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## SREDNJOVJEKOVNA KONJANIČKA OPREMA I NAORUŽANJE S PODRUČJA BILOGORE

### MEDIEVAL RIDING GEAR AND WEAPONS FROM THE BILOGORA AREA

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*Konjanička oprema (oprema konja i jahača, ubrojivo i oružje) kao arheološki materijal vrlo je važna ne samo za uspostavljanje kronologije egzistiranja pojedinih gradišta, nego i za cijelo kulturno određenje pojedinoga područja. Iako na većini srednjovjekovnih lokaliteta sjeverne Hrvatske istraživanja nisu provedena, predmeti ove vrste iz fundusa bjelovarskog i koprivničkog muzeja upućuju na mogućnost njihova datiranja od 14. do 15. st. te na kulturne utjecaje nastale miješanjem europskih i istočnih tradicija s ishodištem u Kijevskoj Rusiji. Analizom buzdovana, topuza, strelica za samostrel, ostruga, stremena i potkova te njihovim datiranjem moguće je također dopuniti ili korigirati podatke iz povijesnih vrela.*

*Ključne riječi: konjanička oprema, naoružanje, topuz, buzdovan, strelica, stremen, ostruga, potkova, žvale*

*Riding gear (gear for horses and riders, including weapons) as an archaeological material is very important not only for the determination of a chronology for the existence of individual medieval fortified settlements, but also for the entire cultural designation of a given region. Although most medieval sites in Croatia have not been researched, items of this type from the collections of the museums in Bjelovar and Koprivnica indicate the possibility of their dating to the fourteenth and fifteenth centuries and the cultural influences which were engendered by the intermingling of European and Oriental traditions, which had their wellspring in Kievan Rus'. An analysis of maces, clubs, crossbow arrows, spurs, stirrups and horseshoes and their dating can also be used to supplement or correct data from the historical sources.*

*Key words: riding gear, weapons, club, mace, arrowheads, stirrup, spur, horseshoe, bridle*

Valorizacija srednjovjekovlja kontinentalnoga dijela Hrvatske dosta je teška jer slabo stanje istraživanja brojnih lokaliteta ne omogućava sintetske interpretacije pojedinih njegovih segmenata. Sjeverna Hrvatska, kojoj pripada i područje Bilogore, nije nikakav izuzetak te je stoga nužno koristiti svaku prigodu za objavljivanje svih vrsta arheološkoga

Evaluation of the medieval heritage of the continental section of Croatia is quite difficult, for the meagre level of research into numerous sites does not allow for a synthetic interpretation of individual segments thereof. Northern Croatia, to which the Bilogora region belongs, is no exception, and it is therefore necessary to take every opportunity to publish all

materijala pohranjenog u fundusima naših muzeja, iako on možda nije ni posebno atraktivan niti je sustavno prikupljen istraživanjima. Za ovu prigodu, kao vrlo indikativne, prezentirat ćemo slučajne nalaze konjaničke opreme s bilogorskih lokaliteta Kamengrad, Bjelovar, Stare Plavnice, Kupinovac, Šandrovac, Bačkovica, Gudovac i Narta. Prezentirani materijal razmotrit ćemo po karakterističnim grupama (metalno oružje, oprema jahača i konja), uz napomenu da je riječ isključivo o predmetima iz fundusa bjelovarskog muzeja te da u kataloškom i tabelarnom prikazu neće biti zastupljen materijal s Kamengrada, koji je već objavio Ž. Demo (1984). S područja Bilogore još se samo nekoliko predmeta ove vrste čuva u nekadašnjem Vojnom muzeju JNA u Beogradu (Pribaković 1956: 115, T. II/1, 2, 4; 119, T. III/2, 6–10), no taj nam je materijal nedostupan i trenutno ga je nemoguće katalogizirati.

## TOPUZI I BUZDOVANI

Najzanimljiviji predmeti svakako su slučajno nađeni željezni i brončani topuzi i buzdovani iz Kamengrada, Gudovca i Bjelovara. Topuzi i buzdovani najčešće su oružje pješaka za blisku borbu, ali nisu nepoznati ni u konjaničkom arsenalu. Kamengradskom topuzu, okrugle ili loptaste glavice s 12 romboidnih istaknutih izbočenja, prema obliku i izgledu teško je naći analogiju u sjevernoj Hrvatskoj (Demo 1984: sl. 6). U Hrvatskom povijesnom muzeju u Zagrebu čuvaju se samo dva slična primjerka od bakra i bronce, s 12, odnosno 6 romboidnih izbočina, koje M. Šercer određuje kao turske i datira na prijelaz 14. u 15. st. (1972: n. 26, 27, T. 5/26, 27). Bjelovarski primjerci topuza imaju pak četvrtastu osnovu te piramidalne završetke različitih veličina i orijentacije, dok je gudovački buzdovan lukovičastog oblika s perima koja izvire iz tijela. Usprkos nedostatku izravnih analogija svakako treba spomenuti najznačajnije elemente razvojnog puta tog oružja i spomenuti da najranije njegove "pretke" trebamo tražiti na istoku.

Uvriježeno je mišljenje da su to oružje u središnju Europu u 13. st. donijeli Kumani, a da mu izvorište treba tražiti kod južnoruskih konjaničkih naroda, poglavito Pečenega, koji su živjeli u srednjem Podnjeprovlju na području današnjeg Kijeva (Karger 1951: 33). To se ponajprije odnosi na zvjezdolike oblike buzdovana (*Morgenstern*, *Morning Star* i sl.), koji su u sovjetskoj literaturi datirani od 10. do 13. te od 11. do 14. st. A. N. Kirpičnikov ustrojio je podjelu na šest osnovnih tipova tih buzdovana, koji su imali osnovu kocke sa simetrično raspoređenim piramidalnim izbočinama (Kirpičnikov 1966), a podrijetlo im traži još dalje na azijskom Istoku (istočni

manner of archaeological materials stored in the collections of local museums, even if they are not particularly attractive – nor systematically gathered during the course of research. For the purposes of this paper, components of riding gear from the Bilogora sites of Kamengrad, Bjelovar, Stare Plavnice, Kupinovac, Šandrovac, Bačkovica, Gudovac and Narta, discovered by chance, will be presented as indicative. The materials presented here will be examined by characteristic groups (metal weapons, gear for horses and riders); it should be noted here that only items from the collection of the Bjelovar museum will be covered, and that the catalogue and tables will not contain materials from Kamengrad which were already published by Ž. Demo (1984). Only a few other items of this type from Bilogora are held in the former Yugoslav People's Army Military Museum in Belgrade (Pribaković 1956: 115, pl. II/1, 2, 4; 119, pl. III/2, 6–10), but these materials were inaccessible and cannot currently be catalogued.

## CLUBS AND MACES

The most interesting items are certainly the unintentionally discovered iron and bronze clubs and maces from Kamengrad, Gudovac and Bjelovar. Clubs and maces are most often infantry weapons for hand-to-hand combat, but they were not entirely unknown to the cavalry arsenal. In Northern Croatia it is difficult to find analogies in shape and appearance to the Kamengrad mace, with its round or spherical head with 12 prominent rhomboid spikes (Demo 1984: fig. 6). Only two similar examples made of copper and bronze are held in the Croatian Historical Museum in Zagreb, with 12 and 6 rhomboid spikes, which M. Šercer specified as Turkish and dated to the turn of the fourteenth into the fifteenth century (1972: n. 26, 27, pl. 5/26, 27). The Bjelovar examples of maces have quadrilateral bases and pyramidal ends of different sizes and orientations, while the Gudovac mace is onion-shaped with flanges that protrude from the body. Despite the lack of direct analogies, the most important elements of the developmental path of this weapon should be highlighted, and it is worthwhile noting that its earliest "predecessors" should be sought in the East.

The prevailing view is that these weapons were brought to Central Europe in the thirteenth century by the Cumans, and that their source should be sought among the South Russian equestrian peoples, primarily the Pechenegs, who lived in the central Dnieper River valley in the territory of to-

Turkestan, područje Hazara) u 11. st. Objavom materijala s rumunjskog lokaliteta Bisericuța-Garvăn I. Barnea pokazao je kako je tijekom 13. st., vjerojatno zbog provale Tatara, to oružje migriralo prema Europi (Barnea 1967: 338–340, sl. 184: 24–26). Slične primjerke nalazimo i u Slovačkoj sredinom 14. st. (Ruttkey 1976: 315–317) te Mađarskoj, na temelju kojih je L. Kovács ustrojio podjelu razvoja buzdovana od 11. do 14. st. u pet osnovnih tipova (1971). Ta podjela slična je podjeli A. Demmina, a od materijala koji je Demmin publicirao vrlo su zanimljivi bačvasti buzdovani 13–14. st. iz Stockholma (oni su jedna od inačica “sferoidnih” oblika, v. Demmin 1893: 786, sl. 4) te buzdovani s osam pera iz Budimpešte, kakvi su česti i u Hrvatskoj (*ibid.* 788, sl. 15). Za razliku od Demmina Kovács buzdovane s bačvastom glavicom datira stoljeće ranije (tip 3 – 12. st.; tip 5, okrugle glavice s 12 romboidnih izbočenja – 12. do prve polovine 13. st., v. Kovács 1971: 166, sl. 1/5; 177, sl. 6/5). Što se pak mađarskih nalaza tiče, nipošto se ne smije izostaviti primjerak koji je objavio J. Kalmár (1964: 34, T. IX/10), a koji je najbližiji našem kamengradskom. Autor taj oblik svrstava u tzv. tip Keleti i datira u 14. i početak 15. st.

Bjelovarski primjerci topuza kronološki su različiti. Stariji tip (kat. br. 3), iako ishodište ima u Kirpičnikovljevu tipu I (1966: T. XXV/1, 2), ipak – uz određene modifikacije – pripada njegovu tipu IV (*ibid.* T. XXVI/4). Karakteristika su tog tipa četiri središnja velika te osam malih bočnih završetaka, koji na svojim spojevima imaju mala graškolika ispupčenja. Prema Kirpičnikovu riječ je o konstrukcijskom poboljšanju udarne moći topuza (silina udara prelazi na nekoliko susjednih završetaka), a nedekorirane oblike nalazimo na široku području Kijevske Rusije, od srednjeg Podnjeprovlja do Zakarpaća (npr. lokaliteti Zelenča, Kijev, Babiči, Vasiljev, Bukrin, Riga itd.). Najveći dio tog materijala nađen je u istraživanjima naselja stradalih u mongolskim provalama i datira se u 12. – prvu polovinu 13. st. I u Kovácsovoj tipologiji primjerak kat. br. 3 pripada tipu IV, ali s nešto kasnijim datiranjem, od 12. do 14. st. (Kovács 1971: 176, T. 4/4). Shodno tomu bjelovarski primjerak treba datirati u 14. st., s napomenom da oblikovne inačice možemo naći i u zapadnom (Ludbreg, v. Bošković 2003: 166, kat. br. 24) i u istočnom dijelu sjeverne Hrvatske (Trpinja, Dalj, v. *ibid.* 166–167, kat. br. 25, 27).

Drugi bjelovarski primjerak topuza (kat. br. 2) također pripada oblicima s piramidalnim završecima te ga također treba klasificirati u tip IV prema Kirpičnikovu i Kovácsu. Riječ je o završnim oblicima toga tipa, u kojima se, pored karakteristične piramidalne građe glavice topuza, nasadni dio na drveni držak znatno izdužuje, a javlja se i tjemeni prsten,

day’s Kiev (Karger 1951: 33). This primarily pertains to the star-shaped clubs (*Morgenstern*, Morning Star, etc.), which the Soviet literature dated to the tenth to thirteenth centuries and from the eleventh to fourteenth centuries. A. N. Kirpičnikov set up a division into six basic club types, which had as bases cubes with symmetrically arranged pyramidal spikes (Kirpičnikov 1966), while their origin should be sought in the Orient (Eastern Turkestan, Khazar territory) in the eleventh century. With publication of the materials from the Bisericuța-Garvăn site in Romania, I. Barnea demonstrated that during the thirteenth century, probably due to a Tartar incursion, this weapon migrated to Europe (Barnea 1967: 338–340, fig. 184: 24–26). Similar examples can be found in Slovakia, dated to the mid-fourteenth century (Ruttkey 1976: 315–317), and in Hungary, based upon which L. Kovács established a breakdown of club and mace development from the eleventh to fourteenth centuries into five basic types (1971). This breakdown is similar to that of A. Demmin, and among the materials published by Demmin, the barrel-headed maces from Stockholm of the thirteenth/fourteenth centuries are quite interesting (these are one of the variants of “spheroid” forms, see Demmin 1893: 786, fig. 4), as are the maces with eight flanges from Budapest, which are also frequent in Croatia (*ibid.* 788, fig. 15). As opposed to Demmin, Kovács dated barrel-headed maces a century earlier (type 3 – 12<sup>th</sup> cent.; type 5, round head with 12 rhomboid spikes – 12<sup>th</sup> to first half of 13<sup>th</sup> cent., see Kovács 1971: 166, fig. 1/5; 177, fig. 6/5). As to the Hungarian finds, one item that must not be overlooked is the example published by J. Kalmár (1964: 34, pl. IX/10) that is most similar to the Kamengrad piece. Kalmár classified into the so-called Keleti type and dated to the fourteenth and early fifteenth centuries.

The Bjelovar examples of maces are chronologically different. The older type (cat. no. 3), even though based on Kirpičnikov’s type I (1966: pl. XXV/1, 2), nonetheless – with some modifications – belongs to his type IV (*ibid.* pl. XXVI/4). A characteristic of this type is the four large central and eight small lateral studs, which have small pea-shaped protrusions where they are connected. According to Kirpičnikov, these are structural improvements to the strike force of the mace (the force of impact is distributed to several neighbouring studs), and these undecorated forms can be found in the broad territory of Kievan Rus’, from the central Dnieper Valley to the foot of the Carpathians (e.g. the sites of Zelenča, Kiev, Babiči, Vasiljev, Bukrin, Riga, etc.). Most of these materials were found in research in settlements devastated in the Mongol incursions and they date to the twelfth and first half of the thir-

koji je također u funkciji povećanja snage udarca, ali i stabilnosti glavice na dršku. Daleko ishodište takvih oblika opet trebamo tražiti u Kijevskoj Rusiji (Cimljanskaja, hazarski sloj gradišta, v. Kirpičnikov 1966: T. XXVI/5), dok su nešto bliže analogije na mađarskom lokalitetu Tömör (Kovács 1971: sl. 4/3; sl. 5/3). Međutim bjelovarski primjerak odlikuje se velikom finoćom izrade, bilo da je riječ o izvedbi glavice s piramidalnim završecima ili o nasadnome dijelu. Zbog tih karakteristika svakako ga treba datirati kasnije, odnosno u 15. st.

Buzdovan s lokaliteta Gudovac-Gradina (kat. br. 1) pripada najmlađim Kirpičnikovim tipovima – V i VI (1966: sl. 10). Najstariji primjerak tipa V nađen je u slavenskom sloju lokaliteta Sarkel-Belaja Veža (12–13. st.). Za taj tip karakteristična je loptasta glavica relativno glatke površine, iz koje kasnije nastaje tip VI, sa simetrično postavljenim perima (6–8). Ti tzv. šestoperi nađeni su na lokalitetima Pronsk u Rjazanjskoj, Sahnovka u Kijevskoj i Zvenigorod u Lavovskoj oblasti (Kirpičnikov 1966: 54) te pripadaju 13. st. I dok tip V možemo naći i u zapadnoj Europi 12–13. st. (istočna Pruska, Švedska, Gotland, v. Gaerte 1929: 340, T. XV/e, c; Hildebrand 1884–98: 364, sl. 194, 196, 198, 199), tip VI karakterističan je za područja zapadne Europe od 14. do 16. st. Po svom izgledu gudovački buzdovan vrlo je sličan gotičkim primjercima iz Budimpešte (Kalmár 1964: T. X/3, 4), a od njih se razlikuje jedino po broju pera (10) i njihovim nešto zaobljenijim hrptovima. S obzirom na karakteristike gudovački primjerak treba datirati u 16. st.

## STRELICE

Strelice kao vrsta oružja u našem srednjovjekovlju uglavnom su pješačko naoružanje, iako su ih poznavali još stepski konjanički narodi. Ovdje ih spominjemo stoga što one također mogu doprinijeti općoj kronološkoj slici bilogorskih lokaliteta. Najviše ih je nađeno u Gudovcu (10), Narti (5) i Kupinovcu (4) te u Starim Plavnicama, Šandrovcu (2), Bačkovici (2) i na Kamengradu (3). Šest primjeraka strelica (kat. br. 4–9) predstavlja oblikovne i metričke primjere svih ostalih (neobjavljenih). Budući da ni ta vrsta materijala nije kod nas dovoljno istražena, ponovno ćemo se pokušati poslužiti europskim analogijama.

Željezne strelice razlikujemo po presjeku između završetka pera i tuljca za nasad (mogu biti bikonveksni, rombični i romboidni), a najlogičnije njihovo podrijetlo možemo tražiti u staroj Rusiji. Takvi oblikovni primjerci bili su rasprostranjeni ponajprije ispod zapadnih ruskih granica, a istočni Slaveni prihvatili su ih od svojih zapadnih susjeda. Nalazi

teenths centuries. Even in the typology by Kovács, the example under cat. no. 3 belongs to type IV, but with somewhat later dating, from the twelfth to fourteenth centuries (Kovács 1971: 176, pl. 4/4). In this regard, the Bjelovar example should be dated to the fourteenth century, with the specification that variants of this form can be found in both the western (Ludbreg, see Bošković 2003: 166, cat. no. 24) and eastern parts of Northern Croatia (Trpinja, Dalj, see *ibid.* 166–167, cat. nos. 25, 27).

The second Bjelovar example of a mace (cat. no. 2) also belongs to the forms with pyramidal studs, and they can also be classified as type IV according to Kirpičnikov and Kovács. These are the final forms of this type, in which, besides the characteristic pyramidal structure of the mace head, the shaft portion on the wooden handle is considerably extended, with a ring on the crown which also functioned to increase the force of impact and stabilize the head on the handle. The distant origin of these forms should again be sought in Kievan Rus' (Cimljanskaja, the Khazar layer of the fortification, see Kirpičnikov 1966: pl. XXVI/5), while somewhat nearer analogies can be found at the Hungarian site of Tömör (Kovács 1971: figs. 4/3, 5/3). However, the Bjelovar example is characterized by the great refinement in rendering, whether the rendering of the head with pyramidal tips or in the shaft section. These characteristics indicate that it should certainly be dated later, to the fifteenth century.

The club from the Gudovac-Gradina site (cat. no. 1) belongs among Kirpičnikov's youngest types: V and VI (1966: fig. 10). The oldest example of type V was discovered in the Slavic layer of the Sarkel-Belaja Vezha site (12<sup>th</sup>–13<sup>th</sup> cent.). A ball-shaped head with a relatively smooth surface is characteristic of this type, from which type VI later emerged, with symmetrically placed flanges (6–8). These so-called six-flange maces were discovered at the Pronsk site in the Rjazan province, Sahnovka in the Kiev province, and Zvenigorod in the Lviv province (Kirpičnikov 1966: 54) and they date to the thirteenth century. And while type V could be found in Western Europe as well in the twelfth and thirteenth centuries (East Prussia, Sweden, Gotland, see Gaerte 1929: 340, pl. XV/e, c; Hildebrand 1884–98: 364, figs. 194, 196, 198, 199), type VI is characteristic of Western Europe from the fourteenth to sixteenth centuries. The appearance of the Gudovac club is very similar to the Gothic examples from Budapest (Kalmár 1964: pl. X/3, 4), and they differ from them only in the number of flanges (10) and their somewhat rounded spines. Given its characteristics, the Gudovac example should be dated to the sixteenth century.

iz Njemačke, Poljske i bivše Čehoslovačke pokazuju da je njihova primjena bila vrlo široka (v. npr. Červinka 1928: 212, T. 80/4–8; Niderle 1956: 377, sl. 119/14–16). Međutim rombični ili romboidni presjeci autohtoni su za Rusiju, poglavito za Prikamaljsku (Perm) oblast, a njima treba pridodati i oštrolistno pero. Kronološki ih možemo pratiti od prijelaza 7/8. st. pa sve do 14. st., a naročito mnogo nađeno ih je na gradištima i u mogilama uz rijeku Vjatka. Ostaje otvoreno pitanje jesu li ti oblici preuzeti od ugro-finskih naroda, ali je činjenica da manje dimenzije takvih strelica na području uz rijeku Vjatka imamo već u 1. tis. pr. Kr.

Ako promotrimo materijal s bilogorskih lokaliteta, vidjet ćemo da su oblikovno i tipološki najstariji vršci željeznih strelica s Kamengrada. Prema relevantnoj tipologiji A. F. Medvedeva dvije kamengradske strelice oštrolistnog oblika (Demo 1984: sl. 7/1, 3) najbliže su njegovu tipu 4 (Medvedev 1966: 57, T. 30/A 4). Taj tip (autor ga datira od 7. do 11. st.) bio je rasprostranjen kod sjeveroistočnih finskih plemena te ispod zapadnih ruskih granica, a u samoj Rusiji nalazimo ga npr. na mališevskoj mogili (Ivanovska oblast, 7–11. st., v. Dubynin 1949), na gradištima Hotomelj (Brestska oblast u današnjoj Bjelorusiji, 8–10. st., v. Kuharenko 1957: 90–97) i Duna (Kaluška oblast, 9–12. st., v. Gendune 1904: 14) te u kurganu X kod Barde (Žitomirska oblast u današnjoj Ukrajini, 10. st., v. Medvedev 1966: 57). Prema kronologiji A. Ruttkaya, temeljenoj na slovačkom materijalu, takve strelice pripadale bi tipu A7b i razdoblju 9–10. st. (1976: 329), iako su poznati i slični primjerci iz 13. st. Strelice je tipizirao i A. Nadolski, a oblik o kojem je riječ smjestio je u tip II i temeljem nalaza iz Poljske datirao u 10–12. st. (1954: 270, T. XXX/7). Treću i četvrtu kamengradsku strelicu (Demo 1984: sl. 7/4, 7/5), koje su zapravo vršci strelica za samostrel, odlikuje romboidni šiljak, oblik koji Medvedev uvrštava u svoj tip 3 i datira u široko razdoblje od 7/8. do 14. st. (1966: 56, T. 30/3), a Ruttkay u svoju grupu A8 i razdoblje 9–13. st. (1976: 329). Treća i četvrta kamengradska strelica razlikuju se po tome što potonja ima trn za nasad, ali obje pripadaju strelicama rombičnog presjeka. Sukladno navedenim analogijama kamengradske strelice ne treba datirati prije 13. st., dok strelice samostrela možemo datirati u drugu polovinu 14. st.

Što se pak tiče strelica s ostalih lokaliteta ove studije (riječ je isključivo o vršcima strelica za samostrel), prvi je zaključak da su one rađene u isključivo domaćoj produkciji. Osim vrlo neprecizne izvedbe karakterizira ih i to da su tuljci za nasad uglavnom duži od samoga šiljka (mogu biti okrugli, npr. Narta, kat. br. 7, 9, ili stožasti, npr. Šandrovac, kat. br. 6), a šiljci pretežno imaju nepravilan piramidalni završetak (npr.

## ARROWHEADS

Arrows as a type of weapon in medieval Croatia were generally used by ground troops, even though they were known to the equestrian steppe peoples. They are covered here because they can also contribute to the general chronological picture of the Bilogora sites. Most of them were found in Gudovac (10), Narta (5) and Kupinovac (4), and in Stare Plavnice, Šandrovac (2), Bačkovica (2) and at Kamengrad (3). Six arrowheads (cat. nos. 4–9) constitute formational and metric examples for all of the rest (unpublished). Since even this type of material has not been sufficiently researched in Croatia, an attempt will be made to use European analogies here as well.

Iron arrowheads are distinguished by the cross-section between the end of the flange and the shaft socket (they may be biconvex, rhombic or rhomboid), and their most logical place of origin is early Russia. Such formational examples were widespread primarily below the western Russian border, and the East Slavs assumed them from their western neighbours. Finds from Germany, Poland and the former Czechoslovakia show that their application was quite widespread (see, e.g., Červinka 1928: 212, pl. 80/4–8; Niderle 1956: 377, fig. 119/14–16). However, rhombic or rhomboid cross-sections are indigenous to Russia, particularly in the Prikamye/Perm province, and the sharp-leaved flange should be added to these. Chronologically they can be followed from the turn of the seventh/eighth centuries until the fourteenth century, and a considerable number were found at the fortified settlements and in funeral mounds along the Vyatka River. The question remains as to whether these forms were assumed from the Ugro-Finnish peoples, but the fact remains that the smaller dimensions of such arrowheads in the aforementioned zone along the Vyatka River had existed already in the first millennium BC.

If the materials from the Bilogora sites are examined, one can observe that formationally and typologically the oldest iron arrowheads are from Kamengrad. According to the relevant typology by A. F. Medvedev, the two Kamengrad arrowheads with sharp-leaved form (Demo 1984: fig. 7/1, 3) are closest to his type 4 (Medvedev 1966: 57, pl. 30/A 4). This type (the author dates it to the 7<sup>th</sup>–11<sup>th</sup> centuries) was widespread among the north-east Finnish tribes and below the Russian western border, while in Russia itself it can be found, e.g. at the Malyshev funeral mound (Ivanovo province, 7<sup>th</sup>–11<sup>th</sup> cent., see Dubynin 1949), at the fortified settlements of Chatomiel (Brest province in today's Belarus, 8<sup>th</sup>–10<sup>th</sup> cent., see Kuharenko 1957: 90–97) and Duna

Gudovac, kat. br. 8, Narta, kat. br. 9, Kupinovac, kat. br. 4). Iako oblikovno sličnih primjeraka iz Hrvatske ima dosta (npr. primjerku iz Gudovca sličan je primjerak pronađen u Kninu, v. Bošković 2000: 70–71, kat. br. 113, sl. 105), vrlo ih je teško tipizirati, ali od njih svakako treba izdvojiti primjerke iz Starih Plavnica (kat. br. 5) i Šandrovca. Naime riječ je o obliku koji je Medvedev svrstao u drugu varijantu tipa 78 (1966: 80, T. 25/18) i datirao u 11–14. st., a jedina je razlika u tome što ruski primjerak ima trn koji izlazi iz okruglog tuljca za nasad. Taj oblik karakterističan je i za Ruttkayev tip B 11, a u poljskom materijalu prepoznaje ga i Nadolski, koji smatra da je riječ o strelici samostrela (1954: 65, T. XXXII/5). Pálóczi-Horváth analogiju tom obliku nalazi u kumanskom grobu iz karpatskog Csólyosa 13. st. (1969: 119, sl. 2/3), što govori da sve bilogorske primjerke strelica osim kamengradskih možemo datirati najranije u 14. st., odnosno točnije, od 14. do 16. st.

## STREMENI

Na području Bilogore nađeno je pet primjeraka stremena različitih oblika te i oni zaslužuju podrobniju analizu. Promotrimo li tipologiju stremena temeljenu na brojnim europskim nalazima, vidjet ćemo da se stremeni ovisno o obliku dijele na dva osnovna tipa: prva je grupa stremena ovalnih, a druga trokutastih ili trapezastih oblika. Ovalne oblike možemo smatrati klasičnim importom ili pod velikim utjecajem istočnih prostora iza Karpata, najintenzivnijim od druge polovine 10. do polovine 11. st. Naime nalazi u pečeneškim kurganima govore da upravo ondje treba tražiti njihovo podrijetlo. Tako npr. S. A. Pletneva iscrpno dokumentira nalaze iz kurgana Pečenega, Turaka i Polovaca iz južnoruskim stepa te ih klasificira i datira prema konjaničkoj opremi, oružju, uporabnim predmetima i ukrasima (1958). Pojavu stremena ovalnog oblika s petljom za pričvršćivanje remena stavlja u 9–10. st. (Sarkel-Belaja Veža i Pokrovskeje u Rostovskoj oblasti, v. Pletneva 1958: 157, sl. 3/2, 4, 6, 8, 10), a njihove prethodnike nalazi u mogilama 7–8. st. na sjevernome Kavkazu (Saltovo). U rostovskim kurganima ovalni oblici stremena protežu se i kroz cijelo 10. do početka 11. st., a nalazimo ih i u kurganima u Odeskoj oblasti (Pavlovka, v. Pletneva 1958: 158, sl. 4/9, 10). Inačice tih najstarijih oblika s petljom za pričvršćivanje remena, koji se mogu datirati u 9–10. st., možemo naći kao inventar grobova u Gornjem Potisju (npr. grob 6 iz Rakamaza kraj Tokaja, v. Fodor 1985: 34–35), a nešto mlađe primjerke iz 10–12. st. u Hrvatskoj nalazimo u istočnoj Slavoniji (Bošković 2003: 171, kat. br. 58).

(Kalush province, 9<sup>th</sup>–12<sup>th</sup> cent., see Gendune 1904: 14) and in kurgan X at Barda (Zhytomyr province in today's Ukraine, 10<sup>th</sup> cent., see Medvedev 1966: 57). According to the A. Ruttkay's chronology, based on Slovak materials, such arrowheads would belong to type A7b and the ninth/tenth centuries (1976: 329), although similar examples from the thirteenth century are known. Arrowheads were also typologized by A. Nadolski, and he placed the form in question here into type II, and based on examples from Poland he dated them to the tenth to twelfth centuries (1954: 270, pl. XXX/7). The third and fourth Kamengrad arrowheads (Demo 1984: figs. 7/4, 7/5), which are actually the heads of crossbow bolts, are characterized by their rhomboid points, a form which Medvedev classified as type 3 and dated to a broad period from the seventh/eighth centuries to the fourteenth centuries (1966: 56, pl. 30/3), while Ruttkay placed them in his group A8 and the ninth to thirteenth centuries (1976: 329). The third and fourth Kamengrad arrowheads differ from each other in that the latter has a tang for the socket, even though both are arrowheads with rhomboidal cross-sections. In line with these analogies, the Kamengrad arrowheads should not be dated prior to the thirteenth century, while the crossbow bolts can be dated to the latter half of the fourteenth century. As for arrowheads from other sites in this study (exclusively the heads of crossbow bolts), the first conclusion is that they are solely the outcome of domestic production. Besides very imprecise rendering, they are also characterized by shaft sockets that are longer than the point itself (they may be round, e.g. Narta, cat. nos. 7, 9, or conical, e.g. Šandrovac, cat. no. 6), while their points generally have irregular pyramidal tips (e.g. Gudovac, cat. no. 8, Narta, cat. no. 9, Kupinovac, cat. no. 4). Even though there are a considerable number of formationally similar examples from Croatia (e.g. the example from Gudovac is similar to the example found in Knin, see Bošković 2000: 70–71, cat. no. 113, fig. 105), they are very difficult to typologize, but the examples from Stare Plavnice (cat. no. 5) and Šandrovac should certainly be distinguished from them. This is a form which Medvedev classified under the second variant of type 78 (1966: 80, pl. 25/18) and dated to the eleventh to fourteenth centuries, with the only difference being that the Russian example has a tang which goes out of the round shaft socket. This shape is also characteristic of Ruttkay's type B 11, while it was also recognized in the Polish materials by Nadolski, who believes that it is a crossbow bolt (1954: 65, pl. XXXII/5). Pálóczi-Horváth found an analogy for this in a Cuman grave from the Carpathian Csólyos dated to the thirteenth century (1969: 119, fig. 2/3), which indicates that all of the Bilogora examples of arrowheads except for the Kamengrad pieces can be dated to the fourteenth

Kao pojedinačne nalaze ovalne oblike (ali bez posebne petlje za remen) možemo pronaći i u tursko-pečeneškim kurganima sve do početka 12. st. (npr. u kurganu 222. Krasnopoljka-Gadomka u Kijevskoj oblasti, v. Pletneva 1958: 169, sl. 9/1), ali oni su početkom 12. st. više izuzetak nego pravilo. Naime evoluciju ovalnih oblika u kvadratno-triangularnu formu, ili izričaj potonjih kao autentični oblik, nalazimo u tim istim kurganima tijekom čitavog 11. st. (npr. kurgani 1. Jablonovka, 271/1. Krasnopoljka, 272. Burti i 317. Zelenki u Kijevskoj oblasti, kurgan 16. Kamenka u Harkovskoj oblasti, kurgan 18. Sarkel-Belaja Veža u Rostovskoj oblasti itd., v. Pletneva 1958: 168, sl. 8/2, 4, 7; 169, sl. 9/2; 170, sl. 10/1, 4), no u 11. st. oni ostaju ipak više na razini lokalne produkcije, bez vidljiva utjecaja na europske prostore, iako i tu ima izuzetaka, kao npr. ostruge iz groba 207 u transilvanskom Ártándu (oblast Hajdú-Bihar) karolinško-normanske varijante 11. st. (*The Ancient Hungarians* 1996: 212, sl. 2).

Ovalni oblik stremena s petljom za pričvršćivanje remena nalazimo pak i u 13–14. st. na području istočne Mađarske (kumanski grobovi u Scóliosu u županiji Bács Kiskun [Pálóczi-Horváth 1969: 111, sl. 2/4, 5; 121, sl. 9, 10] te Kunszentmárton-Jaksorépartu u županiji Szolnok [Szelmeczi 1973: 106, sl. 1]), što svjedoči o nastavku importa i utjecaja takve konjaničke produkcije s Istoka (naravno, postoje i derivati osnovnih oblika, pa čak i različiti oblici – ovalni i triangularni – na istom lokalitetu u istom horizontu, kao npr. na gradu Tepenec u Češkoj, v. Burian 1971: 132, sl. 1, 3). Za problematiku tipologije stremena svakako moramo spomenuti i tipologiju A. N. Kirpičnikova, koji je razradio deset temeljnih tipova (tipovi VII i IX imaju podtipove) i datirao ih od 9. do 13. st. Njegovi tipovi vrlo su zanimljivi jer svi imaju petlju za pričvršćivanje remena, a tip X ima specifičan triangularni oblik s povijenom stajacom površinom. Stremeni tog tipa po njemu pripadaju razdoblju 12. do 14. st. i predstavljaju prijelaz k stremenima zrelog srednjovjekovlja (Kirpičnikov 1973a: 54, sl. 29). Kirpičnikov također smatra da se oni pojavljuju kao europski utjecaj teške konjice nakon 1150–1200. g., a Rusi su ih sporadično upotrebljavali u Donjem Povolžju, Sambiji i Harkovskoj oblasti. Naravno, riječ je o oblikovnim varijacijama koje su bile vrlo slične njegovu tipu VIIa.

Temeljem navedenog moguće je pratiti sinergično djelovanje raznih utjecaja u završnom oblikovanju ovdje opisanih oblikovnih primjeraka te posredno datirati i bilogorske stremene. Već publicirani stremen s Kamengrada (Demo 1984: sl. 9/2) jedini je primjerak koji je, uz svoj kruškoliki oblik i ušicom za pričvršćivanje remena, pogodan za analogiju s istočnomadžarskim materijalom i datiranje u polovinu 14. st. Ostali bilogorski primjerci iz Bačkovice

century at the earliest or, more precisely, from the fourteenth to sixteenth centuries.

## STIRRUPS

Five examples of differently-shaped stirrups were found in the Bilogora area and they merit more detailed analysis. If the typology of stirrups based on numerous European examples is examined, it becomes apparent that based on their shape, stirrups are divided into two basic types: the first group of stirrups is oval, and the second triangular or trapezoidal. The oval shape can be deemed a classical import or as greatly influenced by the eastern zones behind the Carpathians, mostly intensely from the latter half of the tenth century to the mid-eleventh century. Namely, the finds in the Pecheneg kurgans indicate that this is precisely where their origin should be sought. Thus, for example, S. A. Pletneva exhaustively documented finds from the kurgans of the Pechenegs, Turks and Polovtsi from the south Russian steppes, and they have been classified and dated based on riding gear, weapons, articles of everyday use and decorations (1958). Pletneva placed the appearance of oval stirrups with an eye to fasten the straps to the ninth/tenth centuries (Sarkel-Belaja Vezha and Pokrovskoye in the Rostov province, see Pletneva 1958: 157, figs. 3/2, 4, 6, 8, 10), and their predecessors can be found in funeral mounds of the seventh/eighth centuries in the Northern Caucasus (Saltovo). In the Rostov kurgans, the oval stirrups persisted throughout the tenth century into the early eleventh century, and they were also found in the kurgans of the Odessa province (Pavlovka, see Pletneva 1958: 158, figs. 4/9, 10). A variant of these oldest forms with eyes to fasten the straps, which can be dated to the ninth/tenth centuries, can be found as grave goods in the upper Tizsa Valley (e.g. grave 6 in Rakamaz near Tokaj, see Fodor 1985: 34–35), while somewhat younger examples from the tenth to twelfth centuries in Croatia can be found in Eastern Slavonia (Bošković 2003: 171, cat. no. 58).

As individual oval-shaped finds (but without separate stirrup eyes) they could also be found in Turkic/Pecheneg up to the beginning of the twelfth century (e.g. in kurgan 222 at Krasnopolka-Gadomka in the Kiev province, see Pletneva 1958: 169, fig. 9/1), but at the beginning of the twelfth century these were more an exception than a rule. Namely, the evolution of oval shapes into quadratic/triangular form, or the expression of the former as an authentic form, could be found in the same kurgans throughout the eleventh century (e.g. kurgans 1 Yablonovka, 271/1 Krasnopolka, 272 Burty and 317 Zelenki in the Kiev province, kurgan 16 Kamenka in the Kharkiv province, kurgan 18 Sarkel-Belaja Vezha in the Rostov

i Gudovca (kat. br. 11) tu ušicu (ili petlju) nemaju, a karakteriziraju ih – osobito u Bačkovici, gdje su nađena tri – različiti oblici, od kruškolikih (kat. br. 10) preko trapezastih (kat. br. 13) do ovalno-triangularnih (kat. br. 12). Naravno, kao i kod ostalih nađenih predmeta, i bilogorski stremeni podliježu estetskim i funkcionalnim intervencijama domaćih majstora, ali osnovni tipološki elementi upućuju na to da ih sve treba datirati u razdoblje 14–15. st.

## OSTRUGE

Najstarija nama dostupna literatura, koja ostruge obrađuje kao element viteške opreme, spori se o njihovu podrijetlu. Za ostruge relevantne u ovoj studiji bitno je reći da one po obliku i svojoj konstrukciji izvorište najvjerojatnije imaju u vremenu vladanja Karolinga u Franačkoj te da ih u toj formi možemo pratiti sve do kraja 11. st. Takav oblik (duži trn koji izvire iz vrata te prema krajevima prošireni krakovi) sukladan je novoj konjaničkoj obući. Zschille i Forrer smatraju da su osnove tih karolinških ostruga nastale na sjeveroistoku Europe, a da su evoluirale tijekom seobe slavenskih plemena na jug te u sebi derivirale i njihove tradicijske elemente (Zschille & Forrer 1899: 9). Zschille i Forrer ostruge dijele u pet temeljnih tipoloških skupina (11. st. – vrijeme Prvoga križarskog rata, 12–13. st. – vrijeme drugih križarskih ratova, 14–15. st. – ranogotički, 15. st. – gotički, 15–16. st. – kasnogotički tip), koje su općeprihvaćene i od suvremenijih autora. S obzirom na vrstu bilogorskih nalaza treba precizirati da u našoj studiji razmatramo isključivo problematiku ostruga s kotačićem (zvezdicom).

Zvezdica na ostruzi vrlo je revolucionarna novina u konstrukciji ostruge – pokretna je (vrti se oko svoje osi na usječenom vratu) i vrlo efikasna u podbadaњу konjskih slabina. Ta novina prema Zschilleu i Forreru (1899: 12) i A. Demminu (1893: 617) uvedena je krajem 13. i početkom 14. st. kao rezultat važnosti konjice u tadašnjem ratovanju. Tu dataciju prihvaćaju npr. i J. Szendrei, koji na taj način datira ostruge s mađarskog lokaliteta Sümeg (županija Zala, v. Szendrei 1896: 235–236, nr. 744), te Z. Hilczerówna, koja ih svrstava u svoj tip III (tipologija temeljena na poljskom materijalu, v. Hilczerówna 1956: 62, T. VIII). E. Nickel pak pojavu ostruga s kotačićem datira već oko 1210–1240. g. (1961: 288), što u načelu odgovara Kirpičnikovljevoj dataciji nalaza s područja Kijevske Rusije (1220–1230. g., v. Kirpičnikov 1973: 69; 1976: 49, n. 170, T. XX).

Zvezdica je također, osim samog oblika ostružnog luka i njegovih završetaka te dužine trna, vrlo važan element za dataciju. Naime broj i dužina njezinih

province, etc., see Pletneva 1958: 168, figs. 8/2, 4, 7; 169, fig. 9/2; 170, fig. 10/1, 4), although in the eleventh century they were nonetheless restricted to local production, without visible impact on the wider European zone, even though there were exceptions here, such as, for example, the spurs from grave 208 in the Transylvanian Ártánd (Hajdú-Bihar province) of the Carolingian/Norman variant of the eleventh century (*The Ancient Hungarians* 1996: 212, fig. 2).

The oval-shaped stirrup with eye to fasten the strap could also be found in the thirteenth/fourteenth centuries in the territory of Eastern Hungary (Cuman graves in Scólios in Bács Kiskun County [Pálóczi-Horváth 1969: 111, fig. 2/4, 5; 121, fig. 9, 10] and in Kunszentmárton-Jaksorérpart in Szolnok County [Szelmeczi 1973: 106, fig. 1]), which testifies to the continuation of imports and the influence of this type of cavalry production from the Orient (to be sure, there are also derivatives of the basic form, and even different forms – oval and triangular – at the same site during the same horizon, such as, for example, at the fortress of Tepenec in the Czech Republic, see Burian 1971: 132, figs. 1, 3). The matter of stirrup typology certainly merits consideration of the typology of A. N. Kirpičnikov, who worked out ten basic types (types VII and IX have sub-types) and dated them to the ninth to thirteenth centuries. His types are very interesting because they all have eyes to fasten the strap, while type X has a specific triangular shape with a curved standing surface. Stirrups of this type date from the twelfth to fourteenth centuries and they are a transition to the stirrups of the High Middle Ages (Kirpičnikov 1973a: 54, fig. 29). Kirpičnikov also believed that they appeared as a result of the influence of European heavy cavalry after 1150–1200, while the Russians used them sporadically in the lower Volga Basin, Sambia and the Kharkiv province. Of course, these are formational variants which were very similar to his type VIIa.

Based on this, it is possible to follow the synergetic impact of various influences in the final formation of the aforementioned examples and indirectly date the Bilogora stirrups as well. The already published stirrup from Kamengrad (Demo 1984: fig. 9/2) is the sole example which – with its pear shape and loop-hole to fasten the strap – is suited to an analogy with the Eastern Hungarian materials and dating to the mid-fourteenth century. The remaining Bilogora examples from Bačkovica and Gudovac (cat. no. 11) lack this loop-hole (eye), and they are characterized by various shapes (especially in Bačkovica, where three were found), from pear-shaped (cat. no. 10) through trapezoidal (cat. no. 13) to oval/triangular (cat. no. 12). Naturally, as with the remaining items found, the Bilogora stirrups were subjected to aesthetic and functional interventions



krakova u različito vrijeme na različitim prostorima ostrugu također mogu svrstati u određene tipološke kategorije. Tako npr. zvjezdice njemačkih ostruga 14. st. imaju osam krakova (Demmin 1893: 619), engleske pet, a u 15. st. potonje imaju šest krakova (Praunsperger 1943: 57).

Za dataciju može poslužiti i završna pločica ostruge, odnosno njezin oblik i položaj. Tako npr. kod A. Ruttkaya, koji je ostruge tipologizirao u tri temeljne grupe od po devet, odnosno četiri tipa (stariji oblici bez zvjezdice), te tip C, koji obuhvaća oblike sa zvjezdicom i ima tri podtipa (kronološki, razdoblje od 9. do 14. st.), završna pločica može biti okrugla ili četvrtasta te s jednom ili dvjema probušenim rupama za vezivanje ostruge na obuću (Ruttkay 1976: 347, sl. 72). Ruttkayeva tipologija kronološki je vrlo precizna jer je postavljena na temelju nalaza novca druge polovine 13. st. ili na temelju nalaza iz naseobinskoga horizonta od druge polovine 13. do sredine 14. st. (*ibid.* 351).

Ž. Demo oblike sa zvjezdicom kronološki pokušava odrediti još detaljnije, a za to uzima položaj završne pločice (povijena prema dolje ili ravna) te mjesto njezina spajanja s krakom ostruge (spajanje pločice gornjim dijelom na krak ili svojom sredinom, v. Demo 1984: 326). Taj detalj Ruttkay nije obrađivao (možda zbog nezastupljenosti u slovačkom arheološkom fundusu ili kasnijeg datiranja u polovinu 14. st.), ali Demo smatra da je on vrlo važan.

Prema Kirpičnikovu ruska konjica zbog taktičkih razloga ostruge masovnije počinje upotrebljavati već sredinom 11. st. Po tehničkim elementima ostruge (oblik, završetak, oblik i završetak krakova, oblik završne pločice) on ih dijeli na pet tipoloških oblika (tipovi I i IV imaju svoje podtipove) te ih vremenski smješta u razdoblje od 10. do 13. st. (Kirpičnikov 1973a: 69, sl. 37, 38/1–7). Nama je svakako najzanimljiviji njegov tip V, koji ima oblik između slova "U" i "V", lučno povijene krakove te općenito šestokraku ili osmokraku zvjezdicu, koja može ležati okomito na krakove ostruge ili horizontalno s njima. Pločice na završecima krakova mogu biti okrugle ili četvrtaste s jednom ili dvjema rupama za provlačenje remena, a vremenski se poklapaju sa sličnim nalazima sjeverne Europe (Švedska), odnosno drugom polovinom 13. i početkom 14. st. Sam položaj završne pločice, odnosno njezin odnos prema krakovima ostruge, nije se u kasnijim razdobljima posebno mijenjao (pločica je gotovo ili potpuno paralelna s krakovima), ali se trn ostruge produžava s laganom orijentacijom prema dolje, kao što je to vidljivo na ostrugama iz Praga prve polovine 15. st. (Denkstein 1969: 189, sl. 17). Po obliku i po dataciji slične su i istočnoslovačke ostruge iz Šariša i Kapušanya (Slivka 1981: 275, sl. 13/1, 5, 6).

by domestic craftsmen, but their basic typological elements indicate that they should be dated to the fourteenth/fifteenth centuries.

## SPURS

The oldest literature available to us which deals with spurs as a component of knightly gear disputes their origin. In terms shape and construction, the point of origin of the spurs relevant to this study is mostly likely the era of Carolingian rule in the Frankish lands, and they can be followed in this form up to the end of the eleventh century. Such a form (a longer shank which emerges from the yoke and toward the expanded branches of the heel band) is suited to newer riding footwear. Zschille and Forrer believe that the basics of these Carolingian spurs emerged in North-east Europe, and that they evolved during the migrations of the Slavic tribes southward, during which time their traditional elements were derived (Zschille & Forrer 1899: 9). Zschille and Forrer classified spurs into five fundamental typological groups (11<sup>th</sup> cent. – the time of the First Crusade, 12<sup>th</sup>–13<sup>th</sup> cent. – the time of the other Crusades, 14<sup>th</sup>–15<sup>th</sup> – Early Gothic, 15<sup>th</sup> cent. – Gothic, 15<sup>th</sup>–16<sup>th</sup> cent. – Late Gothic type), which are generally accepted even by more modern scholars. Given the type of Bilogora finds, it should be specified that this study only takes into consideration the issue of spurs with rowels.

The rowel were a very revolutionary novelty in the structure of spurs – it was movable (it spun on its axis on a slotted yoke) and very effective in nudging a horse's flanks. According to Zschille and Forrer (1899: 12) and A. Demmin (1893: 617), this novelty was introduced at the end of the thirteenth and early fourteenth centuries due to the importance of the cavalry in that era's warfare. This dating was, for example, also accepted by J. Szendrei, who dated the spurs from the Hungarian site of Sümeg (Zala County, see Szendrei 1896: 235–236, nr. 744) in this manner, and by Z. Hilczerówna, who classified them into her type III (a typology based on the Polish materials, see Hilczerówna 1956: 62, pl. VIII). E. Nickel dated the appearance of spurs with rowels already to roughly 1210–1240 (1961: 288), which generally corresponds to Kirpičnikov's dating of finds from the territory of Kievan Rus' (1220–1230, see Kirpičnikov 1973: 69; 1976: 49, n. 170, pl. XX).

Over and above the actual shape of the spur's yoke and its ends, and the length of the shank, rowels are also important elements for dating. Namely, the number and length of their points in different places at different times may also place spurs into specific typological categories. Thus, for example, in the fourteenth century the rowels of German spurs

Prema svom obliku kamengradske ostruge, a nađene su ukupno četiri (Demo 1984: sl. 8, 9/1), pripadale bi Ruttkayevu tipu Cb i bile datirane okvirno u polovinu 14. st.. Vrlo su bliske ugarskim nalazima, odnosno ranogotičkom tipu 13–14. st. (Zschille & Forrer 1899: T. XXX/15), iako ih npr. Demo – kombinirajući Ruttkayevu i Kirpičnikovu tipologiju – datira u široko razdoblje od polovine 13. pa do polovine 14. st. (1984: 326, 328). Na kontinentalnom dijelu Hrvatske takvi nalazi ili nisu poznati ili nisu publicirani, ali je nedvojbeno da je kulturni krug u kojem su one egzistirale bio vrlo širok jer ih u dosta veliku broju nalazimo i na području Dalmacije (Vrsalović 1963: 162; najbližnji kamengradskima primjerci su br. 29 i 32 iz Prljeva kod Knina i s nepoznatog nalazišta – T. VIII: 29, T. IX: 32). Naravno da one imaju svoje autohtone karakteristike, ali to ništa ne mijenja u njihovu temeljnom kronološkom određenju. Njihov daljnji razvoj išao je prema maksimalnom pojednostavljenju oblika (ravni, jednostavni krakovi sa završnom pločicom ili bez nje, jednostavni kotačić na kraju trna i sl.) te funkciji ostruge kao lakog “edukativnog” sredstva u sinergiji konja i jahača (Nikolić 1956: 62, sl. 1; 76, sl. 10; 77, sl. 11).

Kamengradske ostruge mogle bi se promatrati i kroz tipologiju G. Nagya, temeljenu na razdobljima vladanja pojedinih ugarskih dinastija. Nagy (1898: 60–64) tzv. tip I. određuje kao arpadovski (11–12. st.), tip II. kao prijelazni (13. st.), tip III. kao sigismundski (14. – početak 15. st.), a tip IV. kao hunjadijevski ili jagelovički (15. st.). Kod njega se ostruge sa zvjezdicom javljaju u II. tipu, kojemu bi pripadala kamengradska ostruga koju Demo datira u početak 14. st. (1984: sl. 8/1). Dvije bi ostruge pripadale trećem, sigismundskom tipu, odnosno polovini 14. st. (*ibid.* sl. 8/2, 8/3; potonju je prvi publicirao i datirao Bach 1947). Četvrtom, hunjadijevskom tipu pripadala bi jedna kamengradska ostruga (Demo 1984: sl. 9/1; Nagy 1898: 64, sl. 3: III).

Tri ostruge nađene na gradištu u Bačkovici (kat. br. 15, 16, 18) imaju ostružni luk u obliku pravilnog slova “U”, ali se međusobno razlikuju po orijentaciji i dužini trna (koso prema dolje ili ravan), njegovu profilu (okrugao ili pravokutan) te izvedbi završnih pločica na krajevima ostruge (u produžetku ostružnog luka ili četvrtaste, izrađene na donjoj strani luka). Zbog dosta nemarne izvedbe i “umjetničke slobode” majstora vidljivo je da je riječ o isključivo domaćoj produkciji, ali rađenoj po mađarskim uzorima druge polovine 14. st. Međutim, uzimajući u obzir već citirani češki i slovački materijal, te ostruge ne treba datirati prije prve polovine 15. st. Od tog dojma ne odstupa ni ostruga iz Gudovca (kat. br. 17), iako se ona po izgledu može uvrstiti u Ruttkayev tip Cb. Na kraju, kao derivat raznih utjecaja

had eight points (Demmin 1893: 619), and English rowels had five, while in the fifteenth century the latter had six points (Praunsperger 1943: 57).

The spur’s end-plate (its shape and position) may also serve to date it. Thus, for example, according to A. Ruttkay, who typologized spurs into three fundamental groups of nine and four types (older forms without rowels) and type C, which encompasses shapes with rowels and has three sub-types (chronological, the period from the ninth to fourteenth centuries), the end plate may be round or quadrilateral with one or two pierced holes to fasten the spur to footwear (Ruttkay 1976: 347, fig. 72). Ruttkay’s typology is chronological very precise because it was established on the basis of coin finds from the latter half of the thirteenth century, or on the basis of finds from the settlement horizon running from the latter half of the thirteenth century to the latter half of the fourteenth century (*ibid.* 351).

Ž. Demo attempted to make a more detailed chronological determination of the shapes with rowels, and for this he used the position of the end-plate (bent downward or straight) and the place where it merges with the spur’s branch (merger of the plate with the branch at its upper portion or middle, see Demo 1984: 326). Ruttkay did not analyze this detail (perhaps due to its absence in the body Slovak archaeological artefacts or later dating to the mid-fourteenth century), but Demo deemed them quite important.

According to Kirpičnikov, for tactical reasons the Russian cavalry already began to use spurs more extensively in the mid-eleventh century. Based on technical elements of the spurs (shape, ends, shape and ends of the branches, shape of the end-plate), he divided them into five typological shapes (types I and IV have sub-types) and chronologically he placed them in the period from the tenth to thirteenth centuries (Kirpičnikov 1973a: 69, figs. 37, 38/1–7). Certainly the most interesting for this study is his type V, which has a shape between the letters “U” and “V”, arched branches and six- or eight-pointed rowels in general, which may lie vertically on the branches of the spur or horizontally with them. The plates on the branch ends may be round or quadrilateral with one or two holes to pull through the belt, and chronologically they correspond to similar finds made in Northern Europe (Sweden) in the latter half of the thirteenth and early fourteenth centuries. The actual position of the end-plate, meaning its relationship to the spur’s branches, did not particularly change in later period (the plate is almost or entirely parallel to the branches), but the point of the spur extends with a slight downward orientation, as apparent on the spurs from Prague in the first half of the fifteenth century (Denkstein 1969: 189, fig. 17). In terms of shape and dating, the

spomenimo i ostrugu iz Šandrovca (kat. br. 19): zanimljivih je konstrukcijskih rješenja (okrugla završna pločica na kraju kraka orijentirana je prema nazad, ostruga se na obuću pričvršćivala karičicama i sl.), a neki elementi izrade, kao npr. broj krakova zvjezdice i sam oblik, nedvojbeno je mogu datirati u 15. st.

## POTKOVE

U arheološkoj literaturi potkove kao artefakti nisu baš popularan materijal te stoga ostaju mnogi prijevori o tome odakle one vuku podrijetlo, odnosno kako funkcionalno i oblikovno korespondiraju pojedini primjerci s različitih teritorija. Još je L. Jacobi temeljem kronološke odrednice antičke potkove pokušao podijeliti na tri temeljna tipa (1897: 530), no njegov pokušaj doživio je mnoga osporavanja. Precizniju podjelu srednjovjekovnih potkova na tri tipa (*broddar*-potkove, staronjemačke i španjolske potkove) dali su B. Vikić i E. Walter (1955: 30–31), ali riječ je o materijalu zapadne, južne i sjeverne Europe. Isti autori upozoravaju da se na prostorima istočne Europe, Azije i Afrike javljaju potkove posve drukčijeg razvojnog procesa, iz kojeg je nastao tzv. orijentalni tip (Vikić & Walter 1955: 31), a najistočnije primjerke definiraju kao hunske (Walter 1947: 140), odnosno kineske (Vikić & Walter 1955: 31). Za temu ove studije smatramo da je najprimjerenija tipologija koju je proučavajući slovački materijal i komparirajući ga s njemu dostupnim europskim analogijama postavio P. Baxa (1981). Baxa razlikuje četiri osnovna tipa: I. ili keltski tip (*Wellenstein*) s dva podtipa (keltski i galsko-rimski), II. ili prijelazni germanski tip, III. ili španjolsko-orijentalni tip te IV. ili njemačko-švedski tip. Svi ti tipovi općenito se (izuzev tipa I.) smještaju u razdoblje 11. – polovina 14. st. Međutim problem je u tome što su navedeni tipovi ustrojeni isključivo prema oblicima potkova, tako da u situacijama kad se one nalaze zajedno s ostalim kronološki jasno definiranim nalazima nužno dolazi do iskakanja iz zadanih kronoloških okvira. Tako npr. u tip III. pripadaju i nalazi iz Bratislave, koji se mogu datirati u 13. (Uska uličica) te Gajarya iz 15. st. (Baxa 1981: 429, sl. 5/2, 6).

Potkove su nađene samo na dva bilogorska lokaliteta – Kamengradu (2) i gradištu u Bačkovici (4) – a među njima je vidljiva velika oblikovna, odnosno funkcionalna razlika. Prema obliku kamengradskih primjeraka (Demo 1984: sl. 9/3, 4) može se reći da oni pripadaju jahaćim konjima, što i odgovara mjestu nalaza (utvrda), dok su one iz Bačkovice (kat. br. 20–23) široke osnove i krakova te funkcionalno pripadaju teglećim životinjama. Naime, nedvojbeno

Eastern Slovak spurs from Saris and Kapusany are similar (Slivka 1981: 275, figs. 13/1, 5, 6).

The Kamengrad spurs, of which a total of four were found (Demo 1984: figs. 8, 9/1), would, based on their shape, belong to Ruttkay's type Cb and could generally be dated to the mid-fourteenth century. They are very close to the Hungarian finds, i.e. the Early Gothic type of the thirteenth/fourteenth centuries (Zschille & Forrer 1899: pl. XXX/15), even though Demo, for example – by combing Ruttkay's and Kirpičnikov's typologies – dates them to the broad period from the mid-thirteenth century to the mid-fourteenth century (1984: 326, 328). In the continental section of Croatia, such finds either were not known or not published, but it is certain that the cultural sphere in which they existed was very far-reaching, for they were found in considerable numbers even in the territory of Dalmatia (Vrsalović 1963: 162; the most similar to the Kamengrad examples are nos. 29 and 32 from Prljevo at Knin and from an unidentified site – pl. VIII: 29, pl. IX: 32). They naturally have their own, indigenous features, but this changes nothing in their basic chronological determination. Their further development proceeded toward a maximum simplification of form (straight, simple branches with or without end-plates, a simple rowel at the end of the point, etc.) and function of the spur as a light "pedagogic" means in the synergy between horse and rider (Nikolić 1956: 62, fig. 1; 76, fig. 10; 77, fig. 11).

The Kamengrad spurs can also be observed through the typology of G. Nagy, based on the periods of rule of individual Hungarian dynasties. Nagy (1898: 60–64) specified the so-called type I as the Arpad (11<sup>th</sup>/12<sup>th</sup> cent.), type II as transitional (13<sup>th</sup> cent.), type III as Sigismund (14<sup>th</sup>/early 15<sup>th</sup> cent.), and type IV as Hunyadi or Jagiellon (15<sup>th</sup> cent.). In his typology, spurs with rowels appear in type II, to which the Kamengrad spur would belong – dated by Demo to the early fourteenth century (1984: fig. 8/1). Two spurs would belong to the third, Sigismund type, i.e. the mid-fourteenth century (*ibid.* figs. 8/2, 8/3; the latter was first published and dated by Bach, 1947). One Kamengrad spur would belong to the fourth, Hunyadi type (Demo 1984: fig. 9/1; Nagy 1898: 64, fig. 3: III).

Three spurs found at the fortified settlement in Bačkovica (cat. nos. 15, 16, 18) have a spur yoke in the form of the letter "U", but they differ from one another in terms of the orientation and length of the shank (downward slant or straight), their profile (round or rectangular) and in the rendering of the end-plates at the tips of the spur (in the extension of the spur yoke or quadrilateral, rendered on the lower side of the spur). Due to very slipshod work and "artistic freedom" on the part of the craftsmen, it is apparent that these are exclusively domestic

je da je i tu riječ o potkovama za konje, jer anatom-ska građa papkara ne dopušta drugačije tumačenje (Popesko 1980), ali vuča na neravnu, kamenitu ili šljunčanu tlu uvjetovala je uporabu varijanti potkova široka tijela i krakova. Kod potkova iz Bačkovice može se temeljem dužine krakova (zbog čestog trenja noge o nogu konja unutrašnji krak potkove nešto je kraći), njihove debljine (deblja potkova obično se koristila u ljetnom, a tanja u zimskom razdoblju) i ukupne očuvanosti reći da dva primjerka (kat. br. 20, 23) pripadaju ljetnim potkovama za zadnju lijevu i zadnju desnu nogu konja, dok dva primjerka (kat. br. 21, 22) pripadaju zimskim potkovama za zadnju i prednju lijevu konjsku nogu. Kamengradske potkove mogle bi se prema obliku uvrstiti u Baxin tip III, dakle okvirno u drugu polovinu 13. st., ali – budući da Baxin objavljeni materijal nema izdužene i šiljate oblike švaraka na krajevima potkova kao kamengradski primjerci – Demo npr. smatra da ih možemo datirati u 14–15. st. (1984: 330), a istoj dataciji pripadale bi i potkove iz Bačkovice.

Što se pak tiče nalaza potkova s teritorija današnje Hrvatske, zasad imamo publiciran samo rad B. Vikić i E. Walter, koji bi mogao poslužiti kao analogija, ali i izazvati nove dvojbe jer autori ne priznaju dotadašnju podjelu španjolskih potkova. Budući da su na primjercima iz zagrebačkog Arheološkog muzeja uočili primjerke sa žlijebom i bez žlijeba, smatraju da je za naše krajeve tipična varijanta sa žlijebom te da je nastala kao križanje romanskih i germanskih utjecaja na ovim prostorima (1955: 58). No važnije bi ipak bilo staviti težište na teritorijalnu rasprostranjenost pojedinih oblikovnih varijanti, jer npr. oblike iz Bačkovice možemo pronaći i na tlu Bosne i Hercegovine (Busuladžić 2005: 264, 265, T. III/9, T. IV/14). Naravno, u slučaju potkova uvijek moramo voditi računa o mogućem iskakanju iz zadanih kronoloških okvira jer se npr. primjerci iz Turbeta kod Travnika i Strupnića kod Livna – bez obzira na veliku sličnost – datiraju 14–15., odnosno 4–6. st.

## ZAKLJUČAK

Budući da je tipološki i kronološki jasno definiran, predstavljeni arheološki materijal bilogorskih lokaliteta može poslužiti za upotpunjavanje nedostatne srednjovjekovne kronologije prostora sjeverne Hrvatske, ali govori i o njegovu kulturnom podrijetlu. Jasno je da ga treba tražiti na istoku Europe još u razdoblju prije seobe naroda. Tu činjenicu ne mogu sakriti ni različiti zapadni utjecaji, koji su najvećim dijelom samo nadograđivali već definirane oblike (iz tog konteksta možda bi se eventualno mogle izdvojiti samo ostruge). Ti kulturološki procesi ne

products, but modelled after Hungarian examples in the second half of the fourteenth century. However, taking into account the already cited Czech and Slovak materials, these spurs should not be dated prior to the first half of the fifteenth century. The spur from Gudovac (cat. no. 17) does not deviate from this impression, even though in terms of appearance it can be classified as Ruttkay's type Cb. Finally, as a derivative of various influences, the spur from Šandrovac (cat. no. 19) will also be mentioned: it exhibits interesting structural solutions (a round plate at the end of the branch with backward orientation, the spur was fastened to footwear by small loops, etc.), while some elements of its rendering, such as, for example, the number of rowel points and the shape itself, can unambiguously be dated to the fifteenth century.

## HORSESHOES

Horseshoes as artefacts are not very popular in the archaeological literature, so many disputes remain as to whence they originate, and how individual examples from different territories correspond functionally and formationally. L. Jacobi already attempted to classify Classical-era horseshoes into the three fundamental types based on chronological determinants (1897: 530), but his attempts were frequently challenged. A more precise classification of medieval horseshoes into three types (*Brodder*, Gothic and Spanish horseshoes) was compiled by B. Vikić and E. Walter (1955: 30–31), but these are materials from Western, Southern and Northern Europe. The same authors point out that in Eastern Europe, Asia and Africa, entirely different developmental processes applied to horseshoes, whence the so-called Oriental type emerged (Vikić & Walter 1955: 31), while the easternmost examples are defined as Hunnish (Walter 1947: 140), or Chinese (Vikić & Walter 1955: 31). For the topic of this study, this author believes that the most suitable typology, set up after studying Slovak materials and comparing them with available European analogies by P. Baxa (1981). Baxa distinguished four basic types: I or Celtic (*Wellenstein*) with two sub-types (Celtic and Gallo-Roman), II or transitional Germanic type, III or Spanish-Oriental type and IV or Germano-Swedish type. All of these types are generally (except for type I) placed inside the period from the eleventh to the mid-fourteenth centuries. However, a problem is that these types are organized exclusively on the basis of horseshoe shapes, so that in a situation in which they are found together with other chronologically defined materials, they necessarily breach the given chronological framework. Thus, for example, type III includes finds from Bra-

moгу se povezivati s trenutnim društveno-političkim prilikama (iako je točno da je personalna unija s Ugarskom nakon 1102. g. utjecala na mnoge aspekte javnog i privatnog života u Hrvatskoj, pa su tako i vojnička oprema i naoružanje dolazili izravno s područja Panonske nizine), već je kod izrade predmeta u prvome redu bila važna njegova funkcionalnost i, možda, ekonomski status pojedinca koji ih je upotrebljavao. Ovom prigodom nije detaljno analiziran sav pronađeni materijal jer neki predmeti, npr. konjske žvale iz Bačkovice (kat. br. 14), zasad nemaju analogije u sličnom europskom materijalu. Nadamo se ipak da će sustavna arheološka istraživanja nekih ključnih srednjovjekovnih gradišta sjeverne Hrvatske (npr. Gudovac) koja su u tijeku ili koja će tek uslijediti odgovoriti na još mnogobrojna otvorena pitanja.

## KATALOG

### 1. Buzdovan (T. 1), Gradski muzej Bjelovar, inv. br. A 2148

Mjesto nalaza: Gudovac-Gradina.

Opis predmeta: Željezni buzdovan s glavom u obliku lukovice i deset pera te dugačkim dijelom za nasadivanje na drvenu dršku. Na vrhu glave nalazi se vretenasti ukras.

Dimenzije: Dužina glave 12,7 cm, dužina dijela za nasad 10 cm, najveća širina 10 cm.

Datacija: 16. st.

### 2. Topuz (T. 2), Gradski muzej Bjelovar, inv. br. A 2135

Mjesto nalaza: Bjelovar.

Opis predmeta: Brončani topuz rađen od pet zvjezdastih slojeva s piramidalnim završecima različitih veličina i orijentacije, smještenih jedan ispod drugog, koji iznad glavice ima kratki tjemeni prsten, a u donjem dijelu (ispod glavice) izduženi tuljac ili nasadnik na drvenu dršku. Nasadnik je sačinjen od dva dijela s prstenastim spojem, a na gornjem i donjem završetku ugravirana je izlomljena linija.

Dimenzije: Dužina glave 4 cm, dužina tuljca 4 cm, promjer glave s izbočinama 7,5 cm, visina tjemena prstena 1,7 cm, promjer prstena 2,3–3,3 cm.

Datacija: 15. st.

### 3. Topuz (T. 2), Gradski muzej Bjelovar, inv. br. A 188

Mjesto nalaza: Bjelovar.

Opis predmeta: Brončani topuz rađen od tri četverokuta s piramidalnim završecima različitih veličina i orijentacije, smještenih jedan ispod drugog.

tišlava, which can be dated to the thirteenth century (*Uzka ulica*) and from Gajary dated to the fifteenth century (Baxa 1981: 429, figs. 5/2, 6).

Horseshoes were only found at two Bilogora sites – Kamengrad (2) and the fortified settlement in Bačkovica (4) – and considerable formational and functional differences between them are apparent. Based on the shapes of the Kamengrad examples (Demo 1984: figs. 9/3, 4) it can be said that they belonged to riding horses, which corresponds to the discovery site (a fortification), while those from Bačkovica (cat. nos. 20–23) with wide toes and arms functionally belonged to draught animals. There can be no doubt that these were shoes for horses, because the anatomical build of ungulates does not allow for any other interpretation (Popesko 1980), but ploughing on uneven, stony or gravelly soil necessitated the use of horseshoe variants with robust bodies and arms. Based on the length of the arms (due to frequent rubbing between hooves the internal arms of the horseshoes are somewhat shorter), their thickness (thicker horseshoes are normally used in the summer, while the thinner ones are used in the winter) and the overall condition of two examples (cat. nos. 20, 23) from Bačkovica, these horseshoes belong to the summer variant for the left and right hind legs of a horse, while two examples (cat. nos. 21, 22) are winter horseshoes for the left hind- and fore-leg of a horse. The Kamengrad horseshoes, based on their shape, could be classified as Baxa's type III, thus generally to the latter half of the thirteenth century, but – since Baxa's published materials have no oblong and pointed forms of calks at the tops of the horseshoes like the Kamengrad examples – Demo, for example, believes that they can be dated to the fourteenth/fifteenth centuries (1984: 330), and the horseshoes from Bačkovica would fall within the same dating.

As to examples of horseshoe finds from the territory of today's Croatia, thus far only a work by B. Vikić and E. Walter has been published. However, it may serve as both an analogy and a source of new confusion, as the authors do not acknowledge the previous classification of the Spanish horseshoes. Since they noticed grooved and non-grooved examples in the pieces from Zagreb's Archaeological Museum, they believe that the grooved variant is typical of this region and that it emerged as result of a melding of Roman and Germanic influences in this zone (1955: 58). It would nonetheless be more apposite to place emphasis on the territorial distribution of individual formational variants, because the shapes from Bačkovica can, for example, be found even in the territory of Bosnia-Herzegovina (Busuladžić 2005: 264, 265, pls. III/9, IV/14). To be sure, in the case of horseshoes, the potential devia-

Dimenzije: Visina 2,9 cm, najveća širina 4,5 cm.

Datacija: 14. st.

#### **4. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 216 a**

Mjesto nalaza: Kupinovac.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim okruglim tuljcem za nasad.

Dimenzije: Ukupna dužina 6,2 cm, dužina šiljka 3,8 cm, širina šiljka 1,2 cm, promjer tuljca 1,3 cm.

Datacija: 14–16. st.

#### **5. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 217**

Mjesto nalaza: Stare Plavnice-gradište Svoboština.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim okruglim tuljcem za nasad.

Dimenzije: Ukupna dužina 8,5 cm, dužina šiljka 5,6 cm, širina šiljka 1,8 cm, promjer tuljca 1,1 cm.

Datacija: 14–16. st.

#### **6. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 4**

Mjesto nalaza: Šandrovac.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim stožastim tuljcem za nasad.

Dimenzije: Ukupna dužina 7,7 cm, dužina šiljka 4,2 cm, širina šiljka 0,8–1 cm, promjer tuljca 1,3 cm.

Datacija: 14–16. st.

#### **7. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 214 d**

Mjesto nalaza: Narta-gradište Svibovec.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim okruglim tuljcem za nasad.

Dimenzije: Ukupna dužina 7,8 cm, dužina šiljka 4,3 cm, širina šiljka 1,3 cm, promjer tuljca 1,4 cm.

Datacija: 14–16. st.

#### **8. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 211 h**

Mjesto nalaza: Gudovac-Gradina.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim stožastim tuljcem za nasad.

Dimenzije: Ukupna dužina 8,7 cm, dužina šiljka 4,7 cm, širina šiljka 1,7 cm, promjer tuljca 1,5 cm.

Datacija: 14–16. st.

tion from fixed chronological frameworks must always be borne in mind, because, for example, the horseshoes from Turbe, near Travnik, and from Strupnić near Livno – regardless of their great similarity – dated to the fourteenth/fifteenth and fourth to sixth centuries respectively.

## CONCLUSION

Since the archaeological material from the Bilogora sites presented herein has been typologically and chronologically defined with no ambiguity, it may serve to supplement the otherwise insufficient medieval chronology of Northern Croatia, and it also sheds some light on its cultural background. Clearly, the latter should be sought in Eastern Europe in the time preceding the Migration Period, and this fact is not even obscured by various western influences which were largely just added on to already defined forms (only spurs may possibly be removed from this context). These cultural processes cannot be tied to the socio-political circumstances of any given time (although it is true that the personal union with Hungary after 1102 influenced many aspects of public and private life in Croatia, so that both military gear and weapons came directly from the Pannonian plains), rather the production of an item was first and foremost dictated by its functionality and, perhaps, by the economic status of the individual who used it. On this occasion, the entire body of materials was not thoroughly analyzed, because some items, such as the bridle from Bačkovica (cat. no. 14), so far have no analogies in similar European materials. It is this author's hope that systematic archaeological research into some key medieval fortified settlements in Northern Croatia (such as Gudovac), which is either in progress or has yet to be conducted, will provide some answers to the multitude of questions that still remain.

## CATALOGUE

### **1. Club (Pl. 1), Bjelovar Town Museum, inv. no. A 2148**

Find site: Gudovac-Gradina.

Description: Iron mace with onion-shaped head and nine flanges and a long section for fastening to a wooden shaft. Spindle-shaped decoration on the crown.

Dimensions: Length of head – 12.7 cm, length of shaft component – 10 cm, greatest width – 10 cm.

Dating: 16<sup>th</sup> cent.

**9. Vrh strelice samostrela (T. 2), Gradski muzej Bjelovar, inv. br. A 214 c**

Mjesto nalaza: Narta-gradište Svibovec.

Opis predmeta: Željezni piramidalni šiljak rombičnog presjeka s oštećenim okruglim tuljcem za nasad.

Dimenzije: Ukupna dužina 8,1 cm, dužina šiljka 4,7 cm, širina šiljka 1 cm, promjer tuljca 1,4 cm.

Datacija: 14–16. st.

**10. Stremen (T. 3), Gradski muzej Bjelovar, inv. br. A 233 a**

Mjesto nalaza: Bačkovica-gradište.

Opis nalaza: Željezni stremen kruškolikog oblika i četvrtastog presjeka s plosnatom pločicom za pričvršćivanje na remen, koja ima 12 probušenih rupa u tri paralelna reda, te elipsasto-cilindričnom stajaćom plohom s devet u cik-cak probušenih rupa na donjoj strani.

Dimenzije: Ukupna visina 25,4 cm, širina 7,5–12,7 cm, visina cilindrične stajaće plohe 5,5 cm, veličina stajaće površine 6,5 × 7 cm.

Datacija: 14–15. st.

**11. Stremen (T. 4), Gradski muzej Bjelovar, inv. br. A 233 d**

Mjesto nalaza: Gudovac-Gradina.

Opis predmeta: Oštećeni željezni stremen ovalnog oblika od raskucane trake koja prelazi u pravokutnu stajaću pločicu. Na sredini donjega dijela pločice nalazi se četvrtasti trn.

Dimenzije: Ukupna visina 11 cm, veličina stajaće pločice 7 × 5 cm, dužina trna 1,5 cm.

Datacija: 14–15. st.

**12. Stremen (T. 4), Gradski muzej Bjelovar, inv. br. A 233 c**

Mjesto nalaza: Bačkovica-gradište.

Opis nalaza: Željezni stremen ovalnog oblika i trokutastog presjeka. Gornji dio iskovan je u proširenu pločicu.

Dimenzije: Visina 10,1 cm, širina 3,2–12,1 cm.

Datacija: 14–15. st.

**13. Stremen (T. 5), Gradski muzej Bjelovar, inv. br. A 233 b**

Mjesto nalaza: Bačkovica-gradište.

Opis nalaza: Željezni stremen trapezastog oblika, u gornjem dijelu četvrtastog presjeka, a od sredine prelazi u širi plosnati dio. Na jednoj strani tog dijela

**2. Mace (Pl. 2), Bjelovar Town Museum, inv. no. A 2135**

Find site: Bjelovar.

Description: Bronze mace made of five star-shaped layers with pyramidal studs of various sizes and orientations, placed one beneath the other, which have a short ring on the crown, while in the lower portion (below the head) there is an extended socket or slot for a wooden handle. The socket consists of two parts with a ring-shaped connection, and a broken line is engraved on the upper and lower ends.

Dimensions: Length of head – 4 cm, length of socket – 4 cm, diameter of head with spikes – 7.5 cm, height of ring at crown – 1.7 cm, diameter of ring – 2.3–3.3 cm.

Dating: 15<sup>th</sup> cent.

**3. Mace (Pl. 2), Bjelovar Town Museum, inv. no. A 188**

Find site: Bjelovar.

Description: Bronze mace consisting of three rectangles with pyramidal tips of different sizes and orientations, arranged one beneath the other.

Dimensions: Height – 2.9 cm, greatest width – 4.5 cm.

Dating: 14<sup>th</sup> cent.

**4. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 216 a**

Find site: Kupinovac.

Description: Iron pyramidal point with rhomboid cross-section and damaged round socket for shaft.

Dimensions: Total length – 6.2 cm, length of point – 3.8 cm, width of point – 1.2 cm, diameter of socket – 1.3 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**5. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 217**

Find site: Stare Plavnice-Svoboština fortification.

Description: Iron pyramidal point with rhomboid cross-section and damaged round shaft socket.

Dimensions: Total length – 8.5 cm, length of point – 5.6 cm, width of point – 1.8 cm, diameter of socket – 1.1 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**6. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 4**

Find site: Šandrovac.

probušeno je 7 rupa u dva reda, a na drugoj 3 rupe. Stajaća je pločica elipsasto-cilindrična.

Dimenzije: Ukupna visina 17,2 cm, širina 8,8–12,3 cm.

Datacija: 14–15. st.

**14. Žvale (T. 6), Gradski muzej Bjelovar, inv. br. A 235 b**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Plosnati dio željeznih žvala savinut pod šiljastim kutom s deformiranim probušenim završetkom na jednom kraju. Pregib žvala je probušen.

Dimenzije: Dužina krakova 12 i 6 cm, širina krakova 0,7–3,1 cm, debljina 0,7 cm.

Datacija: –

**15. Ostruga (T. 6), Gradski muzej Bjelovar, inv. br. A 234 a**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna kovana ostruga s tijelom u obliku slova "U" i ravnim trnom na kojem se nalazila zvjezdica. Krakovi završavaju pločicom polukružnog oblika s dvije probušene rupe, od kojih je jedna paralelna s krakom ostruge, a druga koso povijena prema dolje.

Dimenzije: Ukupna dužina 16 cm, širina 8,9 cm, dužina trna 6,8 cm.

Datacija: Prva polovina 15. st.

**16. Ostruga (T. 7), Gradski muzej Bjelovar, inv. br. A 234 b**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna kovana ostruga s tijelom u obliku slova "U" i trnom orijentiranim koso prema dolje. Trn je rascijepljen u obliku slova "V", a zvjezdica nije sačuvana. Četvrtaste završne pločice s dvije probušene rupe nastavljaju se na krakove ostruge, a na krakovima s donje strane izvedena je polukružna završna pločica s rupom.

Dimenzije: Ukupna dužina 16,3 cm, širina 7,8 cm, dužina trna 7 cm, dužina procijepa 3,1 cm.

Datacija: Prva polovina 15. st.

**17. Ostruga (T. 7), Gradski muzej Bjelovar, inv. br. A 2143**

Mjesto nalaza: Gudovac-Gradina.

Opis predmeta: Željezna kovana ostruga s tijelom u obliku slova "U" i kratkim ravnim trnom na čijem kraju je učvršćena osmokraka zvjezdica. Krakovi

Description: Iron pyramidal point with rhomboid cross-section and damaged conical shaft socket.

Dimensions: Total length – 7.7 cm, length of point – 4.2 cm, width of point – 0.8–1 cm, diameter of socket – 1.3 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**7. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 214 d**

Find site: Narta-Svibovec fortification.

Description: Iron pyramidal point with rhomboid cross-section and damaged round shaft socket.

Dimensions: Total length – 7.8 cm, length of point – 4.3 cm, width of point – 1.3 cm, diameter of socket – 1.4 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**8. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 211 h**

Find site: Gudovac-Gradina.

Description: Iron pyramidal point with rhomboid cross-section and damaged conical shaft socket.

Dimensions: Total length – 8.7 cm, length of point – 4.7 cm, width of point – 1.7 cm, diameter of socket – 1.5 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**9. Arrowhead/head of crossbow bolt (Pl. 2), Bjelovar Town Museum, inv. no. A 214 c**

Find site: Narta-Svibovec fortification.

Description: Iron pyramidal point with rhomboid cross-section and damaged round shaft socket.

Dimensions: Total length – 8.1 cm, length of point – 4.7 cm, width of point – 1 cm, diameter of socket – 1.4 cm.

Dating: 14<sup>th</sup>–16<sup>th</sup> cent.

**10. Stirrup (Pl. 3), Bjelovar Town Museum, inv. no. A 233 a**

Find site: Bačkovica-fortification.

Description: Iron pear-shaped stirrup with rectangular cross-section and flat plate for fastening to a belt, which has 12 pierced holes in three parallel rows, and an elliptic/cylindrical tread with nine holes pierced in a zigzag pattern on the bottom.

Dimensions: Total height – 25.4 cm, width – 7.5–12.7 cm, height of cylindrical tread – 5.5 cm, size of tread – 6.5 × 7 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.



završavaju polukružnom završnom pločicom s rupom, okrenutom prema dolje.

Dimenzije: Ukupna dužina 13,3 cm, širina 9,3 cm, dužina trna 3,5 cm, promjer zvjezdice 1,6 cm.

Datacija: 14. st.

**18. Ostruga (T. 8), Gradski muzej Bjelovar, inv. br. A 234 c**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna kovana ostruga s tijelom u obliku slova "U" i trnom orijentiranim koso prema dolje. Krakovi su pravokutnog profila, a trn izrađen od raskucanih željeznih limova koji su na kraju savinuti u obliku slova "V". Na jednom kraku vidljivo mjesto gdje je bila pričvršćena zvjezdica. Na krajevima krakova probušena je rupa, a na tijelu s donje strane izvedena četvrtasta pločica s rupom.

Dimenzije: Ukupna dužina 19,2 cm, širina 10 cm, ukupna dužina trna 11 cm, dužina kraka na trnu 5 cm.

Datacija: 15–16. st.

**19. Ostruga (T. 8), Gradski muzej Bjelovar, inv. br. A 54**

Mjesto nalaza: Šandrovac.

Opis nalaza: Željezna ostruga s prema dolje zakošenim trnom na kraju kojega je šestokraka zvjezdica. Na kraju kraka je okrugla probušena završna pločica okrenuta gore i povijena prema nazad sa sačuvanom željeznom karičicom za vezivanje na obuću.

Dimenzije: Ukupna dužina 15 cm, dužina trna 5 cm, promjer zvjezdice 2,2 cm.

Datacija: 15. st.

**20. Potkova (T. 9), Gradski muzej Bjelovar, inv. br. A 236 a**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna polumjesečasta potkova širokih, na krajevima lagano izvinutih krakova. Sa svake strane pravilno su raspoređene po tri pravokutne rupice.

Dimenzije: Dužina 11 cm, raspon krakova 10,2 cm, razmak između krakova 4,3 cm.

Datacija: 14–15. st.

**21. Potkova (T. 9), Gradski muzej Bjelovar, inv. br. A 236 c**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna polumjesečasta potkova širokih, na krajevima lagano izvinutih krakova. Sa svake strane pravilno su raspoređene po tri pravokutne rupice. Na nokatnome dijelu i jednome kraku

**11. Stirrup (Pl. 4), Bjelovar Town Museum, inv. no. A 233 d**

Find site: Gudovac-Gradina.

Description: Damaged iron oval stirrup made of hammered band which transitions into rectangular tread. Quadratic shank in the middle of the lower part.

Dimensions: Total height – 11 cm, size of tread – 7 × 5 cm, length of shank – 1.5 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**12. Stirrup (Pl. 4), Bjelovar Town Museum, inv. no. 233 c**

Find site: Bačkovica-fortification.

Description: Iron oval stirrup with triangular cross-section. Upper wrought into expanded plate.

Dimensions: Height – 10.1 cm, width – 3.2–12.1 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**13. Stirrup (Pl. 5), Bjelovar Town Museum, inv. no. A 233 b**

Find site: Bačkovica-fortification.

Description: Iron trapezoidal stirrup with quadratic cross-section in upper portion, transitioning in middle to wider flat portion. 7 holes in two rows pierced on one side of this portion, and 3 holes on the other. The tread is elliptic/cylindrical.

Dimensions: Total height – 17.2 cm, width – 8.8–12.3 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**14. Bridle (Pl. 6), Bjelovar Town Museum, inv. no. 235 b**

Find site: Bačkovica-fortification.

Description: Flat part of iron bridle bent at pointed angle, with one end pierced and deformed. Bridle's joint is pierced.

Dimensions: Length of branches – 12 and 6 cm, width of branches – 0.7–3.1 cm, thickness – 0.7 cm.

Dating: –

**15. Spur (Pl. 6), Bjelovar Town Museum, inv. no. A 234 a**

Find site: Bačkovica-fortification.

Description: Iron forged spur with U-shaped body and flat point on which there was a rowel. The branches end in a semi-circular plate with two pierced holes, of which one is parallel to the branch of the spur, and the other is bent downward.

vidljiv je kanal. Vanjski je rub potkova na dva mjesta oštećen.

Dimenzije: Dužina 10,3 cm, raspon krakova 9,6 cm, razmak između krakova 3,7 cm.

Datacija: 14–15. st.

**22. Potkova (T. 10), Gradski muzej Bjelovar, inv. br. A 2134**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna polumjesečasta potkova širokih krakova s tri pravokutne probušene rupice na jednom i probušenom rupicom na drugom kraku.

Dimenzije: Dužina 10,5 cm, raspon krakova 10,1 cm, razmak između krakova 4,5 cm.

Datacija: 14–15. st.

**23. Potkova (T. 10), Gradski muzej Bjelovar, inv. br. A 236 b**

Mjesto nalaza: Bačkovica-gradište.

Opis predmeta: Željezna polumjesečasta potkova širokih, na krajevima lagano izvinutih krakova. Sa svake strane pravilno su raspoređene po tri pravokutne rupice.

Dimenzije: Dužina 9,5 cm, raspon krakova 10,2 cm, razmak između krakova 5,7 cm.

Datacija: 14–15. st.

Dimensions: Total length – 16 cm, width – 8.9 cm, length of shank – 6.8 cm.

Dating: First half of 15<sup>th</sup> cent.

**16. Spur (Pl. 7), Bjelovar Town Museum, inv. no. A 234 b**

Find site: Bačkovica-fortification.

Description: Iron forged spur with U-shaped yoke and shank with downward slant. Shank splits into V-shape; rowel not preserved. Quadratic end plate with two pierced holes extend into the spur branches, and semi-circular end-plate with hole is rendered on the branches from the lower side.

Dimensions: Total length – 16.3 cm, width – 7.8 cm, length of shank – 7 cm, length of split – 3.1 cm.

Dating: First half of 15<sup>th</sup> cent.

**17. Spur (Pl. 7), Bjelovar Town Museum, inv. no. A 2143**

Find site: Gudovac-Gradina.

Description: Iron forged spur with U-shaped yoke and short straight shank to which an eight-point rowel is fastened at the end. The branches end in a semi-circular end-plate with hole, turned downward.

Dimensions: Total length – 13.3 cm, width – 9.3 cm, length of shank – 3.5 cm, diameter of rowel – 1.6 cm.

Dating: 14<sup>th</sup> cent.

**18. Spur (Pl. 8), Bjelovar Town Museum, inv. no. A 234 c**

Find site: Bačkovica-fortification.

Description: Iron forged spur with U-shaped yoke and shank bent downward. Branches have rectangular profile, and shank is made of hammered iron sheets bent into V-shape at ends. Place where rowel with fastened to the end of one branch is visible. Hole pierced at end of branches, and a hole is rendered on the branches from the lower side.

Dimensions: Total length – 19.2 cm, width – 10 cm, total length of point – 11 cm, length of branch on point – 5 cm.

Dating: 15<sup>th</sup>–16<sup>th</sup> cent.

**19. Spur (Pl. 8), Bjelovar Town Museum, inv. no. A 54**

Find site: Šandrovac.

Description: Iron spur with shank bent downward; six-point rowel at its end. Round pierced end-plate

at the end of the branch turned upward and bent back with preserved iron with small preserved iron ring for fastening to footwear.

Dimensions: Total length – 15 cm, length of shank – 5 cm, diameter of rowel – 2.2 cm.

Dating: 15<sup>th</sup> cent.

**20. Horseshoe (Pl. 9), Bjelovar Town Museum, inv. no. A 236 a**

Find site: Bačkovica-fortification.

Description: Iron crescent-shaped horseshoe with wide arms slightly warped at ends. Three small rectangular holes arranged on each side.

Dimensions: Length – 11 cm, extent of arms – 10.2 cm, distance between arms – 4.3 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**21. Horseshoe (Pl. 9), Bjelovar Town Museum, inv. no. A 236 c**

Find site: Bačkovica-fortification.

Description: Iron crescent-shaped horseshoe with wide arms slightly warped at ends. Three small rectangular holes arranged on each side. A groove is visible on the toe section and one arm. External edge of horseshoe is damaged at two places.

Dimensions: Length – 10.3 cm, extent of arms – 9.6 cm, distance between arms – 3.7 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**22. Horseshoe (Pl. 10), Bjelovar Town Museum, inv. no. A 2134**

Find site: Bačkovica-fortification.

Description: Iron crescent-shaped horseshoe with wide arms and three rectangular pierced holes on one arm and a pierced hole on the other.

Dimensions: Length – 10,5 cm, extent of arms – 10,1 cm, distance between arms – 4,5 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

**23. Horseshoe (Pl. 10), Bjelovar Town Museum, inv. no. A 236 b**

Find site: Bačkovica-fortification.

Description: Iron crescent-shaped horseshoe with wide arms slightly warped at ends. Three small rectangular holes arranged on each side.

Dimensions: Length – 9,5 cm, extent of arms – 10,2 cm, distance between arms – 5,7 cm.

Dating: 14<sup>th</sup>–15<sup>th</sup> cent.

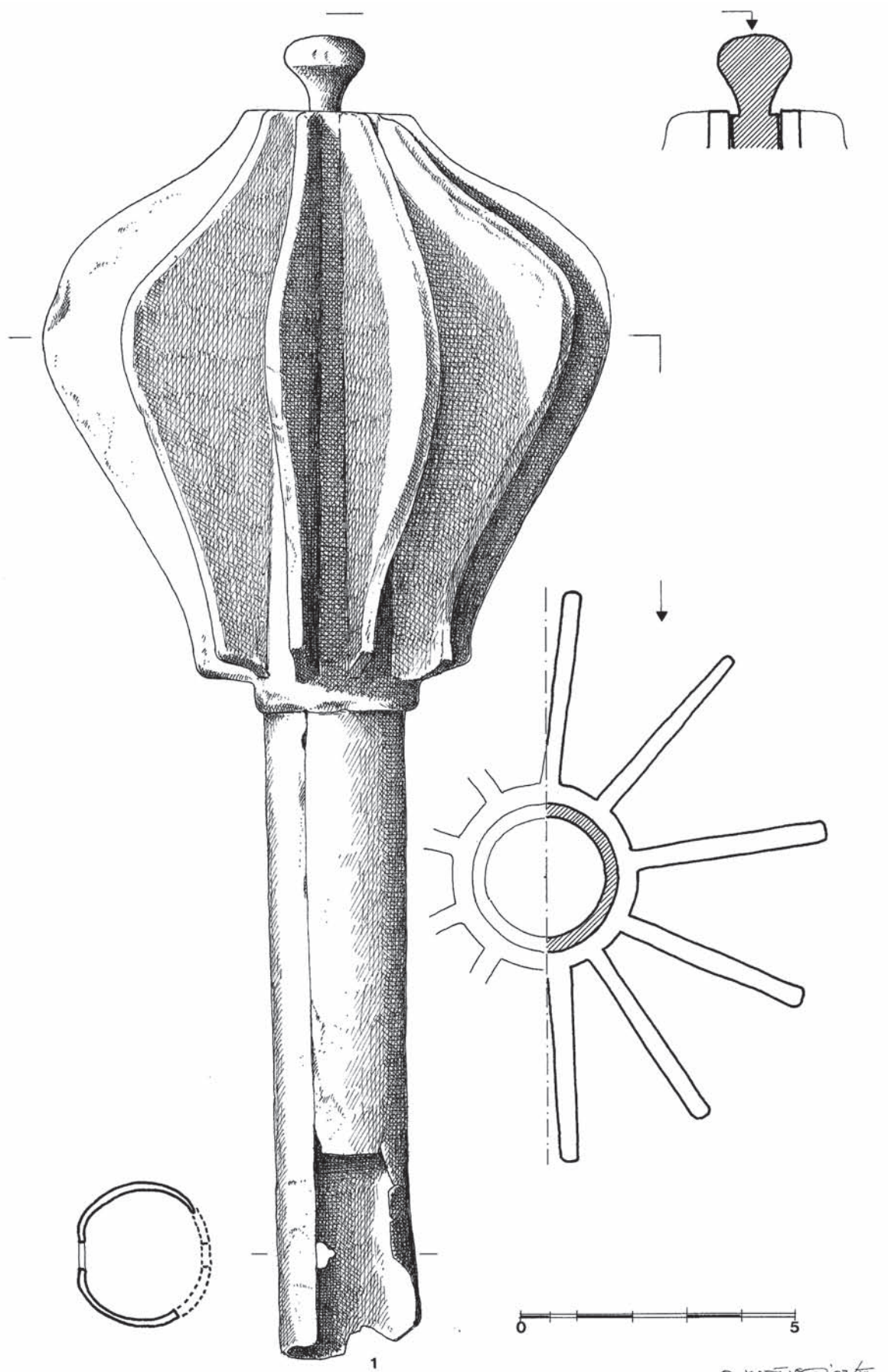


Tabla 1 (crtež: K. Rončević, 2007).

Plate 1 (drawing: K. Rončević, 2007).

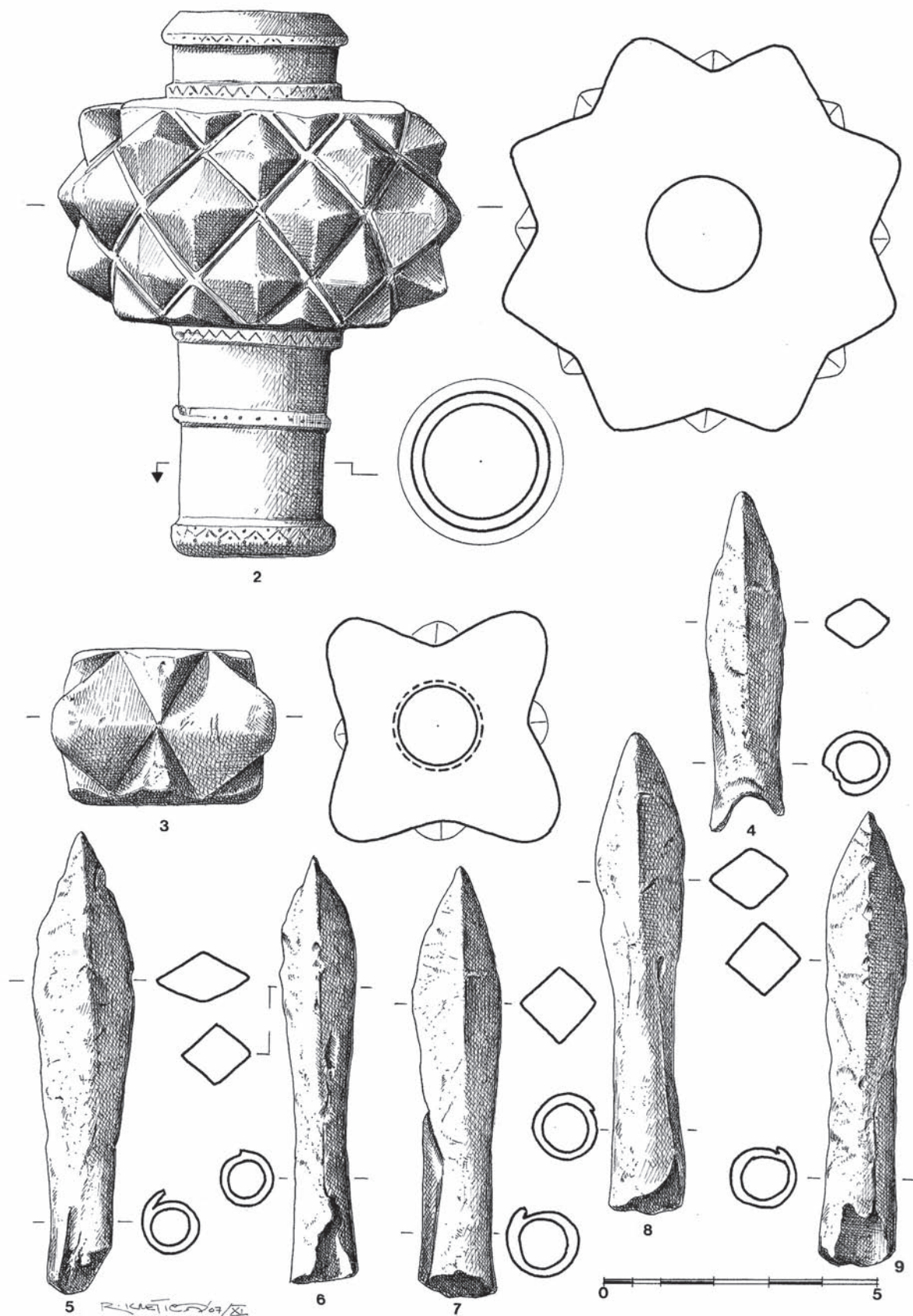


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Plate 2 (drawing: K. Rončević, 2007).

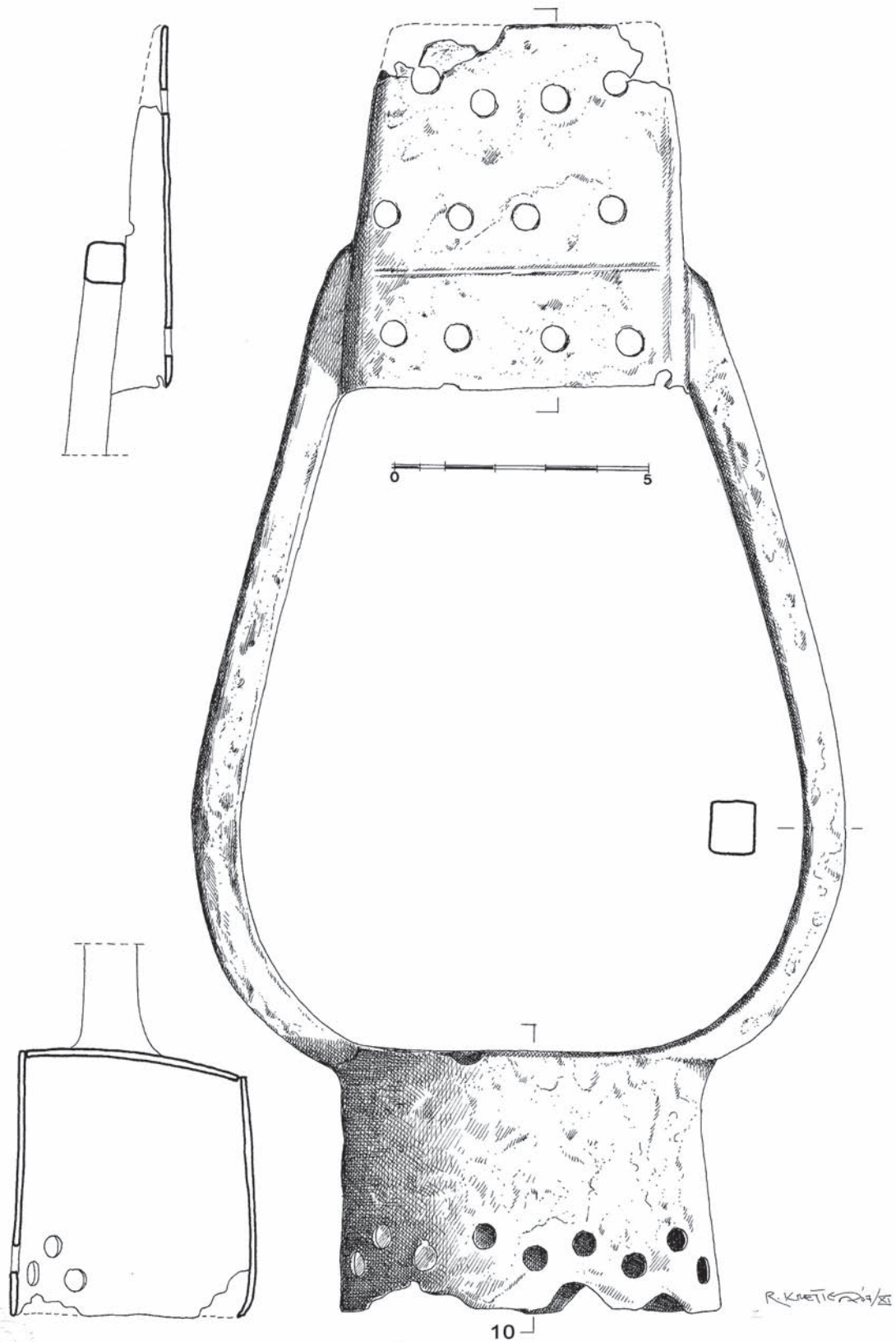
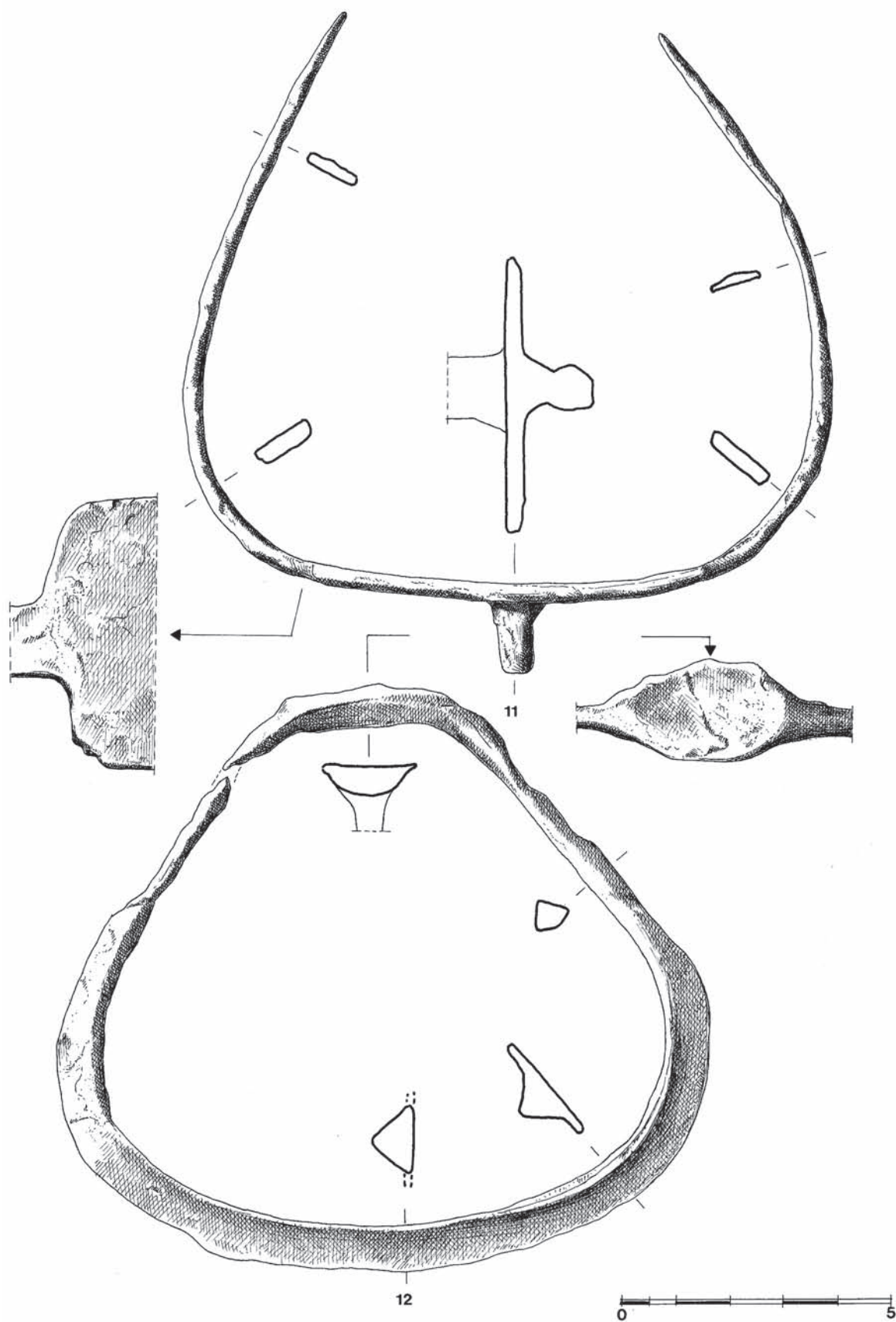


Tabla 3 (crtež: K. Rončević, 2007).

Plate 3 (drawing: K. Rončević, 2007).



3. Riketi 67 / XI  
Tabla 4 (crtež: K. Rončević, 2007).  
Plate 4 (drawing: K. Rončević, 2007).

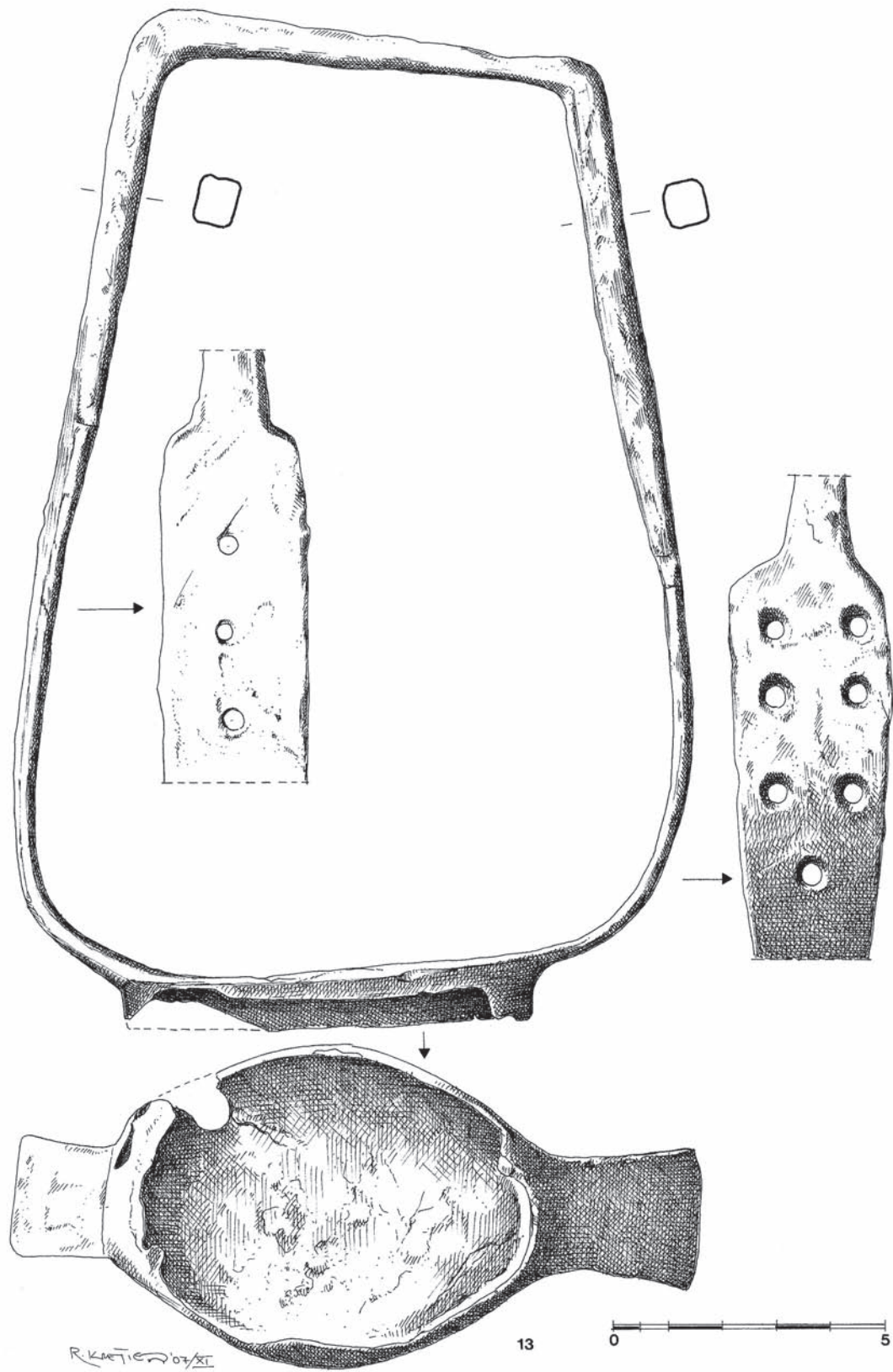


Tabla 5 (crtež: K. Rončević, 2007).

Plate 5 (drawing: K. Rončević, 2007).



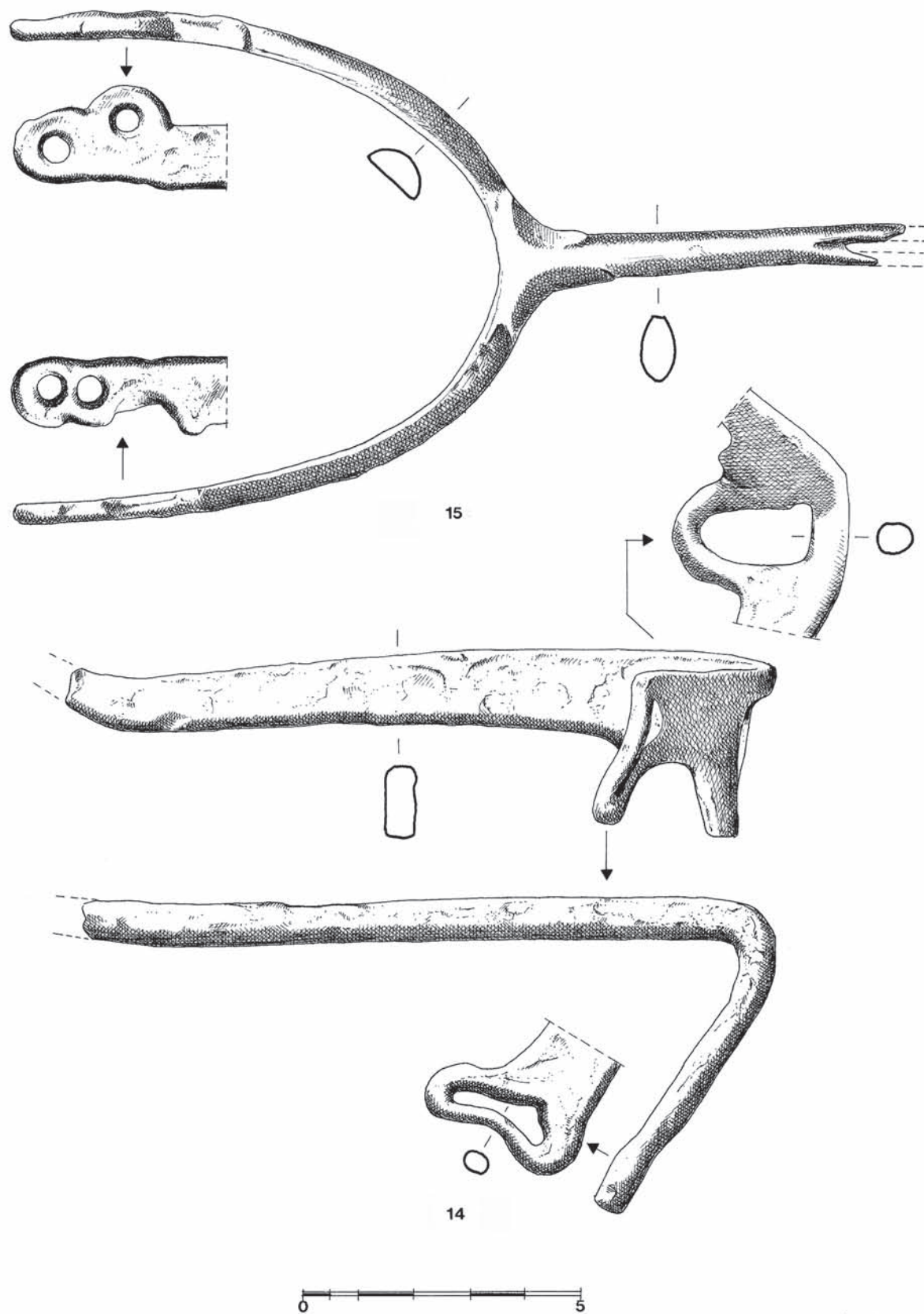


Tabla 6 (crtež: K. Rončević, 2007).

Plate 6 (drawing: K. Rončević, 2007).

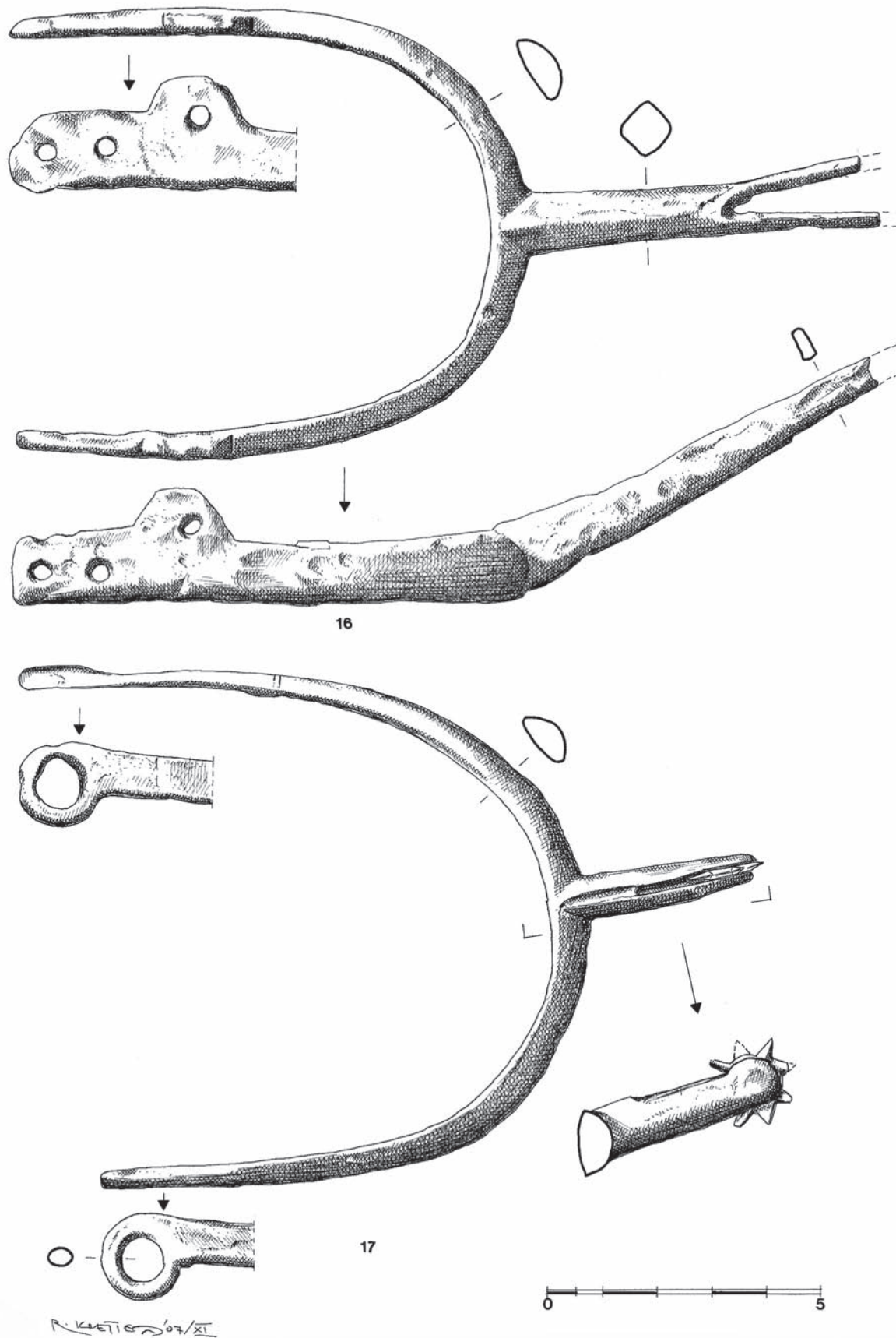


Tabla 7 (crtež: K. Rončević, 2007).

Plate 7 (drawing: K. Rončević, 2007).

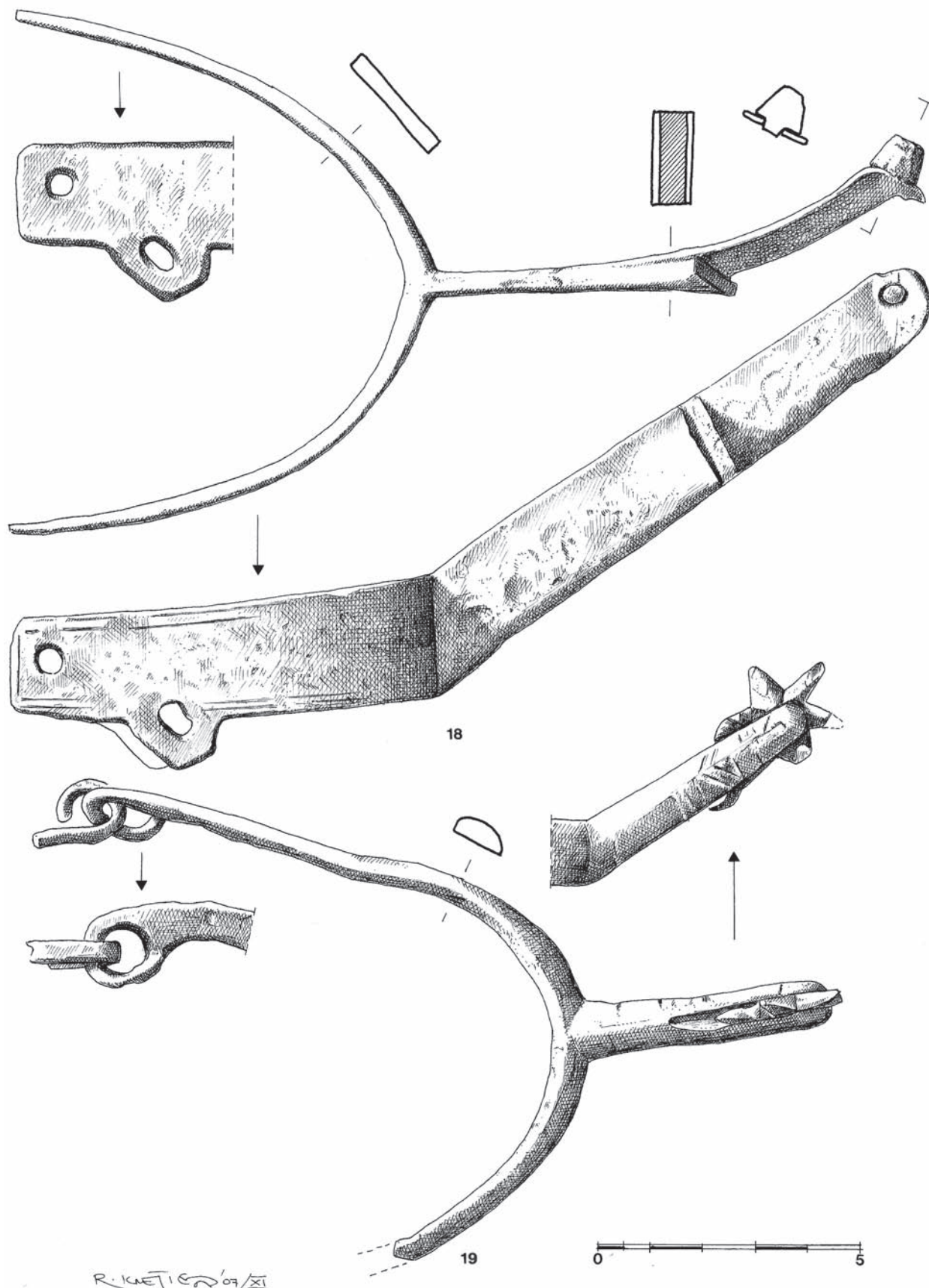


Tabla 8 (crtež: K. Rončević, 2007).

Plate 8 (drawing: K. Rončević, 2007).

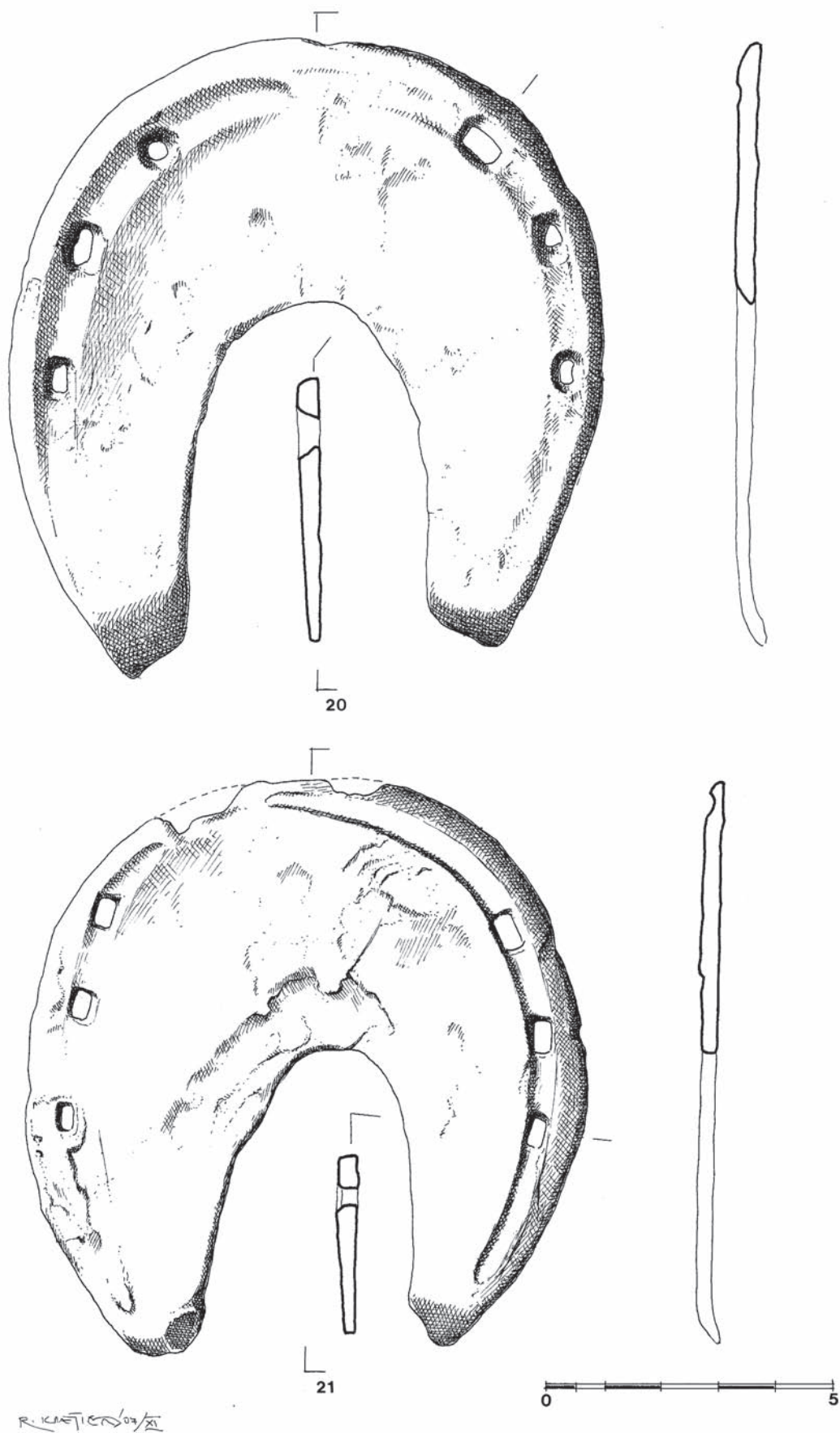


Tabla 9 (crtež: K. Rončević, 2007).

Plate 9 (drawing: K. Rončević, 2007).

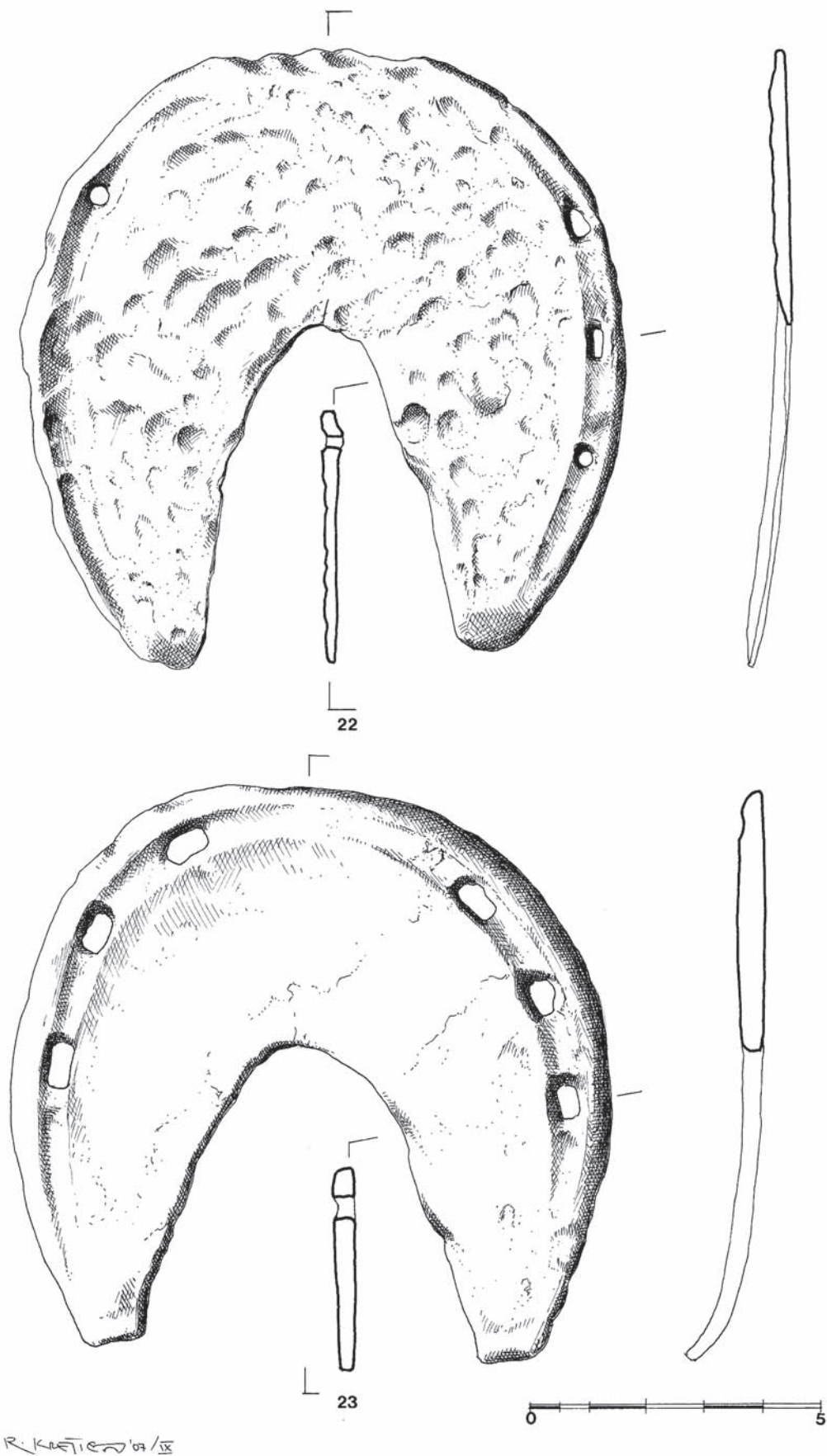


Tabla 10 (crtěž: K. Rončević, 2007).

Plate 10 (drawing: K. Rončević, 2007).

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