

‘FROM THE OTHER SIDE OF THE DANUBE’

Finds of the Eastern Type from the Late Hallstatt and Early La Tène Periods
in Transdanubia¹

Anita Kozubová

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The paper deals with the cultural and spatial evaluation of numerous finds of the eastern type from Transdanubia, dated to the Ha D–Lt A stages. The main point of our interest was to provide a complex overview of these finds, focused mainly on the provenance, chronological aspect and possible interpretations of their occurrence in Transdanubia. Based on a detailed analysis of finds of the eastern type, it was possible in terms of their origin to determine four groups of finds in Transdanubia – finds of the Vekerzug culture from the first group and older types of arrowheads with an outer socket from the fourth group are most frequent. The occurrence of finds of the eastern type in Transdanubia shows similar tendencies as in the neighbouring regions of the Eastern Hallstatt culture, especially in Moravia. Both regions are special in terms of the frequency and type variability of Vekerzug finds. Especially arrowheads with an inner socket point to a new tradition in production of efficient weapon types in East-Central Europe and are, above all, an indicator of technological innovations. There are several concentrations of Vekerzug finds in Transdanubia: in its north-western and south-eastern parts, around Lake Balaton and in the Danube Bend area. The frequent presence of Vekerzug finds across Transdanubia shows the active contacts and peaceful interactions between the Vekerzug culture and the cultural regions to the west. We can consider the expansion of Vekerzug people into the western Budapest area and its surroundings. However, in other parts of Transdanubia, Vekerzug finds are evidence for cultural contacts of the local Hallstatt population with the Vekerzug culture.

INTRODUCTION

In the Ha D and Lt A stages, types of objects whose origin and/or main distribution territory is located in the eastern part of the Carpathian Basin, specifically in the Vekerzug culture (VC) and the Ciumbrud culture, as well as in the Early Iron Age communities in the East European steppe and forest-steppe and in the North Caucasus, were documented in the East Hallstatt region. Finds of the eastern type and their significance for the Central European Hallstatt and Early La Tène periods have been subject to long and controversial scientific discussions, focused on their chronology, origin and interpretation. While these finds from Transdanubia remain on the fringes of scientific interest (see *Kemenczei 2008–2010* for a last overview), similar finds from Moravia and Bohemia have recently received increased attention, with a focus especially on their comprehensive and detailed evaluation (e.g. *Bartík et al. 2017; Klápa 2017; Kozubová/Fojtík 2021; Kozubová/Golec 2020; Kozubová et al. 2022*). Recent publications on sites from the Late Hallstatt and Early La Tène period in Transdanubia have not evaluated finds of the eastern type in the context of other objects of the same type (e.g. *Czigáni/Molnár 2020; Horváth 2015; Ilon 2017a; Jáky 2017; Molnár/Ujvári 2020*). The finds from Moravia and Bohemia and the current state of research on the VC show that it is necessary to reconsider the interpretation of finds of the eastern type in the individual regions of the (Eastern) Hallstatt culture. It is equally important to classify the objects under discussion correctly. The

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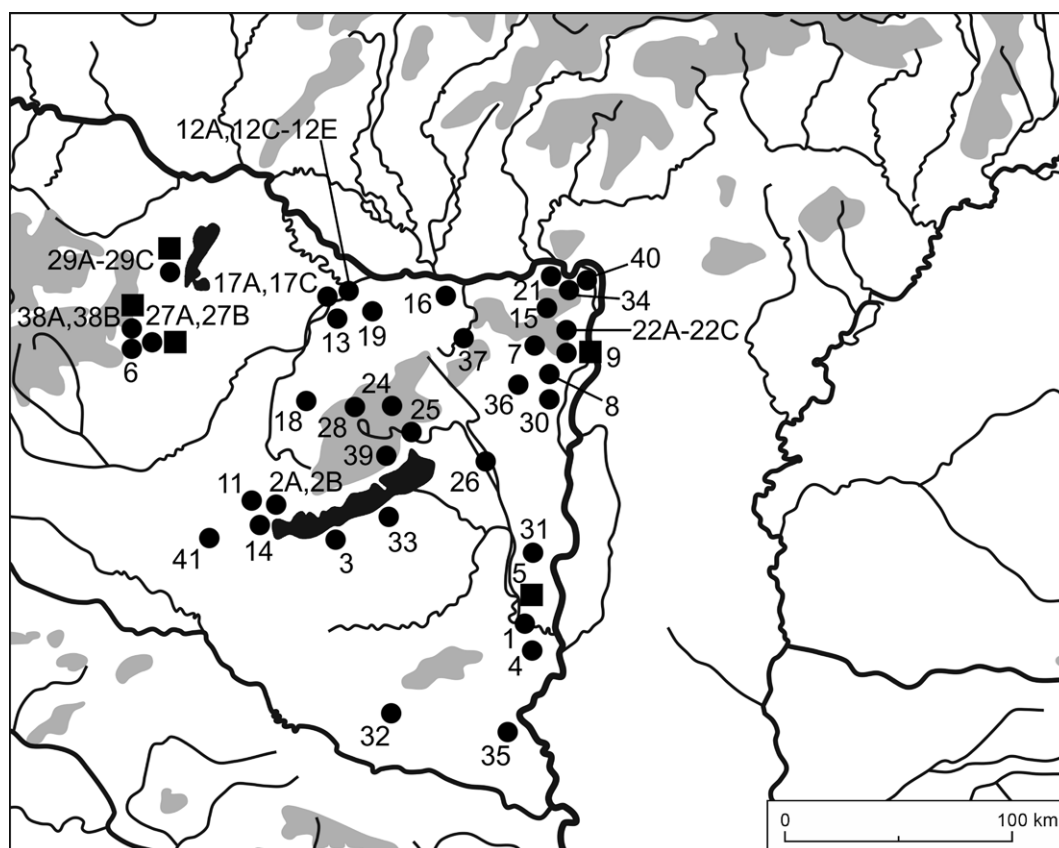


Fig. 1. The distribution of finds of the eastern type from Ha D–Lt A in Transdanubia – the first (circle) and second groups of origin (square). For numbering of sites and references see *Catalogue*. Author A. Kozubová.

use of the term ‘Scythian’ (type, find/s, period/age², origin, influence/s etc.) is incorrect in the case of Iron Age archaeological records from Central Europe,³ a more neutral classification as finds of the eastern type seems more appropriate. This classification reflects an exclusively geographical consideration: these types of objects have their origin to the east of the Hallstatt culture in different cultures and cultural groups of the Iron Age, including, e.g., the VC⁴ (see more Kozubová/Fojtík 2021, 77–80 on this topic).

This article evaluates previously published finds of the eastern type from the Late Hallstatt and Early La Tène periods (from Ha D1 to Lt A) in Transdanubia with a focus on the cultural and spatial, chronological and interpretive aspects of their occurrence in the western part of the Carpathian Basin and in other regions of the (Eastern) Hallstatt culture. The number of sites with these finds in Transdanubia has slightly increased since the last inventory by T. Kemenczei (2008–2010). To date, we have at least 1171 finds of the eastern type⁵ with typologically reliable identification, which come from 52 archaeological sites

² Although the term ‘Scythian’ is also used in archaeological research in Eurasia a synonym for the Early Iron Age, i.e. for the period during which the Scythian culture has existed, the term ‘Scythian period’ can be used only with those regions, where we are able to give a reliable evidence for a permanent presence of the Scythians or Scythian culture with the help of archaeological and/or written sources. But this is not the case with Central Europe. The territory occupied by the VC is indisputably located outside the territory of both the Scythian culture and the Scythians themselves. Using the term ‘Scythian period’ or ‘Scythian Age’, which is still common in Hungarian archaeological research to this day, is therefore scientifically unfounded in the case of the Hallstatt and Early La Tène periods in the Carpathian Basin (Kozubová/Fojtík 2021, 79).

³ The same applies to the term Scythoid.

⁴ The term ‘eastern’ in the VC, similarly as in archaeological cultures and groups of the Hallstatt and Early La Tène periods in Central and Southeastern Europe, is thus not synonymous with the term ‘Scythian’ or ‘equestrian nomadic’. On the problem of using the term Scythian in connection with the VC and finds from sites of the Hallstatt culture see more Kozubová 2019, 56–58; 2021, 83, 84; Kozubová/Fojtík 2021, 78–80. For a recent discussion about the eastern influences in the VC with a critique of this topic see Kozubová 2019; 2021, 81–95, 102–106.

⁵ Of these, 900 are armour scales from Regöly, Strupka-Magyar birtok (Tolna County; Cat. No. 24).

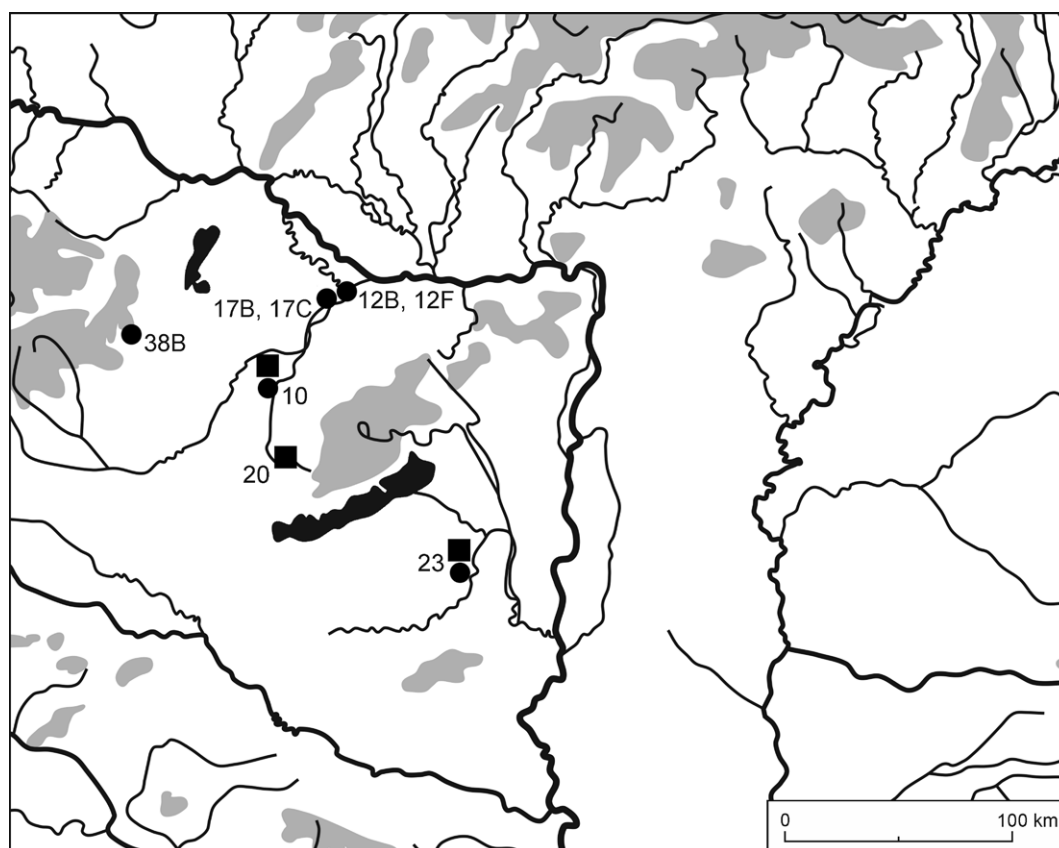


Fig. 2. The distribution of finds of the eastern type from Ha D–Lt A in Transdanubia – the third (circle) and fourth groups of origin (square). For numbering of sites and references see *Catalogue*. Author A. Kozubová.

from Ha D–Lt A (see catalogue; Fig. 1; 2). Although most finds analysed in this article were published in the catalogue by T. Kemenczei (2008–2010, 101–114, fig. 1–9), this article aims to correct the catalogue. The new catalogue excludes artefacts whose Transdanubian context is disputable⁶ or whose eastern origin is questionable in the Central European context.⁷ Furthermore, the finds that are not depicted in publications and their general description does not allow a precise typological classification were not taken into account.⁸

CULTURAL AND SPATIAL EVALUATION OF FINDS – GROUPS OF ORIGIN

The analysed set contains types of artefacts that have their origin or are distributed in different cultural and geographical regions. The finds of the eastern type from Transdanubia may be broadly divided into four groups by origin (Fig. 1–3). While the first two groups are related to the VC, the remaining two are associated with cultural regions to the east of the territory occupied by the VC.

⁶ E.g. bronze cauldron from 'Komárom, Szőny'/'Ó-Szőny' (Komárom-Esztergom County; Patay 1990, 81, pl. 68: 148; Kozubová 2019, 135, footnote 87).

⁷ E.g. iron axes from Somló-hegy (Veszprém County; Kemenczei 2008–2010, 108, fig. 6: 6, 7).

⁸ Arrowheads from Bakonyszentlászló, Győrszabadi, Tét (all three Győr-Moson-Sopron County), Bögöt (Vas County), Keszthely-Fenékpuszta (Zala County) and Vereb (Fejér County; Párducz 1965b, 274–277); a number of bronze arrowheads from the Balaton Museum in Keszthely (Zala County; Bakay/Kalicz/Sági 1970, 213); a snake-shaped temple ring from Celldömölk, Ság-hegy (Vas County; Kemenczei 2008–2010, 102; Párducz 1965b, 276), and some snake-shaped temple rings from Velem, Szent Vid-hegy (Vas County; Ilon 2017b, 99); a clay stamp from a well at Törökbálint, Topárk (Pest County; Maróti 2003, 229). Without a precise typological classification, it is not possible to assign these finds to one of the four groups of origin.

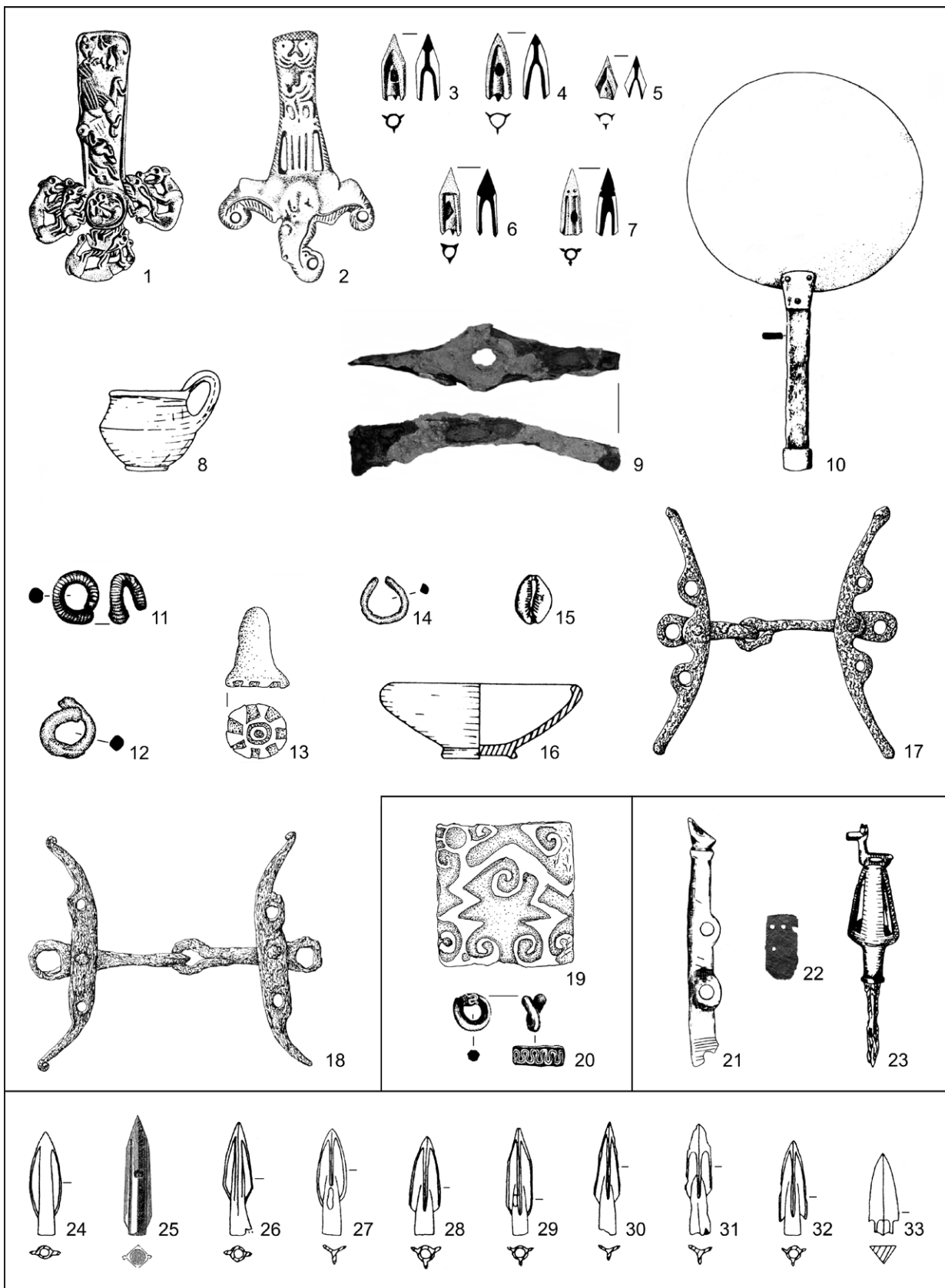


Fig. 3. The typological spectrum of finds of the eastern type from Ha D–Lt A in Transdanubia according to groups of origin. 1–18 – the first group of origin; 19, 20 – the second group of origin; 21–23 – the third group of origin; 24–33 – the fourth group of origin. Different scales. Author A. Kozubová.

First group of origin

The first and typologically most diverse group of origin (Fig. 1: 1, 2A, 2B, 3, 4, 6–9, 11, 12A, 12C–12E, 13–16, 17A, 17C, 18, 19, 21, 22A–22C, 24–26, 27A, 28, 29A, 29B, 30–37, 38A, 39–41; 3: 1–18) is represented by finds of the VC (bronze triblade and trilobate-triblade arrowheads with an inner socket of types I and II according to A. Kozubová; bronze cross-shaped quiver decorations; iron battle axes of type I according to A. Kozubová; iron bits of type Szentes-Vekerzug; bronze snake-shaped temple rings of types I and II according to A. Kozubová; bronze circular ear/temple rings of type I according to A. Kozubová; bimetallic mirrors with a side handle; clay stamps; wheel-turned pottery) and artefacts whose occurrence in Transdanubia was related to the activities of the VC (cowrie shells).⁹

A total of 82 *bronze arrowheads with an inner socket* were found at 14 sites in Transdanubia, of which 62 were found by detector prospecting at Győr-Ménfőcsanak, Széles-földek (Győr-Moson-Sopron County) – the highest number from one site outside the VC territory (Cat. No. 12E; *Ilon 2017a*, 192, fig. 8: 1, 2, 4–14; 2019, 255, pl. I: 1–24; II: 1–24). Almost all types of arrowheads with an inner socket and their variants or subvariants according to typology by A. Kozubová (2009, 68–86, fig. 1) known from sites of the VC¹⁰ were found in Transdanubia: triblade arrowheads of variants I1, I2 and I3 (Fig. 3: 3–5; Cat. Nos. 2A, 2B, 12E, 17A, 17C, 19, 27A, 28, 29A, 36, 38A; *Chochorowski 1985*, fig. 6: 31; *Czigáni/Molnár 2020*, 99, pl. 9: 3; 13: 3; *Gál/Molnár 2004*, pl. 13: 1; *Horváth 2015*, fig. 5: 22, 23; *Ilon 2017a*, fig. 8: 8–11, 14; 2019, pl. I: 1–5, 7, 9–12, 16, 17, 21; II: 1–24; *Maróti 2001*, fig. 2: 2; *Molnár 2013*, fig. 8: 8; *Schwellnus 2011*, fig. 8: F), trilobate-triblade specimens of variants II2 and II3 (Fig. 3: 6, 7; Cat. Nos. 2A, 12E, 17A, 19, 31, 37, 38A; *Chochorowski 1985*, fig. 6: 23, 29; *Czigáni/Molnár 2020*, pl. 9: 4; *Horváth 2015*, fig. 5: 21; *Ilon 2017a*, fig. 8: 1, 2, 4–6, 12, 13; 2019, pl. I: 6, 8, 13–15, 18–20, 22–24; *Kemenczei 2008–2010*, fig. 7: 11, 13; *Molnár 2013*, fig. 8: 9) and trilobate arrowheads (Cat. No. 12E; *Ilon 2017a*, fig. 8: 7). Most sites with arrowheads with an inner socket are concentrated in Northwestern Hungary (*Kozubová et al. 2022*, fig. 16). The variants of arrowheads with an inner socket from Transdanubia can be divided into three groups. The first group is characteristic for the VC, with sporadic finds in Eastern Europe (variant II2). The Vekerzug arrowheads are characterised by a tower-shaped blade. The variant II3 can also be included in this group. Although this variant is as frequent in the East as in the VC, the Eastern European specimens are smaller than VC ones, typically with a short blade in the form of an equilateral triangle or an ogival shaped blade with a broad base (see e.g. *Daragan 2017*, 88; *Klápa 2019*, 77; *Kozubová 2009*, 77, 78, 80, 97, 98; *Kozubová et al. 2022*, 298–301, with references). Arrowheads of variant I3 from the second group are popular shapes in both Eastern Europe and VC (*Kozubová 2009*, 74, 76, 77, 96, 97; *Kozubová et al. 2022*, 284, with references). In contrast, variants I1 and I2 from the third group are rare in both regions (*Kozubová 2009*, 71–74; *Kozubová et al. 2022*, 281, 283, 296, 298). Arrowheads with an inner socket are not reliable for dating as they were used during the whole existence of the VC (from Ha D1 to Lt A). The only exception is the variant I1 from Ha D2–Ha D3 (*Kozubová et al. 2022*, 285, 296, 298). The vast majority of arrowheads from Transdanubia were found by detector prospecting or accidentally. Only a few of them are settlement finds with more precise dating to Ha D2–Ha D3 or Lt A (Cat. Nos. 17A, 27A, 29A).

Three *bronze cross-shaped quiver decorations* with zoomorphic ornaments were found in Transdanubia (Fig. 3: 1, 2) – the one from Komárom-Esztergom County (Fig. 3: 2; Cat. No. 16) was classified as variant I1 according to A. Kozubová (or first group/type 3 according to Yu. B. Polidovych; *Kozubová 2009*, 101; *Polidovych 2000*, 36, 37), and decorations from Budajenő (Pest County; Cat. No. 7) and Mezőlak (Veszprém County; Fig. 3: 1; Cat. No. 18) were classified as variant I2 (or first group/type 4 according to Yu. B. Polidovych; *Kozubová 2009*, 105; *Polidovych 2000*, 36, 37). The bronze and bone/antler cross-shaped quiver decorations with zoomorphic and geometric ornaments are typical for the material content of the Vekerzug culture (at least 15 pieces) and Ciumbrud culture (9 pieces).¹¹ Outside their main distribution territory in the East Carpathian region with 32 pieces (Fig. 4),¹² 10 quiver decorations with zoomorphic ornaments were found

⁹ The cultural provenance of a bronze phalera of the Magdalenska gora type from Somló-hegy (Veszprém County; a stray find) is questionable (*Soós/Tarbay/Péterváry 2023*, 128, fig. 4: 2). This Late Hallstatt form of horse harness decoration has been found in large numbers at sites in Eastern Slovenia and in the cemetery of Szentes-Vekerzug (Csongrád-Csanád County/HU). In other cemeteries of the VC, these phalerae are rare (see more *Dizdar 2023*, 132–140, with references, map 2).

¹⁰ Circa 595 published pieces are evidenced in the VC (*Kozubová 2021*, 84; *Kozubová et al. 2022*, fig. 16; for new finds see *Keresztes et al. 2021*, pl. 10: 3; 11: 4; *Kovács/Németh 2023*, 40).

¹¹ On the question of their origin in the eastern part of the Carpathian Basin see e.g. *Hellmuth 2007*, 67; *Kozubová 2019*, 66–68.

¹² Of these, 5 bronze quiver decorations are stray finds from Hungarian unknown sites (*Kemenczei 1986*, 127, fig. 8: 3–6; *Patay/Scholtz/Scard 2017*, 475, fig. 5).

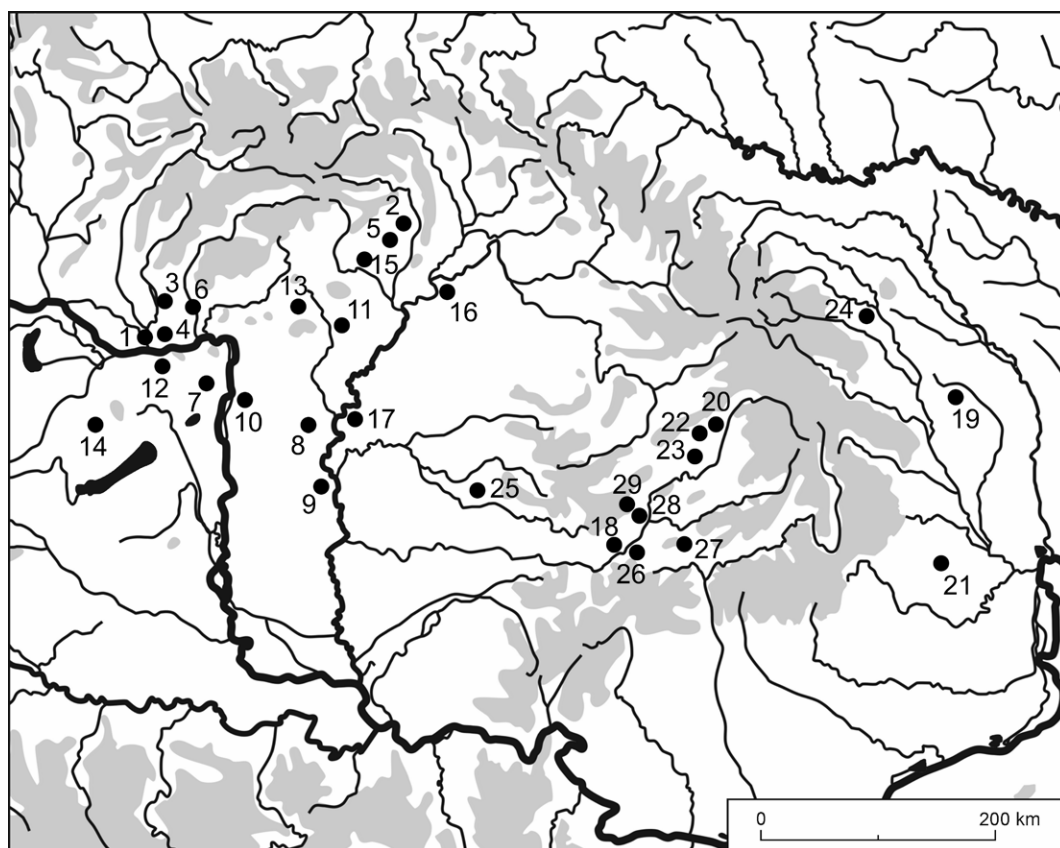


Fig. 4. The distribution of bronze and bone/antler cross-shaped quiver decorations from Ha D in East-Central Europe. *Slovakia*: 1 – Chotín IA; 2 – Košice; 3 – Maňa; 4 – Modrany; 5 – Seňa, Pri lánoch; 6 – Želiezovce. *Ungarn*: 7 – Budajenő; 8 – Cegléd, Hordógyár; 9 – Csanytelek, Tömörkényi utca; 10 – Gyömrő, Kő-határ-dűlő; 11 – Kál; 12 – Komárom-Esztergom County; 13 – Mátraszele; 14 – Mezőlak; 15 – Szendrő, Ördögáti, Csengőbarlang; 16 – Tiszalök, Börtön; 17 – Törökszentmiklós, Surján. *Romania*: 18 – Alba Iulia; 19 – Armașoaia; 20 – Băița; 21 – Birsești; 22 – Comlod; 23 – Mădăraș; 24 – Roșiori-Dulcești; 25 – Salonta; 26 – Sancriș; 27 – Șeica Mică; 28 – Teiuș; 29 – Țelna. Graphic by A. Kozubová, after Kemenczei 1986, with additions by A. Kozubová.

in Eastern Europe at Early Iron Age/Early Scythian sites in addition to those from Transdanubia (see Kemenczei 1986; Kozubová 2021, 86, with references; Polidovych 2000, 35, with references, fig. 1–3; Vasiliev 1980, 142, 144, 147, 150, 151, pl. 21: 1–3; 22: 1–5; 23: 1).¹³ The finds from Transdanubia belong to the most westerly documented finds of this type of quiver decorations (Fig. 4) – two of them come from sites in the close neighbourhood of VC (Cat. Nos. 7, 16). All such quiver decorations from Transdanubia are stray finds that cannot be dated precisely. Bronze cross-shaped quiver decorations were used in the VC during the whole 6th century to the beginning of the 5th century BC (see more Kozubová 2009, 101–110; 2021, 86, footnote 15).

One iron single-edged battle axe with a symmetrically located shaft hole of variant II according to A. Kozubová (2010, 49) was found in the cremation grave 9 at Szólád, Kertek mögött (Somogy County), from Ha D2 (Fig. 3: 9; Cat. No. 33). Battle axes of type I are the most frequent impact weapons in the VC. They are almost identical in shape to iron battle axes of the Koban culture and from protomaeotian and early Maeotian sites in the Northwest Caucasus (from Ha B3 to Ha D1), but they differ from the less numerous battle axes from the Ukrainian forest-steppe region, including those from the Western Podolian group (see more Kozubová 2010, 49–51; 2019, 72, 73; 2021, 87, 91, with references; see also e.g. Burghardt 2015, 152–154, fig. 6; Shelekhan' 2012, 5–7, 9, 10, fig. 1–3). In the VC, battle axes of type I are dated broadly from early Ha D1 to late Ha D3, with a possible overlap into Lt A (Kozubová 2010, 51–53; 2019, 72). Type I has two main areas of

¹³ Outside of East-Central and Eastern Europe, two other bronze cross-shaped quiver decorations with zoomorphic ornaments were found in Bulgaria – a stray find from Veliko Tărnovo/Велико Търново (Veliko Tărnovo Province; Agre 1994, fig. 1) and a find in the Varna Archaeological Museum (Ivanov 2018, 26, with references, fig. 10: 9).

distribution in Central Europe. Its primary distribution territory is in the VC, especially in Northeastern Hungary. A further concentration was found at sites of the Ciombrud culture and the Transylvanian battle axes are among the most easterly finds of this type of weapons (Kozubová/Fojtík 2021, fig. 16; see also e.g. Ferencz/Barbu 2018, 143, 144, pl. II; III; Kemenczei 2009, 179, 180, list 2; Marinescu 1984, fig. 13: 5; Vasiliev 1980, 142, 144–146, 150, pl. 15: 3–8). Vekerzug-type battle axes are rare outside these two concentrations.¹⁴ The battle axes of type I were not found beyond Austria in the west (grave finds from Hallstatt/Gmunden District), the Eastern Slovenian ones from Libna (Občina Krško) and Volčje njive (Občina Mirna) are the southernmost finds, and the Southeastern Polish finds from Werchrata (Lubaczów County) and Żuklin (Przeworsk County) are the northernmost finds in Central Europe (see Kozubová/Fojtík 2021, 81, with references, footnotes 37, 38, fig. 16).

Five iron horse bits of type Szentes-Vekerzug (Fig. 3: 17, 18) were found in Transdanubia: one at Cserszegtomaj (Zala County; Cat. No. 11) and four at Szentlőrinc (Baranya County; Cat. No. 32). The stray find from Cserszegtomaj (Fig. 3: 17) was classified as variant I2 according to A. Kozubová (or variant 2 according to T. Kemenczei or type II/variant A1 according to W. M. Werner) given its arched cheek-pieces with three loops and without plate-like central part. Their endings are button-like and/or conical (Kemenczei 1985, 51; Kozubová 2011, 76; Werner 1988, 13, 14, fig. 4: A1). This variant was also found in horse grave 61 at Szentlőrinc (Werner 1988, 16, pl. 4: 21). The remaining three horse bits of variant II4 according to A. Kozubová (or type II/variant B1 according to W. M. Werner) from horse graves 52, 58 and 60 at Szentlőrinc are characterised by slightly arched cheek-pieces with three holes and plate-like central part (Fig. 3: 18). Their endings are button-like and/or conical (Kozubová 2011, 83; Werner 1988, 13, 14, fig. 4: B1). The bits of variant I2 from Transdanubia have numerous analogies at sites of the VC from the Ha D stage and also in Ha D3 finds from Eastern Slovenia, whose chronology is the same as the bit from grave 61 at Szentlőrinc (see Kozubová 2011, 76, 77, 79; Werner 1988, 15, 16, pl. 1: 7; 2: 8, 9, 11–13; 3: 14–17; 4: 2, 3). Compared to variant I2, the less frequent bits of variant II4 are more dispersed outside the territory of the VC, especially at the Ferigile culture sites in the Southern Carpathian-Danube region (Kemenczei 1985, 59, 60, fig. 7: 3, 6, 7; Werner 1988, 19, 20, pl. 8: 43–46; 9: 48, 49). Sporadic finds were documented in Northern Bosnia and Herzegovina (Donja Dolina/Opština Gradiška), Burgenland and Western and Southeastern Poland (Bochnak/Skowron 2022, fig. 32: 1–6; 33; Werner 1988, 19, 20, pl. 8: 42, 47; 9: 53). The bits of variant II4 from graves 52, 58 and 60 at Szentlőrinc likely belong to the Ha D3 phase, possibly to Lt A (Kozubová 2011, 83, 84). Outside the main distribution area in the VC (with more than 60 pieces),¹⁵ smaller concentrations of finds of Vekerzug-type iron horse bits were documented in Eastern Slovenia¹⁶ and in the Ferigile culture, with sporadic finds elsewhere in Central Europe – Poland, Eastern Austria, Transdanubia, Eastern Bohemia¹⁷ –, and Southeastern Europe – Croatia, Bosnia, Serbia (Fig. 5; see e.g. Bochnak/Skowron 2022, fig. 32: 1–6; 33; Jevtić 2006, fig. 18: 13–16; Kemenczei 2009, 181, list 5; Kozubová 2021, 94, footnote 36, with references; Kvietok 2017, 455, pl. VI: 17; Măndescu 2019, fig. 6: 1; Romsauer 1993, fig. 10: 3; pl. VI: 25; Werner 1988, 12–30, Taf. 1: 7; 2–13; 14: 83–93; 68A). The two easternmost finds come from Southwestern Ukraine (Nevytske/Невицьке/Uzhhorod Raion; Perebykivtsi/Перебіківці/Dnistrovskyi Raion; Kemenczei 2001–2002, 45, with references, fig. 12: 15; Smirnova 1993, fig. 7: 4).

In the VC, finds of snake-shaped temple rings of types I and II according to A. Kozubová (2013a, 27, 28, fig. 4), cowrie shells, mirrors and clay stamps are related exclusively to the female sphere (see more Kozubová 2013a, 171–177, 197, 198 for structure of grave goods). Most of the snake-shaped temple rings¹⁸ from Transdanubia belong to type I (Fig. 3: 12) with plain body with a circular section and with or without a preserved conical head (Cat. Nos. 1, 2A, 6, 12E, 22B, 28, 29A, 38A; Chochorowski 1985, fig. 6:

¹⁴ At least 113 battle axes of types I and II are known from the territory of the VC (Kozubová 2021, 87).

¹⁵ As regards the construction, the bits of type Szentes-Vekerzug differ not only from the horse bits of Hallstatt culture, but also from the bits from the Late Bronze Age and Early Iron Age sites in Eastern Europe and in the Caucasus. In the Late Bronze/Early Iron Age, bronze horse bits with movable cheek-pieces also were used in multiple distribution areas, but they were likewise different from iron bits of the VC. Among all the horse bits with unmovable connection of the mouthpiece with cheek-pieces, the riveted attachment of cheek-pieces was only detected with bits of type Szentes-Vekerzug. This fact probably indicates their autochthonous development, in which the regions to the west and east of the VC and the domestic base played no role (Kozubová 2011, 74; 2021, 92, footnote 41).

¹⁶ These horse bits are evidence for cultural contacts of the local Hallstatt population with the VC, not as evidence of Scythian influences (see footnote 15; see also Kozubová/Fojtík 2021, 78).

¹⁷ An unpublished find from Myštěves (Hradec Králové District). I thank Dr. Tomáš Mangel (Hradec Králové) for the information.

¹⁸ See Ilon 2017b, 97 for an overview of their terminology.

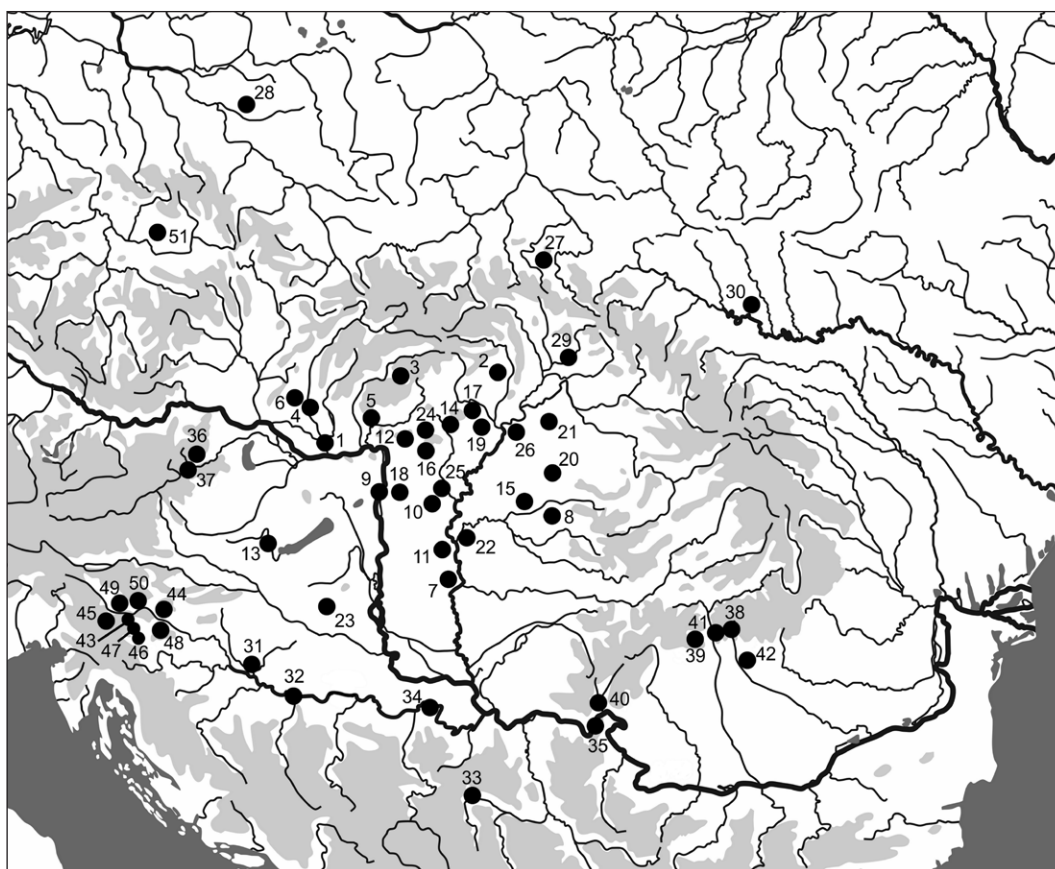


Fig. 5. The distribution of iron horse bits of type Szentes-Vekerzug. *Slovakia*: 1 – Chotín IA; 2 – Košice; 3 – Lubietová, Vysoká; 4 – Nitra-Dolné Krškany, Nitra-Mikov dvor; 5 – Preseľany nad Ipľom; 6 – Radošina, Pri Kornútovej chate. *Ungarn*: 7 – Algyó, Bartók Béla utca; 8 – Ártánd, Zomlin puszta; 9 – Budapest-Soroksár, Akácós-dűlő; 10 – Cegléd; 11 – Csanytelek, Újhalastó; 12 – Cserhátszentiván; 13 – Csereszegtomaj; 14 – Eger-Nagy Eged; 15 – Füzesgyamart; 16 – Gyöngyös; 17 – Miskolc-Diósgyőr, Kerekdomb; 18 – Nagytarcsa; 19 – Nyékládháza-Mezőnyék; 20 – Nyírmárfalva, Kutya-bagos puszta; 21 – Nyíregyháza, Nyírfu utca; 22 – Szentes-Vekerzug; 23 – Szentlőrinc; 24 – Szurdokpüspöki; 25 – Tápiószéle, Szumrák; 26 – Tiszavasvári, Csárdapart, Tiszavasvári, Dózsa-telep. *Poland*: 27 – Międzybrodzie; 28 – Wymysłowo. *Ukraine*: 29 – Nevytske/Невицьке; 30 – Perebykivtsi/Перебиківці. *Croatia*: 31 – Sisak. *Bosnia and Herzegovina*: 32 – Donja Dolina. *Serbia*: 33 – Atenica; 34 – Badovinici; 35 – Mihajlov ponor. *Austria*: 36 – Oberpullendorf; 37 – Schandorf. *Romania*: 38 – Curtea de Argeș; 39 – Ferigile; 40 – Ieșelnița; 41 – Tigveni; 42 – Valea Stâni. *Slovenia*: 43 – Brezje pri Trebelnem; 44 – Libna; 45 – Magdalenska gora; 46 – Novo mesto; 47 – Stična; 48 – Šmarjeta; 49 – Vače; 54 – Zagorje ob Savi. *Czechia*: 51 – Myštěves. Graphic by A. Kozubová, after Werner 1988, with additions by A. Kozubová.

15, 19; Horváth 2015, fig. 5: 19; Ilon 2017b, 98, 100, pl. I: 1, 8–10; II: 1; Kemenczei 2008–2010, 108; Schwel-l-nus 2011, fig. 8: E; Soós 2020, fig. 3: 1; Soós/Tarbay/Péterváry 2023, 130, pl. 5: 3). Only five snake-shaped temple rings of type II with segmented body and with or without a preserved conical head (Fig. 3: 11) were found in Transdanubia (Cat. Nos. 13, 28, 29B, 38A; Chochorowski 1985, fig. 6: 17; Jerem 1981b, fig. 7: 12, 13; Párducz 1965b, 275, 276; Soós/Tarbay/Péterváry 2023, 130, pl. 5: 1). Both types are very homogeneous typologically and their finds in Central Europe are concentrated in the territory of the VC (see Kozubová 2018, table 1; 2019, 106–109, fig. 28; 31; Kozubová/Fojtík 2021, 81, 83, 86, fig. 17; for new finds see e.g. Keresztes et al. 2021, pl. 4: 2; 6: 5). While type I was found outside its main distribution territory in Eastern Hungary and Southwestern Slovakia, type II remains restricted to the territory of the VC, with a few exceptions from Transdanubia (see above) and Central Moravia (Měrovice nad Hanou, Babiny/ Přerov District; Bartík et al. 2017, 52, fig. 5: 112). Smaller concentrations of type I were documented in Moravia and Northwestern Hungary. With the exception of six snake-shaped temple rings from Northwestern Romania, Transylvania and Transcarpathia, type I was not found east of Hungary. The westernmost temple ring of type I was found at Břežánky (Tepllice District) in Northern Bohemia and

its northernmost find comes from Stary Machnów (Tomaszowski County) in Southeastern Poland (see Kozubová/Fojtík 2021, 81, 83, 86, with references, footnote 39, with references, fig. 17; see also e.g. Bartík et al. 2017, 43, 48, 54, fig. 5: 9, 57, 64, 132, 134; Ilon 2017b, fig. 1; Kozubová et al. 2022, Cat. No. 1: 2, 9, 22, 31B; Némethi 1982, 123, fig. 8: 13, 14; 13: 21, 22). The snake-shaped temple rings as head ornaments of exclusively female costume can be documented as local and specific for the material content of the VC (see more Kozubová 2018; 2019, 108, 109, 149). Their considerable popularity corresponds to their broad dating to Ha D1–Lt A (Kozubová 2013a, 29–31). Of the Transdanubian snake-shaped temple rings, only those from grave 1 from Alsónyék, Hosszú-dűlő (Tolna County), can be dated precisely to Lt A, those from settlement feature 268 at Alsópáhok, Hévízdomb I (Zala County), to Ha D1–Ha D2, those from grave 29 at Sopron, Krautacker-dűlő (Győr-Moson-Sopron County), to Ha D2–Ha D3, and those from Late Hallstatt settlement feature 168 at Sopron, Krautacker-dűlő (Cat. Nos. 1, 2A, 29A, 29B). Other Transdanubian specimens are either stray finds with a dating from Ha D1 to Lt A (Cat. Nos. 12E, 13, 22B, 28, 38A), or come from settlement features with a broader dating to Ha D, possibly with an overlap into Lt A (Cat. No. 6).

Grave 1 at Alsónyék, Hosszú-dűlő, from Lt A contained one small bronze circular ear/temple ring with meeting rounded ends of variant II according to A. Kozubová (2013a, 32, fig. 6), in addition to a snake-shaped temple ring of type I (Fig. 3: 14; Cat. No. 1; Soós 2020, fig. 3: 2). Small bronze circular ear/temple rings of various shapes are relatively frequent grave goods at Vekerzug cemeteries (see more Kozubová 2013a, 32–34, fig. 6; 2018, 16). However, in Eastern Hungary and Southwestern Slovakia they are not chronologically significant, as they were documented during the whole existence of the VC (Kozubová 2013a, 33, 34; 2019, 107).

In Transdanubia, shells of molluscs – gastropods of the genus *Cypraea* (Fig. 3: 15) have only been documented at two sites: 47 specimens in graves 1, 13, 18 and 29 at Sopron, Krautacker-dűlő (Győr-Moson-Sopron County), and three pieces in a grave at Tolna-Mőzs, Icsi-dűlő (Tolna County; Cat. Nos. 29B, 35; Jerem 1981a, pl. 3: 11, 13; 1981b, fig. 7: 5; Kovács 2008, 232, 233, 427). In Europe in the Iron Age, small cowrie shells of the species *Cypraea annulus* and *Cypraea moneta* were distributed in two territories: one in the East European steppe and forest-steppe zones, in the North and Central Caucasus and in the Western and Northwestern Black Sea region (see e.g. Bruyako 2007, fig. 1; appendix; Kovács 2008, 56, 57, 66–77; Kozubová 2013a, 50, with references; Teleaga/Zirra 2003, 83, 84, map 84),¹⁹ the other in the eastern part of the Carpathian Basin in graves of the VC (almost 400 specimens) and Ciumbrud culture (almost 200 pieces; Kozubová 2019, 100, 101; Kozubová et al. 2022, fig. 9; for new finds in the VC see Keresztes et al. 2021, pl. 3: 2, 3).²⁰ West and south of the main area of distribution in the East Carpathian region, cowrie shells in Central Europe were sporadically found in Transdanubia, Moravia, Upper Austria, Southwestern Germany and Northeastern Serbia (Bartík et al. 2017, 49, 54, 55, fig. 6: 137, 138; Ljuština/Radišić/Ninčić 2019, fig. 2; Schönfelder 2001, 318, 319, fig. 6: 7; table 1). The concentration of cowrie shells in Northern and Eastern Bohemia and Northeastern Poland (in Pomeranian culture), which are geographically quite distant from the primary occurrence of cowrie shells in the eastern part of the Carpathian Basin, is surprising (Kovács 2008, 80, 81, 239, 240; Kozubová et al. 2022, Cat. No. 1: 3, 5, 7, 14, 15B, 18B, 19B, 20, 27, 29B, 35, 36B, 37A–37C; Malinowski 1982, 118–120).²¹ However, no cowrie shells were found in the Polish Silesia and, surprisingly, in Southeastern Poland (Kozubová/Fojtík 2021, fig. 18). In the Ciumbrud culture, cowrie shells were found in graves from Ha C2b–Ha D1 phases. Although their occurrence in the VC is broadly dated from early Ha D1 to late Ha D3, possibly to Lt A, they are primarily concentrated in the Late Hallstatt period (Kozubová 2013a, 49–51, footnote 80; 2019, 100, 101). Cowrie shells found in the graves from Sopron, Krautacker-dűlő, are also dated to the Late Hallstatt period. The grave at Tolna-Mőzs, Icsi-dűlő, is tentatively dated to the 6th–5th centuries BC (Kovács 2008, 232, 427).

The goods in grave 29 from Sopron, Krautacker-dűlő (Győr-Moson-Sopron County; Fig. 3: 10; Cat. No. 29B), also included a bimetallic mirror of type II or type Chotín according to A. Kozubová (2019, 126). The iron handle is decorated with bronze applications in the shape of a fan at the upper end and square

¹⁹ On dating of cowrie shells in Eastern Europe and in the Caucasus see Bruyako 2007, 231; Kozubová 2013a, 50, footnote 78; Treyster 2021, 25.

²⁰ Their occurrence in the Vekerzug and Ciumbrud cultures could be related either to the Caucasus region, from where they could have reached the East Carpathian region via the East European steppe and forest-steppe, or to the Western or Northwestern Black Sea region, which could have been reached from the Red Sea via the Eastern Mediterranean (Kozubová 2013a, 49–51, with references; Kozubová/Fojtík 2021, 86, footnote 41).

²¹ The cowrie shells probably reached the lower course of the Visla River from the Eastern Carpathian Basin in a northerly direction along the so-called Tarnobrzeg-Vekerzug Amber Road (see Dziegielewski 2017, 328; Kozubová 2019, 101, 102).



Fig. 6. Clay stamps from Ha D-Lt A found in Transdanubia. 1, 3 – Alsópáhok, Hévízdomb I (Cat. No. 2A); 2, 5 – Keszthely, Apátdomb (Cat. No. 14); 4 – Budaörs, Kamaraerdei-dűlő (Cat. No. 8); 6 – Százhalombatta (Cat. No. 30); 7 – Tokod-Altáró, Erszébet akna (Cat. No. 34); 8 – Zalaszentmihály (Cat. No. 41); 9–11, 13, 14, 19 – Velem, Szent Vid-hegy (Cat. No. 38A, 38B); 12 – Pomáz, Zdravlyák-dűlő (Cat. No. 22A); 15 – Budapest-Csúcshegy, Harsánylejtő (Cat. No. 9); 16 – Sopron, Krautacker-dűlő (Cat. No. 29A); 17, 18 – Sopron, Himmelstrom (Cat. No. 29C); 20 – Bátaszék, Körtvélyes-dűlő (Cat. No. 5); 21 – Sé, Doberdó (Cat. No. 27B). After Chochorowski 1985; Horváth 2015; Ilon 1999; Kemenczei 2008–2010; Kisfaludi 1997; Schwelhnus 2010; Tóth 2017. Different scales. Graphic by A. Kozubová.

at the lower end (*Jerem 1981b*, fig. 7: 11).²² The occurrence of mirrors with a side handle at the Early Iron Age sites in the East Carpathian region represents a foreign element taken from the North Pontic region; however, it is not an eastern or Scythian element in the material content of the Vekerzug and Ciombrud cultures.²³ These mirrors show links between the VC and the ancient Greek milieu in the Northwestern Black Sea region. It is an ancient Greek element in the material content of the VC. They may have reached the VC from production and distribution centres in the Greek colonies in the Northwestern Black Sea region directly or indirectly via the Ukrainian forest-steppe zone (see more *Kozubová 2019*, 125–127 on this topic). Given their morphological peculiarities, bimetallic mirrors from sites of the VC are local products dated to the Late Hallstatt period (more precisely to Ha D2–Ha D3). In Ha D3 at the latest, they completely replaced the bronze Borisfen-type mirrors with zoomorphically decorated handles²⁴, imported from the East. These were used throughout the 6th century BC (see *Kozubová 2013a*, 83; 2019, 126, 127). In addition to the mirror from Sopron, Krautacker-dűlő, another three bimetallic mirrors of type II were documented in the Carpathian Basin, all of them at sites of the VC: in cremation grave at Aldebrő, Ilona-tábla (Heves County/HU; *Gutay et al. 2021*, fig. 35), in cremation grave 76/53 at Chotín IA (Komárno District/SK; *Kozubová 2013b*, 32, tab. 24: 16), and in cremation grave 38 at Hajdúnánás, Verestengerjártás (Hajdú-Bihar County/HU; *Fodor 2013*, 832, fig. 3). Except for the mirror from Aldebrő from Ha D1 (*Gutay et al. 2021*, 42), all the other specimens from the VC are dated to Ha D2–Ha D3 (*Kozubová 2019*, 126).

A total of 13 clay stamps (or pintadere) of the Vekerzug type (Fig. 3: 11; 6: 1–13) with typical geometric motifs on the sealing surface were found at eight sites in Transdanubia. Nine of them belong to group 1 according to J. Kisfaludi/F. Schweltnus or type I according to A. Kozubová given the large quadrangle (square or rectangular) or oval sealing surface with dimensions of over 5.0 cm (Fig. 6: 1–3, 5–8, 13; Cat. Nos. 2A, 14, 30, 34, 38A, 41). The remaining five specimens have a small sealing surface up to 5.0 cm and belong to group 2 according to J. Kisfaludi/F. Schweltnus or type II according to A. Kozubová (Fig. 3: 11; 6: 4, 9–12; Cat. Nos. 8, 22A, 38A; see *Kisfaludi 1997*, 76; *Kozubová 2013a*, 128–131; *Schweltnus 2010*, 211, 212). Compared to Transdanubia, clay stamps of type II are much more frequent in the VC than those of type I. Stamps of type II also have more variable decorative motifs on the sealing surface of circular, square, triangular, oval or rhombus shape (see more *Kisfaludi 1997*, fig. 3–12; *Kozubová 2013a*, fig. 43; 44; *Schweltnus 2010*, 212, 213, fig. 4; 5). Geometric motifs on the sealing surface like concentric rings (Fig. 6: 9) a double spiral (Fig. 6: 12), a schematised rosette (Fig. 6: 10, 11) and the swastika motif (Fig. 6: 4) were frequent on the Vekerzug clay stamps of type II (see e.g. *Kisfaludi 1997*, fig. 7: 5–17; 8: 1–6, 8; 9: 3–12, 17, 18; *Kovács/Németh 2023*, fig. 24: 6, 8, 9, 12, 13). Three basic geometric motifs can be distinguished for clay stamps of type I from Transdanubia: concentric rhombuses (Fig. 6: 5), rows of the swastika motif (Fig. 6: 1, 6–8) and one or more rows of a meander motif (Fig. 6: 2, 3, 13). While concentric rhombuses have direct analogies on both types of clay stamps from sites of the VC (see e.g. *Kisfaludi 1997*, fig. 3: 2; 6: 1; 10: 1–6, 10), the remaining two motifs from Transdanubia have local peculiarities. In the VC, the motif of a repeating swastika does not occur on stamps of type I and the meander motif has a rhombus shape (see e.g. *Kisfaludi 1997*, fig. 5: 1–3). Vekerzug-type clay stamps were found only sporadically outside the territory of the VC (here with approx. 150 pieces; *Kozubová 2019*, 136, fig. 35; *Kovács/Németh 2023*, 36, fig. 24; 25).²⁵ Smaller concentrations of these objects were found in Moravia (*Bartík et al. 2017*, 48, 53, fig. 6: 60, 61, 124) and in Transdanubia. With the clay stamp from Führholz (Völkermarkt District/AT; *Teržan 1998*, pl. 12: 7)

²² Bimetallic mirrors with a side handle from sites of the Vekerzug and Ciombrud cultures can be divided into three types based on the handle decoration (see more *Kozubová 2019*, 126). The iron handle of mirrors of type I (or type Tápiószéle) is decorated at the lower end with a double-sided volute (grave 8/61 from Chotín IB/Komárno District/SK; stray find from Tápiószéle, Sumrák/Pest County/HU; *Kozubová 2013b*, 118, pl. 92: 1–11; *Párducz 1966*, 45, pl. XXXVII: 1, 2). The handle of mirrors of type II (or type Chotín) is decorated at both ends with bronze applications of geometric shape – square/rectangle, fan/trapezoid. The iron handle of mirrors of type III (or type Törökszentmiklós) is not decorated (grave 71 from Törökszentmiklós, Surján/Jász-Nagykun-Szolnok County/HU; grave from Comlod/Județul Bistrița-Năsăud/RO; probably also a stray find from Csanytelek, Újhalastó/Csongrád-Csanád County/HU; *Kemenczei 2009*, 119, 158, pl. 16: 6; 128: 9; *Tézer 2005*, 9, fig. 12: 6a, 6b).

²³ Also in the East European steppe and forest-steppe, mirrors with a side handle do not have their origin in local cultures and cultural groups. They are mostly products of Greek workshops in the North Pontic region. Some of them, such as the bimetallic one, may have been produced locally according to Greek prototypes (see more e.g. *Kuznetsova 2002*; *Zuev 2018*).

²⁴ See their list in *Tézer 2005*, 5–9, 15–20, fig. 1; 8: 1a–1c, 4c, 4d; 9: 1a, 3a, 4a–4c; 10: 1b, 2a, 4a–4d; see also *Kemenczei 2009*, 66–68, 120, 122, 126, 138, 169, 171, 173, 174, 178, pl. 17: 3; 22: 1; 35: 9; 87: 12; 159: 1, 2; 162: 1; 171: 25; 177: 4; 178: 4.

²⁵ In the VC, this type of finds is local, unrelated to the cultural impulse from the Caucasian region (see more *Kozubová 2019*, 136, 137 on this topic). It is likely a periodically-occurring category of finds without genetic links to a previous period or links to foreign cultural impulses (*Schweltnus 2010*, 219).

from Ha D3, they represent the westernmost finds of Vekerzug-type stamps (Kozubová/Fojtík 2021, 88, 89, fig. 20). Clay stamps are finds that were used for a long time in the VC – from early Ha D1 to Lt A (Kozubová 2013a, 132, 133). Of the Transdanubian specimens, only those from settlement features 98 and 295 at Alsópáhok, Hévízdomb I (Zala County; Cat. No. 2A), and from grave 12 at Pomáz, Zdravlyák-dűlő (Pest County; Cat. No. 22A), can be dated precisely to Ha D1–Ha D2 (Horváth 2015, 245, 247, 249; Kemenczei 1977, 72, fig. 3: 6; 4: 8). Other Transdanubian specimens are either stray finds, or come from settlement features with a broader dating to Ha D, possibly with an overlap into Lt A.

In contrast to other areas of the Hallstatt culture (Moravia, Bohemia and Austria) with sporadic finds of Vekerzug wheel-turned pottery, Northwestern Hungary and Southeastern Poland have a higher concentration of this type of pottery outside its main distribution territory in Eastern Hungary and Southern Slovakia (see Kozubová/Fojtík 2021, 86–88, with references, fig. 19). The shapes of Vekerzug wheel-turned pottery from Transdanubian sites is limited to bowls and jugs, in contrast to the finds of bowls, jugs, bottles and vessels with a conical neck from settlements and graves of the Tarnobrzeg Lusatian and Pomeranian cultures in Southeastern Poland dated from Ha D2 to Lt A (Czopek 1993; 2012, fig. 4; table 1).²⁶ Fragments of a larger vessel with a conical neck or bottle from Koroncó, Bábota (Győr-Moson-Sopron County), are an exception (Cat. No. 17A; Czigáni/Molnár 2020, 99, pl. 9: 5). The collection of over 41 whole vessels and pottery fragments from 20 Transdanubian sites is dominated by biconical high-handled jugs of type I according to A. Kozubová (Fig. 3: 8; Cat. Nos. 12C, 22A, 22B, 22C, 24, 26, 27A, 38A, 39; Kozubová 2013a, 165, fig. 64) over bowls with a inverted rim of type I according to A. Kozubová (Fig. 3: 16; Cat. Nos. 3, 4, 15, 17A, 21, 24, 25, 34; Kozubová 2013a, 162, fig. 63).²⁷ The typologically variable biconical jugs and bowls with an inverted rim are the most typical and widespread shapes of local wheel-turned pottery at cemeteries and settlements of the VC (see e.g. Czifra et al. 2017, 266; Kozubová 2013a, 162–165; Romsauer 2019, 32, 33). Many shapes of wheel-turned pottery, especially jugs and some types of bowls (including type I), were present during the whole existence of the VC without significant morphological changes. Consequently, their chronological sensitivity is insufficient and they are unsuitable for precise dating (Kozubová 2013a, 158–168; Romsauer 2019, 31–33). Many of the wheel-turned vessels from sites in Transdanubia are stray finds (Cat. Nos. 4, 15, 22B, 22C, 25, 26, 34, 38A, 39). Other vessels were found in settlement features and graves without chronologically significant accompanying finds with broader dating to Ha D or Lt A (Cat. Nos. 3, 12C, 12D, 21, 24, 40). Other finds of wheel-turned pottery come from the Late Hallstatt to Early La Tène find contexts (Cat. Nos. 12A, 17A, 27A, 29A).²⁸

Second group of origin

The second group of origin is related to the first group of origin. It includes artefacts that had precursors in the material content of the VC, in Transdanubia they appeared already in a modified, local form (snake-shaped temple rings of types III; clay stamps; Fig. 1: 5, 9, 27B, 29A–29C, 38B; 3: 19, 20).

Seven snake-shaped temple rings, classified as typologically very variable type III according to A. Kozubová (2013a, 28, fig. 4), were found at three sites in Transdanubia. It covers specimens with a plain body of square and polygonal sections (Fig. 7: 1, 2, 8, 10). However, some temple rings have embossed body (longitudinal band: plain or with a wave or fishbone motif or with transverse or vertical grooves; multiple longitudinal bands; small holes; Fig. 7: 3, 5–7, 11), while others have a plain body with an animal or non-conical head (Fig. 7: 4, 12; see Kozubová 2019, 106). Snake-shaped temple rings of type III are rare in the VC and, with two exceptions,²⁹ they are stray finds with mostly a plain body of polygonal section (Kozubová/Fojtík 2021, 91, 92, with references, fig. 21). Outside the territory of the VC, type III was documented, besides Northwestern Hungary, in Moravia and two specimens were found in Northern Bohemia (Bartík et al. 2017, 52, 54, 55, fig. 5: 108, 109, 111, 127, 146; Kozubová et al. 2022, 289, fig. 8; Cat. No. 1: 4, 13). Snaked-

²⁶ A set of Vekerzug wheel-turned pottery comparable in quantity and variability of shapes to that in Poland comes from Late Hallstatt settlement features at Inzersdorf-Walpersdorf (St. Pölten District) in Lower Austria (Ramsl 1998, 27, 49, fig. 33; pl. 58: 360–368; 59: 369–372; 62: 409; 72: 547).

²⁷ Two bowls with a slightly funnel-shaped rim from Győr-Ménfőcsanak, Széles-földek (Győr-Moson-Sopron County), are an exception (Molnár 2007, 61, pl. 2: 3, 4).

²⁸ Grave 11 at Pomáz, Zdravlyák-dűlő, from Ha D1 is an exception (Cat. No. 22A; Kozubová 2013a, 60).

²⁹ Cremation grave 34/53 at Chotín IA (Komárno District/SK; Kozubová 2013b, 18, pl. 10: 5) and grave at Tiszakeszi, Fáy-kert (Borsod-Abaúj-Zemplén County/HU; Kemenczei 2009, 140, pl. 81: 13).

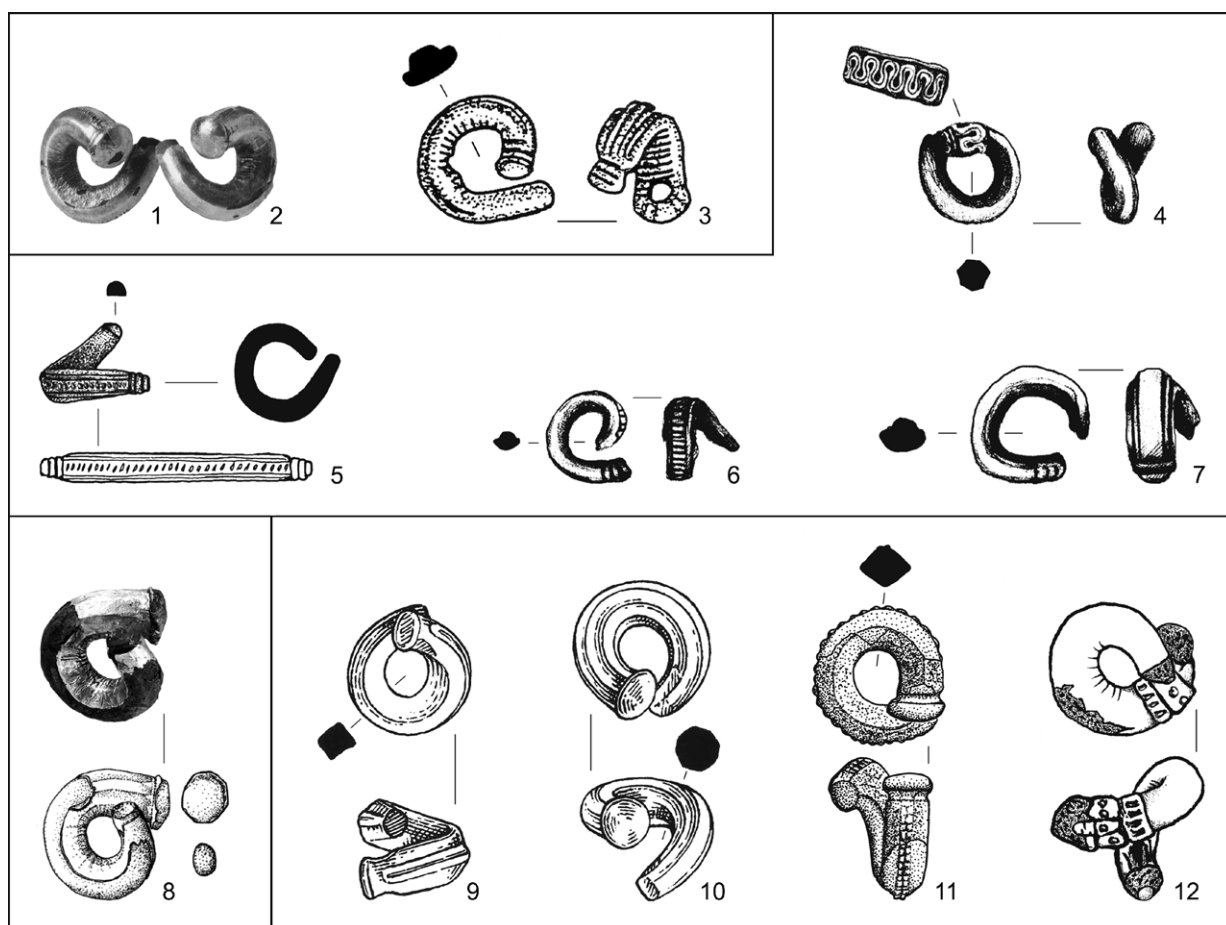


Fig. 7. Snake-shaped temple rings of type III according to A. Kozubová from Central Europe. 1, 2 – Kunszentmárton, Nagy-Éri-Főcsatorna (Jász-Nagykun-Szolnok County/HU); 3 – Tiszakeszi, Fáy-kert (Borsod-Abaúj-Zemplén County/HU); 4 – Sé, Doberdó (Vas County/HU); 5–7 – Velem, Szent Vid-hegy (Vas County/HU); 8 – Kozinec, Holubí háj (Praha-západ District/CZ); 9, 10 – Měrovice nad Hanou, Babiny (Prostějov District/CZ); 11 – Práche, U Prosiměřic (Znojmo District/CZ); 12 – Suchohrdly, Nad přehradou II (Znojmo District/CZ). Different scales. After Kozubová et al. 2022.

shaped temple rings of type III are typologically most diverse in Transdanubia, with variants (e.g. with longitudinal band with a wave or fishbone motif; Fig. 3: 20; 7: 4–6) that have not yet been found in the VC, in Moravia and Bohemia (Cat. Nos. 27B, 29B, 38B; *Ilon 2017b*, pl. I: 2, 3, 5–7; II: 2, 3, 5–7; *Jerem 1981b*, fig. 7: 14, 15). This finding could indicate their local production. Only specimens from grave 29 at Sopron, Krautacker-dűlő (Győr-Moson-Sopron County), from Ha D2–Ha D3 and from settlement feature 158 at Sé, Doberdó (Vas County), from Ha D3–Lt A can be dated with greater precision (*Gáll/Molnár 2004*, 162; *Jerem 1981b*, 108, 111; *Kozubová 2013a*, 82, footnote 162).³⁰

Eight clay stamps come from six sites in Transdanubia – their sealing surface is decorated in a way that is not typical for Vekerzug clay stamps or differs significantly (Fig. 6: 14–21). Smaller specimens from Budapest-Csúcshegy, Harsánylejtő (Pest County; Fig. 6: 15), and Sopron (Himmelstrom and Krautacker-dűlő/Győr-Moson-Sopron County; Fig. 6: 16–18; Cat. Nos. 9, 29A, 29C; *Kisfaludi 1997*, 92, fig. 12: 9, 10; *Schwellnus 2010*, fig. 1: 1a, 1b) with a sealing surface of rhombus or quadrangle shape are decorated geometrically – the hourglass motif, the multiple concentric rhombuses³¹ and the fishbone motif (combined with rows of small rectangles) have not yet been found in the VC. A clay with a sealing surface of square shape from Velem, Szent Vid-hegy (Vas County), decorated by a swastika motif combined with concen-

³⁰ The temple ring from settlement feature 3 (probably craft workshop) at Kozinec, Holubí háj (Praha-západ District/CZ), is dated to Lt A (*Stolžová/Šulová 2011*, 357, 362, fig. 8: 1; pl. 9: 2, 3).

³¹ The fragmented clay stamp from settlement feature 3817 at Hulín-Pravčice (Kroměříž District/CZ) is similarly decorated as specimens from Sopron, Himmelstrom (*Bartík et al. 2017*, 48, fig. 6: 61).

tric squares in three rows can also be included in this group (Fig. 6: 19; Cat. No. 38B; *Kisfaludi* 1997, fig. 5: 6). The swastika motif has been documented for the Vekerzug-type stamps, but not in combination with concentric squares. Although the clay stamps from Budapest-Csúcshegy, Sopron and Velem are a local variant, they were likely based on the Vekerzug-type stamps in shape and function. The same applies to the larger clay stamps with a sealing surface of square shape from Bátaszék, Körtvélyes-dűlő (Tolna County; Fig. 6: 20), Sé, Doberdó (Vas County; Fig. 6: 21), and Velem, Szent Vid-hegy (Fig. 3: 19; 6: 14), with schematic zoomorphic motifs – griffin (combined with the figure of a small four-legged animal), deer with claws or figure of an unidentifiable animal (Cat. Nos. 5, 27B, 38B; *Ilon* 1999, fig. 1; *Kemenczei* 2008–2010, fig. 1: 1; *Kisfaludi* 1997, fig. 1: 1). The decoration by stylised animal figures is not typical for the Vekerzug clay stamps and has only been documented for three specimens,³² each with distinctive decoration (see e.g. *Schwellnus* 2010, 214, 215, fig. 6). Only stamp from settlement feature 98 at Sé, Doberdó, can be dated precisely to Ha D3–Lt A (*Gál/Molnár* 2004, 162). In addition to Transdanubia, a small group of clay stamps from the second group of origin was also documented in Moravia (see more *Kozubová/Fojtík* 2021, 92, with references, fig. 14: 23–25).

Third group of origin

The third group of origin (Fig. 2: 10, 20, 23; 3: 21–23) includes types of artefacts distributed in the East European steppe and forest-steppe zones and in the North Caucasus (predominantly in the Ukrainian forest-steppe), where they occur in the material content of many cultures and cultural groups. They are very rare in Central Europe.

Antler cheek-piece with a hoof-like ending from Celldömölk, Ság-hegy (Vas County), is one of a kind in Transdanubia (Fig. 3: 21; Cat. No. 10; *Mozsolics* 1953, fig. 35; pl. XV: 8). Bone/antler cheek-pieces with zoomorphic endings (an animal head at one end and a hoof at the other) are typically associated with cultures/cultural groups of the early Scythian period (Ha C2–Ha D1) in the East European forest-steppe and partly also in the North Caucasus (see e.g. *Mohilov* 2008, 24–29, fig. 40–56), but they were used in the VC only sporadically (see below). Moreover, the finds from settlements of the VC are morphologically different from the East European specimens, which indicates their local origin (*Kozubová/Fojtík* 2021, 94, 95). On the other hand, a cheek-piece from Celldömölk, Ság-hegy, exhibits distinct similarities in shape with the East European finds. Only six similar cheek-pieces were documented in the Carpathian Basin,³³ where their occurrence had only an episodic character.³⁴ This type of horse harness, unlike iron horse bits of type Szentes-Vekerzug (see above), was not widely used in the VC.

Burial mound from Regöly, Strupka-Magyar birtok (Tolna County), contained a total of 900 whole and fragmented iron (790) and bronze (110) components of *scale armour* (Fig. 3: 22), which were found in several layers (Cat. No. 23; see *Horváth/Szabó* 2015, 101). Protective armours composed of hundreds of similar metal scales, as we know them from Regöly, were commonly found in graves in the East European steppe and forest-steppe zones and in the North Caucasus during the whole Early Iron Age.³⁵ The finds of such armours, often in association with warrior belts, are known here from at least 350 sites (see e.g. *Černenko* 2006; *Kozubová* 2013a, 111, footnote 219, with references; *Măndescu* 2023, 222–224). In the Carpathian Basin, metal parts of scale armour are evidenced in only nine sites, the biggest number of them comes from Regöly (Fig. 8). Outside the Carpathian Basin, similar bronze and iron scales were found also in burial mound 2 at Jalžabet (Varaždin County) in Northwestern Croatia (*Šimek* 1998, 500, 501, 509, fig. 8: 5, 6, 8) and in burial mounds 7, 8, 11, 12, 22, 24 and 26 at Valea Stâinii (Argeş County) in Southern Romania (*Măndescu*

³² Gyula (Békés County/HU), Kecel (Bács-Kiskun County/HU) and Preseľany nad Ipľom (Levice District/SK; *Kisfaludi* 1997, 88, 92, fig. 2: 2–4).

³³ Five pieces from sites of the VC in Eastern Hungary: Aldebrő, Ilona-tábla (Heves County; two settlement finds; *Gutay et al.* 2021, fig. 25; 26), Mátraszele (Nógrád County; grave; *Kemenczei* 1986, 122, fig. 3: 2), Pusztataskony, Ledence 1 (Jász-Nagykun-Szolnok County; feature 484; *Tot* 2015, fig. 2), Budapest-Rákospalota, Újmajör (Pest County; feature 128; *Horváth* 2002, 106, fig. 10: 6).

³⁴ Outside the Carpathian Basin, a cheek-piece with zoomorphic endings at Habrůvka-Býčí skála (Blansko District/CZ), was found, which is most similar to the one from Budapest-Rákospalota, Újmajör. It is probably a locally modified product based on East European forest-steppe precursors, made either in the VC or directly in Moravia (*Bartík et al.* 2017, 45, fig. 6: 28; *Kozubová/Fojtík* 2021, 94, 95).

³⁵ Their oldest finds here are dated to the late 8th century BC, but most of the scale armor is evidenced in graves from the 4th and 3rd centuries BC (*Černenko* 2006, 135).

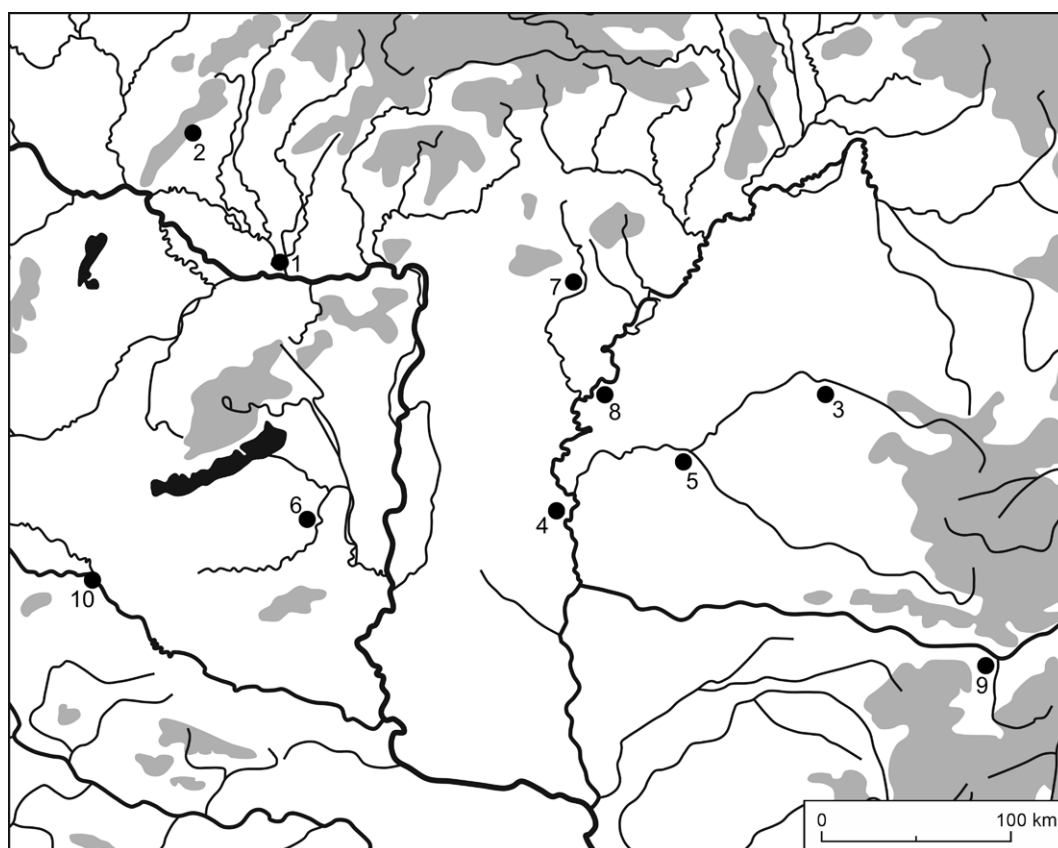


Fig. 8. The distribution of metal armour scales from Ha D in East-Central Europe. *Slovakia*: 1 – Chotín IA; 2 – Smolenice, Molpír. *Ungarn*: 3 – Ártánd, Zomlin puszta; 4 – Csanytelek, Újhalastó; 5 – Csárdaszállás, Hanzéltanya; 6 – Regöly, Strupka-Magyar birtok; 7 – Tarnabod, Téglásdomb; 8 – Törökszentmiklós, Surján. *Romania*: 9 – Simeria. *Croatia*: 10 – Jalžabet. Author A. Kozubová.

2023, 222, fig. 1; 2). The interpretation of scale-shaped objects from sites in the Carpathian Basin (six of them are Vekerzug sites) as armour scales is not entirely clear. The finds from Ártánd, Zomlin puszta (Hajdú-Bihar County/HU; *Párducz 1965a*, 145, pl. XI: 1–22; XII: 1–26; XIII: 1–28), Jalžabet, Regöly and grave 1 at Tarnabod, Téglásdomb (Heves County; *Párducz 1969*, 38, pl. III; IV), can with no doubts be considered as parts of scale armour, but the remaining assemblages of finds³⁶ do not enable such indisputable interpretation. Each of these assemblages contained one to five scale-shaped objects, whose interpretation as components of scale armour might rather indicate their symbolic deposition in the grave (*Kozubová 2013a*, 111; 2019, 91, 92). The occurrence of scale armour in the Carpathian Basin had only an episodic character, chronologically delimited by the Ha D1 phase (*Kozubová 2013a*, 111, 112; *Šimek 1998*, 509).

The third group of origin includes stray finds of four *bronze rattles* decorated with schematic animal figures from Mihályfa, Fenyő-s-dűlő (Zala County), despite the fact that their occurrence in Transdanubia is probably related to activities of the VC (Fig. 3: 23; Cat. No. 20). The main distribution territory of similar artefacts is located in the North Caucasus and in the Ukrainian forest-steppe – on the early Scythian sites (see e.g. *Frunt 2023*; *Illins'ka 1963*; *Kemenczei 2009*, 62, 63, with references; *Perevodchikova 1980*; *Ryabkova 2016*, 216, with references). Thirteen rattles from six sites have been documented in the VC (stray finds or finds with unclear circumstances of finding);³⁷ some of these could have been imported to the Carpathian Basin from the East, while other, given their stylish peculiarities, may have been local imitations of eastern

³⁶ Two graves at Csanytelek, Újhalastó (Csongrád-Csanád County/HU), grave 17 at Csárdaszállás, Hanzéltanya (Békés County/HU), cremation grave 86/54 at Chotín IA (Komárno District/SK), grave 3 at Simeria (Hunedoara County/RO), grave 90 at Törökszentmiklós, Surján (Jász-Nagykun-Szolnok County/HU; for references see *Horváth/Szabó 2015*, 102; *Kozubová 2013a*, 110, 111).

³⁷ Aszód (Pest County), Balassagyarmat (Nógrád County), Bánhorváti (Borsod-Abaúj-Zemplén County), Gyöngyös (Heves County), Nagytarcsa (Pest County), Szurdokpuszpöki (Nógrád County; *Kemenczei 2009*, 167, 168, 171, 175, pl. 144: 2; 145: 1, 3; 148: 1–6; 164: 1–3, 178: 1).

precursors (see *Kemenczei* 2009, 63; *Párducz* 1970, 52–55). However, it should be emphasised that rattles did not find their broader use in the VC. Unlike their territory of origin in the East European steppe and forest-steppe zones and in the North Caucasus, the occurrence of rattles in the eastern part of the Carpathian Basin was short-term and their further typological and chronological development was not documented here (*Kozubová* 2019, 136).

Fourth group of origin

A typologically homogeneous fourth group of finds (Fig. 2: 10, 12B, 12F, 17B, 17C, 23, 38B; 3: 24–33) consists of *bronze arrowheads with an outer socket* – specifically their older types (see *Kozubová* 2019, 62), whose occurrence in East-Central Europe (in the East Hallstatt milieu) is probably related either to the Middle Dnieper region or to the Middle Dniester region (to the Western Podolian group) and/or to Transylvania (to the Ciombrud culture; on this topic see more *Hellmuth* 2006, 137–154, fig. 115; 2010, 359, 360; *Hellmuth Kramberger* 2021, 172, 173, 175).³⁸ The older types of arrowheads with an outer socket are distributed in different Early Iron Age communities in the East European steppe and forest-steppe and in the North Caucasus (e.g. *Daragan* 2015; 2016; *Hellmuth* 2006, 15, with references; 2010). They are characterised by considerable typological variation and include the following groups and their variants in Transdanubia according to the typological scheme by A. *Hellmuth* (2006): biblade specimens of groups I.A, I.C and I.D (Fig. 3: 24–26; Cat. Nos. 10, 12B, 17B, 23, 38B; *Chochorowski* 1985, fig. 3: 2, 21; 6: 35; *Czigáni/Molnár* 2020, pl. 13: 3; *Szabó/Fekete* 2011, pl. 20: 13), triblade arrowheads of groups II.A, II.B, II.C, II.D and II.G (Fig. 3: 27–30, 32; Cat. Nos. 10, 12F, 38B; *Chochorowski* 1985, fig. 3: 3–9, 11, 13, 14, 17–20, 22–27; 6: 34, 36, 38; *Ilon* 2017a, fig. 8: 3), trilobate-triblade specimens of groups II.E or II.F (Fig. 3: 31; Cat. Nos. 10, 23; *Chochorowski* 1985, fig. 3: 10, 12; *Szabó/Fekete* 2014, pl. 113: RHF1.8.) and trilobate arrowheads of group III (Fig. 3: 33; Cat. Nos. 10, 17C, 38B; *Chochorowski* 1985, fig. 3: 16; 6: 37; *Czigáni/Molnár* 2020, pl. 9: 4). The arrowheads with an outer socket can be divided into two groups based on the frequency of their finds in Central and Eastern Europe. Arrowheads from the first group are common in both regions (groups I.A, II.B, III). However, specimens from the second group are not very common in Central or Eastern Europe (groups II.C, II.G; see *Kozubová/Fojtík* 2021, 66, 68, 69, with references). Several concentrations of arrowheads with an outer socket were found in Central Europe – in Moravia, Southwestern and Southeastern Poland and Transylvania, partly also in Bohemia and Eastern Slovenia (*Kozubová et al.* 2022, fig. 21). The largest set of these arrowheads (at least 400 pieces) comes from the Molpír hillfort in Smolenice (Trnava District/SK; *Hellmuth Kramberger/Čambal* 2019, 89). Arrowheads with an outer socket are not frequent in Transdanubia compared to other regions in Central Europe: out of 35 typologically reliably identified finds from six sites in its north-western part (Fig. 2), 26 specimens were found at the hillfort in Celldömölk, Ság-hegy (Vas County; Cat. No. 10). With the exception of finds from Regöly, Strupka-Magyar birtok (Tolna County; Cat. No. 23), arrowheads with an outer socket from Transdanubia are stray finds, or finds with unclear circumstances of finding. The exact dating of arrowheads with an outer socket from Central European sites continues to be a topic of ongoing debate – but remains problematic for the following reasons. This typological highly variable long-ranged weapon was used for a long time in the East – from the late 8th/early 7th to the mid-6th century BC (see e.g. *Daragan* 2015; 2016; 2017, 85–89; *Makhortykh* 2022, 106, 109). The majority of arrowheads from Central Europe were found by surface prospecting or are stray finds (see *Bartík et al.* 2017; *Hellmuth* 2006; *Kozubová/Fojtík* 2021; *Kozubová et al.* 2022; *Novák* 2017; 2020, with references). On the basis of some closed assemblages, such as the Molpír hillfort in Smolenice or the hillfort in Wicina (Żarski County/PL; here supported by dendrodata³⁹), the prevailing opinion among researchers is that the presence of arrowheads with an outer socket in East-Central Europe can be dated to the late 7th – the first quarter/the first half of the 6th century BC, i.e. to Ha D1 (e.g. *Chochorowski* 2014, 41; *Khokhorovski* 1994, 55, 57, 58; *Klápa* 2017, 71, 72, 74; 2019, 72, 73; *Novák* 2017, 205–207; 2020, 97).⁴⁰

³⁸ Some researchers suppose that inhabitants of the settlement agglomeration of the so-called Scythian-type hillfort at Chotyniec (Jarosław District) in Southeastern Poland may have participated in the distribution of some arrowheads with an outer socket to the west and southwest (see *Burghardt* 2020, 352, 353).

³⁹ According to dendrochronology, the time of the last repair of wooden defensive structures and thus the date of the destruction of the hillfort is determined to be circa 571 BC (*Krąpiec/Szychowska-Krąpiec* 2013, 371–374).

⁴⁰ The dating of these arrowheads and the related possible military activities, suggested by some authors (e.g. *Hellmuth* 2006, 154; 2010, 360–362, 364; *Hellmuth Kramberger* 2021, 176; *Szabó/Czajlik/Reményi* 2014, 6; *Tóth* 2019, 486) to occur as early as the late Ha C2 or Ha C2/Ha D1 phase (the third quarter or alternatively the second half of the 7th century BC), currently remains questionable due to the lack of well-dated finds.

CONCLUSIONS

The interpretation of the occurrence of finds of the eastern type in Transdanubia involves four key questions. In addition to establishing their cultural provenance and dating, it is also important to consider their find contexts and the related question whether their occurrence documents military activities or whether they represent a different form of contact or activity. The different find contexts of these artefacts and their varied cultural origin imply different reasons for their occurrence in Transdanubia and in other regions of the (Eastern) Hallstatt culture. The tendencies in the occurrence of finds of the eastern type in Transdanubia and in the neighbouring regions of the Eastern Hallstatt culture are similar (see e.g. *Kozubová/Fojtík 2021; Kozubová et al. 2022*). Finds of the VC (more than 211 pieces) and older types of arrowheads with an outer socket from the fourth group of origin (at least 38 pieces) are most frequent.

Finds of the VC were documented throughout the entire East Hallstatt region, in Bohemia, in the Central and Eastern Balkans and in Southeastern Poland (*Kozubová/Fojtík 2021, 91*). There are differences in the occurrence of Vekerzug finds in individual regions of the Eastern Hallstatt culture, such as the number of finds and their type variability. Moravia and Transdanubia are special in terms of the frequency and type variability of these finds (Fig. 1; 3: 1–18; *Kozubová/Golec 2020, fig. 1; 2*).⁴¹ In Moravia, the first group of origin is represented by weapons (arrowheads, battle axes), jewellery (snake-shaped temple rings, circular ear/temple rings, cowrie shells), wheel-turned pottery, Vekerzug-type clay stamps and spindle whorls (see more *Kozubová/Fojtík 2021, 80–91, fig. 14*). A comparable typological diversity of Vekerzug finds was also documented in Transdanubia; however, the first group of origin is complemented by other categories of artefacts (cross-shaped quiver decorations, horse bits, mirrors). In contrast to Moravia, where the first group of origin consists almost exclusively of stray finds and artefacts with unclear circumstances of finding, there is a higher frequency of Vekerzug finds in settlement features (dated generally to the Late Hallstatt and Early La Tène periods) and in graves in Transdanubia. There are several concentrations of finds of the VC in Transdanubia: in its north-western part (especially around Sopron, Győr and Velem), around Lake Balaton, in the Danube Bend area (including the Budapest area west of the Danube – the Buda side – and its surroundings) and also in the south-eastern part of Transdanubia on the right bank of the Danube (Fig. 1). The area of Budapest is significant in the debate on the interactions between the local Hallstatt communities of Transdanubia and the VC. Nine Vekerzug sites⁴² have been identified in the eastern part of the city (the Pest side), which shows that this side of Budapest was once part of the territory of the VC. There are also numerous Vekerzug sites around the city (see *Czifra et al. 2017; Kemenczei 2008–2010, 114, footnote 9, with references; Tézer 2011; Tóth 2019, 486, fig. 1*). On the other hand, several Hallstatt settlements were discovered in the western Budapest area (the Buda side) and its surroundings, which was the eastern border of the territory of the local Transdanubian Hallstatt group. Finds of the VC were found at some of those settlements, e.g. from Budapest-Csúcshegy, Harsánylejtő (Cat. No. 9) or Törökbalint, Topárk (Cat. No. 36; see more *Kemenczei 2008–2010, 116, footnote 10, with references; Tóth 2019, 486, 487, fig. 1*). Recently published cremation graves from Budapest-Békásmegyer, Északi városkapu, and Budapest-Nagytétény, Tétényliget, as parts of only partially excavated cemeteries of the VC document the infiltration of Vekerzug people west of the Danube (see *Tóth 2019, 476–484, fig. 2–5*). The Danube was often not only a natural border between Hallstatt and Vekerzug communities, but also a communication route. The above find complexes from the western Budapest area, along with the frequent presence of Vekerzug finds in the settlement features across Transdanubia show the relatively active contacts and peaceful interactions between the VC and the cultural regions to the west. On the basis of Vekerzug type graves from Békásmegyer and Nagytétény, we can consider the expansion of the VC into the western Budapest area and its surroundings. However, in other parts of Transdanubia, finds of the VC suggest closer cultural contacts between the local Hallstatt population and Vekerzug people. Also the cemetery at Szentlőrinc (Baranya County) is special with respect to the first group of origin, containing six horse burials in separate pits with or without bits of type Szentes-Vekerzug (Cat. No. 32; *Jerem 1968, 169–171*). They show the link between the Southern Carpathian Basin and the VC given the finds and the Vekerzug influences on the local funerary customs (see more *Kmeťová 2014, 250–253; 2018, 276–280 on this topic*).⁴³

⁴¹ For the occurrence of Vekerzug finds in other regions of the Eastern Hallstatt culture, in Bohemia and in Poland, see *Kozubová et al. 2022* (a recent overview).

⁴² Including the larger cemetery in Budapest-Soroksár, Akácós-dűlő (*Bencze/Böröczky/Szigeti 2010*).

⁴³ With the exception of horse burials in separate pits (Szentlőrinc), eastern influences are not evidenced in the funerary customs of the local Hallstatt communities of Transdanubia.

The contacts of the VC with the Eastern Hallstatt culture are evidenced by numerous types of finds (mainly jewellery and pottery, but also weapons and horse harness), both those of the Hallstatt type and those reflecting the Early Hallstatt traditions (see more *Kemenczei* 2009, 112, 113; *Kozubová/Horváth* 2019, 146, 150). Some of them, such as, e.g., Velem-type fibulae from Malé Kosihy (Nové Zámky District/SK), Zalaba (Levice District/SK), Bükkábrány, Bánya, and Sajópetri, Hosszúrét (both Borsod-Abaúj-Zemplén County/HU), belong to local specifics of the Transdanubian Late Hallstatt milieu (*Kemenczei* 2009, 76, with references; *Kovács/Németh* 2023, 40; *Romsauer* 1996, 434, 441, fig. 1; 2: 21).

Similar to Moravia, finds from the second group of origin are not frequent in Transdanubia (15 pieces) and they are concentrated at sites in its north-western part (with the exception of the clay stamps from Bátaszék/Tolna County and Budapest-Csúcshegy, Harsánylejtő/Pest County; Fig. 1). The group consists of the same categories of finds for which local production can be assumed (snake-shaped temple rings of type III, local variants of clay stamps; for Moravia see *Kozubová/Fojtík* 2021, 91, 92). In addition to the two above regions, the second group of origin was sporadically documented in Bohemia (snake-shaped temple rings of type III; see *Kozubová et al.* 2022, 289, 306) and Eastern Slovenia, where a local, already Early La Tène variant of the Vekerzug-type bits had been developed (of type II/variant A2 according to W. M. *Werner* 1988, 13, 14, 16, 17, fig. 4: A2; pl. 5: 24–26).

The significance of the finds from the third group of origin in Transdanubia is minimal due to their limited number – apart from 900 armour scales from one site (Regöly, Strupka-Magyar birtok/Tolna County) only five pieces from two sites are evidenced (Fig. 2). These types of artefacts are either unique in the Hallstatt milieu (rattles from Mihályfa, Fenyő-s-dűlő/Zala County) or similar finds are sporadically found in Moravia (cheek-piece from Celldömölk, Ság-hegy/Vas County). With a few exceptions from Transdanubia and Slovenia (one bronze drag decoration of the harness in shape of a bird's beak from Novo mesto, Malenškova gomila/Občina Novo mesto; *Guštin/Teržan* 1975, 190, pl. 3: 3), the occurrence of finds from the third group of origin in the Hallstatt region is limited to Moravia and Bohemia. In Moravia, this group is typologically more diverse than in Bohemia (see more *Kozubová/Fojtík* 2021, 92–95; *Kozubová et al.* 2022, 306, 307). The find contexts of artefacts from the third group of origin do not document a military cause of their occurrence in Transdanubia or in other regions of the Hallstatt culture.

The local find contexts (they are mostly stray finds) and the chronological classification of the objects in their regions of origin make it possible to date most finds of the eastern type from Transdanubia broadly to Ha D–Lt A, with the exception of the fourth group of origin probably from Ha D1 (see above). The exceptions include finds from the first and second groups of origin from settlement features and graves, which are generally dated to Ha D2–Ha D3 and Lt A.

Older types of arrowheads with an outer socket from Central European sites have more numerous analogies in the East European cultural milieu than specimens with an inner socket. This is related to their find contexts, which are different from the find contexts of arrowheads with an inner socket. Some of them were found in graves of the Ciumbrud culture, but they are also frequent at Hallstatt hill-forts west and north-west of the VC territory (in Southwestern Slovakia, Moravia, Southwestern Poland and Transdanubia), some of them in find contexts that are related to the horizon of their destruction (e.g. Smolenice, Molpír/Trnava District/SK, Celldömölk, Ság-hegy/Vas County/HU, Strzegom/Świdnica County/PL, Wicina/Żarski County/PL, probably also Provodov-Ludkovice, Rysov/Zlín District/CZ; see *Chochorowski* 2014, 32, with references; *Hellmuth* 2006; *Hellmuth Kramberger* 2021, 164–171, with references; *Novák* 2017; 2020).⁴⁴ Therefore, it is evident that the occurrence of arrowheads with an outer socket in the East Hallstatt milieu was related to a different phenomenon than the occurrence of arrowheads with an inner socket. It may have been due to the population migrations – and the resulting possible military activities – from Transylvania and/or the Middle Dniester region and/or the Middle Dnieper region (and possibly even from the Lower Volga region)⁴⁵ and/or the settlement agglomeration of the hillfort at

⁴⁴ Outside the territory of the Eastern Hallstatt culture a similar situation is evidenced also in the hillfort at Dédestapolcsány, Verebce-bérc (Borsod-Abaúj-Zemplén County), in Northeastern Hungary (*Szabó/Czajlik/Reményi* 2014).

⁴⁵ This hypothesis could be confirmed by new (stray) finds from the Early Iron Age hillfort at Dédestapolcsány, Verebce-bérc – a iron dagger of type Posmuş and three iron battle axes (*Szabó et al.* 2023, 608, fig. 6: 1–3, 6). In East-Central and South-eastern Europe, the Posmuş-type daggers represent an early variant of akinakes-type cutting weapons, with their main distribution area located in Transylvania at sites of the Ciumbrud culture (see more *Kozubová* 2021, 93, with references; *Topál* 2021, 91–95, fig. 30). Only one specimen has been known from Hungary until now – a stray find from Tiszabercel (Szabolcs-Szatmár-Bereg County; *Kemenczei* 2009, 139, pl. 91: 6). On the other hand, the three iron battle axes with a symmetrically located shaft hole are associated with the Ukrainian forest-steppe zone. Based on such typological features such as the very broad fan-shaped blade, the significantly thickened shaft hole on both sides, and the discoid or very broad hammer-

Chotyniec (Jarosław District) in Southeastern Poland sometime during Ha D1. These may have been multiple waves of migration over time (see e.g. *Burghardt 2020*, 352, 353; *Chochorowski 1985*, 230–232; *2014*, 41, 42; *Hellmuth 2006*, 145, 149–154; *2010*, 340, 341, 359–365; *Hellmuth Kramberger 2021*, 171–176; *Khokhorovski 1994*, 55, 57, 58).⁴⁶

Among the finds of the eastern type, bronze arrowheads are most abundant in Transdanubia and in other regions of East-Central Europe. Arrowheads of the eastern type are an important element for the discussion on eastern influences on the individual groups of the Hallstatt and Early La Tène cultures in Central Europe, and also for the hypothesis that the finds of these arrowheads in the East Hallstatt region can be linked to the violent military activities of Scythian (or East European) equestrian nomads (see e.g. *Chochorowski 2014* for a broader discussion). However, it should be emphasised that the arrowheads of the VC (i.e. those with an inner socket⁴⁷) cannot be considered as evidence of violent military activities. Their distribution to Central and Southeastern Europe was influenced by other factors than was the case for arrowheads with an outer socket, such as cultural and trade contacts, transfer of technological innovations or VC's effort to build a sphere of influence (*Kozubová/Golec 2020*, 357). The interpretation of the occurrence of finds of the eastern type cannot be based on arrowheads alone. Other weapons of the eastern type and a number of other categories of finds are also represented at Central European sites, which are related to either an exclusively female (jewellery, clay stamps, mirrors) or a non-military sphere (wheel-turned pottery). Relatively numerous Vekerzug wheel-turned pottery comes in Transdanubia from find contexts with local, Late Hallstatt pottery production. However, the occurrence of weapons does not automatically document military activities by strangers because weapons (including arrowheads) and horse harness of the VC in the East Hallstatt region were found among grave goods of local Hallstatt communities (they are often of elite nature – see Slovenia; *Kozubová/Fojtík 2021*, 78, 96, 97; *Teržan 1998*, 528–530). An other than destructive type of relations of Transdanubia and other regions of the Eastern Hallstatt culture with eastern neighbouring cultural regions (especially with the VC) is also documented by the finds from the second and partly the third group of origin (locally-modified types of objects based on Vekerzug and other eastern precursors). Therefore, the finds of the VC indicate its active, far-reaching interregional contacts in the Ha D and Lt A stages. Arrowheads with an inner socket point to a new tradition in production of efficient weapon types in East-Central Europe and are, above all, an indicator of technological innovations and not an evidence for the influx of foreign populations from the VC and/or from Eastern Europe (*Kozubová 2019*, 64). A slightly different situation is documented for arrowheads with an outer socket: their higher frequency at some hillforts in Moravia, Southwestern Poland and Southwestern Slovakia could indicate local military activities (see more e.g. *Hellmuth Kramberger 2021*). However, the mere occurrence of arrowheads at a site is not sufficient to argue for violent military activities, unless the arrowheads occur in find contexts that reliably confirm such destructive activities. While only arrowheads with an outer socket were documented from the hillfort at Celldömölk, Ság-hegy, in the hillfort at Velem, Szent Vid-hegy (both Vas County), occurred a few arrowheads with both an outer and inner socket as well as finds from the first and second groups of origin (all with unclear circumstances of finding).

shaped butt, specimens at Dédestapolcsány are morphologically different from the slender Vekerzug-type battle axes with a narrow fan-shaped blade (see e.g. *Burghardt 2015*, 152–154, fig. 6; *Kozubová 2019*, 73; *Melyukova 1964*, pl. 21: 8–23; *Shelekhan' 2012*, 5–7, fig. 1–3). One of the two massive battle axes from Dédestapolcsány (*Szabó et al. 2023*, fig. 6: 3) has close parallels e.g. to axes from Kruhlyk/Круглик (Dnistrovskyi Raion) and Vovkivci/Вовківці (Romny Raion; *Melyukova 1964*, pl. 21: 19; *Smirnova 1993*, fig. 4: 7). A specimen with a discoid butt (*Szabó et al. 2023*, fig. 6: 1) has direct analogies especially among the finds from the Middle Dnieper region (see *Burghardt 2015*, fig. 6: 4; *Melyukova 1964*, pl. 21: 11–15, 21).

⁴⁶ Given the large distances between hillforts in East-Central Europe where arrowheads with an outer socket have been found, and considering the uncertainties regarding the direction(s) from which attacks on these hillforts may have originated, it is not possible to automatically assign all sites with such arrowheads to the same time period.

⁴⁷ Arrowheads with an outer socket can not be connected with the VC. None of the closed assemblages of the VC (neither from graves nor from settlement features) have yet provided reliable evidence for the co-occurrence of arrowheads with both an outer and inner socket and thus the use of those with an outer socket by Vekerzug people (*Khokhorovski 1994*, 58; *Kozubová 2009*, 95, 96). A few exceptions from Eastern Hungary are: two bronze pieces from grave A at Sajószentpéter with a very archaic, for the VC completely atypical equipment and one bronze arrowhead from grave 71 at Alsótelekes, Dolinka (both Borsod-Abaúj-Zemplén County), one piece from Ha D3 grave 48 at Tiszavasvári, Csárdapart (Szabolcs-Szatmár-Bereg County), and one arrowhead from grave 26 at Hódmezővásárhely, Kishomok (Csongrád-Csanád County; see *Kemenczei 2009*, 123, 133, 156, 157, 163, pl. 19: 4; 59: 12, 13; 124: 31; 136: 2) – in both of the last-mentioned graves, most likely as antiquarian pieces.

CATALOGUE OF THE LATE HALLSTATT AND EARLY LA TÈNE FINDS
OF THE EASTERN TYPE IN TRANSDANUBIA
(Fig. 1; 2)

1. Alsónyék (Tolna County)

Location: Hosszú-dűlő.

Finding circumstances: cemetery (grave 1).

Finds: bronze snake-shaped temple ring (type I according to A. Kozubová; Fig. 3: 12); bronze circular ear/temple ring (variant I1 according to A. Kozubová; Fig. 3: 14).

Group of origin: first.

Dating: Lt A.

Literatur: *Soós 2020*, 51, fig. 3: 1, 2.

2A. Alsópáhok (Zala County)

Location: Hévízdomb I.

Finding circumstances: settlement (features 98, 147, 268, 295; stray find).

Finds: bronze triblade arrowhead with an inner socket (subvariant I3c according to A. Kozubová); fragment of a bronze trilobate-triblade arrowhead with an inner socket (variant II3 according to A. Kozubová); bronze snake-shaped temple ring (type I according to A. Kozubová); fragment of a clay stamp with a sealing surface of square or rectangular shape (group 1 according to J. Kisfaludi), with rows of a swastika motif (Fig. 6: 1); fragment of a clay stamp with a sealing surface of square or rectangular shape (group 1 according to J. Kisfaludi), with rows of a meander motif (Fig. 6: 3).

Group of origin: first.

Dating: Ha D1–Ha D2.

Literatur: *Horváth 2015*, 241, 245, 249, fig. 5: 19, 21, 22; 6: 27, 28.

2B. Alsópáhok

Location: Hévízdomb II.

Finding circumstances: settlement (stray find).

Finds: bronze triblade arrowhead with an inner socket (variant I3 according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Horváth 2015*, 241, 249, fig. 5: 23.

3. Balatonboglár (Somogy County)

Location: Berekre-dűlő.

Finding circumstances: settlement (pit from 1981).

Finds: wheel-turned bowl (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D.

Literatur: *Honti/Költő/Németh 1988*, 21, pl. VII.

4. Bába (Tolna County)

Finding circumstances: stray find.

Finds: wheel-turned bowl (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 102, fig. 2: 1.

5. Báticasék (Tolna County)

Location: Körtvélyes-dűlő.

Finding circumstances: settlement (without further information).

Finds: clay stamp with a sealing surface of square shape (group 1 according to J. Kisfaludi), with a zoomorphic motif (Fig. 6: 20).

Group of origin: second.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 102, with references, fig. 1: 1.

6. Bucsú (Vas County)

Location: Rétmelléki-dűlő II.

Finding circumstances: settlement (feature 77/a).

Finds: bronze snake-shaped temple ring (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Ilon 2017b*, 98, pl. I: 1; II: 1.

7. Budajenő (Pest County)

Finding circumstances: stray find.

Finds: bronze cross-shaped quiver decoration with zoomorphic ornaments (variant I2 according to A. Kozubová).

Group of origin: first.

Dating: Ha D1–Ha D2.

Literatur: *Kemenczei 1986*, 117, 118, fig. 2: 1; *Párducz 1954*, fig. 31: 1, 1a.

8. Budaörs (Pest County)

Location: Kamaraerdei-dűlő.

Finding circumstances: settlement (without further information).

Finds: clay stamp with a sealing surface of circular shape (group 2 according to J. Kisfaludi), with a swastika motif (Fig. 6: 4).

Group of origin: first.

Dating: Ha D– Lt A.

Literatur: *Ottományi 2008*, 50 with fig. 1; *Kemenczei 2008–2010*, 102, fig. 1: 3.

9. Budapest (Pest County)

Location: Csúcshegy-Harsánylejtő (in Budapest District III).

Finding circumstances: settlement (without further information).

Finds: bronze triblade or trilobate-triblade arrowhead with an inner socket (probably variant I3 or II3 according to A. Kozubová; without depiction in publication); fragment of a clay stamp with a sealing surface of square or rectangular shape (group 1 according to J. Kisfaludi), with a fishbone motif combined with rows of small rectangles (Fig. 6: 15).

Group of origin: first (arrowhead), second (clay stamp).

Dating: Ha D.

Literatur: *Tóth 2017*, 55, 61, Cat. Nos. 68, 69.

10. Celldömölk (Vas County)

Location: Ság-hegy.

Finding circumstances: hillfort (stray finds).

Finds: fragmented antler cheek-piece with three holes and a zoomorphic ending in the shape of a hoof (Fig. 3: 21); two bronze biblade arrowheads with an outer socket (groups I.A and I.D according to A. Hellmuth; Fig. 3: 24, 26); 20 bronze triblade arrowheads with an outer socket (2 × group II.A; 10 × group II.B, 4 × group II.C; 3 × group II.D; 1 × group II.G according to A. Hellmuth; Fig. 3: 27–30, 32); two bronze trilobate-triblade arrowheads with an outer socket (group II.E or II.F according to A. Hellmuth; Fig. 3: 31); bronze trilobate arrowhead with an outer socket (group III according to A. Hellmuth; Fig. 3: 33); fragment of a bronze arrowhead.

Group of origin: third (cheek-piece), fourth (arrowheads).

Dating: probably Ha D1.

Literatur: *Chochorowski 1985*, fig. 3: 1–27; *Kemenczei 2008–2010*, 102, fig. 3: 1, 3; *Molnár 2019*, fig. on page 20; *Mozsolics 1953*, 94, fig. 35; pl. XV: 8.

11. Cserszegtomaj (Zala County)

Finding circumstances: stray find.

Finds: iron bit of type Szentes-Vekerzug (variant I2 according to A. Kozubová; Fig. 3: 17).

Group of origin: first.

Dating: Ha D.

Literatur: *Kemenczei 1985*, 52, pl. 4: 4; *Párducz 1952*, 152, pl. LXI: 2; *Werner 1988*, 15, pl. 2: 10.

12A. Győr (Győr-Moson-Sopron County)

Location: Káptalandomb.

Finding circumstances: settlement (stray find).

Finds: fragment of a wheel-turned jug.

Group of origin: first.

Dating: Ha D2–Lt A.

Literatur: *Molnár/Ujvári 2020*, 404, 405, pl. 2: 1.

12B. Győr

Finding circumstances: stray find.

Finds: fragment of a bronze biblade arrowhead with an outer socket.

Group of origin: fourth.

Dating: probably Ha D1.

Literatur: *Bottlyán 1955*, pl. 36: 17; *Chochorowski 1985*, fig. 5: 3.

12C. Győr

Location: Ménfőcsanak, Széles/Eperföldek.

Finding circumstances: settlement, research from 1968 (finds from a feature).

Finds: fragments of two wheel-turned jugs (type I according to A. Kozubová); two fragmented wheel-turned bowls, with a slightly funnel-shaped rim; fragments of a wheel-turned vessel.

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Molnár 2007*, 61, pl. 2: 1–4; *2013*, 194, 198, fig. 8: 10–12.

12D. Győr

Location: Ménfőcsanak, Széles-földek.

Finding circumstances: settlement excavated between 2009–2011 (finds from features).

Finds: wheel-turned vessels (at least a bowl of type II according to A. Kozubová and two jugs).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Đurković 2015*, fig. 9: 7; *2016*, fig. 4: Nysz.1.34305.4205.27, Nysz.1.34305.7168.3, Nysz.1.34305.8424.8. *2017*,

12E. Győr

Location: Ménfőcsanak, Széles-földek.

Finding circumstances: stray finds.

Finds: 43 bronze triblade arrowheads with an inner socket (9 × variant I1; 21 × variant I2; 13 × variant I3 according to A. Kozubová; Fig. 3: 3–5); 16 bronze trilobate-triblade arrowheads with an inner socket (13 × variant II2; 3 × variant II3 according to A. Kozubová; Fig. 3: 6, 7); bronze trilobate arrowhead with an inner socket; four bronze snake-shaped temple rings (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Ilon 2017a*, 192, fig. 8: 1, 2, 4–14; *2017b*, 100, pl. I: 8–10; *2019*, 255, pl. I: 1–24; II: 1–24.

12F. Győr

Location: Ménfőcsanak, Széles-földek.

Finding circumstances: stray find.

Finds: bronze triblade arrowhead with an outer socket (variant II.3.D.a according to A. Hellmuth).

Group of origin: fourth.

Dating: probably Ha D1.

Literatur: *Ilon 2017a*, 192, fig. 8: 3.

13. Győrszemere (Győr-Moson-Sopron County)

Finding circumstances: stray find.

Finds: bronze snake-shaped temple ring (type II according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 105; *Molnár 2013*, 194, 198; *Párducz 1965b*, 275, 276.

14. Keszthely (Zala County)

Location: Apátdomb.

Finding circumstances: settlement (feature 126).

Finds: clay stamp with a sealing surface of rectangular shape (group 1 according to J. Kisfaludi), with a row of concentric rhombuses (Fig. 6: 5); clay stamp with a sealing surface of square shape (group 1 according to J. Kisfaludi), with rows of a meander motif (Fig. 6: 2).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Horváth 2015*, 245, 250, fig. 6: 41, 42; *Kemenczei 2008–2010*, 105, fig. 2: 8; *Kisfaludi 1997*, 88, with references.

15. Kesztlőc (Komárom-Esztergom County)

Location: Sármáczka-barlang.

Finding circumstances: stray finds.

Finds: fragments of wheel-turned bowls (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 105, with references.

16. Komárom-Esztergom County

Finding circumstances: find with unclear circumstances of finding.

Finds: bronze cross-shaped quiver decoration with zoomorphic ornaments (variant I1 according to A. Kozubová; Fig. 3: 2).

Group of origin: first.

Dating: Ha D1–Ha D2.

Literatur: *Fettich 1928*, pl. IX: 2, 2a; *Kemenczei 1986*, 122, fig. 2: 3.

17A. Koroncó (Győr-Moson-Sopron County)

Location: Bábota.

Finding circumstances: settlement (feature 133).

Finds: bronze triblade arrowhead with an inner socket (subvariant I3a according to A. Kozubová); bronze trilobate-triblade arrowhead with an inner socket (subvariant II2a according to A. Kozubová); fragmented wheel-turned bowl (type I according to A. Kozubová); fragments of two wheel-turned jugs; fragments of a larger wheel-turned vessel.

Group of origin: first.

Dating: Ha D2–Ha D3.

Literatur: *Czigáni/Molnár 2020*, 99, pl. 9: 3–9.

17B. Koroncó

Location: Templom-domb.

Finding circumstances: stray find.

Finds: bronze biblade arrowhead with an outer socket (variant I.3.C.a according to A. Hellmuth; Fig. 3: 25).

Group of origin: fourth.

Dating: probably Ha D1.

Literatur: *Czigáni/Molnár 2020*, 93, with references, 101, pl. 13: 2.

17C. Koroncó

Finding circumstances: stray finds.

Finds: fragmented bronze triblade arrowhead with an inner socket (variant I3 according to A. Kozubová); bronze trilobate arrowhead with an outer socket (variant III.2.a according to A. Hellmuth).

Group of origin: first (arrowhead of variant I3), fourth (arrowhead of variant II.2.a).

Dating: Ha D–Lt A (variant I3), probably Ha D1 (variant II.2.a).

Literatur: *Czigáni/Molnár 2020*, 94, 95, with references, 101, pl. 13: 3, 4.

18. Mezőlak (Veszprém County)

Finding circumstances: stray find.

Finds: bronze cross-shaped quiver decoration with zoomorphic ornaments (variant I2 according to A. Kozubová; Fig. 3: 1).

Group of origin: first.

Dating: Ha D1–Ha D2.

Literatur: *Fettich 1928*, pl. IX: 1, 1a; *Kemenczei 1986*, 122, fig. 2: 4.

19. Mezőörs (Győr-Moson-Sopron County)

Location: Alsó-tag.

Finding circumstances: stray finds.

Finds: bronze triblade arrowhead with an inner socket (subvariant I2b according to A. Kozubová); bronze trilobate-triblade arrowhead with an inner socket (subvariant II3b according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Molnár 2006*, 342, fig. 2: 3, 4; *2013*, 194, 198, fig. 8: 8, 9.

20. Mihályfa (Zala County)

Location: Fenyő-s-dűlő.

Finding circumstances: stray finds.

Finds: four bronze rattles of a conical shape decorated with schematic animal figures (Fig. 3: 23).

Group of origin: third.

Dating: Ha D1–Ha D2.

Literatur: *Bakay 1971*, pl. 12: 1, 2; *Kemenczei 2008–2010*, 105, with references, fig. 4: 6–9.

21. Pilismarót (Komárom-Esztergom County)

Location: Szobi-rév.

Finding circumstances: settlement (pit 41; finds from cultural layer).

Finds: fragments of at least three wheel-turned bowls (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D (probably Ha D2–Ha D3).

Literatur: *Wollák 1979*, 50–52, 55, fig. 4: 4, 7; 9: 5.

22A. Pomáz (Pest County)

Location: Zdravlyák-dűlő.

Finding circumstances: cemetery (graves 11, 12).

Finds: wheel-turned jug (type I according to A. Kozubová); clay stamp with a sealing surface of oval shape (group 2 according to J. Kisfaludi), with a double spiral motif (Fig. 6: 12).

Group of origin: first.

Dating: Ha D1 (grave 11), Ha D1–Ha D2 (grave 12).

Literatur: *Kemenczei 1977*, 70, 72, fig. 3: 7; 4: 2; *Kisfaludi 1997*, 92, fig. 9: 20.

22B. Pomáz

Location: Új-dúlő, Prekobrodica.

Finding circumstances: stray finds.

Finds: bronze snake-shaped temple ring (type I according to A. Kozubová); two wheel-turned jugs (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 108, fig. 5: 7, 8.

22C. Pomáz

Finding circumstances: stray find.

Finds: wheel-turned jug (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 108, fig. 5: 9.

23. Regöly (Tolna County)

Location: Strupka-Magyar birtok.

Finding circumstances: burial mound.

Finds: bronze biblade arrowhead with an outer socket (variant I.A.1.b according to A. Hellmuth); bronze triblade arrowhead with an outer socket, strongly deformed; bronze trilobate-triblade arrowhead with an outer socket, deformed (group II.E or II.F according to A. Hellmuth); at least three bronze arrowheads, strongly deformed (typologically not specified); 790 whole and fragmented iron scales and 110 whole and fragmented bronze scales (as components of scale armour; Fig. 3: 22).

Group of origin: third (scale armour), fourth (arrowheads with an outer socket).

Dating: Ha D1.

Literatur: *Horváth/Szabó 2015*, 111, fig. 3–5; *Szabó/Fekete 2011*, pl. 1: 1, 2; 20: 13, 14; 25: 1–12; 26: 8; 2014, 12, pl. 113: RHF1.8., RHF1.9.; 114: RHF1.33.–RHF1.53.; 120: RHF6.15–RHF6.19., RHF7.1–RHF7.7.; 123: RHF8.45–RHF8.84.; 126: RHF9.24–RHF9.26.; 131: RHF10.99–RHF9.104.

24. Románd (Veszprém County)

Location: Homokbánya.

Finding circumstances: inhumation grave.

Finds: wheel-turned bowl (type I according to A. Kozubová); wheel-turned jug (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 108, with references, fig. 5: 10, 11.

25. Sárkeresztes (Fejér County)

Location: Határialom.

Finding circumstances: stray find.

Finds: wheel-turned bowl (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 108, fig. 5: 12; *Párducz 1965b*, 276, pl. II: 7.

26. Sárkeresztúr (Fejér County)

Finding circumstances: stray find.

Finds: wheel-turned jug (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Bottán 1955*, pl. XXXII: 19; *Kemenczei 2008–2010*, 108.

27A. Sé (Vas County)

Location: Doberdó.

Finding circumstances: settlement (feature 114; destroyed pit).

Finds: bronze triblade arrowhead with an inner socket (variant II according to A. Kozubová); wheel-turned bowl (type I according to A. Kozubová); fragments of wheel-turned vessels (probably jugs).

Group of origin: first.

Dating: Ha D3–Lt A.

Literatur: *Gál/Molnár 2004*, 174, 175, pl. 10: 4–6; 13: 1.

27B. Sé

Location: Doberdó.

Finding circumstances: settlement (features 92, 158).

Finds: bronze snake-shaped temple ring (type III according to A. Kozubová; Fig. 3: 20); clay stamp with a sealing surface of square shape (group 2 according to J. Kisfaludi), with a zoomorphic motif (Fig. 6: 21).

Group of origin: second.

Dating: Ha D3–Lt A.

Literatur: *Gáll/Molnár 2004*, 172, 174, pl. 9: 1; 14: 1; *Ilon 1999*, fig. 1; *2017b*, 98, pl. I: 2; II: 2.

28. Somló-hegy (Veszprém County)

Finding circumstances: stray finds found in 2023.

Finds: bronze triblade arrowhead with an inner socket (variant II according to A. Kozubová); two bronze snake-shaped temple rings (types I and II according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A (temple rings), Ha D2–Ha D3 (arrowhead).

Literatur: *Soós/Tarbay/Péterváry 2023*, 128, 130, pl. 5: 1–3.

29A. Sopron (Győr-Moson-Sopron County)

Location: Krautacker-dűlő.

Finding circumstances: settlement (house 1; pits 7, 168, 236a; stray find).

Finds: two bronze triblade arrowheads with an inner socket (subvariant I3c according to A. Kozubová); bronze snake-shaped temple ring (type I according to A. Kozubová); wheel-turned jug; clay stamp with a sealing surface of rhombus shape (group 2 according to J. Kisfaludi), with a hourglass motif combined with concentric rings (Fig. 6: 16).

Group of origin: first (arrowheads, temple ring, jug), second (clay stamp).

Dating: Ha D2–Ha D3, alternatively Lt A.

Literatur: *Jerem 1981a*, pl. 1: 10; *Jerem et al. 1984*, 152, fig. 11: 168/1; *Schwellnus 2009*, 248; *2010*, 207, 208, fig. 1: 1a, 1b; *2011*, 368, 369, fig. 8: E, F.

29B. Sopron

Location: Krautacker-dűlő.

Finding circumstances: cemetery (graves 1, 13, 18, 29).

Finds: two bronze snake-shaped temple rings (type II according to A. Kozubová); two bronze snake-shaped temple rings (type III according to A. Kozubová); 47 cowrie shells (with removed dorsum; Fig. 3: 15); bimetallic mirror (type II according to A. Kozubová; Fig. 3: 10).

Group of origin: first (temple rings of type II, cowrie shells, mirror), second (temple rings of type III).

Dating: Ha D2–Ha D3, alternatively Lt A.

Literatur: *Jerem 1981a*, pl. 3: 5, 11, 13; *1981b*, 114, fig. 7: 5, 11–15; *Kovács 2008*, 232, 233.

29C. Sopron

Location: Himmelstrom.

Finding circumstances: settlement (stray finds).

Finds: two fragmented clay stamps with a sealing surface of square or rhombus shape, with multiple concentric rhombuses (Fig. 6: 17, 18).

Group of origin: second.

Dating: Ha D–Lt A.

Literatur: *Kisfaludi 1997*, 92, fig. 12: 9, 10.

30. Százhalombatta (Pest County)

Finding circumstances: stray find.

Finds: fragment of a clay stamp with a sealing surface of square or rectangular shape (group 1 according to J. Kisfaludi), with rows of a swastika motif (Fig. 6: 6).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 111, fig. 7: 14; *Kisfaludi 1997*, 93, fig. 4: 2.

31. Szekszárd (Tolna County)

Finding circumstances: stray find.

Finds: bronze trilobate-triblade arrowhead with an inner socket (subvariant II3b according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 111, with references, fig. 7: 11.

32. Szentlőrinc (Baranya County)

Finding circumstances: cemetery (horse burials 52, 58, 60, 61).

Finds: iron bit of type Szentes-Vekerzug (variant I2 according to A. Kozubová); three iron bits of type Szentes-Vekerzug (variant II4 according to A. Kozubová; Fig. 3: 18).

Group of origin: first.

Dating: Ha D3–Lt A.

Literatur: *Jerem 1968*, 169–171, fig. 26: 52/1; 28: 58/1, 60/1, 61/1; *Werner 1988*, 16, 19, 20, pl. 4: 21; 9: 50–52.

33. Szólád (Somogy County)

Location: Kertek mögött.

Finding circumstances: cemetery (grave 9).

Finds: iron battle axe (variant II according to A. Kozubová; Fig. 3: 9).

Group of origin: first.

Dating: Ha D2.

Literatur: *Jáky 2017*, 385, pl. III: 3.

34. Tokod (Komárom-Esztergom County)

Location: Altáró, Erszébet akna.

Finding circumstances: stray finds.

Finds: clay stamp with a sealing surface of rectangular shape (group 1 according to J. Kisfaludi), with rows of a swastika motif (Fig. 6: 7); fragments of two wheel-turned jugs; wheel-turned bowl (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 111, with references, fig. 8: 1–4; *Kisfaludi 1997*, 99, fig. 4: 1.

35. Tolna (Tolna County)

Location: Mőzs, Icsi-dűlő.

Finding circumstances: grave.

Finds: three cowrie shells (with removed dorsum).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kovács 2008*, 427.

36. Törökbálint (Pest County)

Location: Tópark.

Finding circumstances: settlement (feature 9).

Finds: fragmented bronze triblade arrowhead with an inner socket (variant I3 according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Maróti 2001*, 47, fig. 2: 2.

37. Vál (Fejér County)

Finding circumstances: stray find.

Finds: bronze trilobate-triblade arrowhead with an inner socket (subvariant II3b according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Bottlyán 1955*, pl. 36: 19; *Kemenczei 2008–2010*, 111, fig. 7: 13.

38A. Velem (Vas County)

Location: Szent Vid-hegy.

Finding circumstances: hillfort (stray finds).

Finds: bronze triblade arrowhead with an inner socket (subvariant I3a according to A. Kozubová); two bronze trilobate-triblade arrowheads with an inner socket (1 × variant II2; 1 × variant II3b according to A. Kozubová); three bronze snake-shaped temple rings (2 × type I; 1 × type II according to A. Kozubová; Fig. 3: 11); three clay stamps with a sealing surface of circular shape (group 2 according to J. Kisfaludi), with concentric rings and a schematised rosette motif (Fig. 3: 13; 6: 9–11); clay stamp with a sealing surface of rectangular shape (group 1 according to J. Kisfaludi), with a row of a meander motif (Fig. 6: 13); two wheel-turned jugs (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Chochorowski 1985*, fig. 6: 8–10, 12, 13, 15, 19, 23, 29, 31, 40; *Ilon 2017b*, 99, pl. I: 4; II: 4; *Kemenczei 2008–2010*, 114, fig. 9: 2, 3, 5–7; *Kisfaludi 1997*, 103, fig. 6: 4; 7: 18; 8: 9; *Miske 1908*, pl. XLIII: 72, 73; *Párducz 1965b*, 276, 277, pl. I: 1, 2, 5, 6; II: 4.

38B. Velem

Location: Szent Vid-hegy.

Finding circumstances: hillfort (stray finds).

Finds: bronze biblade arrowhead with an outer socket (variant I.D.1.a according to A. Hellmuth); three bronze triblade arrowheads with an outer socket (2 × group II.A; 1 × group II.D according to A. Hellmuth); bronze trilobate arrowhead with an outer socket (group III according to A. Hellmuth); four bronze snake-shaped temple rings (type III according to A. Kozubová); clay stamp with a sealing surface of square shape (group 1 according to J. Kisfaludi), with a zoomorphic motif (Fig. 3: 19; 6: 14); clay stamp with a sealing surface of square shape (group 1 according to J. Kisfaludi), with rows of a swastika motif combined with concentric squares (Fig. 6: 19).

Group of origin: second (temple rings, clay stamps), fourth (arrowheads).

Dating: Ha D–Lt A (temple rings, clay stamps), probably Ha D1 (arrowheads).

Literatur: *Chochorowski 1985*, fig. 6: 7, 11, 14, 34–38; *Ilon 2017b*, 99, pl. I: 3, 5–7; II: 3, 5–7; *Kemenczei 2008–2010*, 114, fig. 9: 1, 4; *Kisfaludi 1997*, 99, 103, fig. 2: 1; 5: 6; *Miske 1908*, pl. XLIII: 71; *Párducz 1965b*, 277, 277, pl. I: 4, 7.

39. The vicinity of Veszprém (Veszprém County)

Finding circumstances: find with unclear circumstances of finding.

Finds: wheel-turned jug (type I according to A. Kozubová).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 114, fig. 7: 12; *Párducz 1965b*, 277, pl. II: 9.

40. Visegrád (Pest County)

Location: Csemetekert.

Finding circumstances: settlement (pit 2).

Finds: fragments of at least three wheel-turned vessels.

Group of origin: first.

Dating: Ha D.

Literatur: *Gróh 1984*, 56, 61, fig. 7: 3, 4, 9.

41. Zalaszentmihály (Zala County)

Finding circumstances: stray find.

Finds: fragment of a clay stamp with a sealing surface of square or rectangular shape (group 1 according to A. Kozubová), with a swastika motif (Fig. 6: 8).

Group of origin: first.

Dating: Ha D–Lt A.

Literatur: *Kemenczei 2008–2010*, 114, fig. 9: 8; *Kisfaludi 1997*, 103, fig. 4: 3; *Párducz 1965b*, pl. III: 3a, 3b.

REFERENCES

- Agre 1994*
Bakay/Kalicz/Sági 1970
Bakay 1971
Bartík et al. 2017
Bencze/Böröczky/Szigeti 2010
Bochnak/Skowron 2022
Bottyán 1955
Bruyako 2007
Burghardt 2015
Burghardt 2020
Chochorowski 1985
- D. Agre: Krastovidna aplikatsiya ot Velikotarnovsko. *Arheologiya* 3–4, 1994, 29–37.
K. Bakay/N. Kalicz/K. Sági: *Veszprém megye régészeti topográfiája. A devecséri és sümei járás*. Magyarország régészeti topográfiája 3. Budapest 1970.
K. Bakay: *Scythian Rattles in the Carpathian Basin and their Eastern Connections*. Budapest 1971.
J. Bartík/E. Čermáková/V. Čisťáková/I. Čížmář/M. Čížmář/M. Daňhel/P. Fojtík/J. Frolík/M. Golec/M. Kalábek/O. Klápa/P. Knotek/B. Komoróczy/J. Langová/T. Merta/J. Musil/M. Novák/M. Popelka/D. Rožnovský/D. Říčan/R. Sedláček/Z. Schenk/P. Šín/J. Šmerda/B. Tomešová/D. Válek/D. Vích/V. Vránová/J. Waldhauser/T. Zeman: The Vekerzug and other Eastern cultures in the Czech Republic. *Studia archaeologica Brunensia* 22/1, 2017, 27–69.
DOI: <https://doi.org/10.5817/SAB2017-1-3>
Z. Bencze/B. Böröczky/J. Szigeti: Szkíta temető és népvándorlás kori telepnyomok az M0 körgyűrű Soroksár-Akácós-dűlői lelőhelyén (BP 008-as lelőhely). – Scythian period cemetery and marks of a Migration period settlement on the Soroksár-Akácós-dűlő site of the M0 motorway (Site BP 008). *Aquincumi Füzetek* 16, 2010, 161–169.
T. Bochnak/K. Skowron: Analiza typologiczno-stylistyczna i chronologiczna przedmiotów ze skarbu odkrytego w Międzybrodziu. In: *Ku czci bogów i ludzi. Skarby z okolic Sanoka. Studium interdyscyplinarne*. Lublin – Sanok 2022, 65–77.
Á. Bottyán: *A szkíták a magyar Alföldön*. Régészeti Füzetek 1. Budapest 1955.
I. V. Bruyako: Seashells and Nomads of the Steppes (Early Scythian Culture and Molluscs of the *Cyprea* family in Eastern Europe). *Ancient Civilizations from Scythia to Siberia* 13, 2007, 225–240.
DOI: <https://doi.org/10.1163/092907707X255773>
M. Burghardt: Weapon and the military of the population of the West Podolian group of the Early Scythian culture in the light of sepulchral sources. *Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego* 36, 2015, 143–166.
DOI: <https://doi.org/10.15584/misroa.2015.36.10>
M. Burghardt: Classification and chronology of the collection of arrowheads from the ash-hill found in the hillfort of the Scythian Cultural Circle in Chotyńiec, site 1, Jarosław district. *Sprawozdania Archeologiczne* 72/2, 2020, 327–355.
DOI: <https://doi.org/10.23858/SA/72.2020.2.1734>
J. Chochorowski: Die Rolle der Vekerzug-Kultur (VK) im Rahmen der skythischen Einflüsse in Mitteleuropa. *Praehistorische Zeitschrift* 60/2, 1985, 204–271.
DOI: <https://doi.org/10.1515/prhz.1985.60.2.204>

- Chochorowski 2014 J. Chochorowski: Scytowie a Europa Środkowa – historyczna interpretacja archeologicznej rzeczywistości. *Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego* 35, 2014, 9–58.
- Czifra et al. 2017 Sz. Czifra/A. Kreiter/É. Kovács-Széles/M. Tóth/O. Viktorik/B. Tugya: Scythian Age settlement near Nagytarcsa. *Acta Archaeologica Academiae Scientiarum Hungaricae* 68, 2017, 241–298.
DOI: <https://doi.org/10.1556/072.2017.68.2.3>
- Czigáni/Molnár 2020 D. Czigáni/A. Molnár: Késő hallstatt-kori település Koroncó-Bábotán. In: D. Czigáni/Zs. M. Nemesné (szerk.): *Tomka 80. Ünnepi tanulmányok Tomka Péter köszöntésére*. Budapest 2020, 87–118.
- Czopek 1993 S. Czopek: Die älteste Drehscheibenkeramik aus Südostpolen – Probleme der Kulturverhältnisse in der jüngeren Hallstatt- und frühen Latènezeit. *Bericht der Römisch-Germanischen Kommission* 74, 1993, 487–502.
- Czopek 2012 S. Czopek: Nowe znaleziska „scyto-trackiej” ceramici toczonej z wczesnej epoki żelaza na terenie południowo-wschodniej Polski. In: W. Blajer (red.): *Peregrinationes Archaeologicae in Asia et Europa. Joanni Chochorowski dedicatae*. Kraków 2012, 297–305.
- Černenko 2006 E. V. Černenko: *Die Schutz Waffen der Skythen*. Prähistorische Bronzefunde III/2. Stuttgart 2006.
- Daragan 2015 M. N. Daragan: Nakonechniki strel predskifskogo i ranneskifskogo vremeni: tekhnologiya izgotovleniya, metrologiya i markirovka. In: E. F. Korol'kova (red.): *Arkheologiya bez granic: kollekcii, problemy, issledovaniya, gipotezy*. Trudy Gosudarstvennogo Ermitazha 77. Sankt-Peterburg 2015, 127–170.
- Daragan 2016 M. N. Daragan: O ranneskifskom kolchannom nabore iz pogrebeniya 1, kurgana 4 u s. Gladkovshchina. In: A. S. Balakhvancev/S. V. Kullanda (red.): *Kavkaz i step na rubezhe epochy pozdney bronzy i rannego zheleza. Materialy mezhdunarodnoy konferencii, posvyashchennoy pamyati Marii Nikolaevny Pogrebovoy*. Moskva, 25–27 aprelya 2016 g. Moskva 2016, 62–75.
- Daragan 2017 M. N. Daragan: O formirovani skifskikh kolchannykh naborov vtoroy poloviny VI v. do n. e. In: *Skifiya. Strela vremeni*. Stratum plus 3, 2017, 51–111.
- Dizdar 2023 M. Dizdar: Kasnohalštatske falere tipa Magdalenska gora iz zapadnoga Srijema (istočna Hrvatska). – Late Hallstatt phalerae of the Magdalenska Gora type from western Syrmia (Eastern Croatia). *Vjesnik Arheološkog muzeja u Zagrebu* 56, 2023, 131–151.
DOI: <https://doi.org/10.52064/vamz.56.2.2>
- Dzięgielewski 2017 K. Dzięgielewski: Late Bronze and Early Iron Age communities in the northern part of the Polish Lowland (1000–500 BC). In: U. Bugaj (red.): *The Past Societies 3. Polish lands from the first evidence of human presence to the early Middle Ages: 2000–500 BC*. Warszawa 2017, 296–340.
- Đurković 2015 É. Đurković: Structure of the Early Iron Age Settlement Excavated at Győr-Ménfőcsanak. In: L. Borhy/K. Tankó/K. Dévai (eds.): *Studia archaeologica Nicolae Szabó LXXV annos nato dedicata*. Budapest 2015, 113–148.
- Đurković 2016 É. Đurković: The settlement structure of the North-Western part of the Carpathian Basin during the middle and late Early Iron Age. The Early Iron Age settlement at Győr-Ménfőcsanak (Hungary, Győr-Moson-Sopron county). *Dissertationes Archaeologicae* 3, 2016, 417–425.
DOI: <https://doi.org/10.17204/dissarch.2016.417>
- Ferencz/Barbu 2018 J. V. Ferencz/M. G. Barbu: Un topor din fier provenind de la Almașu Sec, jud. Hunedoara, România. *Sargetia*, Serie nouă 9 (45), 2018, 143–153.
- Fettich 1928 N. Fettich: A zöldhalompusztai szkita lelet – La trouvaille scythe de Zöldhalompusztai pres de Miskolc, Hongrie. *Archaeologia Hungarica* 3. Budapest 1928.
- Fodor 2013 I. Fodor: A Scythian Mirror from Hajdúnánás, Hungary. In: A. Anders/G. Kulcsár (eds.): *MOMENTS IN TIME. Papers Presented to Pál Raczky on His 60th Birthday*. Ősrégészeti Tanulmányok 1 – Prehistoric Studies 1. Budapest 2013, 831–838.
- Frunť 2023 O. S. Frunť: Khronolohiya metalevykh naversh' z posul's'kykh pamyatok skifs'koho chasu. In: *Arkheolohiya Pivnichno-Skhidnoyi Ukrainy: zdobutky, suchasnyy stan ta perspektivy. Materialy IV Vseukrayins'koyi naukovo-praktichnoyi konferenciyi z mizhnarodnoyu uchastyu* (Sumi, 27 kvitnya 2023 r.). Sumi 2023, 108–115.
- Gál/Molnár 2004 K. Gál/A. Molnár: Sé-Doberdó. Az 1998-as és 2001-es ásatások vaskori leletanyaga. *Savaria. A Vas Megyei Múzeumok Értésítője* 28, 2004, 159–230.
- Gróh 1984 D. Gróh: Előzetes jelentés a Visegrád-Csemetekert lelőhelyen végzett későbronzkori és koravaskori feltárásról. *Communicationes Archaeologicae Hungariae* 1984, 1984, 53–66.
- Guštin/Teržan 1975 M. Guštin/B. Teržan: Malenškova gomila v Novom mestu. Prispevek k poznavanju povezav med jugovzhodnim alpskim svetom, severozapadnim Balkanom in južno Panonijo v starejši železni dobi. *Arheološki vestnik* 26, 1975, 188–202.
- Gutay et al. 2021 M. Gutay/L. Bernáth/D. Raáb/K. L. Rác: Preszkita kori, szkita kori lelőhelyek Heves megyében. *Ephemeris Hungarologica* 1, 2021, 27–94.
DOI: <https://doi.org/10.53644/EH.2021.1.27>

- Hellmuth 2006 A. Hellmuth: Untersuchungen zu den sogenannten skythischen Pfeilspitzen aus der befestigten Höhensiedlung von Smolenice-Molpír. In: A. Hellmuth/D. Yalçıklı: *Pfeilspitzen*. Universitätsforschungen zur Prähistorischen Archäologie 128. Bonn 2006, 7–204.
- Hellmuth 2007 A. Hellmuth: Zur Datierung der kreuzförmigen Goryt- und Bogentaschenbeschläge im Karpatenbecken. *Prähistorische Zeitschrift* 82/2, 2007, 66–84.
DOI: <https://doi.org/10.1515/PZ.2007.004>
- Hellmuth 2010 A. Hellmuth: *Bogenschilder des Pontischen Raumes in der Älteren Eisenzeit. Typologische Gliederung, Verbreitung und Chronologie der skythischen Pfeilspitzen*. Universitätsforschungen zur Prähistorischen Archäologie 177. Bonn 2010.
- Hellmuth Kramberger 2021 A. Hellmuth Kramberger: „Skythischen“ Invasoren auf der Spur – Die sog. skythischen Pfeilspitzen im Spiegel der prähistorischen Konfliktforschung. *Das Altertum* 66, 2021, 161–188.
- Hellmuth Kramberger/Čambal 2019 A. Hellmuth Kramberger/R. Čambal: Eine Schrift der Reiternomaden im 1. Jt. v. Chr.? Bemerkungen zu den sogenannten skythischen Pfeilspitzen mit Markierungen zwischen Ostalpen, Ural und Anatolien. In: L. Benediková/G. Březinová/E. Horváthová/S. Stegmann-Rajtár (ed.): *Fragmenty času. Venované Elene Miroššayovej k 70. narodeninám*. Študijné zvesti AÚ SAV – Supplementum 1. Nitra 2019, 187–202.
DOI: <https://doi.org/10.31577/szausav.2019.suppl.1.11>
- Honti/Költő/Németh 1988 Sz. Honti/L. Költő/P. G. Németh: Boglárlelle az őskortól a honfoglalásig. In: A. Laczkó (szerk.): *Boglárlelle. Tanulmányok*. Boglárlelle 1988, 5–41.
- Horváth 2002 A. M. Horváth: Előzetes jelentés, a Bp. XVII. ker. Rákospalota – Újmajorban előkerült szkíta kori településrészletről. *Budapest Régiségei* 35/1, 2002, 103–123.
- Horváth 2015 L. Horváth: Középső vaskori öntőformák Alsópáhokról. *Archaeologia Értesítő* 140/1, 2015, 229–255.
DOI: <https://doi.org/10.1556/0208.2015.140.9>
- Horváth/Szabó 2015 V. Horváth/G. Szabó: Scythian Age Scale Armour from the Tumulus at Regöly. In: F. M. Mutanov/E. Nursan (eds.): *Proceedings of International scientific and practical conference «VII Orazbayev readings»: «Kazakh Archaeology and Ethnology: Past, Present and Future», dedicated to the 550th anniversary of the Kazakh Khanate, the 20th anniversary of the Assembly of People of Kazakhstan, 28–29 April, 2015*. Almaty 2015, 100–105.
- Illins’ka 1963 V. A. Illins’ka: Pro skifs’ki navershnyky. *Arkheolohiya* 15, 1963, 33–60.
- Ilon 1999 G. Ilon: A Scythian pintadera from Sé. *Communicationes Archaeologicae Hungariae* 1999, 1999, 47–48.
- Ilon 2017a G. Ilon: A néhai Kulturális Örökségvédelmi Szakszolgálat fémkeresős protokolljának eredményei egy ménfőcsanakai lelőhelyrészleten. Előzetes anyagközlés. In: E. Benkő/M. Bondár/A. Kolláth (szerk. – eds.): *Magyarország régészeti topográfiája. Múlt, jelen, jövő. – Archaeological Topography of Hungary. Past, Present and Future*. Budapest 2017, 185–260.
- Ilon 2017b G. Ilon: Skythische Spiralringe oder Piercings aus West-Transdanubien und ihre Symbolik. In: N. Beljak Pažinová/Z. Borzová (red.): *Sedem decénii Petra Romsauera*. Studia Historica Nitriensia 21. Supplementum – mimoriadne číslo časopisu venované životnému jubileu prof. Petra Romsauera. Nitra 2017, 97–116.
DOI: <https://doi.org/10.17846/SHN.2017.21.S.97-116>
- Ilon 2019 G. Ilon: Daten zur Frage der prähistorischen oder antiken goldenen Stimmarke und der keltischen Silbermünzen: Ménfőcsanak, West-Transdanubien, Ungarn. In: L. Benediková/G. Březinová/E. Horváthová/S. Stegmann-Rajtár (ed.): *Fragmenty času. Venované Elene Miroššayovej k 70. narodeninám*. Študijné zvesti AÚ SAV – Supplementum 1. Nitra 2019, 255–265.
DOI: <https://doi.org/10.31577/szausav.2019.suppl.1.14>
- Ivanov 2018 Y. Ivanov: A cruciform προμετωπίδιον (prometopidion) from Ancient Thrace. *Mediterranean Review* 11/1, 2018, 1–38.
- Jáky 2017 J. Jáky: A remarkable Early Iron Age grave from Szólád-Kertek mögött. In: N. Beljak Pažinová/Z. Borzová (red.): *Sedem decénii Petra Romsauera*. Studia Historica Nitriensia 21. Supplementum – mimoriadne číslo časopisu venované životnému jubileu prof. Petra Romsauera. Nitra 2017, 381–396.
DOI: <https://doi.org/10.17846/SHN.2017.21.S.381-396>
- Jerem 1968 E. Jerem: The Late Iron Age cemetery of Szentlőrinc. *Acta Archaeologica Academiae Scientiarum Hungaricae* 20, 1968, 159–208.
- Jerem 1981a E. Jerem: Südliche Beziehungen einiger hallstattzeitlichen Fundtypen Transdanubiens. In: P. Medović (Red. – Hrsg.): *Starije gvozdeno doba Vojvodine i njegove veze sa drugim podunavskim i susednim oblastima. – Die ältere Eisenzeit in der Wojwodina und ihre Verbindungen mit anderen donauländischen und benachbarten Gebieten*. Symposium Novi Sad 1979. Materijali 19. Novi Sad 1981, 201–220.
- Jerem 1981b E. Jerem: Zur Späthallstatt- und Frühlatènezeit in Transdanubien. In: C. Eibner/A. Eibner (Hrsg.): *Die Hallstattkultur*. Symposium Steyr 1980. Linz 1981, 105–136.

- Jerem et al. 1984 E. Jerem/G. Facsar/L. Kordos/E. Krolopp/I. Vörös: A Sopron-Krautackeri vaskori telep régészeti és környezetrekonstrukciós vizsgálata. *Archaeologia Értesítő* 111, 1984, 141–169.
- Jevtić 2006 M. Jevtić: Sacred groves of the Tribali on Miroč mountain. *Starinar* 56, 2006, 271–291. DOI: <https://doi.org/10.2298/STA0656271J>
- Kemenczei 1977 T. Kemenczei: Hallstattzeitliche Funde aus der Donaukniegegend. *Folia Archaeologica* 28, 1977, 67–90.
- Kemenczei 1985 T. Kemenczei: Mitteleisenzeitliche Tensen von ost-mitteleuropäischem Typ im Alföld. *Folia Archaeologica* 36, 1985, 43–66.
- Kemenczei 1986 T. Kemenczei: Mitteleisenzeitliche Köcherbeschläge aus dem Alföld. *Folia Archaeologica* 37, 1986, 117–136.
- Kemenczei 2001–2002 T. Kemenczei: Beiträge zur Schmuckmode der Alföld-Gruppe skythischer Prägung. *Folia Archaeologica* 49–50, 2001–2002, 29–77.
- Kemenczei 2008–2010 T. Kemenczei: Funde der skythisch geprägten Alföld-Gruppe in Transdanubien. *Folia Archaeologica* 54, 2008–2010, 101–125.
- Kemenczei 2009 T. Kemenczei: *Studien zu den Denkmälern skythisch geprägter Alföld Gruppe*. Inventaria Praehistorica Hungariae 12. Budapest 2009.
- Keresztes et al. 2021 N. N. Keresztes/Z. Litauszki/A. Benedek/E. Sáy: Birtuális szkíta kori temetőrészlet Szőreg-Borpálackozó Vállalat lelőhelyen (Anyagközlés). *A Móra Ferenc Múzeum Évkönyve* 8, 2021, 61–92.
- Khokhorovski 1994 Ya. Khokhorovski: Skifskie nabegi na territoriyu Sredney Evropy. *Rossiyskaya arheologiya* 3, 1994, 49–64.
- Kisfaludi 1997 J. Kisfaludi: Tonstempel und Knochenzylinder aus der mittleren Eisenzeit im Karpatenbecken. *Communicationes Archaeologicae Hungariae* 1997, 1997, 75–107.
- Klápa 2017 O. Klápa: “Scythian” Findings in the Moravia. *Acta Archaeologica Carpathica* 52, 2017, 65–82.
- Klápa 2019 O. Klápa: *Typologie „skytských“ hrotů na Moravě*. MA thesis. Slezská univerzita v Opavě. Opava 2019. Unpublished.
- Kmeťová 2014 P. Kmeťová: *Deponovanie koní na pohrebiskách z doby halštatskej v priestore Panónskej panvy*. Dissertationes archaeologicae Bratislavenses 2. Bratislava 2014.
- Kmeťová 2018 P. Kmeťová: ‘And four strong-necked horses he threw swiftly on the pyre...’ On human-horse relationship in the Early Iron Age Central Europe from the perspective of interregional contacts. In: P. Pavúk/V. Klontza-Jaklová/A. Harding (eds.): *EYΔAIMΩN. Studies in honour of Jan Bouzek*. Opera Facultatis philosophicae Universitatis Carolinae Pragensis 18. Praha 2018, 267–289.
- Kovács 2008 L. Kovács: *Vulvae, Eyes, Snake Heads. Archaeological Finds of Cowrie Amulets*. BAR International Series 1846. Oxford 2008.
- Kovács/Németh 2023 N. Kovács/A. Németh: Előzetes jelentés Bükkábrány-Bánya VIII. lelőhely régészeti feltárásáról (2017–2020). *Communicationes Archaeologicae Hungariae* 2022, 2023, 13–56. DOI: <https://doi.org/10.54640/CAH.2022.13>
- Kozubová 2009 A. Kozubová: Diaľkové zbrane z pohrebísk vekerzugskej kultúry na juhozápadnom Slovensku. *Zborník Slovenského národného múzea* 103. *Archeológia* 19, 2009, 65–130.
- Kozubová 2010 A. Kozubová: Hroby so železnými sekerkami na pohrebiskách zo staršej doby železnej v karpatsko-dunajskom priestore. *Zborník Slovenského národného múzea* 104. *Archeológia* 20, 2010, 45–65.
- Kozubová 2011 A. Kozubová: Súčasti konských postrojov z lokalít vekerzugskej kultúry na juhozápadnom Slovensku (časť I). *Musaica* 27, 2011, 69–100.
- Kozubová 2013a A. Kozubová: *Pohrebiská vekerzugskej kultúry v Chotíne na juhozápadnom Slovensku. Vyhodnotenie*. Dissertationes archaeologicae Bratislavenses 1. Bratislava 2013.
- Kozubová 2013b A. Kozubová: *Pohrebiská vekerzugskej kultúry v Chotíne na juhozápadnom Slovensku. Katalóg. S dodatkom pohrebisko vekerzugskej kultúry v Senci-Štrkovej kolónii*. Dissertationes archaeologicae Bratislavenses 1. Bratislava 2013.
- Kozubová 2018 A. Kozubová: Kopfschmuck der Vekerzug-Kultur am Beispiel der Gräberfelder in Chotín. *Musaica archaeologica* 3/1, 2018, 13–63.
- Kozubová 2019 A. Kozubová: „Something happened in the East but more in the West and South.“ Einige kritische Bemerkungen zu östlichen Einflüssen in der Vekerzug-Kultur. *Musaica archaeologica* 4/1, 2019, 55–185.
- Kozubová 2021 A. Kozubová: ‘With a Weapon in Hand and a Horse by Side.’ Weapons and Horse Harness in Graves of Vekerzug Culture from an Interregional Perspective. *Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego* 42, 2021, 81–112. DOI: <https://doi.org/10.15584/misroa.2021.42.5>
- Kozubová/Fojtík 2021 A. Kozubová/P. Fojtík: Nicht nur als Kopfschmuck getragen: ein außergewöhnlicher hallstattzeitlicher Fund aus Smržice-Trávníky u ostrova (Mittelmähren). *Musaica archaeologica* 6/1–2, 2021, 51–123. DOI: <https://doi.org/10.46283/musarch.2021.1.2.04>

- Kozubová/Golec 2020 A. Kozubová/M. Golec: Aus der Nähe oder aus der Ferne? Zu den hallstattzeitlichen Funden vom östlichen Typ aus Mähren. In: A. Kozubová/E. Makarová/M. Neumann (ed.): *Ultra velum temporis. Venované Jozefovi Bátorovi k 70. narodeninám*. Slovenská archeológia – Supplementum 1. Nitra 2020, 349–360.
DOI: <https://doi.org/10.31577/slovarch.2020.suppl.1.29>
- Kozubová/Horváth 2019 A. Kozubová/V. Horváth: Nur eine Faszination vom Westen oder etwas anderes? Zu hallstattischen Einflüssen in der Vekerzug-Kultur am Beispiel des Gräberfeldes von Eger-Nagy Eged (Ostungarn). *Zborník Slovenského národného múzea* 113. *Archeológia* 29, 2019, 139–157.
- Kozubová et al. 2022 A. Kozubová/T. Mangel/T. Jošková/M. Beková/D. Vích: „Von der Haltestelle Ost zur Haltestelle West“. Ein Beitrag zu neuen hallstatt- und frühlatènezeitlichen Funden vom östlichen Typ aus Ostböhmen. *Slovenská archeológia* 70, 2022, 275–326.
DOI: <https://doi.org/10.31577/slovarch.2022.70.13>
- Krapiec/Szychowska-Krapiec 2013 M. Krapiec/E. Szychowska-Krapiec: Analiza dendrochronologiczna drewna z badań grodziska w Wicini w latach 2008–2012. In: A. Jaszewska/S. Kałagate (red.): *Wicina. Badania archeologiczne w latach 2008–2012 oraz skarb przedmiotów pochodzących z Wiciny*. Biblioteka Archeologii Środkowego Nadodrza 7. Kraków 2013, 371–418.
- Kuznetsova 2002 T. M. Kuznetsova: *Zerkala Skifii VII–III vv. do n.e. Tom I*. Moskva 2002.
- Kvietok 2017 M. Kvietok: Výskum v lokalite Ľubietová-Vysoká. In: N. Beljak Pažinová/Z. Borzová (red.): *Sedem decénií Petra Romsauera*. Studia Historica Nitriensia 21. Supplementum – mimoriadne číslo časopisu venované životnému jubileu prof. Petra Romsauera. Nitra 2017, 445–468.
DOI: <https://doi.org/10.17846/SHN.2017.21.S.445-468>
- Ljuština/Radišić/Ninčić 2019 M. Ljuština/T. Radišić/I. Ninčić: Exotic Goods from the Early Iron Age Necropolis Stubarlija, Serbia, as Indicators of Cultural Contacts. In: V. Sîrbu/C. Schuster/D. Hortopan (eds.): *Border Guards of the Passes, from the Fortresses and the Graves. The Bronze and Iron Ages. Proceedings of the 17th International Colloquium of Funerary Archaeology, Târgu Jiu, Gorj County (Romania) 4th–7th October 2018*. Târgu Jiu – Brăila 2019, 139–148.
- Makhortkykh 2022 S. V. Makhortkykh: Ranneskifskie kolchannye nabory pervoy poloviny VI v. do n.e. na yuge Vostochnoy Evropy. In: T. S. Sadykov (red.): *Stepnye miry v zerkale arkheologii. Sbornik statey, posvyashchenny 70-letiyu uchenogo-arkheologa M. K. Khabbulinoy*. Nur-Sultan 2022, 104–111.
- Malinowski 1982 T. Malinowski: L’ambre jaune Baltique et le problème de son exportation pendant les premières périodes de l’âge du fer. *Savaria. A Vas Megyei Múzeumok értesítője* 16, 1982, 113–123.
- Marinescu 1984 G. Marinescu: Die jüngere Hallstattzeit in Nordostsiebenbürgen. *Dacia N. S.* 28, 1984, 47–83.
- Maróti 2001 É. Maróti: Régészeti kutatások Törökbálint-Topárkon (Pest megye). – Archäologische Forschungen in Törökbálint-Topárk (Komitat Pest). *Régészeti kutatások Magyarországon* 1998, 2001, 45–55.
- Maróti 2003 É. Maróti: 284. Törökbálint, Topárk. *Régészeti kutatások Magyarországon* 2001, 2003, 229–232.
- Măndescu 2019 D. Măndescu: Vârfuri de săgeți „de tip scitic” în mediul cultural Ferigile (tumulul 10 de la Valea Stâni). In: A. Zanoci/M. Băț (eds.): *Contribuții la preistoria și istoria antică a spațiului carpato-danubiano-pontic. În onoare profesorului Ion Niculiță natalia sua octogesima celebrantis*. Chișinău 2019, 187–206.
- Măndescu 2023 D. Măndescu: Armour Scales in the Early Iron Age Necropolis from Valea Stâni. In: V. Sîrbu/C. Schuster/D. Hortopan (eds.): *Warriors and Their Weapons in Bronze and Iron Ages. Proceedings of the 21st International Colloquium of Funerary Archaeology 25th–28th May, 2023, Târgu Jiu, Gorj County (Romania)*. Brăila 2023, 221–230.
- Melyukova 1964 A. I. Melyukova: *Vooruzhenie skifov*. Svod arkheologicheskikh istochnikov D1-4. Moskva 1964.
- Miske 1908 K. von Miske: *Die prähistorische Ansiedlung Velem St. Vid I. Beschreibung der Raubbaufunde*. Wien 1908.
- Mohilov 2008 O. D. Mohilov: *Sporyazhdennya konya skifs’koyi doby v Lisostepu Skhidnoyi Evropi*. Kyiv – Kamyanets’ Podil’s’kyy 2008.
- Molnár 2006 A. Molnár: A Hallstatt-kultúra emlékei a Sorokó-vidéken. *Arrabona* 44/1, 2006, 337–348.
- Molnár 2007 A. Molnár: Figyelemre méltó kora vaskori objektum Ménfőcsanak határából. *Arrabona* 45/1, 2007, 61–70.
- Molnár 2013 A. Molnár: Neuere Ausgrabungen hallstattzeitlicher Siedlungen in der Umgebung von Győr. *Zborník Slovenského národného múzea* 107. *Archeológia* 23, 2013, 185–198.

- Molnár 2019
 Molnár/Ujvári 2020
 Mozsolics 1953
 Némethi 1982
 Novák 2017
 Novák 2020
 Ottományi 2008
 Patay 1990
 Patay/Scholtz/Scard 2017
 Párducz 1952
 Párducz 1954
 Párducz 1965a
 Párducz 1965b
 Párducz 1966
 Párducz 1969
 Párducz 1970
 Polidovych 2000
 Perevodchikova 1980
 Ramsel 1998
 Romsauer 1993
 Romsauer 1996
 Romsauer 2019
 Ryabkova 2016
 Schönfelder 2001
 Schwellnus 2009
 Schwellnus 2010
- A. Molnár: Kalandozások és megtelepedés a vaskorban. A szíták Közép-Európában. *Határtalan Régészet* 4/3, 2019, 18–21.
 A. Molnár/F. Ujvári: Adatok Győr vaskorához. Kora vaskori leletek Káptalandombról és kelta lelőhelyek a város területéről. In: D. Czígáni/Zs. M. Nemesné (szerk.): *Tomka 80. Ünnepi tanulmányok Tomka Péter köszöntésére*. Budapest 2020, 481–418.
 A. Mozsolics: Mors en bois de cerf sur le territoire du bassin des Carpathes. *Acta Archaeologica Academiae Scientiarum Hungaricae* 3, 1953, 69–109.
 I. Némethi: Das späthallstattzeitliche Gräberfeld von Sanislău. *Dacia* N. S. 26, 1982, 115–144.
 M. Novák: Moravský „Molpír“? Halštatské nálezy z opevněného výšinného sídliště Provodov-Ludkovice Rysov (okr. Zlín). *Pravěk*. NR 25, 2017, 185–228.
 M. Novák: Nové poznatky k hrotům východního typu z Rysova. In: I. Čizmář/H. Čizmářová/A. Humpolová (ed.): *Jantarová stezka v proměnách času*. Brno 2020, 89–98.
 K. Ottományi: Kora vaskor. Kr. e. 8/7–1. század vége. In: K. Ottományi (szerk.): *Képek a múltból. Az elmúlt évek ásatásaiából Pest megyében*. Szentendre 2008, 50.
 P. Patay: *Die Bronzegefäße in Ungarn*. Prähistorische Bronzefunde II/10. München 1990.
 R. Patay/R. G. Scholtz/A. Scard: Scythian Age quiver mount from the outskirts of Gyömrő (Hungary). In: N. Beljak Pažinová/Z. Borzová (red.): *Sedem decénii Petra Romsauera*. Studia Historica Nitriensis 21. Supplementum – mimoriadne číslo časopisu venované životnému jubileu prof. Petra Romsauera. Nitra 2017, 469–480. DOI: <https://doi.org/10.17846/SHN.2017.21.S.469-480>
 M. Párducz: Le cimetière hallstattien de Szentes-Vekerzug I. *Acta Archaeologica Academiae Scientiarum Hungaricae* 2, 1952, 143–172.
 M. Párducz: Le cimetière hallstattien de Szentes – Vekerzug II (Les fouilles de 1952 et 1953). *Acta Archaeologica Academiae Scientiarum Hungaricae* 4, 1954, 25–91.
 M. Párducz: Graves from the Scythian Age at Ártánd (county Hajdú-Bihar). *Acta Archaeologica Academiae Scientiarum Hungaricae* 17, 1965, 137–231.
 M. Párducz: Western relations of the Scythian Age culture of the Great Hungarian plain. *Acta Antiqua Academiae Scientiarum Hungaricae* 13, 1965, 273–301.
 M. Párducz: The Scythian Age cemetery at Tápiószéle. *Acta Archaeologica Academiae Scientiarum Hungaricae* 18, 1966, 35–91.
 M. Párducz: Szkitakori leletek Heves megyében. *Az Egri Múzeum Évkönyve* 7, 1969, 35–54.
 M. Párducz: Szkitakori lelet Szurdokpuszpökből. *Folia Archaeologica* 21, 1970, 49–58.
 Yu. B. Polidovych: Skifs'ki khrestopodibni blyakhy. *Arkheologiya* 1, 2000, 35–48.
 E. V. Perevodchikova: Tipologiya i evolutsiya skifskikh navershiy. *Sovetskaya arkheologiya* 2, 1980, 23–44.
 P. C. Ramsel: *Inzersdorf-Walpersdorf. Studien zur späthallstatt-/latènezeitlichen Besiedlung im Traisental, Niederösterreich*. Fundberichte aus Österreich. Materialheft A6. Wien 1998.
 P. Romsauer: Nové nálezy vekerzugskej skupiny z Nitry. *Slovenská archeológia* 41, 1993, 5–39.
 P. Romsauer: Bemerkungen zur Späthallstattzeit im Nordostalpenraum. In: E. Jerem/A. Lippert (Hrsg.): *Die Osthallstattkultur. Akten des Internationalen Symposiums, Sopron, 10.–14. Mai 1994*. Archaeolingua Series Maior 7. Budapest 1996, 429–444.
 P. Romsauer: Sídliisko vekerzugskej kultúry. In: P. Romsauer/J. Hečková/D. Repka: *Chotín VII. Sídliisko z doby halštatskej, rímskej a stredoveku*. Nitra 2019, 19–47.
 T. V. Ryabkova: Navershiya s sharovidnymi proreznymi bubentsami iz ranne-skifskikh pamyatnikov Zakuban'ya. In: A. S. Balakhvancev/S. V. Kullanda (red.): *Kavkaz i step na rubezhe epochi pozdney bronzy i rannego zheleza. Materialy mezhdunarodnoy konferencii, posvyashchennoy pamyati Marii Nikolaevny Pogrebovoy*. Moskva, 25–27 aprelya 2016 g. Moskva 2016, 215–221.
 M. Schönfelder: Die etruskischen Bronzebecken aus dem Samsbacher Forst, Lkr. Schwandorf. *Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz* 48, 2001, 309–335. DOI: <https://doi.org/10.11588/jrgzm.2001.1.23339>
 F. Schwellnus: Die Späthallstatt- bis Frühlatènezeit im Ödenburger Becken – Befund I der Siedlung Sopron-Krautacker/Ungarn. In: P. Trebsche/I. Balzer/Ch. Eggl/J. Fries-Knoblach/J. K. Koch/J. Wiethold (Hrsg.): *Architektur: Interpretation und Rekonstruktion. Beiträge zur Sitzung der AG Eisenzeit während des 6. Deutschen Archäologie-Kongresses in Mannheim 2008*. Langenweissbach 2009, 241–261.
 F. Schwellnus: Pintadere: Überblick über die Fundgruppe der Tonstempel ausgehend von zwei Funden aus Sopron-Krautacker (Westungarn). *Archäologisches Korrespondenzblatt* 40, 2010, 207–225.

- Schwellnus 2011 F. Schwellnus: Die Siedlung von Sopron-Krautacker (Westungarn) in der späten Hallstatt- und frühen Latènezeit. *Archäologisches Korrespondenzblatt* 41, 2011, 359–373.
- Shelekhan’ 2012 A. V. Shelekhan’: Boyovi sokryr skyfs’koho typu z Pivnichnoho Prychornomor’ya. *Arkheolohiya* 2, 2012, 3–13.
- Smirnova 1993 G. I. Smirnova: Pamyatniki Srednego Podnestrov’ya v khronologicheskoy skheme ranneskifskoy kul’tury. *Rossiyskaya arkheologiya* 2, 1993, 101–118.
- Soós 2020 B. Soós: Middle Iron Age Cemetery from Alsónyék, Hungary. *Dissertationes Archaeologicae* 3/8, 2020, 49–105.
DOI: <https://doi.org/10.17204/dissarch.2020.49>
- Soós/Tarbay/Péterváry 2023 B. Soós/J. G. Tarbay/T. Péterváry: Hallstatt period hoard from Somló Hill. *Communicationes Archaeologicae Hungariae* 2023, 2023, 121–145.
DOI: <https://doi.org/10.54640/CAH.2023.121>
- Stolžová/Šulová 2011 D. Stolžová/I. Šulová: Nález spirálovité náušnice u kovolitecké a kovotepecké dílny v Kozinci, okr. Praha-východ. Předběžná zpráva o halštatsko-laténskem osídlení. *Archeologie ve středních Čechách* 15, 2011, 349–365.
- Szabó/Fekete 2011 G. Szabó/M. Fekete: Janus-szobor Pannoniából, a kora vaskori Regöly-csoport lelőhelyéről. *A Wosinsky Mór Múzeum Évkönyve* 33, 2011, 15–105.
- Szabó/Fekete 2014 G. Szabó/M. Fekete: Pannon tumulus feltárásának előkészítése – Regöly, Strupka-Magyar birtok (2011. február 4. – június 19.). *A Wosinsky Mór Múzeum Évkönyve* 36, 2014, 7–157.
- Szabó/Czajlik/Reményi 2014 G. V. Szabó/Z. Czajlik/L. Reményi: Traces of an Iron Age Armed Conflict. New Topographical Results from the Research into Verebce-bérc at Dédestapolcsány I. *Hungarian Archaeology. E-journal*, spring 2014, 2014, 1–7. Online available at: http://files.archaeolingua.hu/2014TA/Upload/cikk_Szabo_EN.pdf
- Szabó et al. 2023 G. V. Szabó/P. Mogyorós/P. Bíró/A. Kovács/K. Tankó/M. F. Tóth/D. Urbán/M. Barcsi: Investigations of an Early Iron Age Siege 2. Preliminary report on the archaeological research carried out at Dédestapolcsány-Verebce-bérc and Dédestapolcsány-Várerdő between September 2022 and the end of 2023. *Dissertationes Archaeologicae* 3/11, 2023, 603–623.
DOI: <https://doi.org/10.17204/dissarch.2023.603>
- Šimek 1998 M. Šimek: Ein Grabhügel mit Pferdebestattung bei Jalžabet, Kroatien. In: B. Hänsel/J. Machnik (Hrsg.): *Das Karpatenbecken und die osteuropäische Steppe. Nomadenbewegungen und Kulturaustausch in den vorchristlichen Metallzeiten (4000–500 v. Chr.)*. Prähistorische Archäologie in Südosteuropa 12. München 1998, 493–510.
- Teleaga/Zirra 2003 E. Teleaga/V. Zirra: *Die Nekropole des 6.–1. Jhs. von Istria Bent bei Histria*. Archäologische Untersuchungen zur Bevölkerung in der westlichen Schwarzmeerregion. Internationale Archäologie 83. Rahden/Westf. 2003.
- Teržan 1998 B. Teržan: Auswirkungen des skythisch geprägten Kulturkreises auf die hallstattzeitlichen Kulturgruppen Pannoniens und des Ostalpenraumes. In: B. Hänsel/J. Machnik (Hrsg.): *Das Karpatenbecken und die osteuropäische Steppe. Nomadenbewegungen und Kulturaustausch in den vorchristlichen Metallzeiten (4000–500 v. Chr.)*. Prähistorische Archäologie in Südosteuropa 12. München 1998, 511–560.
- Tézer 2005 Z. Tézer: Szkita kori tükrök a Kárpát-medencében. *Budapest Régiségei* 39, 2005, 5–38.
- Tézer 2011 Z. Tézer: Szkita kori településrészlet Budapest XV. kerület Rákospalota-Újmajor lelőhelyéről. *Budapest Régiségei* 44, 2011, 100–137.
- Topal 2021 D. Topal: *Akinak na zapade skifskogo mira*. Biblioteca „Tyragetia” 35. Kishinev 2021.
- Tot 2015 M. Tot: Zoomorfnny psaliy skifskogo vremeni iz roga kosuli s poseleniya v Srednem Potis’e v Vengrii. *Stratum plus* 3, 2015, 297–306.
- Tóth 2017 M. F. Tóth: Hat régészeti korszak emlékei a Csúcshegy oldalán. A kora és középső vaskori falusias település. Tárgylista. In: P. Zsidi (szerk.): *Kincsek a város alatt. Újdonságok a múltból. Budapest régészeti örökségének feltárása 1867/2005-2015. Kiállítási katalógus*. Budapest 2017, 55, 60–63.
- Tóth 2019 M. F. Tóth: New sites from the Scythian Period on the right bank of the Danube: Data to the connections of the Vekerzug and Hallstatt cultures from the territory of Budapest. In: L. Benediková/G. Březinová/E. Horváthová/S. Stegmann-Rajtár (ed.): *Fragmenty času. Venované Elene Miroššayovej k 70. narodeninám*. Studijné zvesti AU SAV – Supplementum 1. Nitra 2019, 475–491.
DOI: <https://doi.org/10.31577/szausav.2019.suppl.1.29>
- Treyster 2021 M. Yu. Treyster: Rakoviny morskikh mollyuskov v pogrebeniyakh kochevnikov aziatskoy Sarmatii v kontekste trgovli ekzoticheskimi materialami v Evrazii. *Problemy istorii, filologii, kul’tury* 1, 2021, 22–58.
DOI: <https://doi.org/10.18503/1992-0431-2021-1-71-22-58>
- Vasiliev 1980 V. Vasiliev: *Sciții agatârși pe teritoriul României*. Cluj-Napoca 1980.

Werner 1988

W. M. Werner: *Eisenzeitliche Tensen an der unteren und mittleren Donau*. Prähistorische Bronzefunde XVI/4. München 1988.

Wollák 1979

K. Wollák: Hallstattkori leletek a Pilismarót–szobi révi terepfeltárásból. *Dunai régészeti közlemények* 2, 1979, 49–76.

Zuev 2018

V. Yu. Zuev: Pervaya seriya zerkal borisfenitskogo tipa. In: V. Yu. Zuev/V. A. Khrshanovskiy (red.): *Bosporskiy fenomen. Obshchee i osobennoe v istoriko-kul'turnom prostranstve antichnogo mira. Materialy mezhdunarodnoy nauchnoy konferentsii. Chast II*. Sankt-Peterburg 2018, 25–47.

„Z opačnej strany Dunaja“

Nálezy východného typu z neskorej doby halštatskej a včasnej doby laténskej v Zadunajsku

Anita Kozubová

Súhrn

V priebehu stupňov HD a LTA zaznamenávame vo východohalštatskej oblasti prítomnosť takých typov predmetov, ktorých pôvod a/alebo ťažisko rozšírenia sa nachádza jednak vo východokarpatskom priestore (vo vekerzugskej a ciombrudskej kultúre) a jednak v spoločenstvách východoeurópskej stepnej a lesostepnej oblasti a na severnom Kaukaze. Kým nálezy východného typu zo Zadunajska naďalej ostávajú na okraji vedeckého záujmu, podobným nálezom z Moravy a Čiech bola v poslednom období venovaná zvýšená pozornosť. Nálezy z Moravy a Čiech spolu so súčasným stavom bádania k vekerzugskej kultúre (ďalej VK) jasne poukazujú na potrebu prehodnotenia interpretačných rovin výskytu nálezov východného typu v jednotlivých regiónoch východohalštatskej kultúry. Nemenej dôležité je aj správne označenie diskutovaných predmetov. V ich prípade je používanie výrazov ako „skýtsky“ nekorektné a ako vhodnejšie sa javí ich neutrálnejšie označenie ako „nálezy východného typu“. To odráža výlučne geografické hľadisko – ide o typy predmetov, ktorých pôvod sa nachádza východne od rozšírenia halštatskej kultúry v rôznych kultúrach a skupinách.

V článku sa zaoberám vyhodnotením doteraz publikovaných nálezov východného typu z doby halštatskej a včasnej doby laténskej zo Zadunajska, najmä s ohľadom na kultúrno-priestorové, chronologické a interpretačné hľadisko ich výskytu v západnej časti Karpatskej kotliny a v ostatných regiónoch východohalštatskej kultúry. K dnešnému dňu je zo Zadunajska k dispozícii minimálne 1171 typologicky spoľahlivo identifikovaných nálezov východného typu z 52 lokalít.

Z hľadiska pôvodu sa dajú nálezy východného typu zo Zadunajska rozdeliť do štyroch skupín. Prvú skupinu pôvodu tvoria nálezy VK, a tiež artefakty, ktorých výskyt v Zadunajsku súvisel s aktivitami VK (kauri mušle). S VK je spätá aj druhá skupina. K nej radíme artefakty, ktoré síce majú predlohy v materiálnej náplni VK, v Zadunajsku sa však vyskytli už v lokálnej podobe. Do tretej skupiny pôvodu možno zaradiť také typy predmetov, ktorých ťažisko výskytu sa nachádza v stepnej a lesostepnej oblasti východnej Európy a na severnom Kaukaze, kde sa objavujú v materiálnej náplni mnohých kultúr a skupín (ako zriedkavé nálezy bočnic z kosti/parohoviny so zoomorfne ukončenými koncami, hrkálók zdobených zvieracími postavami a súčastí šupinových pancierov). Štvrtú skupinu nálezov tvoria bronzové hroty šípov s vysunutou tuľajkou, ktorých výskyt v strednej Európe súvisel pravdepodobne buď s lesostepným Podneprím, alebo s lesostepným Podnestrím a/alebo s ciombrudskou kultúrou.

Vo výskyte nálezov východného typu v Zadunajsku pozorujeme podobné tendencie ako v susedných regiónoch východohalštatskej kultúry. Najviac sú tu zastúpené nálezy VK a hroty šípov s vysunutou tuľajkou. Nálezy VK sú doložené v celej východohalštatskej oblasti, kde môžeme pozorovať v jej jednotlivých skupinách určité rozdiely vo výskyte nálezov VK prejavujúce sa ako v početnosti nálezov, tak aj vo výbere ich typov. S ohľadom na frekvenciu výskytu a typovú variabilitu týchto nálezov zaujímajú osobitné postavenie Morava a Zadunajsko, kde je doložená podobná typologická rôznorodosť nálezov. Na rozdiel od Moravy, kde prvú skupinu pôvodu tvoria takmer výlučne náhodné nálezy a artefakty bez bližších náleзовých okolností, v Zadunajsku zaznamenávame zvýšenú frekvenciu výskytu nálezov VK v sídliskových objektoch a sčasti aj v hrobách. V Zadunajsku pozorujeme viaceré koncentrácie vo výskyte vekerzugských nálezov: v jeho severozápadnej (najmä v okolí Soprone, Győru a Velému) a juhovýchodnej časti, v okolí Balatonu a v oblasti ohybu Dunaja vrátane západnej časti Budapešti a jej okolia. V diskusii o interakciách medzi halštatským osídlením Zadunajska a VK má dôležité postavenie územie Budapešti. Jej východná časť tvorila súčasť vekerzugského osídlenia. Kým v prípade západnej časti Budapešti môžeme uvažovať o prenikaní vekerzugského osídlenia

do tejto oblasti, v prípade ostatných častí Zadunajska ukazuje výskyt nálezov VK skôr na aktívne kultúrne kontakty medzi miestnou halštatskou a vekerzugskou populáciou. Osobitné postavenie v rámci prvej skupiny pôvodu má tiež pohrebisko v Szentlőrinci, kde sa okrem zubadiel vyskytli aj samostatné hroby koní. Tie ukazujú na prepojenie južných častí Karpatskej kotliny s VK – a to nielen vo výskyte nálezov, ale aj vo vplyvoch VK na miestny pohrebný rítus. Podobne ako na Morave ani v Zadunajsku nie sú nálezy z druhej skupiny pôvodu početné a koncentrujú sa na lokalitách v jeho severozápadnej časti. Význam nálezov z tretej skupiny pôvodu je v Zadunajsku vzhľadom na ich obmedzenú početnosť minimálny. Ide o také typy artefaktov, ktoré sú buď v halštatskom prostredí jedinečné, alebo podobné nálezy sporadicky nachádzame aj na Morave. Nálezové kontexty predmetov z tretej skupiny nepotvrdzujú vojenské pozadie ich výskytu ani v Zadunajsku, ani v ostatných oblastiach halštatskej kultúry. Staršie typy hrotov šípov s vysunutou tuľajkou zo stredoeurópskych lokalít sa vyskytli v čiastočne odlišných nálezových kontextoch, než sú tie, v ktorých boli nájdené hroty šípov so skrytou tuľajkou. Časť z nich pochádza z hrobov ciuibrudskej kultúry, ale v oblastiach ležiacich západne a severozápadne od územia rozšírenia VK je pozorovaná zvýšená frekvencia ich výskytu na hradiskách – na niektorých z nich dokonca v takých nálezových kontextoch, ktoré súvisia s horizontom ich zničenia.

Výskyt hrotov šípov východného typu je vo východo-halštatskom prostredí často spájaný s násilnými bojovými aktivitami skýtskych jazdeckých nomádov. Toto konštatovanie čiastočne platí len v prípade exemplárov s vysunutou tuľajkou, ktorých vyšší počet na niektorých hradiskách na Morave, v juhozápadnom Poľsku a na juhozápadnom Slovensku by mohol naznačovať lokálne obmedzené bojové akcie. Naopak, hroty šípov VK nie je možné považovať za doklad násilných bojových aktivít. Na ich rozšírení do strednej, ako aj do juhovýchodnej Európy sa podieľali iné faktory než v prípade hrotov šípov s vonkajšou tuľajkou – a to kultúrne a obchodné kontakty, výmena technológií, prípadne snaha o vybudovanie sféry vplyvu zo strany VK. Nálezy VK indikujú jej intenzívne a ďaleko siahajúce nadregionálne kontakty a mierumilovné interakcie s kultúrnymi regiónmi ležiacimi západne od nej v stupňoch HD a LTA.

- Obr. 1. Rozšírenie nálezov východného typu z neskorej doby halštatskej a včasnej doby laténskej (HD–LTA) v Zadunajsku – prvá (krúžok) a druhá skupina pôvodu (štvorec). K číslovaniu a odkazom pozri *Katalóg*. Autor A. Kozubová.
- Obr. 2. Rozšírenie nálezov východného typu z neskorej doby halštatskej a včasnej doby laténskej (HD–LTA) v Zadunajsku – tretia (krúžok) a štvrtá pôvodu (štvorec). K číslovaniu a odkazom pozri *Katalóg*. Autor A. Kozubová.
- Obr. 3. Typologická škála nálezov východného typu z neskorej doby halštatskej a včasnej doby laténskej (HD–LTA) v Zadunajsku podľa skupín pôvodu. 1–18 – prvá skupina; 19, 20 – druhá skupina; 21–23 – tretia skupina; 24–33 – štvrtá skupina. Rôzne mierky. Autor A. Kozubová.
- Obr. 4. Rozšírenie bronzových a kostených/parohovinových krížových ozdôb tulcov na šípy z doby halštatskej vo východnej časti strednej Európy. 1–6 – Slovensko; 7–17 – Maďarsko; 18–29 – Rumunsko. Grafika A. Kozubová, podľa *Kemenczei 1986*, doplnené A. Kozubovou.
- Obr. 5. Rozšírenie železných zubadiel typu Szentcsanak-Vekerzug. 1–6 – Slovensko; 7–26 – Maďarsko; 27, 28 – Poľsko; 29, 30 – Ukrajina; 31 – Chorvátsko; 32 – Bosna a Hercegovina; 33–35 – Srbsko; 36, 37 – Rakúsko; 38–42 – Rumunsko; 43–50 – Slovinsko. 50 – Česko. Grafika A. Kozubová, podľa *Werner 1988*, doplnené A. Kozubovou.
- Obr. 6. Hlinené pečatidlá z neskorej doby halštatskej a včasnej doby laténskej (HD–LTA) zo Zadunajska. 1, 3 – Alsópáhok, Hévízdomb I (kat. 2A); 2, 5 – Keszthely, Apátdomb (kat. 14); 4 – Budaörs, Kamaraerdei-dűlő (kat. 8); 6 – Százhalombatta (kat. 30); 7 – Tokod-Altáró, Erszébet akna (kat. 34); 8 – Zalaszántó (kat. 41); 9–11, 13, 14, 19 – Velem, Szent Vid-hegy (kat. 38A, 38B); 12 – Pomáz, Zdravlyák-dűlő (kat. 22A); 15 – Budapest-Csúcshegy, Harsánytelep (kat. 9); 16 – Sopron, Krautacker-dűlő (kat. 29A); 17, 18 – Sopron, Himmelstrom (kat. 29C); 20 – Bátorfő, Körtevélyes-dűlő (kat. 5); 21 – Sé, Dobordó (kat. 27B). Podľa *Chochorowski 1985; Horváth 2015; Ilon 1999; Kemenczei 2008–2010; Kisfaludi 1997; Schwelhus 2010; Tóth 2017*. Rôzne mierky. Grafika A. Kozubová.
- Obr. 7. Hadovité záušnice typu III podľa A. Kozubovej zo strednej Európy. 1, 2 – Kunszentmárton, Nagy-Éri-Főcsatorna (Jasovsko-veľkokumánsko-solnocká župa/HU); 3 – Tiszakeszi, Fáy-kert (Boršodsko-abovsko-zemplínska župa/HU); 4 – Sé, Dobordó (Vašská župa/HU); 5–7 – Velem, Szent Vid-hegy (Vašská župa/HU); 8 – Kozinec, Holubí háj (okr. Praha-západ/CZ); 9, 10 – Měrovice nad Hanou, Babiny (okr. Prostějov/CZ); 11 – Prácheň, U Prosiměřic (okr. Znojmo/CZ); 12 – Suchbátka, Nad přehradou II (okr. Znojmo/CZ). Rôzne mierky. Podľa *Kozubová et al. 2022*.
- Obr. 8. Rozšírenie kovových šupín z pancierov z doby halštatskej vo východnej časti strednej Európy. 1, 2 – Slovensko; 3–8 – Maďarsko; 9 – Rumunsko; 10 – Chorvátsko. Autor A. Kozubová.

Text translated by Matúš Benkovič and Anita Kozubová

Mgr. Anita Kozubová, PhD.
Archeologický ústav SAV, v. v. i.
Akademická 2
SK – 949 21 Nitra
anitakozub@gmail.com
<https://orcid.org/0000-0002-5052-990A>

