou. Prozatím ojedinělé nálezy kultury zvoncovitých pohárů naznačují blíže nespecifikované antropogenní aktivity, které v předmětném prostoru probíhaly v období pozdního eneolitu, do něhož lze zařadit popisovaný nález šipky (Schenk et al. 2009, 257).

Literatura

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Schenk, Z., Kuča, M., Mikulík, J. 2009: Přerov (k. ú. Čekyně, okr. Přerov). *Přehled výzkumů* 50(1), 257–258.

Summary

A silicite arrowhead made of erratic flint was discovered in 2023 during a surface survey in the ‘Žalkov’ field (Čekyně cadastral area, Přerov District). The artefact can be attributed to the Bell Beaker culture.

Zdeněk Schenk

Přerov (k. ú. Kozlovice u Přerova, okr. Přerov)

„Haletinky“, parc. č. 751.

Eneolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.457293N, 17.497818E

V roce 2022 nalezl terénní archeolog Muzea Komenského v Přerově, p. o., během povrchového sběru v poloze „Haletinky“, na parc. č. 751, v severní části katastru obce Kozlovice u Přerova kamenný broušený nástroj eneolitického stáří. Nálezová poloha se nachází na výrazné terénní vlně na pravém břehu potoka Lučnice, který představuje levostranný přítok řeky Bečvy. Nadmořská výška místa nálezu je 226 m.

Jedná se o kompletní exemplář miniaturního sekeromlatu s jednostranným tupým ostřím s nízkým průřezem, zaoblenými boky a týlem (obr. 9). Celková délka předmětu činí 75 mm. Maximální dochovaná šířka je 32 mm. Maximální výška nástroje má 27 mm. Hmotnost artefaktu činí 94 g. Povrch nástroje má porfyrickou stavbu, přičemž v základní blíže nerozeznatelné hmotě jsou vidět až několik mm velké tmavé minerály. Provrtání sekeromlatu, které bylo umístěno blíže k týlu nástroje, má průměr 13–14 mm. Na jedné z bočních stran břitové části nástroje se nachází nápadné poškození recentního původu.

Popisovaný předmět byl zhotoven z neovulkanického olivinického bazaltu (bazaltoidu), jehož nejbližší zdroje jsou v tomto případě na severní Moravě (Červený vrch u Libavé nebo více výskytů v okolí Bruntálu). Povrch nástroje je intenzivně patinován, a v důsledku toho má světle šedé zabarvení způsobené zvětráváním původně šedočerné horniny. Pod mikroskopem jsou patrné vyrostlice olivínu a pyroxenu. Magnetická susceptibilita bazaltu dosahovala v případě kozlovického exempláře hodnoty $1{,}8 \times 10^{-3}$ SI jednotek. Na základě dosavadních nálezů kamenné broušené industrie zhotovené z bazaltu lze konstatovat, že na Moravě a ve Slezsku patřil mezi významně využívané horniny v kultuře se šňůrovou keramikou (Přichystal 2009, 207–208).

V roce 2013 objevila ve stejnojmenné trati severně od současného místa nálezu archeoložka K. Dlouhá z Tučína stopy osídlení ze staršího eneolitu, které lze spojit s aktivitami kultury s nálevkovitými poháry.

Literatura

Přichystal, A. 2009: *Kamenné suroviny v pravěku východní části střední Evropy.* Brno: Masarykova univerzita.



Obr. 9. Přerov. Miniaturní sekeromlat. Foto Z. Schenk.

Fig. 9. *Přerov. Miniature stone battle-axe. Photo by Z. Schenk.*

Summary

An isolated miniature polished and drilled battle-axe (Fig. 9), made of olivine basalt, was discovered in 2022 during a surface survey in the 'Haletinky' field (Plot No. 751, Kozlovice u Přerova cadastral area, Přerov District). The battle-axe can be broadly dated to the Eneolithic period.

Zdeněk Schenk, Antonín Přichystal

Sušice (k. ú. Sušice u Přerova, okr. Přerov)

„Čtvrtě za uličkou", parc. č. 162/1.

Eneolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o., přír. č. 7/2024.

Lokalizace: WGS-84: 49.485918N, 17.530702E

V roce 2022 nalezl terénní archeolog Muzea Komenského v Přerově, p. o., během povrchového sběru v poloze „Čtvrtě za uličkou", na parc. č. 162/1, v severní části katastru obce Sušice u Přerova torzo kamenného broušeného nástroje eneolitického stáří. Nálezová poloha se nachází na tzv. Radslavické terase na levobřežní straně řeky Bečvy. Nadmořská výška místa nálezu je 227 m.

Jedná se o neúplnou břitovou část sekeromlatu s nízkým průřezem (obr. 10). Dochovaná délka předmětu činí 103 mm. Maximální dochovaná šířka je 52 mm. Maximální výška nástroje dosahuje 22 mm. Hmotnost artefaktu činí 143,5 g. Na jedné z bočních stran břitové části nástroje se nachází nápadné poškození recentního původu.

Popisovaný předmět byl zhotoven z tmavé kulmské horniny s náznakem vrstevnatosti, kterou tvoří střídání tenkých lamin prachovitých břidlic a prachovců. Povrch nástroje je intenzivně patinován, a v důsledku toho má světlejší zabarvení. Magnetická susceptibilita horniny dosahovala v případě sušického exempláře hodnoty $0{,}12 \times 10^{-3}$ SI jednotek. Na základě dosavadních nálezů kamenné broušené industrie zhotovené z kulmského prachovce či prachovité břidlice lze konstatovat, že na Moravě a ve Slezsku patřily mezi významně využívané horniny v kultuře s nálevkovitými poháry a kultuře kanelované keramiky v období eneolitu (Přichystal 2009, 212–214).

Jen pouhé 4,4 km vzdušnou čarou severovýchodním směrem od místa nálezu popisovaného sušického artefaktu se v poloze „Nad Zbružovým" na katastru obce Hlinsko nachází významná archeologická lokalita. Ve starém a středním eneolitu zde bylo vybudováno centrální výšinné opevněné sídliště nadregionálního významu, jehož obyvatelé se specializovali na výrobu a distribuci kamenné broušené industrie z místních zdrojů kulmských hornin (Šebela ed. 2007; Šebela et al. 2007).

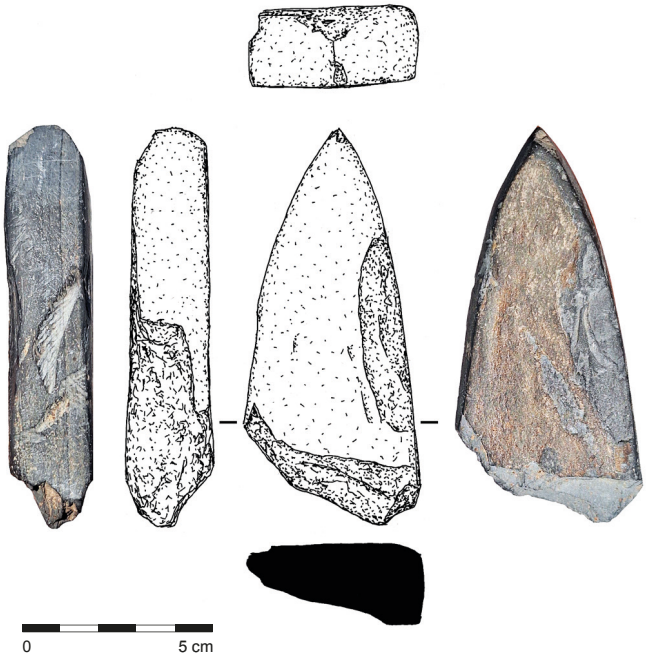
Na lokalitě „Čtvrtě za uličkou" v katastru Sušice u Přerova byly kromě ojedinělého nálezu torza sekeromlatu zaznamenány prostřednictvím povrchových sběrů B. Gibaly realizovaných v letech 2018 až 2024 doklady osídlení, které lze rámcově datovat do období pravěku a středověku.

Literatura

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Šebela, L., Škrdla, P., Schenk, Z. 2007: Hlinsko (okr. Přerov). *Přehled výzkumů* 48, 361–362.



Obr. 10. Sušice. Torzo sekeromlatu. Foto Z. Schenk, kresba D. Figeľ.

Fig. 10. *Sušice. Fragment of stone battle-axe. Photo by Z. Schenk, drawing by D. Figeľ.*

Summary

An isolated fragment of a polished battle-axe (Fig. 10), made of Culmian rock (a mixture of siltstone and silty shale), was discovered in 2022 during a surface survey in the 'Čtvrtě za uličkou' field (Plot No. 162/1, Sušice u Přerova cadastral area, Přerov District). The artefact can be broadly dated to the Eneolithic period.

Zdeněk Schenk, Antonín Přichystal

Troubelice (k. ú. Pískov, okr. Olomouc)

„Kouty".

Eneolit. Místo sběru. Povrchový nález. Průzkum. Uložení nálezu: Vlastivědné muzeum v Olomouci, přír. č. 10/2023.

Lokalizace: WGS-84: 49.8133086N, 17.0513700E

V roce 2023 získalo Vlastivědné muzeum v Olomouci kamennou sekeru, která byla náhodně nalezena v katastru Troubelic na Uničovsku. Broušený nástroj pochází z trati „Kouty" ležící severně od obory Na Vlnách a zároveň mezi dvojicí kopců Račůvka



Obr. 11. Troubelice. Broušená kamenná sekera. Foto L. Hlubek.

Fig. 11. *Troubelice. Polished stone axe. Photo by L. Hlubek.*

a Holubice. Místo nálezu lze zjednodušeně charakterizovat jako svah klesající severozápadním směrem k Pískovu.

Kamenná broušená sekera má trapézový tvar a symetricky vybroušené ostří. Hrany nástroje jsou mírně zaoblené. Povrch nese stopy po recentním poškození. Měřitelné rozměry jsou: délka 121 mm, šířka 51 mm a maximální síla 29 mm (obr. 11). Právě symetricky vybroušené ostří sekery patří k typickým znakům pozdní doby kamenné (např. Neustupný 2008, 23).

V současné době z této polohy neznáme další archeologické nálezy. Pouze v původní sbírce šternberského muzea se nacházela dvojice menších broušených kamenných seker z Pískova, ale chybí k nim bližší nálezové okolnosti (Trňáčková 1967, 17). Výše popsaná sekera může souviset s pohybem osob z některého z nedalekých sídlišť na Uničovsku (např. z katastru Troubelic nebo Medlova; např. Trňáčková 1963, 78–80; Kalábek, Šín 2018), případně indikuje průběh možné komunikace spojující Uničovsko s okolím Úsova. Nicméně nelze úplně vyloučit možnost, že nález naznačuje dosud neznámou archeologickou lokalitu na katastrálním území Pískova (k tomu Hlubek 2024).

Literatura

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Summary

In 2023, the Regional Museum in Olomouc acquired a polished stone axe with a trapezoidal shape (Fig. 11), which was discovered by chance in the Pískov cadastral area (Olomouc District). The artefact can be dated to the Eneolithic period.

Lukáš Hlubek

Tršice (okr. Olomouc)

„Zátěš“, parc. č. 654.

Eneolit. Ojedinělý artefakt. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.5223700N, 17.4396972E

V roce 2024 byl D. Baďurou během preventivního detektorového průzkumu na katastru obce Tršice na Olomoucku nalezen ojedinělý exemplář eneolitické kovové industrie.

Místo nálezu se nachází na parcele č. 654. Jedná se o polohu na severozápadním úpatí jednoho z kopců Tršické pahorkatiny, v jižní části lesa Zátěš, na levobřežní straně bezejmenné vodoteče, která představuje pravostranný přítok potoka Říka. Nadmořská výška místa okolí nálezu činí 275 m.

V případě nálezu se jedná o kompletní exemplář měděné ploché protáhlé sekerky s mírně trapézovitým tělem a téměř rovným břitem (obr. 12).

Celková délka artefaktu je 91,5 mm. Maximální šířka v úrovni vypoukle rozšířených bočnic činí 23 mm, v úrovni týlu 12 mm. Maximální tloušťka činí 9,2 mm. Hmotnost měděného předmětu je 97 g.

Příčný průřez je obdélníkový s mírně zaoblenými hranami. V podélném průřezu se zužuje směrem k ostří i týlu, který je zahrocený. Povrch artefaktu je silně korodovaný, nerovnoměrně pokrytý světle zelenou oxidační patinou s hnědavým bahnitým povlakem. Místy vystupuje původní hladký povrch měděného nástroje. Z typologického hlediska se popisovaná sekera nejvíce blíží typu Lešná. Nově zachráněný exemplář ploché sekery rozšiřuje počet dosud nalezených měděných seker na katastru obce Tršice na Olomoucku (Říhovský 1992, 63, Taf. 9:90; Dobeš et al. 2019, 29, 32, Tab. 1:135).

Literatura

Dobeš, M., Fikrle, M., Drechsler, A., Faltýnek, K., Fojtík, P., Halama, J., Jarůšková, Z., Kalábek, M., Langová, J., Schenk, Z. Španihel, S., Peška, J. 2019: Eneolitická měděná industrie na Moravě. Nové a staronové nálezy ve světle stávajících poznatků o vývoji středoevropské metalurgie. *Památky archeologické* CX, 5–58.

Říhovský, J. 1992: *Die Äxte, Beile, Meißel und Hämmer in Mähren*. Prähistorische Bronzefunde IX(17). Stuttgart: Franz Steiner Verlag.



Obr. 12. Tršice. Měděná sekera. Foto Z. Schenk.

Fig. 12. *Tršice. Copper axe. Photo by Z. Schenk.*

Summary

An isolated flat copper axe (Fig. 12) was discovered in 2024 during a metal detector survey on the right bank of the Říka Stream, in the southern part of Zátěš Forest (Tršice cadastral area, Olomouc District). The artefact can be broadly dated to the Eneolithic period.

Zdeněk Schenk

Uničov (k. ú. Nová Dědina u Uničova, okr. Olomouc)

„Za Dráhou“, parc. č. 296.

Eneolit. Hrob. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -555575.66, -1098781.83; -555528.16, -1098853.84; -555491.9, -1098818.08

V srpnu 2024 prozkoumali pracovníci Archeologického centra Olomouc, p. o., na stavbě nové tůně dětský kostrový hrob. Lokalita se nalézá cca 50 m jihovýchodně od ohybu potoka Lukavice s nadmořskou výškou 238 m. V úzké a mělké obdélné jámě, orientované delší osou S–J, byly vypreparovány dětské zuby a pozůstatek čtyř nádob. Hrob je předběžně datován do eneolitu.

Literatura

Neuvedeno.

Summary

In the summer of 2024, a child's skeletal grave tentatively dated to the Eneolithic period was excavated in Uničov (Nová Dědina u Uničova cadastral area, Olomouc District).

Marek Kalábek, Lukáš Šín

Velké Němčice (okr. Břeclav)

„Zeleňák“.

Kultura šňůrové keramiky. Hrob. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: S-JTSK: -594691.40, -1182029.20

Během záchranného archeologického výzkumu, který byl vyvolán stavební akcí „D2 Rozšíření odpočívky Zeleňák“ na katastru Velké Němčice, bylo na rozsáhlé ploše prozkoumáno celkem šest zahloubených sídlištních objektů a jeden kostrový hrob. Mělce zahloubená hrobová jáma se po ručním začištění na úroveň podloží vyrýsovala do podoby obdélníku se zaoblenými rohy o rozměrech 185 × 175 cm, orientovaného delší osou do směru V–Z. Maximální hloubka od povrchu skrývky byla jen 14 cm.

Na dně hrobu spočívaly silně skrčené dlouhé kosti. Okolo nebožtíka byly rozmístěny minimálně čtyři vetší keramické nádoby, které se dochovaly ve značně zlomkovitém stavu. Kromě keramiky se v hrobovém inventáři nacházely fragmenty měděného a kostěného artefaktu a zlomek rohovcového úštěpu. Na základě terénního zhodnocení náleží popsaný hrob do kultury se šňůrovou keramikou.

Literatura

AMČR: Záznam M-202300479 [cit. 2025-30-01]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/projekt/detail/M-202300479.

Summary

In 2024, during the expansion of the rest area on the D2 motorway in the municipality of Velké Němčice (Břeclav District), a skeletal grave from the Corded Ware culture was excavated.

Marek Lečbych, Andrea Matějíčková

Věrovany (okr. Olomouc)

„U Kamenného kříže“, parc. č. 1551/1.

Eneolit. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.446785N, 17.270189E

Dne 15. 2. 2024 nalezl spolupracovník Muzea Komenského v Přerově, p. o., M. Komínek prostřednictvím povrchového sběru při jihozápadním okraji katastrálního území obce Věrovany v poloze „U Kamenného kříže“ ojedinělý kompletní exemplář kamenné broušené industrie – sekerky (obr. 13).

Místem nálezu je poloha situovaná na levobřežní straně říčky Splavská, při hranici se sousedním katastrem Klopotovice. Jde o spodní část svahu zarovnaného hřbetu, který převyšuje okolní potoční nivu. Nadmořská výška místa nálezu je 201 m.

Doklady nejstaršího osídlení katastru obce Věrovany lze klást do období neolitu. V literatuře jsou zmiňovány nálezy kultury s lineární keramikou a moravskou malovanou keramikou (Vránová 2011).

V případě nálezu se jedná o kompletní dokonale vybroušenou sekerku obdélníkovitého tvaru s obdélným příčným průřezem se zaoblenými boky. V podélném průřezu se zužuje směrem k ostří i k týlu. Mírně obloukovité ostří nástroje vykazuje stopy poškození v důsledku častého používání. Na těle sekery je patrné rovněž další poškození recentního původu, vzniklé patrně v důsledku orby.

Celková délka artefaktu je 62 mm. Maximální šířka činí 32 mm. Maximální tloušťka je 17 mm. Hmotnost kamenného předmětu činí 64 g. Předmět byl zhotoven z vyvřelé horniny bohaté na živce mající charakter trachytu světle šedého odstínu zabarvení, kterého nabývá postupným zvětráváním. Na povrchu horniny jsou místy patrné občasné vyrostlice větších tmavých minerálů. Magnetická susceptibilita dosahovala hodnoty $0{,}26 \times 10^{-3}$ SI jednotek. Z toho lze předběžně konstatovat, že se jedná o horninu, jež by mohla pocházet např. z prostředí neovulkanitů Českého středohoří (Přichystal 2009).

Z chronologického hlediska lze nestratifikovaný exemplář sekery z Věrovan rámcově datovat do období eneolitu.



Obr. 13. Věrovany. Broušená sekera z trachytu. Foto Z. Schenk.

Fig. 13. *Věrovany. Polished trachyte axe. Photo by Z. Schenk.*

Literatura

Přichystal, A. 2009: *Kamenné suroviny v pravěku východní části střední Evropy.* Brno: Masarykova univerzita.

Vránová, V. 2011: Archeologické nálezy a lokality na katastru Věrovan, Nenakonic a Rakodav. *Střední Morava* 31, 71–80.

Summary

A small polished axe (Fig. 13), probably made of trachyte, was found in 2024 during a surface survey in the 'U Kamenného kříže' field (Věrovany cadastral area, Olomouc District). The artefact can be broadly dated to the Eneolithic period.

Zdeněk Schenk, Antonín Přichystal, Miroslav Komínek

Zaječí (okr. Břeclav)

„Louky".

Kultura zvoncovitých pohárů. Pohřebiště/hřbitov, sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., inv. č. A 105 828 – A 105 856.

Lokalizace: S-JTSK: -591866, -1200187; -591847, -1200122; -591748, -1200143; -591766, -1200209

Stavba se nachází při jižním okraji katastrálního území obce Zaječí v trati „Louky". Jde o rovinatou krajinu v inundaci řeky Dyje tvořenou obdělávaným polem a několika remízky. V minulosti byl říční systém zcela jiný a značně proměnlivý. O tom svědčí i proměnlivý geologický podklad, tvořený písky, štěrky a místy i jíly.

Samotný prostor stavby navazuje na etapu těžby II/C a II/B, které proběhly v posledních osmi letech a na kterých se podařilo lokalizovat několik sídlištních objektů ze starší doby bronzové (Čižmář 2020). V tomto případě jde zatím o nejjižnější plochu, která byla skrývána a postupně kontrolována v průběhu let 2022–2024, vlastní výzkum proběhl v dubnu 2024.

Bylo lokalizováno několik sídlištních objektů, které ovšem není možné jednoznačně datovat. Jde především o kůlové jámy a žlaby, tedy pozůstatky konstrukce staveb, o jejichž širším kontextu nelze, vzhledem k absenci jasných struktur nebo datovacího materiálu, říct nic bližšího. Objekty snad souvisí s blíže neurčeným sídlištěm, které bylo na přelomu pozdní doby kamenné a starší doby bronzové využíváno. Zajímavý je objekt 506, kruhový žlab, u kterého je možné předpokládat jinou než sídlištní funkci (např. sociokultovní ve spojitosti s pohřebním areálem).

Zjištěné pohřebiště odpovídá kultuře zvoncovitých pohárů. Jde o celkem běžné funerální struktury. Vlastní pohřby jsou velmi špatně dochované, včetně zajištěných milodarů, které se skládaly především z fragmentů keramických nádob – několika misek a dalších.

Zajímavý je hrob H801/806 (obr. 14), kde se podařilo zachytit reziduum kostrového hrobu překrytého hrobem s žárovým pohřbem, jenž byl pravděpodobně zbudován později. Bohužel nálezovou situaci značně ovlivnila míra dochování a také spodní voda, která např. u hrobu H804 neumožnila preparaci a dokumentaci nálezové situace.

Velký potenciál má neskrytá plocha orientovaná jižně od skrývek etapy II/D. Do těchto míst pohřebiště zcela jistě pokračuje, nachází se zde jílovito-písčitá vyvýšenina.



Obr. 14. Zaječí. Hrob kultury zvoncovitých pohárů. Foto R. Bíško.
Fig. 14. *Zaječí. Bell Beaker culture grave. Photo by R. Bíško.*

Literatura

Čižmář, I. 2020: Zaječí (okr. Břeclav). *Přehled výzkumů* 61(1), 187–188.

Summary

During a rescue archaeological excavation, part of a burial site and settlement from the Late Eneolithic and Early Bronze Age was excavated in the 'Louky' field (Zaječí cadastral area, Břeclav District). Graves from the Bell Beaker culture were also discovered at this site (Fig. 14).

Richard Bíško, Jiří Kala, Dana Vitulová

Zdounky (okr. Kroměříž)

„U Kaple", parc. č. 1057/17, 1057/18, 1057/20, 1057/21, 1057/24.

Kultura zvoncovitých pohárů. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o.

Lokalizace: WGS-84: 17.32868E, 49.22735N

Při rozšiřování zástavby individuálního bydlení v lokalitě „U Kaple" (ul. Cvrčovská) na katastru Zdounky bylo zkoumáno několik parcel (1057/17, 1057/18, 1057/20, 1057/21, 1057/24), na kterých byly zachyceny další archeologické objekty (viz oddíl Neolit). V lokalitě byla již dříve doložena existence sídliště kultury se zvoncovitými poháry (Popelka, Paulus 2023).

Literatura

Popelka, M., Paulus, M. 2023: Zdounky (okr. Kroměříž). *Přehled výzkumů* 64(1), 219–220.

Summary

Additional features of the Bell Beaker culture were excavated during the construction of family houses in the 'U Kaple' field in Zdounky (Kroměříž District).

Miroslav Popelka, Martin Paulus

Doba bronzová
Bronze Age

Blatec (okr. Olomouc)

Kocanda; „Za Nádražím“, parc. č. 442/52, 442/53.

Věteřovská skupina. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archaia Olomouc z. ú.

Lokalizace: S-JTSK: -547987.57, -1128931.53; -547987.20, -1128954.28; -547963.20, -1128954.16; -547963.70, -1128931.53

V červenci 2024 prozkoumali pracovníci Archeologického centra v Olomouci stavební parcelu s pozůstatky sídliště věteřovské a mohylové kultury. V devíti zásobních a sloupových jamkách byly zachyceny zlomky keramiky, mazanice a kostí. Objekty jsou součástí polykulturní lokality zkoumané v roce 2023 (Záhorák et al. 2024).

Literatura

Záhorák, V., Kalábek, M., Johančík, R. 2024: Blatec (okr. Olomouc). *Přehled výzkumů* 65(1), 201–202.

Summary

In 2024, an excavation was carried out in the cadastral area of Blatec (Olomouc District), uncovering nine settlement features associated with the Věteřov and Tumulus cultures.

Marek Kalábek

Bohdalice-Pavlovice (k. ú. Bohdalice, okr. Vyškov)

„Gůrka“, parc. č. 2672/33.

Kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Vyškovska, p. o.

Lokalizace: WGS-84: 49.209663111N, 17.032023563E

Během stavby rodinného domu byl zkoumán jeden drobný sídlištní objekt. Obsahoval několik rekonstruovatelných keramických tvarů. Za zmínku však především stojí nález výrazně profilovaných fragmentů hliněného „oltáře“ (obr. 1), které můžeme interpretovat jako možné doklady kultovních praktik mladší doby bronzové spojených snad se zápalnými oběťmi (Vencl 2016).

Literatura

Vencl, S. 2016: Pravěké zápalné oběti: případ knovízských objektů z Prahy 9 – Běchovic. *Archeologie ve středních Čechách* 20(1), 277–305.

Summary

A single settlement feature dating to the Urnfield period was investigated in the cadastral area of Bohdalice (Vyškov District). Several ceramic vessel fragments were recovered; of particular interest are distinctly profiled fragments of a daub ‘altar’ (Fig. 1).

Blanka Mikulková



Obr. 1. Bohdalice. Výrazně profilovaný mazanicový „oltář“. Foto B. Mikulková.
Fig. 1. *Bohdalice. Distinctly profiled daub ‘altar’. Photo by B. Mikulková.*

Bratčice (okr. Brno-venkov)

Intravilán, parc. č. 264/1.

Pozdní doba bronzová. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.0651489N, 16.5215064E

Archeologický dohled probíhal při zemních pracích souvisejících se skrývkou nadložních vrstev v prostoru budoucího parkoviště na parc. č. 264/1. V odkryté ploše byly zachyceny celkem čtyři archeologické situace projevující se tmavým zásypem. Bylo prozkoumáno větší soujámí a jedna mělká jáma kruhového půdorysu s množstvím především keramického materiálu, který je možné zařadit do pozdní doby bronzové. Ostatní dva objekty obsahovaly pouze mizivé množství nálezů a nelze je proto spolehlivě datovat.

Literatura

Neuvedeno.

Summary

During the construction of a car park in the cadastral area of Bratčice (Brno-Country District), a total of four archaeological features were identified, two of which can be dated to the Final Bronze Age.

Ivan Čižmář, Petr Kos

Brno (k. ú. Maloměřice, okr. Brno-město)

Ul. Pod Hády, parc. č. 2232/251–2232/253.

Doba bronzová. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2135650N, 16.6611828E

V roce 2024 pokračovala výstavba nové čtvrti Pod Hády, během které došlo v předminulém roce k objevu několika objektů kultury s moravskou malovanou keramikou (Zubalík 2024). Zemní práce se soustředily na hloubení výkopů pro nové inženýrské sítě, během kterých došlo na nízké ostrožně v západní části lokality k objevu tří zahloubených objektů. Jeden z objektů, předběžně datovaných do doby bronzové, sloužil snad jako zásobní jáma.

Literatura

Zubalík, J. 2024: Brno (k. ú. Maloměřice, okr. Brno-město). *Přehled výzkumů* 65(1), 178.

Summary

In 2024, a rescue excavation continued in the cadastral area of Maloměřice, in Pod Hády Street (Brno-City District), uncovering part of a settlement presumably dating to the Bronze Age.

Jiří Zubalík

Brno (k. ú. Staré Brno, okr. Brno-město)

Ul. Nové sady, parc. č. 1337.

Mladší doba bronzová. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: S-JTSK: -598255.3320, -1161453.4300; -598332.2403, -1161514.8417; -598277.6530, -1161561.0610; - 598226.2690, -1161469.0330

V roce 2024 bylo ukončeno zpracování záchranného archeologického výzkumu při stavbě Brno, Nové sady – Centropolis a Titanium X. Terénní část výzkumu probíhala s přestávkami v období od března 2022 do ledna 2023 (Sedláčková 2024). Plocha výzkumu o rozloze 4875 m^2 se nacházela v severní části Nových sadů, při jihovýchodní straně ulice.

Pravěké osídlení bylo zachyceno pouze v jihozápadní části plochy. Jedinou jednoznačnou aktivitu představuje výkop mírně oválného půdorysu o rozměrech 2,4 × 2 m a zachycené hloubce 0,88 m. Nálezy získané z jeho výplně jej datují jen obecně do mladší doby bronzové.

Při odstraňování půdního horizontu byly zachyceny další ojedinělé nálezy pravěkých střepů a kamenné broušené a štípané industrie. Jejich bližší časové zařazení se nepodařilo učinit.

Na základě zjištění z okolních archeologických výzkumů (Přibylová 2020; 2021) lze vyslovit domněnku, že pravěké osídlení se pravděpodobně koncentrovalo jižním, popř. východním směrem od námi zkoumané plochy. Je však nutno zmínit, že na relativně velké části plochy výzkumu nemohlo být pravěké osídlení zachyceno v důsledku činnosti vodních toků, které by svojí činností toto případné osídlení zcela odstranily již v minulosti.

Literatura

Přibylová, M. 2020: *Přestavba a přístavba AC TITANIUM.* Rkp. nálezové zprávy M-TX-202400319. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú. DOI: 10.60585/M-TX-202400319. Dostupné také z: https://digiarchiv.aiscr.cz/id/M-TX-202400319.

Přibylová, M. 2021: *Polyfunkční dům INSADY.* Rkp. nálezové zprávy M-TX-202200442. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú. DOI: 10.60585/M-TX-202200442. Dostupné také z: https://digiarchiv.aiscr.cz/id/M-TX-202200442.

Sedláčková, L. 2024: *Nálezová zpráva o provedení záchranného archeologického výzkumu při stavbě „Brno, Nové Sady – Centropolis a Titanium X“.* Rkp. nálezové zprávy M-TX-202400676. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú. DOI: 10.60585/M-TX-202400676. Dostupné také z: https://amcr.aiscr.cz/dokument/detail/M-TX-202400676.

Summary

A rescue archaeological excavation carried out during the construction of the ‘Nové sady – Centropolis and Titanium X’ building complex in Brno (Brno-City District) revealed a solitary pit dating to the Late Bronze Age. Additional finds of pottery and stone tools in the soil layer also attest to human occupation of the area. Given the site’s location and the proximity of watercourses, it is assumed that the main settlement was situated to the south and east of the excavation area.

Lenka Sedláčková

Brno (k. ú. Zábrdovice, okr. Brno-město)

Ul. Hvězdová 10, parc. č. 68.

Únětická kultura, mohylová středodunajská kultura, kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: WGS-84: 49.2012231N, 16.6232150E; 49.2007639N, 16.6233492E; 49.2007217N, 16.6225953E; 49.2011669N, 16.6225256E

V Brně-Zábrdovicích, na ulici Hvězdová proběhl záchranný archeologický výzkum vyvolaný stavbou „BD Hvězdová“ (Bučo 2025), a to v období září až prosinec 2024. Zachyceny byly archeologické situace z doby bronzové. I když majoritní část plochy byla zničena recentními zásahy, podařilo se zachytit celkem 14 objektů. Jednalo se především o spodní části zásobnic. Na ploše byla identifkována únětická kultura (s. j. 511), středodunajská mohylová kultura (s. j. 504, s. j. 506, s. j. 508–510) a kultura popelnicových polí (s. j. 507).

Literatura

Bučo, M. 2025: *Nálezová zpráva o provedení záchranného zjišťovacího archeologického výzkumu při chystané stavbě „BD Hvězdová“.* Rkp. nálezové zprávy č. j. 65/24. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú.

Summary

In 2024, a rescue archaeological excavation took place in Hvězdová Street in Brno (Brno-City District), revealing features from the Bronze Age Únětice culture, Middle Danube Tumulus culture and Urnfield culture.

Michal Bučo

Brno (k. ú. Žebětín, okr. Brno-město)

„Borovník“.

Starší doba bronzová. Sídliště. Povrchový sběr. Uložení nálezu: dočasně u autora.

Lokalizace: WGS-84: 49.2008744N, 16.4907067E

Poloha „Borovník“ tvoří rozsáhlá pole mezi Popůvkami a Žebětínem, odkud pochází občasné pravěké nálezy (Kuča 2002a; 2002b; Přichystal 2013a; 2013b). V severovýchodním cípu uvedené polohy, v nevýrazném výběžku lemovaném zahradami nad vodotečí ústící do Žebětínského potoka v nadmořské výšce 335–340 m, byly povrchovými sběry zjištěny stopy pravěkého osídlení. Jedná se o nevýrazné keramické zlomky a několik kusů štípané kamenné industrie. Jeden přepálený artefakt nese stopy strmé retuše, typické pro starší dobu bronzovou. Jedná se o první archeologické nálezy z této polohy a až další průzkum ukáže, jestli jde o náhodné nálezy, nebo zde můžeme uvažovat o sídelních aktivitách.

Literatura

Kuča, M. 2002a: Popůvky (okr. Brno-venkov). *Přehled výzkumů* 43, 137.

Kuča, M. 2002b: Popůvky (okr. Brno-venkov). *Přehled výzkumů* 43, 169.

Přichystal, M. 2013a: Brno (k. ú. Žebětín, okr. Brno-město). *Přehled výzkumů* 54(1), 116–117.

Přichystal, M. 2013b: Brno (k. ú. Žebětín, okr. Brno-město). *Přehled výzkumů* 54(1), 138.

Summary

A unique find of prehistoric activity was recorded during an archaeological survey in the ‘Borovník’ field (Žebětín cadastral area, Brno-Country District). Based on the coarse retouching on the chipped stone artefact, the activities may date to the Early Bronze Age.

Martin Kuča, Zdeněk Hájek

Bulhary (okr. Břeclav)

„Au Äcker“, parc. č. 910/4.

Starší doba bronzová. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., přír. č. 57/2024.

Lokalizace: S-JTSK: -591898, -1202526

V průběhu záchranného výzkumu (viz oddíl Neolit) byla prozkoumána jedna kónická zásobní jáma ze starší doby bronzové. Nálezy tvoří poměrně fragmentární zlomky keramiky, mazanice, zvířecí kosti a schránky velevruba, štípaná industrie, jeden fragment brouseného nástroje a jeden fragment válcového hliněného závaží. Na dně jámy byly zjištěny zbytky původního výmazu dna a ve spodních partiích stěn byly dokumentovány pravidelné vertikální otisky z původní vnitřní konstrukce.

Literatura

Neuvedeno.

Summary

A conical storage pit dating to the Early Bronze Age was uncovered during a rescue excavation in the cadastral area of Bulhary (Břeclav District).

Kristína Piačková, František Trampota

Holešov (k. ú. Dobrotice, okr. Kroměříž)

Intravilán, parc. č. 1544/39.

Mladší doba bronzová. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o., inv. č. AU 271 – AU 289; AU 306 – AU 311.

Lokalizace: WGS-84: 49.34130N, 17.60275E

Při zemních pracích souvisejících se založením novostavby rodinného domu na parc. č. 1544/39 na katastru Dobrotice bylo v jihozápadní části stavby prozkoumáno celkem pět zahloubených archeologických objektů. Čtyři z nich lze interpretovat jako kůlové či sloupové jámy, poslední objekt pak pouze obecně jako sídlištní jámu. Materiál vyzvednutý z výplní objektů se jeví jako poměrně homogenní a lze předpokládat, že všechny prozkoumané objekty náleží jediné archeologické komponentě. Jednalo se ovšem o značně torzovitý materiál s minimem přesněji determinovatelných tvarů či výzdobných prvků. Pouze na základě několika málo fragmentů, nesoucích plastickou výzdobu v podobě vypnulin a jazykovitých výčnělků v kombinaci s vnější úpravou povrchu tuhováním, lze tento materiál klást nejspíše do mladší doby bronzové. Kolekce keramického materiálu je doplněna množstvím mazanice, která nepochybně souvisí s existencí residenčních struktur v blízkém okolí, resp. potvrzuje interpretaci čtyř objektů jako kůlové/sloupové jámy tvořící konstrukci nadzemní stavby. Prostorově nejbližší známou archeologickou lokalitu představuje rozsáhlý polykulturní areál v nedaleké cihelně přibližně 600 m jihozápadním směrem, zde však již na katastru sousedních Žop (Fojtík, Popelka 2018).

Literatura

Fojtík, A., Popelka, M. 2018: V dobách, kdy města ještě nebylo. In: Z. Fišer (ed.): *Holešov. Město ve spirálách času*. Brno: Muzejní a vlastivědná společnost, 43–56.

Summary

Several settlement features, probably dating to the Late Bronze Age, were investigated during the construction of a family house in the cadastral area of Dobrotice (Kroměříž District).

Miroslav Popelka, Martin Paulus

Horka nad Moravou (okr. Olomouc)

„Horní kaluhy“.

Střední doba bronzová, mladší doba bronzová. Místo sběru. Průzkum detektorem kovu. Uložení nálezu: Vlastivědné muzeum v Olomouci, přír. č. 19/2022.

Lokalizace: WGS-84: 49.6237500N, 17.2055000E

V roce 2022 získalo Vlastivědné muzeum v Olomouci neúplný bronzový srp, který byl podle sdělení dárce vyzvednut v prostoru mezi Křelovem a Horkou nad Moravou. Jde o severní svah s nadmořskou výškou 219–244 m. Svah klesá od Křelova směrem k Horce nad Moravou a železniční trati spojující město Olomouc se Senicí na Hané. Za tratí teče bezejmenná vodoteč. Nalezený krátký bronzový srp je opatřen kuželovitým trnem v dorzální části šikmo seříznutého týlu. Na čepeli se nachází jedno žebro, které se směrem k hrotu postupně vytrácí. Špička srpu chybí. Čepel nástroje je lehce prohnutá. Artefakt nese stopy recentního nalomení v týlní části patrně od zemědělské techniky. Maximální měřitelná délka dosahuje 76 mm a maximální

šířka 14 mm (obr. 2). Nález lze s největší pravděpodobností přiřadit k srpům II. skupiny tvarů srpů s trnem v týlní části (Salaš 2005). Tento typ se objevuje během střední až mladší doby bronzové.

Vyzvednutý srp může indikovat dosud neznámou lokalitu v prostoru mezi Horkou nad Moravou a Křelovem. Nejbližší známé archeologické naleziště se nachází asi 1,5 km severně v trati „Spodní kaluhy“, kde M. Kalábek získal kolekci nálezů z mladší doby kamenné, střední a mladší doby bronzové a z raného středověku (Hlubek 2023). Další lokalita z mladší doby bronzové leží asi 500 m jihovýchodně v trati „Sekerník“ na katastru Křelova.

Literatura

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Salaš, M. 2005: *Bronzové depoty střední až pozdní doby bronzové na Moravě a ve Slezsku. I. Text; II. Tabulky.* Brno: Moravské zemské muzeum.



Obr. 2. Horka nad Moravou. Bronzový srp s kuželovitým trnem. Foto L. Hlubek.
Fig. 2. *Horka nad Moravou. Bronze sickle with a conical tang. Photo by L. Hlubek.*

Summary

In 2023, the Regional Museum in Olomouc acquired an incomplete bronze sickle with a conical tang at the butt end (Fig. 2), originating from the cadastral area of Horka nad Moravou (Olomouc District). The artefact can be dated to the Middle or Late Bronze Age.

Lukáš Hlubek

Ivančice (k. ú. Hrubšice, okr. Brno-venkov)

„Za Dvorem“.

Mohylová středodunajská kultura, velatická kultura. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Moravské zemské muzeum.

Lokalizace: WGS-84: 49.0898889N, 16.3075294E; 49.0897472N, 16.3069989E

V průběhu roku 2024 proběhlo v katastru Hrubšic několik záchranných archeologických výzkumů před výstavbou rodinných domů. Bylo zkoumáno ohrazené rovinné sídliště velatické kultury na polykulturní lokalitě, která byla identifikována už v roce 2021 při výstavbě místní komunikace a sítí. Lokalita leží v rovinatém terénu nivy řeky Jihlavy, jenž se mírně zvedá v západním směru. Kromě menších sídlištních a zásobních jam byl nalezen liniový žlab a tři nadzemní kůlové stavby z doby bronzové, z nichž jedna je s jistotou datována do mladší doby bronzové. Zbylé dvě leží ve vzájemné superpozici a zároveň i v superpozici se zásobní jámou středodunajské mohylové kultury. Vzhledem k nedostatku charakteristického materiálu z kůlových jam je datace staveb sporná. Lze konstatovat, že minimálně jedna náleží velatické kultuře, a to na základě určení střepů nalezených na povrchu zmíněné zásobní jámy. Teoreticky mohla být na místě domu středodunajské mohylové kultury se zásobní jámou vystavěna v mladší době bronzové nová stavba. Eventuálně mohou obě náležet různým fázím velatické kultury. Kromě keramického a osteologického materiálu byl nalezen i kruhový bronzový šperk a bronzový nýtek.

Literatura

Bučová Čerňavová, K. 2022: *Hrubšice – výstavba 27 RD na parcele 281/2 – kanalizace, vodovod.* Rkp. nálezové zprávy č. j. M-TX-202300300. Uloženo: Archiv nálezových zpráv, Archeologický ústav MZM. DOI: 10.60585//M-TX-202300300. Dostupné také z: Digitální archiv Archeologické mapy České republiky https://digiarchiv.aiscr.cz/id/M-TX-202300300.

Summary

A rescue archaeological excavation carried out prior to the construction of family houses in the cadastral area of Hrubšice (Brno-Country District) confirmed the presence of an enclosed lowland settlement of the Velatice culture and a solitary storage pit of the Middle Danube Tumulus culture.

Katarína Bučová Čerňavová

Ivančice (k. ú. Letkovice, okr. Brno-venkov)

Ul. U Kapličky.

Kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: WGS-84: 49.0945514N, 16.3598817E; 49.0945197N,16.3588678E; 49.0939928N, 16.3573817E; 49.0941342N, 16.3573256E

V průběhu rekonstrukce návsi v Letkovicích (městská část Ivančic), proběhl archeologický výzkum, který zachytil sídlištní situace z doby bronzové (AMČR; Bučo 2024). V reliktech se dochovala i kulturní vrstva, a to především v prostoru západně od kapličky. Byly dokumentovány sídlištní zásobní jámy datované do období kultury popelnicových polí. Lokalita byla již zkoumána v roce 1996 v průběhu výkopů inženýrských sítí Ústavem archeologické památkové péče Brno, v. v. i. (Vitula 1999).

Literatura

AMČR: Záznam M-202301497 [cit. 2025-04-09]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/projekt/detail/M-202404733.

Bučo, M. 2024: *Nálezová zpráva o provedení záchranného archeologického výzkumu při chystané stavbě „Stavební úpravy náměstí v Letkovicích“*. Rkp. nálezové zprávy č. j. 43/24. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú.

Vitula, P. 1999: Ivančice - Letkovice (okr. Brno-venkov). *Přehled výzkumů* 39 (1995–1996), 405.

Summary

In 2024, a rescue archaeological excavation was carried out in the cadastral area of Letkovice (Brno-Country District), uncovering archaeological contexts from the Neolithic period, the Bronze Age and the Middle Ages. The recovered material dates the settlement features to the Urnfield culture period.

Michal Bučo

Kozlov (k. ú. Kozlov u Velkého Újezdu, okr. Olomouc)

Obírka, parc. č. 180/1.

Kultura popelnicových polí. Ojedinělý artefakt. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

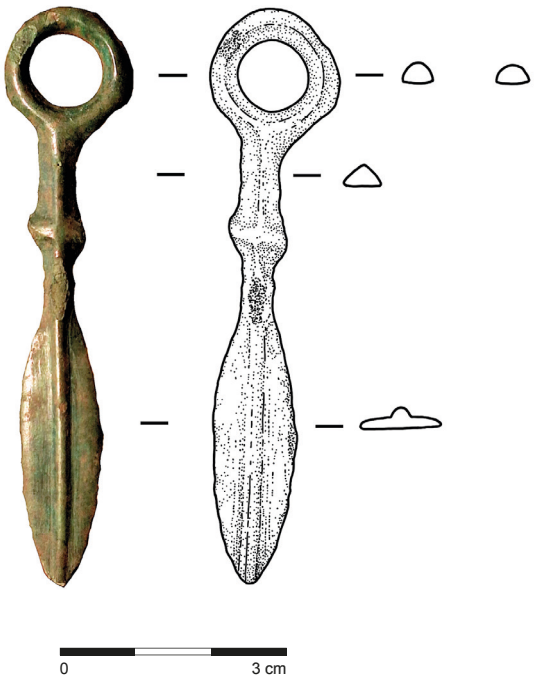
Lokalizace: Nepublikováno z důvodu ochrany lokality

V roce 2012 byl při jihovýchodním okraji katastru obce Kozlov u Velkého Újezdu během preventivní detektorové prospekce realizované v rámci projektu *Preventivní archeologie* objeven T. Kulíškem, spolupracovníkem Muzea Komenského v Přerově, p. o., solitérní nález kovové industrie z mladší doby bronzové. Místo nálezu se nachází na jihozápadním svahu výrazného kopce Obírka (622 m n. m.) na okraji Oderských vrchů, které od severu ohraničují bečevskou část Moravské brány. Lokalita je situována severně od obce Loučka, na levobřežní straně potoka Loučka, na parc. č. 180/1. Nadmořská výška místa nálezu činí 500 m.

Nalezeným kovovým předmětem je bronzový závěsek protáhle a štíhle listovitého tvaru (obr. 3). Tělo závěsku je na přední straně zesíleno hladkým středovým žebírkem, přičemž zadní strana je plochá. V horní části artefaktu se nachází kruhové oko určené na zavěšení, o vnějším průměru 17 mm a vnitřním 9 mm, které je s listovitou spodní částí propojeno krčkem o délce 20 mm a šířce 5 mm, v jehož středu je nápadné křížovité zesílení. Celková délka předmětu činí 77,5 mm, maximální šířka závěsku je 11 mm a tloušťka 3 mm. Hmotnost předmětu dosahuje 7,4 g. Povrch nálezu pokrývá světle zelená patina.

Listovité závěsky bývaly původně součástí štítových spon, řetězových závěsů, případně bronzových nádob v období kultury lužických popelnicových polí (Salaš 2005, 114–115). Není vyloučeno, že solitérní exempláře mohly rovněž sloužit jako samostatný osobní amulet s apotropaickou funkcí.

Popisovaný listovitý závěsek nepochybně souvisí s aktivitami obyvatel v okolí areálu výšinného opevněného sídliště situovaného ve vrcholových partiích kopce Obírka. Z hradiska objeveného v polovině 90. let 20. století bylo získáno několik depotů a rovněž velké množství solitérních předmětů, které dokládají osídlení lokality v období kultury lužických popelnicových polí (Br D – Ha B2), v době laténské (LT C2 – LC D1) a sporadicky rovněž v době stěhování národů (Čižmář, Salaš 2009).



Obr. 3. Kozlov – Obírka. Listovitý závěsek z doby bronzové. Foto Z. Schenk, kresba P. Holcová.

Fig. 3. *Kozlov – Obírka. Bronze Age leaf pendant. Photo by Z. Schenk, drawing by P. Holcová.*

Literatura

Čižmář, M., Salaš, M. 2009: Nové hradiště v Moravské bráně. *Archeologické rozhledy* LXI(1), 63–76.

Salaš, M. 2005: *Bronzové depoty střední až pozdní doby bronzové na Moravě a ve Slezsku. I. Text; II. Tabulky.* Brno: Moravské zemské muzeum.

Summary

An isolated Bronze Age leaf pendant (Fig. 3) was discovered by Tomáš Kulíšek in 2012 during a metal detector survey on the southwestern slope of Obírka Hill (622.3 m a.s.l.), situated on the edge of the Oderské Vrchy Hills near Loučka (Kozlov u Velkého Újezdu cadastral area, Olomouc District). The bronze leaf pendant can be dated to the Urnfield culture period.

Zdeněk Schenk, Tomáš Kulíšek

Kozlov (k. ú. Kozlov u Velkého Újezdu, okr. Olomouc)

„U Obrázku".

Mladší doba bronzová, pozdní doba bronzová. Místo sběru. Průzkum detektorem kovu. Uložení nálezu: Vlastivědné muzeum v Olomouci, přír. č. 7/2020.

Lokalizace: WGS-84: 49.5810933N, 17.5212417E

V létě 2020 získalo Vlastivědné muzeum v Olomouci bronzovou sekeru, která pochází dle sdělení nálezce z katastru Kozlova u Velkého Újezdu. Místo vyzvednutí artefaktu bylo podle mapy určeno dodatečně a pouze velmi přibližně. Danou polohu lze popsat jako zalesněný jižní až jihovýchodní svah bezejmenného kopce.

Sekera s tulejkou a částečně odlomeným ouškem je na povrchu nezdobená (obr. 4). Okraj tulejky zesiluje méně výrazné žebro. Na povrchu registrujeme stopy po sekundárním poškození (oděrky, vrypy). Celková délka činí 88 mm a maximální šířka v místech tulejky dosahuje 40 mm. Obecně lze bronzové sekery s tulejkou a ouškem zařadit do průběhu mladší až pozdní doby bronzové (např. Salaš 2005, 37–44).

Popsaný artefakt rozšiřuje dosavadní počet archeologických lokalit a ojedinělých nálezů z jižního okraje Oderských vrchů, nebo šířeji z oblasti při jižním okraji Moravské brány (srov. Skutil 1933, 112, 114; Vitula, Kalábek 1999; Čižmář, Salaš 2009; Paulus 2015; Tajer 2016, 396–398, obr. 9; Schenk 2021a; 2021b; 2023). Vyzvednutou bronzovou sekeru s tulejkou a ouškem můžeme v současné době interpretovat nejspíše jako ojedinělý či ztrátový nález (k tomu Hlubek 2022).

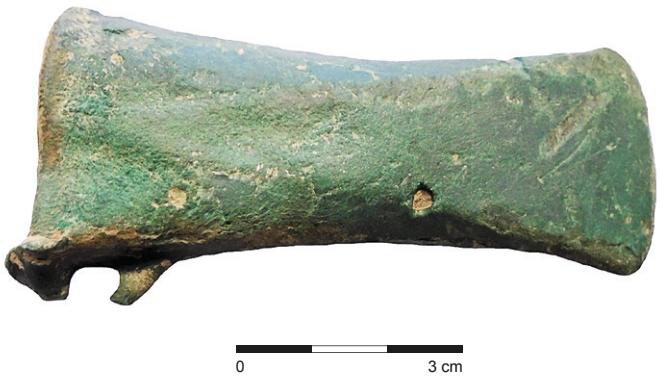
Literatura

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Schenk, Z. 2021a: Dolní Újezd (k. ú. Dolní Újezd u Lipníka nad Bečvou). *Přehled výzkumů* 62(1), 232.
Schenk, Z. 2021b: Kozlov (k. ú. Kozlov u Velkého Újezdu, okr. Olomouc). *Přehled výzkumů* 62(1), 291.
Schenk, Z. 2023: Kozlov (k. ú. Kozlov u Velkého Újezdu, okr. Olomouc). *Přehled výzkumů* 64(1), 254.
Skutil, J. 1933: Předhistorické osídlování a nálezy z Hranicka a Lipenska. *Záhorská kronika* XV(4), 97–126.
Tajer, A. 2016: Sídliště z doby halštatské z Podhoří u Lipníku nad Bečvou, okr. Přerov. In: M. Popelka et al. (eds.): *...tenkrát na východě... Sborník k 80. narozeninám Víta Vokolka*. Praehistorica XXXII(1–2). Praha: Univerzita Karlova, nakladatelství Karolinum, 381–404.
Vitula, P., Kalábek, M. 1999: Dolní Újezd (okr. Přerov). *Přehled výzkumů* 39 (1995–1996), 342–343.



Obr. 4. Kozlov – „U Obrázku“. Bronzová sekera s tulejkou a ouškem. Foto L. Hlubek.
Fig. 4. *Kozlov – ‘U Obrázku’. Bronze socketed axe with a loop. Photo by L. Hlubek.*

Summary
In 2023, the Regional Museum in Olomouc acquired a bronze socketed axe with a loop (Fig. 4) from the cadastral area of Kozlov u Velkého Újezdu (Olomouc District). The artefact can be dated to the Late or Final Bronze Age.
Lukáš Hlubek

Kožušany-Tážaly (k. ú. Kožušany, okr. Olomouc)

„Záhumenky“, „Suché louky“, parc. č. 333/22.
Lužická kultura. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -547184.35, -1127502.1; -547184.85, -1127516.23; -547146.97, -1127517.1; -547146.34, -1127502.85

V květnu 2024 byl na severním okraji obce zdokumentován v základovém pase pro průmyslovou halu profil s pozůstatkem kulturní vrstvy. Lokalita na parcele č. 333/22 se nachází 380 m východně od centra Kožušan s nadmořskou výškou 206 m. Zlomky keramiky jsou datovány do lužické fáze kulturního okruhu lužických popelnicových polí. Dokumentovaná situace souvisí s lokalitou zkoumanou v roce 2013 (Vránová 2014).

Literatura

Vránová, V. 2014: Kožušany (okr. Olomouc). *Přehled výzkumů* 55(1), 200–201.

Summary
During the construction of a hall in the cadastral area of Kožušany (Olomouc District), a cultural layer of the Lusatian Culture was recorded in the foundation trench.
Marek Kalábek

Lysice (okr. Blansko)

„Za Brančí“.
Mladší doba bronzová. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: S-JTSK: -600097.7, -1132524.7

Od června 2023 do září 2024 probíhal archeologický dohled při realizaci stavby „Vodovod Marek“ na katastru obcí Lysice, Drnovice a Bořitov. Porušení archeologických situací bylo zaznamenáno pouze na území obce Lysice – v rýze za ulicí Hrušňová na rozhraní katastrálního území Lysic a Žerůtek bylo zjištěno patnáct sídlištních objektů datovaných do mladší doby bronzové (Matějíčková 2024).

Literatura

Matějíčková, A. 2024: *Lysice 2023–2024, vodovod Marek*. Rkp. nálezové zprávy č. j. 508/24. Uloženo: Archiv nálezových zpráv Ústavu archeologické památkové péče Brno, v. v. i.

Summary
Fifteen settlement features dating to the Late Bronze Age were identified in a trench behind Hrušňová Street in the cadastral area of Lysice (Blansko District).
Andrea Matějíčková

Modřice (okr. Brno-venkov)

Ul. Masarykova.
Starší doba bronzová, mladší doba bronzová. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.1305153N, 16.6147219E

Výzkum probíhal při stavbě nového vodovodu v celé délce ulice Masarykova. Mezi četnými objekty a vrstvami ze středověku a novověku bylo přibližně v úrovni mezi domy č. p. 104 až 1112 zachyceno na profilech několik zásobních jam, z nichž pochází nepočetný materiál datovaný do starší a mladší doby bronzové. Přilehlý příkop je možné na základě několika drobných zlomků keramiky datovat pouze rámcově do pravěkého období.

Literatura

Neuvedeno.

Summary
During the construction of a new water pipeline in the cadastral area of Modřice (Brno-Country District), subsurface features from the Early and Late Bronze Age were uncovered.
Ivan Čižmář

Opava (k. ú. Vávrovice, okr. Opava)

Ul. Novosvětská, parc. č. 510/2.

Doba bronzová. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Národní památkový ústav – územní odborné pracoviště v Ostravě.

Lokalizace: WGS-84: 49.9741639N, 17.8623072E

V srpnu roku 2024 proběhl menší záchranný archeologický výzkum v Opavě-Vávrovicích, při ulici Novosvětská, na parcele č. 510/2. Výzkum byl vyvolán stavbou rodinného domu. Skrývka odhalila na ploše 13 sloupových jamek. Jedna z nich se od ostatních lišila kvadratickým půdorysem a recentním obsahem výplně. Zbývajících 12 sloupových jamek nevytvářelo jednolitý půdorys sloupové stavby či staveb. Bohužel neobsahovaly archeologické nálezy. Jejich stáří lze odvozovat jen nepřímo na základě keramických fragmentů nádob, získaných z kulturní vrstvy nad objekty při archeologickém dohledu v průběhu strojní skrývky ornice. Většina pravěkých střepů z této malé kolekce zřejmě druhotně prošla žárem. Keramiku, většinou cihlové barvy, bohužel nelze blíže chronologicky zařadit, pravděpodobná je datace do doby bronzové nebo starší doby železné. Jednou z možností je zařazení do kultury lužických popelnicových polí, kterou v blízkém okolí zjistila roku 1959 V. Šikulová (Čižmář 2012).

Literatura

Čižmář, M. 2012: Laténský hrob z Vávrovic, okr. Opava. K poznání žárového pohřebního ritu ve stupni LT-B na Moravě. In: J. Juchelka a kol.: *Archeologický sborník. K šedesátým narozeninám Vratislava Janáka*. Opava: Slezská univerzita v Opavě. Ústav archeologie, 120–126.

Summary

In August 2024, a rescue archaeological excavation was carried out in the cadastral area of Vávrovice (Opava District), near Novosvětská Street. Twelve prehistoric post holes were identified within the excavation area. Based on the finds from the cultural layer, they may be associated with the Lusatian Urnfield culture.

Jindřich Hlas, Jiří Motěšický

Počenice-Tetětice (k. ú. Počenice, okr. Kroměříž)

Extravilán, severně komunikace II/428, parc. č. 1307.

Doba bronzová. Ojedinělý artefakt. Průzkum detektorem kovu. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o., inv. č. AU255.

Lokalizace: WGS-84: 49.27398N, 17.23895E

V průběhu stavby cyklostezky mezi obcemi Počenice a Tetětice, vedoucí po severní hraně komunikace II/428, nebyly při kontrolovaných zemních pracích registrovány žádné zjevné archeologické situace ani objekty. Geologického podloží bylo dosaženo pouze místně a jevilo se zcela sterilní. Ve vhodných plochách byla průběžně prováděna detektorová prospekce, při níž byl získán na parcele č. 1307 na katastru Počenice zlomek (větší kus břitové partie) bronzové sekery. Tento nález pravděpodobně nesouvisí přímo s existencí sídliště v blízkém okolí nálezu, ale svědčí o aktivitách vztahujících se k pravěké těžbě dřeva (případně podobné činnosti) v původně zalesněném prostoru. Sídlištní aktivity z doby bronzové byly na katastru Počenic v minulosti doloženy jak staršími nálezy z 1. poloviny 20. století (Skutil 1941, 16), tak odborně vedeným výzkumem z roku 2020 v areálu zemědělského družstva (Popelka 2021).

Literatura

Popelka, M. 2021: Počenice-Tetětice (k. ú. Počenice, okr. Kroměříž). *Přehled výzkumů* 62(1), 249.

Skutil, J. 1941: *Morkovsko v pravěku*. Morkovice: Museum.

Summary

A metal detector survey was conducted during the construction of a cycle path between Počenice and Tetětice (Počenice cadastral area, Kroměříž District), yielding a fragment of a bronze axe (blade section).

Miroslav Popelka

Přerov (k. ú. Dluhonice, okr. Přerov)

Ul. K Poli, parc. č. 607.

Kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: S-JTSK: 537182.7, -1137798.28; -537169.7, -1137796.03; -537052.69, -1137992.81; -537052.44, -1137992.68

V září až listopadu 2024 uskutečnili pracovníci Archeologického centra v Olomouci, p. o., záchranný archeologický výzkum na stavbě nové komunikace k rodinným domům. Dosud neznámá lokalita je situována na východním okraji obce na mírném svahu obráceném k jihu s nadmořskou výškou 215–217 m. Stavba na ploše 14 × 330 m zachytila 309 sídlištních objektů a 51 hrobů z neolitu (viz oddíl Neolit), z období kultury popelnicových polí, laténu a střední doby hradištní.

Mezi sídlištními objekty byla identifikována jedna zásobní jáma a ojedinělé mělké objekty datované do období popelnicových polí. Zásobní jáma překryla starší žlab neolitického ohrazení (obj. 28–29).

Literatura

Neuvedeno.

Summary

In autumn 2024, a Neolithic settlement was discovered in the cadastral area of Dluhonice (Přerov District; see the Neolithic section), where solitary features from the Urnfield culture were also investigated.

Marek Kalábek

Přerov (k. ú. Předmostí, okr. Přerov)

„Malé Předmostí“.

Kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: WGS-84: 49.4655244N, 17.4276331E; 49.4655019N, 17.4268967E; 49.4655456N, 17.4285650E

V roce 2024 byla realizována nová přeložka stávajícího vodovodu, který protínal plochu budované dálnice D1, a musel být tedy vybudován v nové trase. Po ukončení funkčnosti původního vodovodu bylo možné na ploše jeho ochranného pásma provést archeologický dohled a v místech, kde byly pozorovány archeologické situace, realizovat záchranný výzkum. Během výzkumu bylo prozkoumáno sedm zahloubených objektů pravěkého stáří,

které lze datovat do období slezskoplatěnické kultury. Čtyři objekty můžeme zařadit mezi zásobní jámy (objekty 1864, 1866, 1869, 1871), dále byla identifikována jedna menší jamka (objekt 1870) a funkci dvou sídlištních objektů nelze stanovit (objekty 1862, 1863). Trasa zkoumaného vodovodu vedla přes lokalitu Předmostí 7, jež byla zkoumána v letech 2017–2021 také v souvislosti s výstavbou dálnice D1 v úseku mezi Říkovicemi a Předmostím (Vrána 2019; Tajer 2023).

Literatura

Tajer, A. 2023: *Nálezová zpráva ze záchranného archeologického výzkumu, Přerov-Předmostí 7, trať Malé Předmostí, díl I-V.* Rkp. nálezové zprávy M-TX-202300700. Uloženo: Archiv nálezových zpráv Archeologické centrum Olomouc. DOI: 10.60585/M-TX-202300700. Dostupné také z: https://digiarchiv.aiscr.cz/id/M-TX-202300700.

Vrána, J. 2019: D1-0136 Říkovice-Přerov, prvotní zpráva o výsledcích záchranných archeologických výzkumů v roce 2017–2018. In: M. Kršková, J. Peška (ed.): *Ročenka 2018*. Olomouc: Archeologické centrum Olomouc, 254–263.

Summary

During a rescue excavation in the cadastral area of Předmostí (Přerov District), seven subsurface features dating to the Silesian-Platěnice culture were investigated.

Jakub Vrána

Salaš, M. 2005: *Bronzové depoty střední až pozdní doby bronzové na Moravě a ve Slezsku. I. Text; II. Tabulky.* Brno: Moravské zemské muzeum.



Obr. 5. Přerov. Bronzová sekera. Foto Z. Schenk.

Fig. 5. *Přerov. Bronze axe. Photo by Z. Schenk.*

Přerov (k. ú. Vinary u Přerova, okr. Přerov)

Extravilán, parc. č. 151/54.

Starší doba bronzová, střední doba bronzová. Ojedinělý artefakt. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.492695N, 17.452838E

V roce 2023 byla na katastru přerovské místní části Vinary u Přerova nalezena L. Minarčíkem při preventivním detektorovém průzkumu solitérní bronzová sekera. Místo nálezu se nachází na parcele č. 151/54. Jedná se polohu situovanou ve spodní části svahu klesajícího od jihovýchodního okraje Vinarského lesa k pravému břehu Vinarského potoka, který představuje pravostranný přítok řeky Bečvy. Nadmořská výška místa okolí nálezu činí 243 m.

Jedná se o kompletní exemplář subtilní bronzové sekerky s náznakem zaobleného lištovitého schůdku a lžícovitě rozšířeným ostřím (obr. 5). Celková délka artefaktu je 108 mm. Maximální šířka v úrovni vějířovitě rozšířeného ostří činí 29 mm, v úrovni týlu 14 mm. Maximální tloušťky je dosaženo v úrovni zaobleného schůdku a činí 8,5 mm, minimální tloušťka v úrovni týlu je 3 mm. Hmotnost bronzového předmětu činí 59 g. V podélném průřezu se zužuje od nevýrazného schůdku směrem k ostří i k týlu. Povrch artefaktu je nerovnoměrně pokryt zelenou oxidační patinou. Z chronologického hlediska lze sekery s nevýrazným zaobleným lištovým schůdkem spojit s mladším úsekem starší doby bronzové a starším úsekem střední doby bronzové (Říhovský 1992; Salaš 2005, 31–33).

Literatura

Říhovský, J. 1992: *Die Äxte, Beile, Meißel und Hämmer in Mähren.* Prähistorische Bronzefunde IX(17). Stuttgart: Franz Steiner Verlag, 125–126.

Summary

An isolated Bronze Age axe (Fig. 5) was discovered in 2023 during a metal detector survey on the right bank of the Vinarský Stream in the cadastral area of Vinary u Přerova (Přerov District). The artefact can generally be dated to the Early or Middle Bronze Age.

Zdeněk Schenk

Račice-Pístovice (k. ú. Račice, okr. Vyškov)

„Uhliska“, parc. č. 916/1.

Kultura popelnicových polí. Depot. Průzkum detektorem kovu. Záchranný výzkum. Uložení nálezu: Muzeum Vyškovska, p. o.

Lokalizace: WGS-84: 49.2739186N, 16.8689222E

Na konci března 2024 byl při detektorovém průzkumu v zalesněné trati „Uhliska“ zjištěn panem E. Poulem depot bronzových předmětů. Na místo byla přivolána archeoložka Muzea Vyškovska (AMČR). Při následném záchranném archeologickém výzkumu bylo zjištěno, že předměty nebyly uloženy do země, nýbrž jen položeny k patě skály a zaskládány kamením, uvolněným z kamenné masy. Místní podloží tvoří slepence drahanského kulmu, které zde vystupují na povrch.

Nález tvořilo 88 kusů zdobených bronzových náramků s rozevřenými konci, 14 velkých terčů po obvodu zdobených dvěma řadami vybíjených perliček, 5 větších kruhů a 1 malý kroužek. Předměty byly uloženy do keramické nádoby (obr. 6). V čase, který uběhl od uložení depotu po jeho objevení, se meziprostor depozitu zaplnil jemnými kořínky rostlin a černou sypkou hlínou. Depot byl vyzvednut *in situ* a předán do laboratoře Ústavu archeologie a muzeologie FF MU v Brně k odbornému zpracování. Je datován do období kultury popelnicových polí.

Místo nálezu se nachází v centrální části katastru Račice-Pístovice, v nadmořské výšce 395–400 m. Depot byl uložen v prudkém severním svahu, na pravém břehu Račického potoka, naproti Račickému zámku.

Literatura

AMČR: Záznam M-202500391 [cit. 2025-3-13]. Archeologická mapa České republiky. Dostupné z: https://amcr.aiscr.cz/projekt/detail/M-202500391.



Obr. 6. Račice-Pístovice. Depot bronzových předmětů *in situ*. Foto K. Rybářová.
Fig. 6. *Račice-Pístovice. Bronze hoard in situ. Photo by K. Rybářová.*

Summary

In March 2024, a hoard of bronze items deposited in a ceramic vessel (Fig. 6) was discovered during a metal detector survey in the cadastral area of Račice (Vyškov District). The hoard, dated to the Urnfield culture period, consists of decorated bronze bracelets and large discs featuring small bosses along the circumference.

Klára Rybářová, Emil Poul

Radslavice (k. ú. Radslavice u Přerova, okr. Přerov)

„U Dubu“, parc. č. 677/10.

Doba bronzová. Ojedinělý artefakt. Povrchový sběr. Průzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: WGS-84: 49.4694078N, 17.4979964E

V roce 2022 byl J. Novotným, spolupracovníkem Muzea Komenského v Přerově, p. o., nalezen prostřednictvím povrchového sběru na katastru obce Radslavice u Přerova v poloze „U Dubu“ ojedinělý exemplář kamenné broušené industrie zvaný bulava (obr. 7). Jedná se o polohu situovanou na tzv. Radslavické terase na pravobřežní straně potoka Lučnice, který představuje levostranný přítok řeky Bečvy. Nadmořská výška místa okolí nálezu činí 198 m.

V případě radslavického exempláře se jedná o kompletní bulavu zploštělého tvaru s oblou profilací opatřenou provrtaným otvorem, se zarovnanou horní i dolní základnou. Otvor s průměrem 18 mm byl vytvořen dutým vrtákem a následně důkladně vyhlazen (obr. 7). Průměr artefaktu je 50 mm. Výška činí 36,5 mm. Vnější obvod bulavy je zdobený devíti mělkými svislými žlábky, tzv. kanelurami, probíhajícími po zaobleném těle artefaktu. Kamenný předmět o hmotnosti 155 g byl zhotoven ze serpentinitu tmavě černozeleného zabarvení. Magnetická susceptibilita dosahovala poměrně vysoké hodnoty 43,1 × 10-3 SI jednotek, což naznačuje, že původ horniny lze hledat v masivu Gogolów-Jordanów v jižním Polsku (Přichystal 2009, 186–187).

V rámci Přerovska se nejedná o první nález bulavy, tento typ kamenné broušené industrie je zde zastoupen hned několika kusy. Nálezy dalších bulav pochází například z lokalit Hlinsko, Podhoří, Předmostí či z obce Radkovy, přičemž se jedná o nestratifikované exempláře bez bližších nálezových okolností. Patrně nejstarší známý nález pochází z obce Kladníky na Přerovsku. Z dobové zprávy Františka Přikryla se dozvídáme bližší nálezové okolnosti: „*V Kladníkách nalezeno v břehu při rozšiřování dvoru kamenné kladivo, a panem Zbrožem věnován olom. muzeu. Krásný kamenný palcát, broušený přeuměle v podobě oloupaného pomeranče; visel u hodin jako závaží po 40 let.*“ (Přikryl 1891, 19, 23).

Na základě srovnání s dosavadními nálezy bulav s nápadnou úpravou povrchu kanelováním lze s největší pravděpodobností exemplář z Radslavic u Přerova přiřadit ke specifické variantě obdobných kanelovaných kusů, s jejichž výskytem se v rámci středoevropského prostoru ponejvíce setkáváme na území Moravy a v Polsku. Zde je relativně vysoký počet ojedinělých nálezů z chronologického hlediska kladen s největší pravděpodobností až do střední, mladší či pozdní doby bronzové (Berounská 1987, 33–47, obr. 3,7).

Literatura

Berounská, M. 1987: Bulavy ve střední Evropě. In: M. Buchvaldek et al: *Varia archaeologica 4*. Praehistorica XIII. Praha: Univerzita Karlova, 27–61.

Přichystal, A. 2009: *Kamenné suroviny v pravěku východní části střední Evropy.* Brno: Masarykova univerzita.

Přikryl, F. 1891: Pravěké nálezy na Záhoří v r. 1889–1890. *Časopis Vlasteneckého musejního spolku v Olomouci* VIII, 16–23.



Obr. 7. Radslavice. Broušená a vrtaná bulava ze serpentinitu. Foto Z. Schenk.
Fig. 7. *Radslavice. Polished and drilled serpentinite mace head. Photo by Z. Schenk.*

Summary

Polished and drilled mace head made of serpentinite (Fig. 7) was discovered in 2022 during a surface survey in the ‘U Dubu’ field (Radslavice u Přerova cadastral area, Přerov District). This unique artefact can generally be dated to the Bronze Age.

Zdeněk Schenk, Antonín Přichystal

Sazovice (okr. Zlín)

Intravilán, parc. č. 258/23.

Kultura popelnicových polí. Nález v druhotné poloze. Sonda. Záchranný výzkum. Uložení nálezu: Muzeum jihovýchodní Moravy ve Zlíně, p. o., inv. č. 452/24-102/1 až 452/24-102/6.

Lokalizace: WGS-84: 49.23540N, 17.57317E

Při zemních pracích souvisejících se založením novostavby rodinného domu na parc. č. 258/23 na katastru Sazovice byla po skrývce ornice v severozápadní části dotčené plochy formou sondy zkoumána půdní anomálie, projevující se výrazněji tmavým zbarvením oproti okolnímu podloží. Interpretačně lze v případě prozkoumané anomálie uvažovat o přírodně vzniklé erozní rýze s obsahem archeologického materiálu, který byl do výplně naplaven z výše položených partií svahu v poloze „Záhumenice" (nálezy v druhotné poloze). Ve výrazně abradovaném a torzovitém materiálu byl po laboratorním zpracování a vyhodnocení souboru rozpoznán jeden fragment keramiky s výzdobou a úpravou povrchu charakteristickou pro období pozdní doby bronzové (slezská fáze kultury popelnicových polí). Ostatní zlomky lze pouze s jistou mírou opatrnosti rámcově datovat do doby bronzové, případně pouze obecně do pravěkého období. Z prozkoumané situace je zřejmé, že východně od předmětné stavby v poloze „Záhumenice" se rozkládá dosud neznámé pravěké sídliště se zastoupenou komponentou pozdní doby bronzové, u kterého by bylo možné teoreticky uvažovat o jeho spojitosti s dříve registrovaným pravděpodobným pohřebištěm, nacházejícím se na protějším břehu Rackové, v prostoru bývalého družstva (Klíma 1973).

Literatura

Klíma, B. 1973: Pohřebiště slezské kultury v Sazovicích (okr. Gottwaldov). *Přehled výzkumů* 1972, 29–30.

Summary

A natural feature (gully erosion) containing Bronze Age pottery (containing ceramic material from the Late Bronze Age – Silesian phase of the Urnfield culture) was investigated through a test pit during the construction of a family house on Plot No. 258/23 in the cadastral area of Sazovice (Zlín District).

Miroslav Popelka, Martin Paulus

Sivice (okr. Brno-venkov)

Intravilán, parc. č. 799/1.

Doba bronzová. Sídliště. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2039658N, 16.7868067E

Při novostavbě rodinného domu na parcele č. 799/1 na východním okraji obce byla dokumentována jedna sídlištní jáma datovatelná rámcově do střední až mladší doby bronzové. Jde o součást lokality na rozmezí katastrů Sivic a Pozořic (Geislerová, Parma eds. 2018, 288–289).

Literatura

Geislerová, K., Parma, D. (eds.) 2018: *Výzkumy – Ausgrabungen 2011–2016*. Brno: Ústav archeologické památkové péče Brno.

Summary

During the construction of a new family house in the eastern part of Sivice (Brno-Country District), a single settlement pit was documented, which can generally be dated to the Middle to Late Bronze Age.

David Parma

Slavkov u Brna (okr. Vyškov)

Koláčkovo náměstí.

Únětická kultura. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: WGS-84: 49.1535022N, 16.8732814E; 49.1536592N, 16.8732064E; 49.1534769N, 16.8721333E; 49.1536031N, 16.8720208E

Archeologický průzkum probíhal v souvislosti se stavbou „Rozšíření kapacit Mateřská škola Zvídálek Slavkov u Brna" od května do listopadu 2024. V prostoru budoucího stavebního objektu SO03, v hloubce cca 2,5 m od současného terénu, bylo zachyceno osm sídlištních objektů únětické kultury (Bučo 2025).

Literatura

Bučo, M. 2025: *Nálezová zpráva o provedení záchranného archeologického výzkumu při chystané stavbě „Rozšíření kapacit Mateřská škola Zvídálek Slavkov u Brna"*. Rkp. nálezové zprávy č. j. 81/24. Uloženo: Archiv nálezových zpráv Archaia Brno z. ú.

Summary

In 2024, a rescue archaeological excavation was carried out in the cadastral area of Slavkov u Brna (Vyškov District). Archaeological features from the Únětice culture from the Bronze Age were documented.

Michal Bučo, Aneta Krejčířová, Michala Přibylová

Staré Město (k. ú. Staré Město u Uherského Hradiště, okr. Uherské Hradiště)

„Olší", parc. č. 6015/287, 6015/290–6015/292, 6015/294, 6015/295, 6015/300, 6015/301, 6015/304, 6015/306, 6015/307, 6015/309, 6015/312, 6015/188.

Pozdní doba bronzová. Depot. Průzkum detektorem kovu. Záchranný výzkum. Uložení nálezu: Slovácké muzeum v Uherském Hradišti, p. o.

Lokalizace: Nepublikováno z důvodu ochrany lokality

Lokalita je známá od podzimu 2022, kdy byly náhodným nálezcem objeveny první bronzové artefakty a předány do Slováckého muzea v Uherském Hradišti, p. o. Postupně byly z lokality získávány bronzové sekery s tulejí a ouškem (5 ks), fragmenty kruhového šperku a tordovaných nákrčníků (61 ks), čepelí (4 ks), srpů (5 ks), plechů (7 ks), vinutí (1 ks), drátů (1 ks) a dalších fragmentů (5 ks) a slitků (4 ks). Dle nálezů keramických střepů souběžně s nálezy kovových artefaktů lze předpokládat, že depot mohl být uložený v keramické nádobě/nádobách a orbou rozptýlen. S cílem vyzvednout celý depot byla v únoru 2024



Obr. 8. Staré Město. Část depotu, stav před konzervací. Foto Z. Kuchař.
Fig. 8. *Staré Město. Part of the bronze hoard, before conservation. Photo by Z. Kuchař.*

zorganizována detektorová prospekce. Místo nálezu bylo systematicky prohledáno a podařilo se získat ještě asi desítku dalších artefaktů z pozdní doby bronzové, a také dvě spony s vysokým zachycovačem z doby římské (viz oddíl Doba římská a stěhování národů). Všechny předměty byly zaměřeny pomocí stanice GPS s vysokou přesností. Celková hmotnost depotu čítajícího 93 artefaktů činí před konzervací 1508 g (obr. 8). Depot lze datovat do pozdní doby bronzové (stupeň HB1), kulturně náleží podolské kultuře středodunajských popelnicových polí (Salaš 2005).

Literatura

Salaš, M. 2005: *Bronzové depoty střední až pozdní doby bronzové na Moravě a ve Slezsku. I. Text; II. Tabulky.* Brno: Moravské zemské muzeum.

Summary

The site located in the ‘Olší’ field (Staré Město u Uherského Hradiště cadastral area, Uherské Hradiště District) has been known since 2022. Over time, a number of artefacts have been discovered at the site, including bronze socketed axes with loops (5 pcs), fragments of ring-shaped jewellery and twisted torcs (61 pcs), blades (4 pcs), sickles (5 pcs), sheets (7 pcs), a coil (1 pc), a wire (1 pc), other fragments (5 pcs), and ingots (4 pcs). In February 2024, a metal detector survey was conducted, yielding approximately ten additional artefacts from the Final Bronze Age, as well as two fibulae with high catchplates from the Roman period (see Roman Period section). The hoard comprises 93 artefacts in total, with a pre-conservation weight of 1,508 g (Fig. 8). It can be dated to the HB1 phase and is associated with the Middle Danube Urnfield culture.

Dana Menoušková

Syrovice (okr. Brno-venkov)

„Klínek“.

Únětická kultura. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.0780739N, 16.5531161E

V průběhu archeologického dohledu při opravě místní komunikace v Syrovicích byly v trati „Klínek“ po sejmutí nadložních vrstev odkryty a prozkoumány dva zahloubené objekty. Šlo o zásobní jámu s četnými nálezy keramiky a zvířecích kostí a část exploatační jámy s nevýrazným materiálem. Obě situace je možné přiřadit k únětické kultuře.

Literatura

Neuvedeno.

Summary

During roadworks in the cadastral area of Syrovice (Brno-Country District), two subsurface features of the Únětice culture were uncovered in the ‘Klínek’ field.

Ivan Čižmář

Uničov (k. ú. Nová Dědina u Uničova, okr. Olomouc)

„Valcha“, parc. č. 301.

Lužická kultura, slezská kultura. Pohřebiště, sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: S-JTSK: -554029.97, -1097679.31; -554028.84, -1097686.19; -553939.33, -1097670.44; -553939.08, -1097676.06

V srpnu a září 2024 provedli pracovníci Archeologického centra Olomouc, p. o., záchranný výzkum na stavbě polní cesty. Lokalita leží v nadmořské výšce 244 m na mírné terásce po pravé straně mezi silnicí Uničov–Šumvald a Mlýnským potokem. V ploše stavby bylo zachyceno 62 sídlištních objektů z neolitu (viz oddíl Neolit) a pozdní doby bronzové a 5 žárových hrobů z mladší doby bronzové. Starší neolitické sídliště bylo překryto kulturní vrstvou, do níž byly zapuštěny mladší objekty. Zásobní jámy trapézového řezu byly keramickým materiálem datovány do pozdní doby bronzové (slezská kultura). Překvapením se stal objev nového žárového pohřebiště lužické kultury. Kruhové či oválné jámy obsahovaly keramickou zásobnici překrytou mísou, kolem byly rozmístěny další nádoby a zlomky bronzů (obr. 9). Kremace byla nasypána buď v jedné z nádob, nebo byla součástí výplně jámy.



Obr. 9. Uničov – „Valcha“. Žárový hrob lužické kultury. Foto E. Pospíšilová.

Fig. 9. *Uničov – ‘Valcha’. Cremation grave of the Lusatian culture. Photo by E. Pospíšilová.*

Literatura

Neuvedeno.

Summary

In the summer of 2024, several storage pits of the Silesian culture and five cremation graves of the Lusatian culture (Fig. 9) were excavated in the cadastral area of Nová Dědina u Uničova (Olomouc District).

Marek Kalábek, Lukáš Šín

Uničov (okr. Olomouc)

„Za Dráhou“.

Mladší doba bronzová. Místo sběru. Průzkum detektorem kovu. Uložení nálezu: Vlastivědné muzeum v Olomouci, přír. č. 27/2024.

Lokalizace: WGS-84: 49.7851319N, 17.1096144E

Na podzim roku 2023 přinesl do Vlastivědného muzea v Olomouci nálezce fragment bronzového nože. Artefakt pochází z trati „Za Dráhou“ asi 300 m severozápadně od závodu Miele technika s. r. o. v Uničově. Jde o rovinatou polní trať s nadmořskou výškou kolem 238 m, ve které pramení bezejmenná vodoteč. Z nástroje se dochovala střední část s mírně zahnutou čepelí. Neúplná rukojeť je perforovaná patrně dvojicí otvorů. Maximální měřitelný rozměr délky je 72 mm a šířky 17 mm (obr. 10). Nález lze přiřadit k nožům s jazykovitou rukojetí, nejspíše k typu Malhostovice. Tyto nože se u nás objevují především v lužické kultuře mladší doby bronzové (Říhovský 1972, 18–20; Salaš 2005, 45, 195B:1). Popsaný artefakt lze s největší pravděpodobností spojit se zjištěným osídlením z mladší doby bronzové v dané poloze (např. Kalábek et al. 2023, 116).



Obr. 10. Uničov. Zlomek bronzového nože. Foto L. Hlubek.

Fig. 10. *Uničov. Fragment of a bronze knife. Photo by L. Hlubek.*

Literatura

Kalábek, M., Kalábková, P., Šín, L. 2023: Neolitická sídliště s pohřby lengyelské kultury v Uničově – Za Drahou, předběžná zpráva. In: M. Kršková, J. Peška (eds.): *Ročenka 2022.* Olomouc: Archeologické centrum Olomouc, 113–145.

Říhovský, J. 1972: *Význam moravských bronzových nožů pro chronologii mladší a pozdní doby bronzové.* Studie Archeologického ústavu ČSAV v Brně I(5). Praha: Academia.

Salaš, M. 2005: *Bronzové depoty střední až pozdní doby bronzové na Moravě a ve Slezsku. I. Text; II. Tabulky.* Brno: Moravské zemské muzeum.

Summary

In 2023, the Regional Museum in Olomouc acquired a fragment of a bronze knife (Fig. 10) found on the outskirts of Uničov (Olomouc District). This type of knife is characteristic for the Lusatian culture of the Late Bronze Age and can most likely be classified as the Malhostovice type.

Lukáš Hlubek

Velatice (okr. Brno-venkov)

„Velatický široký“, parc. č. 248/3.

Kultura popelnicových polí. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.1998964N, 16.7508514E

Při novostavbě rodinného domu na parcele č. 248/3 byla dokumentována dvojice běžných sídlištních objektů datovaných do mladší a pozdní doby bronzové (velatická a podolská kultura). Jde o další odkryv v rámci dlouhodobě zkoumané polohy „Velatický široký“ (viz např. Geislerová, Parma eds. 2018, 319–320).

Literatura

Geislerová, K., Parma, D. (**eds.**) **2018**: *Výzkumy – Ausgrabungen 2011–2016*. Brno: Ústav archeologické památkové péče Brno.

Summary

During the construction of a new family house in the cadastral area of Velatice (Brno-Country District), two settlement features were documented and dated to the Late and Final Bronze Age (Velatice a Podolí cultures).

David Parma

Viničné Šumice (okr. Brno-venkov)

„Za Humny“, parc. č. 1812/1.

Kultura popelnicových polí, velatická kultura, podolská kultura. Sídliště. Náhodný zásah/nález. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2118022N, 16.8235928E

Během záchranného archeologického výzkumu při novostavbě mateřské školy ve Viničných Šumicích byla na ploše v trati „Za Humny“ odkryta část areálu sídliště z období kultury středodunajských popelnicových polí velatické a podolské fáze. Fragmenty několika, snad okružních, palisádových žlabů naznačují v centrální části zkoumané plochy ohrazení části sídliště podolské fáze jedním až dvěma pásmy plotů. Nálezy kovové industrie se omezily pouze na zlomek bronzového drátu svinutého do menšího kroužku. Výzkum plošně navázal na práce z roku 2015, prováděné v místech výstavby stávající hasičské zbrojnice a knihovny (Geislerová, Parma 2018 eds., 321–322).

Literatura

Geislerová, K., Parma, D. (**eds.**) **2018**: *Výzkumy – Ausgrabungen 2011–2016*. Brno: Ústav archeologické památkové péče Brno.

Summary

The construction of a new kindergarten in Viničné Šumice (Brno-Country District) revealed part of a settlement area from the Middle Danube Urnfield culture (Velatice and Podolí cultures). Fragments of several, possibly circular, palisade trenches suggest that the central part of the excavated area was enclosed by one or two lines of fencing during the Podolí phase.

Petr Kos

Doba železná
Iron Age

Boleradice (okr. Břeclav)

„Vorlíčky“, parc. č. 3725/2.

Doba halštatská, doba laténská, časná doba laténská (LT A). Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o.

Lokalizace: S-JTSK: -586279, -1187551; -586334, -1187629; -586337, -1187681; -586241, -1187675

Záchranný archeologický výzkum byl vyvolán stavbou základní technické vybavenosti pro následnou stavbu rodinných domů, tedy inženýrských sítí a komunikace. Vlastní výzkum probíhal v souběhu s vlastní stavbou a sice od září do prosince 2024.

Stavba se nachází v mírném svahu orientovaném na severovýchod, a také především na jeho spočinku, odkud se otevírá široký pohled nad údolí potoka Haraska. Lokalita je známá z leteckých snímků, na kterých je možné rozeznat několik kruhových porostových příznaků. V létě roku 2009 zde prováděl sondáž prof. J. Unger (2009) a na řezu struktury se mu podařilo zachytit dvojitý kruhový příkop, který interpretoval jako rondeloid (rondel). Datace však byla vzhledem k absenci materiálu značně problematická.

Stavební zábor do prostoru rondelu nezasahoval, nachází se však v těsné blízkosti. Geologické podloží je zde tvořeno sprašemi, které se vyskytují relativně mělce pod povrchem (cca 40 cm). Ve středu stavby se však nachází cca 1 m mocná terénní deprese/rýha vyplněná svahovými sedimenty. Přibližně 1 m pod vrstvami spraše je možné rozeznat pohřbenou půdu ze starších fází pleistocénu. Nadmořská výška se pohybuje od 225 m do cca 240 m.

V průběhu zemních prací se podařilo zachytit několik desítek objektů. Na základě získaného materiálu je můžeme datovat do období lengyelské kultury (viz oddíl Neolit) a dále do halštatské a laténské kultury.

Doba halštatská byla zastoupena rozsáhlou stavební jámou. Doba laténská potom dvěma chatami (4 × 2 × 0,5 m a 5 × 5 × 1 m; obr. 1). Byl získán pouze obvyklý, především keramický, materiál. Metalické předměty reprezentovala neurčitelná torza železných.

Během výzkumu se podařilo odkrýt část polykulturní lokality zastoupenou několika pravěkými obdobími, což dokládá oblibu tohoto místa pro osídlení. Strategická výhoda spočívá zřejmě v dobrém rozhledu do okolí, čemuž odpovídá i umístění rondelu. V současné době se však na místě nenachází vodní zdroj a celý prostor je navíc značně ovlivněn výraznou svahovou erozí.

Literatura

Unger, J. 2009: *Boleradice 2009.* Rkp. nálezové zprávy č. j. 32/10. Uloženo: Archiv nálezových zpráv Ústavu archeologické památkové péče, v. v. i. DOI 10.60585/M-TX-202300220: Dostupné také z: https://digiarchiv.aiscr.cz/id/M-TX-202300220.



Obr. 1. Boleradice. Objekt 504, chata z období LT A. Foto R. Bíško.
Fig. 1. *Boleradice. Feature 504, a dwelling from the LT A period. Photo by R. Bíško.*

Summary

A rescue archaeological excavation in the ‘Vorlíčky’ field (Boleradice cadastral area, Břeclav District) uncovered part of a settlement area from the Hallstatt and La Tène periods. One construction pit is attributed to the Hallstatt period, and two dwellings are dated to the La Tène period (Fig. 1).

Richard Bíško

Brno (k. ú. Přízřenice, okr. Brno-město)

Ul. Modřická; jižní okraj k. ú. Přízřenice, parc. č. 915/107.

Doba halštatská. Sídliště. Vertikální řez. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i., přír. č. 515/23-1 – 515/23-7.

Lokalizace: S-JTSK: -598260, -1167238; -598199, -1167250; -598211, -1167290; -598274, -1167279

Během záchranného archeologického výzkumu se podařilo zachytit okraj polykulturního sídliště. Stavba se nacházela na mírném jižním svahu na levém břehu Moravanského potoka při jeho ústí do Mlýnského náhonu. Přibližně polovina zemních prací probíhala v nivních sedimentech, na druhé polovině

geologické podloží tvořila spraš, nacházející se cca 40 cm pod povrchem. Nadmořská výška se pohybovala okolo 195 m.

Jde o okraj lokality, která byla už v minulosti několikrát zkoumána (Bíško 2018; Zubalík 2020).

Několik sídlištních jam bez bližší specifikace se podařilo zachytit v základových rýhách domu situovaného nejvíce na severozápadě zkoumané plochy, která se současně nachází nejblíže výše zmiňované lokalitě. Většina zastavěné plochy však byla z hlediska archeologie negativní.

Na základě několika keramických fragmentů bylo možné objekty zařadit do období halštatské kultury. Vzhledem k omezenému prostoru v rámci zemních prací se nepodařilo zjistit více informací.

Literatura

Bíško, R. 2018: Brno (k. ú. Přízřenice, okr. Brno-město). *Přehled výzkumů* 59(1), 188.

Zubalík, J. 2020: Brno (k. ú. Přízřenice, okr. Brno-město). *Přehled výzkumů* 61(1), 207.

Summary

An edge of a multi-period Hallstatt site was uncovered during a rescue archaeological excavation conducted in the Přízřenice cadastral area (Brno-City District).

Richard Bíško

Bulhary (okr. Břeclav)

„Au Äcker“, parc. č. 910/4.

Časná doba laténská (LT A). Sídliště. Plošný odkryv. Záchranný výzkum.
Uložení nálezu: Regionální muzeum v Mikulově, p. o., přír. č. 57/2024.

Lokalizace: S-JTSK: -591898, -1202526

V průběhu záchranného výzkumu (viz oddíl Neolit) byly prozkoumány tři menší objekty a jedna zemnice, respektive sklepení domu (obj. 506). Spodní část objektu byla tvořena sérií tenkých nášlapových horizontů střídajících se s novými výmazy. V profilu i dně objektu bylo možné dokumentovat přítomnost drobných organických konstrukcí, které byly zapíchnuté do dna, či jen částečně do podlahových vrstev. Na stěnách objektu byly zřejmé stopy původní konstrukce sestávající z velmi drobných kůlových jamek a místy horizontálních prvků. Pod úrovní podlahy byly zjištěny dva nehluboké zásobní objekty se shodnou hmotnou kulturou (obr. 2).

Hmotné nálezy sestávají z četných fragmentů časně laténské keramiky, včetně několika přeslenů, mazanice, zvířecích kostí, hliněného závaží, kostěné a parohové industrie, několika železných fragmentů a slitků, drobného fragmentu tyglíku a několika kamenných nástrojů.

Literatura

Neuvedeno.

Summary

An early La Tène pit house (or cellar) and three smaller subsurface features (Fig. 2) were discovered during a rescue excavation conducted in Bulhary (Břeclav District).

Kristína Piačková, František Trampota

Holasovice (okr. Opava)

Extravilán, parc. č. 642/14.

Platěnická kultura. Sídliště. Plošný odkryv. Záchranný výzkum.
Uložení nálezu: Národní památkový ústav – územní odborné pracoviště v Ostravě.

Lokalizace: WGS-84: 49.9955578N, 17.8141883E

Při výstavbě rodinného domu p. Dehnera na katastru Holasovic, na parcele č. 642/14 bylo v rámci záchranného archeologického výzkumu zjištěno polykulturní osídlení. Vedle neolitického sídliště (Hlas 2012; Marethová 2017) se podařilo zachytit i objekty, které lze přisoudit platěnické fázi kultury lužických popelnicových polí. Kromě sloupových jamek, které narušily půdorys neolitického domu, můžeme do starší doby železné datovat dvě zásobní jámy a další dva sídlištní objekty. Nálezový fond představují zlomky keramiky, v nichž lze rozeznat ploché keramické kotouče, látky (hrncovitá nádoba) s plastickými výčnělky, misky se zataženým okrajem, šálek, zdobené osudí, část miniaturní amforky nebo baňatější misky. Některé fragmenty menších nádob nesou stopy tuhování (obr. 3). U větších nádob



Obr. 2. Bulhary. Časně laténský objekt 506. Foto F. Trampota.

Fig. 2. *Bulhary. Early La Tène feature 506. Photo by F. Trampota.*



Obr. 3. Holasovice. Fragment tuhované misky. Foto J. Motěšický, kresba H. Pravdová.

Fig. 3. *Holasovice. Fragment of a graphite-coated bowl. Foto by J. Motěšický, drawing by H. Pravdová.*

se setkáváme se zdrsněním povrchu vnější stěny. Lokalita byla rovněž osídlena v neolitu a v době římské (viz oddíly Neolit a Doba římská a doba stěhování národů).

Literatura

Hlas, J. 2012: Holasovice (okr. Opava). *Přehled výzkumů* 53(1), 129.
Marethová, B. 2017: Holasovice (okr. Opava). *Přehled výzkumů* 58(1), 155.

Summary

In the spring and summer of 2023 and 2024, a rescue archaeological excavation was carried out in the Holasovice cadastral area (Opava District), on plot No. 642/14. The excavation revealed evidence of Early Iron Age occupation (Platěnice culture), including two storage pits and two additional subsurface features. Typical ceramic assemblages were recovered at the site, including fragments of graphite-coated pottery (Fig. 3).

Jindřich Hlas, Jiří Motěšický

Hustopeče (k. ú. Hustopeče u Brna, okr. Břeclav)

„Záhumenice“, parc. č. 4542/253.

Doba halštatská, doba laténská. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Regionální muzeum v Mikulově, p. o., inv. č. A 125 179 – A 127 637.

Lokalizace: S-JTSK: -592884, -1189304; -592835, -1189332; -592835, -1189337; -592856, -1189373; -592897, -1189349; -592897, -1189338

V průběhu jara 2024 pokračoval záchranný archeologický výzkum na stavbě základní technické vybavenosti při ulici Generála Peřiny v Hustopečích (Bíško 2024). Na tento výzkum navázala předstihová skrývka před stavbou občanské vybavenosti. Výzkum byl ukončen v polovině června 2024.

Zkoumaná lokalita se nachází při západním okraji intravilánu obce v trati „Záhumenice“. Jde o mírný severní svah zvedající se nad původní vodotečí (dnes zaniklou). Geologické podloží je zde tvořeno různě hluboko uloženými terciérními písky, severněji potom písky až jíly karpatského flyše. Ve střední části stavby, kterou se podařilo prozkoumat nejvíce, se geologické podloží nacházelo proměnlivě hluboko. Souvisí to patrně s několika terénními depresemi, které byly vyplněné tmavými koluviálními sedimenty (mocnými až 1 m) a do kterých se zahlubovaly jednotlivé objekty. Jinde geologické podloží nasedalo už na ornici, tedy bylo pouze 40 cm hluboko. Tato skutečnost značně ztěžovala archeologický výzkum, především lokalizaci jednotlivých objektů v tmavé hlíně terénní deprese.

Zkoumaný areál (obr. 4) je možné zařadit do kategorie sídelních aktivit, odpovídá tomu charakter objektů i zachovaných artefaktů. Nálezový inventář je datovaný do období halštatu a laténu. Celkem se podařilo lokalizovat zhruba dvě desítky zahloubených chat (8 chat z období halštatu, 12 nejspíše z období laténu) a několik desítek kůlových jam. Zbytek tvořily blíže nespecifikované sídlištní nebo zásobní jámy (převážně z období halštatu) a lineární struktura (pravděpodobně žlábek).

Halštatské chaty měly převážně čtvercový půdorys (cca 4 × 4 m) a jejich hloubka se pohybovala od 50 cm do 2 m. Obsahovaly četný (především keramický) inventář s některými doklady řemeslné činnosti. Nalezeny byly polotovary výrobků z kostí a parohů. Keramické přesleny a části závaží svědčí o textilní výrobě.

Movitého materiálu bylo výrazně méně v zásobních jamách, které se nacházely v těsné blízkosti chat, případně byly ve vzájemné superpozici. Zajímavostí je zcela jistě zásobní jáma z období halštatu s pohřbem (H800). Toto zjištění rozšiřuje nálezové spektrum lokality o aktivity jiného druhu.

Období laténské kultury nevybočuje ze zjištění, které máme z předchozí etapy výzkumu. Zkoumány byly chaty o rozměrech cca 5 × 2,5 m a hloubce do 0,5 m. Chaty měly často nosnou



Obr. 4. Hustopeče. Zkoumaná plocha od severu. Foto R. Bíško.
Fig. 4. *Hustopeče. Excavation area from the north. Photo by R. Bíško.*

konstrukci tvořenou četnými kůlovými jámami zahloubenými do podlahy chaty. Keramický inventář je výrazně chudší oproti předchozímu období, častěji se ovšem objevují železné předměty a bronzové ozdoby (součásti oděvu – spony, prsten). Zajímavostí je část náramku ze švartny.

Literatura

Bíško, R. 2024: Hustopeče (k. ú. Hustopeče u Brna, okr. Břeclav). *Přehled výzkumů* 65(1), 225–226.

Summary

Part of a Hallstatt and La Tène settlement (Fig. 4) was uncovered during a rescue archaeological excavation in the 'Záhumenice' field (Hustopeče u Brna cadastral area, Břeclav District), revealing various subsurface features and 20 dwellings. One Hallstatt-period storage pit contained a burial (H800). In addition to pottery, bronze and iron artefacts were also recovered at the site.

Richard Bíško

Litovel (k. ú. Unčovice, okr. Olomouc)

„Újezdy".

Doba laténská. Místo sběru. Průzkum detektorem kovu. Průzkum. Uložení nálezu: Vlastivědné muzeum v Olomouci, přír. č. 29/2024.

Lokalizace: WGS-84: 49.6687967N, 17.0989306E

V roce 2015 se podařilo získat bronzový závěsek opasku (obr. 5), který pak nálezce po dobu několika let nosil jako přívěsek na kožené šňůrce. Po konzultaci s archeologem J. Halamou jej odevzdal do Vlastivědného muzea v Šumperku, p. o., ale později byl tento artefakt předán do Vlastivědného muzea v Olomouci. Podle zaznamenaných souřadnic leželo místo nálezu v areálu dnešní firmy Cutco Steel s. r. o. v Unčovicích. Jde o rovinatou polohu při západním okraji této obce. Nadmořská výška se zde pohybuje kolem 232 m.

Nalezený bronzový závěsek má tělo ve tvaru masivní kuželky se zaoblenou koncovou částí. Závěsné očko od zbytku těla odděluje vývalek. Celková délka artefaktu je 28 mm. Podle typologie opaskových závěsků od L. Bedáně můžeme exemplář z Unčovic přiřadit k jím vyčleněnému podtypu Zv-1a2. Těžiště výskytu těchto kuželovitých závěsků je kladeno do stupňů LT C1 – LT C2. Dodejme ještě, že podobné nálezy známe z blízkého Nákla nebo Palonína (Bedáň 2021, 20–21, mapa 3; Johančík 2024, 229, obr. 15). Popsaný závěsek z Unčovic doplňuje naše aktuální poznatky o osídlení v mladší době železné na Litovelsku (k tomu Hlubek 2018; Hadrava 2021).



Obr. 5. Litovel. Bronzový opaskový závěsek. Foto L. Hlubek.

***Fig. 5.** Litovel. Bronze belt pendant. Photo by L. Hlubek.*

Literatura

Bedáň, L. 2021: *Opasky z mladší doby železné ve střední Evropě.* Rkp. diplomové práce. Masarykova univerzita. Filozofická fakulta. Ústav archeologie a muzeologie. Uloženo: Ústřední knihovna Filozofické fakulty Masarykovy univerzity.

Hadrava, V. 2021: Litovel (k. ú. Nasobůrky, okr. Olomouc). *Přehled výzkumů* 62(1), 274.

Hlubek, L. 2018: Mladší doba železná. In: K. Konečný (ed.): *Litovel. Dějiny města 1. Od nejstarších dob do roku 1918.* Olomouc: Univerzita Palackého v Olomouci pro město Litovel, 53–55.

Johančík, R. 2024: Palonín (okr. Šumperk). *Přehled výzkumů* 65(1), 228–229.

Summary

In 2015, a bronze belt pendant (Fig. 5) was discovered during a metal detector survey in Unčovice (Olomouc District). The artefact, donated to the Regional Museum in Olomouc, is dated to the LT C1 – LT C2 phases.

Lukáš Hlubek

Přerov (k. ú. Dluhonice, okr. Přerov)

Ul. K Poli, parc. č. 607.

Střední doba laténská (LT B–C1). Pohřebiště, sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: S-JTSK: -537182.7, -1137798.28; -537169.7, -1137796.03; -537052.69, -1137992.81; -537052.44, -1137992.68

V září až listopadu 2024 uskutečnili pracovníci Archeologického centra v Olomouci záchranný archeologický výzkum na stavbě nové komunikace k rodinným domům. Dosud neznámá lokalita je situovaná na východním okraji obce na mírném svahu obráceném k jihu s nadmořskou výškou 215–217 m. Stavba na ploše 14 × 330 m zachytila 309 sídlištních objektů a 51 hrobů z neolitu, z období popelnicových polí, laténu a střední doby hradištní (viz oddíly Neolit, Doba bronzová).

Velkým překvapením se stal objev laténského žárového pohřebiště s cca 31 hroby, které byly situovány ve vyšší části lokality s nadmořskou výškou 216 m. První kovové nálezy byly identifikované při archeologickém dohledu skrývky realizované Z. Schenkem z Muzea Komenského v Přerově, p. o. V šedé hlinité vrstvě mocné 0,1 m, nasedající na podloží, byly detektorem kovů zachyceny zlomky bronzů z narušených hrobů (náramky a kování). Po strojním i ručním dočištění plochy skrývky byly identifikovány jednotlivé hroby. Měly podobu nádob zapuštěných do šedé vrstvy či podloží a obsahovaly kremaci a zlomky rozlámaných kovů, nebo se jednalo o mělké oválné či obdélné jamky a jámy. Výplň hrobových jam tvořil tmavý hnědošedý hlinitý zásyp s drobnými zlomky přepálených kostí. Ve výplni byly nalezeny drobné fragmenty ozdob z bronzu a železa (náramky, spony). Keramika se objevila v podobě drobných fragmentů, v hrobu H7 byla dochována celá nádoba se zlomky dalších tří kusů. Zvláštní postavení měl hrob H21 s železným mečem, kopím, opaskem a zlomky nádoby (obr. 6). Dle nálezů můžeme pohřebiště datovat do stupně LT C1.

Kromě hrobů se ve spodní části plochy podařilo prozkoumat i jeden sídlištní objekt (zásobnici) s nálezy velkých kusů mazanice a keramiky.



Obr. 6. Přerov. Žárový laténský hrob H21 s nálezy meče, kopí, opasku a keramiky. Foto M. Kalábek.

Fig. 6. *Přerov. Cremation burial H21 from the La Tène period with sword, spear, belt, and pottery fragments. Photo by M. Kalábek.*

Literatura

Neuvedeno.

Summary

In autumn 2024, an excavation of a Neolithic settlement in K Poli Street (Dluhonice cadastral area, Přerov District) yielded 31 cremation burials and one settlement subsurface feature dated to the Middle La Tène period. Of particular note is Grave H21, which contained an iron sword, a spear, a belt, and a pottery fragment (Fig. 6).

Marek Kalábek, Lukáš Šín, Zdeněk Schenk

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Sobotovice (okr. Brno-venkov)

Severozápadně od obce, parc. č. 1118.

Časná doba laténská (LT A). Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.0636281N, 16.5511661E

Záchranný archeologický výzkum byl proveden při stavbě nové opravárenské haly vozidel pro AUTOSERVIS Nevěděl. Předmětná plocha se nachází na mírném východním svahu, cca 500 m severovýchodně od středu obce, mezi silnicí Sobotovice–Syrovice a potokem Syrůvkou. Stavba nebyla včas ohlášena a byla zjištěna v době, kdy již byla provedena skrývka ornice. Tato dosahovala geologického podloží pouze v severní části stavby, na zbytku plochy, kde skrývka nebyla dokončena, byla provedena detektorová prospekce (viz oddíl Doba římská a doba stěhování národů). V severní části plochy bylo postupně zachyceno několik archeologických objektů, které byly prozkoumány. Vedle patrně stavební či menší exploatační jámy bylo odkryto také torzo zemnice s dvěma sloupy/kůly na středové ose a několika dalšími přilehlými sloupovými jámami. Poměrně nevýrazný materiál je možné datovat do časné doby laténské.

Literatura

Neuvedeno.

Summary

Several subsurface features, including part of a pit house dated to the Early La Tène period, were uncovered during a rescue archaeological excavation north-west of Sobotovice (Brno-Country District).

Ivan Čižmář

.....

Tovačov (okr. Přerov)

„Nad Hliníkem“, „Hraďouch“, parc. č. 362/54.

Doba laténská. Sídliště. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o., přír. č. 19/2024.

Lokalizace: Nepublikováno z důvodu ochrany lokality

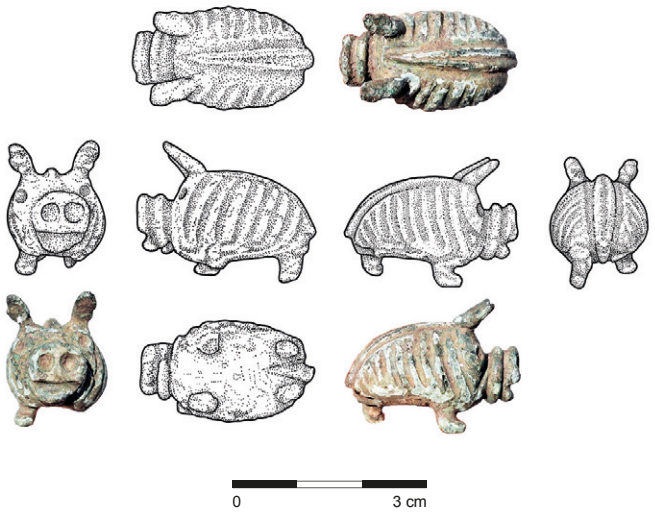
V roce 2017 byla spolupracovníkem Muzea Komenského v Přerově, p. o., T. Kulíškem během preventivní detektorové prospekce v prostoru zemědělsky obdělávané polykulturní archeologické lokality v poloze „Nad Hliníkem“ v severní části katastrálního území města Tovačov na Přerovsku nalezena unikátní solitérní zoomorfní plastika z doby laténské.

Místo nálezu se nachází na pravobřežní straně řeky Moravy při severním okraji nápadné terénní elevace, mírně převyšující okolní říční nivu, severozápadně od archeologické lokality zvané „Hraďouch“, nacházející se v místě zaniklého hliníku při západním okraji Hradeckého rybníka (Červinka 1902, 81; Gottwald 1909, 78). Nadmořská výška nálezové polohy činí 205 m.

V případě zoomorfní plastiky se jedná o unikátně ztvárněnou figurku divokého prasátka – kance (obr. 7). Její rozměry jsou následující: celková délka 24 mm, maximální šířka 13,9 mm. Výška figurky (bez boltců) činí 15 mm a hmotnost 15,29 g. Celkově působí drobná plastika kanečka velmi pitoreskním dojmem, který umocňuje ztvárnění protáhlého prasečího rypáčku s velkými nozdrami a mírně otevřenou tlamou. Nápadné jsou rovněž dopředu vzpřímené boltce, pod nimiž jsou umístěna očička v podobě dvou malých kruhových důlků. Hřbet zvířete tvoří podélnou osu kopírující linii páteře od hlavy až po ocas, přičemž je zdůrazněn tzv. hřeben ohraničený po stranách žlábky, od kterých vybíhají šikmé rýžky kladené hustě vedle sebe. Ty imitují srst tvořenou u divokých prasat hustými štětinami. Z původních čtyř malých nožek se do současnosti dochovaly pouze dvě. Povrch figurky je nyní pokryt světle zelenou patinou.

Keltové považovali některá zvířata za posvátná a přisuzovali jim náležitý symbolický význam, což se promítlo také v produkci drobné figurální plastiky znázorňující oblíbená zvířata, např. jelena, koně, psa či vodní ptáky. Často zobrazovaným zvířetem byl rovněž kanec jako symbol síly, odvahy i plodnosti. Původní účel figurek zvířat nebyl dosud jednoznačně určen. Mohlo

se jednat o ozdobné části větších funkčních předmětů či osobní amulety, což je pravděpodobně případ exempláře z Tovačova, ke kterému bychom na území České republiky stěží hledali přesnou analogii vzhledem ke zcela originálnímu ztvárnění.



Obr. 7. Tovačov. Drobná zvířecí plastika divokého prasátka. Foto Z. Schenk, kresba P. Holcová,

Fig. 7. *Tovačov. Small bronze zoomorphic figurine – a wild boar. Photo by Z. Schenk, drawing by P. Holcová.*

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Summary

In 2017, a unique bronze zoomorphic figurine of a wild boar (Fig. 7) was discovered during a metal detector survey in the 'Nad Hliníkem' field (Tovačov cadastral area, Přerov District). The artefact, dated to La Tène period, measures 24 mm in length, 13.9 mm in width, and weights 15.29 g.

Zdeněk Schenk, Tomáš Kulíšek

Ústín (okr. Olomouc)

„Trávníky".

Doba halštatská. Místo sběru. Průzkum detektorem kovu. Uložení nálezu: Archeologické centrum Olomouc, p. o.

Lokalizace: Nepublikováno z důvodu ochrany lokality

Dne 15. června 2024 dlouholetý spolupracovník Archeologického centra Olomouc, p. o., R. Niessner v rámci projektu preventivní archeologie nalezl při detektorové prospekci hadovitou náušnici z doby halštatské a předal ji Archeologickému centru. Maximální délka činí 18 mm a maximální průměr 6 mm (obr. 8). Jde o typ, který náleží do okruhu kultur východního typu (známé též nepřesně jako skytské), které se na Moravu šířily v období Ha D1 – LT A (625–370 př. Kr.), nejspíše však v pozdní době halštatské (Ha D2 – Ha D3). Nález byl učiněn na katastru obce Ústína – „Trávníky". Na identické lokalitě se nacházejí hojné keramické nálezy právě z období starší doby železné. Hadovité náušnice byly z území ČR sumarizovány nedávno (Bartík et al. 2017, Fig. 5, Golec, Fojtík 2020, 190; Fojtík et al. 2020, 193). Nyní známe na Moravě 20 kusů ze 17 lokalit: 1. Čechy pod Kosířem – „Na Hrádkách", 2. Diváky – „Nedánov", 3. Držovice – „Horka", 4. Hovorany – „Konopiska na Pískách", 5. Hrubčice – „Ostrov", 6. Ivančice – „Panovského cihelna", 7. Kostelec na Hané – „Dolní smoluse", 8. Kostelec na Hané – „Trněnka", 9. Měrovice nad Hanou – „Babiny" (4 ks), 10. Ostrožská Nová Ves – „Padělky", 11. Plumlov – „Nad Brániskem", 12. Práče – „U Prosiměřic", 13. Pustiměř – „Farské", 14. Rymice – „Újezdy", 15. Suchohrdly – „nad přehradou II", 16. Ústín – „Trávníky", 17. Vranovice – „Háj". Tyto výrobky poukazují na novou módu a technologii pozdní doby halštatské po roce 550 př. Kr. V doznívající horákovské skupině evidujeme 5 lokalit a v platěnické skupině 11 lokalit. Jádro výskytu hadovitých náušnic náleží do vekerzugské kultury v Karpatské kotlině. Nedávno byly na Moravě rozděleny na dvě skupiny: předměty s původními východními analogiemi (sem patří hlavně jednoduché plasticky nezdobené kusy, též exemplář z Ústína – „Trávníků") a již moravské invenční modifikace s inovativním výzdobným spektrem (Kozubová, Golec 2020a, Abb. 2; 2020b, 211–214). Měření pomocí XRF bylo provedeno na povrchu na různých místech, vždy 3× a hodnoty byly zprůměrovány, je uvedena též směrodatná odchylka (SO): Ag (53,15 %; SO 6 %), Cu (31,11 %; SO 6,8 %), Au (13,24 %; SO 1,15 %), Fe (0,8 %; SO 0,03 %), Sn (0,78 %; SO 0,08 %), Pb (0,59 %; SO 0,12 %), Ti (0,22 %; SO 0,09 %), Bi (0,1 %; SO 0,01 %). Výsledkem je konstatování, že náušnice má měděné jádro a elektronovou povrchovou úpravu.



Obr. 8. Ústín. Hadovitá náušnice. Foto M. Kalábek, M. Golec.

Fig. 8. *Ústín. Snake-like earring. Photo by M. Kalábek, M. Golec.*

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Summary

On 15 June 2024, a snake-like earring (Fig. 8) was discovered during a metal detector survey at the Ústín – 'Trávníky' site (Olomouc District) and subsequently donated to the Archaeological Centre Olomouc. It is the 20th find of its kind in Moravia. XRF analysis revealed a copper core and an electrum surface.

Roman Niessner, Martin Golec, Lukáš Kučera, Marek Kalábek

Viničné Šumice (okr. Brno-venkov)

„Za Humny", parc. č. 1812/1.

Doba laténská. Hrob. Náhodný zásah/nález. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2118686N, 16.8237294E

Během výzkumu plochy chystané pro novostavbu mateřské školy ve Viničných Šumicích v trati „Za Humny", byl v areálu sídliště kultury středodunajských popelnicových polí (viz oddíl Doba bronzová) zachycen i jeden kostrový hrob z doby laténské, s kostrou ženy vybavené dvěma železnými náramky a sponou.

Literatura

Neuvedeno.

Summary

An inhumation female burial from the La Tène period was discovered during a rescue excavation of a Middle Danube Urnfield culture settlement, carried out in connection with the construction of a kindergarten in Viničné Šumice (Brno-Country District).

Petr Kos

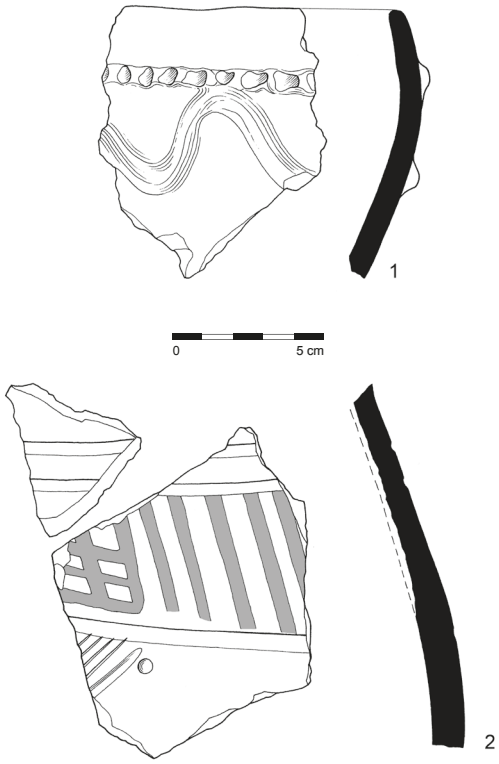
Vrbátky (okr. Prostějov)

intravilán obce, „Za Stoškovým", parc. č. 216/2.

Platěnická kultura. Sídliště. Sonda. Záchranný výzkum. Uložení nálezu: Muzeum a galerie v Prostějově, p. o., přír. č. 311.763–311.766.

Lokalizace: S-JTSK: -551665.92, -1130343.15

Dne 3. září 2024 byl proveden drobný záchranný archeologický výzkum při stavbě „Vrbátky, rozšíření DS NN, Kulhaj (č. stavby 1030084525)". Jeho výsledkem bylo „znovuobjevení" již dříve registrované archeologické lokality, uvedené v literatuře pod pomístním názvem „Za Stoškovým", se zdárným ověřením hned dvou komponent jejího osídlení, a to v období lužické kultury mladší doby bronzové a především platěnické skupiny starší doby železné (např. Gottwald 1929; 1930, 36, obr. 31). Přínosné je nejen upřesnění její chybné lokalizace (viz Procházková 2000, mapa 1, lokalita č. 13), ale i nález velmi zajímavého fragmentu halštatské nádoby – soudkovitého nebo dokonce kotlovitého hrnce zdobeného jen velmi vzácně se objevující plastickou vlnicí (obr. 9), kterou můžeme v prostředí platěnické skupiny východohalštatské kultury nepochybně považovat za projev „cizích kulturních vlivů" (k této výzdobě dříve např. Podborský 1957).



Obr. 9. Vrbátky. Halštatská keramika z narušené kulturní vrstvy. Kresba J. Molčíková.

Fig. 9. *Vrbátky. Hallstatt pottery from a disturbed cultural layer. Drawing by J. Molčíková.*

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Summary

A minor rescue excavation was carried out on 3 September 2024 in connection with the extension of the low-voltage distribution network in Vrbátky (Prostějov District). The excavation 're-identified' a previously recorded archaeological site, known from the literature under a local name 'Za Stoškovým', and confirmed two phases of occupation – the Lusatian culture (Late Bronze Age) and predominantly the Platěnice culture (Early Iron Age). A notable find is a cauldron-shaped pot with applied wave decoration in relief (Fig. 9).

Pavel Fojtík

Doba římská a doba stěhování národů
Roman Age and Migration period

Borotín (k. ú. Borotín u Boskovic, okr. Blansko)
„V Občinách“.

Doba římská. Depot. Průzkum detektorem kovu. Uložení nálezu: Muzeum regionu Boskovicka, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V rámci projektu AMČR-PAS č. M-202400061 probíhaly v roce 2024 ve spolupráci s občanskými spolupracovníky povrchové prospekce Muzea regionu Boskovicka, p. o., v různých částech muzeem spravovaného území. Kromě množství samostatných nálezů byly spolupracovníkem V. Konečným na katastru Borotína objeveny také dva menší hromadné nálezy z doby římské.

Depot č. 1 (**BOROTÍN 1**) byl objeven spolupracovníkem muzea V. Konečným dne 28. 1. 2024. Místo nálezu se nachází na katastru obce Borotín v prudkém svahu orientovaném k severozápadu, v nadmořské výšce 492 m. Nálezce narazil na malé plošince svahu v hloubce 57 cm na bronzový zvonek, ihned nález ohlásil a následně za účasti nálezce, archeoložky a dokumentátora proběhly terénní práce omezeného rozsahu, které se soustředily na odkrytí a dokumentaci malého depotu v těžko přístupném terénu, v těsné blízkosti kořenů stromu. Odkrytá situace na úrovni podloží tvořeného jemnou pískovou hlínou béžovohnědé barvy ukázala soubor čtyř podélně uložených předmětů s orientací sever–jih (obr. 1).

Předměty byly ze země vyzvednuty částečně obalené v hlíně, a v zájmu jemné konzervace a realizace materiálových analýz nebyly nijak mechanicky čištěny. Ošetření předmětů v oddělení Analytické konzervace Archeologického ústavu AV ČR, Brno, v. v. i., je v době přípravy této zprávy teprve v počáteční fázi, proto jsou zde podány jen předběžné informace o nalezených předmětech (obr. 2).

Nejnápadnější složkou depotu jsou dvě celistvě dochovaná bronzová tzv. tintinnabula, zvony (jeden z nich i s dochovaným železným srdcem), jejichž determinace je možná již nyní, před jejich konzervací a dokumentací. Oba exempláře představují cylindrickou formu s pětiúhelníkovým uchem, odpovídající formě Ohlenroth Typ A, var. 4 (Ohlenroth 1925, 151), Nowakowski typ A (Nowakowski 1988, 75) resp. Pomberger Typ 2 (Pomberger 2018, 9, Fig. 9). Vzájemně se od sebe jen mírně liší svými rozměry a stavem zachování (u většího a štíhlejšího exempláře je ucho v horní části zřetelně ztenčeno opotřebováním). Představují charakteristické římské výrobky, ovšem jejich výskyt v neřímské části kontinentu též není ojedinělý (souhrnně Nowakowski 1988; k našemu území viz Jílek 2008; Zeman 2017). Ačkoliv je výskyt římských tintinnabul doložen prakticky ve všech oblastech barbarika, z našeho území čítá jejich soubor poměrně omezený počet. Celistvě dochovaný bronzový exemplář, stejného typu jako jsou zvonky z depotu v Borotíně, byl nalezen v mírně deformovaném stavu v Uherském Brodě (Jílek 2008, 145, obr. 1). Další zvonek stejného typu byl ve fragmentárním stavu objeven v Blatnici pod Svatým Antonínkem (lokalita I; Zeman 2017, 154, obr. 44:10).

Samotné zvonky podle formy nelze blíže chronologicky determinovat a daný typ se objevuje po celou dobu trvání doby římské (např. Nowakowski 1994, 134, 138). Cylindrické zvonky se často pokládají za součást výbavy koňského postroje (tam je řadí též Zeman 2017, 154), z římského území je však pro tuto interpretaci poměrně málo jednoznačných indicií. Vcelku četně se objevují v prostředí římských vojenských táborů.



Obr. 1. Borotín. Terénní situace depotu č. 1. Foto L. Bedáň.
Fig. 1. *Borotín. Archaeological context of the hoard No. 1. Photo by L. Bedáň.*



Obr. 2. Borotín. Depot č. 1. Foto Z. Jarůšková.
Fig. 2. *Borotín. The hoard No. 1. Photo by Z. Jarůšková.*

Další dva nálezy byly zhotoveny ze železa, tudíž jejich přesný popis a určení na základě nálezového stavu zatím není možný. Jeden z nich zřejmě představuje drobný mečík (či dýku) s poměrně krátkou rovnou čepelí s oboustranným ostřím a dlouhým trnem rukojeti. V nálezovém stavu je silnou vrstvou koroze spojen se železnou naběračkou, jejíž rukojeť má v průřezu tvar plochého obdélníku.

Depot č. 2 (**BOROTÍN 2**) obsahující bronzové mince a železné předměty byl objeven spolupracovníkem muzea V. Konečným dne 26. 6. 2024 přímo v prostoru lesní cesty na stejném svahu kopce jako depot č. 1. Místo nálezu se nachází o něco výše, v nadmořské výšce 533 m. Obě nálezové polohy jsou od sebe vzdáleny cca 270 m vzdušnou čarou.

Vzhledem k nepříliš velké hloubce (10–20 cm) a roztroušenosti nebyla přítomnost hromadného nálezu zpočátku zřejmá, proto nálezce předměty vyzvedl sám a muzeum kontaktoval po shromáždění všech předmětů a jejich zaměření v terénu. Následným terénním ověřením bylo zjištěno, že předpokládaný depot byl rozptýlen na ploše cca 60 × 40 cm, s maximální hloubkou 20 cm. Stejně jako obsah depotu č. 1 se i nálezy z depotu č. 2 nacházejí teprve v počáteční fázi laboratorního ošetření, proto je jejich popis a určení jen částečné a předběžné (obr. 3).

Depot obsahoval sedm předmětů, mezi nimi zejména čtyři římské bronzové ražby. Bez konzervace byla zatím předběžně určena pouze jedna, a to sestercius císaře Antonina Pia (doba vlády 138–161). Nejnápadnějším železným předmětem je téměř celistvě dochovaná železná obloukovitá ostruha s kulovitými knoflíky na koncích ramen typu Ginalski E5/E6 (Ginalski 1991, 63, Ryc. 11). Dále je zde fragmentárně zastoupena tulej menšího hrotu kopí či oštěpu a do dvou dílů rozlomené železné udidlo spletené ze dvou tyčinek s postranními kroužky.

Ačkoliv přesné datování a interpretace depotů Borotín 1 a 2 bude možné teprve po provedení materiálových analýz a konzervace, určité hypotetické a předběžné závěry lze formulovat již nyní. Chronologicky citlivější materiál obsahuje depot Borotín 2, v němž se jedna ražba jednoznačně *terminus post quem* řadí do pozdní fáze stupně B2, resp. horizontu B2/C1 (rámcově éra markomanských válek či období krátce po jejich skončení). Do téhož období lze řadit též železnou ostruhu. Depot Borotín 1 tak úzce datovatelný materiál zdá se neobsahuje. Analogií k železné naběračce by mohl být fragmentární nález z depotu železných předmětů nalezených v objektu 1 na sídlišti v Blučině (Droberjar 1997, 130, 246, Taf. 20:14), který je nejčastěji dáván do chronologického kontextu římsko-germánských interakcí během markomanských válek (např. Tejral 2008, 79). Obecně, a zatím jen se značnou dávkou opatrnosti, lze do identických souvislostí přiřadit i oba depoty z Borotína.

Za předpokladu, že budoucí detailní analýzy výše uvedené předpokládané datování depotů potvrdí, značně získá na významu též jejich poloha, která je v kontextu předpokládaných tras pohybů a pozic opěrných bodů římské armády na našem území velmi nápadná. Nalezly se ve vyvýšené poloze tvořící severozápadní hranici nepříliš rozlehlé nížiny Malé Hané v severní části Boskovické brázdy. Archeologické interpretace, opírající se kromě vlastních pramenů také o přirozenou geomorfologii krajiny, doplněné i modelováním tras pohybů římského vojska v prostředí GIS, tento přirozený koridor pokládají za jednu z hlavních komunikačních tras využívaných Římany v období markomanských válek. Dokladem jejich přítomnosti v bližším okolí Borotína je například mincovní depot denárů a jednoho sestercie ze Sudic (Jarůšková 2019; Militký, Jarůšková v tisku), a zejména krátkodobý tábor u Jevíčka (Komoróczy et al. 2020, 223–224). Depoty by tak mohly zřetelně obohatit naše znalosti o různých formách interakcí mezi germánským obyvatelstvem regionu a přítomnými římskými jednotkami v době markomanských válek (srov. Droberjar et al. 2020).



Obr. 3. Borotín. Depot č. 2. Foto Z. Jarůšková.
Fig. 3. *Borotín. The hoard No. 2. Photo by Z. Jarůšková.*

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Summary

In 2024, two hoards were discovered in Borotín (Blansko District), on the slope of a hill at the border of the Malá Haná region. One of them (Fig. 1) comprised two bronze bells, an iron ladle, and a short iron sword or dagger (Fig. 2). The second hoard contained four bronze coins (one of them identified as sestertius belonging to Antoninus Pius, AD 138–161), as well as iron items including horse bits, a spearhead or throwing spear fragment, and a spur (Fig. 3). While the first hoard can be broadly dated to the Roman period, the second is most likely associated with the period of the Marcomannic Wars. These finds probably represent new evidence of Roman military activity in the area.

Balázs Komoróczy, Zuzana Jarůšková

Brno (k. ú. Zábrdovice, okr. Brno-město)

Ul. Příční č. p. 505.

Doba římská a doba stěhování národů. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: dočasně Archaia Brno z. ú.

Lokalizace: WGS-84: 49.2001425N, 16.6159725E; 49.2003581N, 16.6158786E; 49.1999464N, 16.6149961E; 49.2001953N, 16.6147547E

V Brně-Zábrdovicích, na ulici Příční probíhal od června do srpna 2024 záchranný archeologický výzkum (Bučo 2024), vyvolaný stavbou „BD Příční 14“. Plocha byla zničena recentními zásahy do hloubky cca 2 m od současného terénu. Výzkumem se podařilo zachytit archeologické situace z protohistorického období. Keramický materiál byl vyhotoven na kruhu, vzhledem k jeho fragmentarizaci však nebylo možné určit přesnou dataci.

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Summary

In 2024, a rescue archaeological excavation was carried out during the construction of a building at 14 Příční Street in Brno (Zábrdovice cadastral area, Brno-City District). Features from the protohistoric period were uncovered.

Michal Bučo

Držovice (k. ú. Držovice na Moravě, okr. Prostějov)

„Za Humny“ (bývalá cihelna), parc. č. 216/1.

Mladší doba stěhování národů. Pohřební areál. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: S-JTSK: -556372.89, -1131768.31

Při severním okraji intravilánu dnes samostatné obce Držovice (v letech 1950–1954 byly součástí tzv. „velkého Prostějova“, ke kterému byly v roce 1973 opětovně připojeny, aby dne 1. 6. 2006 znovu získaly svoji samostatnost), v poloze s pomístním názvem „Za Humny“, leží bývalý těžební prostor držovické cihelny, dříve cihelny Konečného a Nedělníka – v roce 1948 transformované do Hanáckých cihelen a od roku 1960 součást Cihelny G. Klimenta v Brně, kde se v současnosti nachází recyklační závod firmy Očenášek. Při těžbě cihlářské hlíny (přesněji kvartérních spraší würmského stáří) se v minulosti často přicházelo na „pozůstatky diluviálních zvířat“, které obohacovaly postupně se rozrůstající sbírky vznikající Musejní a průmyslové jednoty v Prostějově. Byla zde však zjištěna i dlouhodobě užívaná venkovská raně středověká nekropole (souhrnně Fojtík, Šmíd 2008, 19, 51–54, 79–80, 103–104, tab. 1: 1–2, 37–41, 59: 1–10; 73: 1), která je díky stati F. Faktora, otištěné již v roce 1896 na stránkách Časopisu Vlasteneckého spolku musejního v Olomouci (Faktor 1896), jednou z nejstarších v literatuře evidovaných archeologických lokalit Prostějovska. Její existence byla v roce 2014 připomenuta náhodným objevem hrobu jezdce – lukostřelce (Fojtík 2015), pohřbeného zde spolu se svým koněm někdy na počátku 6. století n. l. V roce 2020 v jeho blízkosti proběhl záchranný archeologický výzkum vyvolaný rozšířením těžebního pole ve východní části areálu bývalé cihelny, kterým bylo odkryto a zdokumentováno šest hrobů – pět z nich náleželo právě době pokročilého stěhování národů (nejspíše germánskému kmenu Langobardů), šestý pak bezpečně souvisel s pozdější nekropolí slovanského etnika (Fojtík 2021).

V březnu a dubnu 2024 realizovalo prostějovské pracoviště Ústavu archeologické památkové péče Brno, v. v. i., další terénní odkryv, související s opětovnými zemními pracemi v areálu bývalé cihelny. Na skryté ploše se podařilo zachytit jeden žárový hrob, a především 11 hrobů kostrových, povětšinou však druhotně otevřených a téměř dokonale „exhumovaných“ již hluboko v minulosti. Jejich zásypy byly tak nálezů zcela prosté nebo obsahovaly pouze ojedinělé zlomky lidských kostí a v jednom případě i kostí drobnější psovité šelmy. Pozornost si zaslouží zejména trojice hrobů, z nichž jeden byl poznamenán starším sekundárním zásahem jen v omezené míře (hrob č. 14/2024), dva pak zcela unikly pozornosti, a zůstaly tak nedotčenými (hroby č. 10/2024 a 13/2024).

Hrob č. 14/2024 byl vzhledem k posunutí, či dokonce přetočení celých partií skeletu, jinak však dodržujících své původní anatomické rozložení, otevřen a „vyloupen“ poměrně brzy po uložení do země. I přes výkop cílený na střední část těla pohřbené starší ženy (patrně tedy na kovové šperky situované v oblasti trupu) se tak podařilo zdokumentovat nejen část kosterních pozůstatků, ale také objevit řadu předmětů z její původní „výbavy do záhrobí“. Mezi solitérními kostmi rozmetanými v zásypu jámy o rozměrech cca 230 × 100–110 cm a hloubce 90 cm byl nalezen železný nožík. Nade dnem pak spočívaly, mimo zmíněný skelet s doklady druhotné manipulace s tělem pohřbené, i zmíněné doprovodné nálezy. V oblasti krční páteře ležel trojvrstvý kostěný jednostranný hřeben s bohatou výzdobou a v okolí pak rozptýlené korálky, které byly součástí náhrdelníku

v celkovém počtu 16 objevených kusů (převažují korálky vyrobené z karmínově červené a/nebo žluté sklovité hmoty doplněné dvěma polyedrickými exempláři z modrého skla a jedním korálkem z jantaru). Pod pánevními kostmi byla situována keramická nádoba a přeslen.

Hrob č. 13/2024 obsahoval skelet dospělé ženy uložené do nepravidelně oválné hrobové jámy o rozměrech cca 225 × 65–100 cm a hloubce 85 cm v nezvyklé poloze na břiše. Zjevná semknutost kostí nepochybně svědčí o těsném zabalení či spíše až stažení těla do pohřebního rubáše nebo kusu textilu. Při levém rameni byla objevena drobná stříbrná zlacená spona vykládaná po obvodu almandinem dovezeným snad až z Indie (tj. polodrahokamem sytě červené až červenohnědé barvy, jehož název je odvozen od starověké brusírny drahokamů Alabanda v Turecku), a ve středu snad dokonce exotickou slonovinou. Jedná se o jen velmi vzácně se vyskytující ozdobu / šatní spínadlo označované jako vírová spona (svým ztvárněním totiž připomíná vodní vír, cf. Tejral 2011, 59–60, Abb. 25), a především také o vysoce spolehlivý datační předmět, který klade hrob do prvních desetiletí 6. století n. l. Překvapivým nálezem je druhotně upravený zlomek skleněné nádoby, sloužící snad jako ozdoba, amulet nebo „zástupný milodar", skrytý pod paží levé ruky. Pochází z nádoby ve své době velmi ceněné a společensky prestižní – tzv. poháru s chobotovitými nálepy a z pohledu archeologického jde o první doklad jejího výskytu v českých zemích.

Za „objev desetiletí" lze pak v regionu Prostějovska zcela bez nadsázky považovat hrob č. 10/2024, který poskytl pohřeb dospělého muže – bojovníka a jezdce na koni (obr. 4). V terénu takřka nečitelná hrobová jáma o rozměrech 230 × 90–100 cm a hloubce 45 cm se výplní téměř nelišila od okolního sprašového podloží, a zůstala tak dodnes utajena. Skelet pohřbeného ležel v natažené poloze na zádech a byl orientován ve směru V–Z. V rohu jámy spočívalo železné kopí, při pravé ruce pak železný nůž, a především velmi dobře zachovaný železný meč – tzv. spatha o délce téměř 90 cm (obr. 5). V oblasti pasu byla situována železná opasková přezka a koncentrace drobných nálezů, zjevně z obsahu textilní nebo kožené tašky uzavřené bronzovým knoflíkem s očkem a zavěšené na opasku. Ta obsahovala železnou ocílku, úštěpy silicitů sloužící za křesací kameny a zcela otřelou měděnou římskou minci. U paty pravé nohy byla vyzvednuta velmi subtilní železná destičkovitá ostruha, dokládající jízdu na koni, se kterou lze spojovat i neklamné stopy sice vážných, ale zdárně zhojených zranění utrpěných nepochybně při pádu z koně – jednalo se o zlomeninu levé kosti stehenní, a především pravé kosti pažní (zde po srůstu vedoucí k viditelnému a jistě i citelně omezujícímu zkrácení pravé horní končetiny).



Obr. 4. Držovice. Hrob bojovníka a jezdce na koni. Foto P. Fojtík.
Fig. 4. *Držovice. Burial of a warrior and horse rider. Photo by P. Fojtík.*



Obr. 5. Držovice. Detail železného meče. Foto P. Fojtík.
Fig. 5. *Držovice. Iron sword detail. Photo by P. Fojtík.*

Výše ve stručnosti přiblížené nálezy z Držovic reprezentují doposud nejseverněji lokalizované pohřebiště z doby pozdního stěhování národů s výskytem hrobů koní na Moravě (na jihu registrujeme lokality Drnholec, Šakvice, Lužice, severněji pak Holubice a Žuráň), a řadí tak držovickou cihelnu k důležitým lokalitám počátku 6. století n. l. nejen v českých zemích, ale i v širší oblasti středního Podunají (cf. Trampota et al. 2022, 166–169, Fig. 33–34). Jde o svým způsobem unikátní doklady doby, kdy se zde usazení příslušníci germánského kmene Langobardů postupně (z části?) přesouvali do Panonie (dnešního severozápadního Maďarska; k podobným hrobům viz Bóna, Horváth 2009), aby na konci svého putování (v roce 568) dorazili až do dnešní severní Itálie, kde je jejich jméno dodnes uchováno v geografickém označení Lombardie.

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Trampota, F., Kubín, P., Melicherová, L., Vargová, L., Jarošová, I., Vymazalová, K., Horáčková, L., Nývltová Fišáková, M., Rebay-Salisbury, K., Rendl, B., Kanz, F., Mařík, I., Klontza-Jaklová, V. 2022: The Late Migration Period Cemetery at Drnholec (Břeclav District, Czech Republic). *Památky archeologické* CXIII, 135–181. DOI: 10.35686/PA2022.3.

Summary

In 2024, a rescue archaeological excavation, prompted by the expansion of a mining area at the site of a former brickworks in Držovice (Prostějov District), yielded one cremation grave and 11 inhumation graves associated with the northernmost burial site from the Late Migration period identified in Moravia that includes horse burials. Thanks to the newly discovered warrior grave containing an iron sword (Grave 10/2024; Fig. 4, 5), the Držovice brickworks site ranks among the key early 6th-century sites not only within the Czech lands, but also in the broader Middle Danube region.

Pavel Fojtík

Holasovice (okr. Opava)

Extravilán, parc. č. 642/14.

Mladší doba římská. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Národní památkový ústav – územní odborné pracoviště v Ostravě.

Lokalizace: WGS-84: 49.9955578N, 17.8141883E

V průběhu záchranného archeologického výzkumu realizovaného v letech 2023 a 2024 na katastru Holasovic, na parcele č. 642/14, byla zachycena malá část zahloubené chaty. Její dno zasahovalo jen velice mělce pod úroveň povrchu podloží. Skrývka byla v superpozici s chatou pouze v prostoru jejího jihozápadního rohu, kde byla dokumentována jedna sloupová jáma. Z výplně objektu pochází několik drobných keramických střepů. Zlomek jedné na hrnčířském kruhu točené šedé misky náleží kultuře przeworské z mladší doby římské. Stavba patrně souvisela s osídlením zachyceným při záchranném archeologickém výzkumu v roce 2011, kdy probíhala stavba blízké cyklistické trasy č. 55 „Slezská magistrála“ (Hlas 2012, 183). Lokalita byla osídlená také v neolitu a ve starší době železné.

Literatura

Hlas, J. 2012: Holasovice (okr. Opava). *Přehled výzkumů* 53(1), 183.

Summary

During the spring and summer months of 2023 and 2024, a rescue archaeological excavation was carried out in the cadastral area of Holasovice (Opava District), on plot No. 642/14. The excavation revealed part of a sunken hut dating to the Late Roman period.

Jindřich Hlas, Jiří Motěšický

Holešov (k. ú. Všetuly, okr. Kroměříž)

Ul. Palackého, parc. č. 609/5.

Doba stěhování národů. Pohřebiště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Muzeum Kroměřížska, p. o.

Lokalizace: WGS-84: 17.54983E, 49.32501N

V roce 2024 proběhl záchranný archeologický výzkum vyvolaný stavební aktivitou související s rozšiřováním stávajícího parkoviště pro společnost Nestlé Česko na ulici Palackého v Holešově-Všetulích (obr. 6). Areál na výrobu cukrovinek je v obecném povědomí však znám spíše pod původním názvem SFINX a jeho tradice sahá až do devatenáctého století. Místo výzkumu se nachází v zákrytu několika zbývajících stromů přímo naproti hlavní budově objektu s ikonickou sfingou před vstupem do závodu. V jižní části dotčené plochy bylo po skrývce nadložních vrstev registrováno celkem 12 kostrových hrobů, které se vyznačovaly špatně čitelnými zásypy s podílem vápenatých konkrecí, uvnitř kterých byly po začištění zřetelné druhotné zásahy vyznačující se naopak výrazněji tmavším zbarvením. Mimo hroby byly při následném začištění plochy v její východní části zjištěny i dva sídlištní objekty, které pravděpodobně představují naprostou periferii rozsáhlého polykulturního sídliště nacházejícího se na levobřežní (jižní) terase Rusavy, v širším prostoru



Obr. 6. Holešov. Celkový pohled na plochu pohřebiště v průběhu výzkumu. Foto M. Popelka.

Fig. 6. *Holešov. General view of the burial site during excavation. Photo by M. Popelka.*

původního dřevopodniku (starší, špatně lokalizované a náhodné nálezy viz Fojtík, Popelka 2018, 53) a navazující obchodní zóny (výzkum I. Čižmáře při stavbě OC Tesco viz Čižmář 2011, 210).

Pohřebiště, tvořené nejméně dvanácti hroby (není jisté, zda pohřebiště nepokračuje mimo plochu zasaženou stavbou), je na základě nálezů několika skleněných nádob datováno do průběhu 5. století n. l. Zemřelí byli na pohřebišti ukládáni do poměrně rozměrných hrobových jam (největší hrobová jáma dosahovala délky až 3 m) obdélného půdorysu se zaoblenými rohy. Jámy dosahovaly současně značné hloubky (nejhlubší hrob až 1,8 m od odhadovaného původního terénu). Orientace hrobů byla bez výrazné odchylky ve směru V–Z, přičemž pohřbení byli uloženi v natažené poloze (naznak) s hlavou na západní straně hrobu, tedy s pohledem k východu (obr. 7). Profily hrobů byly víceméně vanovité, ve dně pak byly patrné úpravy hrobové jámy do formy kvadratického lůžka, do nějž byla umístěna dřevěná rakev se zemřelým (obrysy rakví byly poměrně dobře čitelné, dřevo dochováno v korozních produktech drobných železných předmětů). Hroby byly rozděleny do dvou skupin po šesti a tvořily semknuté skupiny. Z prozkoumaných dvanácti hrobů bylo v desíti případech zjištěno jejich druhotné narušení, které proběhlo pravděpodobně nedlouho po pohřbu. Vykrádací šachty byly ve většině případů situovány v západní polovině hrobu, tedy nad oblastí hlavy, hrudníku, případně rozšířeny až do prostoru pánve. Analogická situace včetně výrazněji tmavého zbarvení druhotného zásahu byla pozorována také na dobře prozkoumaném pohřebišti v Praze-Zličíně (Vávra a kol. 2007, 566). Pouze dva hroby byly ušetřeny tohoto drastického dobového zásahu. Jeden neporušený hrob obsahoval pohřeb dítěte, ve druhém byla uložena přibližně čtyřicetiletá žena s uměle deformovanou lebkou (obr. 8). O příslušnosti ke konkrétnímu národu nebo skupině obyvatelstva není bohužel v současné chvíli možné sdělit nic dalšího, jelikož v žádném z hrobů (včetně hrobů neporušených) nebyly nalezeny žádné milodary, které by pomohly tuto kulturní otázku rozřešit (např. spínadla oděvu, spony nebo přezky, které mohou být typické pro konkrétní kmen). Zmíněné skleněné nádoby (obr. 9), jež byly nalezeny ve čtyřech z dvanácti hrobů, pocházejí z oblasti pozdně antických dílen na území tehdejší Římské říše, a v rámci hrobového inventáře se tedy jedná o importované zboží s nepochybně prestižní a symbolickou hodnotou, avšak opět bez možnosti přispění k řešení etnické příslušnosti zemřelých. Dvě nádoby byly prakticky totožné a šlo o pohárky z tenkého žlutozeleného skla s nálepy na



Obr. 7. Holešov. Druhotným zásahem silně narušený hrob. Foto M. Popelka.

Fig. 7. *Holešov. Grave severely disturbed by secondary intervention (grave robbing). Photo by M. Popelka.*



Obr. 8. Holešov. Detail horní části skeletu ženy s uměle deformovanou lebkou. Foto M. Popelka.

Fig. 8. *Holešov. Detail of the upper body of a woman with an artificially deformed skull. Photo by M. Popelka.*

těle. Další (kompletně dochovanou) nádobou byl masivnější pohárek z karmínového skla s vývalkem na stopce. Posledním, taktéž kompletně dochovaným exemplářem, byla lahvovitá nádobka s vysokým, úzkým hrdlem, zdobená skelnou nití ve spirále po obvodu hrdla a těla nádoby. Analogie k posledně zmíněné variantě lze spatřovat na pohřebištích v Praze-Zličíně (drobná láhev v dětském hrobě č. 70 – Jiřík et al. 2015, 185–189) nebo Klosterneuburgu (hrob č. 6) nedaleko Vídně (Neugebauer-Maresch, Neugebauer 1986, 352, Taf. 6). Obě zmíněné lokality nevybočují z datačního rámce 5. století (resp. jeho první poloviny), kam můžeme řadit i hroby prozkoumané v Holešově-Všetulích.



Obr. 9. Holešov. Kompletně dochované skleněné nádoby z pohřebiště. Foto M. Popelka.

Fig. 9. *Holešov. Completely preserved glass vessels from the burial site. Photo by M. Popelka.*

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Summary

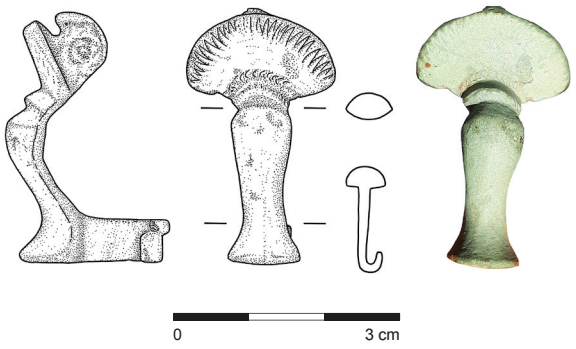
A rescue excavation carried out during the car park extension for Nestlé CZ – the SFINX Všetuly factory in Holešov (Všetuly cadastral area, Kroměříž District) revealed 12 graves from the Migration period (Fig. 6). Most of them (10 out of 12) had been disturbed by contemporary grave robbery (Fig. 7). The remaining two were intact but contained no finds. In one undisturbed grave, a woman with an artificially deformed skull was buried (Fig. 8). The only conclusive finds are a set of glass vessels of Late Antique origin (Fig. 9), discovered in four graves, placed in niches behind the head of the deceased. This is the first burial site of its kind identified in the Kroměříž region.

Miroslav Popelka, Martin Paulus, Radka Popelková

patinou. Vinutí a jehla se nedochovaly, ale korozní produkty rezavého zabarvení v místě háčku na zachycení tětivy naznačují, že tyto části spony byly železné.

V případě této varianty kolínkovitých spon se jedná o typické spínadlo vyskytující se od poloviny 2. století, zejména v přechodném horizontu B2/C1 v období markomanských válek. Jejich výskyt byl zaznamenán jak v prostředí germánských sídlišť, pohřebišť, tak v prostoru krátkodobých římských táborů (Peškař 1972, 95–96, Taf. 17:4, 9; Tejral 1999, 143, Abb. 44:14–17; Droberjar 2012, 122–124; 2020, 501–502; Komoróczy, Vlach, 2018, 247; Urban 2020, 52; Zeman 2017, 80).

Nález kolínkovité spony typu Jobst 13D z Horní Moštěnice na Přerovsku rozšiřuje počet dosud známých lokalit s výskytem této varianty spínadla na Moravě.



Obr. 10. Horní Moštěnice. Kolínkovitá spona s půlkruhovou záhlavní destičkou typu Jobst 13D. Foto Z. Schenk, kresba P. Holcová.

Fig. 10. *Horní Moštěnice. Knee-shaped fibula with a semi-circular head-plate of the Jobst 13D type. Photo by Z. Schenk, drawing by P. Holcová.*

Horní Moštěnice (okr. Přerov)

„Ostudy“, parc. č. 1014/13.

Starší doba římská. Sídliště. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V roce 2016 nalezl spolupracovník Muzea Komenského v Přerově M. Komínek v rámci projektu „Preventivní archeologie na území Olomouckého kraje“ během detektorové prospekce prováděné v poloze „Ostudy“ poblíž jižního okraje intravilánu obce Horní Moštěnice bronzovou sponu dvojdílné konstrukce ze starší doby římské (obr. 10). Lokalita se nachází na levobřežní straně říčky Moštěnky, která je levostranným přítokem řeky Moravy. Nadmořská výška v místě nálezu činí 211 m.

Doklady osídlení z doby římské v trati „Ostudy“ prokázal povrchovými sběry D. Kolbinger již v 70. letech 20. století, stejně jako sídliště z doby římské v poloze „Bařiny“ na sousedním katastru obce Dobrčice (Kolbinger 1987, 22–26). Na lokalitě jsou v současnosti prováděny pravidelné povrchové prospekce doprovázené detektorovým průzkumem (Schenk 2000, 102, obr. 1).

V případě popisovaného nálezu se jedná o velmi dobře zachovalou římsko-provinciální kolínkovitou sponu s polokruhovitou záhlavní destičkou s výzdobou ve formě rytých zig-zag motivů (zvaných vlčí zuby), která je charakteristická pro variantu Jobst 13D (Jobst 1975, 66). Maximální délka spony je 30 mm, maximální šířka v úrovni zdobené půlkruhové záhlavní destičky pak 17,1 mm. Váha spony činí 7,349 g. Spona je opatřena vyšším obdélným úzkým zachycovačem s ohrnutou spodní hranou. Povrch artefaktu je rovnoměrně pokryt světle zelenou oxidační

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Summary

A knee-shaped fibula with a semi-circular head-plate decorated with an engraved zig-zag motif ('wolf teeth'), characteristic of the Jobst 13D type (Fig. 10), was found during a metal detector survey in the 'Ostudy' field (Horní Moštěnice cadastral area, Přerov District). The artefact can be dated to the period of the Marcomannic Wars (transitional phase B2/C1).

Zdeněk Schenk, Miroslav Komínek

Ivančice (k. ú. Hrubšice, okr. Brno-venkov)

Za Zámkem.

Doba římská. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Moravské zemské muzeum.

Lokalizace: nepublikováno z důvodu ochrany lokality

V průběhu roku 2024 proběhlo na katastru Hrubšic několik záchranných archeologických výzkumů před výstavbou rodinných domů. Zkoumaná polykulturní lokalita byla identifikována už v roce 2021 při výstavbě místní komunikace a sítí (Bučová Čerňavová 2022). Lokalita leží v rovinatém terénu nivy řeky Jihlavy, který se mírně zvedá v západním směru. Celkem byly nalezeny čtyři sídlištní objekty pozdní doby římské, jejichž funkce není jasná. Nejrozsáhlejší z nich přesahoval délku 5 m, měl nerovné dno vyhloubené do pískového podloží. Uvnitř byla zjištěna přítomnost kůlových jam, které neutvářely zřetelnou konstrukci. Objekt měl snad původně sloužit jako zahloubené obydlí, ale nestabilní pískové podloží záměr zmařilo. Každopádně zemnice nalezená v roce 2021 několik metrů od této jámy měla jasnou konstrukci se sloupy v rozích a ve středu stěn.

Nalezený materiál z objektů zahrnoval běžnou v ruce dělanou germánskou keramiku, keramiku tzv. jiříkovického typu i dva glazované fragmenty importované z římské říše. Dále bylo získáno několik kovových zlomků, kostěná industrie, zvířecí kosti, mazanice a přeslen.

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Summary

A rescue archaeological excavation carried out prior to the construction of family houses in Ivančice (Hrubšice cadastral area, Brno-Country District) revealed settlement features dating to the Late Roman period. In addition to locally produced ceramics, fragments of glazed Roman provincial pottery were also recovered.

Katarína Bučová Čerňavová

Podivín (okr. Břeclav)

Ul. Bratislavská, parc. č. 2017, 2018/1.

Doba římská. Sídliště, pohřební areál. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 48.8284347N, 16.8610256E

Stavba nové prodejny PENNY Market probíhala na východním okraji města, v těsné blízkosti bývalé pískovny, kde byly v minulých letech zkoumány objekty z doby bronzové a doby římské (Čižmář 2016; 2020). Při stavbě retenční nádrže v západním rohu stavby byly na profilech zachyceny zahloubené objekty, z nichž pochází keramický materiál datovaný rámcově do doby římské.

Větší část stavby se rozkládá v místě zničeném dřívější těžbou písku. Původní terén tak byl zachycen ve větší míře pouze v prostoru parkoviště v severovýchodní části parcely. Zde byly identifikovány tři hrobové jámy orientované ve směru V–Z. Při jejich odkryvu byly nalezeny pouze neúplné, v neanatomické poloze umístěné kosterní pozůstatky dvou mužů a jednoho dítěte, bohužel bez dalšího inventáře, který by umožnil jejich datování.

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Summary

During the construction of a new shopping centre in Bratislavská Street in Podivín (Břeclav District), features from the Roman period and three undated graves oriented east-west were uncovered. The skeletal remains in the graves were found in a non-anatomical position.

Ivan Čižmář

Přerov (k. ú. Kozlovice u Přerova, okr. Přerov)

„Nad Lukami", parc. č. 804.

Starší doba římská. Sídliště. Průzkum detektorem kovu. Uložení nálezu: Muzeum Komenského v Přerově, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V roce 2024 byl v rámci projektu „Preventivní archeologie na území Olomouckého kraje" prováděn detektorový průzkum na polykulturní lokalitě „Nad Lukami" při severovýchodním okraji katastrálního území Kozlovice u Přerova. Lokalita se nachází na tzv. Radslavické říční terase pleistocénního stáří, na levém břehu potoka Lučnice, který je levostranným přítokem řeky Bečvy. Průměrná nadmořská výška zarovnaného povrchu terasy činí 220 m. Na lokalitě objevené v roce 2001 je dlouhodobě prováděn povrchový průzkum na sídlišti z doby římské (Schenk 2002). Starší horizont osídlení je zastoupen pouze sporadickými nálezy z mladší a pozdní doby kamenné, doby bronzové, starší i mladší doby železné (Schenk, Kulíšek 2023).

V rámci průzkumu byla spolupracovníkem Muzea Komenského v Přerově, p. o., T. Kulíškem nalezena římsko-provinciální spona. Jedná se o ojedinělý nález, který představuje emailová šarnýrová spona typu Exner I 32, Riha 5.17.5 (Exner 1941, 54–56; Riha 1994, 138–141, Taf. 34:2651–2653). Obloukovitý lučík i zachycovač mají trojúhelníkovitý tvar. Každý z nich

na svém povrchu nese výzdobu v podobě devíti menších pyramidovitě uspořádaných trojúhelníčků, které jsou střídavě vykládány emailem světle zeleného a hnědočerveného zabarvení (obr. 11). Okraje lučíku i zachycovače jsou po obvodu zdobeny krátkými příčně rytými rýžkami. Zdobeno je rovněž žebírko na předělu mezi lučíkem a zachycovačem.

Celková délka spony činí 44 mm, maximální šířka je 22 mm a hmotnost spínadla činí 13,622 g. Vinutí ani jehla spony se nedochovaly. Povrch artefaktu je na horní straně pokryt postříbřením a na spodní straně předmětu tmavě zelenou oxidační patinou.

Kozlovický exemplář lze na základě obdobných nálezů z Čech, Moravy a Slovenska datovat do 2. poloviny 1. století až 1. poloviny 2. století n. l. Původ tohoto typu emailových spon lze hledat v západních provinciích Římské říše (např. Elschek 2017, 169–177, obr. 3: 4–7; Frýzl 2016, 53; Urban 2020, 45–46, obr. 6: 2).

Nový nález spínadla z areálu germánského sídliště ze starší doby římské z Přerova-Kozlovic je prvním exemplářem svého druhu na Přerovsku a zároveň rozšiřuje počet známých lokalit na Moravě. Nepochybně souvisí s existencí jedné z větví Jantarové stezky procházející významným přírodním koridorem – Moravskou branou, při jehož jihozápadním vyústění se lokalita nachází.



Obr. 11. Přerov. Emailová spona typu Exner I 32. Foto Z. Schenk.

Fig. 11. *Přerov. Enamelled fibula of Exner I 32 type. Photo by Z. Schenk.*

Literatura

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Summary

The enamelled fibula of Exner I 32 type (Fig. 11) was found in 2024 during a metal detector survey in the 'Nad Lukami' field (Kozlovice u Přerova cadastral area, Přerov District). The artefact can be dated to the Early Roman period, specifically to the B1c–B2b phase.

Zdeněk Schenk, Tomáš Kulíšek

Sivice (okr. Brno-venkov)

Parc. č. 799/1.

Doba stěhování národů. Hrob. Skupina/síť sond. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.2039658N, 16.7868067E

Při stavbě rodinného domu na parcele č. 799/1 na východním okraji obce byl dokumentován kostrový hrob z období stěhování národů porušený druhotným zásahem; pro datování je klíčová stříbrná záušnice. Zahloubené objekty byly identifikovatelné pouze ve výkopech pro základové pasy a nelze vyloučit přítomnost dalších hrobů v okolí. Jde o součást lokality na rozmezí katastrů Sivic a Pozořic (Geislerová, Parma eds. 2018, 288–289).

Literatura

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Summary

A rescue excavation carried out during the construction of a family house on the eastern outskirts of Sivice (Brno-Country District) yielded an inhumation grave dating to the Migration period.

David Parma

Sobotovice (okr. Brno-venkov)

Severozápadně od obce, parc. č. 1118.

Doba římská. Ojedinělé artefakty. Průzkum detektorem kovu. Záchranný výzkum. Uložení nálezu: Ústav archeologické památkové péče Brno, v. v. i.

Lokalizace: WGS-84: 49.0636281N, 16.5511661E

Při detektorové prospekci v ploše budoucí opravárenské haly (viz oddíl Doba železná) byla získána větší část bronzové profilované spony s vysokým zachycovačem, (obr. 12: 1) kterou je možné zařadit do starší doby římské. Ze stejného nebo spíše mladšího období mohou pocházet rovněž dva zachycovače (obr. 12: 2, 3).



Obr. 12. Sobotovice. Část bronzové spony s profilovaným lučíkem a vysokým zachycovačem a dva zachycovače spon. Foto I. Čižmář.

Fig. 12. *Sobotovice. Part of a bronze fibula with a profiled bow and high catchplate, and two catchplates from other fibulae. Photo by I. Čižmář.*

Literatura

Neuvedeno.

Summary

A metal detector survey conducted northwest of Sobotovice (Brno-Country District) led to the discovery of a bronze fibula with a high catchplate dating to the Early Roman period (Fig. 12:1), along with fragments of two catchplates from fibulae of the Late Roman period (Fig. 12:2, 3).

Ivan Čižmář

.....

Staré Město (k. ú. Staré Město u Uherského Hradiště, okr. Uherské Hradiště)

„Olší“, parc. č. 6015/309.

Doba římská. Ojedinělé artefakty. Průzkum detektorem kovu. Záchranný výzkum. Uložení nálezu: Slovácké muzeum v Uherském Hradišti, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V souvislosti s prospekcí zaměřenou na depot z pozdní doby bronzové (viz oddíl Doba bronzová) byly získány také dvě párové spony dvojdílné konstrukce s vysokým zachycovačem, s horní tětivou (obr. 13). Lučík má esovitý tvar se střechovitým průřezem. Jedná se o spony typu Almgren skupina VII. a lze je datovat do přechodného období po markomanských válkách – do poloviny 2. a na počátek 3. století (Droberjar 2014, 50–53; Hanáková 2023; Komoróczy et al. 2019).



Obr. 13. Staré město. Spony s vysokým zachycovačem. Foto D. Menoušková.
Fig. 13. *Staré město. Fibulae with high catchplates. Photo by D. Menoušková.*

Literatura

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Summary

In connection with a metal detector survey associated with the discovery of a Late Bronze Age hoard (see Bronze Age section) in the ‘Olší’ field (Staré Město u Uherského Hradiště cadastral area, Uherské Hradiště District), a pair of fibulae with high catchplates and front chords were also recovered (Fig. 13). The S-shaped bows have a triangular cross-section. These are fibulae of Almgren type VII, datable to the transitional period following the Marcomannic Wars, around the mid-2nd to the early 3rd century.

Dana Menoušková

.....

Uherský Brod (okr. Uherské Hradiště)

Sídliště Olšava; Ul. U Mlýnů, Polní, parc. č. 3584/8.

Mladší doba římská. Sídliště. Plošný odkryv. Záchranný výzkum. Uložení nálezu: Slovácké muzeum v Uherském Hradišti, p. o.

Lokalizace: WGS-84: 49.0139014N, 17.6471058E

V červenci a v listopadu roku 2024 proběhly poslední dvě etapy záchranného archeologického výzkumu, který předchází výstavbě komplexu šesti nových bytových domů a jejich příslušenství v blízkosti Sídliště Olšava v Uherském Brodě. Odkryv prostorově navazuje na plochy předchozích etap výzkumu (Kuchař 2023a). Během červencové etapy (obr. 14) byla odkryta skupina objektů představujících periferii hospodářského zázemí germánského sídliště z období mladší doby římské. Ze zachycených objektů, které dokládají existenci nadzemních staveb, lze jmenovat otisk menší stavby dřevo-hlinité konstrukce se šesti kůly a otisk objektu sestávajícího ze zahloubeného prostoru a třech sloupových jam, které tento prostor obklopovaly. Zkoumány byly také dvě zásobní jámy, přičemž výplň jedné z nich obsahovala kromě nálezů z doby římské také vrstvu s obsahem raně středověké slovanské keramiky datované do velkomoravského období, což koresponduje s obdobnou situací v předchozí etapě tohoto výzkumu, jež byla zachycena v nevelké vzdálenosti od zmíněné zásobní jámy (Kuchař 2003b). Zachyceno bylo jedno menší samostatně stojící ohniště s propáleným dnem. Ostatní objekty na ploše lze interpretovat jako sloupové jámy nejasného stáří, dále zahloubené objekty různých velikostí a tvarů bez možnosti jejich bližší identifikace. Tmavá kulturní vrstva bez jasných okrajů zachycená mezi objekty byla zdokumentována formou tří kopaných sond. V prostoru mezi těmito sondami byla detektorovou prospekcí plochy nalezena jedna římská mince. Soubor movitých nálezů pocházejících z výplní objektů a sond zahrnuje střepy keramických nádob, zvířecí kosti, mazanice s otisky konstrukčních prvků a jeden kus štípané kamenné industrie. V průběhu listopadové etapy byl na poslední části staveniště zachycen pouze jeden zahloubený objekt blíže neurčené funkce.

Literatura

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Summary

An archaeological excavation conducted in connection with construction works in Sídliště Olšava Street in Uherský Brod (Uherské Hradiště District) revealed the hinterland of a Germanic settlement dating to the Late Roman period (Fig. 14).

Zdeněk Kuchař



Obr. 14. Uherský Brod. Letecký snímek zkoumané plochy po dokončení etapy v červenci 2024. Foto Z. Kuchař.

Fig. 14. *Uherský Brod. Aerial view of the excavation area after completion of the July 2024 phase. Photo by Z. Kuchař.*

Valašské Meziříčí (k. ú. Bynina, okr. Vsetín)

„Paseky“, „Kopečky“, parc. č. 564/1.

Doba římská. Ojedinělé artefakty. Průzkum detektorem kovu. Uložení nálezu: Muzeum regionu Valašsko, p. o.

Lokalizace: nepublikováno z důvodu ochrany lokality

V rámci dlouhodobé prospekce severního břehu Rožnovské Bečvy a následně vlastní Bečvy se postoupilo do oblasti Byniny–Mštěnovic. Na rozhraní katastru těchto obcí, přibližně v třicetimetrové vzdálenosti od sebe, byly nalezeny dvě bronzové spony, které jsou rámcově datovány do doby římské.

Kromě těchto spon byla na předmětné lokalitě nalezena i štípaná industrie zřejmě neolitického až eneolitického stáří (viz oddíl Neolit).

V roce 2025 bude na této nové lokalitě probíhat opakovaná povrchová prospekce.

Literatura

Neuvedeno.

Summary

A metal detector survey carried out in Valašské Meziříčí (Bynina cadastral area, Vsetín District) yielded two bronze fibulae, which were broadly dated to the Roman period. In addition to these finds, chipped stone industry of prehistoric origin was also recovered at the site (see Neolithic section).

Samuel Španihel

Přehled výzkumů na Moravě a ve Slezsku 2024 – seznam autorů

Overview of excavations in Moravia and Silesia 2024 – list of authors

Adameková Katarína	Archeologický ústav AV ČR, Brno, v. v. i.
Bartík Jaroslav	Archeologický ústav AV ČR, Brno, v. v. i.
Bíško Richard	Ústav archeologické památkové péče Brno, v. v. i.
Boriová Soňa	Archeologický ústav AV ČR, Brno, v. v. i.
Bučo Michal	Archaia Brno z. ú.
Bučová Čerňavová Katarína	Moravské zemské muzeum
Cibulka David	Archeologický ústav AV ČR, Brno, v. v. i.
Čižmář Ivan	Ústav archeologické památkové péče Brno, v. v. i.
Diviš Jan	Neprofesionální archeolog
Fojtík Pavel	Ústav archeologické památkové péče Brno, v. v. i.
Fryč Daniel	Neprofesionální archeolog
Gadas Petr	Ústav geologických věd PřF MU
Galia David	Slezské zemské muzeum
Golec Martin	Katedra historie FF UP
Hájek Zdeněk	Samostatný archeolog
Halama Jakub	Vlastivědné muzeum v Šumperku, p. o.
Herčík Ondřej	Archeologický ústav AV ČR, Brno, v. v. i.
Hetflaiš Rostislav	Jihomoravské muzeum ve Znojmě, p. o.
Hlas Jindřich	Národní památkový ústav – ÚOP v Ostravě
Hlubek Lukáš	Vlastivědné muzeum v Olomouci
Hoch Aleš	Muzeum Vysočiny Jihlava, p. o.
Chlachula Dominik	Archeologický ústav AV ČR, Brno, v. v. i.
Jansa Otakar	Neprofesionální archeolog
Jarůšková Zuzana	Muzeum regionu Boskovicka, p. o.
Juchelka Jiří	Slezské zemské muzeum
Jurek Lukáš	Nálezce/dárce
Kala Jiří	Ústav archeologické památkové péče Brno, v. v. i.
Kalábek Marek	Archeologické centrum Olomouc, p. o.
Klápa Ondřej	Slezské zemské muzeum
Klouda Tomáš	Neprofesionální archeolog
Kmošek Matěj	Archeologický ústav AV ČR, Brno, v. v. i.
Knotek Petr	Neprofesionální archeolog
Kokešová Monika	Slezské zemské muzeum
Komínek Miroslav	Nálezce/dárce
Komoróczy Balázs	Archeologický ústav AV ČR, Brno, v. v. i.
Kos Petr	Ústav archeologické památkové péče Brno, v. v. i.
Kotrba Petr	Neprofesionální archeolog
Kouba Vladimír	Neprofesionální archeolog
Kovárník Jaromír	Samostatný archeolog
Krejčířová Aneta	Archaia Brno z. ú.
Kuča Martin	Samostatný archeolog
Kučera Lukáš	Katedra analytické chemie PřF UP
Kuchař Zdeněk	Slovácké muzeum v Uherském Hradišti, p. o.
Kulíšek Tomáš	Nálezce/dárce
Lečbych Marek	Ústav archeologické památkové péče Brno, v. v. i.
Lengyel Marcel	Neprofesionální archeolog
Malíšková Johana	Ústav archeologie a muzeologie FF MU
Matějíčková Andrea	Ústav archeologické památkové péče Brno, v. v. i.
Menoušková Dana	Slovácké muzeum v Uherském Hradišti, p. o.
Mikulková Blanka	Ústav archeologické památkové péče Brno, v. v. i.
Motěšický Jiří	Archaia Brno z. ú.
Nejedlá Alena	Jihomoravské muzeum ve Znojmě, p. o.
Niessner Roman	Archeologické centrum Olomouc, p. o.
Novák Marek	Muzeum Blanenska, p. o.
Oliva Martin	Moravské zemské muzeum – Ústav Anthropos
Parma David	Ústav archeologické památkové péče Brno, v. v. i.
Paulus Martin	Ústav archeologické památkové péče Brno, v. v. i.
Piačková Kristína	Regionální muzeum v Mikulově, p. o.
Piętoň Marek	Slezské zemské muzeum
Popelka Miroslav	Ústav archeologické památkové péče Brno, v. v. i.
Popelková Radka	Ústav archeologické památkové péče Brno, v. v. i.
Přichystal Antonín	Ústav geologických věd PřF MU
Rohovský Tomáš	Neprofesionální archeolog
Rožnovský David	Jihomoravské muzeum ve Znojmě, p. o.
Rybářová Klára	Muzeum Vyškovska, p. o.
Schenk Zdeněk	Muzeum Komenského v Přerově, p. o.
Steffel Michal	Neprofesionální archeolog
Ševčík Filip	Ústav archeologie a muzeologie FF MU
Šín Lukáš	Archeologické centrum Olomouc, p. o.
Škrdla Petr	Archeologický ústav AV ČR, Brno, v. v. i.
Šmacho Petr	Neprofesionální archeolog
Šmachová Eliška	Neprofesionální archeolog
Španihel Samuel	Muzeum regionu Valašsko, p. o.
Tóth Peter	Ústav archeologie a muzeologie FF MU
Trampota František	Regionální muzeum v Mikulově, p. o.
Tvrdý Zdeněk	Moravské zemské muzeum – Ústav Anthropos
Urban Eliáš	Neprofesionální archeolog
Veselý Zdeněk	Nálezce/dárce
Vitulová Dana	Ústav archeologické památkové péče Brno, v. v. i.
Vokáč Milan	Muzeum Vysočiny Jihlava, p. o.
Vrána Jakub	Archeologické centrum Olomouc, p. o.
Zubalík Jiří	Ústav archeologické památkové péče Brno, v. v. i.



Varia

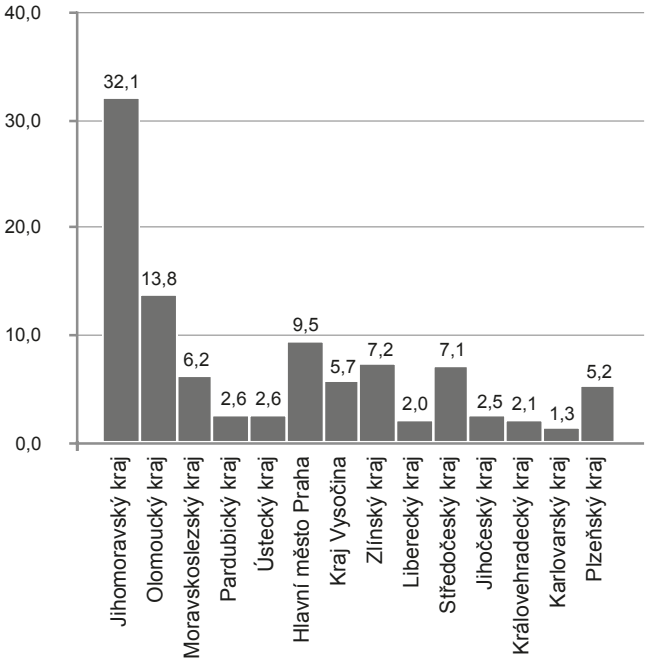


Návštěvnické centrum Mušov – Brána do Římské říše v roce 2024

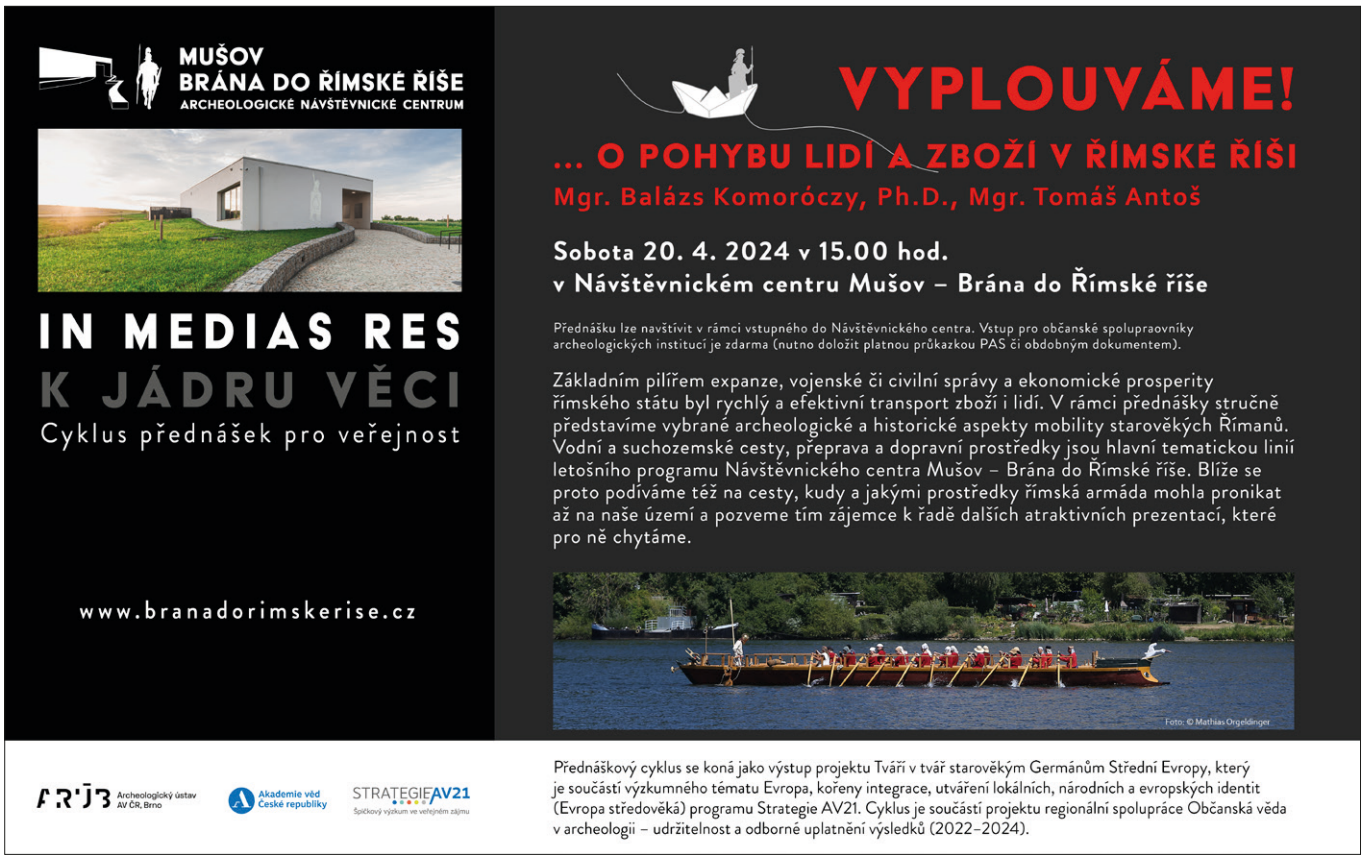
Návštěvnické centrum Mušov – Brána do Římské říše Archeologického ústavu AV ČR, Brno, v. v. i. (ARÚB), bylo v roce 2024 otevřeno v běžné provozní době od 29. března do 30. listopadu. V letních měsících jsme zaznamenali znatelný nárůst návštěvnosti oproti předchozím letům – celkem dorazilo 3192 lidí. Za celý rok si expozici prohlédlo téměř 7500 návštěvníků. Nejvyšší návštěvnost byla zaznamenána v měsíci srpnu (2212 osob), červenci (1599 osob) a červnu (793 osob). Většina návštěvníků pocházela z různých krajů České republiky, zejména z Jihomoravského kraje, dále z kraje Olomouckého, Zlínského, Moravskoslezského, Středočeského a z Prahy (graf 1). Zřetelně méně často přijížděli hosté z jiných evropských zemí – například ze Slovenska, Rakouska, Polska nebo Francie, a dokonce i ze Spojených států.

V roce 2024 Návštěvnické centrum zájemcům opět nabídlo bohatý program od popularizace vědy přes různé jednorázové akce s prvky oživené historie (re-enactment) až po edukační programy určené školám (Mušov 2024) a archeologické procházky v rámci Archeologického léta (AL 2024; Filipová, Zannikos 2024).

Školní edukační programy představují prioritní část naší nabídky a lze konstatovat, že se u školních tříd ze základních a středních škol i gymnázií těší značné oblibě. V roce 2024 školy celkově projevily zájem o realizaci 35 samostatných programů, které dohromady absolvovalo 787 žáků a žákyň s pedagogickým doprovodem. Stále častěji byly mezi nimi zastoupeny třídy ze škol se zaměřením na starověk (např. latinská gymnázia nebo třídy se speciálním tematickým programem). Školní skupiny přijížděly nejvíce z Jihomoravského kraje (Brno a obce v okolí Pasohlávek), poměrně často se k nám však vracejí též školy z Prahy či Ostravy. Stejně jako v předešlých letech jsou pro edukační programy nejvyhledávanějšími měsíci duben, květen a listopad.



Graf 1. Počet návštěvníků v roce 2024 podle jednotlivých krajů České republiky.
Graph 1. *Number of visitors in 2024 by region in the Czech Republic*



Obr. 1. Pozvánka na přednášku R. Tichého v rámci cyklu „In medias res: K jádru věci“. Layout P. Růžičková.
Fig. 1. *Invitation to a lecture by R. Tichý as part of the ‘In medias res: To the heart of the matter’ series. Layout by P. Růžičková.*

V roce 2024 pokračoval přednáškový cyklus pro veřejnost s názvem „In medias res: K jádru věci“, který se věnuje popularizaci archeologie prostřednictvím prezentace nových výzkumů či dlouhodobých badatelských projektů. V rámci tohoto cyklu zazněly následující přednášky:

- Balázs Komoróczy, Tomáš Antoš: Vyplouváme! O pohybu lidí a zboží v Římské říši
- Jakub Knobloch: Císařovy oči a uši
- Radomír Tichý: Proč už tolikrát přes moře na dlabaném člunu (obr. 1)
- Petr Dresler: Detektorová prospekce a systematický výzkum v okolí Pohanska

Přednáškový cyklus se opět konal jako výstup projektu „Tváří v tvář starověkým Germánům střední Evropy“, který je součástí výzkumného tématu „Evropa, kořeny integrace, utváření lokálních, národních a evropských identit“ programu Strategie AV21. V rámci společného projektu regionální spolupráce ARÚB a Jihomoravského kraje „Občanská věda v archeologii – udržitelnost a odborné uplatnění výsledků“ byly jednotlivé přednášky pojaty také jako edukační programy v Portálu amatérských spolupracovníků Archeologické mapy ČR (AMČR PAS) registrovaných občanských spolupracovníků archeologických institucí v kraji, kteří je mohli navštěvovat zdarma.

Kromě běžné nabídky individuálních prohlídek se v roce 2024 opět uskutečnila série převážně jednodenních tematických akcí. Sezónu odstartoval během velikonočních svátků tematický program inspirovaný právě Velikonocemi. Další akcí byla již tradičně pořádaná muzejní noc, jejímž prostřednictvím se Návštěvnické centrum zapojuje do populárního celorepublikového Festivalu muzejních nocí. Tento ročník nesl název „Smyslná antika“. Večer zahájil odborník na antickou kulturu Pavel Titz (Národní muzeum Praha) poutavou přednáškou o sexualitě ve starověkém Římě. Atmosféru doplnil koncert barokní hudby v podání hudebníků z Jihoafrické republiky, USA a souboru Plaisirs de Musique pod vedením Jana Čižmáře a Marty Kratochvílové, který byl součástí série Hudební archeologie. Atmosféra muzejní noci se linula v duchu „antika všemi smysly“, návštěvníci mohli v rámci doprovodných aktivit přivonět k parfémům vyrobeným dle antických receptur či ochutnat víno připravené podle římského receptu.

V roce 2024 se uskutečnil již druhý ročník speciálního vzdělávacího cyklu „Věda vševiěda“, v jehož rámci odborníci z různých ústavů Akademie věd ČR představují zejména nejmladší generaci zajímavosti ze světa vědy. Tento cyklus se každoročně skládá ze dvou programů – jarní je určen školám, podzimní pak široké veřejnosti. Červnového termínu se letos ujaly vědkyně z Botanického ústavu AV ČR, které školním skupinám poutavě přiblížily tajuplný svět řas a sinic. Jednodenního programu se celkem zúčastnilo 63 dětí.

Před prázdninami proběhla také oblíbená akce „Dětský den s Římany“. Během celého dne si děti mohly vyzkoušet různé aktivity inspirované životem ve starověku – od vojenského výcviku s římskými legionáři přes lukostřelbu až po tvořivé dílny (obr. 2). Předprázdninový program byl završen přednáškou z cyklu „In medias res“ představující Expedici Monoxylon, který již jednoznačně předznamenával hlavní atraktivitu roku 2024. Tou byla prezentace věrné repliky římské říční lodi Danuvina Alacris (obr. 3).

Repliku lodi typu lusoria podle originálních archeologických nálezů postavil v roce 2022 tým z Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) pod vedením Borise Dreyera v rámci projektu Evropské unie Interreg, „Danube Transnational Programme, Living Danube Limes“. Loď Danuvina Alacris kotvila ve spolupráci s autokempem ATC Merkur Pasohlávky na Velké laguně v období od 19. července až do 4. září. Prezentace lodi Danuvina Alacris byla výstupem projektu „Roman Trails – On the Trail of the Romans in the Weinviertel Region and in South Moravia“ (ID projektu ATCZ00143), který byl spolufinancovaný z Evropského fondu pro regionální rozvoj prostřednictvím programu Interreg Rakousko – Česko 2021–2027. Technické zajištění prezentace lodi a doprovodné edukační programy byly podpořeny projektem regionální spolupráce mezi ARÚB a obcí Pasohlávky – projekt „Všechny cesty vedou z Říma? Mušov jako cílová destinace římské vojenské expanze na naše území a klíčový uzel suchozemských a říčních cest doby římské (reflexe výsledků vědeckých výzkumů a jejich diseminace návštěvníkům regionu)“ a dotací ze strany Jihomoravského kraje.

Dvouměsíční kotvení lodi Danuvina Alacris bylo slavnostně zahájeno 19. července programem „Římané v pohybu“ (obr. 4). Celodenní akci naplněnou přednáškami, prezentací historických skupin i oficiálním prvním vyplutím lodi navštívilo téměř 200 osob. Program nabídl pestrou podívanou pro malé i velké milovníky historie. Už od poledne ožíval prostor u Návštěvnického centra prezentacemi historických skupin, které návštěvníkům



Obr. 2. Výcvik malých legionářů během dětského dne. Foto Archeologický ústav AV ČR, Brno, v. v. i. (ARÚB).

Fig. 2. *Training of Little Legionaries during the Children's Day. Photo by the Institute of Archaeology of the Czech Academy of Sciences, Brno (ARÚB).*



Obr. 3. Danuvina Alacris – věrná replika římské patrolovací lodi. Foto ARÚB.

Fig. 3. *Danuvina Alacris – a faithful replica of a Roman patrol boat. Photo by ARÚB.*



Obr. 4. Dvouměsíční kotvení lodi Danuvina Alacris bylo slavnostně zahájeno 19. července programem „Římané v pohybu“. Foto ARÚB.

Fig. 4. *The two-month mooring of the Danuvina Alacris was inaugurated on 19 July with the ‘Romans in Motion’ programme. Photo by ARÚB.*



Obr. 5. Úvodní slovo Borise Dreyera během slavnostního zahájení kotvení repliky římské lodi Danuvina Alacris na vodní nádrži Nové Mlýny. Foto ARÚB.

Fig. 5. *Opening speech by Boris Dreyer during the ceremonial launch of the replica of the Roman boat Danuvina Alacris at the Nové Mlýny reservoir. Photo by ARÚB.*



Obr. 6. Ukázka plavby repliky římské lodi pod vedením dobově oděné posádky. Foto ARÚB.

Fig. 6. *Demonstration of the replica Roman ship sailing, led by a crew in period clothing. Photo by ARÚB.*



Obr. 7. Průvod historických skupin od Návštěvnického centra do autokempu ATC Merkur Pasohlávky, kde na Velké laguně probíhalo vyplutí lodi. Foto ARÚB.

Fig. 7. *Parade of historical groups from the Visitor Centre to the ATC Merkur Pasohlávky campsite, where the ship set sail on the Great Lagoon. Photo by ARÚB.*

přibližovaly každodenní život i výzbroj Římanů. V 15:00 byl program oficiálně zahájen v expozici, a to představením nových exponátů římských zbraní v podání Balázse Komoróczyho a Patricka Bárty. Následně se slova ujal Boris Dreyer (obr. 5), který přiblížil příběh stavby repliky římské lodi. Od 16:30 se pozornost přesunula na římské jezdce ze skupiny Štvanci, kteří předvedli poutavou ukázku své dovednosti. Po tomto představení se všichni účastníci vydali v průvodu historických skupin směrem k vodě, kde už kotvila Danuvina Alacris. Vrcholem programu pak byla ukázka plavby této repliky římské lodi, která pod vedením dobově oděné posádky ožila přímo před zraky diváků (obr. 6).

V průběhu července a srpna kotvení lodi doprovázela série akcí Dny s římskou lodí pod názvem „Navigare necesse est“ („je nutno plouti“). V programu jednotlivých akcí mohli návštěvníci například zhlédnout souboje legionářů, turnaj v lukostřelbě, klání o titul nejlepšího bojovníka, vystoupení římských jezdců, přehlídku legionářů a bojovníků 2. století n. l., gladiátorské hry či prezentaci římského obchodníka a germánské družiny. Součástí akcí byl vždy společný průvod historických skupin (obr. 7) a ukázky plavby Danuviny Alacris. Události měly opravdu pestrý a lákavý harmonogram, o čemž svědčí i vysoká návštěvnost během celého léta.

Během letních prázdnin se i v roce 2024 konaly v rámci Archeologického léta prohlídky lokality Hradisko u Mušova s průvodcem. Část prohlídek byla obohacena také o výklad u lodi Danuvina Alacris. Letní program pak tradičně uzavřel o posledním prázdninovém víkendu (30.–31. 8.) již pátý ročník římsko-barbarského festivalu Germania subacta (obr. 8). Festival starověkých Římanů a barbarů byl taktéž v roce 2024 finančně podpořen dotací z rozpočtu Jihomoravského kraje a obce Pasohlávky. Jakožto největší historická akce v České republice, která dává prostor prezentaci historických skupin z období doby Keltů, starověkých Římanů či germánských kmenů, se tato událost stala významnou platformou pro oživenou historii a setkávání odborníků i široké veřejnosti. Stejně jako v předchozích letech se odehrál jak v prostorách samotného Návštěvnického centra, tak především na rozsáhlé louce na návrší Hradisko. Festivalu se zúčastnilo kolem 120 účinkujících z pestré škály historických skupin. Hlavní program festivalu nabídl různorodé aktivity – nechyběly ukázky jezdeckého umění římských vojáků, vojenský obřad, prezentace řemesel jako byl římský lékař, výroba keramických lampiček, barvení látek, karetkování nebo práce s kůží a kovem. Malí návštěvníci se mohli zapojit do výcviku



Obr. 8. Program festivalu Germania subacta 2024. Layaut P. Růžičková.

Fig. 8. *Germania subacta 2024 festival programme. Layaut by P. Růžičková.*

a zúčastnit se moderované dětské bitvy. Součástí programu byly také prezentace výzbroje, výstroje a bojových formací jednotlivých táborů, gladiátorské hry, scénické vystoupení s římskými jezdci a „germánskou princeznou“, i velkolepá závěrečná bitva. Program doplňovaly populárně-naučné přednášky, prohlídky expozice, návštěva repliky římské lodi, i tvořivé dílny pro děti i dospělé (obr. 9).

Podzim v Bráně do Římské říše se odehrával také v duchu tematických víkendových aktivit, edukačních programů pro školy a komentovaných prohlídek. Posledními akcemi roku byl Mezinárodní den archeologie a přednáška z cyklu „In medias res“. Lákadlem události spojené s mezinárodně slaveným dnem archeologie byla projekce tematického filmu „Jevíčko a Malá Haná očima rodáků. Pravěk a první národy“, který divákům zprostředkoval příběhy nejstaršího osídlení této oblasti poutavou a zároveň odborně podloženou formou. Autory námětu a scénáře byli Martin Vojtěchovský a Ruda M&B Beran, který se zároveň ujal i role průvodce.

Sezóna 2024 byla pro Návštěvnické centrum Mušov – Brána do Římské říše mimořádně pestrá a inspirující. Nabídla široké spektrum akcí pro veřejnost, školy i odborníky, přinesla nové exponáty i rozšířené programy a prohloubila roli centra jako živého prostoru, kde se historie stává zážitkem. Atmosféra jednotlivých akcí, zájem návštěvníků i spolupráce s odborníky potvrdily smysluplnost dlouhodobé koncepce propojující archeologii, vzdělávání a kulturní zážitky.

Návštěvnické centrum se v roce 2024 kromě výše uvedených programových bodů také stávalo příjemným místem pro řadu odborných i společenských setkání. Mezi nimi lze zmínit návštěvu přední české spisovatelky Kateřiny Tučkové, která k nám



Obr. 9. Římsko-barbarský festival Germania subacta. Prezentace vybavení římského lékaře členy historické skupiny Pannonia. Foto ARÚB.

Fig. 9. *Roman-Barbarian festival Germania subacta. Presentation of Roman medical equipment by members of the historical group Pannonia. Photo by ARÚB.*



Obr. 10. Návštěva přední české spisovatelky Kateřiny Tučkové v doprovodu manžela Roberta Hédervárihо, na fotografii spolu s Balázsem Komoróczym, Olgou Lečbychovou a Pavlou Růžičkovou. Foto ARÚB.

Fig. 10. *Visit of leading Czech writer Kateřina Tučková accompanied by her husband Robert Hédervári, pictured together with Balázs Komoróczy, Olga Lečbychová, and Pavla Růžičková. Photo by ARÚB.*

zavítala v doprovodu svého manžela Roberta Hédervárihо. Přivedl je k nám i specifický zájem o užší region Mušova a dějiny místních archeologických výzkumů. Kromě prohlídky expozice a samotné lokality živě diskutovala na různá archeologická, literární a společenská témata s Balázsem Komoróczym, Olgou Lečbychovou a Pavlou Růžičkovou (obr. 10). Pro nás to bylo mimořádně obohacující a věříme, že i paní Tučková a pan Hédervári si odnesli zajímavé poznatky a podněty pro svou tvůrčí práci, přinejmenším v autorčině nové povídce Čas raků vydané letos nakladatelstvím Host v rámci antologie s názvem *Sudety: Ztracený ráj*.

Po skončení sezóny 2024 se tým centra ihned pustil do intenzivní přípravy na sezónu 2025. V plánu je rozšíření edukačních programů pro školy, zapojení nových partnerů do přednáškových a zážitkových akcí a také další obohacení expozice o nové archeologické nálezy či repliky. Nadále budou pokračovat i osvědčené projekty, jako je např. Muzejní noc nebo cyklus „In medias res“, či vrchol sezóny v podobě festivalu Germania subacta. Věříme, že i v nadcházejícím roce si Návštěvnické centrum udrží svou pozici jedinečného místa, kde se historie nejen poznává, ale i prožívá.

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Summary

Visitors Centre Mušov – Gateway to the Roman Empire in 2024

The 2024 season at the Mušov Visitor Centre – Gateway to the Roman Empire was exceptionally rich and inspiring. The centre hosted a wide range of events for the public, schools, and professionals, featuring new exhibits, expanded educational programs, and dynamic collaborations with experts. Highlights included guided archaeological walks, lectures from the ‘In medias res’ series, the traditional Museum Night themed ‘Sensual Antiquity’, and the highly anticipated arrival of the Roman patrol boat replica Danuvina Alacris. The season culminated with the fifth edition of the Germania subacta festival – the largest historical reenactment event of its kind in the Czech Republic – which brought together over a hundred performers from various historical groups.

While the 2024 season has ended, activities at the Visitor Centre continue. The team is already preparing for 2025, with plans to expand school programs, introduce new archaeological replicas, and strengthen collaborations for national projects such as Archeological summer and ‘In medias res’ series. The centre will again host the Germania subacta festival and aims to further develop its role as a vibrant space where history is not only studied but also experienced.

Balázs Komoróczy, Archeologický ústav AV ČR, Brno, v. v. i.
Johana Malíšková, Archeologický ústav AV ČR, Brno, v. v. i.
Pavla Růžičková, Archeologický ústav AV ČR, Brno, v. v. i.

Konference Klíma 100

Ve dnech 26.–28. března 2025 proběhla v prostorách Archeologického ústavu AV ČR, Brno, v. v. i., konference s názvem *Klíma 100*. Uspořádána byla u příležitosti stého výročí narození významného archeologa Bohuslava Klímy, jenž svou celoživotní badatelskou činností zásadním způsobem přispěl k poznání moravského paleolitu a zasadil jej do mezinárodního kontextu. Díky jeho výzkumům lokalit v jeskyních Moravského krasu a na otevřených lokalitách v Dolní Věstonicích a Pavlově známe dnes řadu klíčových paleolitických i paleoantropologických nálezů, které formovaly chápání středoevropského paleolitu.

Program konference byl rozdělen do čtyř tematických bloků: *Cave session*, *Gravettian session*, *Miscellaneous* a *Poster session*. Celkem zaznělo 22 odborných příspěvků a byly prezentovány tři postery (Herčík, Kudlíková eds. 2025).



Obr. 1. Prezentace Ondřeje Mlejnka. Foto Z. Filipová.
Fig. 1. *Presentation by Ondřej Mlejnek. Photo by Z. Filipová.*



Obr. 2. Exkurze v nové expozici Pravěk Uherskohradišťska ve Slováckém muzeu v Uherském Hradišti. Foto J. Bartík.
Fig. 2. *Excursion in the exposition Prehistory of Uherské Hradiště region in the Museum of Moravian Slovakia in Uherské Hradiště. Photo by J. Bartík.*

Cave session

První konferenční den se soustředil na výzkum jeskynních lokalit, zejména v oblasti Moravského krasu. Pozornost byla věnována např. jeskyni Švédův stůl či jeskyni Pod Hradem, ale také lokalitám mimo území ČR – např. izraelské Manot Cave, maďarské jeskyni Szeleta či slovenské Čertově Peci.

Ondřej Mlejnek připomněl 120 let od objevu neandrtálské čelisti v jeskyni Švédův stůl. Ladislav Nejman přiblížil výzvy spojené s opětovným výzkumem již dříve zkoumaných lokalit. Na něj navázal příspěvek Petra Škrdly, který systematicky analyzuje výsypku z jeskyně Švédův stůl z dob Klímových výzkumů. Ladislav Nejman rovněž seznámil auditorium s výsledky přírodovědného výzkumu fauny z jeskyně Pod Hradem.

V následujících přednáškách byl představen výzkum izraelské Manot Cave, kde Omry Barzilai prezentoval doklady jejího rituálního využití na počátku mladého paleolitu. Jaroslaw Wilczyński se věnoval potenciálu dalšího výzkumu jeskyně Szeleta a jejímu dosavadnímu archeologickému vytěžení. Martin Sabol poté představil revizi výzkumu Čertovy Pece na Slovensku s důrazem na zooarcheologické analýzy. Závěr této sekce patřil projektu INTERCAVE, který Adrián Nemergut představil jako příklad interdisciplinárního výzkumu jeskyní na Slovensku.

Třetí část tohoto bloku otevřel Petr Šída s přehledem nálezů z jeskyní Kačák a Koněprusy, zaměřených na nejstarší moderní lidi v Evropě. Na něj navázala Katarína Kapustka s příspěvkem o významu environmentálních analýz a jejich integrace do archeologického výzkumu.

Večer byl zakončen neformálním společenským setkáním, během něhož Jiří Svoboda osobně vzpomněl na spolupráci s Bohuslavem Klímou na půdě brněnského Archeologického ústavu.

Gravettian session

Druhý den konference byl věnován otevřeným gravettským lokalitám ve střední Evropě. Úvodní přednáška Philipa R. Nigsta shrnula výsledky výzkumu lokalit Grub-Kranawetberg I a II od roku 2022. Následoval Ondrej Žaár s příspěvkem o paleolitickém sídlišti Čachtice na západním Slovensku. Vitalii I. Usyk se věnoval novému datování lokality Korolevo II na Zakarpatské Ukrajině a otevřel diskuzi o kulturní variabilitě regionu v období 30–20 tisíc let BP. V dalším vystoupení se zaměřil na typologii gravettských listovitých hrotů z oblasti středního Dněstru.

Odpolední sekci zahájil Martin Moník příspěvkem na téma transportu radiolaritů v rámci moravského gravettienu. Navázal Jaroslaw Wilczyński s představením průběžných výsledků projektu ERC MAMBA, zaměřeného na analýzu skládek mamutích kostí. V tématu dále pokračoval Dominik Chlachula, který prezentoval nový objev tohoto typu naleziště v Ústí nad Labem.

Třetí blok druhého dne otevřela Zdeňka Nerudová příspěvkem o využívání saní a zápřahů v paleolitu. Anna-Marie Marko se věnovala traseologické analýze mikročepelek z lokality Milovice IV.

Miscellaneous & Poster session

Závěrečný odborný blok – *Miscellaneous* – nabídl dva příspěvky. Šárka Hladilová se zaměřila na schránky měkkýšů užívané jako ozdoby v paleolitu. Vít Záhorák pak představil nově zkoumanou pozdně paleolitickou lokalitu Bohuňovice ve východních Čechách.

Posterová sekce nabídla tři prezentace. Samuel Kasemann představil distribuci štípané industrie na lokalitách Grub-Kranawetberg I a II. Pavol Jelínek prezentoval analýzu schránek měkkýšů z doby bronzové ze slovenské Senice a Lubomíra Kaminská představila nově nalezenou štípanou industrii z lokality Zemplín na východním Slovensku.

Závěrečný den konference patřil exkurzi do Starého Města u Uherského Hradiště, kde byla účastníkům představena nová expozice pravěku ve Slováckém muzeu v Uherském Hradišti.

Konference proběhla v rámci Strategie AV21, výzkumného programu Epicentra civilizace.

Literatura

Herčík, O., Kudlíková, M. (eds.) 2025: *Klíma 100. 100th anniversary of Bohuslav Klíma's birth. Abstract book. March 26–28th 2025* [online]. Brno: Czech Academy of Sciences, Institute of Archaeology, Brno. DOI: 10.47382/2025_Klima100. [cit. 2025-06-09]. Dostupné z: https://www.arub.cz/produkt/klima-100-100th-anniversary-of-bohuslav-klimas-birth-abstract-book/.

Summary

Klíma 100 conference

The Klíma 100 conference, held to mark the centenary of the birth of archaeologist Bohuslav Klíma, took place from 26 to 28 March 2025 at the premises of the Institute of Archaeology of the Czech Academy of Sciences in Brno (Fig. 1). A total of 22 presentations were delivered, and three posters were exhibited. The contributions focused thematically on archaeological research in caves and open-air Gravettian sites. The conference concluded with an excursion to the new Prehistory exhibition in the Museum of Moravian Slovakia in Uherské Hradiště. The complete abstract book, including the conference programme, is available online (Herčík, Kudlíková eds. 2025).

Ondřej Herčík, Archeologický ústav AV ČR, Brno, v. v. i.

Konference Archeologické výzkumy na Moravě a ve Slezsku v roce 2024

Dne 23. dubna 2025 se na hradě Špilberk v Brně konalo tradiční setkání odborné veřejnosti, které bylo věnováno prezentaci výsledků archeologických výzkumů z předchozího roku. V neformální a přátelské atmosféře se účastníci seznámili s tím nejzajímavějším, co přinesly záchranné i systematické badatelské výzkumy realizované na území Moravy a Slezska během roku 2024. Program letošního ročníku byl mimořádně bohatý – během dne zaznělo celkem 32 odborných příspěvků, které reflektovaly nejen samotné archeologické výzkumy, ale i širší kontext výzkumné a metodické činnosti. Vedle výsledků z konkrétních lokalit se diskutovalo také o legislativních změnách, aktuálních trendech v dokumentaci, ochraně archeologického dědictví i o novinkách v rámci centrálních databází.

V dopoledním bloku zazněly příspěvky zaměřené převážně na badatelské a nedestruktivní výzkumy. Program zahájila Zdeňka Nerudová (Moravské zemské muzeum) zprávou o předběžných výsledcích výzkumu paleolitického osídlení v Brně-Štýřicích (*Brno-Štýřice: nekonečný příběh II. První výsledky paleontologicko-archeologického výzkumu*). Následně nás Petr Škrdla (Archeologický ústav AV ČR, Brno, v. v. i. – ARÚB) zavedl na další brněnskou paleolitickou lokalitu a přednesl zprávu o *Revizním výzkumu paleolitického a eneolitického osídlení Stránské skály III* s novými informacemi týkajícími se interpretace rozměrného hliníku v této poloze. Navázal Jaroslav Bartík (ARÚB) shrnutím *Nových výsledků archeologických prospekcí na vodní nádrži Mohelno,* kde upozornil na nově objevené lokality v okolí mohelenské přečerpávací nádrže. Následující blok referátů z dílny pracovníků Ústavu archeologie a muzeologie FF MU zahájili Michal Vágner a Anna Mária Rekemová příspěvkem *Archeogeofyzikální průzkumy ÚAM FF MU za rok 2024,* následně promluvil Peter Tóth o nejnovějších objevech v Těšeticích i okolí (*Činnosť archeologickej výskumnej stanice v Těšeticích-Kyjovicích v roku 2024*) a Michaela Prišťáková zakončila tento blok referátem *Verifikácia nedeštruktívneho prieskumu hospodárskeho dvora na Pohansku u Břeclavi*.

Po krátké pauze následoval obsáhlý soubor referátů zaměřených na záchranné výzkumy, který zahájil Marek Kalábek (Archeologické centrum Olomouc – ACO) příspěvkem *Přerov-Dluhonice výzkum sídliště (LnK) a pohřebiště (latén, doba hradištní) na stavbě komunikace k rodinným domům*. Michal Bučo a Katarína Bučová Čerňavová (Archaia Brno z. ú., Moravské zemské muzeum) představili *Nové poznatky k osídlení kultury s lineární keramikou na Staré hoře v Oslavanech (okr. Brno-venkov)* a K. Bučová Čerňavová pokračovala informacemi o polykulturní lokalitě Hrubšice za zámkem (okr. Brno-venkov). David Parma (Ústav archeologické památkové péče Brno, v. v. i. – ÚAPP) a Eliáš Urban tradičně připravili komponovaný příspěvek *Drobné záchranné akce na Brněnsku a výsledky prospekcí v roce 2024*, kde jsme se dozvěděli jak o výzkumu např. pozůstatků císařské silnice v Brně-Slatině, tak i o nově objevených pravěkých hradištích, včetně dosud nejvýše položené výšinné lokality na Moravě poblíž Loukova (okr. Kroměříž). Petr Kos (ÚAPP) poreferoval o rozsáhlé polykulturní lokalitě zachycené v letech 2022–2024 při rozšiřování D1 v Brně (*Záchranný výzkum při rozšiřování D1 v Brně – Horních a Dolních Heršpicích*), kde kromě řady pravěkých aktivit dominuje především pohřebiště ze starší doby železné se 100 hroby. Neméně zajímavé hrobové lokality se podařilo v loňském roce prozkoumat i v Holešově. Miroslav Popelka (ÚAPP) představil jednak žárové lužické pohřebiště, jednak především pohřebiště z doby stěhování národů s unikátními nálezy skleněných nádob (*Dvě nová pohřebiště v Holešově, okr. Kroměříž*). Michal Bučo poté přiblížil výzkumy společnosti Archaia Brno s doklady pravěkého osídlení (*Pravěké nálezy z centra Brna a jeho předměstí v roce 2024*). Doplnil tak především poznatky o pravěkém osídlení v Brně-Štýřicích v okolí ulice Vojtova. Aleš Navrátil (Muzeum města Brna) navázal s dalšími informacemi o pravěkém osídlení Brna, které se podařilo zachytit drobnými akcemi v Králově Poli a Komíně (*Záchranné archeologické výzkumy Muzea města Brna v roce 2024*). František Trampota prezentoval záchranný výzkum v Bulharech (*Záchranné archeologické výzkumy Regionálního muzea v Mikulově v roce 2024*) a celý dopolední blok uzavřela Dana Menoušková a Zdeněk Kuchař s prezentací *Archeologických výzkumů Slováckého muzea v Uherském Hradišti v roce 2024*.

Po obědové pauze dostaly prostor příspěvky, které se nevěnovaly přímo konkrétním výzkumům. Miroslav Patrik (Děti Země) přednesl tradiční souhrn udělených pokut za ničení archeologického dědictví (*Stav ničení archeologického dědictví v roce 2024 v ČR*). Tomáš Pavloň (ARÚB) nás seznámil s přehledem novinek v Archeologické mapě ČR (*AMČR v roce 2024 a výhled od roku 2025*) a Róbert Antal (ARÚB) se změnami vyplývajícími z novely zákona o památkové péči (*Administrace projektů v AMČR v kontextu novely zákona o státní památkové péči*). Krátký vstup Josefa J. Kováře (*Stav zaniklých středověkých vsí Koválov a Narvice*) uvedl blok věnovaný středověké a novověké archeologii. Jana Mazáčková (ÚAM FF MU) představila výzkum tzv. markraběcí lázně na hradě Rokštejn (*Hrad Rokštejn, archeologický výzkum markraběcí lázně*) a v tématu hradní archeologie pokračoval Miroslav Dejmal (Archaia Brno z. ú.), který shrnul výzkumy na deseti moravských hradech (*Výzkumy na hradech a zámcích v roce 2024 – Bítov, Břeclav, Hrušovany nad Jevišovkou, Kunštát, Moravský Krumlov, Miroslav, Osiky, Sádek, Uherčice, Valtice*). Další blok se věnoval výzkumům sakrálních staveb a přilehlých hřbitovů. David Zimola (Muzeum Vysočiny Jihlava) referoval o výzkumu kostela sv. Václava v Dolním Čepí (okr. Žďár nad Sázavou), Jakub Vrána (ACO) o kostnici u kostela sv. Bartoloměje v Potštátě a Ctibor Ostrý (Muzeum města Brna) o výzkumu v bazilice Nanebevzetí Panny Marie na Starém Brně. Na toto téma navázal i Libor Kalčík, který zároveň otevřel téma archeologie městských jader (*Záchranné archeologické výzkumy ARÚB, pracoviště Mikulčice – hřbitov u kostela v Želeticích, starý hřbitov v Lednici, Podivín – Masarykovo náměstí a Podivín, ulice Radniční*). Problematiku středověkého města, sakrální architektury i zaniklého hřbitova dále rozvinuli Aleš Hoch (Muzeum Vysočiny Jihlava) a Michal Bučo ve svém příspěvku *Třebíč, Martinské náměstí – předběžné výsledky záchranného archeologického výzkumu*. Následovala prezentace Richarda Zatloukala (NPÚ ÚOP Olomouc) a Michaly Přibylové (Archaia Brno z. ú.) o výzkumu na Denisově ulici v Olomouci (*Středoevropské fórum, III. etapa, 2024*) a příspěvek Jindřicha Hlase a Jany Brhelové (NPÚ ÚOP Ostrava) o výzkumech při výstavbě obchvatu Opavy a rekonstrukci bašty v Bruntálu (*Vybrané archeologické výzkumy NPÚ Ostrava za rok 2024*). Michal Zezula (NPÚ ÚOP Ostrava) poté představil *Dokumentaci archeologických lokalit zasažených povodní v září 2024*. Celý program pak uzavřel Jiří Kala (ÚAPP) poutavým příspěvkem *Válečné hroby na jižní Moravě (výzkumy 2023–2024)*, který se stal zlatým hřebem večera.

Během dne jsme měli možnost vyslechnout pestrou škálu referátů, které se sice lišily svým tematickým zaměřením, ale shodně se vyznačovaly vysokou kvalitou a zajímavým obsahem. Celé setkání se neslo v přátelském duchu otevřeného sdílení poznatků a vzájemné inspirace a bylo velmi příjemným ohlédnutím za uplynulým rokem.



Obr. 1. Prezentace M. Patrika v rámci konference Archeologické výzkumy na Moravě a ve Slezsku v roce 2024. Foto P. Odehnal.

Fig. 1. *Presentation by M. Patrik at the conference Archaeological Excavations in Moravia and Silesia in 2024. Photo by P. Odehnal.*

Summary

Conference Archaeological excavations in Moravia and Silesia in 2024

On April 23, 2025, the conference *Archaeological Excavations in Moravia and Silesia in 2024* took place at the Brno City Museum, located in Špilberk Castle. Scholars presented a total of 32 papers there, showcasing selected archaeological excavations from various parts of Moravia and Silesia, including both rescue and systematic excavations. The program also featured contributions of a methodological and legal nature, as well as reports concerning sanctions for the destruction of archaeological heritage.

Zuzana Holubová, Muzeum města Brna

Nejlepší projekty na poli popularizace archeologie za rok 2024

Tři významné moravské instituce ocenily již pošesté nejzajímavější archeologické popularizační projekty. Výsledky dalšího ročníku Ceny Karla Absolona za popularizaci archeologie – Zlatý mamut byly slavnostně vyhlášeny za přítomnosti všech výherců v pondělí 2. června 2025 v brněnském Pavilonu Anthropos Moravského zemského muzea. Zástupci tří zakládajících institucí – Archeologického ústavu AV ČR, Brno, v. v. i., Moravského zemského muzea a Ústavu archeologie a muzeologie Filozofické fakulty Masarykovy univerzity – zde předali ocenění vítězům ve třech, resp. čtyřech kategoriích: akademické, muzejní, studentské a ceny veřejnosti. Celkem bylo za rok 2024 přihlášeno 19 soutěžních projektů, nejvíce z nich tradičně do muzejní kategorie (více o ceně viz Kosarová et al. 2020, výsledky předcházejících ročníků viz Kosarová 2022; 2023, Filipová 2024). Jak se ale v posledních letech jednoznačně ukazuje, dělení projektů do takto přísně definovaných skupin se stává problematickým již u přihlašování aktivit autory. Popularizační projekty jsou natolik různorodé a specifické, že ani samotní autoři nemají vždy zcela jasnou představu do které kategorie je zařadit. Také díky tomu musela hodnotící komise přistoupit v průběhu posuzování projektů k dodatečnému přesunutí dvou přihlášených aktivit z muzejní do akademické kategorie.

Díky této úpravě bylo v rámci akademické kategorie nakonec hodnoceno šest projektů. Polovinu tvořily publikační výstupy – dvě popularizační publikace a tištěná mapa, dále dva atraktivní krátké archeologické dokumenty a nově vybudovaný výstavní prostor. Vzhledem k vysoké kvalitě všech přihlášených projektů byla situace komise opět nelehká. Dokládá to i výsledek hodnocení, kdy se o druhou a třetí příčku dělí dvě popularizační publikace, shodou okolností obě z per odborníků z Národního památkového ústavu. První z nich nese název *Oděv vrcholného středověku: od hmotných pramenů k rekonstrukci* autorky Veroniky Pilné z Národního památkového ústavu – územního odborného pracoviště v Plzni (Pilná 2024). Kniha je nezbytným průvodcem pro všechny, kteří se zabývají podobou a rekonstrukcí vrcholně středověkých oděvů. Vychází z mnoha ikonografických i archeologických pramenů, které interpretuje a srozumitelným způsobem převádí do praxe. V knize nalezneme přehled přírodních zdrojů barviv, používané textilní vazby, ale například také názorné předvedení používaných stehů. Velmi zajímavý je rozkres detailních částí komplikovaných střihů u několika konkrétních archeologických nálezů oděvů. Poněkud jiný druh módy, určené spíše mužskému publiku, představuje druhá oceněná kniha *Od kroužkové košile k plátovým zbrojím. Vývoj zbroje v letech 1200–1420* autora Pavla Macků z Národního památkového ústavu – územního odborného pracoviště v Telči (Macků 2024). Jak uvádí v úvodu sám autor, jeho záměrem bylo napsat knihu tak, aby byla srozumitelná jak pro poučeného čtenáře, tak pro laika. Na přehledný úvod do problematiky zbroje a zbrojířství navazuje rozbor militarií nejdříve ze 13., poté ze 14. a následně z počátku 15. století. Mnohé ikonografické prameny a fotografie archeologických nálezů jsou bohatě doplněny obrazovými přílohami rekonstrukcí a replik i způsobů oblékání a nošení jednotlivých součástí zbrojí. Vyzdvihnout je potřeba také atraktivní grafickou podobu publikace. Obě výše zmíněné knihy jsou nesmírně zajímavé i pro milovníky historie, jež se přímo nezabývají ani jednou z uvedených specializací, a to je nakonec hlavním posláním popularizace. První místo udělila komise projektu *Klenotnice Velké Moravy*. Autorem myšlenky vzniku nového výstavního prostoru v obci Modrá je její dlouholetý starosta Miroslav Kovářík. Jeho cílem bylo vybudovat bezpečný prostor, v němž by bylo možné prezentovat i originální archeologické artefakty, a to přímo na ploše archeologického parku, který by ale zároveň vizuálně nenarušoval. Toho dosáhl realizační tým spolu s architekty zabudováním celé stavby pod úroveň terénu, se vstupem skrytým v jedné z dřevěných staveb archeoparku. Vnitřní prostor



Obr. 1. Pohled do hlavní místnosti *Klenotnice Velké Moravy*, nového výstavního prostoru v areálu Archeoskanzenu Modrá. Foto T. Slavík.

Fig. 1. *View of the main room of the Great Moravian Treasury, a new exhibition space in the premises of the Modrá Archaeological Open-Air Museum. Photo by T. Slavík.*

Klenotnice je divácky atraktivní, s možností jeho inovace a přizpůsobení různým výstavním projektům (obr. 1). Stavba byla financována s pomocí přeshraničního projektu Interreg V-A s partnerskou Slovenskou republikou. V projektu, jenž nesl název „Spoločné dedičstvo od Rímanov po klenoty Veľkej Moravy", figuroval jako bratrský archeopark na slovenské lokalitě Cífer-Pác. Již do přípravy podkladů pro grantovou podporu byly zapojeny různé odborné instituce (odborným garantem je Moravské zemské muzeum) a se spoluprací se počítá i při tvorbě krátkodobých výstav. Komise projekt ocenila i jako neobvyklý ne-institucionální investiční počin a váží si schopnosti autora projektu zajistit významné finance pro prezentaci archeologie. Nezanedbatelná je také vysoká návštěvnost expozice již v prvním roce otevření, čítající kolem 14 000 návštěvníků.

Muzejní kategorii zastoupilo celkem 11 projektů, v nichž zcela pochopitelně převažovaly výstavní aktivity. Třetím místem se komise rozhodla ocenit právě jednu z nich. Výstava *Hradisko u Kroměříže – Pevnost z doby bronzové* (11. 10. 2024 – 16. 3. 2025) byla ukázkou zajímavé prezentace jedné významné, leč široké veřejnosti ne tolik známé archeologické lokality v regionálním muzeu. Autorkami výstavy jsou Pavlína Daňhelová, Petra Hnilová a Lenka Pěluchová. Dalším z výstupů několikaletého projektu, na němž Muzeum Kroměřížska spolupracovalo se Zlínským krajem, je také stejnojmenný výstavní katalog a brožurka se základními informacemi k lokalitě. Největším lákadlem výstavy byla možnost spatřit na jednom místě vůbec poprvé tři bohaté bronzové depoty, které byly na lokalitě nalezeny. Vizuálně atraktivní byla také prezentace několika dioramat zachycujících situace ze života v době bronzové a množství interaktivních prvků. Komise ocenila také kvalitní práci s veřejností v podobě různých edukačních programů, doprovodných přednášek a workshopů (ukázka zpracování bronzu, workshop karetkování) či pátrací hru pro nejmenší. Součástí prezentace lokality pro veřejnost je i propracovaná virtuální výstava, která umožňuje výstavu „navštívit" i po jejím ukončení (Výstava Hradisko u Kroměříže). Na druhé příčce se umístil projekt *20 let archeologických programů pro školy v Muzeu Prahy*, který přihlásil kolektiv autorek Linda Daněčková, Veronika Klimešová, Veronika Dospíšilová, Jana Lohnická, Vendula Dědková a Miroslava Šmolíková. Práce s dětmi a mladými lidmi je jednou z nejnáročnějších výzev v popularizaci vědy. Schopnost zaujmout tuto věkovou kategorii, navíc v hlavním městě plném jiných lákadel právě archeologií, je nutno zvláště ocenit. Archeologické programy v Muzeu hlavního města Prahy připravují muzejní archeoložky, takže je garantován odborně kvalitní obsah. V nabídce muzea je v současné době pět programů na různá témata – *Seznamte se s archeologií*, *Škola mladých archeologů*, *Oděv našich předků*, *Výprava za Kelty* a *S archeologií do středověku*. Děti absolvují program v menší skupince, která umožňuje částečně individuální přístup. Součástí „balíčku" je úvodní přednáška, seznámení s replikami předmětů a vyzkoušení několika aktivit. Silným zážitkem je pro školáky možnost sáhnout si také na originální nálezy ze sbírek muzea (obr. 2). Komise ocenila rovněž kontinuitu programu, který se během dvou dekád vyvinul v koncept, se nímž lze počítat při přípravě a plánováním výuky. Program za tu dobu absolvovaly tisíce dětí dvou generací. Letošním vítězem v muzejní kategorii se stala výstava Ostravského muzea *Lauby – světla a stíny Ostravy* (29. 11. 2024 – 28. 9. 2025) autora Zbyňka Moravce. Komise ocenila silné, zřídka zpracovávané nosné téma historie jednoho domovního bloku v srdci Ostravy, prezentované originálními výstavními prvky. Přiblížení života obyvatel domů na tzv. Laubech na základě archeologických výzkumů a nálezů je doplněno dobovým obrazovým materiálem i trojrozměrnými rekonstrukcemi. Výstava je koncipována jak pro mladší návštěvníky (detektivní hra, „gamebook", herní aplikace), tak pro pamětníky, z nichž mnozí mají na domovní blok, který byl stržen v roce 1954, vlastní vzpomínky. Výstava se tak pro ně stává silným emočním zážitkem. Vzpomínky zde mohou také sdílet, čímž se stávají „spoluautory" výstavy a ta se tak neustále vyvíjí. Zajímavými interaktivními prvky jsou příležitost projít se ve středověkých botách po dobových površích nebo zasvítit si v tmavém prostoru středověkým keramickým kahánkem. Autoři výstavy neopomněli přiblížit ani samotnou práci archeologů – od možnosti překopávání v kolečkách až po interaktivní laboratoř, kde se návštěvníci dozví, co se s některými nálezy děje po jejich vyzdvižení ze země. Za zmínku jistě stojí i záměrné využití sklepních prostor muzea s klenbou,



Obr. 2. Malé účastnice archeologického programu pro školy v Muzeu hlavního města Prahy obdivují zvoncový pohár ze sbírek muzea. Foto J. Vrabec.

Fig. 2. *Young participants in the archaeological programme for schools at the Museum of the Capital City of Prague admire a bell goblet from the museum's collections. Photo by J. Vrabec.*



Obr. 3. Vstup do výstavy *Lauby – světla a stíny Ostravy* ve sklepních prostorách muzea. Hned u vstupu zaujme schodišťové kino i ukázka dobových povrchů, po nichž se může návštěvník projít v replikách středověké obuvi. Foto L. Straková.

Fig. 3. *Entrance to the exhibition Lauby – lights and shadows of Ostrava in the basement areas of the museum. Right at the entrance, there is a staircase cinema and a display of period surfaces, on which visitors can walk in replicas of medieval footwear. Photo by L. Straková.*

která nejlépe evokuje „podloubí“, podle něhož nesl zmizelý domovní blok své jméno (obr. 3).

Za rok 2024 byly do soutěže přihlášeny pouze dva studentské projekty, z nichž komise vybrala jeden vítězný. Tím se stal projekt *Symposion – zažijte antiku na vlastní kůži*. Autorský kolektiv studentů Ústavu archeologie a muzeologie Filozofické fakulty Masarykovy univerzity, ve složení Lucie Boudná, Barbora Bulánková, Alžběta Dobešová, David Haltmar, Filip Hanáček, Dora Podaná a Mária Švorcová (obr. 4), připravil bohatý program pro veřejnost v rámci Brněnské muzejní noci (17. 5. 2024). Autoři představili čtyřem skupinám zájemců, pro mnohé neznámý, fenomén antického symposia. Návštěvníci byli přivítáni tradičním očistným obřadem a úlitbou, poté jim byl v krátkosti představen průběh symposiálních oslav, které si následně vyzkoušeli na vlastní kůži. Na jednotlivých stanovištích si mohli obléknout antické oděvy, prohlédnout si stolní keramiku jak v originálech, tak v podobě replik i ochutnat typické pokrmy připravené dle dochovaných receptů. Recepty si mohli návštěvníci také odnést na památku. Na dalším stanovišti bylo možné si zahrát dobové hry (hazardní hru astragaly, balancování na „vinném měchu“). Hra kottabos byla dostupná v podobě virtuální reality. Návštěvníci si vyzkoušeli konverzaci pokládáním filozofických otázek, dobových hádanek a vtipů nebo překlad řeckých textů. Komise ocenila prezentaci komplexního zážitku jedné konkrétní, poměrně neznámé součásti antické kultury ve velmi nápaditém provedení.

Již třetím rokem byla udělována také Cena veřejnosti. Všechny přihlášené projekty byly postupně představeny na sociální síti Archeologického ústavu AV ČR, Brno, v. v. i., (FB ARÚB) a na webových stránkách Ceny (Web CZM). Po dobu dvou týdnů mohla veřejnost hlasovat pro kterýkoliv z přihlášených projektů prostřednictvím Google formuláře. Celkem bylo přijato 2 553 platných hlasů, z nichž přesně 666 hlasů poslalo na první místo projekt *DAGFARI.NET*. Pod tímto názvem se skrývá hned několik paralelně probíhajících podprojektů, které se navzájem podporují. Různorodé aktivity se rozprostírají od několika facebookových stránek, internetového popularizačního tržiště, dobové bitvy až po edukaci jako jsou přednášky, rozhovory v tisku a televizních pořadech a další. Autorem a realizátorem myšlenky je David Tůma („Dagfari“), jehož cílem je zpřístupnit koníček obecně nazývaný „reenactment raného středověku“ široké veřejnosti, včetně pochopení souvislostí a umožnění komukoli rekonstruovat tuto historickou dobu co nejlépe. V oboru oživování historie se autor pohybuje 25 let. Lze říci, že experimentální archeologií doslova žije – ve středověkém oblečení totiž tráví přibližně 200 dní v roce, a může tedy nemálo říct k jeho užívání. David Tůma se živí výrobou a prodejem replik různých předmětů a historických šperků a též ukázkami řemesel (obr. 5). Desítky tisíc shlédnutí blogových příspěvků, které jsou dostupné v češtině, němčině i angličtině, ukazují zájem o kvalitní informace podané zábavnou formou. Každoročně působí v archeoskanzenu v Modré u Velehradu, v Archeoskanzenu Curia Vítkov či na slovenské Bojné. Za svůj um v oblasti oživení řemesel získal ocenění Regionální značky a je též hrdým nositelem ocenění Mistr tradiční rukodělné výroby Středočeského kraje.

Ačkoliv by si alespoň krátké představení zasloužily všechny přihlášené projekty, rozsah tohoto článku to bohužel neumožňuje. Jejich přehledné shrnutí, včetně předcházejících ročníků, ale můžete nalézt na webových stránkách Ceny Zlatý mamut (Web CZM). Děkujeme všem, kteří věnují svůj čas, energii a velké nadšení popularizaci – nástroji, který dává oboru archeologie v očích veřejnosti smysl.



Obr. 4. Studentský autorský kolektiv projektu *Symposion – zažijte antiku na vlastní kůži* na slavnostním vyhlášení Ceny Zlatý mamut v brněnském Anthroposu. Foto J. Cága.

Fig. 4. *Student authorial collective of the Symposion – Experience antiquity first-hand project at the ceremonial announcement of the Golden Mammoth Award at Anthropos in Brno. Photo by J. Cága.*



Obr. 5. Ukázka výrobků Davida Tůmy, autora projektu *DAGFARI.NET* pro expozici Archeoskanzenu Modrá. Foto D. Tůma.

Fig. 5. *Display of products by David Tůma, author of the DAGFARI.NET project for the exhibition of the Modrá Archaeological Open-Air Museum. Photo by D. Tůma.*

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Summary

The best projects in the field of popularisation of archaeology in 2024

The representatives of three chief Moravian institutions – the Institute of Archaeology of the Czech Academy of Sciences, Brno, the Moravian Museum and the Institute of Archaeology and Museology of the Faculty of Arts, Masaryk University, presented the sixth awards to the winners of the Karel Absolon Award for the Popularisation of Archaeology – the Golden Mammoth. In 2024, 19 projects were entered into the competition, most of them, as usual, in the museum category.

Within the academic category, two popularisation publications, both by authors from the National Heritage Institute, shared the second and third places. The first of these is the book *Clothing of the High Middle Ages*: *From material sources to reconstruction* by Veronika Pilná from the regional specialised workplace in Pilsen (Pilná 2024). The book is an essential guide for all those who are interested in the appearance and reconstruction of high medieval clothing. The second publication is devoted to a different type of fashion – From the Chainmail Shirt to plate Armour: The development of armour in 1200–1420 by Pavel Macků from the regional specialised workplace in Telč (Macků 2024) is a clear introduction to the issues of armour and armour-making from the 13th to the 15th centuries. The evaluation committee placed the project of the *Great Moravian Treasury* in first place (Fig. 1). The author of the idea of creating a new exhibition space in the village of Modrá is its long-time mayor, Miroslav Kovářík. His goal was to build a safe space in which it would be possible to present original archaeological artefacts, directly on the area of the archaeological park, which would not visually disturbed. Along with the architects, they achieved this by building the entire structure below ground level with the entrance hidden in one of the wooden buildings of the archaeological park.

Third place in the museum category went to the exhibition *Hradisko near Kroměříž – Fortress from the Bronze Age*. The authors of the presentation of an archaeologically significant, but not so well-known archaeological site to the non-specialised public, are Pavlína Daňhelová, Petra Hnilová, and Lenka Pěluchová. The project *20 years of archaeological programmes for schools at the Museum of Prague*, submitted by a team of authors Linda Daněčková, Veronika Klimešová, Veronika Dospíšilová, Jana Lohnická, Vendula Dědková, and Miroslava Šmolíková, came in second place. Working with children and young people is one of the most demanding challenges in popularising science. A powerful experience for schoolchildren is, among other things, the opportunity to touch original finds from the museum collections (Fig. 2). This year's winner in the museum category was the Ostrava Museum's exhibition *Lauby – Lights and Shadows of Ostrava* by Zbyněk Moravec. The committee praised the strong, rarely presented main theme of the history of one block of flats in the heart of Ostrava, presented with original exhibition elements (Fig. 3).

Of the two student activities submitted, the award went to the *Symposion – Experience antiquity first-hand* project. The authorial team of students from the Institute of Archaeology and Museology of the Faculty of Arts of Masaryk University, consisting of: Lucie Boudná, Barbora Bulánková, Alžběta Dobešová, David Haltmar, Filip Hanáček, Dora Podaná, and Mária Švorcová (Fig. 4), prepared a rich programme for the public as part of the Brno Museum Night.

The Award of the Public was also awarded for the third year in a row. A total of 2,553 valid votes were received, of which exactly 666 votes sent the *DAGFARI.NET* project to first place. This name covers a variety of activities, ranging from several Facebook pages, an online popularisation marketplace, period battles to education such as lectures, interviews in the press and television programmes, and more. The author and implementer of the idea is David Tůma (Fig. 5).

Zdenka Filipová, Archeologický ústav AV ČR, Brno, v. v. i.

RoMEC XXI in Brno: Fresh perspectives on the study and significance of Roman military equipment

From 2 to 6 June 2025, the city of Brno hosted the 21st Roman Military Equipment Conference (RoMEC), bringing together more than 110 participants from over 20 countries. Scholars, archaeologists, museum professionals, and engaged non-academics gathered to explore the latest developments in the study of Roman body armour and other forms of defensive equipment, the central theme of this year's programme (Komoróczy, Wijnhoven 2025). RoMEC XXI proved a resounding success and served as a fitting tribute to the late Jon Coulston – one of the conference's founders and a leading figure in Roman military studies – to whom this year's meeting was dedicated.

Founded in 1983, RoMEC has grown into the premier international forum for the study of Roman military equipment, covering topics from the 8th century BC to the Justinian period. With a deliberately broad chronological and geographic scope, the conference welcomes contributions on the Roman army as well as the many cultures it engaged with. Following a hiatus due to the COVID-19 pandemic, RoMEC XXI marked a long-anticipated return to the academic calendar, reaffirming the conference's essential role in the field of Roman military studies.

This year's edition was organised by the Institute of Archaeology of the Czech Academy of Sciences in Brno (ARÚB) together with Masaryk University's Department of Archaeology and Museology, and the Department of Classical Studies (Fig. 1, 2). The five-day programme consisted of four days of paper sessions and one day dedicated to an excursion. Over the course of the week, participants engaged with a rich and diverse range of presentations, spanning recent archaeological discoveries, experimental reconstructions, and new theoretical approaches. The conference formed part of the research project 'Warfare as a catalyst of innovation. The evolution of Roman armour during the Middle Roman period through the lens of the Marcomannic Wars', funded by the Czech Science Foundation (grant No. GA24-11397S), as well as the project 'Material luxury as an expression of social status in protohistoric cultures of Central Europe', carried out within the research programme 'The Power of Objects: Materiality between Past and Future' under the aegis of the Strategy AV21 framework.



Fig. 1. RoMEC XXI was held at Masaryk University. Its logo consists of an iconic find of a Roman chest plate, discovered at Mušov. Photo by P. Růžičková.

Obr. 1. *RoMEC XXI. se konal na Masarykově univerzitě. Jeho logo tvoří ikonický nález římského hrudního plátu, objeveného na Mušově. Foto P. Růžičková.*



Fig. 2. Opening of the conference by Martijn A. Wijnhoven, one of the organisers. Photo by P. Dragonidesová.

Obr. 2. *Zahájení konference jedním z organizátorů, Martijnem A. Wijnhovenem. Foto P. Dragonidesová.*

Balázs Komoróczy, director of ARÚB and co-organiser of the event, emphasised the importance of hosting RoMEC in Brno: 'It is an honour to welcome this prestigious conference to our city. Its presence here not only reflects the international recognition of Czech archaeology, but also highlights the strength of our region's contribution to Roman military research.' Indeed, South Moravia's archaeological record, which is rich in Roman and Germanic artefacts, has become central to scholarly debates about the northern frontier of the Empire.

Shifting paradigms

Several important threads emerged throughout the presentations. While scientific analyses such as X-ray fluorescence (XRF) were traditionally used to study the material composition of just one or a few artefacts, it seems we have now reached a tipping point. At RoMEC XXI, multiple researchers are applying these methods on a much larger scale, examining hundreds or even thousands of pieces of military equipment. This large-scale approach is producing a wealth of data from across the Roman Empire, enabling scholars to re-evaluate and refine earlier ideas about the organisation, production, and distribution of Roman military equipment.

Another key theme was the ongoing revision of previous understandings of Roman armour types, such as the *lorica segmentata* (a type of Roman plate armour) and Roman scale armour. Traditional rigid typologies increasingly seem to fit the archaeological record less well, especially for the *lorica segmentata*, where evidence points to much greater fluidity and variation in how different armour types evolved and overlapped. At the same time, new research has revealed that both the construction and function of Roman scale armour differed from earlier assumptions, including protecting different parts of the body than previously thought.

The conference also highlighted the wide geographic and chronological scope of research, spanning regions from Western Europe to the Balkans and Eastern Europe, and covering periods from the early Roman Empire through Late Antiquity. This broad focus highlights the diverse contexts in which Roman military equipment was used, adapted, and deposited. Another important thread was the exploration of military artefacts within their social and cultural frameworks, including burial practices and symbolic displays of power. Intercultural contacts emerged as a key theme, revealing how Roman military technology interacted with and was influenced by neighbouring peoples such as Germanic tribes, Sarmatians, and Parthians. Additionally, there was growing attention to the textile and organic components of armour, broadening the understanding of these complex assemblages beyond their metal parts. New archaeological discoveries enriched the discussion. Finally, detailed studies on the functional and technical aspects of equipment emphasised the craftsmanship, innovation, and practical adaptation behind Roman military gear.

Beyond the lectures

The conference offered ample opportunity for informal discussion through a well-curated social programme. A highlight was the guided tour of the Institute of Archaeology (ARÚB), which allowed participants to familiarise themselves with the institute's facilities. Attendees had the chance to visit the conservation

and analytical laboratories, view reproductions of archaeological artefacts, and see select pieces of Roman military equipment that are not normally on display. Beyond offering a hands-on setting for professional exchange, the visit also provided participants with a clearer sense of the institute's research environment and the possibilities it offers for future collaboration (Fig. 3).



Fig. 3. Tour of the Institute of Archaeology of the Czech Academy of Sciences in Brno. This lab contains the equipment to do micro-XRF. Photo by A. Szabová.

Obr. 3. *Prohlídka Archeologického ústavu AV ČR v Brně. Tato laboratoř je vybavena přístrojem pro mikro-XRF analýzu. Foto A. Szabová.*

The conference excursion offered participants an engaging blend of archaeological insight, historical context, and regional heritage. One of the stops was the Mušov Visitor Centre, located at the foot of the important Roman site of Mušov-Burgstall (Fig. 4, 5). The centre's modern exhibition presented a vivid overview of Roman military activity north of the Danube through multimedia displays and original artefacts. Participants then toured the adjacent archaeological site, a Roman base established during the Marcomannic Wars, where new interpretations of its function were discussed on-site. Reenactors from Pannonia and Legio X GPF added a tactile and visual dimension to the visit, demonstrating crafts such as shield painting, scale armour production, and tile making, echoing the kinds of activities that may once have taken place in the workshops of this military installation.

Another destination was Mikulov, where the group visited the chateau exhibition *Romans and the Germans in the Region under Pálava*. This included a close-up look at Roman military artefacts and Germanic objects from the surrounding region, culminating in the spectacular burial of a Germanic chieftain from Mušov. The exhibition offered a fitting complement to the earlier site visit, illustrating the material entanglements of Rome and the local populations. The last destination was a visit to the Archaeopark Pavlov, where participants were transported even further back in time to the world of Upper Paleolithic mammoth hunters.

The day concluded back at the site of Mušov, where participants gathered for dinner and drinks accompanied by traditional regional live music. Against the backdrop of the landscape they had explored earlier, the evening provided a relaxed setting to reflect on the day's insights, continue conversations, and enjoy the cultural hospitality of the region. The combination of rich archaeological content and warm social atmosphere made the excursion a memorable highlight of the conference.



Fig. 4. Visit to the Mušov Visitor Centre and its archaeological site during the excursion day. Photo by M. Vlach.

Obr. 4. *Exkurze v Návštěvnickém centru Mušov a prohlídka přilehlé archeologické lokality. Foto M. Vlach.*



Fig. 5. The majority of the participants in front of Mušov Visitor Centre. Photo by P. Dragonidesová.
Obr. 5. *Účastníci konference před Návštěvnickým centrem Mušov. Foto P. Dragonidesová.*

Jon Coulston RoMEC Bursaries

Throughout the conference, the memory of Jon Coulston served as a unifying thread. A particularly meaningful addition to this year's event was the introduction of the Jon Coulston RoMEC Bursaries. Created in his honour and made possible through the generous support of Dr Hazel Dodge and the Institute of Archaeology in Brno, the bursaries enabled eight early-career researchers and independent scholars, who might otherwise have been unable to attend, to take part in the conference. Given its positive impact and the enthusiastic response it received, there is strong commitment to continuing this initiative at future Roman Military Equipment Conferences.

Enduring insights

Ultimately, RoMEC XXI was more than a conference; it was a vibrant celebration of a dynamic field that continues to evolve, inspire, and challenge our understanding of the past. The gathering of such a diverse and dedicated community of experts fostered rich exchanges, new insights, and enduring connections. It set a promising course for future research and collaboration in Roman military studies, reminding us that the lessons of history remain crucial as we face the complexities of today's world.

Refrences

Komoróczy, B., Wijnhoven, M. (eds.) 2025: *Body Armour and Other Defensive Equipment. 31st Roman Military Equipment Conference Brno, 2–6 June 2025. Book of abstracts* [online]. Brno: Czech Academy of Sciences, Institute of Archaeology, Brno. DOI: 10.47382/2025_RoMEC. [cit. 2025-06-23]. Available from: https://www.arub.cz/produkt/body-armour-and-other-defensive-equipment/.

Resumé

RoMEC XXI v Brně: Nové perspektivy ve studiu římské vojenské výzbroje

Jednadvacátý ročník mezinárodní konferenční řady věnované římské vojenské výzbroji (Roman Military Equipment Conference, RoMEC) se konal v Brně ve dnech 2.–6. června 2025. Hlavním organizátorem byl Archeologický ústav AV ČR, Brno, v. v. i., spolupořadateli pak Ústav archeologie a muzeologie a Ústav klasických studií FF MU (obr. 1–5). Konference se zúčastnilo více než 110 odborníků a odbornic z více než 20 zemí. Ústředním tématem konference byla ochranná zbroj, jednotlivé přednášky přitom reflektovaly aktuální trendy ve výzkumu římské vojenské výstroje a výzbroje a probíhající inovativní proměny výzkumných otázek a metodických přístupů. Příspěvky představily rozsáhlé vědecké analýzy stovek až tisíců artefaktů, které přinesly nové poznatky o výrobě, organizaci a distribuci zbroje v rámci Římské říše i za jejími hranicemi. Jednotlivá témata pokrývala oblast od západní Evropy po Balkán a sever kontinentu, časově pak období od doby železné až po pozdní antiku. Zřetelným trendem byla akcentace technologické, sociální, symbolické a mezikulturní dimenze vojenských artefaktů a posun odborného diskurzu směrem k holistickým a kontextuálně ukotveným interpretacím.

Martijn A. Wijnhoven, Institute of Archaeology, Czech Academy of Sciences, Brno
Balázs Komoróczy, Institute of Archaeology, Czech Academy of Sciences, Brno

Stanislav and Jana Stuchlík's influence on the problems of the Early Bronze Age in the Upper Oder Area

Until 1945, two monumental earthworks dominated the landscape of the Głubczyce plateau in the southern part of Upper Silesia: the first near today's Nowa Cerekwia village and the other near Jędrychowice (Stöckel 1867). They were not far from one another. Unfortunately, the Nowa Cerekwia location was completely leveled by various construction measures over the years, which is why there was later debate about whether it was actually an earthwork. The collections still contained artefacts from the pre-war period (Gedl 1962; 1964). Since Karel Tihelka (1967) wrote before the war that the materials from mentioned earthworks in the Wroclaw Museum date from the late Early Bronze Age, these artefacts were assigned to the Věteřov culture. Karel Tihelka (1960, 1961, 1962) himself precisely defined the Věteřov material from the Moravian area, but the material in the sense of his definition was not available until the aforementioned publication.

The construction project in Nowa Cerekwia required an archaeological rescue excavation (Kunawicz 1975; 1976; 1978; 1979; Kunawicz-Kosińska 1980; 1981; 1982; 1983), which provided abundant settlement material from the Early Bronze Age. In later times, the settlement of Jędrychowice was also investigated archaeologically (Gedl et al., 1980; 1983). However, there were hardly any burial grounds from this area, so the majority of the artefacts came from settlements. One must also add that the general level of knowledge at this time was relatively poor, especially in the area north of the Sudetes. The material as K. Tihelka indicated was not available at this time, but that did not represent an obstacle to defining the two earthworks mentioned as still belonging to the Mad'arovce–Věteřov–Boeheimkirchen (M–V–B) circle. The arguments for this were more than poor. This was a huge issue, although there was a study on Early Bronze Age settlement pottery by Stanislav Stuchlík (1972), and

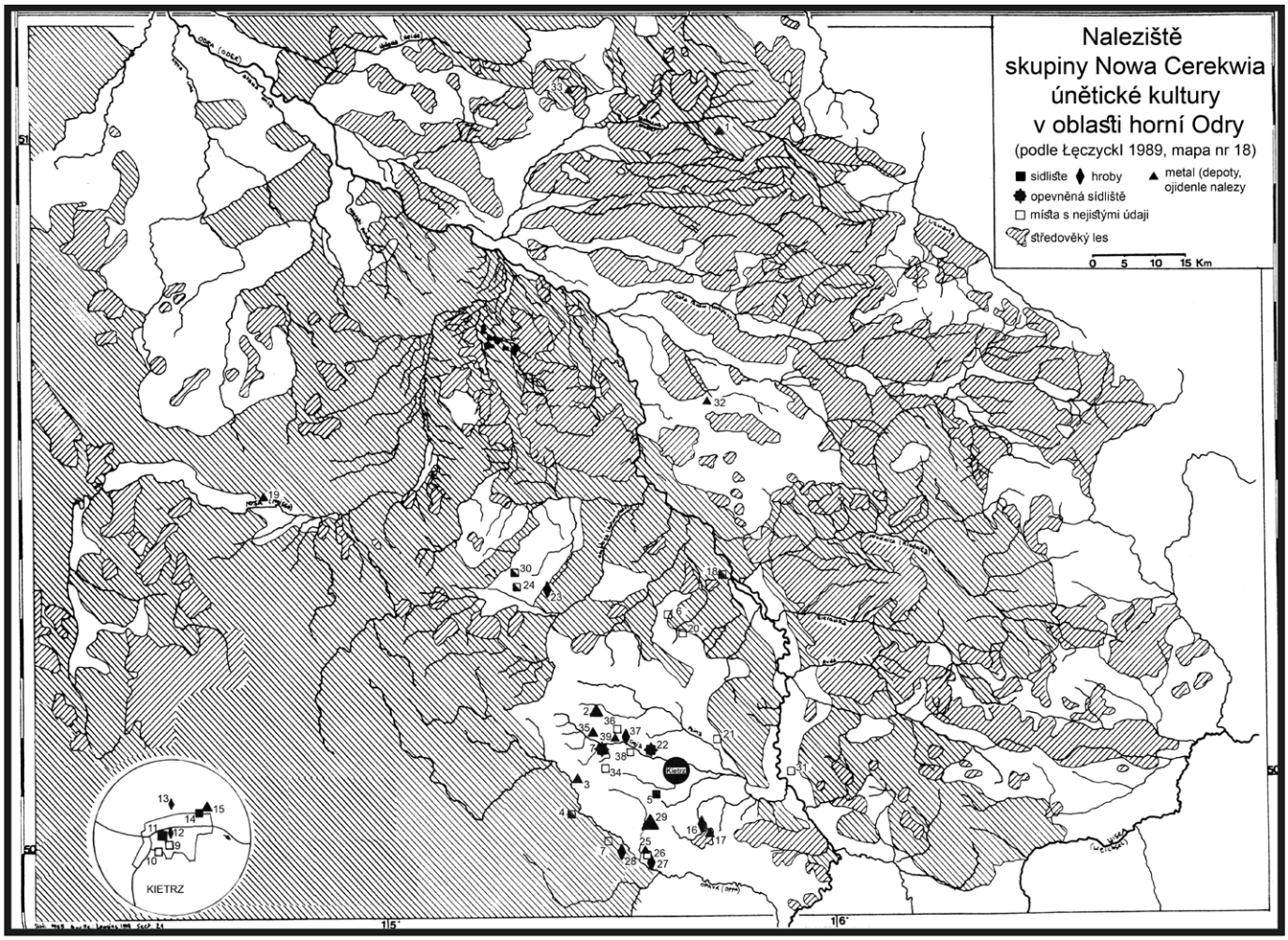


Fig. 1. List of the Únětice culture – Nowa Cerekwia group sites in Upper Oder area. 1 – Bogacica, gm. Kluczbork (No. 37); 2 – Bogdanowice, gm. Głubczyce (No. 38); 3 – Branice, gm. Branice (No. 59); 4 – Brumovice, stan. Benisovski, Opava District (No. 61); 5 – Dzierzyslaw, gm. Kietrz (No. 154); 6 – Gościęcin, gm. Pawłowiczki (No. 190); 7 – Holašovice (No. 211); 8 – Jędrychowice, gm. Branice (No. 221); 9 – Kietrz, stan. 1, gm. Kietrz (No. 241); 10 – Kietrz, stan. 2, gm. Kietrz (No. 242); 11 – Kietrz, stan. 6, gm. Kietrz (No. 243); 12 – Kietrz, stan. 6, gm. Kietrz (No. 244); 13 – Kietrz-Łęgi, gm. Kietrz (No. 254); 14 – Kietrz-Łęgi, gm. Kietrz (No. 255); 15 – Kietrz-Łęgi, gm. Kietrz (No. 256); 16 – Kobeřice, okres Opava (No. 272); 17 – Kobeřice, okres Opava (No. 273); 18 – Koźle, stan. 6, gm. Kędzierzyn-Koźle (No. 288); 19 – Ligota, stan. 3, gm. Otmuchów (No. 325); 20 – Ligota Wielka, gm. Pawłowiczki (No. 346); 21 – Maków, gm. Pietrowice Wielkie (No. 283); 22 – Nowa Cerekwia, stan. 18, gm. Kietrz (No. 421); 23 – Nowy Browiniec, gm. Pietrowice Wielkie (No. NB); 24 – Olszynka, gm. Lubrza (No. 443); 25 – Opava-Kateřinky (No. 449); 26 – Opava – Cihelna Wallik (No. 452); 27 – Opava – Cihelna Wallik (No. 453); 28 – Opava-Vávrovice (No. –); 29 – Pilszcz, gm. Kietrz (No. 497); 30 – Prężynka, stan. 14, gm. Lubrza (No. 525); 31 – Racibórz-Płonia, stan. 1 (No. 553); 32 – Raszowa, gm. Tarnów Opolski (No. 579); 33 – Wierzbica Górna, gm. Wołczyn (No. 700); 34 – Włodzienin, stan. 1, gm. Branice (No. 704); 35 – Włodzienin, stan. ?, gm. Branice (No. 712); 36 – Wojnowice, stan. 1, gm. Kietrz (No. 714); 37 – Wojnowice, stan. 19, gm. Kietrz (No. 718); 38 – Włodzienin, stan. 20, gm. Kietrz (No. 719); 39 – Włodzienin, stan. 20, gm. Kietrz (No. 720).

it was sufficient to use the comparative material from Moravia. In 1988, M. Gedl published an essay on the dating issues of the Nowa Cerekwia group. The attached illustrations clearly showed the two-stage development of the Jędrychowice complex. Some objects contained typical Únětice settlement material in the sense of Stuchlík, and some others contained the classic Věteřov settlement material in the sense of Jana Stuchlíková (1984). According to the numbering, there were different parts of the earthworks area. C14 datable material recovered from Jędrychowice confirmed Chochorowski's assumption about two-phase development of this earthwork (Molak 2008).

Over time, more material from the whole area was accumulated and gradually a dividing line could be drawn between the Únětice culture and the M–V–B circle (Fig. 1, 2). This was made possible primarily through the work of J. Stuchlíková (1984). The northern part of Moravia and subsequent Silesia were still more like *Terra Australis Incognita*. Yes, the material from the site in Brumovice – not so far from the mentioned earthworks – that came to light during Lumír Jisl's excavation were in the Opava Museum (Jisl 1955; 1968). A close examination of those artefacts conducted myself (Łęczycki 2014) showed the typical material of the M–V–B circle in the sense of K. Tihelka and J. Stuchlíková. Among this material were forms of the Maď arovce culture in the sense of Anton Točík (1964) and those that could be defined as early Middle Bronze Age. In addition to this, artefacts from the Trzciniec culture might also be considered. Using Stuchlíková's study as a comparison, it can be assumed that a break occurred during the transition between the Únětice culture and the Věteřov culture in Silesia, i.e. in the Upper Oder area, because the artefacts from the classical and late phase of the M–V–B circle are quite sparse. However, penetration of the Trzciniec culture is to be expected from the east.

Based on the material obtained on the one hand and Moravian studies on the other, it can be assumed that at the beginning of the Early Bronze Age only the southernmost part of the Upper Oder area was occupied by the bearers of the Únětice culture (Łęczycki 1989; 2014). The remaining part was populated by various groups, most of whom belonged to the Mierzanowice culture (Łęczycki 2014, Karte 16, 17). Around the classic phase of the Únětice culture, the agricultural area was settled by the bearers of the Únětice culture. We are unclear as to how this happened. A fortified settlement was built in the center of the

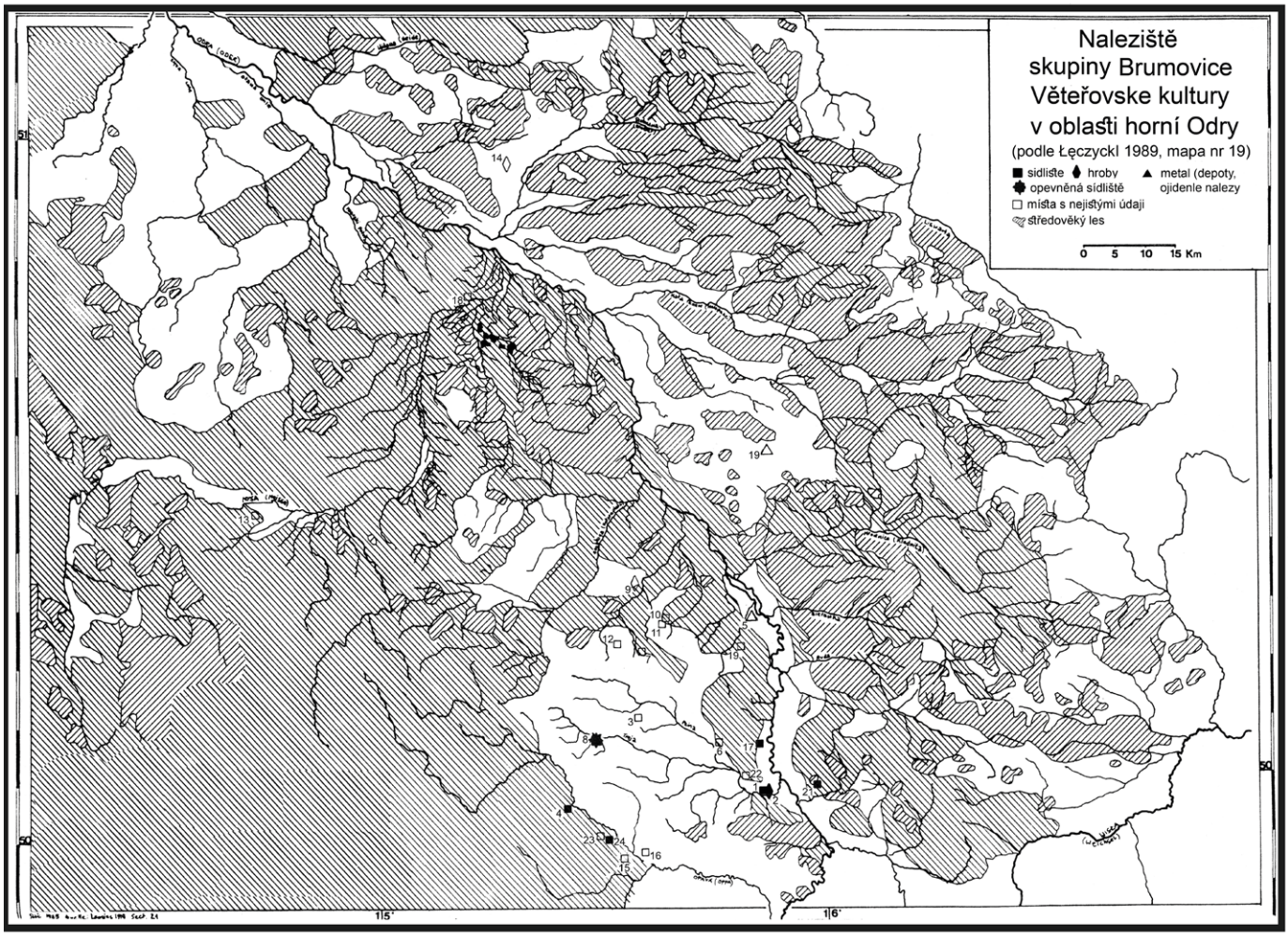


Fig. 2. List of Věteřov culture – Brumovice group sites in Upper Oder area. 1 – Bienkowice, gm. Krzyżanowice (No. 16); 2 – Bienkowice, gm. Krzyżanowice (No. 17); 3 – Boguchwałow, gm. Baborów (No. 41); 4 – Brumovice, okres Opava (No. 62); 5 – Cisek, gm. Cisek (No. 93); 6 – Cyprzanów, gm. Pietrowice Wielkie (No. 94); 7 – Grudynia Wielka, gm. Pawłowiczki (No. 204); 8 – Jędrychowice, gm. Branice (No. 221); 9 – Kazimierz, gm. Głogówek (No. 234); 10 – Ligota Wielka, stan. 1, gm. (No. 342); 11 – Ligota Wielka, gm. Pawłowiczki (No. 247); 12 – Lisięcice, gm. Głubczyce (No. 355); 13 – Maciejowice, gm. Otmuchów, stan. 11 (No. 381); 14 – Mikowice, gm. Namysłow (No. 401); 15 – Opava-Jaktar (No. 547); 16 – Opava-Katarinki, Wallikova Cihelna (No. 454); 17 – Racibórz-Ocice, stan. 1 (No. 547); 18 – Sokolniki, gm. Dąbrowa (No. 630); 19 – Stebłów, gm. Krapkowice (No. 646); 20 – Strzelce Opolskie, gm. Strzelce Opolskie (No. 653); 21 – Syrynia, stan. III, gm. Lubomia (No. 662); 22 – Wojnowice, stan. 1, gm. Kietrz (No. 715); 23 – Opava-Vávrovice, stan. Cihelna, Opava District (No. 734); 24 – Opava-Vávrovice, Hof Gebauer, Opava District (No. 735).

Głubczyce Plateau Plain, which was surrounded by various other settlements. The ceramic artefacts therefore demonstrated diverse relationships with the Alföld (Łęczycki 2014, 218). Among other things, there were traces of the Hatvan and Vatya II and Szöreg cultures. From the multi-part votive hoard from Pilszcz, which is around the same age and placed in a circle, there are clear traces of relationships that extend from Switzerland and the foothills of the Bavarian Alps to Saxony and Slovakia (Łęczycki 2014, 227–229). Unfortunately, we do not know of any burial grounds in their immediate surroundings. There are places where grave fields could be suspected, but the closest one is Opava-Vávrovice (Hlas et al. 2017). At that time, the Jędrychowice settlement was unfortified (Chochorowski 1985). There is no evidence of material from the M–V–B circle from Nowa Cerekwia. It can be assumed that at that time the settlement was abandoned and the activities were moved to Jedrychowice, which was also fortified, but not so elaborately. According to the mapping of sites (Łęczycki 2014, Karte 18, 19) of the same age, the entire Glubczyce Plateau was cleared and the settlement was relocated to the border zone of this landscape. We do not currently know how long the settlement of Jędrychowice existed during the late phase of the Early Bronze Age.

The most important materials from the late phase of the Early Bronze Age come from the already mentioned settlement in Brumovice, on the Stream Cizina, a tributary of the Opava pushed into the inner part of the river valley. The location of this settlement seems to have had strategic reasons, which is why it was assumed that it was originally fortified. The settlement was in a very strategically advantageous location, especially with regard to the change in settlement activities between the Nowa Cerekwia and the Jedrychowice stages. The settlement of Brumovice, only partially excavated, consisted, among other things, of a multipurpose sunken dwelling probably similar to that of Moravian Budkovice (Ondráček, Stuchlíková 1982). This is where most of the artefacts come from. The entire ceramic material (Łęczycki 2014, Fig. 71–73) generally corresponds to the classical phase of Věteřov culture in the sense of Stuchlíková (1984), although a strong influence of the Mad'arovce culture (cf. Točík 1964) is noticeable. In addition to the bulk of the material, artefacts from the Füzesabony culture and North Pannonian encrusted ceramics can be observed there. A supplement to this are ceramics that can be clearly assigned to the transition to the Middle Bronze Age, such as the knobbed ceramics, and forms of the Early Middle Bronze Age type Ragelsbrunn–Mistelbach. In addition to the traces of relationships of whatever kind with the groups in the south one can also recognize in the material from Brumovice those that demonstrate relationships with the north, i.e. with the Trzciniec culture. They are rarer, but they do exist. On the other hand, if we look at the Trzciniec culture itself, it is not uncommon to see traces of strong relationships with the M–V–B circle (Łęczycki 2014, 297–306). The influence of the M–V–B circle, at least as evidenced by the ceramics, reached as far as Greater Poland (Kłosińska 1997).

All the material from Jędrychowice has not yet been published. Therefore, we do not yet know how the transition between the Early Bronze Age and the Middle Bronze Age occurred. One thing is certain: the latest settlement activities of the Early Bronze Age overlap with the earliest settlement activities of the Middle Bronze Age. These activities fill in what has been understood for years by science in the context of phase A3, because we have settlements in Brumovice as well as in the other contemporary settlements from the surroundings, with the majority of the material from the M–V–B circle with traces of the earliest Middle Bronze Age and not vice versa.

The most important studies on the topic mentioned above were carried out by Stanislav Stuchlík with his study of settlement pottery from the Únětice culture in 1972, and his wife Jana Stuchlíková with her analysis of the Moravian Věteřov culture (1984). Without these two contributions, many aspects would not be understandable. I would like to take this opportunity to thank these two admirable scientists for their outstanding contributions.

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Resumé

Přínos Stanislava a Jany Stuchlíkových k problematice starší doby bronzové v oblasti horní Odry

Článek shrnuje problematiku výzkumu starší doby bronzové v oblasti horní Odry, se zaměřením na Hlubčickou pahorkatinu. Počáteční výzkumy se soustředily na monumentální zemní stavby u Nowe Cerekwie a Jędrychowic, přičemž kulturní atribuce nálezů byla nejistá kvůli omezeným předválečným datům a nedostatečnému poznání území severně od Sudet. Ačkoliv byly nálezy na základě předválečných informací často připisovány věteřovské kultuře, chyběl srovnávací materiál a přesnější definice. Následné archeologické, zejména záchranné, výzkumy v Nowe Cerekwie a výzkumy v Jędrychowicích a Brumovicích (okr. Opava), přinesly bohatý sídlištní materiál. Analýza těchto nálezů odhalila komplexní, vícefázové osídlení regionu s prokazatelnými vlivy únětické kultury a následně maďarovsko-věteřovsko-böheimkirchského (M–V–B) okruhu, doplněné o kontakty s dalšími kulturami, např. Trzciniec, a vzdálenější vlivy z jihu i východu (obr. 1, 2). Klíčové pro správné rozlišení těchto kulturních fází a interpretaci získaného materiálu byly práce Stanislava Stuchlíka (studie únětické sídlištní keramiky, 1972) a především Jany Stuchlíkové (analýza moravské věteřovské kultury, 1984). Jejich výzkumy poskytly nezbytný srovnávací rámec, který umožnil spolehlivě definovat hranici mezi únětickou kulturou a M–V–B okruhem v regionu a charakterizovat postupný vývoj, včetně přechodu do střední doby bronzové. Článek zdůrazňuje zásadní význam příspěvků Stanislava a Jany Stuchlíkových pro prohloubení poznání starší doby bronzové v oblasti Horní Odry, které by bez jejich prací nebylo možné.

Stefan Łęczycki, independent researcher

Zemřel profesor PhDr. Alexander T. Ruttkay, DrSc.

Archeologickou obec zastihla velmi smutná zpráva. Dne 14. dubna 2025 odešel z tohoto světa vysoce erudovaný odborník a vynikající vědec – archeolog a historik, ale i vysokoškolský učitel, profesor A. T. Ruttkay (*1941) (obr. 1). Patřil ke generaci badatelů (navazující na své předchůdce, jakými byli např. B. Polla anebo A. Habovštiak), která uváděla v život nově se etablující disciplínu – středověkou (historickou) archeologii a upevňovala její postavení nejen na Slovensku, ale i v rámci tehdejšího Československa. Svůj badatelský zájem však směřoval i do období raného středověku, kde jej upoutalo především období velkomoravské. Jeho vskutku rozsáhlá publikační činnost (mimo jiné 13 monografií; viz Fábiková 2011; CREPČ), vycházející jak z vlastních terénních aktivit (např. Ducové, Nitrianská Blatnica a celá řada dalších lokalit), tak i pečlivé a minuciózní práce v muzejních sbírkách a archivech, mu vynesla oprávněné uznání nejen v domácí odborné komunitě, ale i v celém středoevropském prostoru. Jeho studie jsou dodnes vysoce ceněny, citovány a některé svým způsobem nepřekonány. Řada domácích i zahraničních časopisů si považovala za čest mít badatele takového formátu ve svých redakčních radách, a získat jej se podařilo i našemu periodiku Přehled výzkumů, v němž se jako člen rady angažoval v letech 2005–2020; jeho přehled, konciliantní přístup k řešení problémů a nekonfliktní a přátelské chování byly jednoznačným přínosem pro její práci.

Nelze nevzpomenout, že prof. Ruttkay stál téměř dvě desetiletí (1991–2008) v čele Archeologického ústavu SAV v Nitře, kde se osvědčil rovněž jako skvělý organizátor, mající zásadní podíl na jeho všestranném rozvoji s akcentem položeným mimo jiné také na širokou mezinárodní spolupráci. Po rozdělení republiky v roce 1993 preferoval úzkou kooperaci s moravskými a českými kolegy, jež se projevila v řešení společných projektů, organizování odborných konferencí a výstav, kolektivních vědeckých výstupů i konzultací. Dlouhá léta taktéž zaštiťoval prestižní mezinárodní projekt Moravia Magna pod patronací Union Académique Internationale v Bruselu, jenž se bytostně dotýkal i brněnského archeologického ústavu Akademie věd ČR.

Dalo by se jistě dlouze pokračovat ve vyjmenování Sašových zásluh o obor, jeho rozvoj a propagaci, zdůraznit je však nezbytné i jeho lidskou stránku. Byl člověkem nesmírně pracovitým, přitom vždy ochotným podělit se o nabyté znalosti a zkušenosti se studenty, kolegy i laiky bez jakýchkoliv podmínek. Jednání s ním mělo vždy patřičnou úroveň, byl milý a pozorný, představoval „starou školu“ v tom nejlepším slova smyslu. Jeho odchod nás zastihnul nepřipravené, nic nenasvědčovalo tomu, že by se to mohlo stát tak brzy. Bude nám chybět a budeme na něj vzpomínat jako na osobnost, s níž byla radost se setkávat a diskutovat o problémech a záležitostech nejen odborných.

Čest jeho památce.



Obr. 1. Profesor PhDr. Alexander T. Ruttkay, DrSc. (1941–2025). Foto uloženo v Archivu Archeologického ústavu SAV, Nitra.

Fig. 1. *Professor PhDr. Alexander T. Ruttkay, DrSc. (1941–2025). Photo stored in Archive of the Institute of Archaeology of the Slovak Academy of Sciences, Nitra.*

Literatura

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Fábiková, D. (zost.) 2011: Bibliografia [A. Ruttkay]. *Slovenská archeológia LIX(2), 375–388.*

Summary

Obituary: Professor PhDr. Alexander T. Ruttkay, DrSc.

Professor PhDr. Alexander T. Ruttkay, DrSc. (1941–2025), was a prominent archaeologist, historian, and university lecturer, recognised as one of the founders of medieval archaeology in Slovakia and former Czechoslovakia (Fig. 1). His research focused especially on the era of Great Moravia, where he conducted numerous field investigations (e.g. at Ducové, Nitrianska Blatnica). He published 13 monographs, and his work is highly valued both domestically and internationally. He served for many years on the editorial boards of professional journals, including Přehled výzkumů (2005–2020), and led the Archaeological Institute of the Slovak Academy of Sciences in Nitra for almost two decades, fostering international cooperation, particularly with Czech and Moravian colleagues. He was the guarantor of the Moravia Magna project and made significant contributions to the advancement and popularisation of the discipline. Professor Ruttkay was respected not only for his expertise but also for his humanity, willingness, and kindness. His passing is a great loss to the archaeological community. Honour to his memory.

Pavel Kouřil, Archeologický ústav AV ČR, Brno, v. v. i.

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