WEAPONS FROM THE EARLY MEDIEVAL CEMETERY OF IVANKA PRI DUNAJI-FARKASEK IN A WIDER CONTEXT

Martin HUSÁR – Jakub TAMAŠKOVIČ

Constantine the Philosopher University in Nitra
Institute for Research of Constantine and Methodius´ Cultural Heritage
Štefánikova 67
949 74 Nitra, Slovakia
mhusar@ukf.sk
ORCID ID: 0000-0002-6569-6833
WOS Researcher ID: AAG-9365-2020
SCOPUS Author ID: 57191329261

Constantine the Philosopher University in Nitra
Department of Archaeology
Hodžova 1
949 74 Nitra, Slovakia
jakub.tamaskovic@ukf.sk
ORCID ID: 0000-0002-5759-2188
SCOPUS Author ID: 57195262148

HUSÁR, Martin – TAMAŠKOVIČ, Jakub. Weapons from the Early Medieval Cemetery of Ivanka pri Dunaji-Farkasek in a Wider Context. In Studia Historica Nitriensia, 2020, vol. 24, no. 2, pp. 249-293, ISSN 1338-7219, DOI: 10.17846/SHN.2020.24.2.249-293.

The authors of the scientific article evaluated 12 weapons from 10 graves within the early medieval cemetery of Ivanka pri Dunaji-Farkasek and tried to understand their role and dating in a wider context. They can be divided into 7 axe heads, 4 heads of thrusting pole arms and one sword. Their forms were typical for Great Moravian weaponry and partially kept the Avar Period traditions as well. In relation to the typological and chronological evaluation of the weapons, the burials of the deceased individuals at the examined part of the cemetery might have started even around the middle of the 9th century, or in the first half of the 9th century yet. On the one hand the depositions of weapons in graves of the deceased men were connected with the usual early medieval funerary practices. But on the other hand these men could also have represented regional servants of a superior authority in the eastern part of the Bratislava Gate and/or also sentinels of the terrestrial routes, crossroads and crossings over the local rivers or streams in the area to the south of the Jurský Šúr swamp.

HUSÁR, Martin – TAMAŠKOVIČ, Jakub. Zbrane zo včasnostredovekého pohrebiska Ivanka pri Dunaji-Farkasek v širších súvislostiach.

Autori vedeckého článku vyhodnotili 12 zbraní z 10 hrobov v rámci včasnostredovekého pohrebiska Ivanka pri Dunaji-Farkasek a pokúsili sa pochopiť ich úlohu a datovanie v širších súvislos-

tiach. Tieto zbrane sa dajú rozdeliť na 7 hlavíc sekier, 4 hroty žrďovo-bodných zbraní a jeden meč. Ich tvary boli typické pre veľkomoravskú výzbroj, avšak čiastočne zachovávali aj tradície obdobia avarského kaganátu. Vo vzťahu k typologicko-chronologickému vyhodnoteniu zbraní sa dá povedať, že pochovávanie mŕtvych na skúmanej časti pohrebiska mohlo začať dokonca niekedy okolo polovice 9. storočia, alebo ešte v prvej polovici 9. storočia. Na jednej strane bolo ukladanie zbraní do hrobov zomrelých mužov spojené s bežnými včasnostredovekými pohrebnými praktikami. No na druhej strane mohli títo muži reprezentovať regionálnych služobníkov nadriadenej autority vo východnej časti Bratislavskej brány a/alebo tiež strážcov suchozemských trás a prechodov cez miestne rieky a potoky v oblasti južne od lesnatého močiaru Jurský Šúr.

Keywords: The Early Middle Ages; the Avar Period; Great Moravia; Weapons; the Cemetery; Ivanka pri Dunaji-Farkasek;

Kľúčové slová: včasný stredovek; obdobie avarského kaganátu; Veľká Morava; zbrane; pohrebisko; Ivanka pri Dunaji-Farkasek;

Introduction

The geographical region of the so-called Porta Hungarica and the nearby Bratislava Gate (Bratislavská brána in Slovak)[1] is bound by the mountain ranges of the Devín Carpathians and the southern end of the Pezinok Carpathians (Slovakia) in the north and by the Hundsheimer Mountains (Austria) in the south. It is undoubtedly one of the key regions for the research of the Early Middle Ages in the border area of southwestern Slovakia. The aforementioned mountain pass and the reaches of the River Danube have created the important crossroad of terrestrial[2] and river routes represented not only by the River Danube, but also by its tributary, the River Morava. It is another major river that flows to the west of the Bratislava Gate[3].

Among the archaeological sites of the regional importance in the western part of the Bratislava Gate and the adjacent Porta Hungarica we can mention cemeteries of the Avar Period situated in Bratislava-Devínska Nová Ves-Pri tehelni[4], Bratislava-Záhorská Bystrica-Lokvy pri Morave[5] or Stupava-Piesky[6]. Besides

[1] FARKAŠ, Zdeněk. Oblasť Bratislavy ako strategické územie fortifikácií. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (ed.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia, Bratislava: Slovart, 2012, s. 459. MINÁČ, Vladimír. O osídlení Bratislavskej brány v 7. a 8. storočí. In Zborník Slovenského národného múzea, História 18, 1978, roč. 72, s. 61.

[2] HANULIAK, Milan. Komunikácie Slovenska z 10. – 13. storočia v kontexte trás vojenských akcií. In Archaeologia historica, 1998, roč. 23/98, s. 239-240. PETROVIČ, Vladimír. Vývoj cestnej siete na Záhorí do konca 18. storočia. Master's thesis, Bratislava: Univerzita Komenského v Bratislave, Filozofická fakulta, Katedra slovenských dejín, českých dejín a archívnictva, 1991, s. 9-18.

[3] DRESLER, Peter. Surovinová základna Pohanska u Břeclavi. In PROCHÁZKA, Rudolf (ed.). Forum urbes medii aevi VI, Brno: Archaia Brno, 2012, s. 54-56.

[4] EISNER, Jan. Devínska Nová Ves. Slovanské pohřebiště, Bratislava: Nakladateľstvo Slovenskej akadémie vied a umení, 1952, 411 s.

[5] KRASKOVSKÁ, Ľudmila. Slovansko-avarské pohrebisko pri Záhorskej Bystrici, Martin: Osveta, 1972, 166 s.

[6] This site and its extent are mainly known from aerial prospection, followed by a small scale excavation. The authors of the executed research assumed that the site consisted of a large cemetery. They preliminary dated this cemetery to the Late Avar Period, i.e. to the 8th century and the beginning of the 9th century. ELSCHEK, Kristián – RAJTÁR, Ján – VARSIK, Vladimír. Pohrebisko

them, there are Great Moravian central hill fort settlements of Bratislava-Hrad[7] and Devín-Hrad[8] with its other nearby hill forts[9]. Moreover, a large number of the known early medieval sites from the region is in the vicinity of the Bratislava City or to west of the Little Carpathians – in the Záhorie Lowland[10].

On the contrary, the current state of published research gives us very little information about the model of the settlement structure and occupation of the eastern side of the Bratislava Gate region (Fig. 1). Thus, the role of the southeastern forefield of the Little Carpathians should be examined first if we want to reconstruct the early medieval settlement structure of the whole Bratislava Gate as a socio-economic model[11] and deal with the chosen current research topics of the Early Middle Ages[12]. The recently published monograph about the Great Moravian hill

---

z 8.-9. storočia v Stupave. In Archeologické výskumy a nálezy na Slovensku v roku 2008, 2011, s. 87-89.

7 HENNING, Joachim – RUTTKAY, Matej. Frühmittelalterliche Burgwälle an der mittleren Donau im ostmitteleuropäischen Kontext: Ein deutsch-slowakisches Forschungsprojekt. In MACHÁČEK, Jirí – UNGERMAN, Šimon (eds.). Frühgeschichtliche Zentralorte in Mitteleuropa, Bonn: Verlag Dr. Rudolf Habelt GmbH., 2011, s. 271-273. LESÁK, Branislav – KOVÁČ, Jozef – VRTEL, Andrej. Archeologický výskum nádvoria hradného paláca Bratislavského hradu – základné poznatky o stratigrafii včasnostredovekého náleziska. In MUSILOVÁ, Margaréta – BARTA, Peter – HERUCOVÁ, Angelika (eds.). Bratislavský hrad – dejiny, výskum a obnova, Bratislava: Mestský ústav ochrany pamiatok v Bratislave – Slovenské národné múzeum – Historické múzeum, 2014, s. 199-216. ŠTEFANOVIČOVÁ, Tatiana. Bratislavský hrad v 9.-12. storočí, Bratislava: Obzor, 1975, 154 s.

8 PLACHÁ, Veronika – HLAVICOVÁ, Jana. Ranostredoveký Devín, Bratislava: Elán, 2011, 141 s.

9 The site of Bratislava-Devínska Nová Ves-Na pieskoch – KRASKOVSKÁ, Ľudmila. Slovanské hradisko pri Devínskej Novej Vsi. In Slovenská archeológia, 1962, roč. X, č. 1, s. 241-252. The site of Bratislava-Devínska Nová Ves-Nad lomom – KRASKOVSKÁ, Ľudmila: Slovanské hradisko pri Devínskej Novej Vsi Nad lomom. In Slovenská archeológia, 1966, roč. XIV, č. 1, s. 147-165.

10 The on-line map of the Great Moravian Period sites and post-Great Moravian Period sites from the Záhorie Lowland is available at HLADÍK, Marek – TAMAŠKOVIČ, Jakub. Great Moravian settlement relations [Online]. Accessible via the Internet: <https://mikulcice.maps.arcgis.com/apps/MapTools/index.html?appid=5f9ae64129d7432fa013087b090ca2d5> . See also TAMAŠKOVIČ, Jakub. Záhorie vo včasnom stredoveku – modelovanie sídelnej štruktúry s použitím GIS a štatistických metód. Master's thesis, Nitra: Univerzita Konštantína Filozofa v Nitre, Filozofická fakulta, Katedra archeológie, 2016, 212 s. TAMAŠKOVIČ, Jakub – HLADÍK, Marek. Povodie dolnej Moravy vo včasnom stredoveku (tézy z hranice 2). In VRABLEC, Pavol (ed.). Malacky a okolie 8 – História, Malacky: Mestské múzeum kultúry Malacky – Múzeum Michala Tillnera Malacky, 2015, s. 7-22.

11 HLADÍK, Marek. Hospodárske zázemie Mikulčíc. Sídelná štruktúra na strednom toku rieky Morava v 9. – 1. polovici 13. storočia, Brno: Archeologický ústav Akademie věd ČR, 2014, 353 s. 11-22. MAZUCH, Marián – HLADÍK, Marek – SKOPAL, Rastislav. Úpravy hrobových jam a dřevěné konstrukce v hrobech na pohřebištích Velké Moravy, Brno: Archeologický ústav Akademie věd ČR, Brno, v. v. i., 2017, 14-22.

12 For instance, it is necessary to distinguish between the "hinterland" and "umland" as a model for understanding social and economic relations between central sites (like Bratislava-Hrad or Svätý Jur-Neštich-Hradisko) and nearby or distant settlement structures around them – their environment. See also DRESLER, Peter. Břeclav-Pohansko VIII. Hospodářské zázemí centra nebo jen osady v blízkosti centra?, Brno: Muni Press, 2016, 275 s. WEHNER, Donat. Wolin/Wollin und Umland in der Slawenzeit. Eine Auseinandersetzung mit E. Gringmuth-Dallmers Zentralortskonzeption. In JEUTE, Gerson H. – SCHNEEWEIß, Jens – THEUNE, Claudia (eds.). Aedificatio terrae. Beiträge zur Umwelt- und Siedlungsarchäologie Mitteleuropas, Rahden/

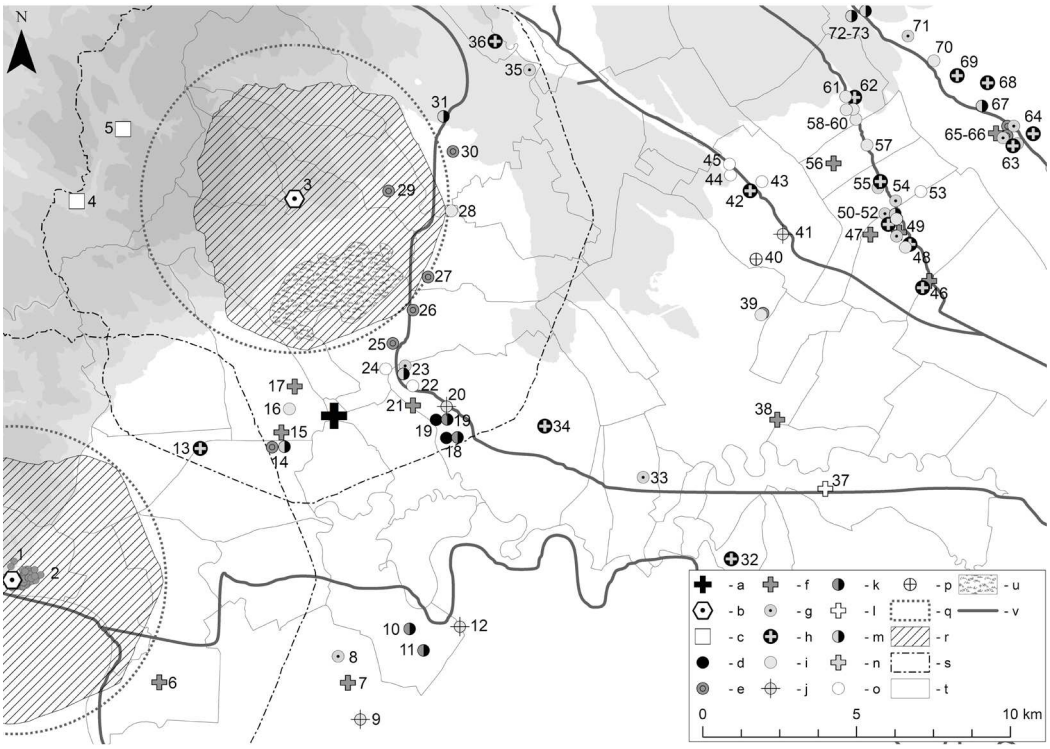

Fig. 1. Early medieval settlement structure at the southeastern forefield of the Little Carpathians. List of the archaeological sites (on the basis of published scientific literature): 1 – Bratislava-Hrad; 2 – concentration of the archaeological sites in Bratislava; 3 – Svätý Jur-Neštich-Hradisko; 4 – Borinka-Dračí hrádok; 5 – Borinka-Okopanec; 6 – Bratislava-Podunajské Biskupice-Vlčie hrdlo; 7 – Bratislava-Podunajské Biskupice-Trasa D4/R7 (Druhý diel); 8 – Bratislava-Podunajské Biskupice-Druhý diel; 9 – Rovinka-Tretí diel; 10 – Most pri Bratislave; 11 – Most pri Bratislave-"Pravá strana cesty smer Tomášovo"; 12 – Most pri Bratislava-Za Frývaldským; 13 – Bratislava-Zlaté piesky-Pomoriny; 14 – Bratislava-Trnávka-Zadné; 15 – Bratislava-Vajnory-Železničná stanica; 16 – Bratislava-Vajnory-Veľké Štepnice; 17 – Bratislava-Vajnory-Pod krížom; 18 – Bernolákovo-Panské lúky I; 19 – Bernolákovo-Panské lúky II; 20 – Bernolákovo-Piesková jama; 21 – Bernolákovo-Šakoň I; 22 – Bernolákovo-Šakoň II; 23 – Bernolákovo-Obora; 24 – Chorvátsky Grob-Triblavina; 25 – Chorvátsky Grob-Čerešňová háj; 26 – Chorvátsky Grob-Čierna voda-Vlčie kúty; 27 – Slovenský Grob-Pri Čiernej vode; 28 – Slovenský Grob-Padelky; 29 – Pezinok-Grinava-Šúrske; 30 – Pezinok-Mahulanka; 31 – Pezinok-Mladoboleslavská ulica; 32 – Hrubý Šúr-Kerektó; 33 – Nová Dedinka-Nová Ves pri Dunaji-Pomša; 34 – Bernolákovo-Pieskovňa; 35 – Vinosady-Malé Tŕnie; 36 – Modra-Záhumenice ("vinohrady Sodomu"); 37 – Kráľová pri Senci-Pieskovňa; 38 – Senec-Štrkovisko (currently a lake); 39 – Senec-Hriadky; 40 – Blatné-Pustáky; 41 – Blatné-"Neznáma poloha"; 42 – Blatné-Dzíle; 43 – Blatné-"a"/"pri kóte 146"; 44 – Blatné-"c"/"južne od Čihákovského mlyna"; 45 – Blatné-Čihákovský mlyn; 46 – Veľký Grob-Za potoky; 47 – Čataj-Zemianske/Zemanské Gejzove; 48 – Čataj-Za záhrady; 49 – Čataj-Za prešovňu; 50 – Čataj-Nad korytom; 51 – Čataj-Dlhé Zemanské; 52 – Čataj-"pravobrežná terasa Vištuckého potoka"; 53 – Čataj-Za humnami; 54 – Igram-Hoštáky; 55 – Igram-Plynovod; 56 – Báhoň-"Severne od cesty Báhoň-Blatné"; 57 – Kaplná-"Ľavý breh Vištuckého potoka; 58 – Báhoň-Pri čerpacej stanici/"stavenisko vodnej nádrže"; 59 – Báhoň-"Svah nad pravým brehom Vištuckého potoka"; 60 – Báhoň-"Medzi Vištuckým potokom a železničnou traťou"; 61 – Báhoň-"Ryha na zavôažovacie potrubie"; 62 – Báhoň-

"Neznáma poloha"; 63 – Cífer-Pác-Dráhy; 64 – Cífer-Pác-Diaľnica; 65 – Cífer-Pád-Nad mlynom; 66 – Cífer-Pác - Za mlynom; 67 – Cífer-Stredisko JRD; 68 – Cífer-Tehelňa; 69 – Cífer (a number of grave finds from unknown locations dated to the 8th – 9th centuries); 70 – Cífer-Pri železničnej trati; 71 – Cífer-Jarná-"Neznáma poloha"; 72 – Jablonec-"Medzi futbalovým ihriskom a domami"; 72 – Jablonec-Nad potokom. Legend: a – Ivanka pri Dunaji-Farkasek; b – central fortified sites; c – refugium(?); d – early Slavic settlement; e – 7th-8th century settlement; f – 7th-8th century cemetery; g – 9th-1st half of the 10th century settlement; h – 9th-1st half of the 10th century cemetery; i – 2nd half-10th/11th century settlement; j – 2nd half-10th/11th century cemetery; k – 7th-10th/11th century settlement; l – 7th-10th/11th century cemetery/burial; m – 9th-10th-11th century settlement; n – 9th-10th-11th century cemetery; o – early medieval settlement; p – early medieval cemetery/burial; q – radius of 5 km around a central fortified site; r – 1-hour walk accessibility from a central fortified site; s – 2-hour walk accessibility from a central fortified site; t – actual cadastral borders within the studied area; u – Jurský Šúr reservation (swamp); v – reaches of main rivers (author: Jakub Tamaškovič).

fort Svätý Jur-Neštich-Hradisko also offered new data about this important central site situated at the southern headlands of the Little Carpathians[13]. Another important excavation of a Great Moravian site was carried out in the cemetery of Bratislava-Vajnory-Pomoriny that can be dated between the second quarter of 9th century and the first quarter of the 10th century.[14]

The discovery of the new Avar Period cemetery of Bratislava-Podunajské Biskupice-Trasa D4/R7 (Druhý diel)[15] with 485 graves proved that the state of research and the role of the described area need to be interpreted and discussed once again. This does not concern only the Avar Period, but, thanks to another recently discovered cemetery of the Ivanka pri Dunaji-Farkasek, also the Great Moravian Period. The early medieval cemetery of the Ivanka pri Dunaji-Farkasek is located 8.5 km to the north of the above mentioned cemetery at the site Druhý diel, which is dated at least to the 8th century. Both sites were uncovered during the complex large-scale series of rescue excavations caused by the construction activities in regard to the highway bypass D4/R7 around Bratislava. Other five locations belong to the circle of the Avar Period archaeological sites, which were unearthed before the excavation of the cemetery at the site Druhý diel and are still in the proximity to the cemetery of Ivanka pri Dunaji-Farkasek. There are the

Westf.: Verlag Marie Leidorf GmbH, 2007, s. 363-371. WEHNER, Donat. The hinterland of the early medieval trading place Wolin and Menzlin: a comparison. In BABETTE, Ludowici – JÖNS, Hauke – KLEINGÄRTNER, Sunhild – SCHESCHKEWITZ Jonathan – HARDT, Matthias (eds.). Trade and communication networks of the First millennium AD in the northern part of Central Europe: central places, beach markets, landing places and trading centres, Stuttgart: Niedersächsischen Landesmuseum Hannover, 2010, s. 258-266.

[13] VAVÁK, Július. Pevnosť v Malých Karpatoch. Vznik, význam a úloha výšinného centra vo Svätom Jure, Pezinok: Malokarpatské múzeum v Pezinku, 2019, 159 s.

[14] KUZMA, Ivan. Veľkomoravské pohrebisko pri zlatých pieskoch. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (eds.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. Storočia, Bratislava: Slovart, 2012, s. 348-350.

[15] HORŇÁK, Milan – STEHLÍKOVÁ, Jana. Pohrebisko z obdobia Avarského kaganátu v Podunajských Biskupiciach, Bratislava/Podunajské Biskupice: Mestská časť Bratislava Podunajské Biskupice – VIA MAGNA archeologia s.r.o., 2017, 52 s.

cemeteries of Bratislava-Vajnory-Pod krížom (Tomanova ulica)[16] and Bratislava-Vajnory-Železničná stanica[17], which both are dateable to the second half of the 8th century, and the cemetery of Bernolákovo-Šakoň[18] dated to the 8th century. Moreover, settlement patterns dated to the 7th – 8th centuries were discovered in Chorvátsky Grob[19] and Slovenský Grob.[20]

It seems that the characteristics of artefacts from the cemetery of Ivanka pri Dunaji-Farkasek allow us to date them primarily to the Great Moravian Period. However, more precise dating is needed to explain the position and relationship of the buried population, firstly, to the aforementioned settlement structure in the Bratislava Gate, secondly, to the local centres of Švätý Jur-Neštich-Hradisko or Bratislava-Hrad and, last but not least, to the population represented by the cemetery of Bratislava-Podunajské Biskupice. We miss any reliable evidence of a settlement, which can be related to the population interred at the cemetery of Farkasek. There are just two archaeological sites from the Early Middle Ages in its direct environs that were identified by fragments of pottery during fielwalking. They are the sites of Bratislava-Trnávka-Zadné[21] and Bratislava-Vajnory-Triblavina[22].[23]

The main goal of our scientific article is to contribute to specification of the site's relative chronology by the detailed analysis of a specific category of grave goods – weapons. After the analysis of their formal attributes[24] by means of the typological method and after their comparison with analogies, we would like to prove their value in regard to precise dating. Obviously, the dating of an early medieval cemetery is, apart from the AMS/C14 dating, usually based on other categories of finds (coins, jewellery, fittings of a belt hardware set, horse riding equipment, etc.) Lastly, we intend to discuss the roles and status of the buried population there in the relation to the cemetery's location, because it was hypo-

[16] MINÁČ, Vladimír. Slovansko-avarské pohrebisko v Bratislave – Vajnoroch. In Archeologické výskumy a nálezy na Slovensku v roku 1975, 1976, s. 147-149. MINÁČ, Vladimír – SLIVKA, Michal. Druhé predveľkomoravské pohrebisko v Bratislave-Vajnoroch. In Archeologické rozhledy 1976, roč. 28, s. 426-429.

[17] KRASKOVSKÁ, Ľudmila. Staroslovanské pamiatky na území Bratislavy. In Slovanská Bratislava, 1948, roč. 1, s. 14-21.

[18] KRASKOVSKÁ, Ľudmila. Pohrebisko v Bernolákove. In Slovenská archeológia 1962, roč. X, č. 2, s. 425-476.

[19] The archaeological sites of Chorvátsky Grob-Čierna voda-Čerešňový háj and Chorvátsky Grob-Čierna voda-Vlčie kúty (the second one was possibly in operation even in the 8th – 9th centuries). TURČAN, Vladimír. Včasnostredoveké sídliskové objekty z Chorvátskeho Grobu. In Zborník Slovenského národného múzea, Archeológia 18, 2008, roč. CII, s. 139-152. BIELICH, Mário – ELSCHEK, Kristián – ŠIMČÍK, Peter. Záchranný výskum v Čiernej vode. In Archeologické výskumy a nálezy na Slovensku v roku 2007, 2009, s. 48-49.

[20] The archaeological site of Slovenský Grob-Pri čiernej vode. TURČAN, Vladimír. Slovanský sídliskový objekt zo Slovenského Grobu. In Zborník Slovenského národného múzea, Archeológia 21, 2011, roč. CV, s. 141-146.

[21] 1.8 km to the southwest of the cemetery of Farkasek. It was dated to the 8th – 9th centuries.

[22] 2.2 km to the northeast of the cemetery of Farkasek. It is dateable to the 9th – 10th centuries.

[23] JANŠÁK, Štefan. Staré osídlenie Slovenska. In Sborník Muzeálnej slovenskej spoločnosti, 1933-1934, roč. XXVII-XXVIII, s. 64. PAVOL, Ivan. Výsledky terénnej prospekcie na trase výstavby diaľnice D61. In Archeologické výskumy a nálezy na Slovensku v roku 1996, 1998, s. 82.

[24] NEUSTUPNÝ, Evžen. Teorie archeologie, Plzeň: Aleš Čenek, 2010, s. 67-68.

thetically located in the vicinity of assumed multiple terrestrial routes and in the hinterland of central sites.

Description of the archaeological site

The excavation of the polycultural site of Ivanka pri Dunaji-Farkasek was carried out by the research team of the VIA MAGNA archeologia Ltd. in cooperation with the teams of the Midland Adventure Ltd. and the Department of anthropology at the Faculty of Natural Sciences of the Comenius University in Bratislava. The archaeological site is situated in the northwest end of the Ivanka pri Dunaji cadastre (southwestern Slovakia, Bratislava Region, Senec District). Field work took place there from March to July 2018. The early medieval burial ground was located alongside the eastern border of the excavated area and included 120 graves.[25] We should emphasise that this number is related to the state of current research, which was limited by the extent of the above mentioned construction of roads. The placement of the graves suggests that (Fig. 2) the cemetery hypothetically continues in the eastern and northeastern direction. Furthermore, the available aerial or satellite images from various years and their seasons have not helped to define the whole area of the cemetery yet[26]. Stratigraphic relations between the non-early medieval settlement features, early medieval graves and recent ground-work activities were relatively simple[27]. Despite few cases of superpositions at the cemetery, none of them included a grave containing weapon/weapons. Therefore, it is irrelevant to the goal of this article. Even so, we should highlight that the site was damaged by the previous building activities during the 20th century. They were probably connected with the agricultural management of the local field. Due to this activity, an unknown number of graves without the knowledge of archaeologists was destroyed by the 6 m wide trench in the northern half of the cemetery's area.

In total, there were ten graves containing a weapon or weapons as one of their grave goods: graves 17, 18, 34, 64, 67, 69, 80, 85, 88 and 96. None of these graves was damaged by disturbance. Locations of osteological material in graves demonstrated only natural post-deposition processes and all bones were in the anatomic position[28] (Pl. I-III). Each grave contained one deceased[29], mostly oriented in a northwest – southeast direction (graves 17, 34, 64 and 67) and in a west – east direction (graves 18, 69, 96). Individuals from the graves 85 and 88 were situated on a southwest – northeast axis. The deceased from grave 80, who has an east – west orientation, is the exception to the rule.

---

[25] They contained 121 human individuals and one separate horse burial.

[26] Hopefully, possible future geophysical research to the east of the primary borders of the excavated area might clarify this issue.

[27] HORŇÁK, Milan – KVIETOK, Martin – ŽITŇAN, Andrej, KVIETKOVÁ, Veronika – MOLOTA, Tomáš – HRABKOVSKÝ, Milan – NIKOLOVA, Timea – HORÁKOVÁ, Lenka. Výskumná dokumentácia z archeologického výskumu. Lokalita: Vajnory/Ivanka pri Dunaji, poloha Farkasek, Vrútky: VIA MAGNA archeologia s. r. o., 2018, 289 s.

[28] DÖRNHÖFEROVÁ, Michaela. Pers comm.

[29] Gender and age of each individual is included in the catalogue of this article where the information about find context of each weapon is placed.

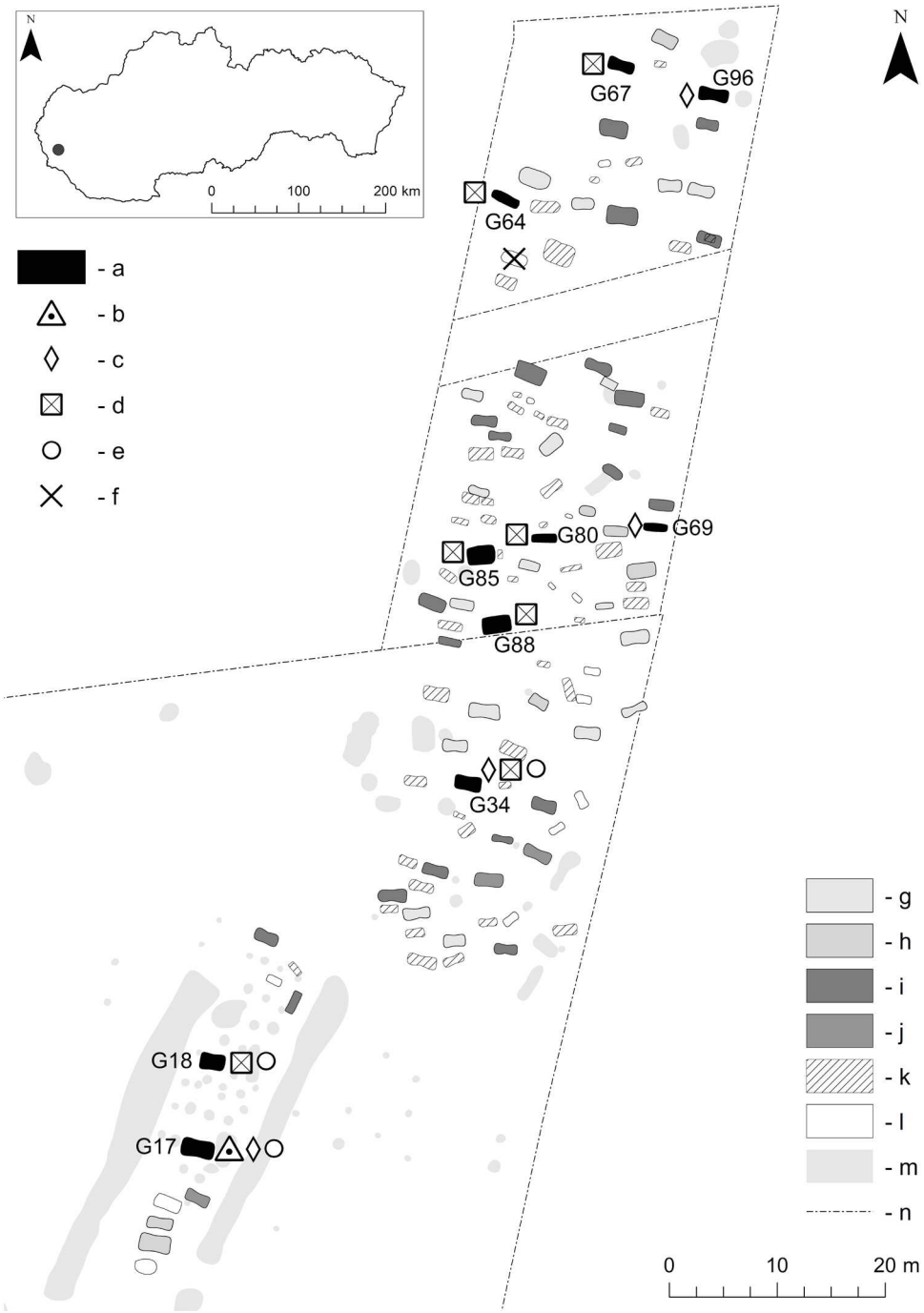

Fig. 2. Situation plan of the archaeological site of Ivanka pri Dunaji-Farkasek – detail of the excavated area concerning the early medieval cemetery. Legend: a – burials containing weapons and/or horse riding equipment; b – sword; c – spearhead; d – axe head; e – spurs; f – the burial of the horse; g-l – the gender of the deceased according to the anthropological analysis: g – female; h – female?; i – man; j – man?; k – considerably damaged osteological material that does not allow further determination; l – without preserved osteological material; m – non-early medieval settlement features; n – limit of the excavation (author: Jakub Tamaškovič).

Graves 17, 18 and 85 contained wooden construction that is an important aspect of the burial rite, which differs them from the other aforementioned graves with weapon/weapons.[30] All these three individuals were interred in coffins provided with metal fittings (Pl. I: Graves 17-18). What is more, there is a possibility of another type of wooden construction used beside the coffin in grave 85[31] (Pl. II: Grave 85). When it comes to the overground modifications of graves connected with the burial rite, we can assume the presence of the embankment (remblai) above some graves.[32]

To sum up, we can conclude that the analysed grave goods come from primary contexts, i.e. closed find groups. Most of the described elements of the burial rite correspond with burial costumes at the Great Moravian cemeteries[33].

Analogies and dating for the examined weapons and their contexts

Axe heads

Four out of the 7 examined axe heads found in graves of the discussed cemetery belong to the particular type or form, which is defined as the bearded axe (head),[34] Moravian-Slovak bearded axe (head),[35] Great Moravian bearded axe (head)[36] and so on. It is mainly known from the territory of Great Moravia, then from the neighbouring territories of Central Europe, the Balkans and Rus' as well. Its typical features are: a symmetric head in cross-section from above or below; two pairs of pointed lugs;[37] lugs and a socket, which are oblique to the neck of an axe head; quite short beard, which is concavely bevelled in profile; the upper parts of an axe head's cheek and blade, which are concavely curved in profile; and a distinct quite short butt. The above mentioned type of bearded axe heads is present in graves 18, 34 and 88[38] (Pl. IV: Grave 18 – 3; V: Grave 34 – 2; VII: Grave 88 – 2) at the

[30] The three discussed graves were not the only ones that contained wooden construction. This element of the burial rite at the cemetery of Ivanka pri Dunaji-Farkasek (as well as at many other sites) was also linked to graves with various grave goods, age and to graves of both genders. For example, see MAZUCH – HLADÍK – SKOPAL, ref. 11, s. 284-285.

[31] Results from the sample of wooden material from grave 85 shows that it was made of the oak genus, which is typical for floodplain forests. HORŇÁK et al., ref. 27, s. 4.

[32] Compare this fact with HANULIAK, Milan. Veľkomoravské pohrebiská. Pochovávanie v 9.-10. storočí na území Slovenska. Nitra: Archeologický ústav Slovenskej akadémie vied v Nitre, 2004, s. 68. Our assumption is based on stratigraphically superimposed graves 108a and 108b. Stratigraphically younger grave 108a (infans) was sunk into grave 108b (adult of unspecified age). Grave 108a respected the area and orientation of the grave 108b, thus grave 108b was probably still visible in the time of the child's burial. Short distances between all graves in the cemetery exclude the existence of quite big burial mounds.

[33] HANULIAK, ref. 32, s. 67-115.

[34] HANULIAK, ref. 32, s. 145-147.

[35] DOSTÁL, Bořivoj. Slovanská pohřebiště ze střední doby hradištní na Moravě, Praha: Academia – Nakladatelství Československé akademie věd, 1966, s. 70.

[36] LUŇÁK, Petr. Velkomoravské sekery. Disertační práce, Brno: Masarykova univerzita, Ústav archeologie a muzeologie, 2018, s. 126-127, 141-142.

[37] The form of lugs is unspecified in the case of the discussed exemplars from graves 34 and 88, because they are significantly damaged or absent due to corrosion.

[38] However, the beard of axe head from grave 88 is not fitted with concave cutout at its lower end.

cemetery of Ivanka pri Dunaji-Farkasek.[39] Piotr Kotowicz classified such bearded axes, although with squared-sectioned butts, as variant IB.5.30.[40] He regarded them as the classic form of axe heads from the territories to the south of Poland. In his monographic synthesis he dated them in Central, Southern and Eastern Europe from the second half of the 8th century to the middle of the 10th century, with the peak of their use and popularity in the 9th century.[41] Alexander T. Ruttkay noted in 1982 that bearded axe heads made circa 70% of all axe head finds from Great Moravian archaeological contexts.[42]

On the basis of primary archaeological contexts from Moravia it seems to us that the bearded axe head with quite long lugs from grave 18 (Pl. IV: Grave 18 – 3) could mainly be connected with the first half of the 9th century and generally with the 9th century.[43] This form of the bearded axe head was among Great Moravian and medieval axe heads classified as subtype IA by Petr Luňák,[44] group A of type 1 or I by Vilém Hrubý,[45] group IA of type I by Bořivoj Dostál,[46] and as variant A of type I by Alexander T. Ruttkay[47]. Some scholars dated bearded axes with quite long lugs even outside the 9th century. They were Andrzej Nadolski and Wanda Sarnowska, who dated some sporadic exemplars even to the 10th (?) century[48] or the 7th – 8th centuries[49].

We can only guess that the bearded axe head from the examined grave 34 (Pl. V: Grave 34 – 2), which misses lugs, could have belonged to the aforementioned

---

[39] The butts of these heads are also widening in profile and tapering towards their ends from above and below. Their cross-sections are rectangular.

[40] KOTOWICZ, Piotr. Early Medieval Axes from the Territory of Poland, Kraków: Polish Academy of Arts and Sciences, 2018, s. 107-109, Fig. 10.

[41] KOTOWICZ, ref. 40, s. 107.

[42] RUTTKAY, Alexander. The Organization of Troops, Warfare and Arms in the Period of the Great Moravian State. In Slovenská archeológia, 1982, roč. XXX, č. 1, Table II: AXE: I.

[43] LUŇÁK, ref. 36, s. 152. GALUŠKA, Luděk. Uherské Hradiště-Sady, Brno: Moravské zemské museum – Nadace Litera, 1996, s. 60-61.

[44] LUŇÁK, ref. 36, s. 126-127, 152, figure on page 129.

[45] HRUBÝ, Vilém. Staré Město. Velkomoravské pohřebiště „Na Valách", Praha: Nakladatelství Československé akademie věd, 1955, s. 170, obr. 28: 1. Nevertheless, this archaeologist assigned this group to the time between the third quarter of the 9th century and the 10th century. HRUBÝ, ref. 45, s. 172.

[46] DOSTÁL, ref. 35, s. 70, obr. 15: 6. He dated his type I from the middle of the 8th century to the 10th century. DOSTÁL, ref. 35, s. 71.

[47] RUTTKAY, Alexander. Waffen und Reiterausrüstung des 9. bis zur ersten Hälfte des 14. Jahrhunderts in der Slowakei (II). In Slovenská archeológia, 1976, roč. XXIV, č. 2, s. 308, Abb. 42: IA. Alexander T. Ruttkay dated his whole above mentioned type I – bearded axe heads – to the 9th century. RUTTKAY, ref. 47, s. 308. In 1982 the same archaeologist dated Great Moravian bearded axe heads within his type I to the course of the 9th century and the beginning of the 10th century. RUTTKAY, ref. 42, Table II: 24.

[48] It is the questionable find from the region of Płock Mazovia. NADOLSKI, Andrzej. Studia nad uzbrojeniem polskim w X, XI a XII wieku. Acta archaeologica Universitatis Lodziensis 3. Łódź: Zakład im. Ossolińskich we Wrocławiu, 1954, s. 174, Tablica XIII: 3.

[49] The exemplar comes from the hill fort of Popęszyce in Silesia. This exemplar was allegedly unearthed in a settlement layer with the 7th – 8th century ceramics. Wanda Sarnowska supposedly found parallels to its form in the Keszthely culture too. SARNOWSKA, Wanda. Topory wczesnośredniowieczne z obszaru Śląska. In Światowit, 1962, roč. 24, s. 503, 513, Ryc. 9.

form with quite long pointed lugs. Our surmise is based on some similarities in profile and cross-section from above or below between this axe head and the axe head from grave 18. On this account, we can mainly state that both of their beards are relatively wide and low, their necks are quite thin in profile and the cross-sections of the rear parts of their butts are in the form of a relatively narrow rectangular.

In comparison with the two above mentioned bearded axe heads, the exemplar from grave 88 (Pl. VII: Grave 88 – 2) has got a quite wider neck and longer blade upon its beard. It is fitted with relatively wide and short pointed lugs too, at least in its lower part. Moreover, the rectangular end of its butt is wider than the ends of butts belonging to the exemplars from grave 18 and 34. Concerning typological and chronological classifications of Great Moravian and medieval axe heads, the bearded axe head with quite wide and short pointed lugs more fits in subtype IB of Petr Luňák,[50] group B of type 1 or I of Vilém Hrubý,[51] group IB of type I of Bořivoj Dostál,[52] and in variant B of type I of Alexander T. Ruttkay[53]. Taking every mentioned dating into account, we can safely speak about the dating of this form between the 8th and 10th centuries.

Despite its corrosion and covering by gravel, we can identify the specimen from grave 85 (Pl. VII: Grave 85 – 1) with the archaic version of the referred Great Moravian bearded axe (head) type. The formerly pointed lugs and socket of the above mentioned specimen are probably perpendicular to its neck. There was likely an oval button at the end of its relatively short butt. The axe head's cheek and blade are in their upper parts moderately convexly curved in profile. In addition, the end of its beard has got an insignificant concave cutout in profile. In the case of bearded axe heads an arc is normally made by their lower lugs, lower parts of their necks and the rear parts of their beards. The tops of the arcs of the above discussed exemplars from graves 18, 34 and 88 are shifted towards their lower lugs and sockets. On the contrary, the arc's top of the specimen from grave 85 is beneath its neck. Besides, this arc rather resembles a trapezoid from its one side.

The perfect analogy for this bearded axe head is a head from object 633, which was placed in the bottom of the moat at the stronghold of Mikulčice-Valy – to the south of the Third church – and was dated to the course of the 9th century.[54]

---

[50] LUŇÁK, ref. 36, s. 126-127, 152, figure on page 129. According to Petr Luňák this subtype is datable to the whole 9th century, but also in the 8th and 10th centuries. LUŇÁK, ref. 36, s. 152.

[51] HRUBÝ, ref. 45, s. 170, obr. 28: 2. This scholar dated group B of type 1 or I to the third quarter of the 9th century at the cemetery of Staré Město HRUBÝ, ref. 45, s. 173.

[52] DOSTÁL, ref. 35, s. 70, obr. 15: 7. As we stated before, Bořivoj Dostál dated his whole type I between the middle of the 8th century and the 10th century. DOSTÁL, ref. 35, s. 71.

[53] RUTTKAY, ref. 47, s. 308, Abb. 42: IB. He stated that his type I is datable to the 9th century, as we claimed that already before. RUTTKAY, ref. 47, s. 308. We also mentioned the information in the previous text that the same archaeologist presented this dating again in 1982 when he dated the Great Moravian bearded axe heads to the course of the 9th century and the beginning of the 10th century (within his type I). RUTTKAY, ref. 42, Table II: 24.

[54] KOUŘIL, Pavel (ed.). Velká Morava a počátky křesťanství, Brno: Archeologický ústav Akademie věd ČR, Brno, v. v. i., 2014, s. 325, figure on page 325.

Alongside the aforementioned features of the head from grave 85,[55] both of them share such toes of blades that are protruding further than their heels.

The presented features of the referred axe head from grave 85[56] speak for its earlier dating than the dating of the three axe heads from Ivanka pri Dunaji-Farkasek that were discussed before. Hungarian archaeologist Frigyes Szücsi, who conducted research into the axes of the Avar Period in the Carpathian Basin, claimed that his blade subtype 10a of the bearded axe heads might already have begun in the second half of the 8th century or in the last quarter of the 8th century at latest.[57] This subtype has also got a quite wide and high beards, which lack noticeable curvatures known at the beards of the classic Great Moravian bearded axe heads, equally as the examined axe head from grave 85 of the cemetery of Ivanka pri Dunaji-Farkasek.

Among exemplars of the aforementioned Frigyes Szücsi's subtype 10a we can identify one bearded axe head that has got relatively long pointed lugs and a short butt, and its lugs and socket are perpendicular to its neck. It comes from grave 16 of the cemetery of Szirák (Nógrád County) in Hungary.[58] The majority of grave goods, including the discussed bearded axe head, were found in secondary context, namely in the filling of the grave pit.[59] In spite of this fact, there is a possibility to date this grave on the basis of a partly discovered belt hardware set to the second half of the 8th century.[60]

Analogies for the probable oval button placed at the end of the bearded axe head's butt from grave 85 we might also observe on similar bearded axe heads, but they are fitted with lugs and sockets that are oblique to their necks. It is possible to find them in the former territory of Great Moravia and in Central, Southern and Eastern Europe as well. They can only be broadly datable to the 8th – 10th centuries.[61]

---

[55] However, the specimen from Mikulčice-Valy misses a gentle concave cutout of its beard in profile.

[56] Except the projecting toe.

[57] SZÜCSI, Frigyes. Avar kori balták, bárdok, szekercék és fokosok. Baltafélék a 6–8. századi Kárpát-medencében. In Alba Regia, 2013-2014, roč. 42, s. 168, 3. ábra: 10a, Tipológiai táblázat on page 145-146.

[58] HAMPEL, Joseph. Altertümer des frühen Mittelalters in Ungarn. Zweiter Band – Fundbeschreibung, Braunschweig: Friedrich Vieweg und Sohn, 1905, s. 77, 80. HAMPEL, Joseph. Altertümer des frühen Mittelalters in Ungarn. Dritter Band – Atlas, Braunschweig: Friedrich Vieweg und Sohn, 1905, Taf: 65: 16. Grab – 1-7.

[59] HAMPEL, ref. 58, Zweiter Band, s. 80. LUŇÁK, ref. 36, s. 145.

[60] ZÁBOJNÍK, Jozef. Seriation von Gürtelbeschlaggarnituren aus dem Gebiet der Slowakei und Österreichs (Beitrag zur Chronologie der Zeit des awarischen Kaganats). In ČILINSKÁ, Zlata (ed.). K problematike osídlenia stredodunajskej oblasti vo včasnom stredoveku, Nitra: Archeologický ústav Slovenskej akadémie vied, 1991, s. 219-321.

[61] DOSTÁL, ref. 35, s. 71, obr. 15: 8 (group IC within type I; dating: the whole type I between the middle of the 8th century and the 10th century). HRUBÝ, ref. 45, s. 170, 172, obr. 28: 3-4 (group C of type I or 1; dating: the third quarter of the 9th century). KOTOWICZ, ref. 40, s. 110-111, Fig. 10 (variant IB.5.34; dating: Poland – mainly the 9th century and possibly also the early 10th century; Central, Southern and Eastern Europe – the 8th – 10th centuries). LUŇÁK, ref. 36, s. 126-127, figure on page 129 (subtype IC; dating: the 8th – 10th centuries). RUTTKAY, ref. 47, s. 308, Abb. 42: IC (variant C of type I; dating: the whole type I to the 9th century).

It is obvious that the axe head from grave 64 (Pl. V: Grave 64 – 3) with a relatively narrow blade, long cheek, moderately semi-oval lugs, and a quite short butt with a button had had a longer tradition than the previously discussed axe heads from the cemetery of Ivanka pri Dunaji-Farkasek. Aside from the form of their lugs' terminals[62], the beginnings of similar axe heads could have been connected with the turn of Antiquity and the Middle Ages. They were already discovered in the Avar Period archaeological contexts in the Carpathian Basin[63] or in the territory of the contemporary (Eastern) Roman Empire[64].

Several scholars observed the unbroken continuity of this relatively elongated and narrow axe heads in use to the later periods too. The nearest parallels to axe head from grave 64 are the axe heads of variant IB.5.29 and IB.6.33 in Poland. Piotr Kotowicz classified exemplars with pointed lugs and butts with rectangular cross-sections[65] into variant IB.5.29 and exemplars with semi-oval lugs and butts with buttons into variant IB.6.33[66]. The first one can be dated in Central European archaeological contexts between the 7th and 10th centuries and in Central, Southeastern and Eastern Europe context [67] from the last third of the 6th century to the middle of the 12th century. Jan Musil connected relatively elongated and narrow axe heads with pointed lugs and buttons in the present-day Czech Republic, Slovakia, Hungary and Poland with the time from the 8th century to the beginning of the 10th century.[68] Specimens with pointed or semi-oval lugs and with or without a button were examined or classified by scholars focused on Great Moravian military equipment as well. They also admitted that they were used even before the 9th century.[69] Andrzej Nadolski dated the aquatic find of an

---

[62] Often there is not the clear difference between semi-oval and pointed lugs.

[63] Specimens with buttons and moderately pointed lugs are dateable to the Early Avar (SZÜCSI, Frigyes. A kora- és középavar kori balták és fokosok katalógusa. The appendix of the thesis. Manuscript, Budapest, 2011, s. 25, 91, figures on pages 25 and 91), Middle Avar (SZÜCSI, ref. 63, s. 38, figure on page 38) or Middle – Late Avar Periods [COSMA, Călin. Axes from Transylvania during the 7th-8th centuries AD. In Acta Archaeologica Carpathica, 2017, roč. LII, s. 114, 128, 139-142, Table 3A-3B, Fig. 5: 2; 7: 2. They are specimens from Cicău (grave 3) and Râmeț (stray find) that are within Călin Cosma's type 1B of the Transylvanian Avar Period axe heads]. Nonetheless, unlike the referred axe head from Ivanka pri Dunaji-Farkasek, their blades and cheeks are slightly bent downwards and the specimen from Râmeț has got the triangular cross-section from above and below and misses a button as well.

[64] QUAST, Dieter. 2012. Einige alte und neue Waffenfunde aus dem frühbyzantinischen Reich. In VIDA, Tivadar (ed.). Thesaurus Avarorum. Régészeti tanulmányok Garam Éva tiszteletére, Budapest: ELTE – Magyar Nemzeti Múzeum – MTA, 2012, s. 364, Abb. 14: 1, 4-5. We should also mention that blades and cheeks of these axe heads are slightly bent downwards, as it is in the case of the previously mentioned axe heads from Transylvania as well.

[65] KOTOWICZ, ref. 40, s. 105, Fig. 10.

[66] KOTOWICZ, ref. 40, s. 117-118, Fig. 10.

[67] Analogies are chiefly from Eastern Europe. KOTOWICZ, ref. 40, s. 117.

[68] MUSIL, Jan. Nález raně středověké sekery ze Zdislavi (okr. Chrudim). In Archeologie východních Čech, 2015, roč. 10, s. 71-75, obr. 2.

[69] Vilém Hrubý labelled them as type 2 and dated them to the 7th – 9th centuries. HRUBÝ, ref. 45, s. 168-161, Tab. 35: 10. Bořivoj Dostál related them to his type II and the time from the Avar Khaganate to the 10th century. DOSTÁL, ref. 35, s. 71, obr. 15: 9. Alexander T. Ruttkay classified them as type II A or II and claimed that they are dateable to the 9th century and before. RUTTKAY, ref. 47, s. 308, Abb. 42: II A. RUTTKAY, ref. 42, Table II: AXE – 25. He also added that his

axe head with pointed lugs and a button from the River Oder (close to Szczecin) to the 10th century and classed it as type Id from 10th – 12th century Poland.[70] Lastly, Ioan-Emil Emandi related the specimen from Suceava with semi-oval lugs and button with his type 1 of axe heads from Romania of the 9th – 17th centuries. He mentioned that this find is dated to the 10th – 11th centuries.[71]

The last two exemplars of the examined axe heads from the cemetery of Ivanka pri Dunaji-Farkasek are from graves 67 and 80. Their necks are quite long and their beards are projecting downwards and are terminated by a semi-oval heel or end (Pl. VI: Grave 67 – 1; Grave 80 – 2). Their toes are slightly projecting upwards. The first axe head from among the aforementioned ones comes from grave 67 (Pl. VI: Grave 67 – 1). The characteristic features of its socket are two lobes. One of them protrudes moderately upwards and other one markedly downwards from the back of this socket. The analogies for this axe head, which we are able to be stratigrahically traced, are related only to the 9th century. They had been used during the time of Great Moravia for sure and Petr Luňák designated them as subtype IVC in his classification.[72] Secondly, another parallel originates in Плиска (Bulgaria) and was exactly unearthed below the level of the brick flooring of the palace centre there. This layer can be dated to the time before the end of the 9th century.[73] This specimen is, however, triangular in cross-section from above or below, unlike the referred axe head from grave 67 whose neck and beard are significantly tapered in front of its socket. Three exemplars similar to the referred axe head can allegedly be dated to the Hungarian Conquest Period, which László Kovács included in his type VII of the axe heads from this period.[74] Then there are some cases with unclear archaeological contexts and therefore they are without reliable dating. One of them was found in Bolkowice (Lower Silesian Voivodeship, Poland) as a stray find that was dated to the Early Middle Ages by Piotr Kotowicz.[75] This archaeologist classified it as his variant IIB.1.4.[76] The other finds without a clear background were found in Gubin (Lubusz Voivodeship, Poland)[77] and Penzlin (Mecklenburg-Western Pomerania,

type II contained circa 15% of all Great Moravian axe heads from archaeological contexts. RUTTKAY, ref. 42, Table II: AXE – 25. Petr Luňák put them to his subtype IIB of Great Moravian axe heads. LUŇÁK, ref. 36, s. 127, figure on page 129.

70 NADOLSKI, ref. 48, s. 170-171, tabl. XIII: 2.

71 EMANDI, Ioan-Emil. Cercetări privind uneltele de tăiat de pe teritoriul României, în perioada secolelor IX-XVII. In Studii și comunicări de istorie a civilizației populare din România, 1981, roč. II, s. 31, Fig. 1: 2.

72 LUŇÁK, ref. 36, s. 128, figure on page 129.

73 ЙОТОВ, Валери. Въоръжението и снаряжението от българското средновековие (VII-XI век), Варна: Зограф – Абагар, 2004, s. 101, табло LII: 638, каталог: 638.

74 KOVÁCS, László. Vooruženie Vengrov - obretatelej rodiny: sabli, boevye topory, kop'ja (Die Waffen der landnehmenden Ungarn: Säbel, Kampfäxte, Lanzen). In Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften, 1982, roč. 10-11 (1980-81), s. 249, Taf. 3: typus VII.

75 KOTOWICZ, ref. 40, s. 56, Fig. 10, Pl. I: 9.

76 KOTOWICZ, ref. 40, s. 56.

77 NADOLSKI, ref. 48, s. 162-163, tabl XVII: 5. Despite many similarities between discussed exemplars, the upper lobe of the socket, which belongs to the exemplar from Gubin, is much higher

Germany)[78]. They were supposedly linked with the 12th century[79] and the 11th – 12th centuries[80].

The specimen from grave 80 (Pl. VI: Grave 80 – 2), in contrast to the similar axe head from grave 67,[81] has got an indistinctive two-sided cap and two pairs of semi-oval lugs around its socket. We have found parallels to this axe head in Central and Eastern Europe during the Early and High Middle Ages. The earliest parallel originates in the hill fort of Trepcza-"Fajka" (Subcarpathian Voivodeship) in Poland.[82] The beard of this specimen is incomplete, but it can already be dated between the second half of the 9th century and the beginning of the 10th century.[83] The 10th century analogy for the referred axe head comes from Гнездово (Smolensk Oblast) in the Russian Federation. It was discovered as a stray find within a burial mound in the year 1900.[84] As far as the 11th century is concerned, the analogy can be found in grave 140 at the cemetery of Końskie (Świętokrzyskie Voivodeship) in Poland.[85] Piotr Kotowicz identified this form of axe heads with his variant IB.1.22, which is defined in Poland by only one exemplar from grave 51 at the cemetery of Smolugi (Podlaskie Voivodeship) in Poland.[86] His beard misses some parts and we might just speculate about the form of its end. This find was dated on the basis of the chronology of the Smolugi cemetery to the 12th – 13th centuries.[87]

The situation concerning the deposition of axes at the cemetery of Ivanka pri Dunaji-Farkasek more or less corresponds to the overall state within the Great Moravian cemeteries in the territory of present-day Slovakia. Axe heads from the studied cemetery were found to the right of the deceased's right femur (graves 18, 34; Pl. I: Graves 18, 34), on the deceased's right knee joint (grave 64; Pl. II: Grave 64), to the right of the deceased's right fibula and tibia (grave 67; Pl. II: Grave 67), on the deceased's right femur (grave 80; Pl. III: Grave 80), on the deceased's right fibula and tibia (grave 85; Pl. II: Grave 85) and to the right of the deceased's right knee joint (grave 88; Pl. III: Grave 88). At the Great Moravian cemeteries in Slovakia the situation is almost the same, because a number of axe heads' depositions in the vicinity of a pelvis and knee joint is larger than a number of their depositions in the vicinity of fibulae, tibiae and feet. Besides that,

than the upper lobe of the socket that belongs to the axe head from grave 67 at the cemetery of Ivanka pri Dunaji-Farkasek.

78 HEINDEL, Ingo. Äxte des 8. bis 14. Jahrhunderts im westslawischen Siedlungsgebiet zwischen Elbe/Saale und Oder/Neisse. In Zeitschrift für Archäologie, 1992, roč. 26, č. 1, s. 39, Abb. 20: c.

79 NADOLSKI, ref. 48, s. 162.

80 HEINDEL, ref. 78, s. 39.

81 They have got the shape of a neck and blade in common.

82 STRZYŻ, Piotr. Uzbrojenie we wczesnośredniowiecznej Małopolsce, Łódź: Łódzkie Towarzystwo Naukowe, 2006, Tabela V: 73, Ryc. 7: 8.

83 STRZYŻ, ref. 82, Tabela V: 73.

84 КИРПИЧНИКОВ, Анатолий Николаевич. Древнерусское оружие. Выпуск второй. Копья, сулицы, боевые топоры, булавы, кистени IX-XIII вв, Москва – Ленинград: Издательство «Наука», 1966, s. 108, Каталог, табл. XXI: 2.

85 NADOLSKI, ref. 48, s. 162-163, tabl. XVII: 2. But the caps of this specimen are higher than the caps of the referred axe head.

86 KOTOWICZ, ref. 40, s. 61, Fig. 10, Pl. III: 2.

87 KOTOWICZ, ref. 40, s. 61.

there are more depositions on the right side of the deceased than on their left side (80% versus 20%).[88] Polish archaeologist Piotr Kotowicz was able to gather the information about axe heads depositions from 69 early medieval graves[89] from present-day Poland and Polish territories of early medieval Poland. Contrary to the data from the Eastern part of Great Moravia, the favoured positions of their depositions were in the lower parts of the dead bodies, namely from their femurs to their feet.[90]

Heads of thrusting pole arms

The next category of weapons includes spearheads, lance heads, javelin heads, or simply heads of thrusting pole arms generally. They were present in four graves at the cemetery of Ivanka pri Dunaji-Farkasek, namely in graves 17, 34, 69 and 96 (Pl. IV: Grave 17 – 1; IV: Grave 69 – 2; V: Grave 34 – 2; VII: Grave 96 – 3). Specimens from graves 34 and 96 (Pl. V: Grave 34 – 2; VII: Grave 96 – 3) are fitted with a willow leaf shaped blade of a lenticular cross-section, whose maximal width is approximately in its middle part. These blades are also longer than the sockets of these thrusting pole arms' heads. Their sockets are slightly conical. One of the authors of this scientific article, Martin Husár, made typological-chronological system for the early medieval thrusting pole arms in the Carpathian Basin and we can identify these two exemplars with those heads of his variant BCa[91] whose sockets are shorter than their blades. They were used during the whole above mentioned period there.[92] Furthermore, these spearheads can be traces in Central, Southeastern, Eastern and Northern Europe from the 5th century BC to the 13th century AD[93]. Alexander T. Ruttkay classified these spearheads as type II and claimed that they formed the most numerous group of the clearly dated spearheads from Great Moravia, concretely 45% of them.[94]

---

88 HANULIAK, ref. 32, s. 147.

89 Piotr Kotowics took as the Early Middle Ages in Poland the period from the 5th/6th century to the middle of the 13th century. KOTOWICZ, ref. 40, s. 11-12.

90 KOTOWICZ, ref. 40, s. 144, Table 4.

91 HUSÁR, Martin. Žrďovo-bodné zbrane včasného stredoveku v Karpatskej kotline. 1. diel. Typológia a jej vyhodnotenie. 1. vydanie, Nitra: Univerzita Konštantína Filozofa v Nitre, 2014, s. 40-48, obr. 3: BCa; tab. XXIX-XXXVII; XXXVIII: 1-7, 10.

92 Between the last third of the 6th century and the 10th – 11th centuries.

93 e.g. JØRGENSEN, Anne Nørgård. Waffen und Gräber: typologische und chronologische Studien zu skandinavischen Waffen gräbern 520/30 bis 900 n. Chr. (Nordiske Fortidsminder ser. B Vol. 17). Copenhagen: Kongelige Nordiske Oldskriftselskab, 1999, s. 129, Abb 112: L6. KERESZTES, Noémi Ninetta. Fegyveres langobardok Magyarországon I. Típusok és fegyverkombinációk. In TÜRK, Attila (ed.). Hadak útján XXIV. A népvándorláskor fiatal kutatóinak XXIV. Konferenciája. Esztergom, 2014. november 4–6. 1. kötet, Budapest – Esztergom: Pázmány Péter Katolikus Egyetem, Bölcsészet és Társadalomtudományi Kar, Régészeti Tanszék – Magyar Tudományos Akadémia, Bölcsészettudományi Kutatóközpont, Magyar Őstörténeti Témacsoport, 2015, s. 470, 1. Kép. 1-4. ПАНІКАРСЬКИЙ, А. В. Списи та дротики ранніх слов'ян: функціональна класифікація. In Археологія, 2015, roč. 1, s. 41, 43, Рис. 2: 40, 42. WILKE, Gerard. Groty broni drzewcowej z Ostrowa Lednickiego. In SANKIEWICZ, Paweł – WYRWA, Andrzej M. (eds.). Broń drzewcowa i uzbrojenie ochronne z Ostrowa Lednickiego, Giecza i Grzybowa, Lednica: Muzeum Pierwszych Piastów na Lednicy, 2018, s. 64.

94 RUTTKAY, ref. 47, s. 300. RUTTKAY, ref. 42, Tabela II: Spear – Lance – Type II.

Moreover, wood was found inside the socket of the spearhead from grave 96, which might be an alder (alnus), birch (betula), hazel (corylus) or most probably a poplar (populus).[95] As far as the early medieval spearheads from the Carpathian Basin are concerned, it seems that the aforementioned tree genera have not been observed within the spearheads' sockets by research yet.[96]

Heads of thrusting pole arms with poplar leaf shaped blades are represented in the examined assemblage of weapons by the exemplar from grave 17 (Pl. IV: Grave 17 – 1). Its blade is longer than its socket and the cross-section of its blade is rhombic. The socket is moderately conical. Spearheads with the aforementioned features were popular throughout Europe from the Iron Age in Prehistory to the Late Middle Ages in the 14th – 15th centuries.[97] Martin Husár links this form of spearheads in the territory of the early medieval Carpathian Basin with his variant BDa,[98] which is meant for spearheads with poplar leaf shaped blades whose maximal widths are in their lower parts. They were also found during the whole aforementioned period there. A close analogy for the exemplar from grave 17 we can find upon the hill fort of Svätý Jur-Neštich-Hradisko. It was discovered in probe VIII along with jewellery, a dagger and ceramic vessel. This context was dated by Slovak archaeologist Július Vavák to end of the 9th century and the beginning of the 10th century.[99]

The last discussed spearhead at the cemetery of Ivanka pri Dunaji-Farkasek comes from grave 69 (Pl. IV: Grave 69 – 2). It has got a triangular blade, which is longer than its socket. The maximal width of this blade is in its lower part and its cross-section is lenticular. Iron spearheads with triangular or rhombic blades had been utilised in Europe for a long time, exactly from the Iron Age to the Late Middle Ages and Early Modern Period.[100]

---

[95] HAJNALOVÁ, Mária. Výskumná správa archeobotanická č. 2/2020, Nitra: Katedra archeológie, Filozofická fakulta Univerzity Konštantína Filozofa v Nitre, July, 18, 2020, s. 2.

[96] Unpublished research of Martin Husár and the following article: HUSÁR, Martin. Niektoré aspekty včasnostredovekých kopijí a oštepov z územia Slovenska – otázky násad a odtlačkov textílií. In Archaeologia Historica, 2008, roč. 33, s. 457-461, tabela I.

[97] e.g. HUSÁR, Martin. Spears and Harpoons from the Territory of the Slovak Republic and Republic of Macedonia/FYROM dated to the 6th – 10th/11th Centuries. In Гласник Српског археолошког друштва (Journal of Serbian Archaeological Society), 2016, roč. 32, s. 109. KLIMSCHA, Florian – BLASCHKE, Wolfgang – THIELE, Eva. Bemerkungen zu Vorkommen, Verbreitung und Bedeutung überdimensionierter Lanzen der europäischen Eisenzeit. In Archäologisches Korrespondenzblatt, 2012, roč. 42, s. 354, Abb. 6. SIJARIĆ, Mirsad. Hladno oružje iz Bosne i Hercegovine u arheologiji razvijenog i kasnog srednjeg vijeka, Sarajevo: Univerzitet – Zemaljski muzej Bosne i Hercegovine, 2014, s. 176-181, T. XXXV, 1-3; XXXVI, 1-2; XXXVII: 2.

[98] HUSÁR, ref. 91, s. 52-56, obr. 3: BDa; tab. XL-XLIV.

[99] VAVÁK, Július. Nové poznatky k najstarším dejinám Svätého Jura. In ŠTEFÁNIKOVÁ, Zuzana (ed.). Zo starších dejín Svätého Jura, Svätý Jur: Mesto Svätý Jur, 2010, s. 16, obr. 8. VAVÁK, ref. 13, s. 80, Tab. 5: 16.

[100] e.g. CZYŻEWSKI, Krzysztof J. Broń drzewcowa w zbiorach Zamku Królewskiego na Wawelu, Cracow: Wawel royal palace, 2013, s. 251-257, figures on page 252-253, 257. HUSÁR, ref. 91, s. 59-63 ŽÁKOVSKÝ, Petr – SCHENK, Zdeněk. Středověké a raně novověké zbraně Přerovska. Zbraně a zbroj od kolapsu Velké Moravy do konce třicetileté války, Přerov – Brno: Muzeum Komenského v Přerově, p. o. – Archeologický ústav Akademie věd ČR Brno, v. v. i., 2017, s. 38, obr. 42.

There is no doubt that heads of thrusting pole arms, which are equipped with triangular blades that are mostly longer than the heads' sockets, were present in the early medieval Carpathian Basin as well. Martin Husár categorised them into his type BE that was present in archaeological contexts during the whole early medieval period there.[101] The exemplar from grave 69 mostly resembles the following four spearheads from the Carpathian Basin. The first two can be dated[102] to the years 720 – 750 on the basis of fittings of belt hardware sets found alongside these heads in graves. They were discovered in the grave from Mártely-Csanyi part[103] and grave 1179 from the cemetery of Tiszafüred-Majoroshalom[104]. Other two graves with similar spearheads, namely grave 587 from the cemetery of Čakajovce-Kostolné[105] and grave 127 from the cemetery of Sopronkőhida[106], are dateable to the years 800 – 860 and the 9th century.

The heads of thrusting pole arms from the Ivanka pri Dunaji-Farkasek cemetery were unearthed to the right (graves 17, 34 and 96; Pl. I: Graves 17, 34; III: Grave 96) or left (grave 69; Pl. II: Graves 69) of the deceased's scull. Graves 17 and 34 seem to be graves of horsemen with spurs, although without horses, and graves 69 and 96 seem to be graves of infantrymen without any horses, horse harness or horse riding equipment like spurs. In this regard we can find the comparable data from the scientific research of Martin Husár on sector depositions of thrusting pole arms in early medieval graves of the Carpathian Basin. Therefore, we must admit that the spearheads from graves of infantrymen in the Carpathian Basin were mainly put in the place of the deceased's upper parts, right beside their heads and upper arms, between the end of the 8th century and the 10th – 11th centuries.[107] This fact was also proved for graves of horsemen with spurs, albeit without any horses, interred during the 9th century in the Carpathian Basin.[108]

Sword

The double-edged sword without any inorganic grip, upper and lower guards or pommel, besides the aforementioned spearhead (Pl. IV: Grave 17 – 1), was unearthed in grave 17 (Pl. VIII: 1-2). The sword is presently waiting for the conservation process in the special case and cannot be studied in detail. In spite of this fact, we know that it has got only a blade and tang, although they are partly

[101] HUSÁR, ref. 91, s. 59-63, obr. 3: BE; tab. XLV: 7-11; XLVI; XLVII; XLVIII: 1-9.
[102] ZÁBOJNÍK, ref. 60, s. 219-321.
[103] HAMPEL, ref. 58, Zweiter Band, s. 108. HAMPEL, ref. 58, Dritter Band, Taf: 85: 1-15.
[104] GARAM, Éva. Das awarenzeitliche Gräberfeld von Tiszafüred. Cemeteries of the Avar Period (567-829) in Hungary 3, Budapest: Akadémiai Kiadó, 1995, s. 142, Abb. 57, Taf. 188: 1.
[105] REJHOLCOVÁ, Mária. Pohrebisko v Čakajovciach (9.-12. storočie). Katalóg, Nitra: Archeologický ústav Slovenskej akadémie vied, 1995, s. 64, tab. XCIV: 2, tab. CXL:5.
[106] TÖRÖK, Gyula 1973. Sopronkőhida IX. századi temetője. Fontes Archaeologici Hungariae, Budapest: Akadémiai Kiadó, 1973, s. 28, 3. tábla: 3; 28. tábla: 6; 17. ábra.
[107] HUSÁR, Martin. Thrusting pole arms in the early medieval graves from the Carpathian Basin. In PINTER, Zeno Karl – NIȚOI, Anca. (eds.). Interethnic Relations in Transylvania. Militaria Mediaevalia in Central and South Eastern Europe. Proceedings of the 2014 conference, Sibiu: Astra Museum, 2015, s. 8, plate 1, table and graph 1.
[108] HUSÁR, ref. 107, plate 1, table and graph 2-3.

covered by wooden rests and the blade also with fabric rests. These rests are remnants of a grip and scabbard. We do not know now if the sword's blade is fitted with a fuller, but it is possible in relation to its parallels. Nonetheless, there is no doubt about pattern welding on each side of its blade that was discovered by an X-ray survey of the sword. In addition, we can recognise a zigzag pattern of pattern welding with the so-called ZSZ twist there.[109] This triple core composite pattern had been produced at least from the era of the Nydam moor finds (between the 2nd/3rd century and the 4th/5th century)[110] to the Early Middle Ages.[111] The blade of the discussed sword from grave 17 is 82.6 cm long and 5.77 cm wide below the shoulders of the tang[112].

These measurements coincide with two blade types of Alfred Geibig's classification of early and high medieval swords from the former Federal Republic of Germany. They are blade types 2[113] and 3[114]. The first one is reserved for gently tapering blades with the fuller of a near uniform width. In archaeological contexts it is dateable between the middle of the 8th century and the middle of the 10th century.[115] Blade type 3 embraces gently tapering blades with a tapering fuller and it was used from the time towards the end of the 8th century to the second half of the 10th century or to the time towards the end of the 10th century.[116]

From the present-day Moravia we recognise three swords similar to the referred one from grave 17 within the cemetery of Ivanka pri Dunaji-Farkasek. They are also without fully metallic parts of their hilts, like the referred sword.

Grave 229 from the cemetery of Prušánky contained a sword whose blade was 84.5 cm long and 5.3 cm wide. Its blade could be identified with Alfred Geibig's blade type 2 or 3a. It has got pattern welding with a SZ twist on one side and a ZS twist on the other side. The sword was in a wooden scabbard, whose rests were found in the grave too. Some fittings of the scabbard and sword's belt were also unearthed there. Archaeological context of grave 229 might belonged to the third quarter of the 9th century.[117] The probable specimen of quite short Alfred Geibig's

---

[109] HOŠEK, Jiří – OTTENWELTER, Estelle. Základní ohledání nálezu meče (Farkasek, hrob č. 17, Slovensko, 2018), Praha: Archeologický ústav Akademie věd ČR, Praha, v.v.i., February, 26, 2019, s. 1.

[110] YPEY, Jaap. Europäische Waffen mit Damaszierung. In Archäologisches Korrespondenzblatt, 1982, roč. 12, s. 385, Abb. 8: D.

[111] HRISOULAS, Jim. The Pattern-Welded Blade: Artistry in Iron, Boulder: Paladin Press, 1994, s. 56-58, Fig. 27.

[112] The tang is 13.44 cm long.

[113] These specimens are 74 – 83 cm long and 4.8 – 6.2 cm wide. GEIBIG, Alfred. Beiträge zur morphologischen Entwicklung des Schwertes im Mittelalter: Eine Analyse des Fundmaterials vom ausgehenden 8. bis zum 12. Jahrhundert aus Sammlungen der Bundesrepublik Deutschland, Neumünster: Karl Wachholtz Verlag, 1991, s. 85, Abb. 22: 2. PEIRCE, Ian – OAKESHOTT, Ewart. Swords of the Viking Age, Woodbridge: The Boydell Press, 2002, s. 21-23.

[114] Blades of this type are 74 – 85 cm long and 5.2 – 5.7 cm wide. GEIBIG, ref. 113, s. 86, Abb. 22: 3. PEIRCE – OAKESHOTT, ref. 113, s. 21-23.

[115] GEIBIG, ref. 113, s. 153, Abb. 40. PEIRCE – OAKESHOTT, ref. 113, s. 21-22.

[116] GEIBIG, ref. 113, s. 153, Abb. 40. PEIRCE – OAKESHOTT, ref. 113, s. 23.

[117] HOŠEK, Jiří – KOŠTA, Jiří – ŽÁKOVSKÝ, Petr. Ninth to Mid-Sixteenth Century Swords from the Czech Republic in Their European Context. Part I. The finds, Prague – Brno: The Czech Academy of Sciences – Institute of Archaeology, Prague, 2019, 224-22, figure on page 224 – ID No 199.

blade type 1[118] was found in grave 316 from the cemetery of Rajhradice-Stráně nad Habřinou. It does not resemble the referred sword by the length (69.8 cm) and width (6 cm) of its blade, but its hilt could have been made of organic materials as the sword from grave 17 at the cemetery of Ivanka pri Dunaji-Farkasek. Beech wood, fabric and leather was discovered on the blade of the sword from Rajhradice. Iron fittings were also found in the same grave. This grave and the sword are dateable between the last third of the 9th century and the early 10th century.[119]

The sword from prestigious grave 580 within the interior of the Third church from the stronghold of Mikulčice-Valy[120] is another analogy for the discussed sword. The sword from Mikulčice-Valy has got an 80.7 cm long blade,[121] whose width is 6.3 cm. Therefore, it fits to Alfred Geibig's blade type 2 (namely to variant 2a)[122] whose dating we have already mentioned before. Wooden rests were observed in the place of the former grip and lower guard. The wooden lower guard was also bolstered by iron plates in its lower and upper parts. The scabbard of this sword was made of wood, fabric and leather. The dating of the Third church at Mikulčice-Valy might also clarify and define the dating of the studied grave 580 and subsequently the dating of the sword within this grave. The fact is that this church occurred in the second third of the 9th century or most likely around the middle of the same century.[123]

Hilts of the above mentioned swords should have mostly been made of organic materials (wood, bone, antler, etc.). For instance, these materials for cross-guards and pommels had been used in the Viking cultural milieu until the 11th century.[124]

The discussed sword from grave 17 was found approximately 20 – 30 cm over the dead body of a man and it could have been put on a coffin or some kind of wooden construction (Pl. I: Grave 17). The sword was situated over the right arm of the deceased man and partly over his head. Among graves of men with swords from the 9th century – the first half of the 10th century in the former territory of Great Moravia we are able to find some cases when the sword was placed to the right of the upper part of the deceased's body, although probably not over him as in the case of the discussed grave 17. Of course, this deposition custom has not been observed to be in majority. In the stronghold of Mikulčice-Valy this custom was identified in four graves out of 16.[125] The settlement agglomeration in Pohansko near Břeclav gave three such cases out of 6 well documented graves.[126]

---

[118] Exemplars of this type are 70 – 80 cm long and 4.4 – 5.8 cm wide. GEIBIG, ref. 113, s. 85, Abb. 22: 1. PEIRCE – OAKESHOTT, ref. 113, s. 21-23.

[119] HOŠEK – KOŠTA – ŽÁKOVSKÝ, ref. 117, 233, figure on page 233 – ID No 211.

[120] HOŠEK – KOŠTA – ŽÁKOVSKÝ, ref. 117, s. 169-171, figure on page 170 – ID No 134. KOŠTA, Jiří – HOŠEK, Jiří. Early Medieval Swords from Mikulčice, Brno: Institute of Archaeology of the Academy of Sciences of the Czech Republic, 2014, s. 145-155, Fig. 66-70.

[121] The whole sword measures 92 cm.

[122] KOŠTA – HOŠEK, ref. 120, s. 153.

[123] KOŠTA – HOŠEK, ref. 120, s. 269, Tab. 3.

[124] KOŠTA – HOŠEK, ref. 120, s. 25, 153.

[125] KOŠTA – HOŠEK, ref. 120, s. 299.

[126] KOŠTA, Jiří – HOŠEK, Jiří – DRESLER, Petr – MACHÁČEK, Jiří – PŘICHYSTALOVÁ, Renáta. Velkomoravské meče z Pohanska u Břeclavi a okolí – nová revize. In Památky archeologické, 2019, roč. CX, s. 175-191.

In 2004 there were only five Great Moravian graves with swords in present-day Slovakia, in which we knew to determine the exact position of these weapons. Just one of them contained the sword deposition along the right upper arm of the deceased.[127]

Contribution to the discussion

Assessment of the examined weapons and their dating

Considering all of the above, the examined graves 17, 18, 34, 67, 69 and 85 comprise weapons that could significantly refine the chronology of the cemetery of the Ivana pri Dunaji-Farkasek. The rest of the studied graves contained weapons that might be dated to a relatively long time span, concretely over one century (graves 64, 80, 88 and 96).

The first group of weapons consists of the three bearded axe heads from graves 18, 34 and 85, axe head with a prolonged beard from grave 67, spearheads with poplar-leaf, willow-leaf and triangular blades from graves 17, 34, and 69 and the sword from grave 17. The forms of the above mentioned bearded axe heads had probably been used mainly in the first half of the 9th century (graves 18 and 34) or even already at the end of the 8th century (grave 85). Of course, we cannot exclude their usage throughout the 9th century as well. The dating of the specimen from grave 18 to the first half of the 9th century might also be supported by the dating of the spurs inlaid with silver that were deposited in the same grave. They belong to the type Biskupija-Crkvina or type of spurs with two rows of studs placed alongside its arms. This form is dateable in Central Europe and the Balkans to the first half of the 9th century or to the second quarter of the 9th century.[128] Spurs were found in grave 34 too. This form of spurs[129] is fitted with slightly asymmetrical quadratic roof-like shaped plates that have got two studs and their surface was partly tinned. The dating of the above mentioned form is linked to the dating of the spurs in grave 17. They have got arched plates with a plastic rib and two studs. It is obvious that this form cannot be dated in present-day Moravia until the middle of the 9th century and its heyday was reached in the last third of the 9th century.[130]

The axe head from grave 67 might be connected with the 9th century, because it seems to us that its analogies are stratigraphically bound only to the 9th century. Grave 69 was also furnished by iron spearhead whose four parallels are associated with the 8th and 9th centuries. Regarding the particular analogy, the head of thrusting pole weapon from grave 17 can be connected with the end of the 9th century or the beginning of the 10th century. Even so, its probable

[127] HANULIAK, ref. 32, s. 142.

[128] JAKUBČINOVÁ, Miriam. Výstroj jazdca a koňa v 9. storočí z územia dnešného Slovenska s prihliadnutím na nálezy v Bojnej. Dissertation, Nitra: Univerzita Komenského v Bratislave, Filozofická fakulta – Archeologický ústav Slovenskej akadémie vied v Nitre, 2018, s. 41, 43-44. KOUŘIL, Pavel. Frühmittelalterliche Kriegergräber mit Flügellanzen und Sporen des Typs Biskupija-Crkvina auf mährischen Nekropolen. In KOUŘIL, Pavel (ed.). Die frühmittelalterliche Elite bei den Völkeren des östlichen Mitteleuropas, Brno: Ústav akademie vied ČR, 2005, s. 67-99.

[129] JAKUBČINOVÁ, ref. 128, s. 46, 51.

[130] JAKUBČINOVÁ, ref. 128, s. 48-51.

9th century origin might be backed by the spurs from the same grave that are dateable to the second half of the 9th century. Although the parallels to the spearhead from grave 34 was used between the 5th century BC and the 13th century, the spurs found in the same grave might date this spearhead to the second half of the 9th century.

The sword from grave 17 should be dated on the basis of its analogies (Alfred Geibig's blade types 2 and 3; exemplars from grave 580 within the Third church of Mikulčice-Valy and grave 229 from the cemetery of Prušánky) and the previously discussed spurs from the same grave to the second half of the 9th century or even already to the time around the middle of the 9th century or to the second third of the same century.

Forms of the aforementioned second group of the examined weapons were employed for several centuries during the Early Middle Ages (graves 64 and 88), Early and High Middle Ages (grave 80), and between prehistory and the High Middle Ages (grave 96).

It is certain that the heads of thrusting pole arms found at the examined cemetery were weapons and the same is true for the studied sword. Slovak archaeologist Milan Hanuliak assumed that axe heads from Great Moravian cemeteries represented weapons, not tools. Its hypothesis is mainly supported by the facts that they mostly came from graves of adult men and grave goods in these graves were identical to those graves, which were furnished with spearheads and swords. Milan Hanuliak also claimed that some features of bearded axes – first and foremost a relatively narrow blade and distinct butt – are obviously suitable for weapons. He guessed that only axe heads with quite broad blades could have been used as tools too.[131]

Sentinels of routes, crossroads and crossings?

The occurrence of weapons as well as their combination with other grave goods[132] and elements of the burial rite[133] bring up the questions about the role of such equipped individuals in the cemetery of Ivanka pri Dunaji-Farkasek. We believe that the three most possible reasons why weapons were deposited in 9 graves of adult men and one grave of a child at this early medieval cemetery can be as follows. Firstly, they could have been equipment for the hereafter. Secondly, they might have belonged to the inalienable property of independent men and lastly, they could have been indicators of rank, status and identity.[134]

[131] HANULIAK, ref. 32, s. 147. LUŇÁK, ref. 36, s. 141.

[132] For the interpretation of spurs as symbol of the social status see, for instance, HANULIAK, ref. 32, s. 152. ŠTEFAN, Ivo. Great Moravia, Statehood and archaeology. The "Decline and Fall" of One Early Medieval Polity. In MACHÁČEK, Jiří – UNGERMAN, ŠIMON (eds.). Frühgeschichtliche Zentralorte in Mitteleuropa, Bonn: Verlag dr. Rudolf Habelt GmbH, 2011, s. 335-338. ŠTEFAN, Ivo. Mocní náčelníci od řeky Moravy? Poznámky ke struktuře raných států. In Archeologické rozhledy, 2014, roč. LXVI, s. 152-155. About wooden buckets with iron rims see HANULIAK, ref. 32, s. 191-192.

[133] The latest research proved that the direct relation between "high" social status and the occurrence of wooden structures in the graves of the Great Moravian Period has remained so far unresolved complex issue. MAZUCH – HLADÍK – SKOPAL, ref. 11, s. 300-303.

[134] HÄRKE, Heinrich. Grave goods in early medieval burials: messages and meanings. In Mortality, 2014, roč. 19, č. 1, s. 45-47.

This issue is also followed by the question about the presence of armed man in this region. We believe that satisfactory answers can be achieved by the complex analysis of the entire population buried in the examined part of the cemetery. Only from this point of view we can better understand the social status of the buried armed men. On the contrary, the location of the site, very presence of the weapons and horse riding equipment and results achieved by the typological and chronological evaluation of these finds can be a valuable asset to the following discussion. When it comes to the interpretation of the Great Moravian warrior class and its role in the administration of the region of the Great Moravia, Czech archaeologist Ivo Štefan highlighted and evaluated the presence of weapons and horse riding equipment at the so called rural cemeteries outside the central fortified sites (e.g. Mikulčice-Valy, Břeclav-Pohansko). He interpreted them as the independent population who cooperated with a superior and supraregional authority on military campaigns.[135] Meanwhile, their role within society is still discussed, especially in the case of a sword among grave goods.[136]

We should mention in this regard the following exemplary account of the service for a superior authority during this period. In 888 Eastern Frankish King Arnulf granted immunity to his loyal follower Heimo in the area of the Traisen Valley,[137] which was under his control. In exchange for these donations, he and his fellows (homines in Latin) were commissioned to build a fortification there.[138]

We suppose that the sword found in the cemetery of Ivanka pri Dunaji-Farkasek fits in the pattern of graves with a sword within or in the vicinity of the fortified central settlements.[139] The population buried in the examined cemetery most probably had social and economic relations to the hill fort settlement of Svätý Jur-Neštich-Hradisko. A cemetery, which might have belonged to the hill fort population of Svätý Jur, has not been discovered yet. And it is unlikely that the cemetery of Farkasek, which is at 7.5 km distance (or more by passable routes) from this hill fort, could have fulfilled this function. Even if this archaeological site had not been a cemetery in the direct hinterland of the central site, it is claimed that the presence of a sword at the so called rural cemeteries of Great Moravia in the territory of present-day Moravia is rare and this phenomenon is usually limited to only one grave there. Both presented options point to the unique social status of this sword owner.[140] It is the same at the cemetery of Ivanka pri Dunaji-

---

[135] ŠTEFAN, ref. 132, s. 152-153.

[136] KOŠTA et al., ref. 126, s. 225-226

[137] In the territory of the Eastern March (marcha orientalis in Latin) within East Francia.

[138] BOWLUS, Charles R. Warfare and Society in the Carolingian Ostmark. In Austrian History Yearbook, 1978, roč. 14, s. 3-26 [Online]. Accessible via the Internet: <http://web.archive.org/web/20101229205219/http://www.deremilitari.org/resources/articles/bowlus.htm>. HUSÁR, Martin. Dôležité míľniky vojenstva Byzancie a priestoru strednej Európy od 9. storočia do prvej polovice 10. storočia. In LUKÁČOVÁ, Martina – HUSÁR, Martin – IVANIČ, Peter – HETÉNYI, Martin (eds.). Tradícia a prítomnosť misijného diela sv. Cyrila a Metoda. 1. vydanie, Nitra: Univerzita Konštantína Filozofa v Nitre, 2013, s. 59. KEHR, P. (ed.). Monumenta Germanise Historica. Diplomata Regvm Germaniae ex Stirpe Karolinorum, Tomus III. Arnolfi Diplomata, Berlin: Weidmannsche Buchhandlung, 1940, s. 48.

[139] HOŠEK – KOŠTA – ŽÁKOVSKÝ, ref. 117, s. 25-27, 31.

[140] KOŠTA et al., ref. 126, s. 182.

Farkasek, which can also be titled as a rural cemetery. Grave goods from grave 17 consists of spurs as well. They accompany the deceased in more than 78% of Great Moravian graves with a sword from present-day Moravia. What is more, knives and spurs were most often occurring grave goods of Great Moravian graves with a sword in present-day Slovakia and Moravia.[141]

The role of the weapon owners could also be connected with the regional route network. This armed men could be seen as the sentinels of important routes, crossroads and/or crossings.[142] This definition can comply with finds of weapons and horse riding equipment from the relatively close cemetery of Smolenice-Záhumenice[143], which was situated near the important mountain pass on the so called Czech Road – Porta Regni.[144] On the one hand the archaeological site of Farkasek is located too far from any mountain pass, but on the other hand the interpretation of its guarding function is still possible. We would like to mention the existence of a swamp, which is called Jurský Šúr and is situated beneath the eastern feet of the Little Carpathians (Fig. 1). The reconstruction of its area[145] and the vegetation development of this former Late Glacial and Holocene lake during the Early Middle Ages are unclear so far. The recent scientific literature considered that there could have been a swamp and/or alder and oak forests combined with meadows.[146] Nevertheless, the absence of archaeological sites in the area to the south and east of the present-day area of Jurský Šúr might indicate the greater extent of a difficultly accessible terrain[147] than in the present. This terrain is also

[141] HANULIAK, ref. 32, s. 143. KOŠTA – HOŠEK, ref. 120, s. 302, Fig. 150.

[142] HANULIAK, ref. 32, s. 143. Ivo Štefan also mentioned that the independent population might have been involved in a guarding service only alternatively. He did not see this option as a relevant explanation for each case of numerous weapon finds outside hinterlands of central sites. ŠTEFAN, ref. 132, s. 152.

[143] DUŠEK, Mikuláš. Veľkomoravské pohrebisko v Smoleniciach. In Slovenská archeológia, 1979, roč. XXVII, č. 2, s. 365-373.

[144] HANULIAK, ref. 2, roč. 23/98, s. 237. The guarding service of the local population was also considered in regard to weapon finds from the cemetery of Ladice-Areál JRD, which was dated to the 9th century and the beginning of the 10th century. The cemetery is located (like the site of Smolenice-Záhumenice in the Porta regni pass) at the beginning of the Kostoľany Basin. This basin was an important crossroad in the Tribeč Mountains. BORZOVÁ, Zuzana a kolektív. Ladice v premenách času, Ladice: Obecný úrad Ladice, 2013, s. 27.

[145] PIŠÚT, Peter – TÍMÁR, Gábor – VIDLIČKA, Ľubomír. Šúrsky les a Panónsky háj na starších mapách. In MAJZLAN, Oto – VIDLIČKA, Ľubomír (eds.). Príroda rezervácie Šúr, Bratislava: Ústav zoológie Slovenskej akadémie vied, 2010, s. 23-49.

[146] PETR, Libor – ŽÁČKOVÁ, Pavla – GRYGAR, Tomáš Matys – PÍŠKOVÁ, Anna – KŘÍŽEK, Marek – TREML, Václav. Šúr, a former late-glacial and Holocene lake at the westernmost margin of the Carpathians. In Preslia 2013, roč. 85, č. 3, s. 1-25. PETR, Libor – HAJNALOVÁ, Mária. Najstaršie dejiny vegetácie v okolí Bratislavy. Palynologická analýza prirodzených sedimentov na lokalite Jurský Šúr. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (eds.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia, Bratislava: Slovart, 2012, s. 51. POTŮČKOVÁ, Anna. Rekonstrukce paleo-environmentálnych poměrů jazera Šúr v pozdním glaciálu a holocénu pomocí analýzy makrozbytků. Master's thesis, Praha: Univerzita Karlova, Přírodovědecká fakulta, 2014, 95 s.

[147] HANULIAK, ref. 2, roč. 23/98, s. 240. There is a possibility of floods and a high level of groundwater (as it is also proved by the situation in grave 85; Pl. II: Grave 85) as a consequence of the presence of Jurský Šúr. It was also mentioned by other authors who had excavated nearby

segmented by numerous streams and rivers and their meanders. Within this natural setting, routes located more to the east of the mountain range, in the vicinity of Farkasek, could have been a passable alternatives to the routes that supposedly run beneath the southern feet of the Little Carpathians.[148]

Conclusion

The examined part of the cemetery of Ivanka pri Dunaji-Farkasek proved to be a valuable source of the knowledge concerning the weaponry of the early medieval population lived in the eastern part of the Bratislava Gate. Graves of 9 men and one child were provided with axes, thrusting pole arms and a sword. The dating of these arms, when we also take the dating of spurs found at the same cemetery into consideration, allows us to consider new possibilities for the dating of the whole cemetery. Namely, they confirm the cemetery's dating to the whole course of the 9th century and perhaps to the beginning of the 10th century as well. In addition, they back up its probable presence in the first half of the 9th century or already at the beginning of the 9th century. The above mentioned weapons were typical pieces of Great Moravian weaponry. Nevertheless, the sword's specimen (grave 17), spearhead (grave 69) and three axe heads (graves 64, 85 and 88) could have been connected even with the forms of weapons dated in archaeological contexts to the Avar Period. It mostly concerns the 8th century or rather the second half of this century.

We are not convinced whether any settlement archaeological site, which might have been affiliated with the discussed cemetery of Farkasek, existed or not. The cemetery was not excavated completely and we can only guess its beginnings at some time around the middle of the 9th century, or in the first half of the 9th century yet. As far as this second possible beginning of the cemetery is concerned, it seems that we cannot provide tangible evidence for that, maybe except from grave 18 and the bearded axe head and spurs found there. In other words, this hypothesis should be proved by the complex evaluation of the whole cemetery containing also graves with other chronologically sensitive kinds of grave goods.

Besides, the role of the armed deceased men buried at the cemetery is not clear and is still under discussion. Their weapons might have been equipment for the hereafter, elements of their inalienable property and/or indicators of rank, status and identity. Concerning the role of the aforementioned armed men within the eastern part of the Bratislava Gate, in the first place, they could have represented regional servants of a superior authority. Secondly, these men might have been sentinels of the terrestrial routes, crossroads and crossings over the local rivers or streams in the area to the south of the Jurský Šúr swamp.

archaeological sites, e.g. Chorvátsky Grob-Čierna voda-Vlčie kúty. BIELICH – ELSCHEK – ŠIMČÍK, ref. 19, s. 48.

[148] IVANIČ, Peter. Collection of road toll in southwestern Slovakia in the Middle ages on the basis of written sources. In Studia Historica Nitriensia 2019, roč. 23, č. 2, s. 432-433, 455.

Acknowledgements

This article was supported by the VEGA (Scientific Grant Agency of the Ministry of Education, Science, Research and Sport and the Slovak Republic and the Slovak Academy of Sciences) under grant number 1/0040/18 (Medieval Historical Roads in Southwestern Slovakia in the Context of Central European Transport Network and Their Message for the Present) and by the UGA (University Grant Agency at the University of Constantine the Philosopher in Nitra, Slovakia) under grant number I/9/2020 (Material Culture and Reconstruction of the Early Medieval Landscape in the Area of the Bratislava Gate).

Sources and bibliography

Unpublished scientific reports:

DÖRNHÖFEROVÁ, Michaela. Preliminary anthropological report of the cemetery of Ivanka pri Dunaji-Farkasek. Unpublished, Bratislava: Katedra antropológie, Prírodovedecká fakulta Univerzity Komenského v Bratislave, August, 11, 2020.

HAJNALOVÁ, Mária. Výskumná správa archeobotanická č. 2/2020, Nitra: Katedra archeológie, Filozofická fakulta Univerzity Konštantína Filozofa v Nitre, July, 18, 2020, 2 s.

HORŇÁK, Milan – KVIETOK, Martin – ŽITŇAN, Andrej, KVIETKOVÁ, Veronika – MOLOTA, Tomáš – HRABKOVSKÝ, Milan – NIKOLOVA, Timea – HORÁKOVÁ, Lenka. Výskumná dokumentácia z archeologického výskumu. Lokalita: Vajnory/Ivanka pri Dunaji, poloha Farkasek, Vrútky: VIA MAGNA archeologia s. r. o., 2018, 289 s.

HOŠEK, Jiří – OTTENWELTER, Estelle. Základní ohledání nálezu meče (Farkasek, hrob č. 17, Slovensko, 2018), Praha: Archeologický ústav Akademie věd ČR, Praha, v.v.i., February, 26, 2019, 1 s.

Unpublished theses:

JAKUBČINOVÁ, Miriam. Výstroj jazdca a koňa v 9. storočí z územia dnešného Slovenska s prihliadnutím na nálezy v Bojnej. Dissertation, Nitra: Univerzita Komenského v Bratislave, Filozofická fakulta – Archeologický ústav Slovenskej akadémie vied v Nitre, 2018, 169 s.

PETROVIČ, Vladimír. Vývoj cestnej siete na Záhorí do konca 18. storočia. Master's thesis, Bratislava: Univerzita Komenského v Bratislave, Filozofická fakulta, Katedra slovenských dejín, českých dejín a archívnictva, 1991, 60 s.

POTŮČKOVÁ, Anna. Rekonstrukce paleo-environmentálnych poměrů jazera Šúr v pozdním glaciálu a holocénu pomocí analýzy makrozbytků. Master's thesis, Praha: Univerzita Karlova, Přírodovědecká fakulta, 2014, 95 s.

TAMAŠKOVIČ, Jakub. Záhorie vo včasnom stredoveku – modelovanie sídelnej štruktúry s použitím GIS a štatistických metód. Master's thesis, Nitra: Univerzita Konštantína Filozofa v Nitre, Filozofická fakulta, Katedra archeológie, 2016, 212 s.

Primary sources:

KEHR, P. (ed.). Monumenta Germanise Historica. Diplomata Regvm Germaniae ex Stirpe Karolinorum, Tomus III. Arnolfi Diplomata, Berlin: Weidmannsche Buchhandlung, 1940, 368 s.

Secondary literature:

BIALEKOVÁ, Darina. Sporen von slawischen Fundplätzen in Pobedim. In Slovenská archeológia, 1977, roč. XXV, č. 1, s. 103-160.

BIELICH, Mário – ELSCHEK, Kristián – ŠIMČÍK, Peter. Záchranný výskum v Čiernej vode. In Archeologické výskumy a nálezy na Slovensku v roku 2007, 2009, s. 48-49.

BORZOVÁ, Zuzana a kolektív. Ladice v premenách času, Ladice: Obecný úrad Ladice, 2013, 172 s.

BOWLUS, Charles R. Warfare and Society in the Carolingian Ostmark. In Austrian History Yearbook, 1978, roč. 14, s. 3-26 [Online]. Accessible via the Internet: <http://web.archive.org/web/20101229205219/http://www.deremilitari.org/resources/articles/bowlus.htm> .

COSMA, Călin. Axes from Transylvania during the 7th-8th centuries AD. In Acta Archaeologica Carpathica, 2017, roč. LII, s. 111-146.

CZYŻEWSKI, Krzysztof J. Broń drzewcowa w zbiorach Zamku Królewskiego na Wawelu, Cracow: Wawel royal palace, 2013, 462 s.

DOSTÁL, Bořivoj. Slovanská pohřebiště ze střední doby hradištní na Moravě, Praha: Academia – Nakladatelství Československé akademie věd, 1966, 298 s.

DRESLER, Peter. Surovinová základna Pohanska u Břeclavi. In PROCHÁZKA, Rudolf (ed.). Forum urbes medii aevi VI, Brno: Archaia Brno, 2012, s. 46-61.

DRESLER, Peter. Břeclav-Pohansko VIII. Hospodářské zázemí centra nebo jen osady v blízkosti centra?, Brno: Muni Press, 2016, 275 s.

DUŠEK, Mikuláš. Veľkomoravské pohrebisko v Smoleniciach. In Slovenská archeológia, 1979, roč. XXVII, č. 2, s. 365-373.

EISNER, Jan. Devínska Nová Ves. Slovanské pohřebiště, Bratislava: Nakladateľstvo Slovenskej akadémie vied a umení, 1952, 411 s.

ELSCHEK, Kristián – RAJTÁR, Ján – VARSIK, Vladimír. Pohrebisko z 8.-9. storočia v Stupave. In Archeologické výskumy a nálezy na Slovensku v roku 2008, 2011, s. 87-89.

EMANDI, Ioan-Emil. Cercetări privind uneltele de tăiat de pe teritoriul României, în perioada secolelor IX-XVII. In Studii și comunicări de istorie a civilizației populare din România, 1981, roč. II, s. 19-65.

FARKAŠ, Zdeněk. Oblasť Bratislavy ako strategické územie fortifikácií. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (ed.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia, Bratislava: Slovart, 2012, s. 459-469.

GALUŠKA, Luděk. Uherské Hradiště-Sady, Brno: Moravské zemské museum – Nadace Litera, 1996, 183 s.

GARAM, Éva. Das awarenzeitliche Gräberfeld von Tiszafüred. Cemeteries of the Avar Period (567-829) in Hungary 3, Budapest: Akadémiai Kiadó, 1995, 696 s.

GEIBIG, Alfred. Beiträge zur morphologischen Entwicklung des Schwertes im Mittelalter: Eine Analyse des Fundmaterials vom ausgehenden 8. bis zum 12. Jahrhundert aus Sammlungen der Bundesrepublik Deutschland, Neumünster: Karl Wachholtz Verlag, 1991, 375 s.

HAMPEL, Joseph. Altertümer des frühen Mittelalters in Ungarn. Zweiter Band – Fundbeschreibung, Braunschweig: Friedrich Vieweg und Sohn, 1905, 1006 s.

HAMPEL, Joseph. Altertümer des frühen Mittelalters in Ungarn. Dritter Band – Atlas, Braunschweig: Friedrich Vieweg und Sohn, 1905, 539 s.

HANULIAK, Milan. Komunikácie Slovenska z 10. – 13. storočia v kontexte trás vojenských akcií. In Archaeologia historica, 1998, roč. 23/98, s. 233-244.

HANULIAK, Milan. Veľkomoravské pohrebiská. Pochovávanie v 9.-10. storočí na území Slovenska. Nitra: Archeologický ústav Slovenskej akadémie vied v Nitre, 2004, 391 s.

HÄRKE, Heinrich. Grave goods in early medieval burials: messages and meanings. In Mortality, 2014, roč. 19, č. 1, s. 41-60.

HEINDEL, Ingo. Äxte des 8. bis 14. Jahrhunderts im westslawischen Siedlungsgebiet zwischen Elbe/Saale und Oder/Neisse. In Zeitschrift für Archäologie, 1992, roč. 26, č. 1, s. 17-56.

HENNING, Joachim – RUTTKAY, Matej. Frühmittelalterliche Burgwälle an der mittleren Donau im ostmitteleuropäischen Kontext: Ein deutsch-slowakisches Forschungsprojekt. In MACHÁČEK, Jirí – UNGERMAN, Šimon (eds.). Frühgeschichtliche Zentralorte in Mitteleuropa, Bonn: Verlag Dr. Rudolf Habelt GmbH., 2011, s. 259-288.

HLADÍK, Marek. Hospodárske zázemie Mikulčíc. Sídelná štruktúra na strednom toku rieky Morava v 9. – 1. polovici 13. storočia, Brno: Archeologický ústav Akademie věd ČR, 2014, 353 s.

HORŇÁK, Milan – STEHLÍKOVÁ, Jana. Pohrebisko z obdobia Avarského kaganátu v Podunajských Biskupiciach, Bratislava/Podunajské Biskupice: Mestská časť Bratislava Podunajské Biskupice – VIA MAGNA archeologia s.r.o., 2017, 52 s.

HOŠEK, Jiří – KOŠTA, Jiří – ŽÁKOVSKÝ, Petr. Ninth to Mid-Sixteenth Century Swords from the Czech Republic in Their European Context. Part I. The finds, Prague – Brno: The Czech Academy of Sciences – Institute of Archaeology, Prague, 2019, 424 s.
HRISOULAS, Jim. The Pattern-Welded Blade: Artistry in Iron, Boulder: Paladin Press, 1994, 113 s.
HRUBÝ, Vilém. Staré Město. Velkomoravské pohřebiště „Na Valách", Praha: Nakladatelství Československé akademie věd, 1955, 717 s.
HUSÁR, Martin. Niektoré aspekty včasnostredovekých kopijí a oštepov z územia Slovenska – otázky násad a odtlačkov textílií. In Archaeologia Historica, 2008, roč. 33, s. 457-470.
HUSÁR, Martin. Dôležité míľniky vojenstva Byzancie a priestoru strednej Európy od 9. storočia do prvej polovice 10. storočia. In LUKÁČOVÁ, Martina – HUSÁR, Martin – IVANIČ, Peter – HETÉNYI, Martin (eds.). Tradícia a prítomnosť misijného diela sv. Cyrila a Metoda. 1. vydanie, Nitra: Univerzita Konštantína Filozofa v Nitre, 2013, s. 52-63.
HUSÁR, Martin. Žrďovo-bodné zbrane včasného stredoveku v Karpatskej kotline. 1. diel. Typológia a jej vyhodnotenie. 1. vydanie, Nitra: Univerzita Konštantína Filozofa v Nitre, 2014, 176 s.
HUSÁR, Martin. Thrusting pole arms in the early medieval graves from the Carpathian Basin. In PINTER, Zeno Karl – NIȚOI, Anca. (eds.). Interethnic Relations in Transylvania. Militaria Mediaevalia in Central and South Eastern Europe. Proceedings of the 2014 conference, Sibiu: Astra Museum, 2015, s. 7-26.
HUSÁR, Martin. Spears and Harpoons from the Territory of the Slovak Republic and Republic of Macedonia/FYROM dated to the 6th – 10th/11th Centuries. In Гласник Српског археолошког друштва (Journal of Serbian Archaeological Society), 2016, roč. 32, s. 95-124.
IVANIČ, Peter. Collection of road toll in southwestern Slovakia in the Middle ages on the basis of written sources. In Studia Historica Nitriensia 2019, roč. 23, č. 2, s. 426-455.
JANŠÁK, Štefan. Staré osídlenie Slovenska. In Sborník Muzeálnej slovenskej spoločnosti, 1933-1934, roč. XXVII-XXVIII, s. 30-71.
JØRGENSEN, Anne Nørgård. Waffen und Gräber: typologische und chronologische Studien zu skandinavischen Waffen gräbern 520/30 bis 900 n. Chr. (Nordiske Fortidsminder ser. B Vol. 17). Copenhagen: Kongelige Nordiske Oldskriftselskab, 1999, 417 s.
ЙОТОВ, Валери. Въоръжението и снаряжението от българското средновековие (VII-XI век), Варна: Зограф – Абагар, 2004, 356 s.
KAVÁNOVÁ, Blanka. Slovanské ostruhy na území Československa, Praha: Academia. 1976, 104 s.
KERESZTES, Noémi Ninetta. Fegyveres langobardok Magyarországon I. Típusok és fegyverkombinációk. In TÜRK, Attila (ed.). Hadak útján XXIV. A népvándorláskor fiatal kutatóinak XXIV. Konferenciája. Esztergom, 2014. november 4–6. 1. kötet, Budapest – Esztergom: Pázmány Péter Katolikus Egyetem, Bölcsészet és Társadalomtudományi Kar, Régészeti Tanszék – Magyar Tudományos Akadémia, Bölcsészettudományi Kutatóközpont, Magyar Őstörténeti Témacsoport, 2015, s. 469-498.
КИРПИЧНИКОВ, Анатолий Николаевич. Древнерусское оружие. Выпуск второй. Копья, сулицы, боевые топоры, булавы, кистени IX-XIII вв, Москва – Ленинград: Издательство «Наука», 1966, 147 s.
KLIMSCHA, Florian – BLASCHKE, Wolfgang – THIELE, Eva. Bemerkungen zu Vorkommen, Verbreitung und Bedeutung überdimensionierter Lanzen der europäischen Eisenzeit. In Archäologisches Korrespondenzblatt, 2012, roč. 42, s. 351-369.
KOŠTA, Jiří – HOŠEK, Jiří. Early Medieval Swords from Mikulčice, Brno: Institute of Archaeology of the Academy of Sciences of the Czech Republic, 2014, 335 s.
KOŠTA, Jiří – HOŠEK, Jiří – DRESLER, Petr – MACHÁČEK, Jiří – PŘICHYSTALOVÁ, Renáta. Velkomoravské meče z Pohanska u Břeclavi a okolí – nová revize. In Památky archeologické, 2019, roč. CX, s. 173-235.
KOTOWICZ, Piotr. Early Medieval Axes from the Territory of Poland, Kraków: Polish Academy of Arts and Sciences, 2018, 268 s.
KOUŘIL, Pavel. Frühmittelalterliche Kriegergräber mit Flügellanzen und Sporen des Typs Biskupija-Crkvina auf mährischen Nekropolen. In KOUŘIL, Pavel (ed.). Die frühmittelalterliche Elite bei den Völkeren des östlichen Mitteleuropas, Brno: Ústav akademie vied ČR, 2005, s. 67-99.
KOUŘIL, Pavel (ed.). Velká Morava a počátky křesťanství, Brno: Archeologický ústav Akademie věd ČR, Brno, v. v. i., 2014, 517 s.

KOVÁCS, László. Vooruženie Vengrov - obretatelej rodiny: sabli, boevye topory, kop'ja (Die Waffen der landnehmenden Ungarn: Säbel, Kampfäxte, Lanzen). In Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften, 1982, roč. 10-11 (1980-81), s. 243-255; 6 t./Taf. 1-6.
KRASKOVSKÁ, Ľudmila. Staroslovanské pamiatky na území Bratislavy. In Slovanská Bratislava, 1948, roč. 1, s. 14-21.
KRASKOVSKÁ, Ľudmila. Pohrebisko v Bernolákove. In Slovenská archeológia 1962, roč. X, č. 2, s. 425-476.
KRASKOVSKÁ, Ľudmila. Slovanské hradisko pri Devínskej Novej Vsi. In Slovenská archeológia, 1962, roč. X, č. 1, s. 241-252.
KRASKOVSKÁ, Ľudmila: Slovanské hradisko pri Devínskej Novej Vsi Nad lomom. In Slovenská archeológia, 1966, roč. XIV, č. 1, s. 147-165.
KRASKOVSKÁ, Ľudmila. Slovansko-avarské pohrebisko pri Záhorskej Bystrici, Martin: Osveta, 1972, 166 s.
KUZMA, Ivan. Veľkomoravské pohrebisko pri zlatých pieskoch. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (eds.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. Storočia, Bratislava: Slovart, 2012, s. 348-350.
LESÁK, Branislav – KOVÁČ, Jozef – VRTEL, Andrej. Archeologický výskum nádvoria hradného paláca Bratislavského hradu – základné poznatky o stratigrafii včasnostredovekého náleziska. In MUSILOVÁ, Margaréta – BARTA, Peter – HERUCOVÁ, Angelika (eds.). Bratislavský hrad – dejiny, výskum a obnova, Bratislava: Mestský ústav ochrany pamiatok v Bratislave – Slovenské národné múzeum – Historické múzeum, 2014, s. 199-216.
LUŇÁK, Petr. Velkomoravské sekery. Disertační práce, Brno: Masarykova univerzita, Ústav archeologie a muzeologie, 2018, 195 s.
LUŇÁK, Petr. Velkomoravské sekery. Katalog. Disertační práce, Brno: Masarykova univerzita, Ústav archeologie a muzeologie, 2018, 282 s.
MAREK, Miloš. Vodné toky ako súčasť systému pohraničnej obrany včasnostredovekého Uhorska. In HLADKÝ, Juraj (ed.). Z hydronómie západného Slovenska, Trnava: Pedagogická fakulta trnavskej univerzity v Trnave, 2010, s. 50-60.
MAZUCH, Marián – HLADÍK, Marek – SKOPAL, Rastislav. Úpravy hrobových jam a dřevěné konstrukce v hrobech na pohřebištích Velké Moravy, Brno: Archeologický ústav Akademie věd ČR, Brno, v. v. i., 2017, 336 s.
MINÁČ, Vladimír. Slovansko-avarské pohrebisko v Bratislave – Vajnoroch. In Archeologické výskumy a nálezy na Slovensku v roku 1975, 1976, s. 147-149.
MINÁČ, Vladimír. O osídlení Bratislavskej brány v 7. a 8. storočí. In Zborník Slovenského národného múzea, História 18, 1978, roč. 72, s. 61-81.
MINÁČ, Vladimír – SLIVKA, Michal. Druhé predveľkomoravské pohrebisko v Bratislave-Vajnoroch. In Archeologické rozhledy 1976, roč. 28, s. 426-429.
MUSIL, Jan. Nález raně středověké sekery ze Zdislavi (okr. Chrudim). In Archeologie východních Čech, 2015, roč. 10, s. 68-79.
NADOLSKI, Andrzej. Studia nad uzbrojeniem polskim w X, XI a XII wieku. Acta archaeologica Universitatis Lodziensis 3. Łódź: Zakład im. Ossolińskich we Wrocławiu, 1954, 287 s.
NEUSTUPNÝ, Evžen. Teorie archeologie, Plzeň: Aleš Čenek, 2010, 318 s.
ПАНІКАРСЬКИЙ, А. В. Списи та дротики ранніх слов'ян: функціональна класифікація. In Археологія, 2015, roč. 1, s. 39-50.
PAVOL, Ivan. Výsledky terénnej prospekcie na trase výstavby diaľnice D61. In Archeologické výskumy a nálezy na Slovensku v roku 1996, 1998, s. 81-82.
PEIRCE, Ian – OAKESHOTT, Ewart. Swords of the Viking Age, Woodbridge: The Boydell Press, 2002, 152 s.
PETR, Libor – HAJNALOVÁ, Mária. Najstaršie dejiny vegetácie v okolí Bratislavy. Palynologická analýza prirodzených sedimentov na lokalite Jurský Šúr. In ŠEDIVÝ, Juraj – ŠTEFANOVIČOVÁ, Tatiana (eds.). Dejiny Bratislavy 1. Od počiatkov do prelomu 12. a 13. storočia, Bratislava: Slovart, 2012, s. 49-51.

PETR, Libor – ŽÁČKOVÁ, Pavla – GRYGAR, Tomáš Matys – PÍŠKOVÁ, Anna – KŘÍŽEK, Marek – TREML, Václav. Šúr, a former late-glacial and Holocene lake at the westernmost margin of the Carpathians. In Preslia 2013, roč. 85, č. 3, s. 239-263.
PIŠÚT, Peter – TÍMÁR, Gábor – VIDLIČKA, Ľubomír. Šúrsky les a Panónsky háj na starších mapách. In MAJZLAN, Oto – VIDLIČKA, Ľubomír (eds.). Príroda rezervácie Šúr, Bratislava: Ústav zoológie Slovenskej akadémie vied, 2010, s. 23-66.
PLACHÁ, Veronika – HLAVICOVÁ, Jana. Ranostredoveký Devín, Bratislava: Elán, 2011, 141 s.
QUAST, Dieter. 2012. Einige alte und neue Waffenfunde aus dem frühbyzantinischen Reich. In VIDA, Tivadar (ed.). Thesaurus Avarorum. Régészeti tanulmányok Garam Éva tiszteletére, Budapest: ELTE – Magyar Nemzeti Múzeum – MTA, 2012, s. 351-370.
REJHOLCOVÁ, Mária. Pohrebisko v Čakajovciach (9.-12. storočie). Katalóg, Nitra: Archeologický ústav Slovenskej akadémie vied, 1995, 250 s.
RUTTKAY, Alexander. Waffen und Reiterausrüstung des 9. bis zur ersten Hälfte des 14. Jahrhunderts in der Slowakei (II). In Slovenská archeológia, 1976, roč. XXIV, č. 2, s. 245-395.
RUTTKAY, Alexander. The Organization of Troops, Warfare and Arms in the Period of the Great Moravian State. In Slovenská archeológia, 1982, roč. XXX, č. 1, s. 165-198.
SARNOWSKA, Wanda. Topory wczesnośredniowieczne z obszaru Śląska. In Światowit, 1962, roč. 24, s. 493-514.
SIJARIĆ, Mirsad. Hladno oružje iz Bosne i Hercegovine u arheologiji razvijenog i kasnog srednjeg vijeka, Sarajevo: Univerzitet – Zemaljski muzej Bosne i Hercegovine, 2014, 431 s.
STRZYŻ, Piotr. Uzbrojenie we wczesnośredniowiecznej Małopolsce, Łódź: Łódzkie Towarzystwo Naukowe, 2006, 272 s.
SZÜCSI, Frigyes. A kora- és középavar kori balták és fokosok katalógusa. The appendix of the thesis. Manuscript, Budapest, 2011, 92 s.
SZÜCSI, Frigyes. Avar kori balták, bárdok, szekercék és fokosok. Baltafélék a 6–8. századi Kárpát-medencében. In Alba Regia, 2013-2014, roč. 42, s. 113-186.
ŠTEFAN, Ivo. Great Moravia, Statehood and archaeology. The „Decline and Fall" of One Early Medieval Polity. In MACHÁČEK, Jiří – UNGERMAN, ŠIMON (eds.). Frühgeschichtliche Zentralorte in Mitteleuropa, Bonn: Verlag dr. Rudolf Habelt GmbH, 2011, s. 333-354.
ŠTEFAN, Ivo. Mocní náčelníci od řeky Moravy? Poznámky ke struktuře raných států. In Archeologické rozhledy, 2014, roč. LXVI, s. 141-176.
ŠTEFANOVIČOVÁ, Tatiana. Bratislavský hrad v 9.-12. storočí, Bratislava: Obzor, 1975, 154 s.
TAMAŠKOVIČ, Jakub – HLADÍK, Marek. Povodie dolnej Moravy vo včasnom stredoveku (tézy z hranice 2). In VRABLEC, Pavol (ed.). Malacky a okolie 8 – História, Malacky: Mestské múzeum kultúry Malacky – Múzeum Michala Tillnera Malacky, 2015, s. 7-22.
TÖRÖK, Gyula 1973. Sopronkőhida IX. századi temetője. Fontes Archaeologici Hungariae, Budapest: Akadémiai Kiadó, 1973, 131 s.
TURČAN, Vladimír. Včasnostredoveké sídliskové objekty z Chorvátskeho Grobu. In Zborník Slovenského národného múzea, Archeológia 18, 2008, roč. CII, s. 139-152.
TURČAN, Vladimír. Slovanský sídliskový objekt zo Slovenského Grobu. In Zborník Slovenského národného múzea, Archeológia 21, 2011, roč. CV, s. 141-146.
VAVÁK, Július. Nové poznatky k najstarším dejinám Svätého Jura. In ŠTEFÁNIKOVÁ, Zuzana (ed.). Zo starších dejín Svätého Jura, Svätý Jur: Mesto Svätý Jur, 2010, s. 7-30.
VAVÁK, Július. Pevnosť v Malých Karpatoch. Vznik, význam a úloha výšinného centra vo Svätom Jure, Pezinok: Malokarpatské múzeum v Pezinku, 2019, 159 s.
WEHNER, Donat. Wolin/Wollin und Umland in der Slawenzeit. Eine Auseinandersetzung mit E. Gringmuth-Dallmers Zentralortskonzeption. In JEUTE, Gerson H. – SCHNEEWEIß, Jens – THEUNE, Claudia (eds.). Aedificatio terrae. Beiträge zur Umwelt- und Siedlungsarchäologie Mitteleuropas, Rahden/Westf.: Verlag Marie Leidorf GmbH, 2007, s. 363-371.
WEHNER, Donat. The hinterland of the early medieval trading place Wolin and Menzlin: a comparison. In BABETTE, Ludowici – JÖNS, Hauke – KLEINGÄRTNER, Sunhild – SCHESCHKEWITZ Jonathan – HARDT, Matthias (eds.). Trade and communication networks of the First millennium AD in the northern part of Central Europe: central places, beach markets, landing places and trading centres, Stuttgart: Niedersächsischen Landesmuseum Hannover, 2010, s. 258-266.

WILKE, Gerard. Groty broni drzewcowej z Ostrowa Lednickiego. In SANKIEWICZ, Paweł – WYRWA, Andrzej M. (eds.). Broń drzewcowa i uzbrojenie ochronne z Ostrowa Lednickiego, Giecza i Grzybowa, Lednica: Muzeum Pierwszych Piastów na Lednicy, 2018, s. 33-87.
YPEY, Jaap. Europäische Waffen mit Damaszierung. In Archäologisches Korrespondenzblatt, 1982, roč. 12, s. 381-388.
ZÁBOJNÍK, Jozef. Seriation von Gürtelbeschlaggarnituren aus dem Gebiet der Slowakei und Österreichs (Beitrag zur Chronologie der Zeit des awarischen Kaganats). In ČILINSKÁ, Zlata (ed.). K problematike osídlenia stredodunajskej oblasti vo včasnom stredoveku, Nitra: Archeologický ústav Slovenskej akadémie vied, 1991, s. 219-321.
ŽÁKOVSKÝ, Petr – SCHENK, Zdeněk. Středověké a raně novověké zbraně Přerovska. Zbraně a zbroj od kolapsu Velké Moravy do konce třicetileté války, Přerov – Brno: Muzeum Komenského v Přerově, p. o. – Archeologický ústav Akademie věd ČR Brno, v. v. i., 2017, 175 s.

Internet sources:

HLADÍK, Marek – TAMAŠKOVIČ, Jakub. Great Moravian settlement relations [Online]. Accessible via the Internet: <https://mikulcice.maps.arcgis.com/apps/MapTools/index.html?appid=5f9ae64129d7432fa013087b090ca2d5> .

Catalogue
AXE HEADS

1.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 112/18-SN; stratigraphic unit: 5191B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 18; gender: unknown, age: infans II (7 – 13 years old).

IV. Description (shape, material, decoration): The head of an iron bearded axe has got two pairs of pointed lugs that are relatively long. One of these pairs is significantly broken and its upper lug is almost completely missing. From the inner side of the above mentioned upper lug there is a small remnant of a wooden handle. The lugs and socket are oblique to the neck of the axe head. The head is slightly corroded. There is a slightly widening distinct butt in profile, which is slightly tapering towards its end from above or below. The butt is rectangular in cross-section. The beard of the axe head is quite short, projects downwards and is bevelled at its end. The upper parts of the axe head's cheek and blade are concavely curved in profile. At the lower part of the beard there is a concave cutout in profile. The neck of the axe head is rectangular in cross-section. The examined axe head is symmetric in cross-section from above or below. The cutting edge of the blade was also sharpened symmetrically. The upper part the eye is slightly wider than its lower part.

V. Measurements, weight: total length of the axe head: 18.3 cm; length of the blade: 5.4 cm; section plan measurements of the neck: 1.4 x 1.9 cm; inner section plan measurements of the eye: 2.8 x 2.8 cm (upper part), 2.5 x 2.7 cm (lower part); width of the socket (with lugs): 3.5 cm; height of the socket with the lugs: 6.5, 4.2 (broken pair) cm; width of the lugs: 2.9, 2.9 cm; length of the butt: 2.5 cm; height of the butt: 2 cm; width of the butt: 0.9 (lower part)-1 (upper part) cm; weight: 0.301 kg.

VI. Dating: axe head – the 9th century, mostly the first half of the 9th century; spurs found in this grave – the first half of the 9th century, most probably to second quarter of the 9th century.

VII. Drawing: Pl. IV: Grave 18 – 3.

2.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 135/18-SN; stratigraphic unit: 5213B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 34; gender: male, age: maturus (40 – 59 years old).
IV. Description (shape, material, decoration): The head of an iron bearded axe has got two lower lugs of an unspecified form, whose upper counterparts are damaged or they have been less distinct or have not been there at all. The lugs and socket were probably oblique to the neck of the axe head. The socket of the axe head is cracked on its lateral side. Inside the eye of the head there are remnants of its wooden handle. The axe head is slightly corroded. There is a markedly widening distinct butt in profile, which is slightly tapering towards its end from above or below. The butt is rectangular in cross-section. The beard of the axe head is quite short, projects downwards and is bevelled at its end. At the lower part of the beard there is a concave cutout in profile. The upper parts of the axe head's cheek and blade are broken. The neck of the axe head is rectangular in cross-section. The referred axe head is symmetric in cross-section from above or below. The cutting edge of the blade was also sharpened symmetrically.
V. Measurements, weight: total length of the axe head: 17.5 cm; length of the blade: 4.9 cm; section plan measurements of the neck: 1.6 x 2 cm; inner section plan measurements of the eye: 2.7 x 2.7 cm (upper part), 2.4 x 2.7 cm (lower part); width of the socket (with lugs): 3.5 cm; height of the socket with the lugs: 2.9, 2.5 cm; width of the lugs: 3, - cm; length of the butt: 1.9 cm; height of the butt: 2.6 cm; width of the butt: 1.85 (lower part)-1.85 (upper part) cm; weight: 0.261 kg.
VI. Dating: axe head – the 9th century, mostly the first half of the 9th century; spurs found in this grave – since the middle of the 9th century, mainly in the last third of the 9th century.
VII. Drawing: Pl. V: Grave 34 – 2.

3.
I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.
II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 156/18-SN; stratigraphic unit: 5693B.
III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 64; gender: male, age: adultus II (30 – 39 years old).
IV. Description (shape, material, decoration): The blade of the iron axe head is widened out. The quite long cheek and the above mentioned blade of the axe head are slightly bent downwards. Two pairs of quite moderately semi-oval lugs in profile and a distinct butt with a button, which was formerly quadrangular in cross-section (1.9 x 1.95 cm), are present on this axe head too. The neck of the axe head is rectangular in cross-section. The butt is quite long in profile. It has got relatively constant section plan measurements in profile and from above or below. The shape of the butt's cross-section is quadrangular. The head is corroded. Remnants of a wooden handle are inside the eye of the axe head. The axe head is symmetric in cross-section from above or below. The cutting edge of the blade is also sharpened symmetrically.
V. Measurements, weight: total length of the axe head: 15.8 cm; length of the blade: 4.1 cm; section plan measurements of the neck: 2 x 1.65 cm; inner section plan measurements of the eye: 2.15 x 2.2 cm (upper part), 2.15 x 2.2 cm (lower part); width of the socket (with lugs): 2.9 cm; height of the socket with the lugs: 4.7, 4.5 cm; width of the lugs: 3, 3 cm; length of the butt (with the button): 2.8 cm; height of the butt (without the button): 1.6 cm; width of the butt (without the button): 1.7 (lower part)-1.7 (upper part) cm; weight: 0.256 kg.
VI. Dating: axe head – the last third of the 6th century – the 10th century.
VII. Drawing: Pl. V: Grave 64 – 3.

4.
I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.
II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 161/18-SN; stratigraphic unit: 5697B.
III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 67; gender: male?; age: adult.

IV. Description (shape, material, decoration): There is a prolonged beard of the iron axe head that projects downwards and is terminated by a semi-oval heel or end. The axe had has got a quite long neck that is quadrangular in cross-section. The toe of the axe head is moderately projecting upwards. There are two lobes, which are protruded (upwards – 0.3 cm from the level of the socket and this lobe of the socket is 4.25 cm wide – and downwards – 1.2 cm from the level of the socket and this lobe of the socket is 4.4 cm wide) from the back of the socket. The examined head is slightly corroded. The axe head is symmetric in cross-section from above or below. The cutting edge of the blade was sharpened symmetrically as well.

V. Measurements, weight: total length of the axe head: 15 cm; length of the blade: 8.75 cm; section plan measurements of the neck: 1.8 x 1.8 cm; inner section plan measurements of the eye: 3.4 x 3.4 cm (upper part), 3.2 x 3.4 cm (lower part); width of the socket: 4.6 cm; height of the socket in its front part in profile: 2.2 cm; height of the socket in its rear part in profile: 3.4 cm; weight: 0.359 kg.

VI. Dating: axe head – the 9th century.

VII. Drawing: Pl. VI: Grave 67 – 1.

5.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 172/18-SN; stratigraphic unit: 5711B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 80; gender: male, age: adultus II (30 – 39 years old).

IV. Description (shape, material, decoration): The iron axe head has got a less distinct two-sided cap, which is protruded from the back of the socket. The caps are terminated by oval ends. Two pairs of relatively short and semi-oval lugs are projecting from the lateral sides of the socket and are connected to the above mentioned cap. There is a quite short and triangular beard, which is projected downwards and is terminated by a semi-oval heel or end. The axe head is fitted with a quite long neck that is rectangular in cross-section. The toe of the axe head is slightly projecting up. The discussed head is quite corroded and partly covered by gravel. The axe head is symmetric in cross-section from above or below. The cutting edge of the blade was also sharpened symmetrically. The upper part of the eye is slightly narrower than its lower part, but it could be caused by the aforementioned current corrosion of the head too.

V. Measurements, weight: total length of the axe head: 16.5 cm; length of the blade: 7 cm; section plan measurements of the neck: 2.15 x 1.9 cm; inner section plan measurements of the eye: 3.15 x 2.7 cm (upper part), 3.2 x 2.8 cm (lower part); width of the socket (with lugs): 5 cm; height of the socket with the lugs: 4.3, 3.8 cm; width of the lugs: 3.4, - cm; height of the socket with the caps: 4.6 cm; height of the top cap: 1.1 cm; height of the bottom cap: 0.4 cm; width of the top cap: 3 cm; width of the bottom cap: 3 cm; weight: 0.348 kg.

VI. Dating: axe head – the second half of the 9th century – the 12th – 13th centuries.

VII. Drawing: Pl. VI: Grave 80 – 2.

6.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 174/18-SN; stratigraphic unit: 5716B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 85; gender: male, age: adultus II – maturus I (30 – 49 years old).

IV. Description (shape, material, decoration): The head of an iron bearded axe most likely had two pairs of pointed lugs. One of these pairs is severely damaged. The lugs and socket are most likely perpendicular to the neck of the axe head. The head is seriously corroded and partly covered by gravel. There was a widening distinct butt in profile, which was slightly widening towards its end from above or below as well. Probably there was a kind of button (most likely oval in

cross-section) at its end. The shape of the butt's cross-section is unclear due to the corrosion of the axe head. The beard of the axe head is quite short, projects downwards and is bevelled at its end. The upper parts of the axe head's cheek and blade are slightly convexly curved in profile. The toe of the axe head's blade is projecting further than its heel. At the lower part of the beard there is an insignificant concave cutout in profile. The neck of the axe head is almost square in cross-section. The axe head was formerly symmetric in cross-section from above or below. The cutting edge of the blade was probably sharpened symmetrically too. The upper part of the eye is slightly wider than its lower part.

V. Measurements, weight: total length of the axe head: 18.3 cm; length of the blade: 6 cm; section plan measurements of the neck: 1.75 x 1.85 cm; inner section plan measurements of the eye: 2.9 x 2.4 cm (upper part), 2.8 x 2.1 cm (lower part); width of the socket (with lugs): 3.5 cm; height of the socket with the lugs: 5.5, 5 cm; width of the lugs: 3.5, - cm; length of the butt: 2.4 cm; height of the butt: 3.1 cm; width of the butt: 2.2 (lower part)-2.4 (upper part) cm; weight: 0.315 kg.

VI. Dating: axe head – mainly the second half of the 8th century and the first half of the 9th century and probably also the course of the 9th century as well.

VII. Drawing: Pl. VII: Grave 85 – 1.

7.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 197/18-SN; stratigraphic unit: 5719B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 88; gender: male, age: adultus II (30 – 39 years old).

IV. Description (shape, material, decoration): The iron bearded axe head has got two pointed lower lugs, whose upper counterparts are broken, or they have been less distinct or have not been there at all. The lugs and socket are oblique to the neck of the axe head. The head is quite corroded. There is a distinct butt in profile, which is tapering towards its end from above and slightly widening in profile. The butt is rectangular in cross-section. The beard of the axe head is quite short, projects downwards, and is bevelled there. This part is probably missing any (concave) cutout at its end. The upper parts of the axe head's cheek and blade are concavely curved. The neck of the axe head is rectangular in cross-section. The given axe head is symmetric in cross-section from above or below and from these angles it is almost triangular in shape. The cutting edge of the blade was sharpened symmetrically as well. The upper part of the eye is slightly narrower than its lower part, but it can also be influenced by the above mentioned current corrosion of the head.

V. Measurements, weight: total length of the axe head: 19.5 cm; length of the blade: 6.1 cm; section plan measurements of the neck: 2.2 x 2.55 cm; inner section plan measurements of the eye: 2.15 x 2.5 cm (upper part), 2.2 x 2.7 cm (lower part); width of the socket (with lugs): 4 cm; height of the socket with the lugs: 3.8, 4.7 cm; width of the lugs: 3.6, 3.8 cm; length of the butt: 2 cm; height of the butt: 3 cm; width of the butt: 2.4 (lower part)-2.25 (upper part) cm; weight: 0.421 kg.

VI. Dating: axe head – the 8th – 10th centuries.

VII. Drawing: Pl. VII: Grave 88 – 2.

HEADS OF THRUSTING POLE ARMS

1.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 99/18-SN; stratigraphic unit: 5183B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 17; gender: male, age: adultus I (20 – 29 years old).

IV. Description (shape, material, decoration): The corroded iron spearhead has got a blade in the shape of a poplar leaf, whose maximal width is approximately in its lower part. The tip of the

blade is torn off (3.6 cm of the blade's length). The cross-section of the blade is rhombic, right in the place of its maximal width. The neck is oval in cross-section. The blade is longer than the socket, which is slightly conical. The mouth of the socket is oval in cross-section from the inner and outer side. Wooden remnants of a pole were discovered inside the socket.

V. Measurements, weight: total length of the spearhead: 24 cm; length of the blade: 19 cm; length of the socket: 5 cm; maximal width of the blade: 3 cm; thickness of the blade in the place of its maximal width: 0.75 cm; section plan measurements of the neck: 1.6 x 1.3 cm; outer section plan measurements of the socket: 2.5 x 2.35 cm; inner section plan measurements of the socket: 2.1 x 1.95 cm; weight: 0.146 kg.

VI. Dating: head of a thrusting pole weapon – the end of the 9th century – the beginning of the 10th century; spurs found in this grave – since the middle of the 9th century, mainly in the last third of the 9th century.

VII. Drawing: Pl. IV: Grave 17 – 1.

2.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 140/18-SN; stratigraphic unit: 5213B.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 34; gender: male, age: maturus (40 – 59 years old).

IV. Description (shape, material, decoration): The iron spearhead is fitted with a blade in the shape of a willow leaf, whose maximal width is approximately in its middle part. This blade is considerable corroded and partly covered by gravel. Its tip is torn off (2 cm of the blade's length). The cross-section of the blade is lenticular, exactly in the place of its maximal width. The neck is oval in cross-section. The socket, which is shorter than the blade, was formerly slightly conical. It is badly corroded at its mouth. The mouth of the socket is oval in cross-section from the inner and outer side.

V. Measurements, weight: total length of the spearhead: 27.8 cm; length of the blade: 23.5 cm; length of the socket: 5.3 cm; maximal width of the blade: 3.7 cm; thickness of the blade in the place of its maximal width: 0.75 cm; section plan measurements of the neck: 2 x 1.6 cm; outer section plan measurements of the socket: 2 x 1.8 cm; inner section plan measurements of the socket: 1.4 x 1.55 cm; weight: 0.247 kg.

VI. Dating: head of a thrusting pole weapon – from the 5th century BC to the 13th century AD; spurs found in this grave – since the middle of the 9th century, mainly in the last third of the 9th century.

VII. Drawing: Pl. V: Grave 34 – 1.

3.

I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.

II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 163/18-SN; stratigraphic unit: 5700B; sector within the archaeological excavation: XXXIII.

III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 69; gender: male?, age: maturus (40 – 59 years old).

IV. Description (shape, material, decoration): The iron spearhead is fitted with a triangular blade, whose maximal width is in its lower part. It is a short base is fitted with quite pointed angles that above the neck of the spearhead. The head is severely corroded and partly covered by gravel. The blade in the place of its maximal width is lenticular in cross-section. The cross-section of the neck is oval in cross-section. The socket is shorter in length than the blade. When we omitted the layer of gravel on the slightly conical socket, it would be narrower than we could measure now. The mouth of the socket is actually circular in cross-section from the inner and outer side.

V. Measurements, weight: total length of the spearhead: 22.4 cm; length of the blade: 16.2 cm; length of the socket: 6.2 cm; maximal width of the blade: 3.4 cm; thickness of the blade in the place of its maximal width: 1.15 cm; section plan measurements of the neck: 1.6 x 2.1 cm; outer section plan measurements of the socket: 2.4 x 2.5 cm; inner section plan measurements of the socket: 1.8 x 1.9 cm; weight: 0.187 kg.
VI. Dating: head of a thrusting pole weapon – the 8th century – the first half of the 9th century/ 9th century.
VII. Drawing: Pl. IV: Grave 69 – 2.

4.
I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.
II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 208/18-SN; stratigraphic unit: 5729B.
III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 96; gender: male, age: maturus I (40 – 49 years old).
IV. Description (shape, material, decoration): The iron spearhead has got a blade in the form of a willow leaf, whose maximal width is in its middle part. This blade is severely corroded and its part is missing. The aforementioned part of the examined head is lenticular in cross-section, right in the place of its maximal width. The socket, which is shorter than the blade, is slightly conical and damaged by corrosion at its mouth. The mouth of the socket is circular in cross-section from the inner and outer side. Eventually, the neck is oval in cross-section. Inside the socket there are wooden remnants of a pole. This wood was examined by doc. Mária Hajnalová, PhD. She found out that it could be an alder (alnus), birch (betula), hazel (corylus) or most likely a poplar (populus).[149]
V. Measurements, weight: total length of the spearhead: 34 cm; length of the blade: 24.2 cm; length of the socket: 9.8 cm; maximal width of the blade: 5 cm; thickness of the blade in the place of its maximal width: 0.5 cm; section plan measurements of the neck: 1.6 x 1.4 cm; outer section plan measurements of the socket: 2.65 x 2.55 cm; inner section plan measurements of the socket: 2.15 x 2.05 cm; weight: 0.304 kg.
VI. Dating: head of a thrusting pole weapon – from the 5th century BC to the 13th century AD.
VII. Drawing: Pl. VII: Grave 96 – 3.

SWORD

1.
I. Place of discovery: Ivanka pri Dunaji-Farkasek, Bratislava Region, Slovakia.
II. Storage/Inventory Number: Depository of archaeological finds in Trnava (Monuments Board of the Slovak Republic); incremental number: 223/18-SN; stratigraphic unit: 5183B.
III. Circumstances of Discovery: the cemetery of Ivanka pri Dunaji-Farkasek, grave 17; gender: male, age: adultus I (20 – 29 years old).
IV. Description (shape, material, decoration): The double-edged sword consists of a blade and tang. The tang has got an elongated trapezoidal shape and probably rectangular cross-section. These parts are markedly corroded and partly covered by gravel. It is not certainly evident whether the blade has got a fuller or not. So, the cross-section of the blade could have been lenticular or lenticular with two concave cutouts. The blade is gently tapering from the shoulders of the tang (it has got nearly parallel edges) to the place before its relatively short and slightly acute tip. There are remnants of a wooden grip. On the blade we can observe wooden and fabric rests of a scabbard. The sword is currently waiting for the process of conservation in the special case and it is not at our disposal. Ing. Jiří Hošek, Ph. D., and Mgr. et Mgr. Estelle Ottenwelter carried out an X-ray survey of the sword. The blade of the sword has got pattern welding, probably in the form of a zigzag pattern with the so-called ZSZ twist, which was most likely observed by the

[149] HAJNALOVÁ, ref. 95, s. 2.

aforementioned scientists on each side of the blade. This pattern was made from three twisted composite rods.[150]

V. Measurements, weight: total length of the sword: 96.04 cm; length of the tang: 13.44 cm; length of the blade: 82.6 cm; width of the blade near the tip before the point: 4 cm; maximal width of the blade below the shoulders of the tang: 5.77 cm; blade thickness at the same locations as the width measures: -, - cm; width of the tang at its lower end beside or its shoulders: 2.88 cm; width of the tang at its upper end: 1.89 cm; tang thickness at the same locations as the width measures: -, - cm; weight: - kg.

VI. Dating: sword – the second half of the 8th century – the second third of the 9th century; spurs found in this grave – since the middle of the 9th century, mainly in the last third of the 9th century.

VII. Photograph: Pl. VIII: Grave 17 – 1-2.

Word count: 20 633
Number of characters, including spaces: 130 852

Recenzenti:
Mgr. Dominik Repka, PhD.
Mgr. Michal Holeščák, PhD

[150] HOŠEK – OTTENWELTER, ref. 109, s. 1.

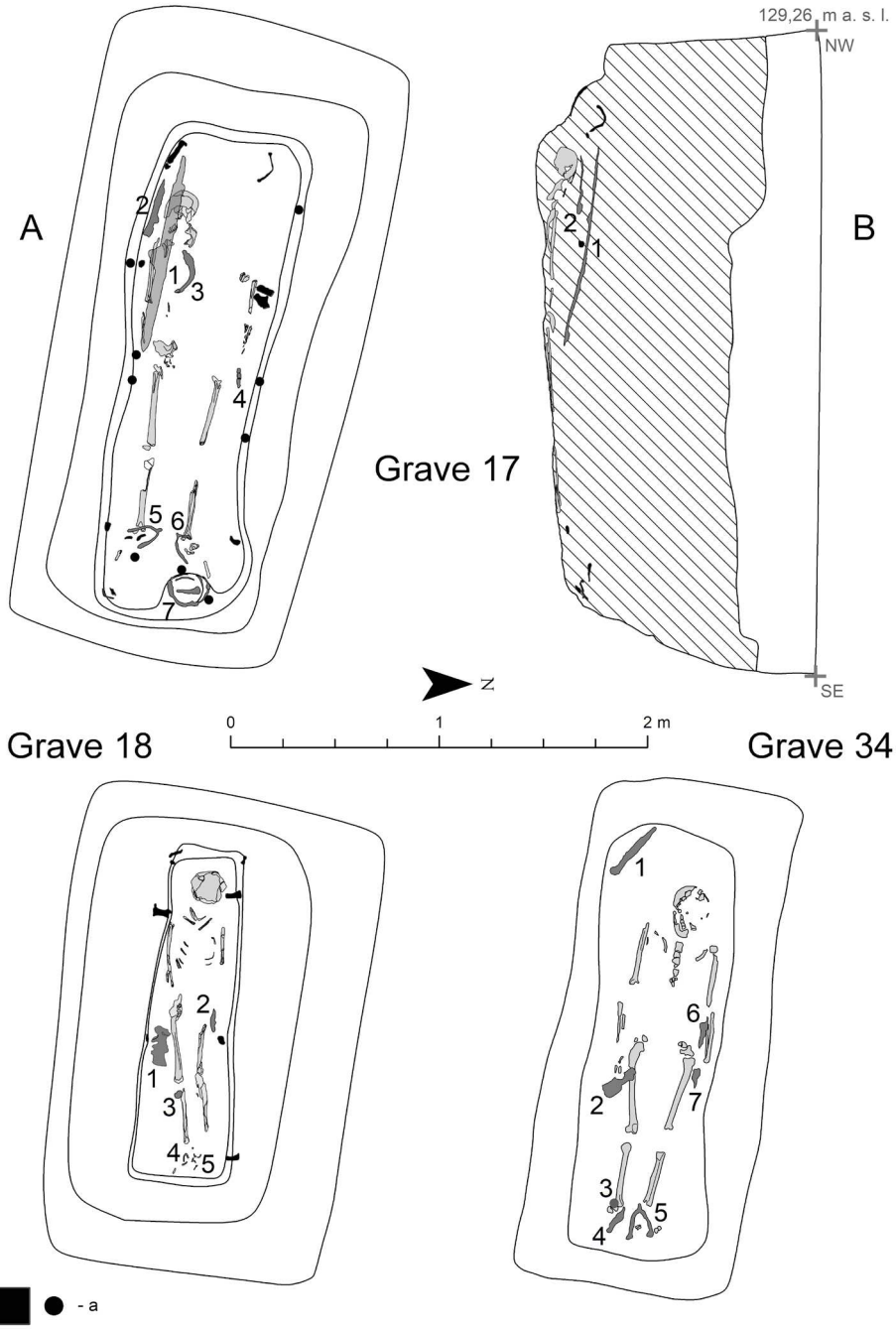

Plate I. Ivanka pri Dunaji-Farkasek. Grave 17: A – grave from above; B – grave in profile; 1 – sword (above the level of the buried individual); 2 – spearhead (above the level of the buried individual?); 3 – knife/razor(?); 4 – knife; 5-6 – spurs; 7 – iron parts of a wooden bucket (above the level of the buried individual). Grave 18: 1 – axe head; 2 – knife; 3 – unspecified iron fragment; 4-5 – spurs. Grave 34: 1 – spearhead; 2 – axe head; 3 – iron parts of the spurs' accessories; 4-5 – spurs; 6 – knife; 7 – unspecified iron fragment; a – iron parts of a wooden coffin. All iron. Scale: all to scale (author: Jakub Tamaškovič).

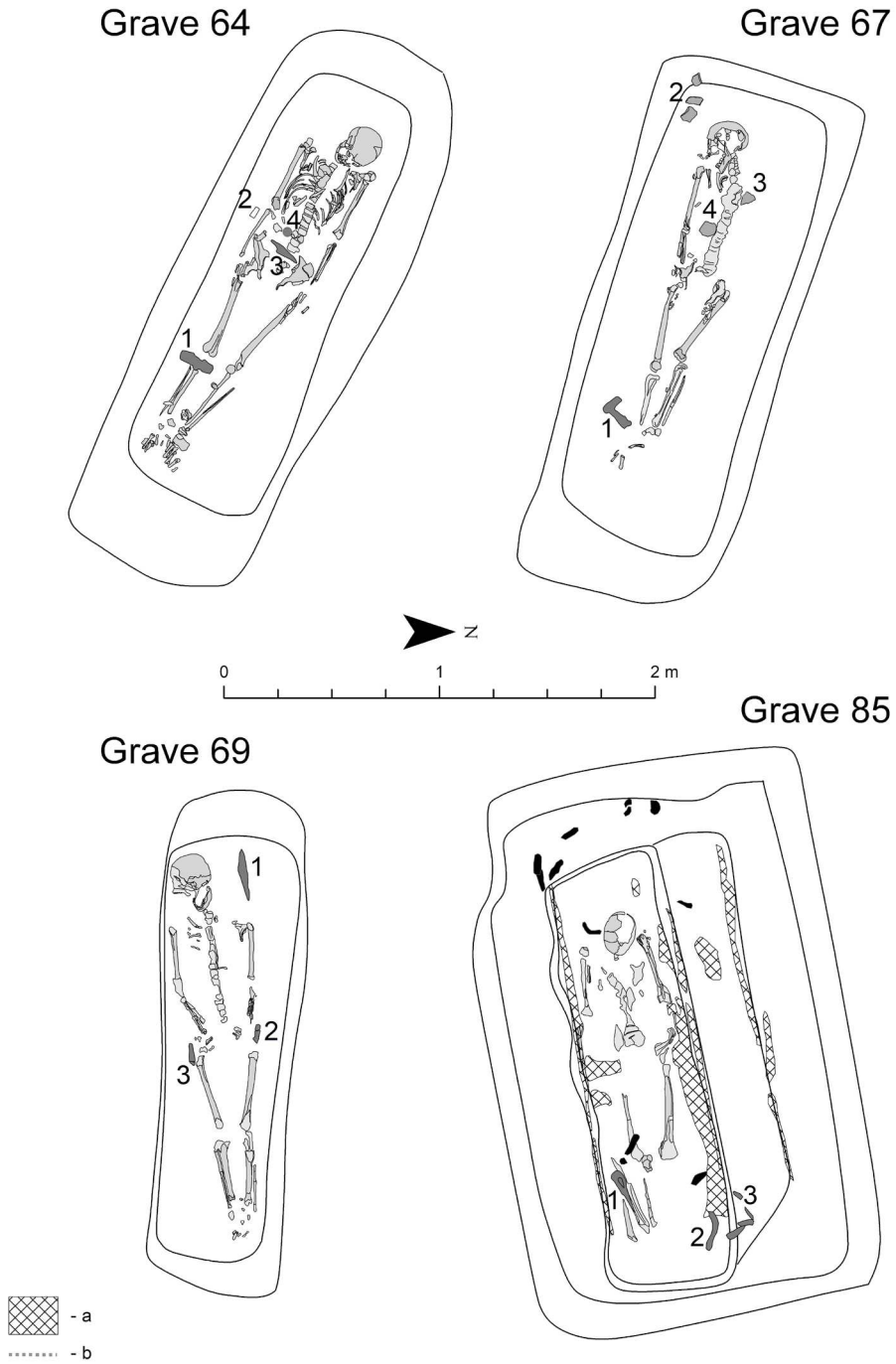

Plate II. Ivanka pri Dunaji-Farkasek. Grave 64: 1 – axe head; 2 – grindstone; 3 – knife; 4 – unspecified iron fragment. Grave 67: 1 – axe head; 2-4 – fragments of pottery. Grave 69: 1 – spearhead; 2 – knife; 3 – unspecified iron fragments. Grave 85: 1 – axe head; 2-3 – iron parts of a wooden bucket (above the level of the buried individual); a – remains of a wooden structure; b – groundwater on the surface of the grave's bottom. 64: 2 stone, 67: 2-4 pottery, all other finds – iron. Scale: all to scale (author: Jakub Tamaškovič).

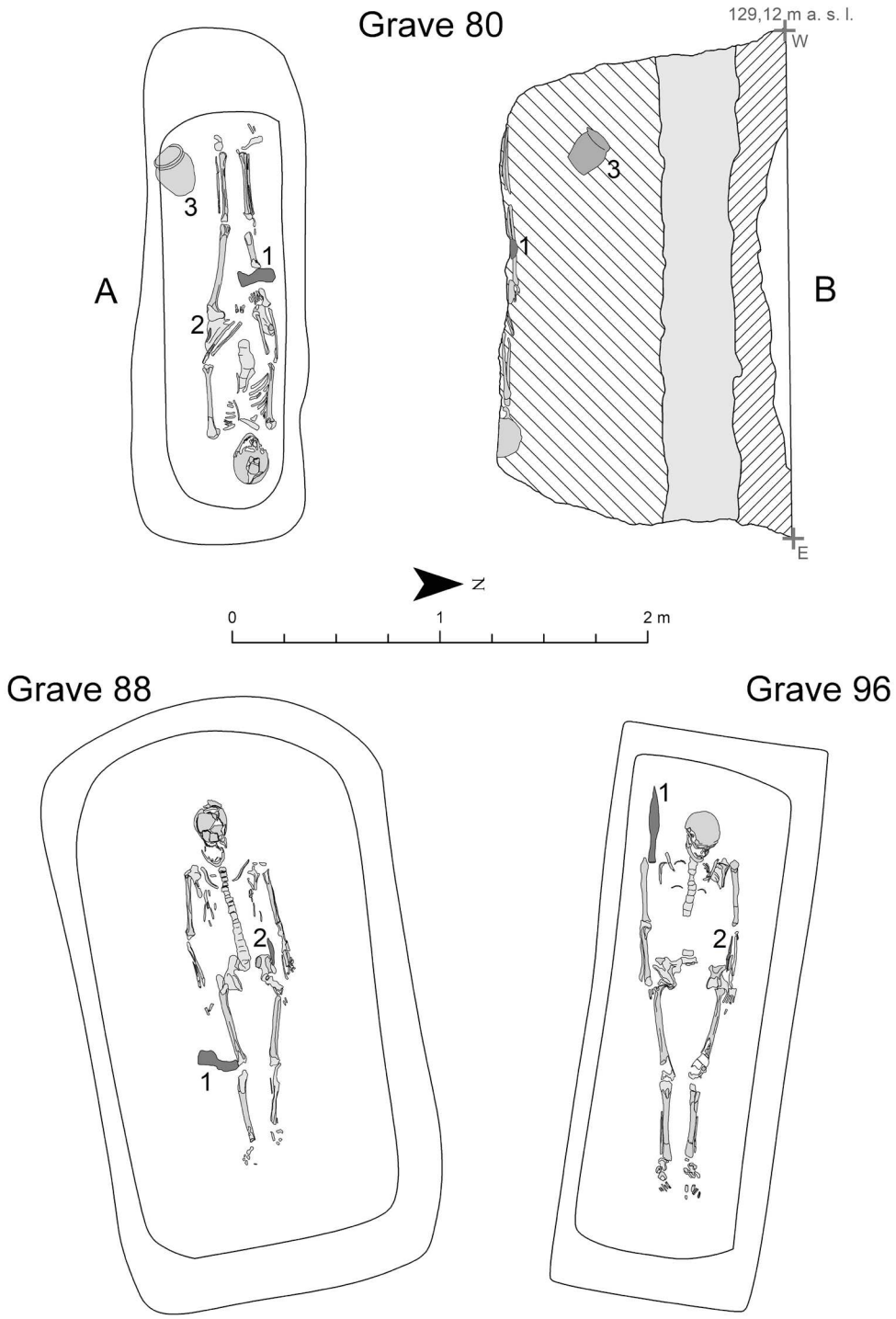

Plate III. Ivanka pri Dunaji-Farkasek. Grave 80: A – grave from above; B – grave in profile; 1 – axe head; 2 – knife; 3 – pot (above the level of the buried individual; Grave 88: 1 – axe head; 2 – knife. Grave 96: 1 – spearhead; 2 – knife. 80A: 3 – pottery, all other finds – iron. Scale: all to scale. (author: J. Tamaškovič).

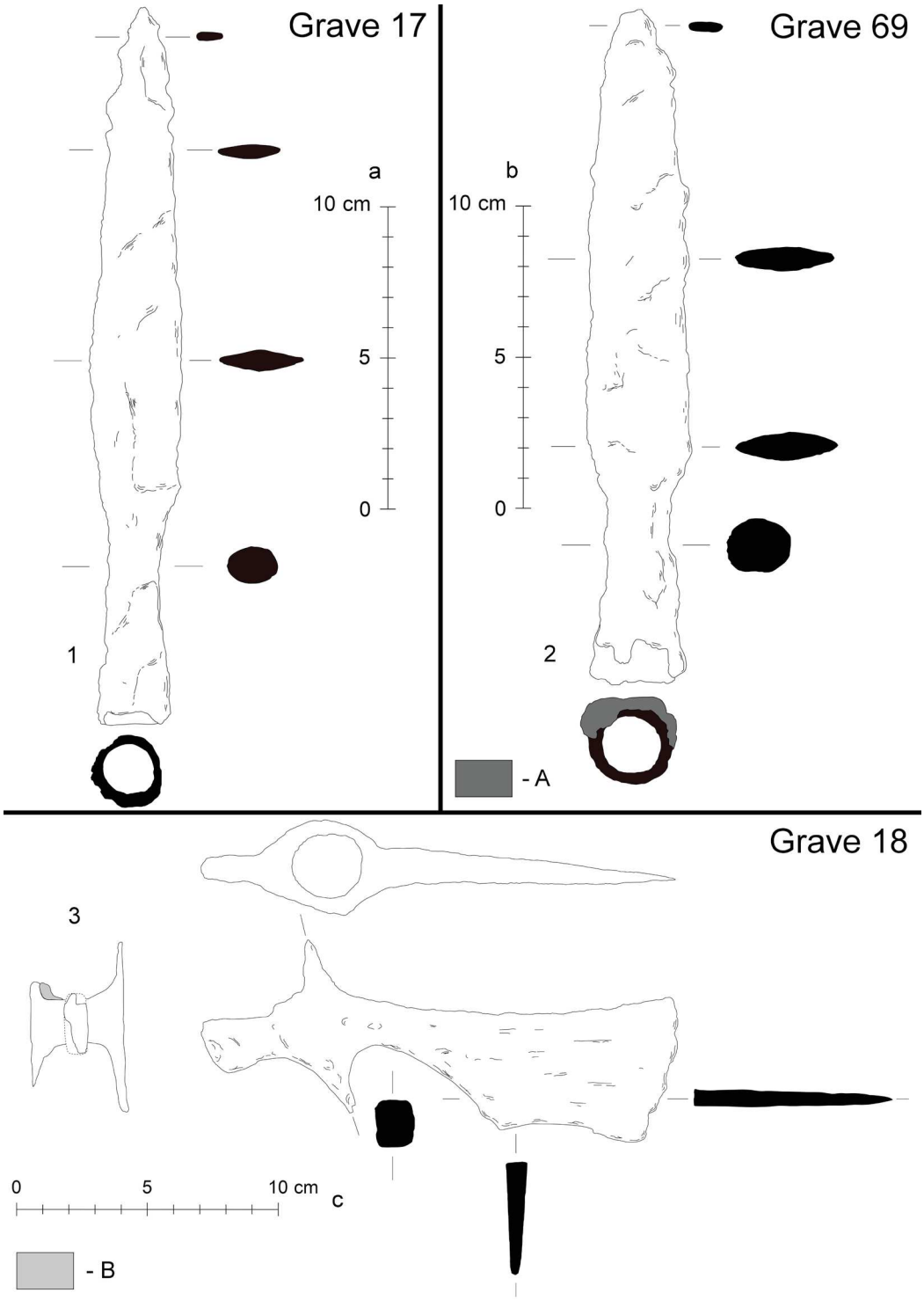

Plate IV. Ivanka pri Dunaji-Farkasek. Grave 17: 1 – spearhead. Grave 69: 2 – spearhead. Grave 18: 3 – axe head; A – layer of corrosion and gravel; B – remains of wood. All iron. Scale: a – 1; b – 2; c – 3. (drawings: Eva Šebestová, Martin Husár).

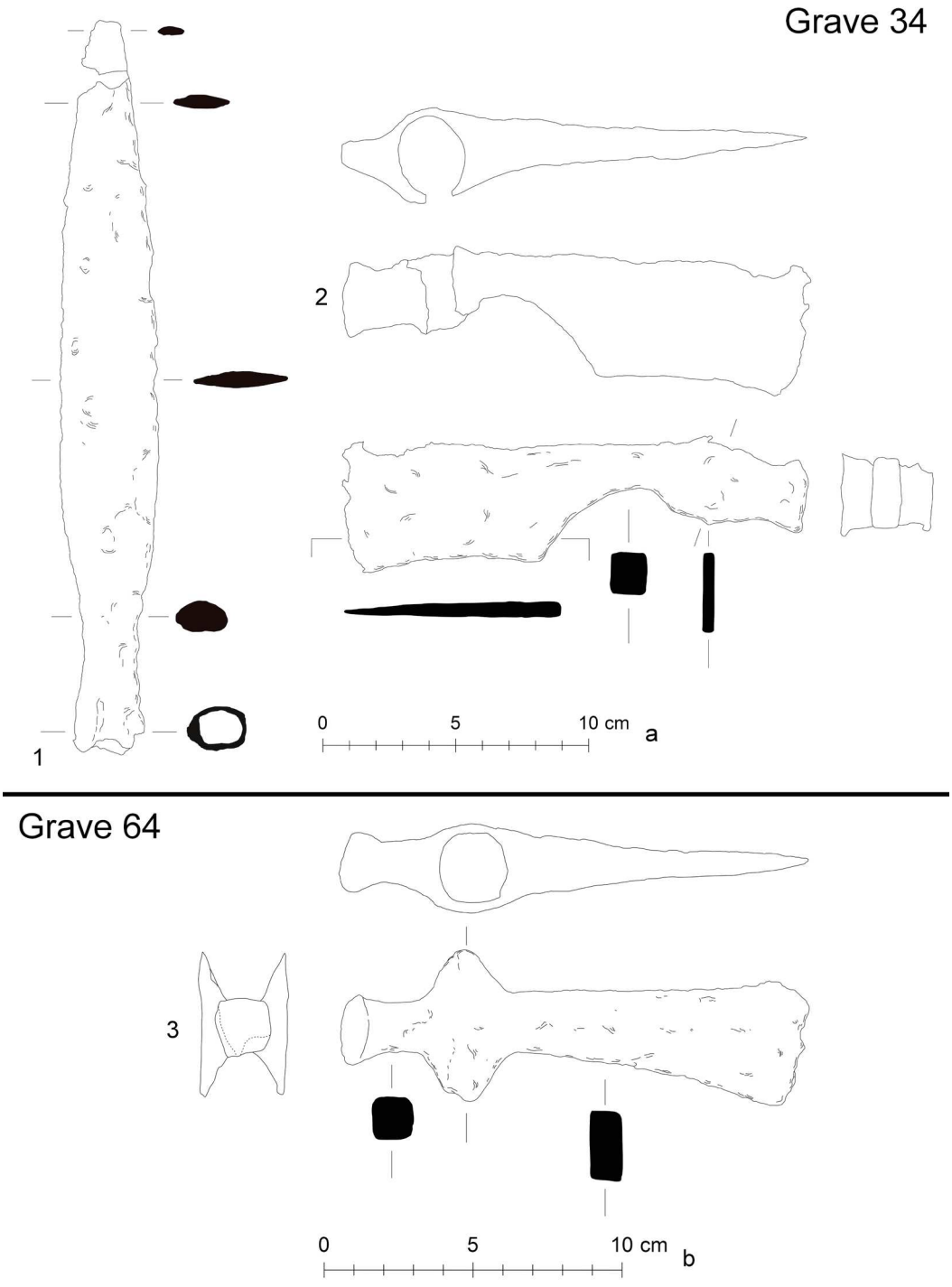

Plate V. Ivanka pri Dunaji-Farkasek. Grave 34: 1 – spearhead; 2 – axe head. Grave 64: 3 – axe. All iron. Scale: a – 1,2; b – 3. (drawings: Eva Šebestová, Martin Husár).

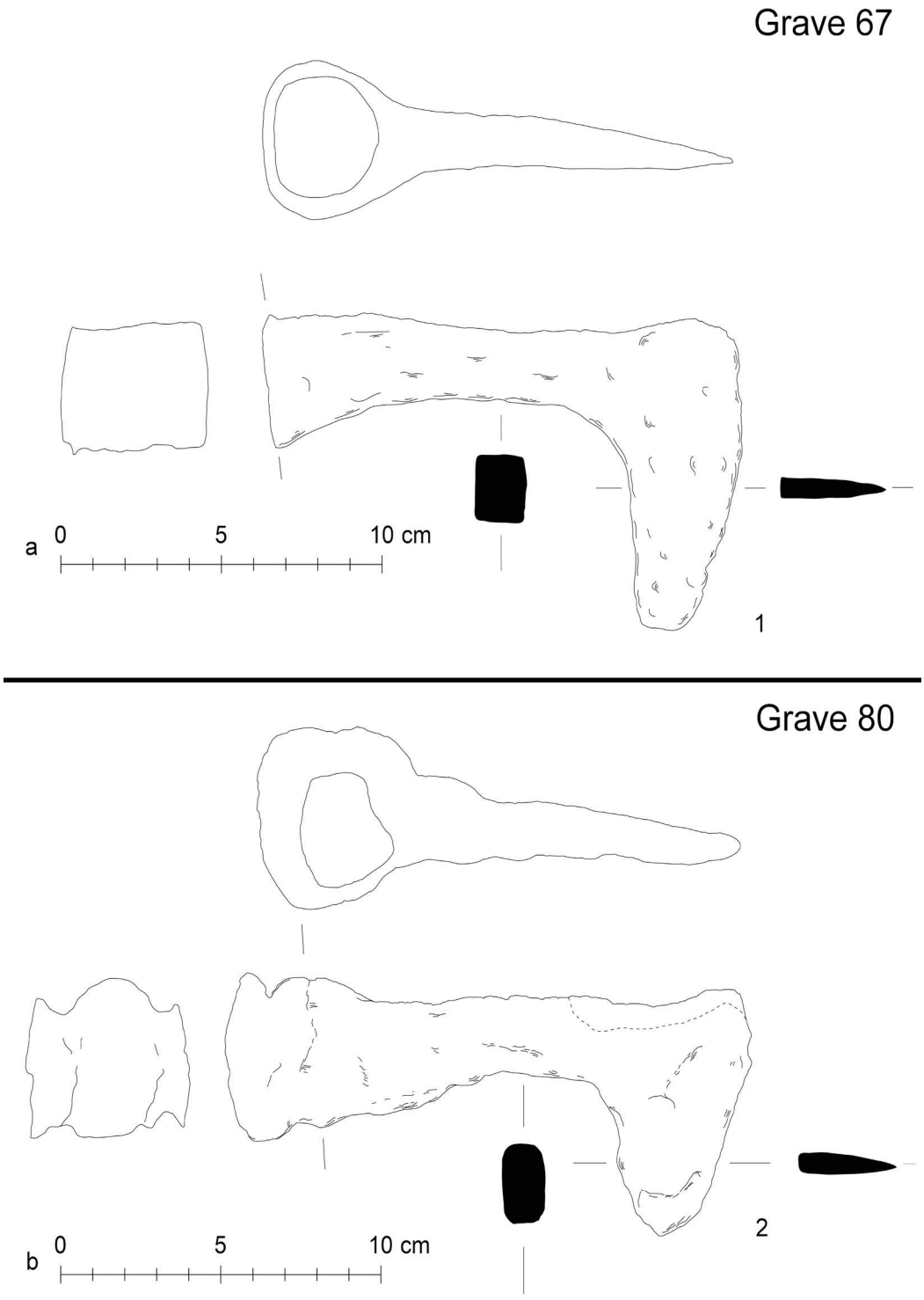

Plate VI. Ivanka pri Dunaji-Farkasek. Grave 67: 1 – axe head. Grave 80: 2 – axe head. All iron. Scale: a – 1; b – 2. (drawings: Eva Šebestová, Martin Husár).

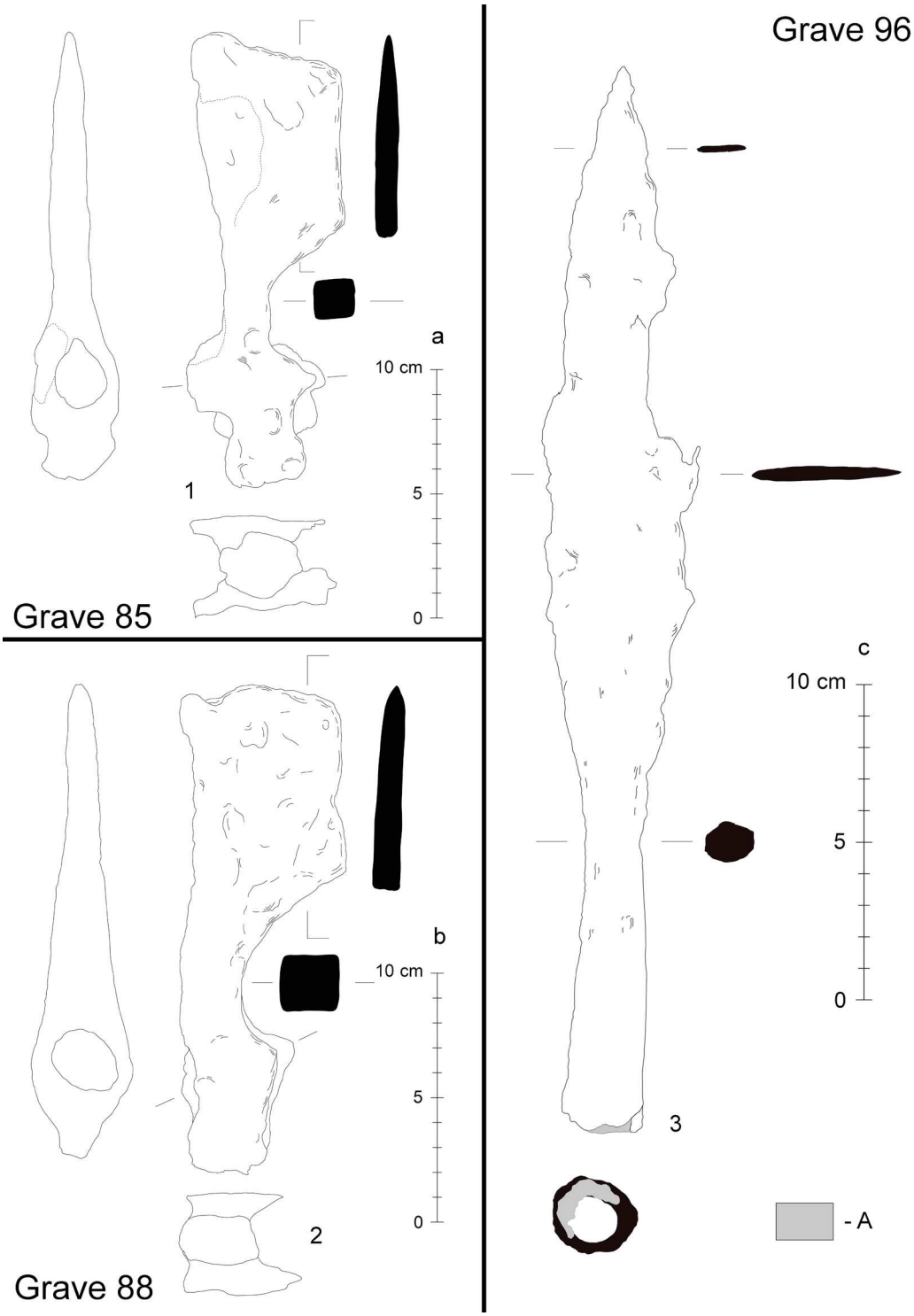

Plate VII. Ivanka pri Dunaji-Farkasek. Grave 85: 1 – axe head. Grave 88: 2 – axe head. Grave 96: 3 – spearhead; A – remains of the wood. All iron. Scale: a – 1; b – 2; c – 3. (drawings: Eva Šebestová, Martin Husár).

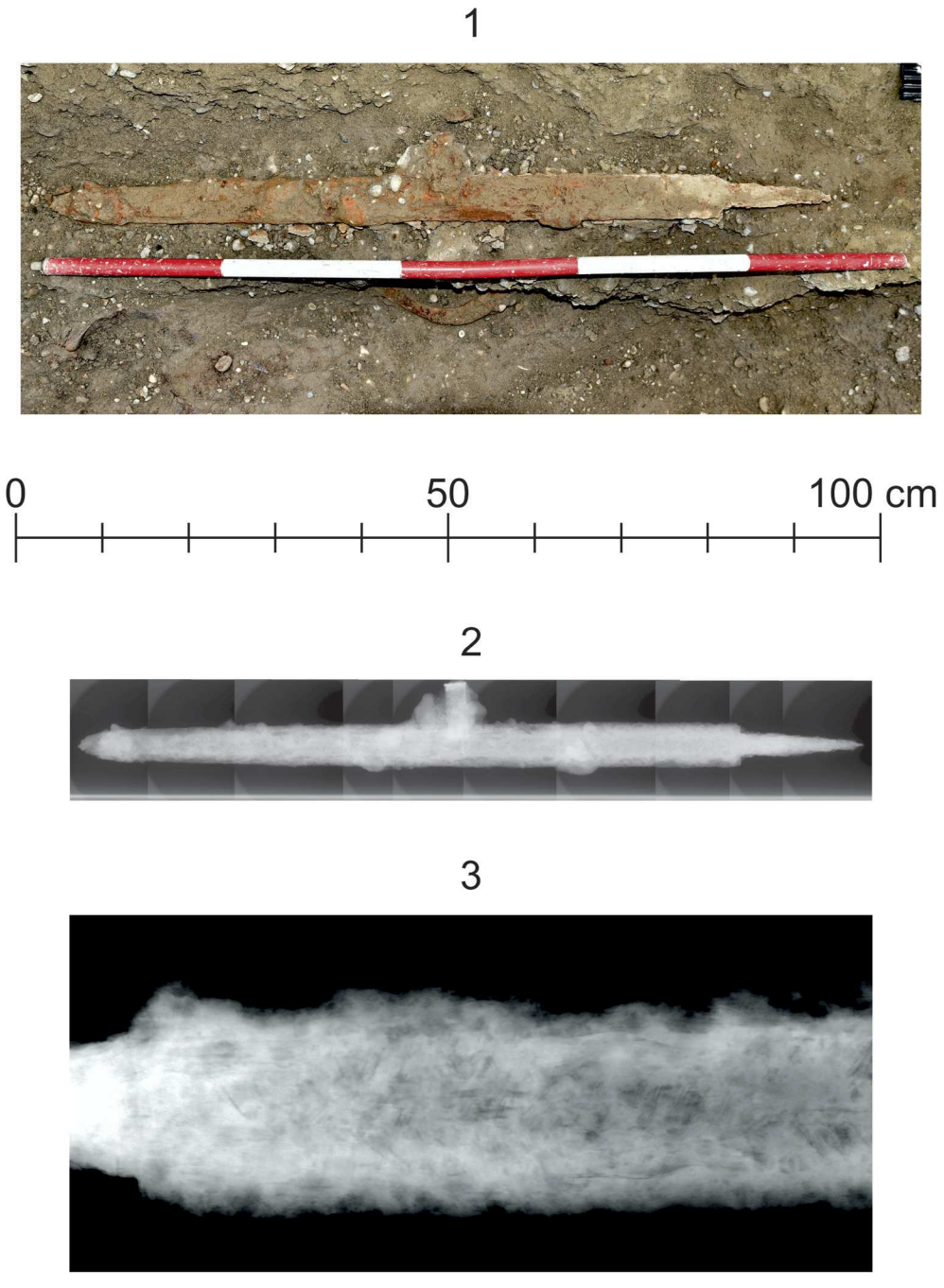

Plate VIII. Ivanka pri Dunaji-Farkasek. Grave 17: 1 – sword in its original place (in situ) within the grave. 2 – X-ray photograph of the sword. 3 – X-ray photograph of part of the sword's blade with pattern welding. 1-3 iron, wood, fabric. Scale: 1-2 – to scale; 3 – not to scale. (authors: 1 – photograph by Tomáš Molota; 2-3 – photograph by Jiří Hošek and Estelle Ottenwelter).