

A NEW LATE BRONZE AGE WARRIOR EQUIPMENT FROM EAST CENTRAL EUROPE

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The aim of this study is to evaluate a Late Bronze Age (Ha A–Ha B1) “assemblage” in the collection of the MoD Military History Institute and Museum (Budapest). It consists of significant defensive (greaves, conical helmet) and offensive weapons (a flange-hilted sword with a mount of the sheath) as well as a Fuchsstadt type cup, three flange-hilted knives, a wagon model part and several other unidentifiable sheet bronze fragments. According to the museum’s inventory book, the objects in question were acquired in the 1990s. Unfortunately, their find-spot and find circumstances have not been recorded. Nevertheless, the results of the macroscopic examination and the typo-chronological analysis suggest that the artefacts probably buried together as parts of an East Central European (perhaps Hungarian) hoard or grave assemblage.

Keywords: *Ha A1–Ha B1, defensive and offensive weapons, X-Ray analysis, destruction, “warrior set”*

A tanulmány célja egy közöletlen – a HM Hadtörténeti Intézet és Múzeum gyűjteményében található – késő bronzkori (Ha A–Ha B1) „leletegyüttes” bemutatása. A „lelet” kiemelkedő tárgyai közé tartoznak a különböző típusú védőfegyverek (lábszárvédő, kónikus sisak) és egy nyélnyújtványos kard a hüvely veretével. Mellettük említésre méltó még egy Fuchsstadt-típusú csésze, három kés, egy kocsialkatrész és számos egyéb, azonosíthatatlan fémlemeztöredék. A múzeum leltárkönyve alapján a tárgyak vélhetőleg az 1990-es években jutottak a múzeum birtokába, előkerülési körülményük és lelőhelyük nem ismeretes. A lelet technológiai és tipológiai jellemzői alapján nem zárható ki, hogy a kérdéses tárgyak eredendően egy kelet-közép-európai – akár magyarországi – depó vagy sírlelet részeként kerültek elrejtésre.

Kulcsszavak: *Ha A1–Ha B1, védő- és támadófegyverzet, röntgenelemzés, megsemmisítés, harcosfelszerelés*

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Introduction

The “assemblage”¹ in question was acquired by the MoD Military History Institute and Museum in the 1990s (Fig. 15–19). It remained unknown to research until 2013 when Balázs Polgár “re-discovered” the finds and directed our attention to it.² Except for the probable year of acquisition, no additional information was recorded, and there-

fore the exact find spot and the circumstances of the assemblage’s discovery are wholly unknown. However, the results of the macroscopic examination³ and the typo-chronological analysis in the present study strongly suggest that the objects in question could have been part of one “assemblage”. It is important to note that the current number and state of the artefacts are not representative because almost every one bears clear

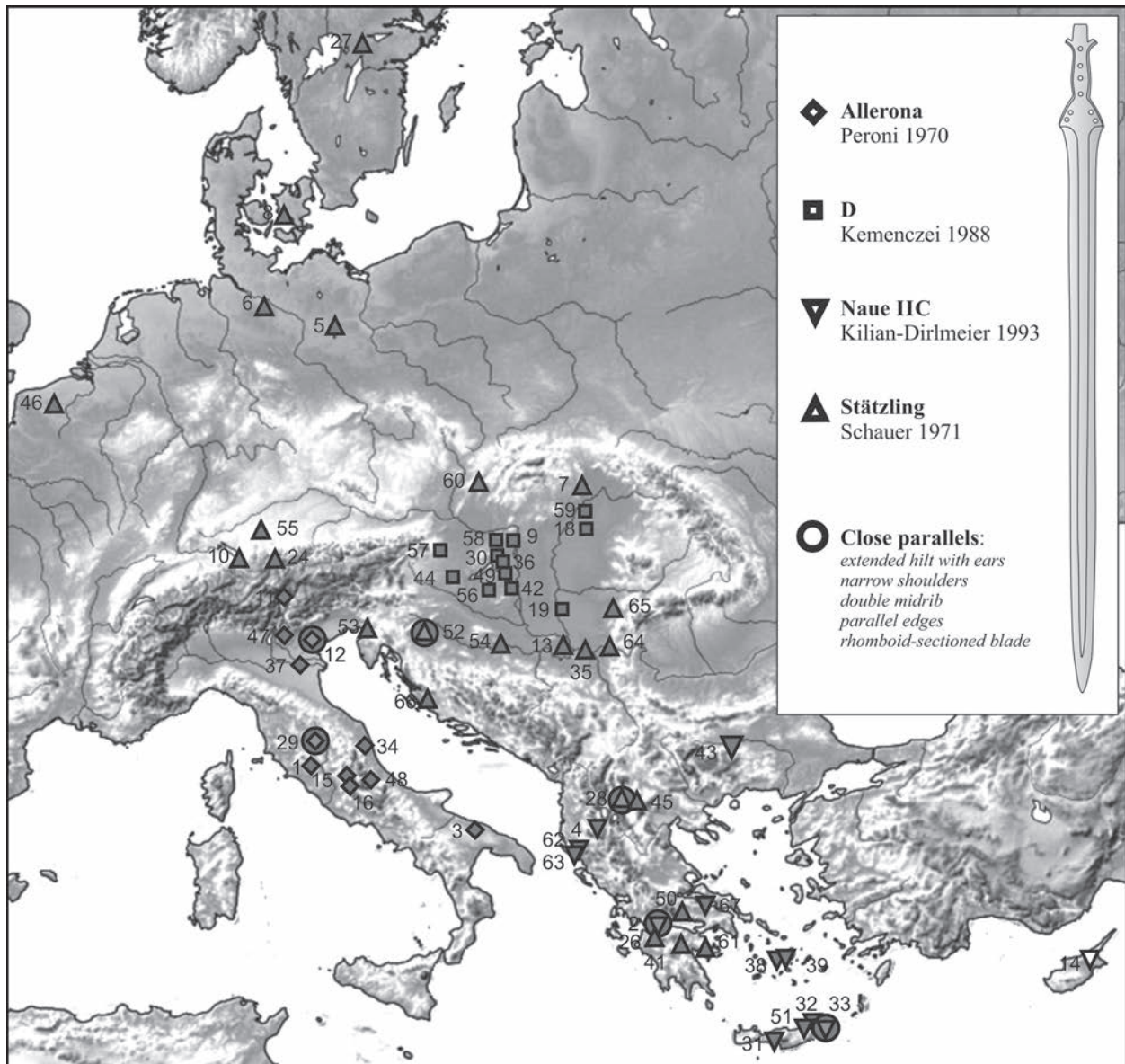


Fig. 1. Distribution of flange-hilted swords with extended tang (Alleronia type, D type, Naue IIC type, Stätzing type)

1. kép. A hosszított markolatú, nyélnyújtványos kardok elterjedése (Alleronia-típus, D-típus, Naue IIC-típus, Stätzing-típus)

¹ Inventory number: 1993.791.II.

² Special thanks are due to colonel Vilmos Kovács and Balázs Polgár for providing the opportunity of studying and evaluating the artefacts. I am grateful to Gábor V. Szabó, Katalin Jankovits, Tibor Bader and Csaba Bodnár for their advice and help, I am also indebted to Péter Szikits for the photographing the artefacts.

³ The macroscopic examinations were in part carried out with a digital microscope camera (Conrad Electronic, USB 9.0MP 200X).

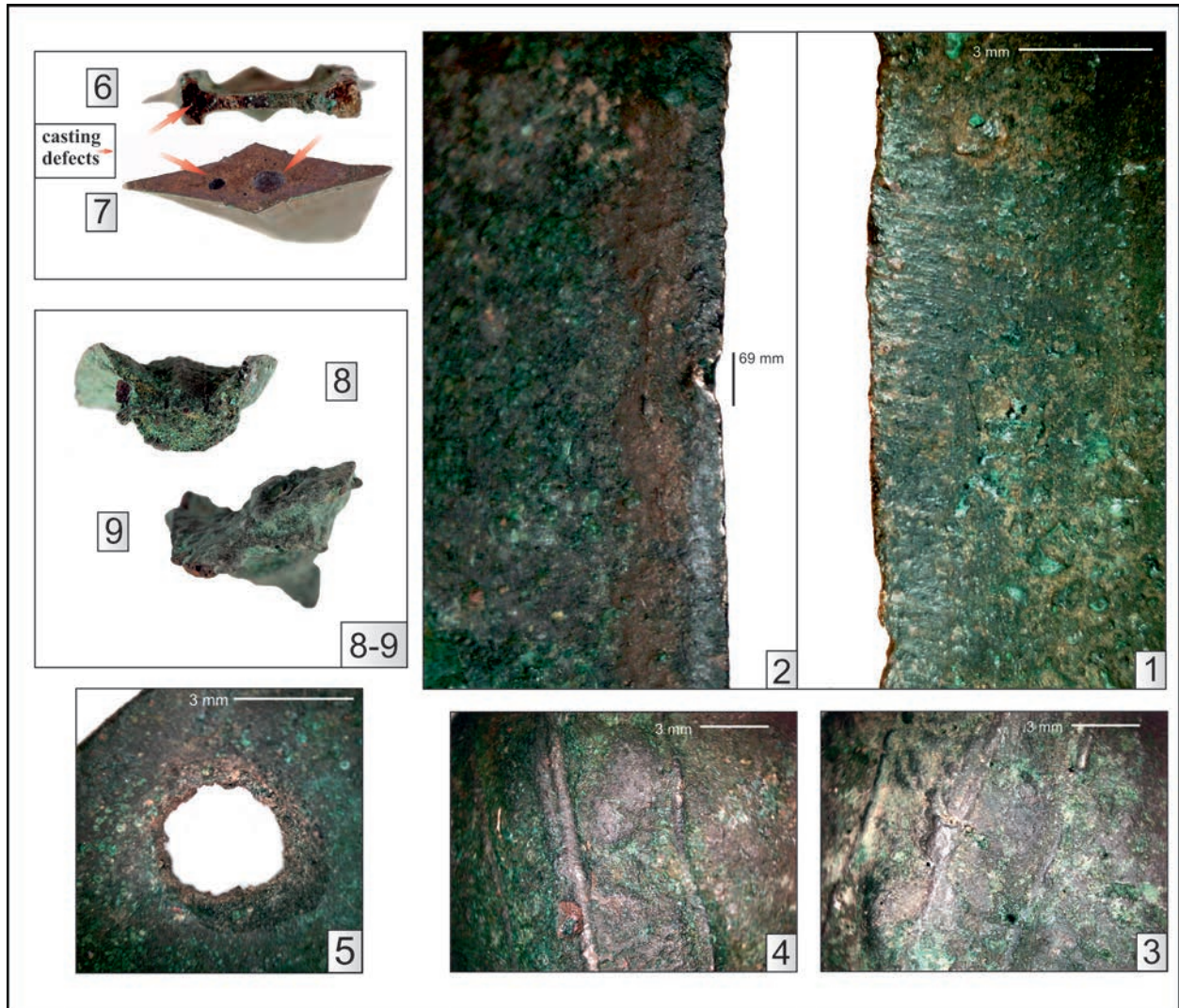


Fig. 2. Observations made during the macroscopical examination of the sword. 1: sharpening; 2: notch; 3–4: molten surface of the blade; 5: shallow abrasion traces around a rivet hole; 6–7: recent breakage surfaces; 8–9: molten blade fragments (MoD Military History Institute and Museum)

2. kép. Makroszkopikus megfigyelések a kardon. 1: élezés; 2: csorbulás; 3–4: olvadt pengefelszín; 5: vátatos kopásnyomok egy szegecslyuk körül; 6–7: recens törésfelület; 8–9: olvadt pengedarabok (HM Hadtörténeti Intézet és Múzeum)

traces of recent damage suffered after the discovery of the finds (e.g. Fig. 2.6–7, Fig. 11.1), suggesting that the original “assemblage” had probably been made up of a much higher number of objects that had been considerably less fragmented.

Evaluation

Burnt by fire: the flange-hilted sword
(Fig. 14.1.1–1.4)

Based on its characteristic traits,⁴ the weapon can be assigned into the class of *flange-hilted swords*

⁴ Such as the extended, stretched tang with a tongue-shaped projection and ears, the narrow shoulders and the rhomboid-sectioned, ribbed blade with parallel edges.

with extended tang.⁵ This widely distributed⁶ weapon class goes by several different names and has been classified variously in local- and supra-regional typological schemes.⁷ Among these, the work of P. Schauer must be mentioned, who distinguished the most widely-accepted Stätz-

⁵ According to the German terminology: *Griffzungenschwert mit Zungenfortsatz* or *Schwert mit Knaufzunge*. SPROCKHOFF 1931, 21–23; KILIAN-DIRLMEIER 1993, Abb. 1.244.

⁶ SPROCKHOFF 1931, 21–23; KILIAN-DIRLMEIER 1993, 102–105; HARDING 1995, 52.

⁷ *Class 1*. HAMPPEL 1877, 44–46, 4. kép. *Group 2, swords with long, conical jet*. NAUE 1903, 12–20. *Swords with extended hilt*. SPROCKHOFF 1931, 21–23. *Erbenheim and Letten types*. COWEN 1955, 73–79, Karte C.

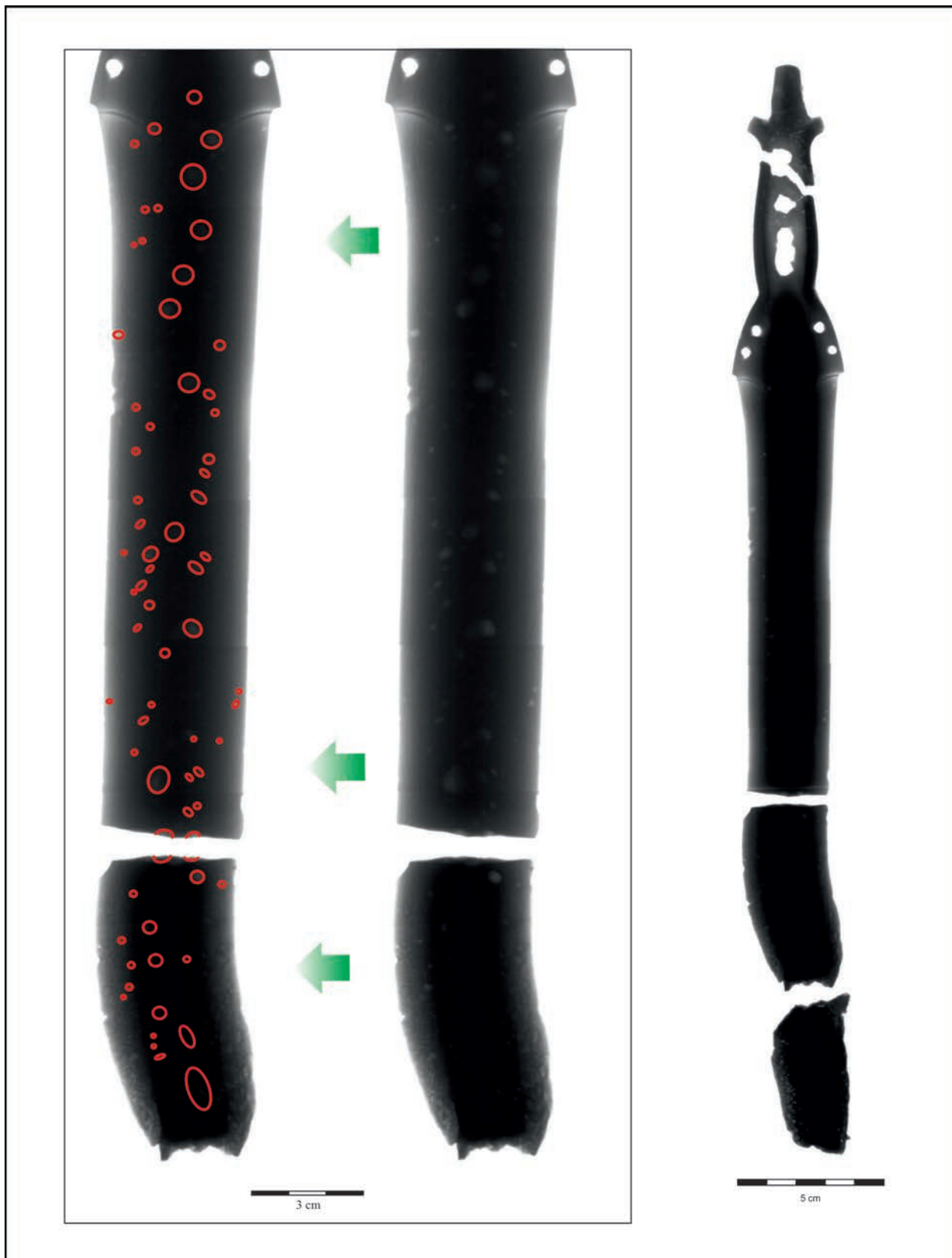


Fig. 3. X-ray images of the sword
3. kép. Röntgenfelvételek a kardról

ling type from the Erbenheim and Letten types.⁸ However, Hungarian research followed a different classification: A. Mozsolics's work rested on the schemes of V. B. Peroni and J. D. Cowen (e.g. the Allerona type), while T. Kemenczei established an independent system (e.g. Type D).⁹ Consequently, the parallels of our sword can be found under different names, which basically all denote the same type (List I).

Surprisingly, the sword shares several common characteristics with the pieces from North Italy (Allerona type: Casale sul Sile,¹⁰ Lago Trasimeno¹¹), the Aegean (Naue II type, variant IIIC: Clauss,¹² Graditsa,¹³ Kallithea,¹⁴ Mouliana¹⁵) and the Balkans (Stätzing type: Krklino/Raštani,¹⁶ Sisak¹⁷) (Fig. 1). Unfortunately, it is difficult to determine the date of this artefact, given that most of the closest parallels are solitary finds or parts of private collections.¹⁸ A more precise dating can be established in view of the specimens from Greece based on the chronological position of the "warrior graves" from Mouliana and Kallithea: LH IIIC.¹⁹

In the light of the above, the sword can be dated to the Ha A1 period, although it should be noted that deposition of flange-hilted swords with extended tang could have lasted for a longer period of time (e.g. Montegiorgio - Ha B1) (Fig. 13).²⁰

In view of its recent breakage surfaces,²¹ the sword could have been less fragmented at the time of its deposition (Fig. 2.6-7). However, the lower third of its blade is heavily burnt and bent, moreover, some parts are detached from the main body (Fig. 2.8-9, Fig. 4.1, 3). In addition, the surface of this section is intensively blistered

(Fig. 2.3-4). It should be noted that comparable phenomena were documented on swords from cremation burials (and sometimes from hoards) suggesting that this weapon could have been melted by fire.²²

Due to the above heat damages and partly to the artefact's unrestored state, the question of usage was hard to examine. Nonetheless, traces of fine sharpening²³ were detected approximately 7 cm from the hilt, while a small nick was visible on the other side of this section (Fig. 2.1-2). The traces of abrasion around the rivet holes, which could also have been caused by its usage, are enigmatic (Fig. 2.5).

In contrast, the structure of the recent breakage surfaces of certain fragments (Cat. nos 1.1-3) was porous, indicating the weapon's inferior casting (Fig. 2.6-7). This observation called for the artefact's further archaeometric investigation. In 2014, it was possible to examine the sword and the knives of the "assemblage" with an X-ray machine in the X-ray laboratory of the Hungarian University of Fine Arts.²⁴ The analyses were carried out by Mátyás Horváth²⁵ and as a result of his excellent work, the intensively porous structure²⁶ of the blade could be ascertained.²⁷ The casting defects were concentrated on critical parts of the blade and sometimes their size was greater than 1 cm (Fig. 3). In my view, these defects would have made this weapon ineffective during combat because it would simply have broken in half due to its porous structure. This assumption is supported by the fact that one of the recent breakage was taken along these porous parts (Fig. 2.6-7).²⁸

⁸ SCHAUER 1971, 144-147, 166-171; NOVÁK 1975, 23-24; BADER 1991, 101-103; HARDING 1995, 48-49.

⁹ PERONI 1970, 66-70; MOZSOLICS 1985, 15-16; KEMENCZEI 1988, 65-68.

¹⁰ PERONI 1970, 66, Tav. 22.154.

¹¹ ANCONA 1886, 10, Tav. 3.44.

¹² PAPADOPOULOS 1984, 221-223, Fig. 2; GIANNOPOULOS 2008, 219-220, Abb. 33.

¹³ CATLING 1961, 11, Pl. 16.c, Pl. 17.b.

¹⁴ CATLING 1956, 112.

¹⁵ KILIAN-DIRLMEIER 1993, 97, Taf. 37.247.

¹⁶ HARDING 1995, 49-50, Taf. 20.173.

¹⁷ HARDING 1995, 49, Taf. 20.172.

¹⁸ ANCONA 1886, 10; PERONI 1970, 66; HARDING 1995, 49-50.

¹⁹ KILIAN-DIRLMEIER 1993, 100; GIANNOPOULOS 2008, 218-219.

²⁰ PERONI 1970, 68; SCHAUER 1971, 145-146; NOVÁK 1975, 23; MOZSOLICS 1985, 15-16; KEMENCZEI 1988, 65-68; BADER 1991, 102-103; KILIAN-DIRLMEIER 1993, 100-101; HARDING 1995, 51-52.

²¹ They were sharp breakage surfaces without abrasion, patina or corrosion on the sword, suggesting that the damage was done after its discovery.

²² E.g. KRÁMER 1952, Abb. 3.8; KEMENCZEI 1988, 46, Taf. 19.196; KEMENCZEI 1991, 85, Taf. 70.442.446; BRADLEY 2005, 150; CLAUSING 2005, 100, Taf. 8.1, Taf. 16A.1, Taf. 20.1, Taf. 37B.1, Taf. 39C.1; SCHÜTZ-BARTEL-KUNTER 2006, 36-37; NOVÁK-VÁCZI 2012, 99-101.

²³ For similar traces see: BESL et al. 2010, 50, Abb. 7.

²⁴ Data of the X-ray machine: Flscan 30 (package, detector table), CP 160b (X-Ray generator). Data of the records: 160 kV (tube voltage), 0.5 mA (amperage), 20 mp (exposure).

²⁵ Grateful thanks are due to Mátyás Horváth for his excellent work.

²⁶ DRIEHAUS 1961, 31, Taf. 9.3; BORN-HANSEN 1991, 149-150, Abb. 3.a; BUNNEFELD-SCHWENZER 2011, 219, 243; MÖDLINGER 2011, 33.

²⁷ According to B. Molloy, the improper pre-heating of the mould or its high limestone content can cause casting defects of this type. MOLLOY 2011, 69.

²⁸ A similar phenomenon was documented by M. Gener during the analysis of the sword from the *Ría de Huelva* (Spain) hoard. GENER 2011, 121, Fig. 3. See also MÖDLINGER 2008, Fig. 2.

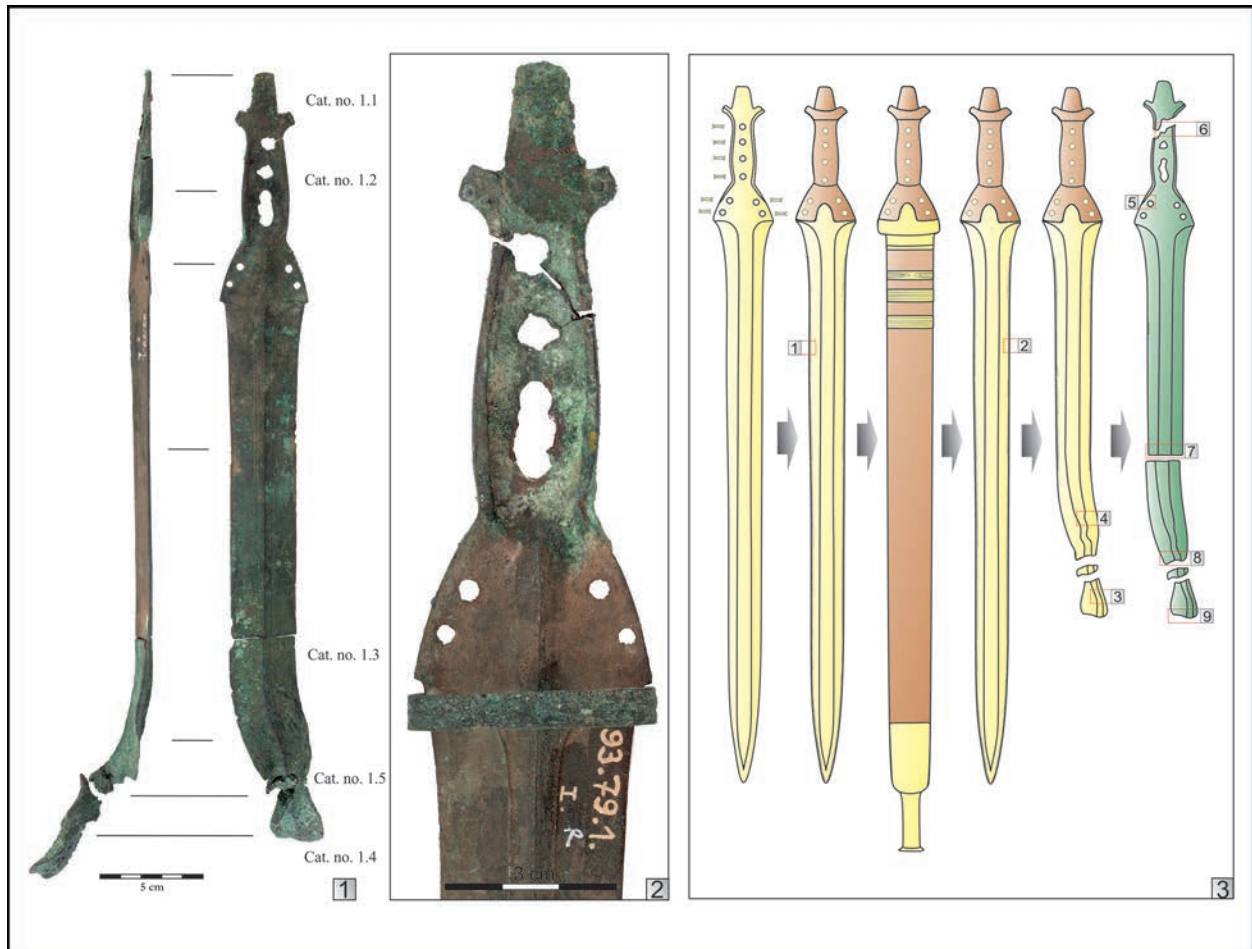


Fig. 4. 1: Reconstruction of the sword; 2: sword with the sheath part; 3: the “life cycle” of the sword (MoD Military History Institute and Museum)

4. kép. 1: A kard rekonstrukciója; 2: a kard a tokrésszel; 3: a kard „életciklusa” (HM Hadtörténeti Intézet és Múzeum)

The remain of the sheath (Fig. 14.2)

The analyzed artefacts included an oval, decorated sheet metal object. Its identification as a sheath part is suggested by its form, thickness and size (Fig. 4.2).²⁹ It seems to me that its similarity to the pieces from Celldömölk-Sághegy,³⁰ Mönlas,³¹ Gyöngyössolymos 13² and Škocjan-Brežec³³, suggest that it can be interpreted as decorative mount. From a typological point of view, it is difficult to classify this artefact group owing to the many individual forms. Moreover, while sheaths are rarely preserved in the Carpathian Basin, they are more frequent in the Balkans,

²⁹ The dimensions of the objects correlate well with the cross-section of the sword, and if it is fitted onto the blade, there is plenty of space for the organic parts as well (Fig. 4.2).

³⁰ MOZSOLICS 1950, 26–28; MOZSOLICS 2000, Taf. 17.4.

³¹ CLAUSING 2005, Taf. 42.2.

³² MOZSOLICS 1985, Taf. 144.19.

³³ HARDING 1995, Taf. 25.204.

Italy, Greece, Northern Europe and the Atlantic metallurgical province.³⁴

Crumpled and deformed: the conical helmet (Fig. 15)

Alongside the other main helmet types of the Carpathian Basin (cap-, bell-, and crested helmets), conical helmets have been continuously studied and classified since the earliest period of research.³⁵ The type in question is believed to be

³⁴ BADER 1991, 171–172; HARDING 1995, 98–105; WÜSTEMANN-RIEDERER 2004, 254–255, Taf. 107.766–801; CLAUSING 2005, 40–48; HARDING 2007, 105–106, Fig. 15; KYTLICOVÁ 2007, 103–104; MÖRTZ 2012, 171–174.

³⁵ HAMPÉL 1896, 116; SPROCKHOFF 1926, 290–298; MERHART 1940; MOZSOLICS 1955, 46–54; FOLTINY 1955, 79–81; PATAY 1969, 190–193, Abb. 20; HENCKEN 1971; BORCHHARDT 1972; KEMENCZEI 1979, 86–87; BOUZEK 1981, 23; MAKAY 1982, 6–22; MOZSOLICS 1985, 46–54; CLAUSING 2003b, 217; BORN-HANSEN 2011, 241–244, Abb. 190–194; BRANDHERM 2011, 41, Abb. 1; LIPPERT 2011, 63–76, Abb. 18; MÖDLINGER 2013; MÖDLINGER et al. 2013. The classification into these four types and their

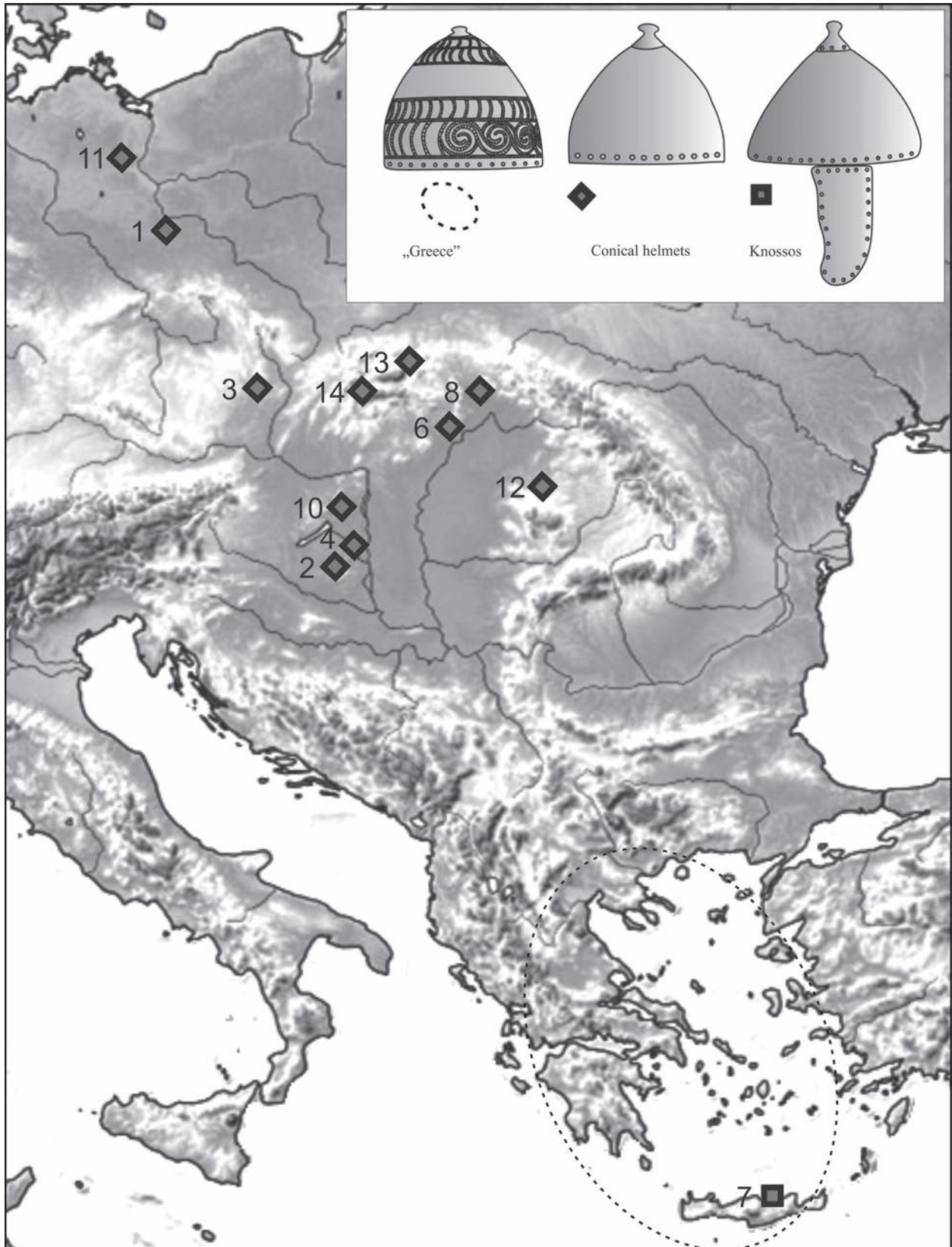


Fig. 5. Distribution of conical helmets (Mödlinger 2013, Fig. 5)

5. kép. A kónikus sisakok elterjedése (Mödlinger 2013, Fig. 5)

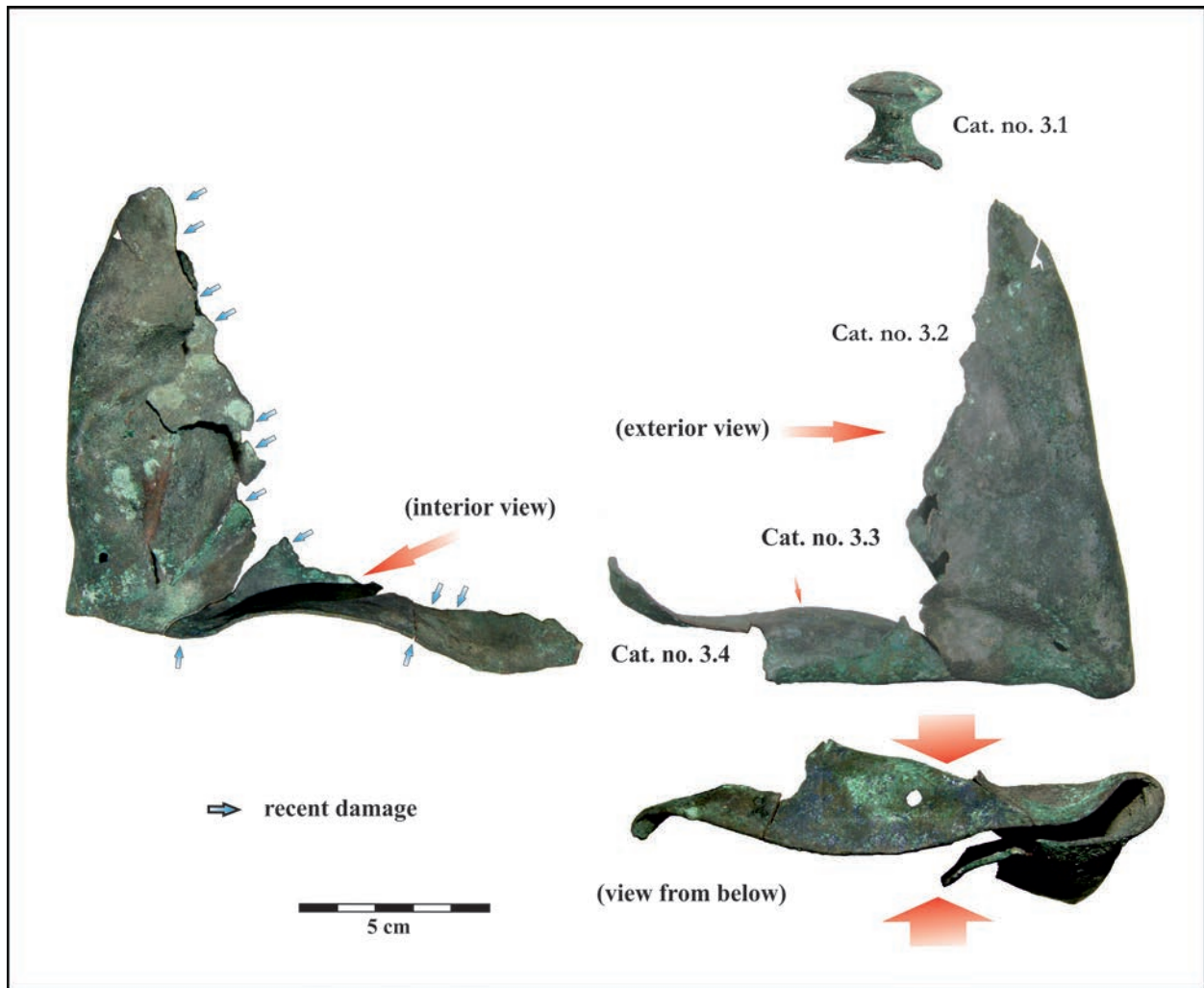


Fig. 6. Reconstruction of the crushed helmet (MoD Military History Institute and Museum)

6. kép. Az összenyomott sisak rekonstrukciója (HM Hadtörténeti Intézet és Múzeum)

one of the earliest forms of Late Bronze Age helmets in the Carpathian Basin, give that its shape and technological features are closely related to the Aegean boar tusk helmets (e. g. Dendra) and the helmet from Knossos.³⁶ This contention was recently confirmed by a hybrid specimen whose decoration imitates that of boar tusk helmets (e.g. Dendra).³⁷ In short, it seems that conical helmets developed from boar tusk helmets and they first appeared in the Aegean (e.g. Knossos, 15th BC), whence they later (Br C2) reached Central Europe (e.g. Biecz/Beitzsch, Poland). However, most of the pieces from the Carpathian Basin can be

dated between the Br D and Ha A periods, except for the ones from Lúčky and Sâg, which can be assigned to the Ha B1 period (List II; Fig. 5).³⁸ Based on the above, the helmet from the collection of the MoD Military History Institute and Museum can be dated between the above periods. However, it should be noted that it is essentially typical for the Ha A period (Fig. 13).

Currently, the helmet consists of a central knob and three other body fragments. Similarly to the sword, all of its breakage surfaces are the results of recent damage. Due to its unrestored state, we could only identify traces of hammering along its

names were criticized by G. Szabó in part for the inconsistent terminology and in part on technological grounds. SZABÓ 1994, 221–224. Nevertheless, we shall here use the label “conical helmet” due to its general acceptance in international scholarship.

³⁶ HENCKEN 1952, 36–39; HILLER 1991–1992, 15.

³⁷ MÖDLINGER 2013, Fig. 5.

³⁸ MERHART 1958, 145; SNODGRASS 1967, 25–26; BORCHHARDT 1972, 126, Abb. 16; CLAUSING 2003b, 217–218; LIPPERT 2011, Abb. 27; MÖRTZ 2011, 357; MÖDLINGER 2013, 400–401; MÖDLINGER et al. 2013, 22, Fig. 1.

edge (Fig. 9.2), despite the many studies on how these helmets had been made.³⁹

At the same time, an interesting pre-depositional treatment was also observed. Based on the shape of Fragment 3.2 (Fig. 9.1), the original object was probably crumpled before its deposition, which made its later re-use impossible (Fig. 6).⁴⁰

The pair of Pergine: the greaves
(Fig. 16, Fig. 17.5.1–5.12, 4/5.1.1–4/5.1.2)

The greaves belong to a special Late Bronze Age defensive weapon group whose principal distribution area was Transdanubia, the Alpine region, North Italy and the Aegean.⁴¹ The earliest specimens were found at Dendra, which were chronologically followed by the pieces from Kallithea, Enkomi and the Acropolis of Athens.⁴² However, it is not at all certain that the pieces from the Carpathian Basin can be derived from the Aegean. Some scholars believe they developed independently, while others, like W. Dehn, assume a common origin.⁴³ It seems quite likely that the organic predecessors pre-dated their metal variants in both regions.⁴⁴

Regarding their typology, several different formal and stylistic groupings have been proposed for greaves, of which we here follow Ch. Clausung's scheme, who classified the main groups and variants according to how they were fastened and their finer stylistic features.⁴⁵

According to this grouping, the greaves can be assigned to Group 1, Variant A2, which was principally distributed in the Carpathian Basin (e.g. Bodrogkeresztúr,⁴⁶ Bonyhád area,⁴⁷ Brodski Varoš,⁴⁸ Esztergom-Szentgyörgymező,⁴⁹ Nadap,⁵⁰ Poljanca⁵¹) and in Austria (Brandgraben⁵²), although specimens of this type are known from France (Cannés-Écluse⁵³) and Italy (Desmontá,⁵⁴ Malpensa,⁵⁵ Pergine⁵⁶) as well (List III; Fig. 7).⁵⁷ The greaves from Pergine (Italy, Trentino) must here be mentioned owing to their formal characteristics (e.g. the elongated oval shape, metal wire lace, similar length), and decorative techniques; moreover, their ornamental motifs are almost wholly identical to the pieces discussed here.⁵⁸ The similarities between these objects are so close that further comparative archaeometric analyses would be essential in the future.

Despite the good parallels to the greaves their chronological position is not entirely clear. According to both P. Schauer's and Ch. Clausung's schemes, the parallels of the Pergine greaves come from Ha A1 assemblages.⁵⁹ However, the greaves from Pergine were not accompanied by further well-datable artefacts therefore could the assemblage only be dated on stylistic ground.⁶⁰ G. Fogolari first assigned them to the Iron Age (Benacci II, Arnoaldi) based on their decoration, which could be associated with Villanova artefacts.⁶¹ According to the stylistic development outlined by G. von Merhart, the repoussé patterns made up of larger bosses and the stylized bird representation date the Pergine find to the Ha B period.⁶² His dating is in line with the chronological scheme proposed by A. Jockenhövel, who pointed out the similarities between the Pergine greaves and the patterns on Proto-Villanova ceramics (e.g. Bismantova, Monteleone di Spoleto, Pianello) and the fibulae from the

³⁹ SZABÓ 1994, 223–224; HANSEN 2008, Abb. 20; MÖDLINGER et al. 2013, 32–34; MÖDLINGER 2013, 393.

⁴⁰ The method of crushing was identified by the fact that the rivet holes were punched inward from the exterior along the edge of the helmets (Fig. 9.1). MÖDLINGER et al. 2013, 33.

⁴¹ DEHN 1980, Abb. 9; KRAHE 1980, 76–77, Abb. 57; BOUZEK 1981, 30; SCHAUER 1982, Abb. 19; HANSEN 1994, 13, Abb. 5; JANKOVITS 1997, 17, Fig. 10; HARDING 2007, 79. The latest greaves were unearthed at Várköly and Lengyeltóti. HORVÁTH 1997, 1. kép, 4. kép; MÜLLER 2006, 234–235, 4. ábra.

⁴² MERHART 1958, Abb. 1; MÜLLER-KARPE 1962, 275; VERDELIS 1967, 35, Abb. 8, Beilage 19, 1–3; BOUZEK 1981, 28; SCHAUER 1982, 147–152; HARDING 1984, 179–180; MOUNTJOY 1984, 135–137; CLAUSUNG 2003a, 171.

⁴³ MÜLLER-KARPE 1962, 276; DEHN 1980, 29.

⁴⁴ SNODGRASS 1967, 30, Fig. 10–11; BOUZEK 1981, 28–30, Abb. 7. It is quite possible that the metal greaves had been attached to organic (leather) parts by riveting or lacing. Some scholars have argued that greaves were symbolic objects or items of social display. In my view, if these flexible sheet metal objects were combined with strong organic parts, they would have been able to withstand the blows of offensive weapons. However, further experimental research is needed to prove this assumption. DEHN 1980, 32; HANSEN 1994, 13; KRAHE 1980, 77.

⁴⁵ MERHART 1958; MOZSOLICS 1972, 387, 390; SCHAUER 1982, 101–151, 133–141; JANKOVITS 1997, 1–12, 16–17; MOZSOLICS 1985, 27; CLAUSUNG 2003a, 149–185.

⁴⁶ KEMENCZEI 2003, Taf. 7.19.

⁴⁷ WOSINSKY 1890, 12, 15.

⁴⁸ VINSKI-GASPARINI 1973, 212, Taf. 55.221.

⁴⁹ JANKOVITS 1997, Fig. 5.

⁵⁰ MAKKAY 2006, 4. tábla.

⁵¹ VINSKI-GASPARINI 1973, 218, Taf. 48.19.

⁵² WINDHOLZ-KONRAD 2008, Abb. 53.

⁵³ GRAUCHER-ROBERTIS 1967, 205, Fig. 46–48.

⁵⁴ SALZANI 1985, 42.

⁵⁵ MIRA BONOMI 1979, 125, Fig. 1.1–2.

⁵⁶ FOGOLARI 1943, 73, Abb. 1–4.

⁵⁷ CLAUSUNG 2003a, 154–158.

⁵⁸ FOGOLARI 1943, 73–74, Abb. 1–4.

⁵⁹ SCHAUER 1982, 134–137; CLAUSUNG 2003a, 154–158.

⁶⁰ These finds were dated between the 12th–11th century BC and the 8th–7th century BC. CLAUSUNG 2003a, 158; JANKOVITS 1997, 14.

⁶¹ FOGOLARI 1943, 80–81.

⁶² MERHART 1958, 102–105, 115–117, 132.

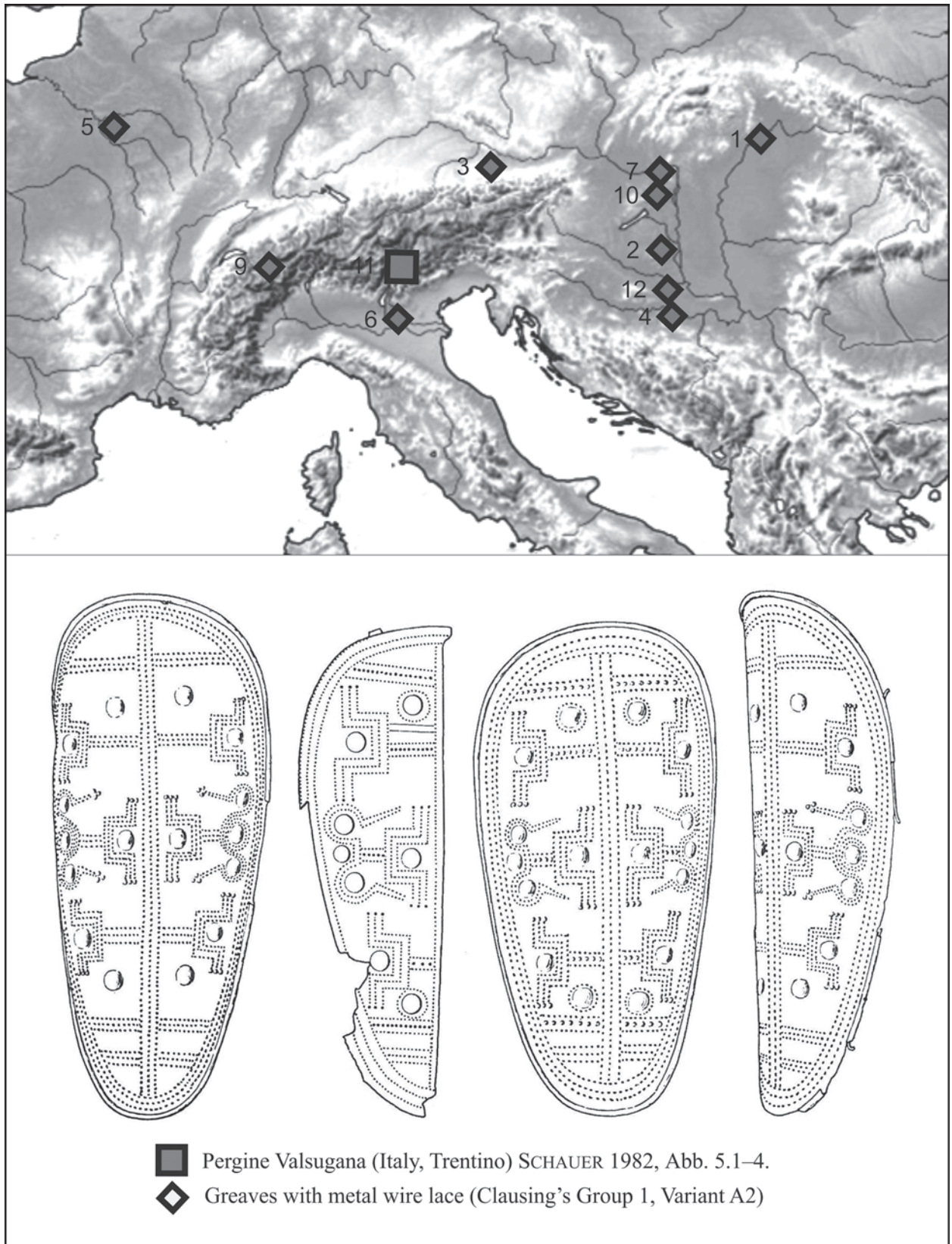


Fig. 7. Distribution of greaves (Group 1, Variant A2)
 7. kép. A lábszárvédők elterjedése (1. csoport, A2 variáns)

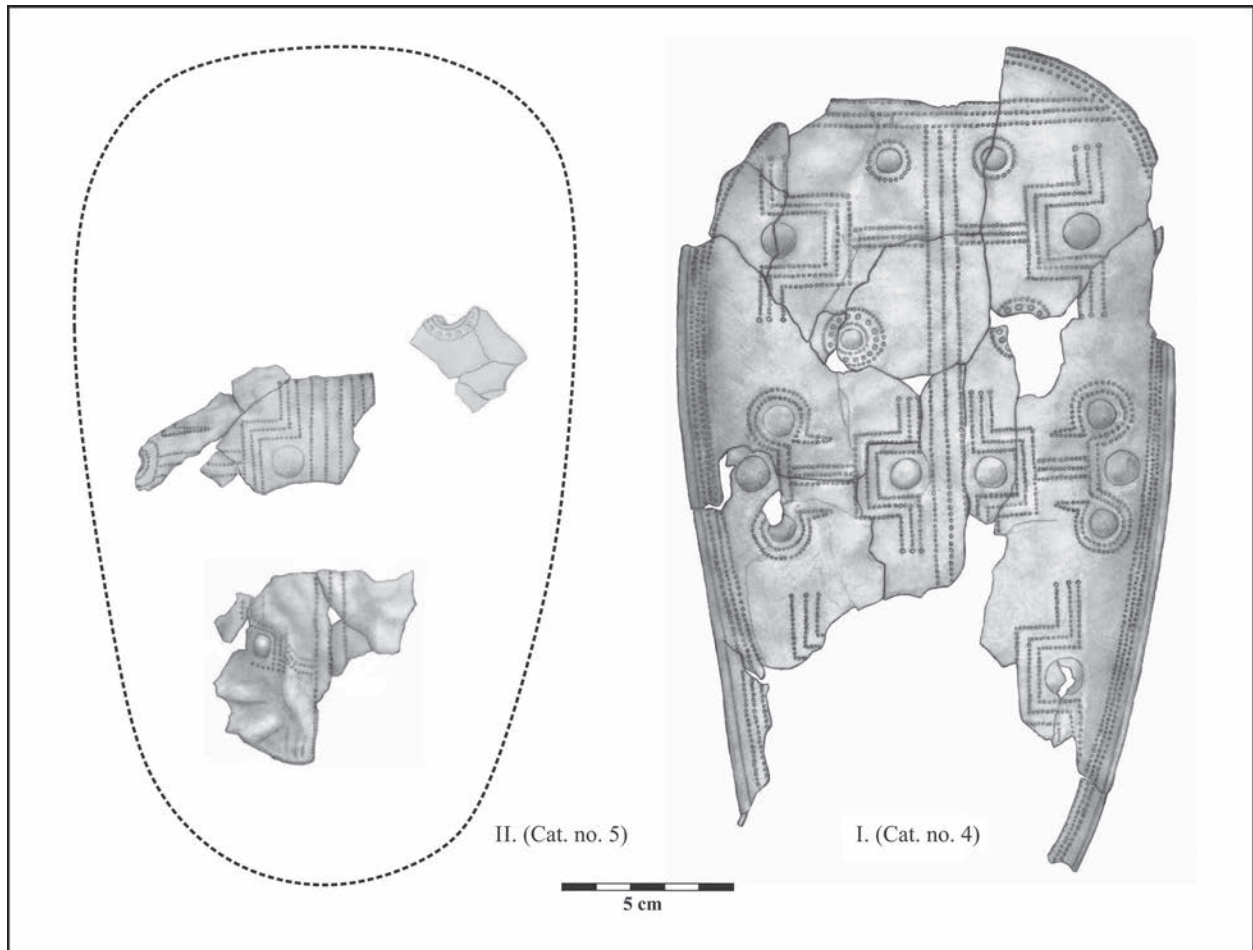


Fig. 8. Reconstruction of the greaves
8. kép. A lábszárvédők rekonstrukciója

Tolfa-Coste del Marano hoard (10th century BC – Ha B1/IV period).⁶³ Later, a similar dating was proposed by Franco Marzatico as well.⁶⁴ New data were provided by G. Zipf's stylistic analysis who demonstrated that the VOB3⁶⁵ and VOB4⁶⁶ motifs had been used over a long period of time, from the Bronzo Finale 2/3 (VOB3) to the Bronzo Finale 3–Primo Ferro 1A–1B (VOB4).⁶⁷ Unfortunately, the undocumented context of the assemblage from the collection of the MoD. Military Institute and Museum is of little help in clarifying the exact date of Pergine finds. Consequently, based on the dating of its parallels, it can be assigned to the Ha A1 period and a later date (Ha B1) can only be supported by stylistic analysis (Fig. 13).⁶⁸

⁶³ JOCKENHÖVEL 1974, 83–84, Taf. 19.1, Taf. 20.1–2, Taf. 21.2–5.

⁶⁴ MARZATICO 2000, 402.

⁶⁵ ZIPF 2003, 452.

⁶⁶ ZIPF 2003, 463.

⁶⁷ ZIPF 2003, 452–455, 463–467, Tab. 39, Tab. 41.

⁶⁸ In my view, the later dating of the Pergine finds needs further confirmation. The stylistic “evolution” from realistic to more

abstract bird depictions and the appearance of repoussé design with larger bosses do not necessarily imply significant chronological changes. CLAUSING 2003a, 154–158. For instance, the combination of different stylistic types is known from the archaeological record (e.g. Nadap). MAKKAY 2006, Pl. II.2, Pl. III.3, Pl. IV.4–5. Moreover, most of the parallels of the Pergine find can be dated to the Ha A. Finally, the repoussé decoration pre-dated the Ha B1, as shown by Žatec type buckets and Blatnica type cups. PATAY 1990, 53–54; CLAUSING 1996, 426.

⁶⁹ FOGOLARI 1943, 73, Abb. 1–4; SCHAUER 1982, 134, Abb. 5. The unrestored state of the object made it impossible to examine the greaves' finer details (e.g. the number of the repoussé dots making up the design could be much higher). Therefore, the reconstruction presented here is no more than an illustration and a new reconstruction should be made after the restoration of the objects (Fig. 8).

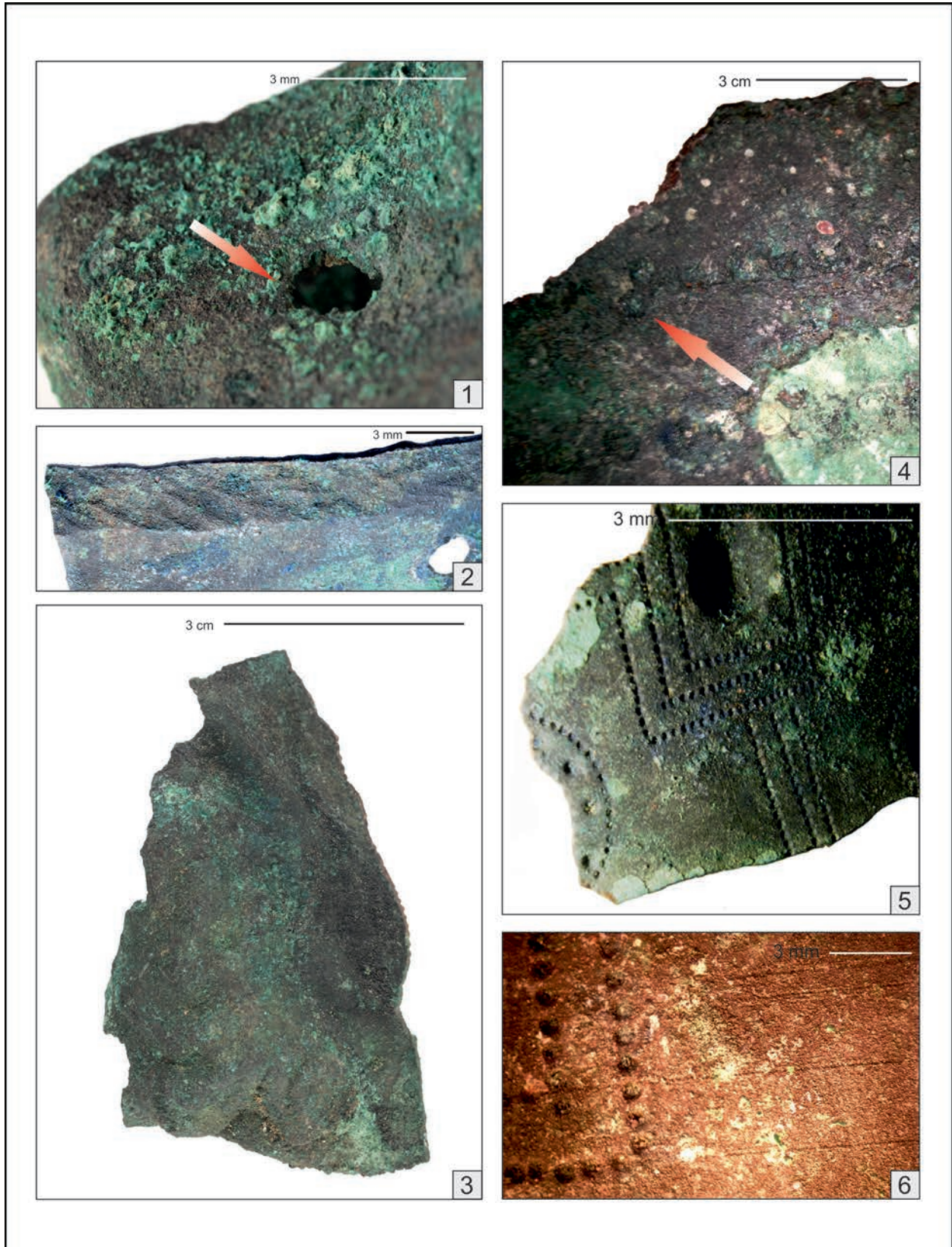


Fig. 9. Observations made during the macroscopical examination of the helmet and the greaves. 1: The position of the rivet hole's perforation on the helmet; 2: hammering traces along the edge; 3: the molten surface of the fragment 5.11; 4: imprecise punching on the greave 4.1; 5-6: incised "guiding" lines on the reverse of the greave fragment 4.1 (MoD Military History Institute and Museum)

9. kép. Makroszkopikus megfigyelések a sisakon és a lábszárvédőkön. 1: A szegecslyuk beütési helyzete a sisakon; 2: kalapálásnyomok a sisak peremén; 3: az 5.11. töredék olvadt felülete; 4: pontatlan poncolásnyom a 4.1 lábszárvédő-töredéken; 5-6: bekarcolt segédvonalak a 4.1. lábszárvédő-töredék hátulján (HM Hadtörténeti Intézet és Múzeum)

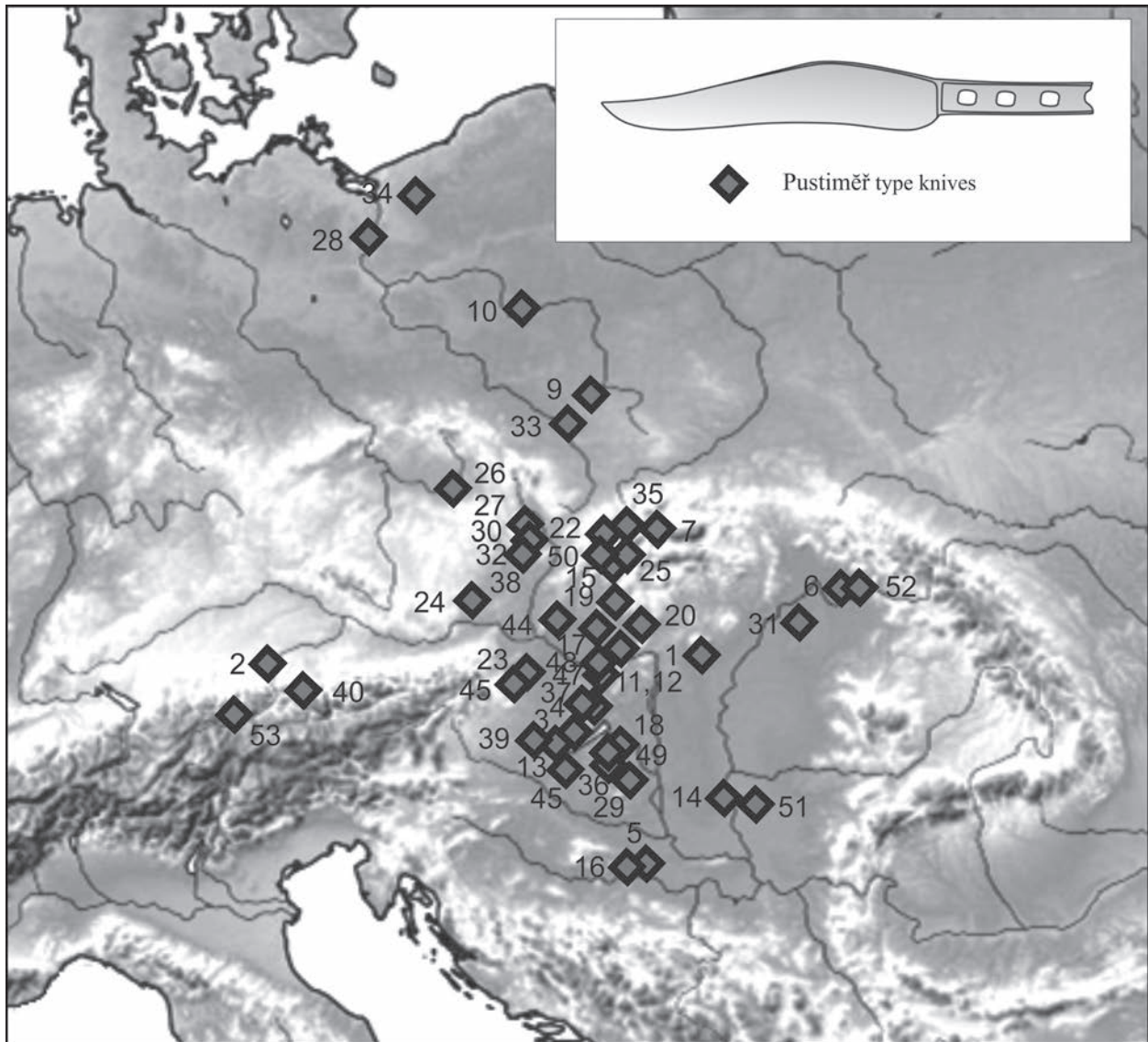


Fig. 10. Distribution of Pustiměř-type flange-hilted knives
10. kép. A Pustiměř-típusú nyélnyújtványos kések elterjedése

tion which was documented in the case of other similar finds (e.g. Cannes-Écluse,⁷⁰ Poljanci 4⁷¹).

Nonetheless, the surface of certain fragments (Cat. nos. 4/5.1.1, 3.1, 3.4) was blistered and their ornamental design was almost completely melted, probably as a result of intensive heat damage (Fig. 9.3). Regarding its decorative techniques, an imprecise repoussé pattern (Fig. 9.4) and lightly incised lines (width: 0.0582 mm) were noted on the reverse of the objects (Fig. 9.5–6). The latter can be interpreted as lines used as a guide because they conform to the decorative pattern and

probably aided the craftsman in creating symmetric design.⁷²

Broken, bent, molten: the flange-hilted knives (Fig. 18.6.1–8)

Owing to individual form (Cat. no. 6) and untypical condition (Cat. no. 8) the classification of the three flange-hilted knives is uncertain (Fig. 18.6.1–6.2, 8). Another problem is that more recent typologies for the knives of the Carpathian Basin have only been established for Slovakian

⁷⁰ GRAUCHER-ROBERT 1967, 46.

⁷¹ KARAVANIĆ 2009, 119, Fig. 59.

⁷² MÖDLINGER et al. 2014, Fig. 6.

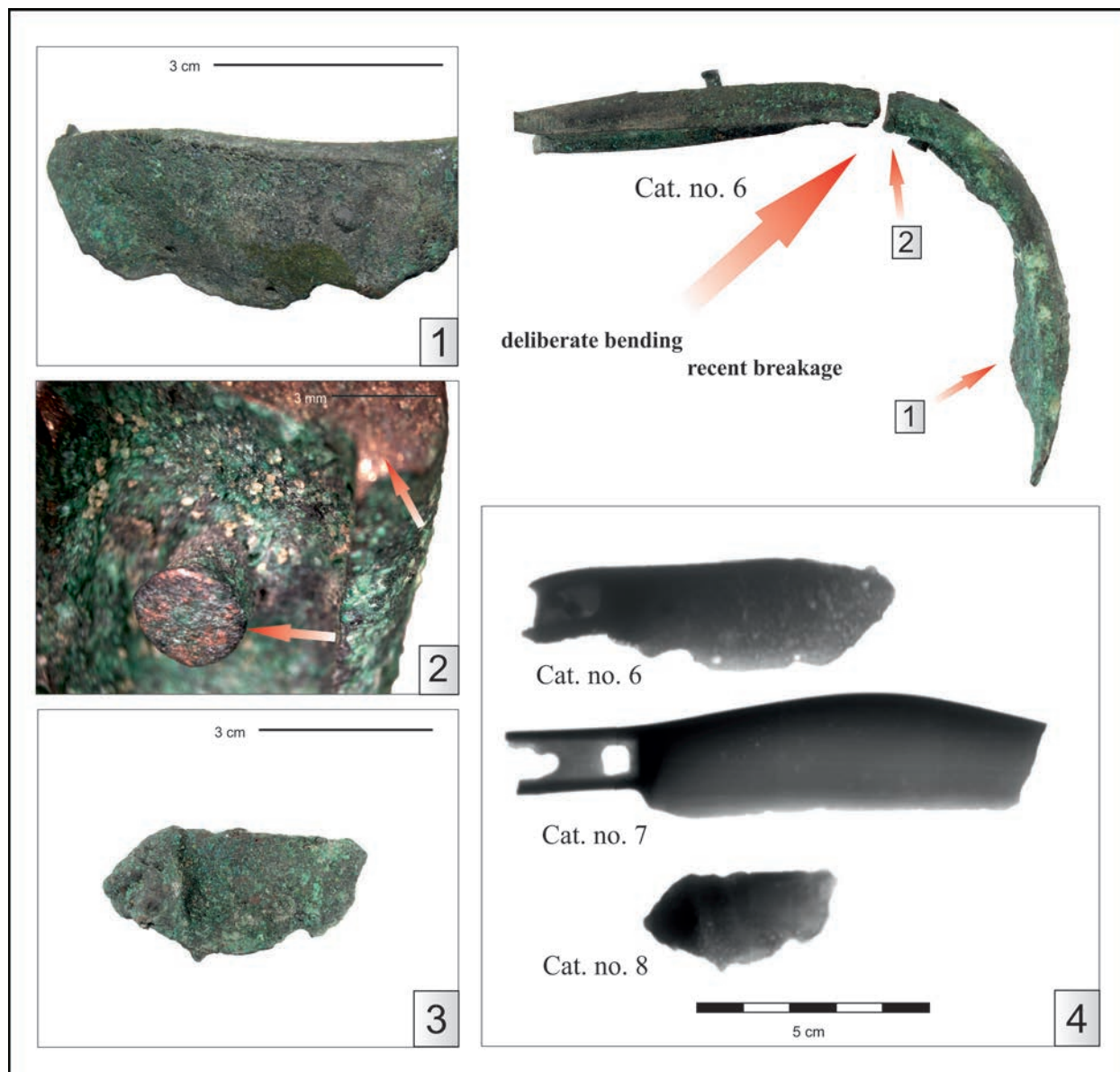


Fig. 11. Observations made during the macroscopical examination of the knives. 1: Molten blade; 2: recent breakage surface and hammered rivet head; 3: molten knife (Cat. no. 8); 4: X-ray images of the knives (MoD Military History Institute and Museum)

11. kép. Makroszkopikus megfigyelések a késeken. 1: Olvadt penge; 2: recens törésfelület és kalapált szegfej; 3: olvadt kés (8.); 4: röntgenfelvételek a késekről (HM Hadtörténeti Intézet és Múzeum)

knives, therefore the following evaluation partly rests on Western and Northern European schemes and it is also limited by the quality of the previous publications of finds from the Carpathian Basin.⁷³

From a typological point of view, one knife (Cat. no. 7) has well identifiable features: a straight hilt base, a curved back, a straight blade

(Fig. 17.7). Comparable pieces can be found among the Pustiměř type flange-hilted knives, which were primarily distributed in Eastern Bohemia and the Carpathian Basin, although they also appear in Western and North Central Europe (List IV, Fig. 10).⁷⁴ It should be noted that the dating and grouping of this type are not uniform.⁷⁵ According to F. Kőszegi, they appeared in Phase I

⁷³ HAMPEL 1896, 58–59; FOLTINY 1955, 98–101; BRUNN 1968, 152–154; ŘÍHOVSKÝ 1972; PERONI 1976; GEDL 1984; MOZSOLICS 1985, 40–42, Taf. 277–278; HANSEN 1994, 219–226, Abb. 139–143, Abb. 144; JIRÁŇ 2002; CHEBENOVÁ 2012; VELIAČIK 2012.

⁷⁴ ŘÍHOVSKÝ 1972, 32–33; GEDL 1984, 32; KOBAL' 2000, 48–49.

⁷⁵ CHEBENOVÁ 2012; VELIAČIK 2012.

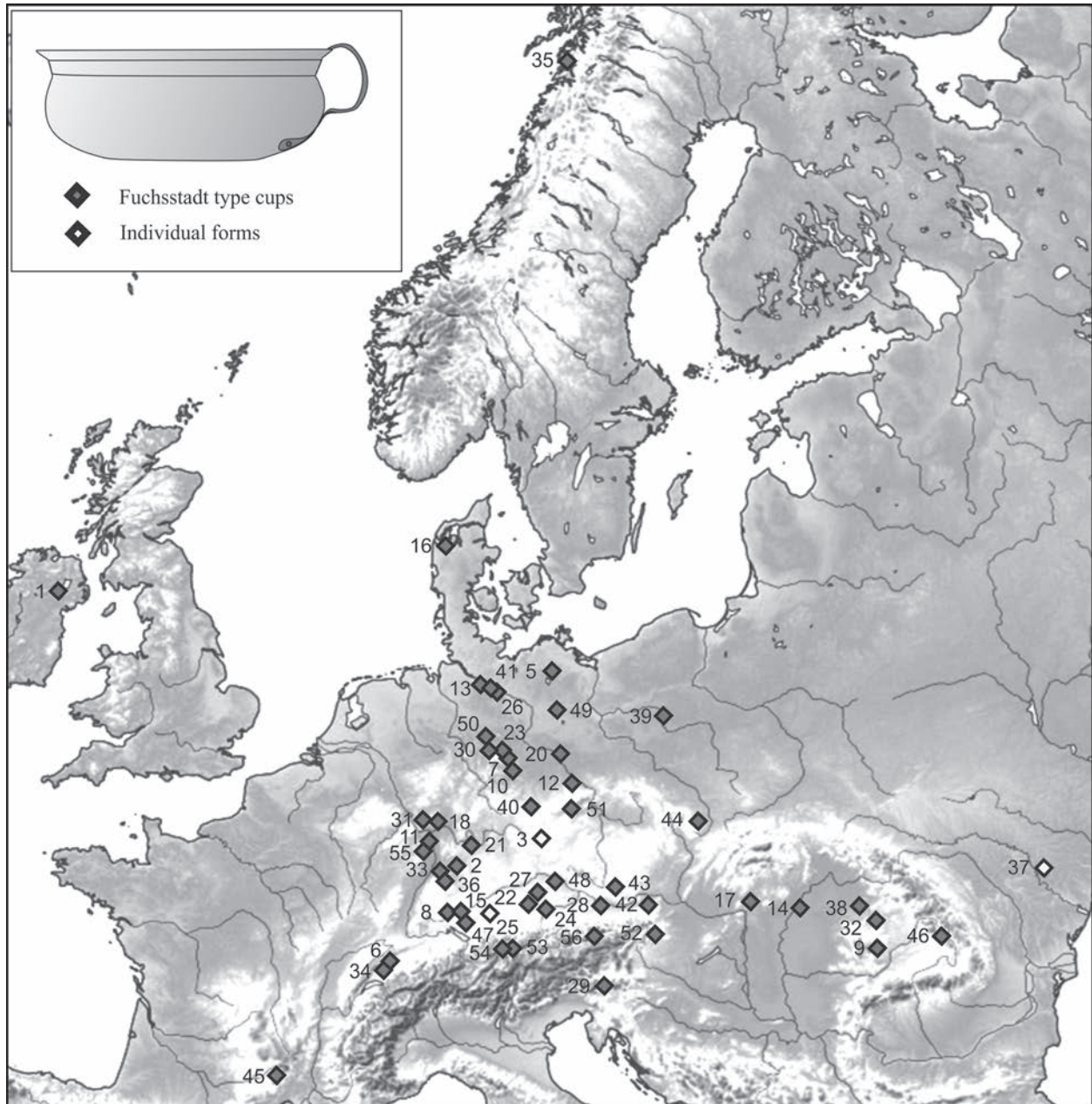


Fig. 12. Distribution of Fuchsstadt type cups

12. kép. A Fuchsstadt-típusú csészék elterjedése

(Br C-D).⁷⁶ The Czech examples were dated to the Ha A1 period, the Slovakian pieces to Ha A and the ones from Poland to Period IV (Ha A2–Ha B1).⁷⁷ This is rooted in the rather controversial classification of the “Pustiměř type” which comprises many individual objects (e.g. the piece from Kirchen am Wagram has a heart-shaped base⁷⁸) as well as in frequent overlaps with other

major types (e.g. the Baierdorf, Novy Seč, and Nový Vestec types).⁷⁹ Consequently, only the chronological position of the closest parallels, which can be associated with the Ha A1, could be considered when dating this knife (Fig. 13).

The classification of another knife (Cat. no. 6) is even more controversial than the previous one due to its melted state and individual decoration

⁷⁶ KÓSZEGI 1988, 26, 35.

⁷⁷ ŘÍHOVSKÝ 1972, 33; GEDL 1984, 31–32; CHEBENOVÁ 2012, 14; VELIAČIK 2012, 297–299, 339, Obr. 4.

⁷⁸ ŘÍHOVSKÝ 1972, Taf. 9.106.

⁷⁹ ŘÍHOVSKÝ 1972, 32–33, Taf. 9.102.105; PERONI 1976, 13–14, Tav. 2.13; JIRÁŇ 2002, 31–32; MÜLLER-KARPE 1959a, 135, 268; MÜLLER-KARPE 1959b, Taf. 105.1; VELIAČIK 2012, Obr. 4.1–9.


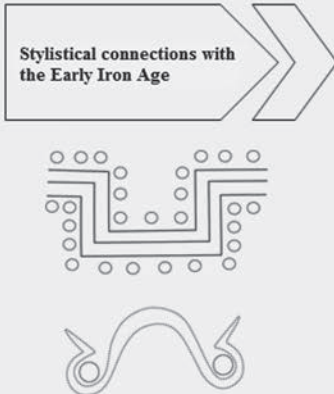




	Bz D	Ha A1	"Ha A2"	Ha B1
Rate occurrence		 <p>Greaves with metal wire lace (Group 1 - Variant A2)</p>		<p>Stylistical connections with the Early Iron Age</p> 
		<p>Allerona/D/Naue IIC /Stätzing type swords</p>		
Dominant occurrence	 <p>(only Knossos)</p>	<p>Conical helmets</p>		
		<p>Pustiměř type flange-hilted knives</p>		
			<p>Fuchsstadt type cups</p>	
	Bz D	Ha A1	"Ha A2"	Ha B1

Fig. 13. Chronological position of the finds

13. kép. A leletek időrendi helyzete

(Fig. 18.6.1–2). Its formal characteristics such as the swallow-tailed base of its hilt is specific to several different types (Pustiměř, Malhostovice, Hradec and Dašice types).⁸⁰

Similarly to the other artefacts of the "assemblage", the breakage surfaces of the three flange-hilted knives were recent except from the broken blade of the knife described under Cat. no. 7 (Fig. 11.2). As had been documented in the case of the sword and the greaves, the three knives were also damaged by heat (Fig. 11.6, 8). The blade of one specimen (Cat. no. 6) was bent and partly molten (Fig. 11.1). However, the most

intensive heat damage was observed on the knife described under Cat. no. 8, which was almost completely melted by fire (Fig. 11.3). The small blisters caused by heat damage were also visible on the X-ray images (Fig. 11.4).

Fuchsstadt type cup from the West (Fig. 17.9)

Even though the greater portion of the cup is missing, the surviving fragment can be confidently assigned to the group of Fuchsstadt type cups.⁸¹ The characteristics of this low vessel type, as defined by E. Sprockhoff, are the straight rim,

⁸⁰ ŘÍHOVSKÝ 1972, 29–36. A similar object has been found in the Grave 68 of the Unterhaching cemetery. MÜLLER-KARPE 1959a, 301; MÜLLER-KARPE 1959b, Taf.187.F.1.

⁸¹ Similarly to the others, the breakage surfaces of the object were also recent.

the funnel-shaped neck, and the ring-footed base with an omphalos, and the decorated loop handle attached with conical-headed rivets.⁸² In line with this definition, many comprehensive studies have provided new data on this artefact class. Surprisingly, both J. Thrane, Ch. Jacob and J. Martin pointed out that the sphere of the so-called Fuchsstadt type cups is not homogenous and that many regional variant and hybrid form existed simultaneously.⁸³

Regarding the distribution of Fuchsstadt type cups, they are characteristic in West Central Europe, especially in the region of the Danube, the Rhine and the Main rivers.⁸⁴ They mostly appeared among the grave goods of “warrior graves” or as parts of feasting set hoards (e.g. Dresden-Dobritz).⁸⁵ Interestingly enough Fuchsstadt type cups have also been found outside their main distribution area. Specimens are known from Northern Europe and the Carpathian Basin, but even from Ukraine and Ireland (List V; Fig. 12).⁸⁶ These cups are generally dated to the Ha A2 period in Western Europe, while the pieces from the Carpathian Basin were deposited in Ha B1 hoards (Fig. 13).⁸⁷

Wagon model part ? (Fig. 18.18)

A ribbed tube was also a part of the “assemblage”. Due to its uncommon form, the exact function of this object cannot be determined. However, its form and decoration strongly recall the axles of wagon models.⁸⁸ At present, I am not aware of identical or similar objects either from the Carpathian Basin, or from Western Europe.

Sheet metal fragments (Fig. 17.10.1–17)

In addition to the above described objects, the “assemblage” contained eight sheet metal fragments. Based on their dimensions, they cannot

be associated with the greaves or the cup, and were therefore probably part of a third metal object.⁸⁹

The chronological position of the artefacts

Due to the undocumented find context and the lack of other data, the dating of the “assemblage” is uncertain. All the objects bear traces of recent damage indicating that the objects making up the “assemblage” may originally have been more intact at the time of their deposition. In addition, it is possible that the surviving artefacts represent a smaller portion of the original “assemblage” and even securely datable “earlier” or “later” artefacts are missing. Therefore, the period spanned by the accumulation of the hoard and the dating of this “find” proposed here is no more than a reconstruction based on the typological features of the preserved specimens.

Looking at the chronological position of the closest parallels of the conical helmet, the Pustiměř type knife and the flange-hilted sword, we may say that most of the artefacts can be assigned to the Ha A period and that later (Ha B1) parallels are sporadic.⁹⁰ The dating of the Fuchsstadt type cup is interesting because it was defined as hallmark of the Ha A2 period by H. Müller-Karpe, even though he did emphasize that this type also occurs in the Ha B1 period, which correlates with the dating of the pieces from the Carpathian Basin.⁹¹ Due to the lack of securely datable objects, the Pergine find was dated to the Ha B1 period on stylistic ground.⁹² However, other parallels of the greaves in question were deposited in Ha A hoards.

In conclusion, most of the closest parallels of the analyzed objects can be linked to the Ha A

⁸² SPROCKHOFF 1930, 67–77, Taf. 19; PATAY 1990, 57; PRÜSSING 1991, 22; PATAY 1996, 408; GEDL 2001, 16; SOROCEANU 2008, 45; MARTIN 2009, 53.

⁸³ THRANE 1975, 136–137; JACOB 1995, 23–31, Taf. 80.B; MARTIN 2009, 54–62, Anhang 2/Liste 2. The closest parallels of the cup discussed here is hard to determine due to its fragmentary state and common handle decoration.

⁸⁴ SPROCKHOFF 1930; PRÜSSING 1991, 23; MARTIN 2009, 58–59.

⁸⁵ SOROCEANU 2008, 49; MARTIN 2009, 58–59.

⁸⁶ CHILDE 1948, Fig. 8; PATAY 1990, 58, Taf. 79; JACOB 1995, Taf. 80B; PATAY 1996, Abb. 3; GEDL 2001, 7.

⁸⁷ MÜLLER-KARPE 1959a, 158–159; THRANE 1975, 137; PATAY 1990, 58; PRÜSSING 1991, 23–24, Taf. 150; HANSEN 1994, 116; JACOB 1995, 31; SALAŠ 2005, 56–57; SOROCEANU 2008, 50.

⁸⁸ VOSTEEN 1999, 80–81, Taf. CVIII–CXII; PARE 2004, Abb. 6; SOROCEANU 2008, 217–223, Taf. 399–400.

⁸⁹ We cannot exclude the possibility that they had perhaps been part of a metal armour in view of the comparably thick armour fragments known from the archaeological record (e.g. Čierna nad Tisou, Farkasgyepű-Pöröserdő). However, further conclusions cannot be drawn owing to their uncharacteristic form. PAULÍK 1968, 42; JANKOVITS 1992, 37.

⁹⁰ SNODGRASS 1967, 25–26; PERONI 1970, 68; BORCHHARDT 1972, 126; ŘÍHOVSKÝ 1972, 32–33; VINSKI-GASPARINI 1973, 211; MOZSOLICS 1985, 24–25, Taf. 277; KILIAN-DIRLMEIER 1993, 100; ILON 2002, 161; CLAUSING 2003b, 217–218; MÖRTZ 2011, 357; VELLAČIK 2012, 279–299; MÖDLINGER 2013, 400–401; MÖDLINGER et al. 2013, 22.

⁹¹ MÜLLER-KARPE 1959a, 158–159; THRANE 1975, 137; PATAY 1990, 57–58; PRÜSSING 1991, 23–24; HANSEN 1994, 116; JACOB 1995, 31; HANSEN 1996, 438; SOROCEANU 2008, 50.

⁹² FOGOLARI 1943, 80–81; MARZATICO 2000, 402; MERHART 1958, 102–105; 115–117, 132; MÜLLER-KARPE 1959a, 64, 161, 197–198, 200–204; JOCKENHÖVEL 1974, 83–84; SCHAUER 1982, 134–137; JANKOVITS 1997, 14; CLAUSING 2003a, 154–158.

period, however, later depositions have also been reported. Consequently, based on the presently known composition of the “assemblage”, it can be concluded that the objects can be dated between the Ha A and Ha B1 periods, and that they were probably deposited during the latter (Fig. 13).

The possible find spot

Determining the original spot of the “assemblage” is a bold attempt considering that most of the objects are supra-regional types. The closest parallels of the flange-hilted sword come from Southern Europe, Italy and the Aegean (Fig. 1). Conical helmets are known from the Aegean and Northern Europe, but their main concentration can be noted in the Carpathian Basin (Fig. 5). The same holds true for Puštiměř type knives, although they are known from beyond this area (Fig. 10). The closest parallels of the greaves were unearthed in Italy; however the type is distributed from France to the Carpathian Basin (Fig. 7).

Fuchsstadt type cups have the most interesting distribution, appearing across roughly the entire territory of West Central Europe (Fig. 12). Even though almost all of the analyzed objects have parallels from the Carpathian Basin, it would be difficult to prove that the “assemblage” was unearthed on the territory of Hungary. However, if this was indeed the case, the probable find spot could be in southern Transdanubia or the Bakony region where hoards and burials have a similar composition.⁹³ Another possibility is that the objects originated from the Northern Balkans, Italy or Slovenia.

The results of the macroscopic examination and the X-ray analysis

Probably one of the most remarkable results of the macroscopic observations was the examination of the recent breakage surfaces, which was made possible by the unrestored state of the finds (e.g. Fig. 2.6–9, Fig. 11.2). With the aid of these features we were able to reconstruct the probable original state of the objects, which showed a completely different picture than we first might expect when analyzing an assemblage

that has undergone conservation and restoration. As a result of this examination, we may conclude that almost all of the artefacts had been intact at the time of their deposition, with deliberate pre-depositional fragmentation only documented in the case of one knife (Cat. no. 7; Fig. 18.7).

Another results of the macroscopic examination was the identification of manufacturing- and probably usage-related traces. However, it should be emphasized that our current examination was constrained by the unrestored state of the artefacts. In the case of the greaves, for example, incised “guiding” lines with a width of 0.0582 mm were detected on the reverse, which aided the craftsman to creating symmetric patterns (Fig. 9.5–6). The undoubtedly most interesting observations were made in connection with the sword. According to both the macroscopical and the X-ray analyses, the inner structure of this weapon was porous (Fig. 2.6–7, Fig. 3).⁹⁴ Despite this crucial casting fault, the sharpening of the blade, the abrasion of the rivet holes and even a small notch were detected (Fig. 2.1–2, 3–5).

Other important result was the documentation of heat damage and other destructive prehistoric manipulations, which also support the unity of this “assemblage”. The lower third of the sword was not just simply bent but was practically molten by fire (Fig. 2.3–4, Fig. 4.3). Likewise, the heat damage and bending concentrated on the functional parts of the other objects. The blade of one knife (Cat. no. 6) was bent at ninety degrees and the tip of its blade was melted (Fig. 11.1), while another one (Cat. no. 8) was also almost entirely molten (Fig. 11.3). The same heat damage could be observed on the enigmatic object interpreted as a possible wagon part (Cat. no. 18) and on certain parts of the greaves (Fig. 9.3, Fig. 17.18). The greatest damage, however, was suffered by the helmet, which was wholly crumpled (Fig. 6).

A “warrior” equipment?

From a technological point of view, most of the objects can be interpreted as high quality products in view of their manufacturing techniques, which, on the testimony of experiments⁹⁵ and technological studies,⁹⁶ called for the complex

⁹⁴ MOLLOY 2011, 69.

⁹⁵ PIETZSCH 1968; SIEDLACZEK 2011, 111–117.

⁹⁶ JOCKENHÖVEL 1982, 462–467; ARMBRUSTER 2000, 98–102, 108, 111–117; FALKENSTEIN 2006–2007, 40; MÖDLINGER et al. 2013, 32–34; MÖDLINGER et al. 2014, 797–798.

⁹³ MOZSOLICS 1985, 24–27; KŐSZEGI 1988, 40–41; JANKOVITS 1992; KOSSACK 1995, 44–50; ILON 2014, 113, 115; PETRES–JANKOVITS 2014, 67.

knowledge and toolset of a specialist.⁹⁷ Moreover, the distribution of their closest parallels reveal clear interregional patterns which were often associated with the elite groups of Late Bronze Age societies who had exclusive access to these valuable artefacts through their supra-regional connections.⁹⁸ No wonder, then that besides their utilitarian function, the theoretical research often stresses the symbolic aspects of these objects and their role in social display.⁹⁹ It seems that the analyzed sword illustrates the above point well. Despite its dysfunctional blade it was sharpened, hafted and kept in a precious sheath.¹⁰⁰

The “assemblage” was originally either a hoard or a grave assemblage; whichever the case, its composition is quite remarkable. Comparable sets of artefacts¹⁰¹ can be associated with the so-called “warrior graves” (e.g. Kallithea A, Portes 3¹⁰²), ostentatious elite burials (e.g. Čaka¹⁰³) and hoards (e.g. Nadap,¹⁰⁴ Pázmándfalu,¹⁰⁵ Rinyaszentkirály¹⁰⁶), which appeared during the Br D–Ha A1 period, probably as a result of profound social changes.¹⁰⁷ Their ideology – the expression of “masculine values” and the idealized life-style of warriors through special objects – virtually follow the same concept as Iberian stele art.¹⁰⁸ In the case of the Carpathian Basin, one useful exercise would be an examination of the combination of these idealized sets – e.g. accessories, weapons, feasting, mobility – among the hoards. Their typological and technological traits, especially in relation to their manipulation traces, could provide additional insights into this phenomenon.

Yet, the most curious aspect of this “assemblage” is the concentration of different types of damage traces (bending, crushing, melting,

breakage) on the functional parts of the objects. As a result of these pre-conceived, deliberate destructions, the damage to these valuable objects was irreversible and they become completely useless after their deposition. Although the destruction of an object could be motivated by many different considerations,¹⁰⁹ in this case, all observations support some sort of symbolic act,¹¹⁰ an attempt to wreck these objects before their prehistoric life-cycle ended.¹¹¹ In this context, the role of fire can also be interpreted as a medium of transformation¹¹² not merely as an effective tool of destruction. It is also curious that similar fire-damaged weapons are rare in the Carpathian Basin. Only few parallels are known, mostly from burials: e.g. Farkasgyepű-Pöröserdő II,¹¹³ Csögle,¹¹⁴ Szeged-Kiskundorozsma,¹¹⁵ Tatabánya-Bánhida,¹¹⁶ and Škocjan-Mušja jama.¹¹⁷ Beyond this region, artefacts damaged by fire have been frequently reported from “warrior graves” of Western Europe¹¹⁸ and the votive hoards of Italy (e.g. Pila del Brancon¹¹⁹). One intriguing assemblage still unpublished,¹²⁰ comes from Tatabánya-Bánhida: its composition (e.g. two sword fragments, a cauldron rim and a possible situla fragment) and its manipulation traces also correspond to the assemblage analyzed here. It seems to me that the detailed personal examination of similar assemblages would be an essential task of future research.

In sum, the results of our evaluation suggest, that the analyzed objects can be interpreted as the remnants of a valuable, probably elite-related set, which could have been buried in a damaged condition as grave goods or a hoard in East Central Europe, most likely in the Ha B1 period.

CATALOGUE¹²¹

1. Flange-hilted sword: Allerona type hilted sword, in five pieces. The breakage surfaces of the sword are recent. Its shoulders are narrow and the tang is slightly elongat-

⁹⁷ ARMBRUSTER 2000, 34–64; KUIJPERS 2008, 54–58; NESSEL 2009, 54–55, Taf. 1–2; NESSEL 2010, 2–10.

⁹⁸ KRISTIANSEN 1999, 184–185; VÁCZI 2014, 279–280, 7–8. kép.

⁹⁹ KRISTIANSEN 1984, 187–189, 203–204; SPERBER 1992, 68–69, 71–74; OSGOOD 1998, 79–80; DOLFINI 2004, 283–284; SOROCEANU 2011, 45–99.

¹⁰⁰ Swords of inferior quality were often manufactured with the purpose of displaying their owner’s social status. For instance, during the Edo period in Japan (1603–1868 AD) the rare swords of Masamue were treasured so high that even fakes were manufactured and presented as gifts to the samurai class by the authorities. YOSHIMURA 2006, 116.

¹⁰¹ BRÜCK-FONTIJN 2013, 205–206.

¹⁰² GIANOPOULOS 2008, Tab. 3.

¹⁰³ TOČIK-PAULÍK 1960; PAULÍK 1963.

¹⁰⁴ PETRES 1990, 87–93; MAKKAY 2006, 139–145.

¹⁰⁵ V. SZABÓ 2013, 811, Fig. 17.

¹⁰⁶ MOZSOLICS 1985, 182–183, Taf. 96–98.

¹⁰⁷ OSGOOD 1998, 77.

¹⁰⁸ TREHERNE 1995; JOCKENHÖVEL 1971, 245–249; WEBER 1996, 261–264; HÄNSEL 1997, 83, Abb. 1; KRISTIANSEN 1999, 180–181; HARRISON 2004, 52–59; HARDING 2008, 192–194; KALLARACZY-V. SZABÓ 2013, 24–27, 6. kép.

¹⁰⁹ NEBELSICK 1997, 40–41; NEBELSICK 2000, 167–171; REZI 2011, 303–307; MÖRTZ 2013, 58–59.

¹¹⁰ NEBELSICK 1997, 40; JANKOVITS 1999–2000, 202.

¹¹¹ KOPYTOFF 1986, 65–67; FONTIJN 2002, 247–258, Fig. 13.1.

¹¹² NEBELSICK 2000, 167; SZEVEÉNYI 2013, 222–224, 227.

¹¹³ JANKOVITS 1992, 37, Abb. 28.2.

¹¹⁴ KEMENCZEI 1988, 46, Taf. 19.196.

¹¹⁵ KEMENCZEI 1991, 85, Taf. 70.442.

¹¹⁶ MOZSOLICS 1985, 94; KEMENCZEI 1991, 85, Taf. 70.446–447.

¹¹⁷ HARDING 1995, 48, Taf. 42.390–392, 400–401.

¹¹⁸ CLAUSING 2005, 103–106.

¹¹⁹ JANKOVITS 1999–2000, 202; BIETTI SESTIERI et al. 2013, 159–163.

¹²⁰ MOZSOLICS 1985, 94; KEMENCZEI 1991, 85.

¹²¹ Abbreviations: l.: length, w.: width, h.: height, d.: diameter, th.: thickness, w2.: weight, o.l.: outstretched length.

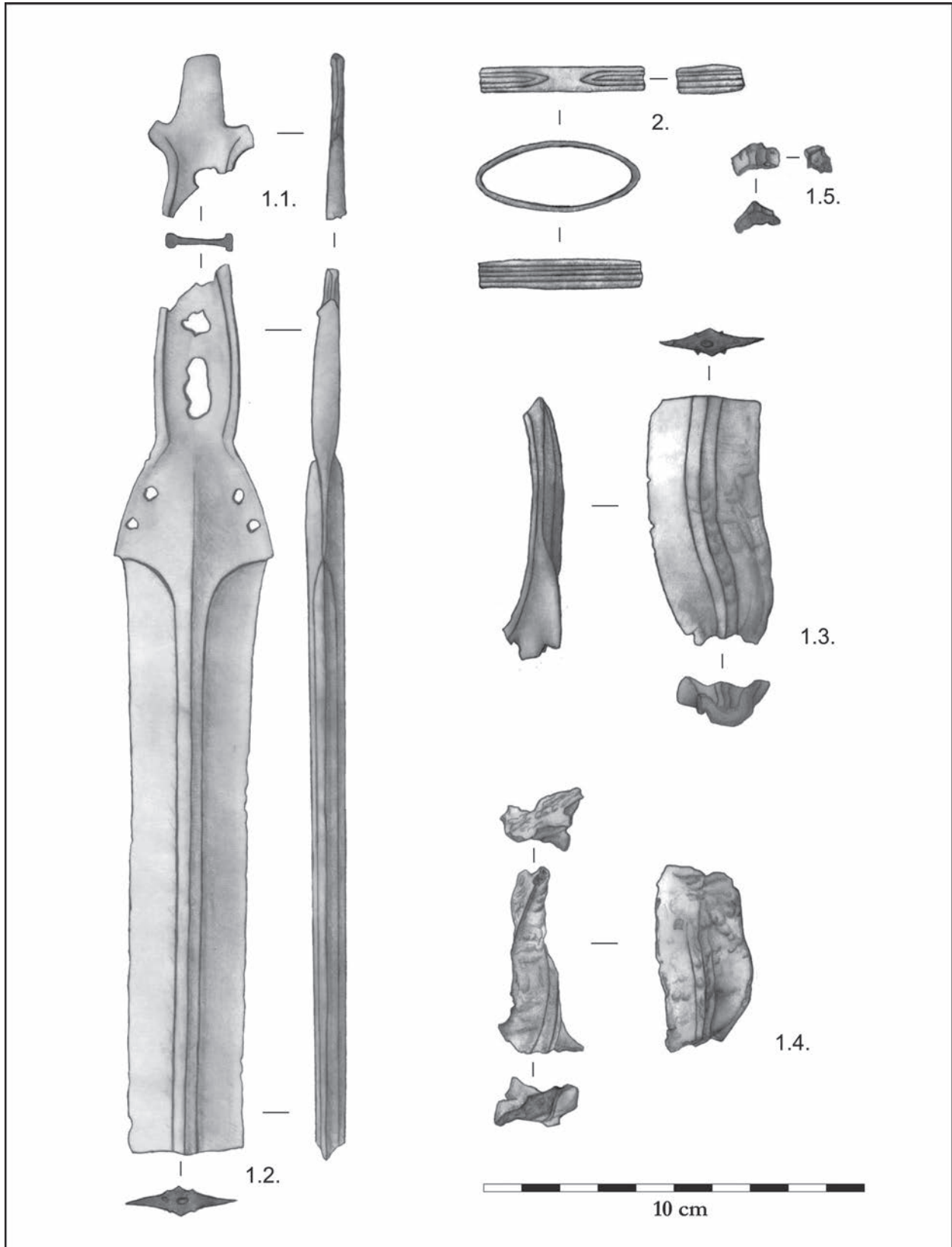


Fig. 14. 1: Fragments of the flange-hilted sword with extended tang; 2: sheath part
14. kép. 1: A hosszított markolatú, nyélnyújtványos kard töredékei; 2: hüvelyszerelék

ed with prominent flanges. The tang characteristically ends in a tongue-shaped projection and has two projecting ears. Four rivet holes are visible along the tang, and four near the shoulders. The transition between the hilt plate and the blade is slightly concave. The rhomboid-sectioned blade has a midrib down its centre. The blade is bent by fire and its lower sections are intensively melted, with some pieces detached from the main body. The surface of this zone is intensively blistered and fragments 1.3, 1.4 and 1.5 are deformed. Due to the unrestored state, it was difficult to perform a macroscopic examination; however, traces of sharpening could be noted 7.7 cm from the transition. A small notch was detected on the other side of the blade, although this could also be a result of recent damage. The breakage surfaces were porous. The breakage of fragments 1.2 and 1.3 occurred along this porous part. Overall dimensions: l. (outstretched length): 45.3 cm, l. (extension): 1.1 cm, l. 1.6 cm, w. (under the extension): 2 cm, w. (middle of the hilt): 2.5 cm, w. (above the hilt): 2.4 cm, w. (shoulders): 4.9 cm, w. (interface): 4.4 cm, w. (middle of the blade): 3.5 cm, th. (tang): 0.8 cm, 0.2 cm, th. (blade): 0.8 cm, w2.: 436 g. **1. 1)** 5.1 cm×3.2 cm, th.: 0.5 cm, w2.: 16 g (Fig. 14.1.1). **1. 2)** l.: 27.2 cm, w. (middle of the hilt): 2.5 cm, w. (above the hilt): 2.4 cm, w. (shoulders): 4.9 cm, w. (interface): 4.4 cm, th.: 0.9 cm, w2.: 282 g (Fig. 14.1.2). **1. 3)** l.: 8 cm, w.: 3.6 cm, th.: 0.9 cm, w2.: 84 g (Fig. 14.1.3). **1. 4)** l.: 5.9 cm, th.: 0.8 cm, w2.: 48 g (Fig. 14.1.4). **1. 5)** l.: 1.4 cm, th.: 0.9 cm, w2.: 6 g (Fig. 14.1.5)

2. Mount of the sheath: Oval, square-sectioned, sheet metal object. Its exterior is decorated with bundles of lines and antithetic curved patterns. l.: 5 cm, w.: 0.6 cm, th.: 0.1 cm, w2.: 10 g (Fig. 14.2).

3. Helmet: Conical helmet with cast knob, in four pieces. The breakage surfaces of the fragments are recent. There is a small hole in the centre of the knob. The body is undecorated and thickens towards the edge. The rivet holes along the edge, where hammering traces are also visible, were punched inward from the exterior. The original state of the helmet may have been more intact prior to the crumpling before its deposition (e.g. Cat. no. 3.2). **3. 1)** h.: 2.7 cm, w. (upper part of the knob): 2.5 cm, w. (neck of the knob): 1.7 cm, w. (bottom of the knob): 2.7 cm, d. (of the rivet head): 2 cm, w2.: 40 g (Fig. 15.3.1). **3. 2)** l.: 13.2 cm, w.: 4.3 cm, 6.2 cm, 6.1 cm, th. (of rim): 0.2 cm, th. (of the upper part): 0.01 cm, w2.: 90 g (Fig. 15.3.2). **3. 3)** l.: 7.9 cm, w.: 3.6 cm, th.: 0.1 cm, w2.: 24 g (Fig. 15.3.3). **3. 4.)** l.: 4.8 cm, w.: 1.9 cm, th.: 0.2 cm, w2.: 11 g (Fig. 15.3.4).

4. Greave (no. 1): The greave consist of twelve smaller fragments whose breakage surfaces are recent in every case. The shape of the object is ovaloid and has a metal wire lace under the rim. The repoussé patterns were made by punching from the reverse. The motifs are almost identical to the ones on the Pergine greaves. The front part is divided by bundles of vertical lines and a horizontal one in the upper section. The main decorative design is composed of "anthropomorphic" and "zoomorphic" motifs that are separated from each other by concentric circles. Lightly incised lines (width: 0.0582 mm) can be made out on the reverse. These "guiding" lines

aided the craftsman in creating symmetric patterns. Overall dimensions: 27.3 cm, w.: 17.1 cm, w2.: 192 g. **4. 1)** 8.2 cm×5.6 cm, th.: 0.1 cm, w2.: 17 g (Fig. 16.4.1). **4. 2)** 7.6 cm×6.8 cm, th.: 0.1 cm, w2.: 16 g (Fig. 16.4.2). **4. 3)** 6 cm×4.2 cm, th.: 0.1 cm, w2.: 9 g (Fig. 16.4.3). **4. 4)** 1.8 cm×1.1 cm, th.: 0.1 cm, w2.: 2 g (Fig. 16.4.4). **4. 5)** 1.9 cm×1.7 cm, th.: 0.1 cm, w2.: 1 g (Fig. 16.4.5). **4. 6)** 3.7 cm×3 cm, th.: 0.1 cm, w2.: 4 g (Fig. 16.4.6). **4. 7)** 8.2 cm×8.8 cm, th.: 0.1 cm, w2.: 32 g (Fig. 16.4.7). **4. 8)** 6.1 cm×2 cm, th.: 0.1 cm, w2.: 6 g (Fig. 16.4.8). **4. 9)** 19 cm×7.2 cm, th.: 0.1 cm, w2.: 59 g (Fig. 16.4.9). **4. 10)** 7.2 cm×3.6 cm, th.: 0.1 cm, w2.: 12 g (Fig. 16.4.10). **4. 11)** 12 cm×6.8 cm, th.: 0.1 cm, w2.: 28 g (Fig. 16.4.11). **4. 12)** 3.5 cm×2 cm, th.: 0.1 cm, w2.: 6 g (Fig. 16.4.12).

5.1–4. Greave (no. 2): Larger fragment of a greave with remains of the central repoussé decoration punched from the reverse. The design is composed of bundles of vertical lines and "anthropomorphic" and "zoomorphic" motifs. The breakage surfaces are recent. 10.1 cm, th.: 0.1 cm, w2.: 15.5 g. **5. 1)** 6 cm×4.1 cm, th.: 0.1 cm, w2.: 8 g (Fig. 17.5.1). **5. 2)** 4.5 cm×2.2 cm, th.: 0.1 cm, w2.: 6 g (Fig. 17.5.2). **5. 3)** 1.1 cm×0.9 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.5.3). **5. 4)** 2.1 cm×1.2 cm, th.: 0.1 cm, w2.: 0.5 g (Fig. 17.5.4).

5.5–8. Greave (no. 2): Larger fragment of the greave described under Cat. no. 5.1–4, in five pieces. The fragments are decorated with fine repoussé patterns. Based on the forms of the patterns, these fragments could be indentified as the central part of the object. The breakage surfaces are recent. **5.5)** 2.6 cm×2.5 cm, th.: 0.1 cm, w2.: 3 g (Fig. 17.5.5). **5.6)** 2.9 cm×1.2 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.5.6). **5.7)** 2.3 cm×1.5 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.5.7). **5.8)** 1.4 cm×0.7 cm, th.: 0.1 cm, w2.: 0.5 g (Fig. 17.5.8).

5.9–12. Greaves fragment (no. 2): Lower fragment of the greaves described under Cat. no. 5.1–5.4, in four pieces (5.9–5.12). The traces of the repoussé motifs punched from the reverse are hard to identify due to intensive heat damage. Only traces of the bundles of vertical lines and the "anthropomorphic" motif can be made out. **5. 9)** 4.5 cm×3.5 cm, th.: 0.1 cm, w2.: 4 g (Fig. 17.5.9). **5. 10)** 2.4 cm×1.4 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.5.10). **5. 11)** 7.8 cm×4.6 cm, th.: 0.1 cm, w2.: 17 g (Fig. 17.5.11). **5. 12)** 2.3 cm×1.4 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.5.12).

4/5. Greave fragment¹²²

4/5.1.1–2: Edge fragment of a greave in two pieces. The breakage surfaces are recent. The repoussé decoration of the object is composed of three parallel lines along the edge and two bundles of horizontal lines. The fragment is slightly molten due to intensive heat damage. **4/5.1.1.)** 2.9 cm×2 cm, th.: 0.1 cm, w2.: 5 g (Fig. 17.4/5.1.1). **4/5.1.2)** 3.8 cm×2.3 cm, th.: 0.1 cm, w2.: 4 g (Fig. 17.4/5.1.2).

4/5.2. Greave fragment: Edge fragment of a greave with repoussé decoration and the remains of the metal

¹²² Fragments which could not be paired with certainty with the greaves described under Cat. no. 4 and 5 were assigned to this group (No. 4/5).

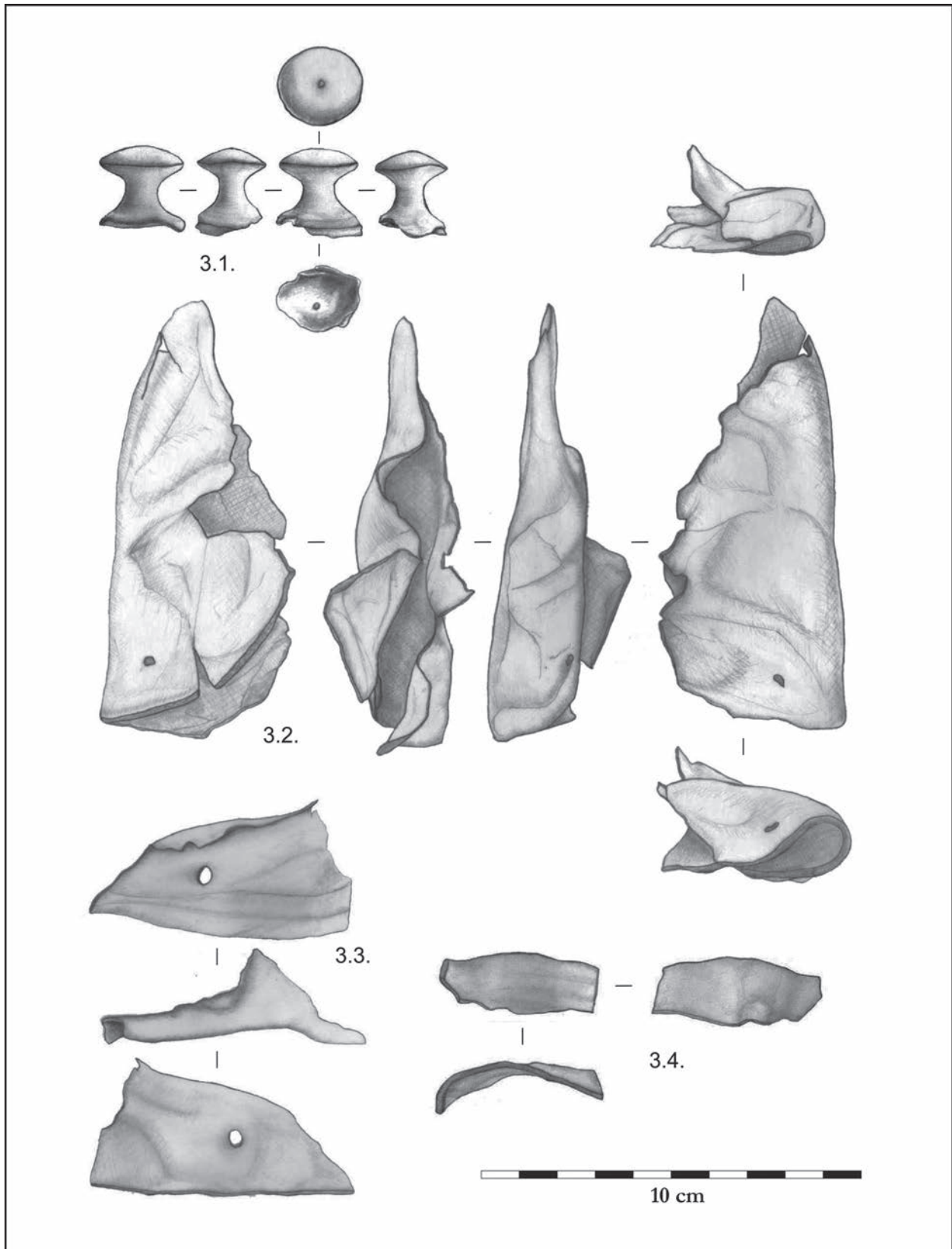


Fig. 15. 3: Fragments of the conical helmet

15. kép. 3: A kónikus sisak töredékei

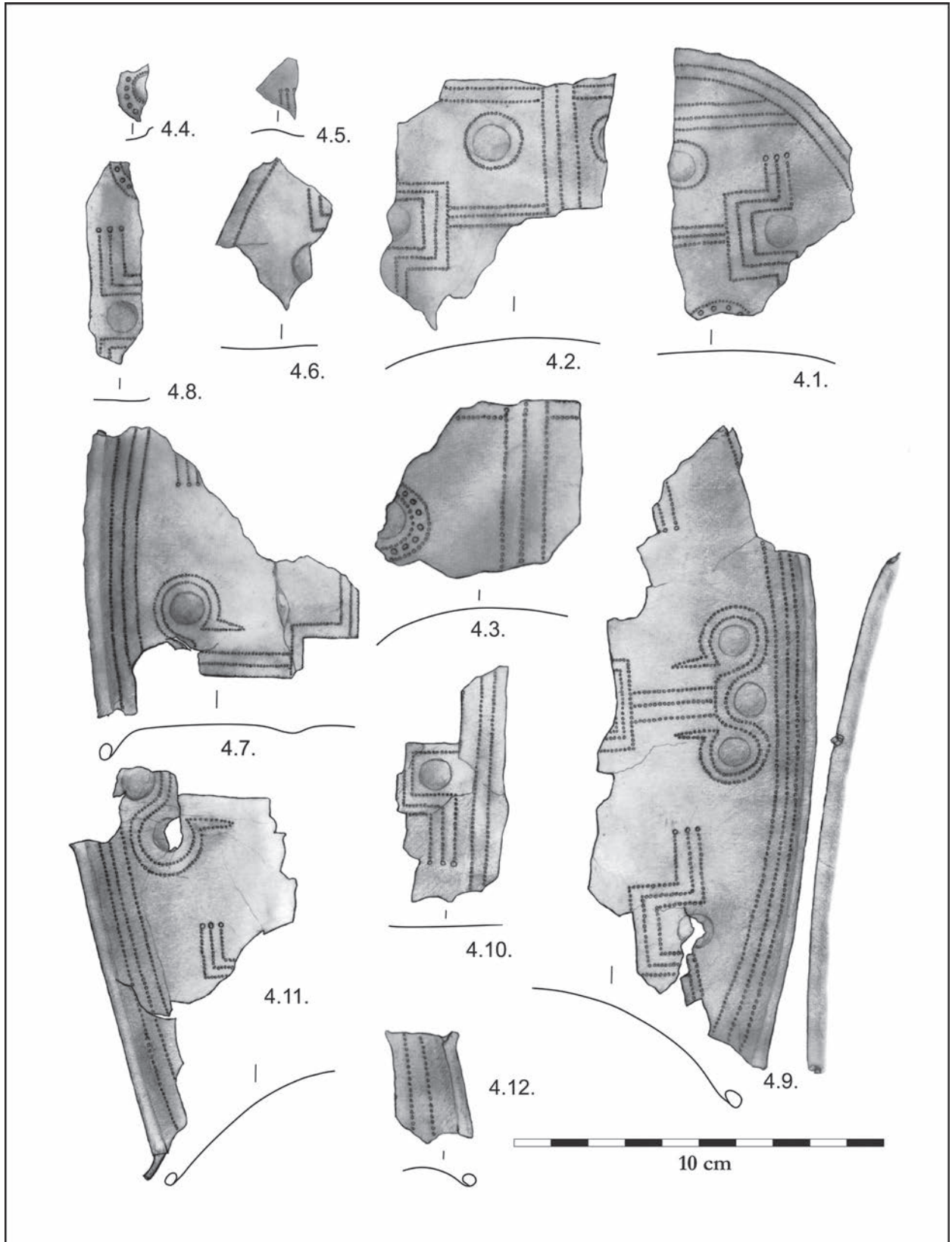


Fig. 16. 4: Greave fragments (Cat. no. 4)

16. kép. 4: A 4. lábszárvédő töredékei

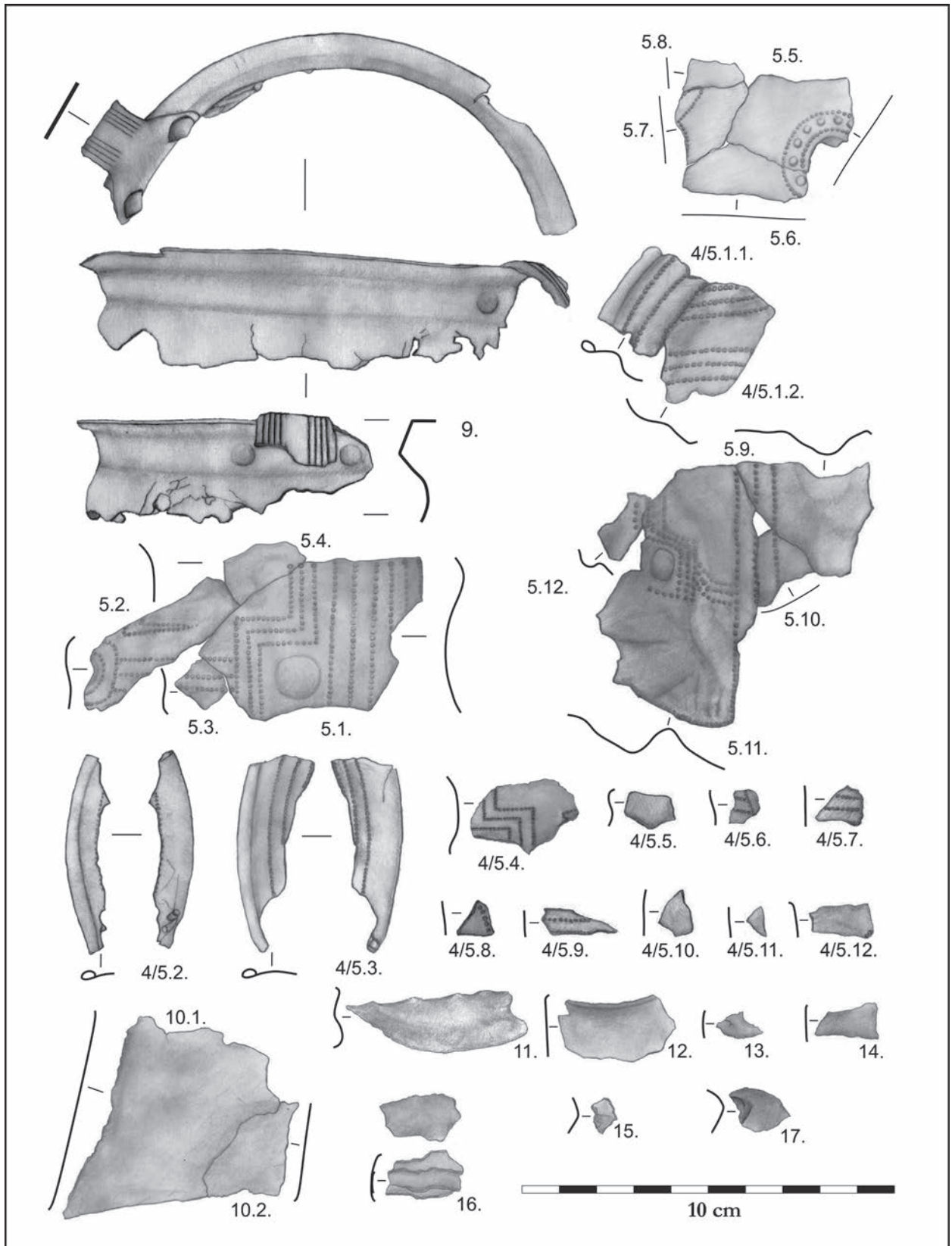


Fig. 17. 5: Greave fragments (Cat. no. 5); 4/5: greave fragments; 9: Fuchsstadt type cup; 10-17: unclassifiable metal sheet fragments

17. kép. 5: Az 5. lábszárvédő töredékei; 4/5: lábszárvédő-töredékek; 9: Fuchsstadt-típusú csésze; 10-17: klasszifikálhatatlan fémlemez-töredékek

wire lace. The breakage surfaces are recent. 6.4 cm×1.6 cm, th.: 0.1 cm, w2.: 7 g (Fig. 17.4/5.2).

4/5.3. Greave fragment: Edge fragment of a greave with repoussé decoration and the remains of the metal wire lace. The breakage surfaces are recent. 6.2 cm×2.1 cm, th.: 0.1 cm, w2.: 7 g (Fig. 17.4/5.3).

4/5.4. Greave fragment: Small fragment of a greave with a geometric repoussé design (probably part of the central motif). The breakage surfaces are recent. 3.3 cm×2.2 cm, th.: 0.1 cm, w2.: 6 g (Fig. 17.4/5.4).

4/5.5. Greave fragment: Small fragment of a greave with recent breakage surfaces. 1.6 cm×1.2 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.5).

4/5.6. Greave fragment: Edge fragment of a greave. Its decoration is composed of fine repoussé lines. The breakage surfaces are recent. 1.2 cm×1.1 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.6).

4/5.7. Greave fragment: Small fragment of a greave with repoussé decoration. Its pattern is composed of three parallel bundles of lines. The breakage surfaces are recent. 1.6 cm×1.2 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.7).

4/5.8. Greave fragment: Small fragment of a greave with recent breakage surfaces. 1 cm×1.1 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.8).

4/5.9. Greave fragment: Small fragment of a greave with a pattern of two repoussé lines. The breakage surfaces are recent. 2.3 cm×0.8 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.9).

4/5.10. Greave fragment: Thin, undecorated fragment of a greave with recent breakage surfaces. 1.5 cm×1.2 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.10).

4/5.11. Greave fragment: Thin, undecorated fragment of a greave with recent breakage surfaces. 1 cm×0.8 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.11).

4/5.12. Greave fragment: Thin, undecorated fragment of a greave with recent breakage surfaces. 1.1 cm×1.9 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.4/5.12).

6. Flange-hilted knife: Flange-hilted knife, in two fragments (Cat. nos 6.1-2). Its blade is bent by ninety degrees, but the breakage surface is recent. The terminals of the hilt are slightly recurved. One rivet with traces of hammering is visible on the hilt. The back of the blade is slightly curved; however, it cannot be described typologically due to the intensive heat damage to this section. Both narrow sides of the hilt and the blade are decorated with complex geometric patterns. It should be noted that the complete design cannot be reconstructed due to its unrestored state. Overall dimensions: o.l.: 14 cm, th. of the hilt: 0.2 cm, th. of the narrow sides of the hilt: 0.7 cm, th. of the blade: 0.6 cm, w2.: 43 g. **6. 1.)** l.: 6.2 cm, w.: 1.8 cm, 1.3 cm, w.: 0.2 cm, 0.5 cm, w2.: 18 g (Fig. 18.6.1). **6. 2.)** 6.8 cm×2 cm, o.l.: 7.6 cm, th.: 0.7 cm, 0.4 cm, 0.3 cm, w2.: 25 g (Fig. 18.6.2).

7. Flange-hilted knife: Pustiměř type flange-hilted knife. Due to its fragmentary state, only two rivet holes

are visible on its hilt. The transition between the blade and the hilt is straight, conforming to the form of the blade, which has a slight curve. Four parallel lines can be seen on the back of the blade. The tip of the blade is broken, probably as a result of prehistoric manipulation. Overall l.: 12.1 cm, l. of the hilt: 3.2 cm, l. of the blade: 8.8 cm, w. of the hilt: 1.3 cm, w. of the blade: 2.3 cm, 2.5 cm, 2.2 cm, th. of the hilt: 0.5 cm, th. of the back: 0.5 cm, th. of the blade: 0.01 cm, w2.: 39 g (Fig. 18.7).

8. Flange-hilted knife: Molten fragment of a flange-hilted knife. Only the transition between the blade and the hilt can be identified. l.: 4 cm, w.: 1.8 cm, 0.5 cm, 1.3 cm, w2.: 14 g (Fig. 18.8).

9. Metal cup: Fragment of a Fuchsstadt type cup with straight rim. The neck is funnel-shaped, the shoulders are slightly rounded. The sheet metal handle is decorated with four lines and attached by two conical-headed rivets. All breakage surfaces are recent. 14.6 cm×4.7 cm, th.: 0.1 cm, l. of the rim: 0.6 cm, h. of the neck: 1 cm, h. of the shoulders: 1.8 cm, estimated d. of the rim: 14 cm, w2.: 38 g (Fig. 17.9).

10. Metal sheet fragments: Thin, slightly curved metal sheet fragments with traces of recent breakage surfaces. **10.1.)** 6.7 cm×4.3 cm, th.: 0.1 cm, w2.: 7 g (Fig. 17.10.1). **10.2.)** 3.3 cm×2 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.10.2).

11. Metal sheet fragment: Slightly curved metal sheet fragment with traces of recent damage along its breakage surfaces. 5.5 cm×2 cm, th.: 0.1 cm, w2.: 4 g (Fig. 17.11).

12. Metal sheet fragment: Thin, undecorated metal sheet fragment. 3.5 cm×2.1 cm, th.: 0.1 cm, w2.: 2 g (Fig. 17.12).

13. Metal sheet fragment: Thin, undecorated metal sheet fragment. It is slightly bent. 2.3 cm×1.7 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.13).

14. Metal sheet fragment: Thin, undecorated metal sheet fragment with traces of recent damage 1.9 cm×1 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.14).

15. Metal sheet fragment: Thin, undecorated metal sheet fragment with recent breakage surfaces. 1.1 cm×0.6 cm, th.: 0.1 cm, w2.: 0.4 g (Fig. 17.15).

16. Metal sheet fragment: Thick, undecorated metal sheet fragment with traces of recent damage. 2.3 cm×2.4 cm, th.: 0.1 cm, w2.: 2 g (Fig. 17.16).

17. Metal sheet fragment: Thick, undecorated metal sheet fragment with recent breakage surfaces. 1.8 cm×1.3 cm, th.: 0.1 cm, w2.: 1 g (Fig. 17.17).

18. Unidentifiable object (perhaps a wagon model part): Tubular object with thickened rim. Four ribs with engraved decoration encircle the body and there are two rhomboid-sectioned projections on the narrow side. Its deformed state is probable the result of heat damage. 6.5 cm×2.1 cm, th. of the rim.: 0.3 cm, 0.6 cm, w2.: 81 g (Fig. 18.18).

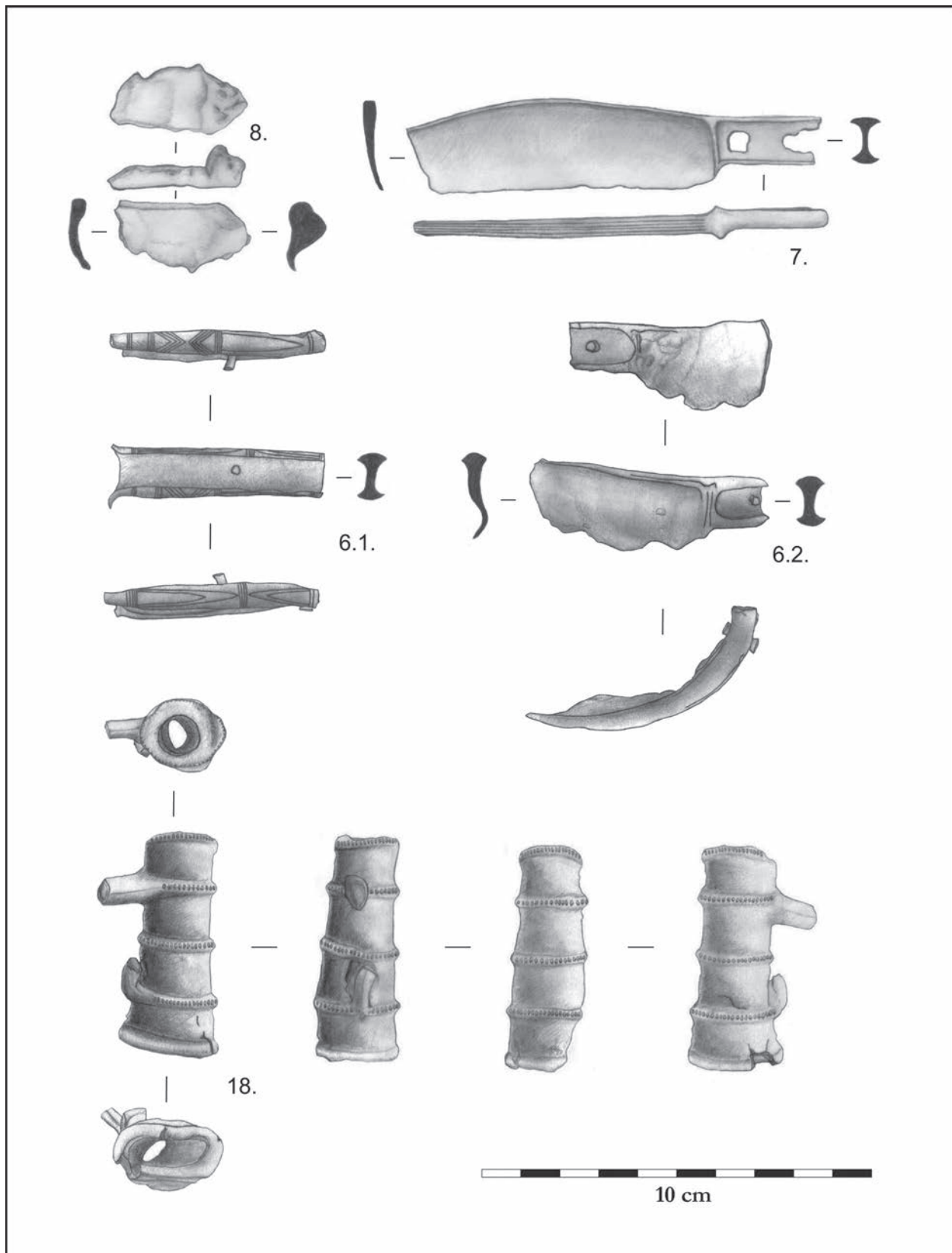


Fig. 18. 6-8: Flange-hilted knives; 18: unclassifiable object (perhaps from a wagon model)

18. kép. 6-8: Nyélnyújtványos kések; 18: azonosíthatatlan tárgy (kocsiszerelék?)

Lists

List I. Flange-hilted swords with extended tang (Allerona type, Stätzing type, Naue IIC type, D Type)¹²³

1. **Allerona** (Italy, Umbria), unknown, Allerona type: COLINI 1900, 144, Tav. VIII.4; PERONI 1970, 66, Taf. 21.153.
2. **Antheia/Clauss** (Greece, Achaea), grave, Stätzing type: PAPADOPOULOS 1984, 221–223, Fig. 2.
3. **"Apulia"** (Italy, Apulia), private collection, Allerona type: NAUE 1896, 96, Tav. III.3; PERONI 1970, 66, Taf. 22.157.
4. **Barç** (Albania, Korçe), Mound 2/Grave 146.II, Naue IIC type: ANDREA 1985, 42, Tab. XIV; KILIAN-DIRLMEIER 1993, 98, Taf. 38.253.
5. **Berlin-Spandau** (Germany, Berlin), hoard, Stätzing type: SPROCKHOFF 1931, 96, Taf. 6.2; SCHAUER 1971, 145.
6. **Bevensen** (Germany, Lower Saxony), grave, Stätzing type: SPROCKHOFF 1931, 95, Taf. 8.18.
7. **Bodrog** (Slovakia, Trebišov), hoard, Stätzing type: NOVOTNÁ 1970, 91, Taf. XIX.
8. **Boeslunde** (Denmark, Sjælland), unknown context, "sword with extended tang": SPROCKHOFF 1931, Taf. 18.6.
9. **Budapest-Margit-sziget** (Hungary, Pest), river find, D type: JÓSA 1893, 268, 3. t. 6; KEMENCZEI 1988, Taf. 39.353.
10. **Bregenz** (Austria, Vorarlberg), river find, Stätzing type: SCHAUER 1971, 144, Taf. 63.433.
11. **Campodenno** (Italy, Trentino), stray find, Allerona type: PERONI 1970, 69, Taf. 23.161.
12. **Casale sul Sile** (Italy, Veneto), river find, Allerona type: PERONI 1970, 66, Tav. 22.154.
13. **Donji Petrovci** (Serbia, Vojvodina), hoard, Stätzing type: HARDING 1995, 50, Taf. 21.175.
14. **Enkomi** (Greece, Cyprus) Grave 47/1890, Naue IIC type: MATTHÄUS 1985, 364, Taf. 140.2.
15. **Fucino, vicinanze** (Italy, L'Aquila, Abruzzi), grave, Allerona type: BULLETTINO DI PALETOLOGIA ITALIANA 1886, 261; PERONI 1970, 68, Taf. 22.158.
16. **Fucino** (Italy, L'Aquila, Abruzzi), unknown context, Allerona type: Bullettino di Paletnologia Italiana 1886, 261; PERONI 1970, 68, Taf. 23.159.
17. **Graditsa** (Greece), private collection, Naue IIC type: CATLING 1961, 11, Pl. 16.c, Pl. 17.b; KILIAN-DIRLMEIER 1993, 97, Taf. 37.245–246.
18. **Hajdúböszörmény** (Hungary, Hajdú-Bihar), stray find, D type: HAMPEL 1892, CLVII, 1.a–b; KEMENCZEI 1988, Taf. 39.354.
19. **Hódmezővásárhely-Batida** (Hungary, Csongrád), grave, D type: BANNER 1944–1945, Taf. 11.1; KEMENCZEI 1988, 66, Taf. 39.355.
20. **Hungary**, unknown, D type: SZÁRAZ 1891, 325, III. t. 7; KEMENCZEI 1988, 66, Taf. 40.360.
21. **Hungary**, unknown, D type: KEMENCZEI 1988, 66, Taf. 40.361.
22. **Hungary**, unknown, D type: HAMPEL 1886, XX. t. 8; KEMENCZEI 1988, 66, Taf. 38.352.
23. **Hungary** (?), collection of the MoD. Military History Institute and Museum.

24. **Innsbruck-Hötting** (Austria, Tyrol), grave, Stätzing type: WAGNER 1943, 79, Taf. 6.14; SCHAUER 1971, 145, Taf. 63.434.

25. **Italy**, unprovenanced, Allerona type: PERONI 1970, 69, Taf. 23.162.

26. **Kallithea** (Greece, Attica), grave, Naue IIC type: CATLING 1956, 112; GIANOPOULOS 2008, 213–219, Abb. 31–32.

27. **Närke/Nerike** (Sweden, Svealand), unknown context, "sword with extended tang": SPROCKHOFF 1931, 95, Taf. 7.4.

28. **Krklino/Raštani** (Macedonia, Bitola), stray find, Stätzing type: HARDING 1995, 49–50, Taf. 20.173.

29. **Lago Trasimeno** (Italy, Umbria), private collection, Allerona type: ANCONA 1886, 10, Tav. 3.44; NAUE 1903, Taf. 7.2; PERONI 1970, 66, Taf. 22.155.

30. **Lovasberény** (Hungary, Fejér), hoard, D type: HOLSTE 1951, 13, Taf. 22.12; KEMENCZEI 1988, 66, Taf. 39.356; MOZSOLICS 1985, 144–145, Taf. 246.2.

31. **Mesara** (Greece, Crete), stray find, Naue IIC type: KILIAN-DIRLMEIER 1993, 97, Taf. 36.241.

32. **Mouliana** (Greece, Crete), Tholos B, Naue IIC type: KILIAN-DIRLMEIER 1993, 97, Taf. 36.242.

33. **Mouliana** (Greece, Crete, Siteia/Lasithi), Tholos A, Naue IIC type: KILIAN-DIRLMEIER 1993, 97, Taf. 37.247.

34. **Montegiorgio** (Italy, Ascoli Piceno, Marche), unknown context, Allerona type: PERONI 1961, 139; PERONI 1970, 69, Taf. 23.163.

35. **Morava estuary-Kulić-Salinac** (Serbia, Smederevo), stray find, Stätzing type: HARDING 1995, 50, Taf. 21.174.

36. **Nadap** (Hungary, Fejér), hoard, D type: MAKKAY 2006, Pl. 26.48.

37. **Narde Frattesina** (Italy, Rovigo), Grave 227, Allerona type: EDER-JUNG 2005, 490.

38. **Naxos** (Greece, Kykladen, Grotta), Chamber grave A, Naue IIC type: KILIAN-DIRLMEIER 1993, 97, Taf. 36.243.

39. **Naxos** (Greece, Kykladen, Kamini), Chamber grave A, Naue IIC type: KILIAN-DIRLMEIER 1993, 97, Taf. 37.244.

40. **Unknown**, Stätzing type: COWEN 1955, 145, Taf. 63.435; SCHAUER 1971, 145, Taf. 63.435.

41. **Palaiopyrgos** (Greece, Levidi, Arcadia), unknown context, Stätzing type: HARDING 1995, 50.

42. **Paks area** (Hungary, Tolna), stray find, D type: KEMENCZEI 1988, 66, Taf. 39.357.

43. **Pavelsko** (Bulgaria, Smoljan), unknown context, Naue IIC type: HÄNSEL 1970, 36, Abb. 2.1; KILIAN-DIRLMEIER 1993, 97–98, Taf. 38.250.

44. **Pölöske** (Hungary, Zala), hoard, D type: SZÉCHENYI 1887, I. t. 8; KEMENCZEI 1988, 64, Taf. 38.349.

45. **Prilep-Bolnica** (Macedonia, Prilep), Grave 2, Stätzing type: HARDING 1995, 51, Taf. 21.180.

46. **Rouen** (France, Seine-Maritime), river find, Stätzing type: COWEN 1955, 133, Nr. 7, Taf. 7.7.

47. **Rovereto/Leno river** (Italy, Trentino), river find, Allerona type: Bullettino di Paletnologia Italiana 1898, 260; PERONI 1970, 69, Taf. 23.160.

48. **San Benedetto in Perillis** (Italy, L'Aquila, Abruzzi), grave, Allerona type: PERONI 1961, tav. I. 4; PERONI 1970, 66, Taf. 22.156.

¹²³ The close parallels of the analyzed sword are marked with italics. The so-called Letten and Erbenheim type is intentionally omitted from the list because in my view, their blade structure differs from that of the sword discussed here.

49. **Sárbogárd-Rétszilás-Jurcsokpuszta** (Hungary, Vas), stray find, D type: KEMENCZEI 1988, 66, Taf. 39.358.

50. **Schiste Odos** (Greece, Phocis), grave, Stätzling type: CATLING 1956, 112, Nr. 9.

51. **Siteia area** (Greece, Crete), unknown context, Naue IIC type/Stätzling type: KILLIAN-DIRLMEIER 1993, 97, Taf. 36.240; HARDING 1995, 50.

52. **Sisak** (Croatia, Kupa), stray find, Stätzling type: VINSKI-GASPARINI 1973, 219, Tab. 26.11; HARDING 1995, 49, Taf. 20.172.

53. **Škocjan-Mušja jama** (Slovenia, Sežana), hoard, Stätzling type: SZOMBATHY 1913, 143, Abb. 79; HARDING 1995, 51, Taf. 21.178.

54. **Slavonski Brod-Livadićeva ulica 7** (Croatia, Slavonski Brod), hoard, Stätzling type: HARDING 1995, 50, Taf. 61.B-64.A.

55. **Stätzling** (Germany, Bavaria), unknown context, Stätzling type: COWEN 1955, 132, Taf. 7.1; SCHAUER 1971, 145, Taf. 64.436.

56. **Szentgálósér** (Hungary, Somogy), hoard, D type: HAMPEL 1886, CXIX. tábla 31; KEMENCZEI 1988, 65, Taf. 38.350.

57. **Szombathely** (Hungary, Vas), stray find, D type: COWEN 1955, 129, Taf. 6.1; KEMENCZEI 1988, 66, Taf. 39.359.

58. **Tatabánya** (Hungary, Komárom-Esztergom), grave, D type: COWEN 1955, 77, Taf. 7.1.

59. **Tiszalök-Középső-dűlő** (Hungary, Szabolcs-Szatmár-Bereg), hoard, D type: KEMENCZEI 1967, 23, Taf. 2.1; KEMENCZEI 1988, 66, Taf. 38.351.

60. **Trenčianske Bohuslavice/Bogosló** (Slovakia, Trenčín), hoard, Stätzling type: NOVOTNÁ 1970, Taf. XII.

61. **Tirintha/Tiryns** (Greece, Argolis), hoard, Stätzling type: CATLING 1956, 111, Nr. 5.

62. **Vajze** (Albania, Vlore), Mound 2/grave, Naue IIC type: KILLIAN-DIRLMEIER 1993, 98, Taf. 38.251.F.

63. **Vajze** (Albania, Vlore), Mound 1/Grave 7, Naue IIC type: PRENDI 1975, 116, Pl. I.4; KILLIAN-DIRLMEIER 1993, 98, Taf. 38.252.

64. **Veliko Nabrđe** (Croatia, Đakovo), hoard, Stätzling type: VINSKI-GASPARINI 1973, 186, 221, Tab. 45.2; HARDING 1995, 50, Taf. 21.177.

65. **Vermeș/Krassóvermes** (Romania, Bistrița-Năsăud), unknown context, Stätzling type: BADER 1991, 102, Taf. 24.252.

66. **Vrana** (Croatia, Biograd), stray find, Stätzling type: HARDING 1995, 51, Taf. 21.179.

67. **Vranezi/Orchomenos** (Greece, Livadeia, Boiotia), grave, Naue IIC type: CATLING 1956, 113; KILLIAN-DIRLMEIER 1993, 97, Taf. 38.249.

List II. Conical helmets (CLAUSING 2003b; MÖRTZ 2011; MÖDLINGER et al. 2013)

1. **Biecz/Beitzsch** (Poland, Zielonogórskie), hoard: UNDSSET-MESTORF 1882, Taf. 20.10; HENCKEN 1952, Fig. I, Pl. 2.

2. **Bonyhád** (Hungary, Tolna), hoard: MOZSOLICS 1985, 102-104, Taf. 40.14.

3. **Brno-Řečkovice** (Bohemia, Brno-město), hoard: SALAŠ 2002, 265-267, 270, Fig. 6.11, Fig. 12.

4. **Dunaföldvár** (Hungary, Tolna), stray find: SZABÓ 1994, 219, 1. kép 1-4.

5. **Greece**, unprovenanced: MÖDLINGER et al. 2013, Fig. 2.9.

6. **Keresztéte** (Hungary, Borsod-Abaúj-Zemplén), hoard: MOZSOLICS 1955, 42, Fig. 7.7.

7. **Knossos** (Greece, Crete), grave: HENCKEN 1952, Pl. 1; HOOD-DE JONG 1952, 252, 256, Taf. 50-52a.

8. **Lúčky/Lucski** (Slovakia, Litpov), uncertain hoard: MERHART 1940, 11, Abb. 2.5.

9. **Hungary (?)**, collection of the MoD. Military History Institute and Museum.

10. **Nadap** (Hungary, Fejér), hoard: PETRES 1982, 57, Abb. 1.a-b; MAKKAY 2006, Pl. I.

11. **Oranienburg** (Germany, Brandenburg), river find: SPROCKHOFF 1930, 44, Taf. 9.a.

12. **Ság/Sig/Felsőszék** (Romania, Sălaj), hoard: SOROCEANU-LAKÓ 1981, 147, Abb. 9.4.

13. **Spišská Belá/Zipser Bela/Szepesbéla** (Slovakia, Prešov), hoard 1: HENCKEN 1971, 33, Abb. 15f-h.

14. **Zaškov/Zsaskó** (Slovakia, Dolný Kubín), hoard: HENCKEN 1971, 37, Abb. 17a-c.

List III. Greaves, Clausing's Group 1, Variant A2 (CLAUSING 2003a)

1. **Bodrogkeresztúr** (Hungary, Borsod-Abaúj-Zemplén), hoard: KEMENCZEI 2003, Taf. 7.19.

2. **Bonyhád area** (Hungary, Tolna), hoard: WOSINSKY 1980, III. t. 12.

3. **Brandgraben** (Austria, Styria), hoard: WINDHOLZ-KONRAD 2008, Abb. 53.

4. **Brodski Varoš** (Croatia, Slavonski Brod), hoard: VINSKI-GASPARINI 1973, 212, Taf. 55.221.

5. **Cannés-Écluse** (France, Seine-Maritime), hoard 2: GRAUCHER-ROBERTS 1967, 205, Fig. 46-48.

6. **Desmontà** (Italia, Verona), hoard: SALZANI 1985, 42.

7. **Esztergom-Szentgyörgymező** (Hungary, Komárom-Esztergom), hoard (No. 1): MOZSOLICS 1985, 116, Taf. 138.16; JANKOVITS 1997, Fig. 5.

8. **Hungary**, collection of the MoD. Military History Institute and Museum.

9. **Malpensa** (Italy, Lombardia), hoard: MIRA BONOMI 1979, 125, Fig. 1.1-2.

10. **Nadap** (Hungary, Fejér), hoard: MAKKAY 2006, 4. t.

11. **Pergine** (Italy, Trento), hoard: FOGOLARI 1943, 73, Abb. 1-4.

12. **Poljanci 1** (Croatia, Slavonski Brod), hoard: VINSKI-GASPARINI 1973, 218, Taf. 48.19.

List IV. "Pustiměř type" flange-hilted knives (Cat. no. 7) (ŘÍHOVSKÝ 1972, 33; KŐSZEI 1988; CHEBENOVÁ 2012; VĚLIÁČEK 2012)

1. **Abasár-Rónya-bérc** (Hungary, Heves), settlement: V. SZABÓ 2009, 24-25, 2. kép.

2. **Allmannsberg** (Germany, Upper Bavaria), grave: MÜLLER-KARPE 1959a, 308; MÜLLER-KARPE 1959b, Taf. 197.K.4.

3. **Badacsonytomaj** (Hungary, Veszprém), hoard: MOZSOLICS 1949, 26. t. 4-6; MOZSOLICS 1985, Taf. 233.3-5.

4. **Bakonybél-Somhegy** (Hungary, Veszprém), stray find: HAMPEL 1880, 61-62, 32. kép.

5. **Beravci** (Croatia, Đakovo), hoard: HOLSTE 1951, Taf. 2.2–3.5–6; VINSKI-GASPARINI 1973, 211, Tab. 108.22–23.26.
6. **Bereghovo/Beregszász 4** (Ukraine, Beregovo), hoard 4: HAMPEL 1892, 9–10; BERNJAKOVIČ 1960, 350; KOBAL' 2000, 74, Taf. 46B.1.
7. **Bešenová/Besenyőfalu** (Slovakia, Žilina), hoard: KÜRTI 1930, 179–187; EISNER 1933, 113, Obr. 9.8.a–b; NOVOTNÁ 1970, 89, Taf. XXV; VELIAČIK 2012, 232, Obr. 4.7; CHEBENOVÁ 2012, 3, Tab. II.34.
8. **Bihor/Bihar county** (Romania), stray find: HAMPEL 1896, 383, CCXXVI. t. 12.17; ŘÍHOVSKÝ 1972, 33.
9. **Ciecieryzn** (Poland, Dominowo), grave 5: GEDL 1984, 31, Taf. 6.49.
10. **Chlapowo** (Poland, Dominowo), uncertain hoard: GEDL 1984, 31, Taf. 6.48.
11. **Chotín/Hetény 2** (Slovakia, Komárno), Grave 190/55 (according to Chebenová: No. 106): DUŠEK 1957, 90; VELIAČIK 2012, 325, Obr. 4.2; CHEBENOVÁ 2012, 4–5, 14, Tab. II.36.
12. **Chotín/Hetény 2** (Slovakia, Komárno), Grave 40/54: DUŠEK 1957, Obr. 12.3; VELIAČIK 2012, 325, Obr. 4.6; CHEBENOVÁ 2012, 4–5, 14, Tab. II.37.
13. **Cserszegtomaj-Kőfejtő** (Hungary, Veszprém), stray find: KŐSZEGI 1988, 131, No. 248.
14. **Csorva** (Hungary, Csongrád) grave 38: TROGMAYER 1963, 93, Taf. XXX. 17.
15. **Diviaky nad Nitricou** (Slovakia, Prievidza), Grave 4/41: BUDÍNSKÝ-KRICKA 1962, Obr. 6.8–13; VELIAČIK 2012, Obr. 4.7.
16. **Donja Bebrina** (Croatia, Slavonski Brod), hoard: HOLSTE 1951, 8, Taf. 15.11.
17. **Dvory nad Žitavou** (Slovakia, Nové Zámky), Grave 2: VELIAČIK-ROMSAUER 1994, 53; VELIAČIK 2012, 324, Obr. 4.1; CHEBENOVÁ 2012, 4, 14, Tab. II.38.
18. **Felsőnyék** (Hungary, Tolna), stray find: KŐSZEGI 1988, 140, No. 399.
19. **Hostie/Keresztúr** (Slovakia, Zlatná Moravce), hoard: CHEBENOVÁ 2012, 4, 14, Tab. III.41.
20. **Horná Seč/Felsőszecse** (Slovakia, Levice), settlement, Horná Seč type: ROMSAUER 1977, 241–242; VELIAČIK 2012, 325, Obr. 4.3.
21. **Hungary**, unprovenanced: GESSNER 1948, 104, Taf. XI. Abb. 1.
22. **Jasenica/Jeszence** (Slovakia, Trenčín), grave: ŽILINCOVÁ 2010, 186, 204, Tab. VIII.6; CHEBENOVÁ 2012, 5, 14, Tab. III.40.
23. **Kapuvár** (Hungary, Győr-Moson-Sopron), stray find: KŐSZEGI 1988, 147, No. 522.
24. **Kirchberg am Wagram** (Austria, Upper Austria), stray find: ŘÍHOVSKÝ 1972, 33, Taf. 9.106.
25. **Kláštor pod Znievom/Znióváralja 5** (Slovakia, Martin), hoard, Horná Seč type: NOVOTNÁ 1970, 100; VELIAČIK 2012, 326, Obr. 4.4.
26. **Kunětice** (Bohemia, Pardubice), Grave 4: FILIP 1939, 34, 42, Obr. 20.3.
27. **Kunětice** (Bohemia, Pardubice), Grave 8: FILIP 1939, 34, 42, Obr. 20.4.
28. **Krajník Górny** (Poland, Chojna), stray find, similar to the Pustiměř type: GEDL 1984, 32, Taf. 7.51.
29. **Lengyel** (Hungary, Tolna), stray find: WOSINSKY 1896, 304, LXVI. t. 5.
30. **Mezice** (Bohemia, Olomouc), stray find: ŘÍHOVSKÝ 1972, 32, Taf. 9.103.
31. **Nyíregyháza-Ér alatti szőlő** (Hungary, Szabolcs-Szatmár-Bereg), grave: KEMENCZEI 1984, 160, 341, Taf. CXXI.3.
32. **Olomouc** (Bohemia, Olomouc), stray find: DOHNAL 1961, 59, Obr. 4.4; ŘÍHOVSKÝ 1972, 32–33, Taf. 9.104.
33. **Opole-Groszowice/Groschowitz** (Poland, Opole), Grave 11/1925: PETERSEN 1913, 213; GEDL 1984, 31, Taf. 6.50.
34. **Ostrowice/Treptow-Spinnkathen/Spinnkaten** (Poland, Ostrowice), cemetery/stray find: KERSTEN 1958, 79, Taf. 82.752c.
35. **Ovčiarско/Juhászi/Ovcsárszko** (Slovakia, Žilina), hoard: HAMPEL 1892, 111–112; CHEBENOVÁ 2012, Tab. II.35.
36. **Pincehely-Gyánti bevágás** (Hungary, Tolna), stray find: SZABÓ 1885, 337; KŐSZEGI 1988, 173, No. 931; WOSINSKY 1896, 486.
37. **Porva** (Hungary, Veszprém), stray find: DAX et al. 1972, 221, 19. t. 3; KŐSZEGI 1988, 174, No. 947.
38. **Pustiměř** (Bohemia, Vyškov), grave: ŘÍHOVSKÝ 1972, 32, Taf. 9.105.
39. **Rezi-hegy** (Hungary, Veszprém), stray find: DARNAY 1899, 19.
40. **Sankt Martin bei Lofer** (Austria, Zell am See), grave: KLOSE 1928, 109–110, Abb. 4.
41. **Slovakia**, unprovenanced: CHEBENOVÁ 2012, 8, 14, Tab. III.42.
42. **Slovakia**, unprovenanced: CHEBENOVÁ 2012, 8, 14, Tab. III.43.
43. **Slovakia**, unprovenanced: CHEBENOVÁ 2012, 9, 14, Tab. III.44.
44. **Slovakia or Galanta/Galánta area**, unprovenanced: CHEBENOVÁ 2012, 8, 14, Tab. III.45.
45. **Somogyszob** (Hungary, Somogy), hoard: MOZSOLICS 1985, 187, Taf. 249.4.
46. **Szombathely-Jáky úti temető** (Hungary, Vas), hoard: ILON 2002, 154, Abb. 6.1.
47. **Tatabánya-Felsőgalla** (Hungary, Komárom-Esztergom), stray find: MOZSOLICS 1985, Taf. 122.6.
48. **Tata-Dunamellék** (Hungary, Komárom-Esztergom), uncertain hoard: MOZSOLICS 1985, 114.
49. **Tolnanémedi** (Hungary, Tolna), stray find: PATEK 1968, 66; KŐSZEGI 1988, 190, No. 1205; WOSINSKY 1896, 484.
50. **Trenčianske Bohuslavice/Bogoszló** (Slovakia, Trenčín), hoard: NOVOTNÁ 1970, Taf. XIII; VELIAČIK 2012, 332, Obr. 4.5; CHEBENOVÁ 2012, 7, 14, Tab. II.39.
51. **Varias/Varjas** (Romania, Timiș), hoard: PETRESCU-DÎMBOVIȚA 1978, 138, Taf. 221E.5.
52. **Velikaya Began' or Zmeevka** (Ukraine, Beregovo), uncertain hoard: KOBAL' 2000, 98, Taf. 91.13.
53. **Volders** (Germany, Tyrol), Grave 18: JOCKENHÖVEL 1971, 89, Taf. 64A.2.

List V. Fuchsstadt type cups (SPROCKHOFF 1930; SOROCEANU 2008; MARTIN 2009, 166–168, Liste 2)

1. **Armagh** (Ireland, Tamlaght), hoard: WARNER 2004.
2. **Abstatt** (Germany, Baden-Württemberg), stray find: SCHLIZ 1909, 107, Abb. 42.7; JACOB 1995, 27, Taf. 5.24.
3. **Altensittenbach** (Germany, Bavaria), grave: JACOB 1995, 29, Taf. 5.26.

4. **Banat/Bánát** (Romania, Banat), stray find: GOGÂLTAN 1990, 89–91, Abb. 1; SOROCEANU 2008, 49, Taf. 3.12.
5. **Basedow** (Germany, Mecklenburg-Vorpommern), hoard: LISCH 1871, 134–135; MARTIN 2009, 54–55, Taf. 14.57.
6. **Bevaix** (Switzerland, Neuenburg), settlement: THRANE 1975, 136, Abb. 80.a.
7. **Burgsdorf** (Germany, Sachsen-Anhalt), hoard: SPROCKHOFF 1930, 71, Anm. 10; MARTIN 2009, 55, Taf. 15.63–54.
8. **Burladingen** (Germany, Baden-Württemberg), grave: MÜLLER-KARPE 1959a, Taf. 207.G; JACOB 1995, 33, Taf. 6.31.
9. **Buru/Borrév/Borév** (Romania, Cluj), hoard: ROSKA 1932, 540, Abb. 2; SOROCEANU 2008, 46–47, Taf. 1.7.
10. **Braunsbedra** (Germany, Saxony-Anhalt), hoard: OTTO 1955, 164–166, Abb. 3–7, Taf. 50–54; MARTIN 2009, 55, Taf. 14.58–61.
11. **Dexheim** (Germany, Rhineland-Palatinate), hoard: SPROCKHOFF 1930, 68; JACOB 1995, 27, Taf. 5.23.
12. **Dresden-Dobritz** (Germany, Saxony), hoard: COBLENZ 1952, 144, Abb. 10; MARTIN 2009, 55, Taf. 16.65.
13. **Dötzingen** (Germany, Lower Saxony), hoard: SPROCKHOFF 1930, Taf. 18.a–c; JACOB 1995, 26, Taf. 3.13–16.
14. **Egyek** (Hungary, Hajdú-Bihar), hoard: SÓREGI 1936, 58, 18. kép 5; PATAY 1990, 57–58, Taf. 39.86.
15. **Ehingen/Danube** (Germany, Baden-Württemberg), hoard: SPROCKHOFF 1930, 70; JACOB 1995, 27, Taf. 4.22.
16. **Ejstrup** (Denmark, Jutland), hoard: SPROCKHOFF 1930, 73.
17. **Érsekvadkert** (Hungary, Nógrád), hoard: MOZSOLICS 1967, Taf. XVIII.5; KEMENCZEI 1984, 147; PATAY 1990, 58, Taf. 40.87.
18. **Eschborn** (Germany, Main taunus), grave: SPROCKHOFF 1930, 62; JACOB 1995, 19, 33, Taf. 6.33, Taf. 2.7.
19. **Northern Germany**, unprovenanced: BLEICHER 1980, Abb. 109; MARTIN 2009, 58, Taf. 21.81.
20. **Falkenberg** (Germany, Brandenburg), grave: AGDE 1936, 173, Abb. 6.a; MARTIN 2009, 57, Taf. 20.79.
21. **Fuchsstadt** (Germany, Bavaria), Grave 1: KRAFT 1926, 182, 186, Abb. 3; MÜLLER-KARPE 1959a, Taf. 207A.7; JACOB 2009, 25, Taf. 2.10.
22. **Gernlinden** (Germany, Bavaria), grave: REINECKE 1930, Taf. 6; MÜLLER-KARPE 1959b, Taf. 207.d; JACOB 2009, 27, Taf. 4.19.
23. **Großörner** (Germany, Saxony), hoard: HÄNSEL-HÄNSEL 1997, 39, 44, Abb. 3.1–2, Abb. 4.1–2, Abb. 5.1–2, Abb. 6.1, Abb. 7.1, Abb. 9.2–9; MARTIN 2009, 55–56, 58, Taf. 16.66–69, Taf. 17.70, Taf. 18.71, Taf. 21.80.
24. **Grünwald** (Germany, Bavaria), Grave 1: MÜLLER-KARPE 1959b, Taf. 207.c; JACOB 2009, 26, Taf. 3.11.
25. **Haunstetten** (Germany, Bavaria), Grave 23: BAKKER 1987, 68, Abb. 41.3; JACOB 1995, 30, Taf. 5.28A.
26. **Hitzacker** (Germany, Lüchow-Dannenberg), unknown context: SPROCKHOFF 1930, 72, Taf. 10.e.
27. **Langengeisling** (Germany, Bavaria), Grave 4: KRÄMER 1952, 264, Abb. 2.1; MÜLLER-KARPE 1959b, Taf. 207.h; JACOB 2009, 27, Taf. 4.20.
28. **Linz a. d. Donau** (Austria, Upper Austria), hoard: MAHR 1914, 285; PRÜSSING 1991, 23, Taf. 1.9.
29. **Ljubljana river/Bevke** (Slovenia, Vrhnika), river find: ŠINKOVEC 1995, 123, Tab. 36.263.
30. **Mansfeld** (Germany, Saxony), hoard: SPROCKHOFF 1930, 71, Taf. 16.d; MARTIN 2009, 56, Taf. 18.73.
31. **Nierstein** (Germany, Rhineland-Palatinate), grave: THRANE 1965, Abb. 2b; JACOB 2009, 26, Taf. 3.12.
32. **Moigrad/Mojgrád** (Romania, Sălaj), Hoard 1: NESTOR 1935, Abb. 1.3, Taf. 2.13; PETRESCU-DÎMBOVIȚA 1978, 143, Taf. 234.3; SOROCEANU 2008, 47, Abb. 2, Taf. 2.9.
33. **Möhriegen** (Germany, Baden-Württemberg), grave: SPROCKHOFF 1930, 69; KIMMING 1940, Taf. 33.14; JACOB 2009, 26–27, Taf. 4.17.
34. **Mörigen** (Switzerland, Bern), settlement: GROSS 1883, 113, Taf. 22.7.
35. **Nystad** (Norway, Salten), hoard: THRANE 1965, 159, Abb. 2.a.
36. **Oberboihingen** (Germany, Baden-Württemberg), grave: KOCH 1967, 58, Taf. 78.1; JACOB 2009, 27, Taf. 4.18.
37. **Pavlovka** (Ukraine, Odesskaya oblast), grave: SPROCKHOFF 1930, 75.
38. **Pișcolț/Piskolt** (Romania, Satu Mare), uncertain hoard: NÉMETI 1972, Fig. 2; SOROCEANU 2008, 47–48, Abb. 3.a–c.
39. **Poznań-Wielka Staroleka 1** (Poland, Poznań), hoard: GEDL 2001, 16, Taf. 1.1–3.
40. **Pößneck-Slettheim** (Germany, Thuringia), hoard: FEUSTEL 1967, 258, Taf. 45.a; MARTIN 2009, 56–57, Taf. 19.74.
41. **Preten** (Germany, Mecklenburg-Vorpommern), grave: SPROCKHOFF 1930, 72–73.
42. **Rassing** (Austria, MG Kapelin, VB St. Pölten), hoard: NEUGEBAUER et al. 1998–1999, Abb. 22.
43. **Reichenbach** (Germany, Baden-Württemberg), stray find: JACOB 2009, 27, Taf. 4.21.
44. **Rohov/Rochow** (Bohemia, Opava), hoard: GEDL 2001, 16, Taf. 2.4.
45. **Saint-Chély-du-Tarn** (France, Sainte-Enimie), hoard: MILLOTTE 1959, 25.
46. **Sâncreieni/Sincraieni/Csikszentkirály** (Romania, Harghita), Hoard 1: ZOLTAI 1909, 134, 8. ábra; SOROCEANU 2008, 48, Taf. 3.11.
47. **Schussenried** (Germany, Baden-Württemberg), grave: MÜLLER-KARPE 1959a, 313, Taf. 207.b.
48. **Sengkofen** (Germany, Bavaria), grave: FISCHER 1982, 92, Abb. 79; JACOB 1995, 28–29, Taf. 5.25.
49. **Staaken** (Germany, Berlin), hoard: SPROCKHOFF 1930, 73, Taf. 16.a–b; MARTIN 2009, 57, Taf. 19.75–76.
50. **Thale** (Germany, Saxony), hoard: MARTIN 2009, 57, Taf. 20.78.
51. **Třtěno/Křěno** (Bohemia, Louny), hoard: RICHLÝ 1894, 80; KYTLICOVÁ 1991, 43–44, Taf. 2.10.
52. **“Velem”** (Hungary, Vas), unknown context: PATAY 1990, 58, Taf. 40.88.
53. **Volders** (Austria, Tyrol), Grave 208: PRÜSSING 1991, 22–23, Taf. 1.8.
54. **Völs** (Austria, Tyrol), Grave 6: WAGNER 1943, 112, Taf. 24.1–4; PRÜSSING 1991, 22, Taf. 1.7.
55. **Wollmesheim** (Germany, Rhineland-Palatinate), grave: SPRATER 1928, 95, Abb. 102; JACOB 1995, 30, Taf. 5.28.
56. **Wörschach** (Austria, Styria), grave: MODRIJAN 1953, 24, Abb. C.3c; PRÜSSING 1991, 23, Taf. 1.10.

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TARBAY JÁNOS GÁBOR

A HM Hadtörténeti Intézet és Múzeumba vélhetőleg az 1990-es években került be egy tizennyolc tárgyából álló késő bronzkori (Ha A–Ha B1) „leletegyüttest” (14–18. kép). A leletegyüttest alkotó kiemelkedő, eddig közöletlen tárgyak a következők: egy nyélnyújtványos kard a hüvely szerelékével, egy kónikus sisak, egy lábszárvédő-pár, három nyélnyújtványos kés, egy Fuchsstadt-típusú csésze és egy vélhetően kocsialkatrészként értékelhető tárgy. A kérdéses darabok előkerülési helye és ideje ismeretlen. Összetartozásukat ma már csak tipológiai és technológiai jellemzőik alapján tarthatjuk megalapozottnak.

A hosszított markolatú, nyélnyújtványos kard legközelebbi formai párhuzamait – meglepő módon – nem a Kárpát-medencében, hanem Észak-Itália (Casale sul Sile, Lago Trasimeno), az Égeikum (Clauss, Gradišca, Kallithea, Mouliana) és a Balkán (Krkliño, Sisak) területén találjuk meg (I. lista; 1. kép). Mivel legközelebbi formai párhuzamainak keltezése bizonytalan, a fegyver időrendi értékelése során kiindulási pontként egyedül a görögországi „harcosírokra” (pl. Mouliana és Kallithea) támaszkodhatunk (LH IIIC – Ha A1). A darab érdekességét növeli, hogy egy Kárpát-medencei viszonylatban is ritka, fém kardhüvely-szerelék is tartozott hozzá (4. kép 2, 14. kép 2).

A védőfegyverek közül a kónikus sisak jól körülírható formai párhuzamokkal rendelkezik, elsősorban a Br D és Ha A1 időszak Kárpát-medencei kincsegyütteseiben belül (II. lista; 5. kép). A „leletegyüttes” legkiemelkedőbb darabja az a lábszárvédő-pár, amelynek párhuzamait a Kárpát-medence (Bodrogkeresztúr, Bonyhád vidéke, Brodski Varoš, Esztergom-Szentgyörgymező, Nadap, Poljanci 1), Ausztria (Brandgraben), Franciaország (Cannés-Écluse 2) és Itália területén (Desmontá, Malpensa, Pergine) találjuk meg. Jelentősége, hogy mintái és azok készítésének technikája – néhány finomabb eltéréstől eltekintve – pontosan megfeleltethető a Perginéről (Olaszország, Trentino) előkerült votív lábszárvédődepó darabjaival (III. lista; 7. kép). E tárgy párhuzamleleteinek nagy része egyértelműen a Ha A1 szakaszhoz köthető. Ennek ellenére a perginei darabokat a kutatás stilisztikai alapon fiatalabb tárgyaként (Ha B1) határozta meg, jórészt a proto-villanova kerámialeletek (Bismantova, Monteleone di Spoleto, Pianello) és a Tolfa-Coste del Marano-i kincs fibuláinak ábrázolásaira alapozva. A „leletegyüttes” három kése közül kettő tipológiailag nehezen volt körülírható egyedi formája (6.) vagy olvadt állapota miatt (8.). A 6. darab viszont összefüggésbe hoz-

ható az úgynevezett Pustiměř-típusú késekkel, amelyek leginkább a Kárpát-medence területén jellemzőek (IV. lista; 10. kép). Jól keltezhető volt a Fuchsstadt-típusú csésze is, amely a „Ha A2” és Ha B1 között Nyugat- és Közép-Európa területén terjedt el leginkább (V. lista; 12. kép). Az „együtteshez” tartozott még egy csőszzerű tárgy, amelynek pontos párhuzamai nem ismertek, viszont formailag leginkább a kocsiszerelek köréhez kapcsolható (18. kép 18). A fentiekén kívül számos kisebb, klasszifikálhatatlan lemeztöredék is előkerült, amelyeket vastagságadataik alapján nem lehetett összefüggésbe hozni a korábban ismertetett lemeztárgyak egyikével sem (17. kép 10.1–17).

Elemzésünk másik célja a tárgyak készítőtechnológiai és tárgymanipulációs nyomainak leírása és értelmezése volt. Ennek kapcsán fontos említünk, hogy megfigyeléseinket restaurálatlan állapotú tárgyakon végeztük, így kiválóan meg tudtuk határozni a recens, deponálást követő sérüléseket (pl. 2. kép 6–7, 11. kép 2). Ezek a világosan elkülöníthető törésfelületek sajnálatos módon gyakorlatilag mindegyik tárgyon észlelhetők voltak. A 7. késen figyelhető meg az egyetlen olyan törés, amelynél felvethető volt a bronzkori eredet (18. kép 7). Ez a tény alátámasztja azt a feltételezést, miszerint a „leletegyüttes” teljesebb és épebb állapotban kerülhetett a földre. A legérdekesebb eredményt a nyelnyújtványos kard szolgáltatta. Annak ellenére, hogy ezen a tárgyon több olyan nyomot is meg lehetett figyelni, amelyek a használatlathozhatók összefüggésbe (élezés, csorbulás, markolatszegések vájatosodása), mind a makroszkopikus megfigyelések,

mind pedig a röntgenfelvételek egy másik értelmezési lehetőséget támasztottak alá (2. kép 1–2, 5). A kard pengéjének belső szerkezetében megfigyelhető intenzív porozitás teljesen alkalmatlanná tette a kérdéses fegyvert valós harci használatra, mivel pengéje könnyen eltörhetett (ahogyan ez az egyik recens törésénél is megfigyelhető volt) (2. kép 6–7, 3. kép). Rendkívül fontos megfigyelés a hőhatás okozta sérülések elkülönítése, amelyek véleményem szerint alátámaszthatják az elemzett tárgyak egy együttesként való értékelését. Fontos megjegyezni, hogy ezek hősérülések, de a tárgyakon látható egyéb rongálások is „megtervezett módon” az egyes darabok használhatatlanná tételét célozták (2. kép 3–4, 6. kép, 9. kép 3, 11. kép 1, 3, 6). Hasonló, hőhatáshoz köthető rongálásokkal elsősorban hamvasztásos rítusú temetkezésekben (pl. Farkasgyepű-Pöröserdő 2), ritkábban depóleletekben is (pl. Pila del Brancon) találkozhatunk.

A tanulmányban bemutatott vizsgálatok eredményei alapján a HM Hadtörténeti Intézet és Múzeum gyűjteményében látható „leletet” nagy valószínűséggel összetartozónak ítélniük. A tárgyak készítőtechnikája, ritkasága, nagyrégiós kapcsolatrendszere és nem utolsósorban a „lelet” összetétele a Kárpát-medencei és dél-európai térségben megfigyelhető, Ha A-tól megjelenő „harcossírok” (pl. Kallithea, Portes 3), elit temetkezések (pl. Čaka), illetve kiemelkedő depóegyüttesek (Nadap, Pázmándfalu, Rinyaszentkirály, Pila del Brancon, Škocjan-Mušja jama) felé mutatnak. Vélhetően a tárgyak is egy ilyen együttes részeként kerültek földre.