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## DIJELOVI OPREME RIMSKOG VOJNIKA IZ GARDUNA

# COMPONENTS OF ROMAN MILITARY EQUIPMENT FROM GARDUN

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*U radu su predstavljene dijelovi vojničke opreme pronađeni na lokalitetu Gardun, gdje se nalazio rimski vojni logor; a čuvaju se kao dio stare zbirke Arheološkoga muzeja u Splitu. Prevladava materijal iz 1. st., kada je najveći broj vojnika boravio u logoru, a manji broj predmeta iz 4. i 6. st., potvrđuju već poznatu činjenicu da se život na tom mjestu nastavio i u kasnoantičkom razdoblju.*

*Ključne riječi: Gardun, vojnička oprema, oružje, konjska oprema, dijelovi odjeće*

Dio stare zbirke Arheološkoga muzeja u Splitu čine predmeti s lokaliteta Gardun kod Trilja, gdje se nalazio rimski vojni logor *Tilurium* na kojem se posljednjih godina vrše sustavna arheološka istraživanja i obrada pronađenoga materijala (Sanader 2003). Na taj način predmeti iz stare zbirke, kojima su točne okolnosti nalaza nepoznate, dobivaju novo značenje.<sup>1</sup> U ovom su radu izdvojeni predmeti vojnoga karaktera: oružje, dijelovi vojničke odjeće i konjske opreme. Prevladava materijal iz 1. st., što je i očekivano s obzirom na to da su u logoru tada bile smještene legije (Sanader 2002: 127). Kasnoantički

*This work presents components of military equipment found at the Gardun site, the location of a Roman military camp, which are held as part of the Old Collection of the Archaeological Museum in Split. The collection is dominated by articles from the first century, when the largest number of soldiers were stationed at the camp, while the smaller number of articles from the fourth to sixth centuries testify to the fact that life at that locale continued even into Late Antiquity.*

*Key words: Gardun, military equipment, weapons, riding gear, items of attire*

A part of the Old Collection of the Archaeological Museum in Split consists of items from the Gardun site at Trilj, which was the location of the Roman military camp known as *Tilurium*. A number of systematic archeological excavations have been conducted there in recent years, and the materials found have been and are being analyzed (Sanader 2003). In this manner, the artifacts in the Old Collection, of which the precise circumstances surrounding their discovery are unknown, acquire a new significance.<sup>1</sup> This work concentrates on those items with a military

\* Crteže je izradio B. Pender (T. 1–2).

<sup>1</sup> Zahvaljujem kolegici Zrinki Buljević što me je upozorila na ovaj materijal.

\* Drawings by B. Pender (T. 1–2).

<sup>1</sup> I would like to thank my colleague Zrinka Buljević for pointing these articles out to me.

je materijal zastupljen u znatno manjoj mjeri, što također potvrđuje već poznatu činjenicu da u Gardunu život nije prestao nakon odlaska legija sredinom 3. st., nego se nastavio i kroz kasnoantičko vrijeme.

## DIJELOVI POJASA

Vojnički se pojas pričvršćivao dvodijelnim kopčama u obliku slova D s volutama (kat. br. 1–4, T. 1, 1–4). Pojas se nosio preko oklopa i imao je dvostruku namjenu: da prebaci dio težine oklopa s ramena na bokove vojnika te da posluži za vješanje mača i noža. Karakterističan su oblik za 1. st. (Koščević 1991: 66, 67; Oldenstein 1976: 211, 212), a neki autori im vrijeme trajanja ograničavaju na prvu polovinu 1. st. (Voirol 2000: 17). Smatra se da iz istoga vremena potječe i trn kopče u obliku ljiljana (kat. br. 5, T. 1, 5) koji je karakterističan za taj tip kopče. O tome svjedoči čitav niz nalaza cijelih kopči. Predmeti takvoga oblika u literaturi se interpretiraju i kao privjesci (Bekić 1998: 235), ali naš primjerak ima zakrivljen vrh i to ga nesumnjivo određuje kao trn kopče.

Kopča s dugmetom (kat. br. 6, T. 1, 6) služila je kao pojasna kopča ili je pričvršćivala remen korica mača. Korice mača mogle su se vješati izravno na pojas ili na posebni remen koji se prebacivao preko ramena. Na jednom kraju tog remena nalazila se ovakva kopča, a na drugom petlja kroz koju se provlačilo dugme. Kopča potječe iz 1. st. (Voirol 2000: 18).

Rimljani od Kelta preuzimaju običaj dijeljenja kraja pojasa u četiri vrpce od kojih se samo jedna provlačila kroz kopču, a ostale su visjele niz slabine. Od sredine 1. st. taj se element pojasa osamostaljuje i nastaje pregača sastavljena od triju ili više kožnih vrpca (ponekad od samo jedne široke vrpce) koje su visjele s prednje strane pojasa štiteći slabine. Uvijek su završavale privjescima, a posvuda su na njima bili pričvršćeni okovi, često posrebrjeni i ukrašeni biljnim motivima. Ponekad su na njima bili urezani natpisi (Oldenstein 1976: T. 59, 741, 744). Zveket i odsjaj metalnih dijelova pregače pridonosio je zastrašujućoj pojavi rimskih jedinica pri stupanju. Nosila ih je samo pješadija, i to tijekom 1. st. Pojavila se kao dio nošnje u vrijeme Tiberija, a izlazi iz upotrebe u vrijeme Hadrijana (Voirol 2000: 18). Krajem 1. st. pregača se reducira u nošnji legionara, a potpuno nestaje kod pomoćnih jedinica (Simkins 2003: 24). Tri okova vojničke pregače iz Garduna (kat. br. 7–9, T. 1, 7–9) pravokutnoga su oblika; jedan je posrebrjen (kat. br. 7), a preostala dva nisu ukrašena.

Amforasti jezičci uobičajeni su dio kasnoantičke pojasne garniture, a u osnovnom se obliku razlikuju po detaljima i načinu ukrašavanja. Jedan primjerak iz

character: weapons, components of soldier's uniforms and riding gear. Articles from the first century predominate, which is to be expected since legions were stationed at the camp at that time (Sanader 2002: 127). The finds from Late Antiquity are present to a much lesser extent, even though they confirm the already known fact that life in Gardun did not stop after the departure of the legions in the mid-third century, rather it continued into Late Antiquity.

## BELT COMPONENTS

There are four D-shaped two-piece buckles with volutes used for fastening the soldier's belt (cat. no. 1–4, T. 1, 1–4). The belt was worn over the armor and had a dual purpose: to transfer a part of the weight of the armor from the soldier's shoulders to his hips, and to serve as a place to hang a sword and knife. The form of the buckle is characteristic of the first century (Koščević 1991: 66, 67; Oldenstein 1976: 211, 212), while some authors limit their duration up to the mid-first century (Voirol 2000: 17). The lily-shaped buckle prong (cat. no. 5, T. 1, 5) characteristic of this buckle type, is believed to be from the same period. This is indicated by an entire series of finds of whole buckles. Objects of this form are interpreted in the literature as pendants (Bekić 1998: 235), but this example has a bent tip and this certainly makes it a belt tongue.

The button-and-loop fastener (cat. no. 6, T. 1, 6) served as a belt buckle, or it fastened the belt to the sword's sheath. Sword sheaths could be directly hung on the waist belt or on a baldric. A buckle like this was at the end of such a belt, while there was a loop at the other end into which the button was fastened. The buckle dates back to the first century. (Voirol 2000: 18).

The Romans assumed from the Celts the custom of cutting the end of a belt into four straps of which only one is pulled through the buckle, while the rest hung over the thighs. By the mid-first century, this element of the belt became independent and developed into an apron made of three or more leather straps (sometimes just one wide strap) which hung from the front of the belt and protected the thighs. They always ended in pendants, and had mounts all over them, often gilded with silver and decorated with plant motifs. Sometimes inscriptions were engraved on them (Oldenstein 1976: T. 59, 741, 744). The rattling and glitter of the apron parts contributed to the terrifying appearance of Roman units on the march. Only the infantry wore them, and that during the first century. They appeared as a component of attire during the Tiberian era, and fell into disuse during the reign of Hadrian (Voirol 2000: 18). At the

Garduna ima tri bubrežasta proboja (kat. br. 10, T. 1, 10), što je karakteristično za tu vrstu predmeta, dok drugi ima dva kružna otvora (kat. br. 11, T. 1, 11). Oba su ukrašena utisnutim kružnicama. Podjela jezičaca vrši se prema načinu na koji su bili učvršćeni na pojas: ili izravno zakovicama ili pomoću okova (Sagadin 1979: 315). Naši primjerci oštećeni su pri vrhu, ali se čini da je jedan (kat. br. 11) bio spojen zakovicama, a drugi je imao ušice kojima je bio spojen s okovom (kat. br. 10). Treći primjerak (kat. br. 12, T. 1, 12) ukrašen je urezanim linijama i spajao se također pomoću okova. Pojasni jezičci ovog tipa datiraju se u drugu polovinu 4. st. i prvu polovinu 5. st. (Buora 2002: 196; Cavada 2002: 155). Najsličniji su ovim primjercima jezičci iz Salone koji datiraju iz druge polovine 4. st. (Višić-Ljubić 1994: 227; Bullinger 1969: 31), dok oni iz Siska datiraju iz 4. st. (Koščević 1991: 70).

### KOPČE ZA OKLOP

Tri kopče sa sačuvanim okovom (kat. br. 13–15, T. 1, 13–15) spajale su dijelove obročastoga oklopa (*lorica segmentata*) ranijega tipa (Corbridge A i B/C)<sup>2</sup> koji je nosila pješadija, a njegova je uporaba ograničena na 1. st. Prije se mislilo da su takve oklope nosili samo legionari, ali novija istraživanja pokazuju da su ih rabili i pripadnici pomoćnih jedinica (Voirol 2000: 14). Kopče za oklop iz Garduna pripadaju skupini dvo-dijelnih D-kopči koje se datiraju u 1. st. (Koščević 1991: 67; Sagadin 1979: 305).

### KONJSKA OPREMA

U razdoblje 1. st. datiraju se okovi za uzde (Voirol 2000: 78) pomoću kojih se uzda spajala nakon provlačenja kroz ušicu žvale.<sup>3</sup> To se vršilo zakovicama koje su se provlačile kroz otvor s prednje strane okova (kat. br. 17, T. 1, 17) ili učvršćivanjem pomoću trna s njihove stražnje strane (kat. br. 16, T. 1, 16).

Privjesci za konjsku ormu služili su kao ukras; imali su apotropejsko značenje, a vjerojatno su se rabili i za tjeranje mušica koje su bile stalni pratioci konja i konjanika. U Arheološkom muzeju u Splitu čuva se šest privjesaka iz Garduna. Listoliko-srcolik,<sup>4</sup> neukrašen privjesak (kat. br. 18, T. 1, 18) zbog svojih karakteristika datira se u razdoblje od Klaudija do Trajana (Voirol 2000: 24). Taj tip privjeska vješao se i na remenje

end of the first century, the apron was reduced in legionary attire, and completely disappeared among the auxiliary units (Simkins 2003: 24). The three mounts of a military apron from Gardun (cat. no. 7–9, T. 1, 7–9) are rectangular, and one is plated in silver (cat. no. 7), while the other two are not decorated.

Amphora-shaped strap ends were a customary component of Late Roman belt gear, and their basic form can be distinguished by their details and decoration method. One example from Gardun has three perforations in the form of a pelta (cat. no. 10, T. 1, 10), which is characteristic for this type of article, while the other has circular openings (cat. no. 11, T. 1, 11). Both are decorated with impressed small circles. Strap ends are classified based in the manner in which they were fastened to the belt: either directly with rivets or with the help of mount and hinge (Sagadin 1979: 315). Our examples are damaged at the ends, but it seems that one (cat. no. 11) was fastened with rivets, while the other had a small loop with which it was connected with a mount (cat. no. 10). The third example (cat. no. 12, T. 1, 12) is decorated with engraved lines and also connected with mounts. Strap ends of this type date to the second half of the fourth century and the first half of the fifth century (Buora 2002: 196; Cavada 2002: 155). The belt tips from Salona dated to the second half of the fourth century are the most similar to this type of belt tip (Višić-Ljubić 1994: 227; Bullinger 1969: 31), while those from Sisak date back to the fourth century (Koščević 1991: 70).

### ARMOR BUCKLES

Three buckles with preserved mounts for fastening (cat. no. 13–15, T. 1, 13–15) connected the parts of laminated armor (*lorica segmentata*) of an older type (Corbridge A and B/C)<sup>2</sup> which was worn by the infantry, and its use was limited to the first century. Previously it was believed that this type of armor was only worn by legionaries, but more recent research indicates that they were also used by members of auxiliary units (Voirol 2000: 14).

The armor buckles from Gardun belong to the group of two-piece D-buckles that date back to the first century (Koščević 1991: 67, Sagadin 1979: 305).

### RIDING GEAR

The mounts for reins (Voirol 2000: 78) used to connect the reins after they are pulled through the bit

<sup>2</sup> Za rekonstrukciju vidi: Voirol 2000: 15, sl. 7; Simkins 2003: 27.

<sup>3</sup> Za rekonstrukciju vidi: Ritterling 1913: 169, sl. 36.

<sup>4</sup> Jedni ih autori nazivaju srcolikima (Unz & Deschler-Erb 1997: 39, Voirol 2000:24), a drugi listoliko-srcolikima (Koščević 1991: 47). Prihvaćam potonji naziv jer se oblik privjeska nalazi između tih dvaju tipova.

<sup>2</sup> For a reconstruction see: Voirol 2000: 15, Fig. 7; Simkins 2003: 27.

vojničke pregače, a mogao je biti i središnji dio polumjesečastih privjesaka, no oni se u literaturi uglavnom interpretiraju kao privjesci orme (Unz & Deschler-Erb 1997: 41, 44; Voirol 2000: 24).

Trodijelni listoliki privjesak (kat. br. 19, T. 1, 19) potječe iz druge polovine 1. st. Smatra se da je nastao u tiberijsko-klaudijsko vrijeme, koristi se i u flavijskom razdoblju (Lawson 1978: 153; Mackensen 1991: 174), a nakon toga počinje izlaziti iz mode. Konstrukcijski se razvija iz polumjesečastih privjesaka sa središnjim privjeskom.

Budući da je posebren i ukrašen stiliziranim vegetacijskim motivima, gardunski primjerak bi predstavljao raniju inačicu tog tipa privjeska. Osim toga, naš primjerak potječe iz vremena koje se podudara s vremenom nastanka te inačice (druga polovica 1. st.). Promatramo li dimenzije privjeska, možemo pretpostaviti da je bio čeon ukras ili dio prsnoga ukrasa. Listoliko-srcoliki privjesak ukrašavao je remenje po tijelu konja (Lawson 1978: 153).

Listoliki privjesci iz Garduna (kat. br. 20–23, T. 1, 20, T. 2, 21–23) imaju izduženi oblik valovitih rubova s kuglastim ukrasom na dnu i kukicom za vješanje na vrhu, a međusobno se razlikuju po obliku i ukrasu. Za taj je tip privjeska iz 1. st. karakteristična raznovrsnost (Košćević 1991: 50).

## ORUŽJE

### VRH SULICA ZA KATAPULT

Dio obavezne opreme rimske legije bile su bacačke sprave koje su služile za borbu na daljinu, a njihov broj i vrsta mijenjali su se obzirom na vrste naoružanja te tehničko usavršavanje i promjene u ustroju vojske. Brojni izvori i arheološki nalazi omogućili su rekonstrukciju i proučavanje takvog oružja (Radman-Livaja 2001: 126, 127). Na temelju tipološkoga razvoja ne možemo precizno datirati nastanak bacačkih projektila. Možemo razlikovati republikanske primjerke kojima je glava vrha strelice kraća od trna, odnosno od tuljca za nasad, od onih iz razdoblja Carstva kod kojih se glava produžuje i postaje teža, čime se postiže veći domet i bolja učinkovitost. Kroz čitavo carsko razdoblje balistički projektili ne mijenjaju svoj oblik.<sup>5</sup>

<sup>5</sup> Projektili slične našima nalazimo kroz čitavo razdoblje Carstva na mnogobrojnim lokalitetima, vidi: Tudor 1964: vojni logor Racari – materijal je datiran u 2. i prvu polovicu 3. st.; Ritterling 1913: vojni logor Hofheim postoji od kraja republikanskoga razdoblja do treće četvrtine 1. st.; Unz & Deschler-Erb 1997: Vindonissa – od 15/16 god. do kraja 1. st.; Behrens 1912: logor u Mainzu postoji od kraja 1. st. pr. Kr. do polovice 4. st., a primjerak iz Aquileje (Roma sul Danubio: 2002) datiran je u 4/5. st.

date back to the first century.<sup>3</sup> This was accomplished using rivets that were pulled through the opening on the front side of the mounts (cat. no. 17, T. 1, 17) or by fastening them with a prong on their back side (cat. no. 16, T. 1, 16).

The pendants for the harness served as decorations; they had apotropaic significance, and they were probably used to ward off the flies that were constant companions to horses and their riders. The Archeological Museum in Split holds six pendants from Gardun. The leaf-/heart-shaped,<sup>4</sup> undecorated pendant (cat. no. 18, T. 1, 18), based on its characteristics, can be dated from the Claudian to Trajanic period (Voirol 2000: 24). This type of pendant was also hung from the side straps of military aprons, and it could also be the center of a lunular pendant, but in the literature they are generally interpreted as harness pendants (Unz & Deschler-Erb 1997: 41, 44; Voirol 2000: 24).

The three-piece leaf-shaped pendant (cat. no. 19, T. 1, 19) comes from the second half of the first century. It is believed to have emerged during the Tiberian/Claudian period, and also used during the Flavian period (Lawson 1978: 153; Mackensen 1991: 174), and after this they were no longer in style. In terms of construction, it develops from the lunular pendants with a central pendant.

Since it is silver-plated and decorated with stylistic vegetation motifs, the Gardun example may represent an earlier variant of this pendant type. Additionally, this pendant comes from a time that corresponds to the emergence of this variant (second half of the first century). If the dimensions of the pendant are observed, it can be assumed that it was part of a decoration of the forehead or chest. The leaf-/heart-shaped pendant decorated the straps along the horse's body (Lawson 1978: 153).

The leaf-shaped pendants from Gardun (cat. no. 20–23, T. 1, 20, T. 2, 21–23) have an elongated form with wavy edges and spherical terminal on the bottom and a small hook for hanging on top, and they differ from one another in terms of form and decoration. This type of pendant from the first century is characterized by diversity (Košćević 1991: 50).

## WEAPONS

### TANGED PROJECTILE HEAD

Throwing devices used for long-range combat were a mandatory component of the equipment of Ro-

<sup>3</sup> For a reconstruction see: Ritterling 1913: 169, Fig. 36.

<sup>4</sup> Some authors call them heart-shaped (Unz & Deschler-Erb 1997: 39; Voirol 2000: 24), while others call them leaf-/heart-shaped (Košćević 1991: 47). I prefer the latter term because the form of this pendant lies somewhere between the two types.

Dosad su poznata dva gardunska primjerka vrha sulice za katapult (*pilum catapultarium*)<sup>6</sup> s tuljcem za nasad te jedan primjerak u obliku dvostruke piramide (Radman-Livaja 1998: 223, 224, T. 1, 6) za kojeg autor naglašava da je vjerojatno vrh ručne sulice, ali ostavlja mogućnost uporabe ovog predmeta kao balističkog projektila. Primjerak iz Arheološkog muzeja u Splitu pripada nešto rjeđoj inačici s trnom za nasad.

Na primjerku iz Arheološkoga muzeja u Splitu (kat. br. 24, T. 2, 24) glava je čak više nego dvostruko duža od trna, što je sigurno smješta u carsko doba. U našem je slučaju preciznija datacija moguća zbog okolnosti nalaza. Naime, samo su legije, pretorijanci i ratna mornarica u rimskoj vojsci rabili balističke sprave (Radman-Livaja 2001: 126, 127). Budući da su rimske legije boravile u Gardunu najvjerojatnije između 6. i 61. god. (Sanader 2002: 127; Zaninović 1996: 284–287), nastanak našeg primjerka može se datirati u prve dvije trećine 1. st.

## VRH STRIJELE I VRHOVI KOPLJA

Vrhovi strijela čest su nalaz u logorima i vojnim postajama Rimskoga Carstva. Ta se vrsta naoružanja počinje uvoditi u rimsku vojsku od 2. st. pr. Kr., a kasnije se, u doba Principata, stvaraju i posebne jedinice strijelaca (*sagittarii*). Iako se rimske strijele prema obliku mogu podijeliti u sedam skupina (Radman-Livaja 2001: 124), ne možemo precizno odrediti vrijeme njihova nastanka. Stoga se na raznim lokalitetima, ovisno o okolnostima nalaza, datiraju od vremena republike do kasne antike i dalje, u razdoblje srednjega vijeka.<sup>7</sup> Vrh strijele iz Garduna (kat. br. 25, T. 2, 25) pripadao bi 5. skupini gdje su strijele s tuljcem i vrhom plosnatog presjeka koje se na rimskim lokalitetima različito datiraju.<sup>8</sup> Ranije otkriven primjerak iz Garduna (Bekić 1998:

man legions. Their number and type varied given the types of armaments and technological improvements and changes in military structure. Numerous sources and archeological finds have facilitated the reconstruction and study of such weapons (Radman-Livaja 2001: 126, 127). The emergence of throwing projectiles cannot be precisely dated on the basis of typological development. A distinction can be drawn between the Republic examples, in which the head of the spear is shorter than the tang or the socketed shaft, from those of the Empire, on which the head is extended and heavier, thus achieving a longer range and greater efficiency. Throughout the period of Empire, the shape of ballistic projectiles did not change.<sup>5</sup>

There are currently two known Gardun examples of socketed iron bolts (*pilum catapultarium*)<sup>6</sup> and one tanged iron projectile head (Radman-Livaja 1998: 223, 224, T. 1, 6) which this author stresses may be the head of a hand-held javelin, but leaves open the possibility of its use as a ballistic projectile. The example from the Archeological Museum in Split is a somewhat rarer variant with a tang.

The example from the Archeological Museum in Split (cat. no. 24, T. 2, 24) has a head that is over twice as long as the tang, which certainly places it within the period of Empire. In our case, more precise dating is possible due to the circumstances of the find. This is because only the legions, praetorian guard and navy in the Roman military used ballistic devices (Radman-Livaja 2001: 126, 127). Since the Roman legions most likely stayed in Gardun between 6 and 61 AD (Sanader 2002: 127; Zaninović 1996: 284–287), the emergence of this example can be dated to roughly the first sixty years of the first century.

<sup>6</sup> Antički pisci koriste različite nazive za balističke sprave što ovisi o njihovoj namjeni i vremenu u kojem su rabljeni. U 1. st. spravu za izbacivanje strelica uglavnom nazivaju *katapult* pa sam se ovdje odlučila za taj termin (vidi Radman-Livaja 2001: 126, 127). U našoj literaturi alterniraju dva naziva za ovu vrstu projektila: strelica i sulica. Uvažavajući argument autora koji se više bavio ovim pitanjem (Radman-Livaja 2001: 126, bilj. 35), odlučila sam se za termin sulica.

<sup>7</sup> Strelice slične našoj iz srednjovjekovne tvrđave Ras datirane su u prvu polovinu 12. st. (Popović 1999: 253, 254, sl. 214, 9), a među materijalom iz Podumaca kod Unešića jedna je strelica slična našoj datirana u 15. st. (Krnčević 1999–2000: 488, T. 2, 1).

<sup>8</sup> U Vindonisi se strelice datiraju prema vremenu postojanja logora od 15/16 god. do kraja 1. st. (Unz & Deschler-Erb 1997); logor u Mainzu postoji od kraja 1. st. pr. Kr. do polovice 4. st. (Behrens 1912); nalaz iz Ljubljane autorica smješta u kasnoantičko razdoblje (Sivec 1997); primjerci iz Halterna datiraju se na kraj 1. st. pr. Kr. i početak 1. st. (Harnecker 1997); primjerak iz Garduna datiran je u 1. st. (Bekić 1998).

<sup>5</sup> Projectiles similar to those covered in this study can be found throughout the Imperial period at many sites, see: Tudor 1964: Racari military camp – material dated to the 2nd and first half of the 3rd centuries; Ritterling 1913: the Hofheim military camp existed from the end of the Republic period to the third quarter of the 1st century; Unz & Deschler-Erb 1997: Vindonissa – from 15/16 AD to the end of the 1st century; Behrens 1912: the camp in Mainz existed from the end of the 1st century BC to the mid-4th century, while the example from Aquileia (Roma sul Danubio: 2002) dates to the 4th/5th century.

<sup>6</sup> Roman writers use various terms for ballistic devices depending on their purpose and the time in which they were used. In the 1st century the arrow-shooter device was generally called a *catapult* so here I decided to use this term (see Radman-Livaja 2001: 126, 127). In Croatian literature, there is alternation between two terms for this type of projectile: *strelica* (arrow) and *sulica* (spear). Taking into account the argument of an author who examined this matter much more thoroughly (Radman-Livaja 2001: 126, note 35), I have decided to use the term *sulica* in the Croatian text.

T. 2,8) autor smatra vrhom sulice, ali naglašava da ima neobične dimenzije iako oblikom ne odudara od te vrste oružja. Promatramo li njegovu veličinu, možemo zaključiti da je bio korišten kao vrh strijele pa ga zato i navodim na ovome mjestu. Iako primjerak iz Salone (Kliškić 2002: T. VI, 4) ima listoliko raskovanu glavu i time se razlikuje od gardunskoga kojemu glava ima oblik romba, naveden je kao njemu sličan jer pripada istoj skupini prema već spomenutoj tipologiji.

Autori koji su se bavili ovim problemom ističu da je ponekad teško prema obliku razlučiti vrh strijele za luk od vrha laganoga koplja za bacanje, a u nekim slučajevima i od sulice za katapult (Harnecker 1997: 32). Dužina i težina predmeta također ne pomažu pri određivanju namjene: težina im je između 25 i 75 g, a dužina od 6 do 13 cm (Baatz 1966: 205). Tako su predmeti iz Vindonisse (Unz & Deschler-Erb 1997: 23, 24, T. 361, 362.) svrstani među vrhove strelica za luk, dok se oni iz Halterna (Harnecker 1997: 4, 91, T. 77, 812, 814) navode kao vrh sulice za katapult ili vrh laganoga koplja za bacanje.

Naš primjerak pripada skupini strijele s plosnato raskovanom glavom, a takav se oblik nije upotrebljavao za bacačke sprave. Njezine dimenzije i težina također upućuju na to da je vjerojatno bila strijele za ručni luk.

Premda se ovaj oblik oružja ne može datirati prema tipološkim oznakama, naš primjerak je precizno datiran zbog okolnosti nalaza. Naime, pronađen je u Gardunu 1921, zajedno s vrhom koplja (kat. br. 26) i Justinijanovim novcem datiranim u 30. godinu vladanja (556/557).<sup>9</sup> To nam omogućuje da nastanak našeg primjerka smjestimo u ranobizantsko justinijansko vrijeme. Otprije je poznato da je Tilorij do kraja antike zadržao svoj strateški značaj (Zaninović 1996: 268) te da je bio postaja (*castellum ili refugium*) u justinijanskom sustavu utvrda u unutrašnjosti pokrajine Dalmacije (Zaninović 1996a: 270). O tome svjedoče raniji sitni nalazi iz Garduna: prsten datiran u 6.–7. st. (Šeparović 2003: 220, 232, T. 2,2), brončana aplikacija iz 7. st. (Vinski 1974: 33, T. XXV, 2), stakleni ulomci datirani u razdoblje od 4. do 8. st. (Buljević 2003: 317–319, 321, T. 10, 6–11, T. 11, 4) i od 4. do 6. st. (Buljević 2003: 323, 324, T. 12 1–3) te staklena perla iz razdoblja od 5. do 7. st. (Buljević 2003: 337, T. 15,1) i križna fibula iz Vojnića iz 6.–7. st. koji se nalazi u neposrednoj blizini (Sanader 1999–2000: 232, sl. 10). Koplje je u rimskoj vojsci bilo dio pješačke i konjaničke opreme, a različiti oblici i veličine uvjetovani su namjenom koplja jer se rabilo kao bacačko oružje, ali i za borbu izbliza.<sup>10</sup> Oblik i veličina koplja

<sup>9</sup> Zahvaljujem na pomoći kolegici Maji Bonačić Mandinić. Novac se čuva u Arheološkom muzeju u Splitu pod inv. br. 4470.

## ARROWHEADS AND SPEARHEADS

Arrowheads are a common find in the camps and military outposts of the Roman Empire. This type of weaponry began to appear in the Roman military by the second century BC, and later, during the Principate, separate archery units (*sagittarii*) were created. Although Roman arrows can be classified into seven groups (Radman-Livaja 2001: 124), the time of their emergence cannot be precisely determined. Therefore, at various sites, depending on the circumstances of the find, they are dated from the Republic period through Late Antiquity and beyond, to the Middle Ages.<sup>7</sup> The arrowhead from Gardun (cat. no. 25, T. 2, 25) belongs to the fifth group, which consists of socketed flat bladed arrow heads. These are variously dated at Roman sites.<sup>8</sup> An example discovered in Gardun earlier (Bekić 1998: T. 2, 8) is considered the spearhead by this author. Although its dimensions are unusual, its form does not differ from this type of weapon. Judging by its size, one can conclude that it was used as an arrowhead, which is why it is examined at this point. Even though the example from Salona (Kliškić 2002: T. VI, 4) has a leaf-shaped forged head and thereby differs from the Gardun example with its rhomboidal head, it is mentioned here because it is similar and belongs to the same group in the aforementioned typology.

Authors who have dealt with this problem emphasize that based on the form it is sometimes difficult to distinguish an arrowhead from the head of a light javelin, and in some cases from catapult spearheads (Harnecker 1997: 32). The length and weight of items is also no help in determining their purpose: their weights range between 25 and 75 g, and the length from 6 to 13 cm (Baatz 1966: 205). Such items from Vindonissa (Unz & Deschler-Erb 1997: 23, 24, T. 361, 362.) have been categorized among arrowheads, while those from Haltern (Harnecker 1997: 4, 91, T. 77, 812, 814) have been classified as the points of catapult spears or light javelins.

The example examined here belongs to the group of flat bladed arrowheads and this form was not used

<sup>7</sup> Arrows similar to this one from the medieval fortress of Ras have been dated to the first half of the 12th century (Popović 1999: 253, 254, Fig. 214, 9), while among the material from Podumci at Unešić an arrow similar to this one has been dated to the 15th century (Krnčević 1999–2000: 488, T. 2, 1).

<sup>8</sup> In Vindonisa the arrows are dated based on the period when the camp existed from 15/16 AD to the end of the 1st century (Unz & Deschler-Erb 1997); the camp in Mainz existed from the end of the 1st century BC to the mid-4th century (Behrens 1912); the find from Ljubljana has been placed by this author in Late Antiquity (Sivec 1997); the examples from Haltern date to the end of the 1st century BC and the beginning of the 1st century AD (Harnecker 1997); the example from Gardun dates to the 1st century (Bekić 1998).

ne omogućuju dataciju, a isto vrijedi i za pojačanje dna (kat. br. 29, T. 2, 29) koje je moglo poslužiti za zabijanje koplja u zemlju ili kao oružje ako se drška prelomila u borbi. Autori koji su se dosad bavili ovakvom vrstom materijala nisu zbog tih razloga razradili tipologiju.

Budući da koplja (kat. br. 27, 28, T. 2, 27, 28) ne možemo tipološki datirati, vrijeme njihova nastanka najbolje bi bilo smjestiti u vrijeme postojanja rimskog logora – od početka 1. st. do sredine 3. st. (Sanader 2002: 127). Na tom je području tada najviše vojske i oružja, ali kako *Tilurum* nastavlja živjeti i u kasnijem razdoblju, a oblik koplja postoji u cijelom antičkom razdoblju, takva se datacija ipak čini previše smjelom. Tomu u prilog ide i činjenica da je spomenuto koplje (kat. br. 26, T. 2, 26) s obzirom na novac datirano u 6. st., a po osnovnim se karakteristikama ne razlikuje od ostala dva, manja koplja. Zbog navedenih razloga koplja su samo okvirno datirana u razdoblje antike.

Trnokop (dolabra) bio je dio vojne opreme, a rabio se za kopanje rovova, krčenje šume, obradu drva, građevinske radove, ali i kao oružje. U vojnom kontekstu spominju ga antički pisci (Pietsch 1983: 15). Uzmemo li u obzir veličinu i položaj trna u odnosu na sjekiru te činjenicu da je pronađen u Gardunu, možemo zaključiti da se radi o vojnom trnokopu. Prema otvoru za nasad možemo ga datirati u 1. st. (Pietsch 1983: 81), a tako je datiran i trnokop pronađen za vrijeme novijih istraživanja Garduna (Šeparović 2003: 223, T. 4,1).

## KATALOG

### *Dijelovi pojasa*

1. inv. br. H 6177, T. 1, 1; kopča; bronca; 1. st.; visina 3,6 cm, dužina 3,1 cm, debljina 0,5 cm; okvir kopče je polukružan s krajevima uvijenima prema unutrašnjoj strani, prečka kopče je udubljena na mjestu gdje je bio trn, na prečki su dvije ušice kroz koje se provlačila osovina za okov; presjek polukružnoga dijela okvira kopče je trokutast, s unutrašnje strane je istaknuto rebro; trn nije sačuvan. Literatura: Šeparović 2003: 221, 233, T. 2, 6 (Gardun); Nedved 1981: 180, sl. 8, 316 (Ivoševci); Košćević 1991: 66, 67, T. XXVI, 365 (Sisak); Petru 1972: T. XCIII, 26 (Ljubljana); Sagadin 1979: 312, 313, T. 9, 15 (Ptuj); Unz & Deschler-Erb 1997: 32–34, T. 43, 1138–1163, T. 44, 1164–1182 (Vindonisa); Ritterling 1913: T. XI, 14, 20, 21 (Hofhe-

for throwing devices. Its dimensions and weight also indicate that it was probably an arrow used for a hand-held bow.

Although this form of weapon cannot be dated on the basis of its typological features, the example here has been precisely dated thanks to the circumstances of the find. It was found in Gardun in 1921, together with a spearhead (cat. no. 26) and a Justinianian coin dated to the thirtieth year of his reign (556/557).<sup>9</sup> So the emergence of this example can be placed in the early-Byzantine Justinianian era. It was known even earlier that Tilurium retained its strategic importance up to the end of Classical Antiquity (Zaninović 1996: 268) and that it was an outpost (either *castellum* or *refugium*) in the Justinianian system of fortifications in the Dalmatian provincial interior (Zaninović 1996a: 270). Early small finds from Gardun testify to this fact: a ring dated to the sixth/seventh century (Šeparović 2003: 220, 232, T. 2, 2), a seventh-century bronze attachment (Vinski 1974: 33, T. XXV, 2), glass fragments from the fourth to eighth (Buljević 2003: 317–319, 321, T. 10, 6–11, T. 11, 4) and fourth to sixth centuries (Buljević 2003: 323, 324, T. 12 1–3), a glass bead from the fifth to seventh centuries (Buljević 2003: 337, T. 15,1) and a Vojnić cross-shaped fibula from the sixth/seventh century found in the immediate vicinity (Sanader 1999–2000: 232, fig. 10).

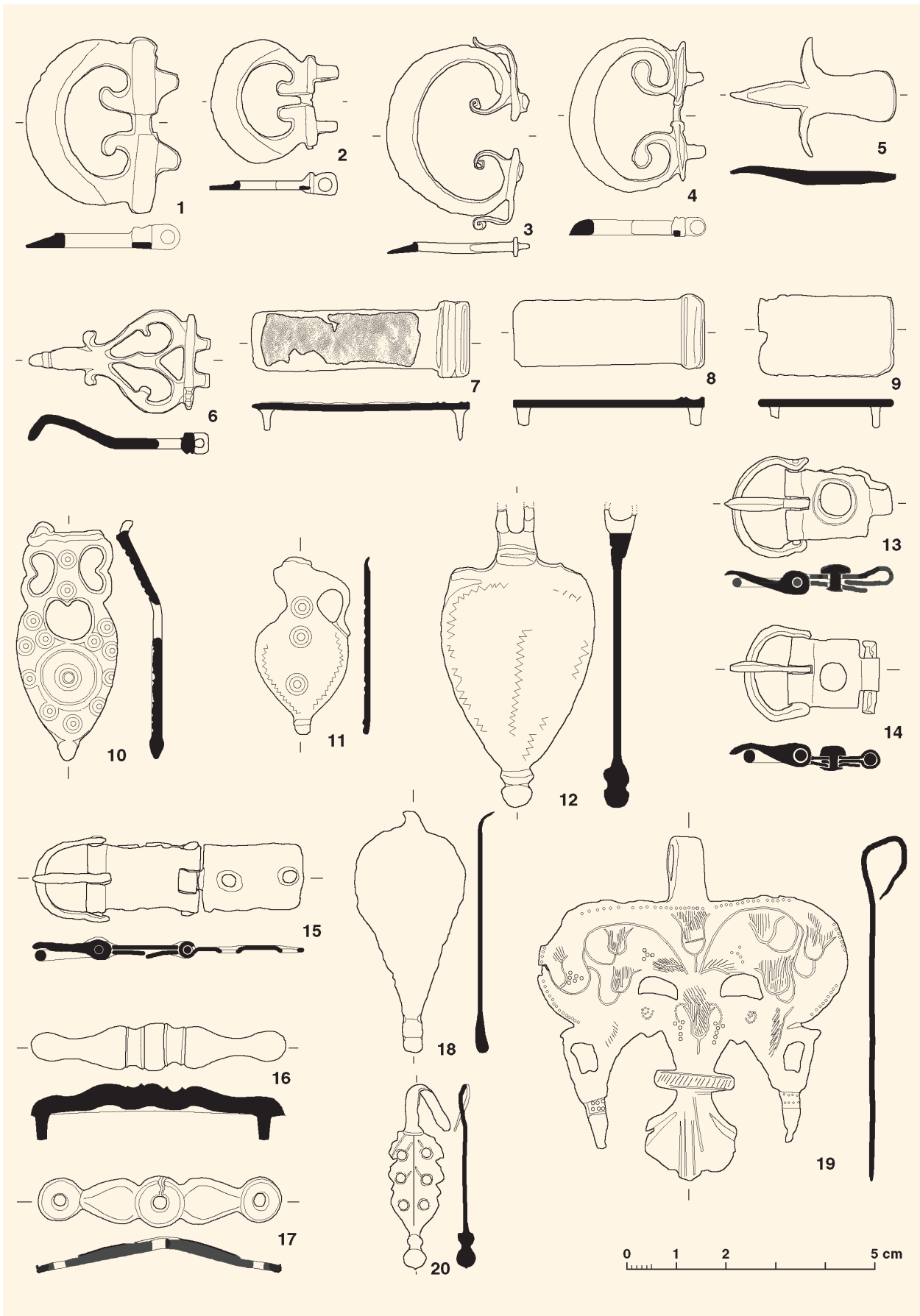
Spears in the Roman army were used both as infantry and cavalry equipment, while their various forms and sizes depended on their use, since spears were both thrown and used in hand-to-hand combat.<sup>10</sup> The form and size of spears do not facilitate dating, and the same applies to the bottom reinforcement (cat. no. 29, T. 2, 29) which could be used to stake the spear into the ground or as a weapon if the shaft was broken in battle. These are the reasons why the authors who have previously dealt with this type of material did not elaborate a typology.

Since the spears (cat. no. 27, 28, T. 2, 27, 28) cannot be typologically dated, the time of their appearance can best be placed in the period when the Roman camp existed: from the beginning of the first to the mid-third centuries (Sanader 2002: 127). The most armies and weapons were in the area at that time, but since *Tilurum* continued to live even in Late Antiquity, and the spear form existed throughout Classical Antiquity, such dating nonetheless seems excessively bold. This is backed by the fact that the coin

<sup>10</sup> O načinu uporabe koplja i primjeni u rimskoj vojsci vidi Kliškić 2002: 525–526.

<sup>9</sup> I would like to thank my colleague Maja Bonačić Mandinić for her assistance. The coin is held in the Archeological Museum in Split under inv. no. 4470.

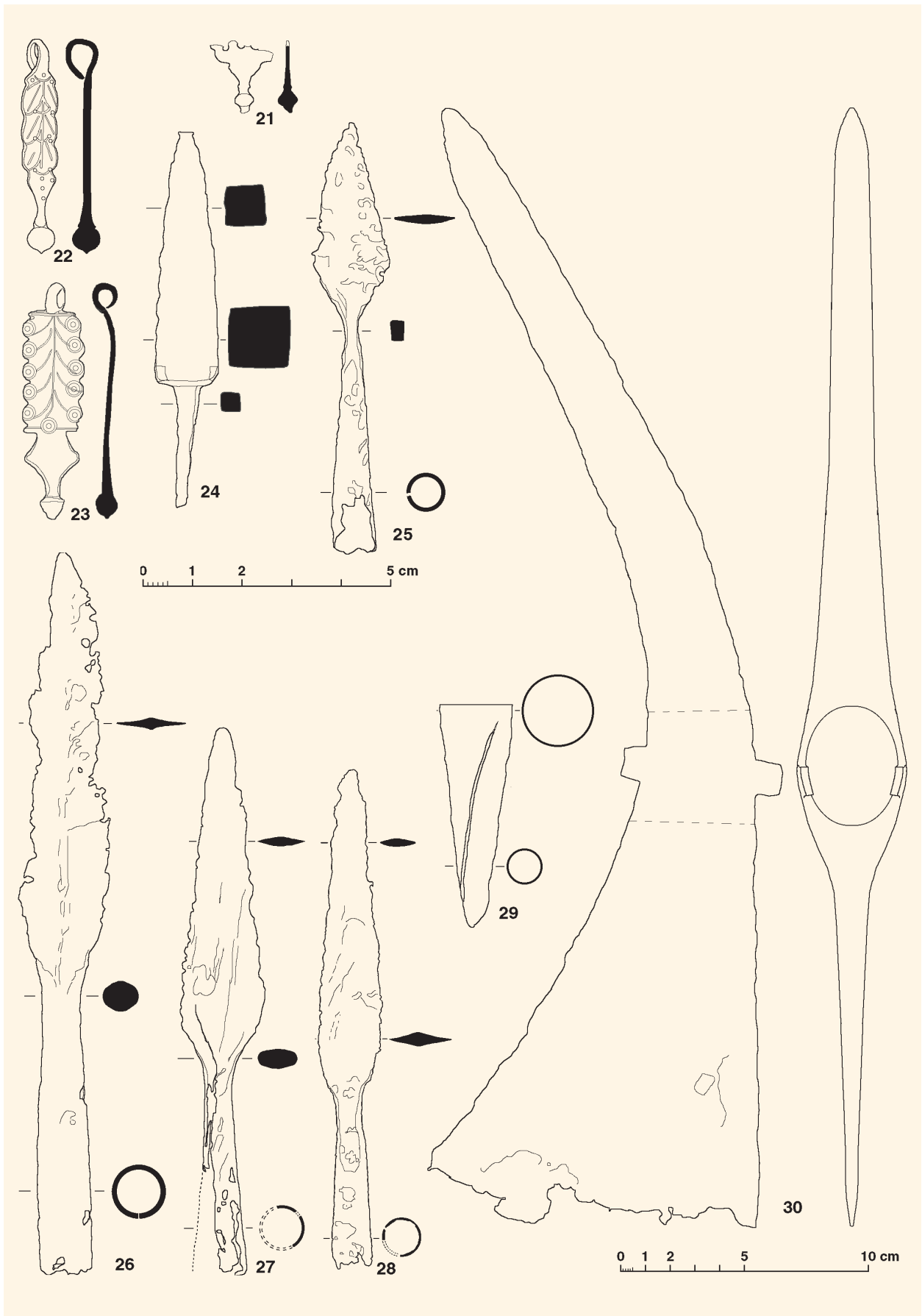
<sup>10</sup> For the manner of using spears and applications in the Roman army, see Kliškić 2002: 525–526.



Tablica 1. crtež: B. Pender

Table 1. drawing by B. Pender





Tablica 2. crtež: B. Pender

Table 2. drawing by B. Pender

im); Behrens 1912: 87, sl. 3, 15 (Mainz); Behrens 1918: 28, sl. 8, 1, 2 (Mainz); Oldenstein 1976: 211, 212, T. 74, 971 (Wiesbaden)

2. inv. br. H 1599, T. 1, 2; kopča; bronca, srebro; 1. st.; visina 2,5 cm, dužina 2,6 cm, debljina 0,4 cm; okvir kopče je polukružan s krajevima uvijenima prema unutrašnjoj strani, prečka kopče je udubljena na mjestu gdje je bio trn, na prečki su dvije ušice kroz koje se provlačila osovina za okov; presjek polukružnog dijela okvira kopče je trokutast, s unutrašnje strane istaknuto je rebro; trn nije sačuvan; s prednje strane kopča je posrebrana po cijeloj svojoj površini

Literatura: vidi 1. inv. br.

3. inv. br. H 4453, T. 1, 3; kopča; bronca; 1. st.; visina 3,4 cm, dužina 2,3 cm, debljina 0,4 cm; okvir kopče je polukružan sa stanjenim krajevima i uvijenima prema unutrašnjoj strani; prečka kopče je na krajevima uvijena prema vanjskoj strani, nedostaje dio na središnjem dijelu gdje se nalazio trn, a ušice za osovinu vidljive su samo u tragovima; presjek polukružnoga dijela okvira kopče je trokutast, s unutrašnje strane istaknuto je rebro; trn nije sačuvan

Literatura: vidi 1. inv. br.

4. inv. br. H 6176, T. 1, 4; kopča; bronca, srebro; 1. st.; visina 3,1 cm, dužina 2,7 cm, debljina 0,4 cm; okvir kopče je polukružan s krajevima uvijenima prema unutrašnjoj strani, prečka kopče je udubljena na mjestu gdje je bio trn, na prečki su dvije ušice kroz koje se provlačila osovina za okov; presjek polukružnoga dijela okvira kopče je polukružan; trn nije sačuvan, a s prednje strane sačuvani su ostaci posrebranja

Literatura: vidi 1. inv. br.

5. inv. br. H 1211, T. 1, 5; trn kopče; bronca; 1. st.; dimenzije 3, 4 x 2, 4 cm; trn u obliku ljiljana; nedostaje ušica

Literatura: Petru 1972: T. XCV, 19, T. XCIII, 26 (Ljubljana); Unz & Deschler-Erb 1997: 36, T. 43, 1141, T. 44, 1178 (Vindonissa); Behrens 1918: 28, sl. 8, 1 (Mainz)

6. inv. br. H 3217, T. 1, 6; kopča s gumbom; bronca; 1. st.; visina 2,1 cm, dužina 3,6 cm, debljina 0,2 cm; srolikli okvir kopče ima dva motiva pelta rađena na proboj; na prečki kopče dvije su ušice; trn je dosta savijen, a na vrhu trna nije sačuvano dugme

Literatura: Unz & Deschler-Erb 1997: 37, 38, T. 45, 1232 (Vindonissa); Behrens 1918, 28, sl. 9, 2 (Mainz); Voirol 2000: T. 9, 67 (Avenches)

7. inv. br. H 3674, T. 1, 7; okov za remen pregače; bronca, srebro; 1. st.; dužina 4,4 cm, visina 1,6

is dated to the sixth century and that this spear (cat. no. 26, T. 2, 26) does not differ greatly from the other two smaller examples. This is why the spears are only conditionally dated to the period of Antiquity.

The pickaxe (*dolabra*) was a component of military equipment, used to dig trenches, clear forests and work timber, and in construction work, but also as a weapon. Classical writers mention it in the military context (Pietsch 1983: 15). Taking into account the size and position of the spike in relation to the axe and the fact that it was found in Gardun, one can conclude that it was probably a military pickaxe. Based on its opening slot it can be dated to the first century (Pietsch 1983: 81), and this dating was also applied to a pickaxe found in more recent research at Gardun (Šeparović 2003: 223, T. 4,1).

## CATALOGUE

### *Belt parts*

1. inv. no. H 6177, T. 1, 1; buckle; bronze; 1<sup>st</sup> cent.; height 3.6 cm, length 3.1 cm, thickness 0.5 cm; the buckle frame is semi-circular with ends bent inward, the buckle cross-tie is indented where the prong rests; there are two small holes on the cross-tie through which the axis for the mount was pulled; the cross-section of the semi-circular buckle frame is triangular, with a rib protruding on the inside; the prong has not been preserved

Literature: Šeparović 2003: 221, 233, T. 2, 6 (Gardun); Nedved 1981: 180, fig. 8, 316 (Ivoševci); Košćević 1991: 66, 67, T. XXVI, 365 (Sisak); Petru 1972: T. XCIII, 26 (Ljubljana); Sagadin 1979: 312, 313, T. 9, 15 (Ptuj); Unz & Deschler-Erb 1997: 32–34, T. 43, 1138–1163, T. 44, 1164–1182 (Vindonissa); Ritterling 1913: T. XI, 14, 20, 21 (Hofheim); Behrens 1912: 87, fig. 3, 15 (Mainz); Behrens 1918: 28, fig. 8, 1, 2 (Mainz); Oldenstein 1976: 211, 212, T. 74, 971 (Wiesbaden)

2. inv. no. H 1599, T. 1, 2; buckle; bronze, silver; 1<sup>st</sup> cent.; height 2.5 cm, length 2.6 cm, thickness 0.4 cm; the buckle frame is semi-circular with ends bent inward, the buckle cross-tie is indented where the prong rests; there are two small holes on the cross-tie through which the axis for the mount was pulled; the cross-section of the semi-circular buckle frame is triangular, with a rib protruding on the inside; the prong has not been preserved; the entire front portion of the buckle is plated with silver

Literature: see 1. inv. no.

3. inv. no. H 4453, T. 1, 3; buckle; bronze; 1<sup>st</sup> cent.; height 3.4 cm, length 2.3 cm, thickness 0.4 cm; the buckle frame is semi-circular with narrowed

- cm, debljina s trnom 0,7 cm; pravokutni okov na jednom je kraju proširen i ukrašen urezima; sa stražnje su strane četiri trna, na prednjoj strani aplicirana je srebrna pločica
- Literatura: Unz & Deschler-Erb 1997: 52, T. 69, 1984 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: 191, 265, T. 59, 743 (Saalburg)
8. inv. br. H 2580, **T. 1, 8**; okov za remen pregače; bronca; 1. st.; dužina 3,9 cm, visina 1,5 cm, debljina s trnom 0,7 cm; pravokutni okov na jednom je kraju proširen i ukrašen urezima; sa stražnje su strane četiri trna
- Literatura: Unz & Deschler-Erb 1997: 52, T. 69, 1984 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: 191, 265, T. 59, 743 (Saalburg)
9. inv. br. H 1832, **T. 1, 9**; okov za remen pregače; bronca; 1. st.; dužina 2,7 cm, visina 1,6 cm, debljina s trnom 0,6 cm; pravokutni neukrašeni okov; sa stražnje su strane četiri trna
- Literatura: Unz & Deschler-Erb 1997: 52, T. 69, 1972 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: T. 59, 743 (Saalburg)
10. inv. br. H 4898, **T. 1, 10**; amforasti pojasni jezičac; bronca; druga polovina 4. st., prva polovina 5. st.; visina 4,8 cm, širina 2,1 cm, debljina 0,2 cm; na sredini i s obje strane u gornjem dijelu bubrežasti je proboj, a cijela površina prekrivena je utisnutim koncentričnim kružnicama; sačuvan je samo jedan mali dio ušice za vješanje ili zakovice
- Literatura: Višić-Ljubić 1994: 227, 231, kat. br. 7 (Salona); Bullinger 1969: T. XII, 1, 1a (Salona); T. XIII, 5, 5a (Carnuntum); Koščević 1991: 70, T. XXVII, 379 (Sisak); Sagadin 1979: 315, T. 10, 4 (Ptuj), T. 10, 6 (Čepna); Burger 1969: sl. 116, grob 270, 6 (Ságvár); Ožanić, Radman-Livaja & Rendić-Miočević 2003: 30, 31, sl. 251 (nepoznato nalazište); Henderson 1949: 129, T. XXXVI, 112, 113 (Richborough); Behrens 1918: 28, sl. 8, 6 (Mainz); Buora 2002: 196, T. V, 53 (Aquileia)
11. inv. br. H 3671, **T. 1, 11**; amforasti pojasni jezičac; bronca; druga polovina 4. st., prva polovina 5. st.; visina 3,6 cm, širina 1,8 cm, debljina 0,1 cm; prednja strana ukrašena je urezanim koncentričnim kružnicama i valovitim linijama; vrh jezičca je oštećen pa nije moguće ustvrditi je li se učvršćivao vješanjem ili zakovicama
- Literatura: Višić-Ljubić 1994: 227, 231, kat. br. 5 (Salona); Koščević 1991: 70, T. XXVII, 379 (Sisak); Burger 1969: sl. 107, grob 175, 1 (Ságvár);
- ends bent inward; the ends of the cross-tie are bent outward, and the central portion where the prong would go is missing, while the small holes for the axis are only visible in traces; the cross-section of the semi-circular buckle frame is triangular, with a rib protruding on the inside; the prong has not been preserved
- Literature: see 1. inv. no.
4. inv. no. H 6176, **T. 1, 4**; buckle; bronze, silver; 1<sup>st</sup> cent.; height 3.1 cm, length 2.7 cm, thickness 0.4 cm; the buckle frame is semi-circular with ends bent inward, the buckle cross-tie is indented where the prong rests; there are two small holes on the cross-tie through which the axis for the ring was pulled; the cross-section of the semi-circular buckle frame is semi-circular; the prong has not been preserved, while remains of silver plating have been preserved on the front
- Literature: see 1. inv. no.
5. inv. no. H 1211, **T. 1, 5**; buckle tongue; bronze; 1<sup>st</sup> cent.; dimensions 3.4 x 2.4 cm; lily-shaped prong; small holes missing
- Literature: Petru 1972: T. XCV, 19, T. XCIII, 26 (Ljubljana); Unz & Deschler-Erb 1997: 36, T. 43, 1141, T. 44, 1178 (Vindonissa); Behrens 1918: 28, fig. 8, 1 (Mainz)
6. inv. no. H 3217, **T. 1, 6**; buckle with button; bronze; 1<sup>st</sup> cent.; height 2.1 cm, length 3.6 cm, thickness 0.2 cm; the heart-shaped buckle frame with two perforations in the form of a pelta; there are two small holes on the cross-tie; the prong is quite bent, and the button on its end has not been preserved
- Literature: Unz & Deschler-Erb 1997: 37, 38, T. 45, 1232 (Vindonissa); Behrens 1918, 28, fig. 9, 2 (Mainz); Voirol 2000: T. 9, 67 (Avenches)
7. inv. no. H 3674, **T. 1, 7**; mount for apron belt; bronze, silver; 1<sup>st</sup> cent.; length 4.4 cm, height 1.6 cm, thickness with tack 0.7 cm; rectangular mount with one end expanded and decorated with engravings; four shanks on back, silver plate applied to front
- Literature: Unz & Deschler-Erb 1997: 52, T. 69, 1984 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: 191, 265, T. 59, 743 (Saalburg)
8. inv. no. H 2580, **T. 1, 8**; mount for apron strap; bronze; 1<sup>st</sup> cent.; length 3.9 cm, height 1.5 cm, thickness with tack 0.7 cm; rectangular mount with one end expanded and decorated with engravings; four shanks on back
- Literature: Unz & Deschler-Erb 1997: 52, T. 69, 1984 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: 191, 265, T. 59, 743 (Saalburg)

Sagadin 1979: 315, T. 10, 4 (Ptuj), 6 (Čepna); Ožanić, Radman-Livaja & Rendić-Miočević 2003: 30, 31, sl. 251 (nepoznato nalazište); Behrens 1914: 68, sl. 2, 6 (Mainz); Buora 2002: 196, T. V, 51 (Aquileia)

12. inv. br. H 3035, **T. 1, 12**; amforasti pojasni jezičac; bronca; druga polovina 4. st., prva polovina 5. st.; visina 6 cm, širina 3,1 cm, debljina 0,2 cm; prednja strana ukrašena je urezanim valovitim linijama i završava kuglastim ukrasom; ušica je izvedena lijevanjem; jezičac je bio dvodijelan; okov nije sačuvan

Literatura: Sagadin 1979: 315, T. 10, 7 (Ptuj)

### *Kopče za oklop*

13. inv. br. H 4439, **T. 1, 13**; kopča; bronca; 1. st.; visina okvira 2 cm, dužina okvira 1,5 cm, visina okova 1,5 cm, dužina okova 2,15 cm, dužina trna 1,7 cm; okvir kopče D-oblika, kružnog presjeka; prema krajevima se stanjuje i ima otvore kroz koje prolazi prečka na koju se vezuje okov kopče tako da je presavijen preko prečke, a na sredini učvršćen zakovicom; na vanjskoj strani okova je raskovana ušica za povezivanje s drugim okovom; trn se malo širi prema vrhu i lagano je savijen

Literatura: Košćević 1991: 67, T. XXV, 362, 363 (Sisak); Nedved 1981: 180, sl. 8, 317 (Ivoševci); Petru 1972: T. XXIX, grob 450, 22 (Ljubljana); Ritterling 1913: T. XI, 12,13, 15–19 (Hofheim); Behrens 1912, 87, sl. 3, 13 (Mainz); Behrens 1914, 68, sl. 2, 7, 8 (Mainz); Fingerlin 1970–1971: sl. 11, 8 (Dangstetten); Unz & Deschler-Erb 1997: 30, 31, T. 33, T. 34, 783–790 (Vindonissa); Unz 1972: sl. 4, 27 (Vindonissa)

14. inv. br. H 1601, **T. 1, 14**; kopča; bronca; 1. st.; visina okvira 1,9 cm, dužina okvira 1,3 cm, visina okova 1,5 cm, dužina 1,8 cm, dužina trna 1,5 cm; okvir kopče D-oblika i kružnoga presjeka; prema krajevima se stanjuje i ima otvore kroz koje prolazi prečka na koju se vezuje okov kopče tako da je presavijen preko prečke, a na sredini učvršćen zakovicom; na vanjskoj strani okova je raskovana ušica za povezivanje s drugim okovom kroz koju je provučena prečka; trn se malo širi prema vrhu i lagano je savijen

Literatura: vidi 13. inv. br.

15. inv. br. H 4202, **T. 1, 15**; kopča; bronca; 1. st.; visina okvira 1,7 cm, dužina okvira 1,35 cm, visina prvog okova 1,35 cm, dužina prvog okova 2,2 cm, visina drugog okova 1,4 cm, dužina drugog okova 2,1 cm, dužina trna 1,6 cm; okvir kopče D-oblika i kružnoga presjeka; prema krajevima se stanjuje i ima otvore kroz koje prolazi prečka

9. inv. no. H 1832, **T. 1, 9**; mount for apron strap; bronze; 1<sup>st</sup> cent.; length 2.7 cm, height 1.6 cm, thickness with tack 0,6 cm; rectangular undecorated mount; four shanks on back

Literature: Unz & Deschler-Erb 1997: 52, T. 69, 1972 (Vindonissa); Voirol 2000: 19, T. 9, 71, 73, 75–77 (Avenches); Oldenstein 1976: T. 59, 743 (Saalburg)

10. inv. no. H 4898, **T. 1, 10**; amphora-shaped strap end; bronze; second half of 4<sup>th</sup> cent., first half of 5<sup>th</sup> cent.; height 4.8 cm, width 2.1 cm, thickness 0.2 cm; perforation in the form of a pelta in middle and on both sides of upper portion; entire surface covered with impressed concentric circles; only a small part of the holes for hanging or rivets preserved  
Literature: Višić-Ljubić 1994: 227, 231, cat. no. 7 (Salona); Bullinger 1969: T. XII, 1, 1a (Salona); T. XIII, 5, 5a (Carnuntum); Košćević 1991: 70, T. XXVII, 379 (Sisak); Sagadin 1979: 315, T. 10, 4 (Ptuj), T. 10, 6 (Čepna); Burger 1969: fig. 116, grave 270, 6 (Ságvár); Ožanić, Radman-Livaja & Rendić-Miočević 2003: 30, 31, fig. 251 (unknown site); Henderson 1949: 129, T. XXXVI, 112, 113 (Richborough); Behrens 1918: 28, fig. 8, 6 (Mainz); Buora 2002: 196, T. V, 53 (Aquileia)

11. inv. no. H 3671, **T. 1, 11**; amphora-shaped strap end; bronze; second half of 4<sup>th</sup> cent., first half of 5<sup>th</sup> cent.; height 3.6 cm, width 1.8 cm, thickness 0.1 cm; front decorated with engraved concentric circles and wavy lines; end damaged so whether it was fastened by hanging or rivets cannot be ascertained  
Literature: Višić-Ljubić 1994: 227, 231, cat. no. 5 (Salona); Košćević 1991: 70, T. XXVII, 379 (Sisak); Burger 1969: fig. 107, grave 175, 1 (Ságvár); Sagadin 1979: 315, T. 10, 4 (Ptuj), 6 (Čepna); Ožanić, Radman-Livaja & Rendić-Miočević 2003: 30, 31, fig. 251 (unknown site); Behrens 1914: 68, fig. 2, 6 (Mainz); Buora 2002: 196, T. V, 51 (Aquileia)

12. inv. no. H 3035, **T. 1, 12**; amphora-shaped strap end; bronze; second half of 4<sup>th</sup> cent., first half of 5<sup>th</sup> cent.; height 6 cm, width 3.1 cm, thickness 0.2 cm; front decorated with engraved wavy lines, ending with spherical decoration; small suspension loop made by casting; strap end was two-piece; mount not preserved

Literature: Sagadin 1979: 315, T. 10, 7 (Ptuj)

### *Armor buckle*

13. inv. no. H 4439, **T. 1, 13**; buckle; bronze; 1<sup>st</sup> cent.; frame height 2 cm, frame length 1.5 cm, ring height 1.5 cm, ring length 2.15 cm, tongue length 1.7 cm; D-shaped buckle frame with round cross-section; becomes thinner at ends and contains openings for cross-tie to which the

na koju se vezuje okov kopče tako da je presavijen preko prečke; na vanjskoj strani okova dvije su raskovane ušice kroz koje je provučena prečka; pomoću nje je učvršćen drugi okov koji ima dva kružna otvora; trn se malo širi prema vrhu i lagano je savijen

Literatura: vidi 13. inv. br.

### *Konjska oprema*

16. inv. br. H 4049, **T. 1, 16**; okov za uzde; bronca; 1. st.; dužina 5,2 cm, širina 1 cm, debljina s trnom 1 cm; krajevi okova su zaobljeni; prema sredini se sužava, a potom širi; središnji je dio ukrašen urezima i konkavnim udubljenjima; sa stražnje strane na svakom je kraju po jedan trn za pričvršćivanje remena

Literatura: Unz & Deschler-Erb 1997: 47, T. 63, 1817 (Vindonissa); Ritterling 1913: 173, T. XIII, 20 (Hofheim); Voirol 2000: 26, T. 18, 78, 177 (Avenches)

17. inv. br. H 6175, **T. 1, 17**; okov za uzde; bronca; 1. st.; dužina 4,9 cm, širina 1,1 cm, debljina 0,3 cm; kružni probušeni krajevi okova koji se prema sredini širi; na sredini je krug sa središnjim kružnim otvorom; okov je zakrivljen tako da je sredina izdignuta

Literatura: Unz & Deschler-Erb 1997: 47, T. 63, 1809, T. 64, 1820 (Vindonissa); Behrens 1918: 28, sl. 8, 9 (Mainz); Ritterling 1913: 173, T. XIII, 16, 17 (Hofheim); Voirol 2000: 26, T. 18, 78, 178 (Avenches)

18. inv. br. H 4013, **T. 1, 18**; listoliko-srčoliki privjesak; bronca; druga polovina 1. st., početak 2. st.; visina 4,9 cm, širina 2,3 cm, debljina 0,1 cm; listoliki privjesak, neukrašen, kuglastoga završetka; ušica za vješanje nije sačuvana

Literatura: Šeparović 2003: 224, T. 5, 2 (Gardun); Nedved 1981: 156, sl. 2, 71 (Ivoševci); Koščević 1991: 49, T. XIII, 204 (Sisak); Lawson 1978: 150, sl. 9, 8 (Rottweil); Istenič 2000: 173, 172, T. 112, grob 539, 8, (Ptuj); von Schnurbein 1983: sl. 8, 11 (Friedberg); Behrens 1912, 88, sl. 4, 16 (Mainz); Unz & Deschler-Erb 1997: 41, 44, T. 55, 1504, 1511, 1512 (Vindonissa); Voirol 2000: 24, T. 13, 113 (Avenches)

19. inv. br. H 4617, **T. 1, 19**; trodijelni listoliki privjesak; bronca; druga polovina 1. st.; visina 7 cm, širina 6,3 cm, debljina 0,1 cm; na gornjem dijelu privjeska dvije su perforacije u obliku pelte, a tvore ih i postranični krakovi koji se uvijaju prema vanjskoj strani i ponovno spajaju s privjeskom; srednji krak završava u obliku palmete, a postranični se sužavaju prema vrhu; prednja

buckle mount is connected such that it is bent over the cross-tie, reinforced with rivet in the middle; the outer side has forged small hole used to connect it with other ring; the prong is slightly wider at the tip and slightly bent

Literature: Koščević 1991: 67, T. XXV, 362, 363 (Sisak); Nedved 1981: 180, fig. 8, 317 (Ivoševci); Petru 1972: T. XXIX, grave 450, 22 (Ljubljana); Ritterling 1913: T. XI, 12,13, 15–19 (Hofheim); Behrens 1912, 87, fig. 3, 13 (Mainz); Behrens 1914, 68, fig. 2, 7, 8 (Mainz); Fingerlin 1970–1971: fig. 11, 8 (Dangstetten); Unz & Deschler-Erb 1997: 30, 31, T. 33, T. 34, 783–790 (Vindonissa); Unz 1972: fig. 4, 27 (Vindonissa)

14. inv. no. H 1601, **T. 1, 14**; buckle; bronze; 1<sup>st</sup> cent.; frame height 1.9 cm, frame length 1.3 cm, mount height 1.5 cm, length 1.8 cm, tongue length 1.5 cm; D-shaped buckle frame with round cross-section; becomes thinner at ends and contains openings for cross-tie to which the buckle mount is connected such that it is bent over the cross-tie, reinforced with rivet in the middle; the outer side has forged small hole to connect it with the other mount through which the cross-tie was pulled; the tongue (prong) is slightly wider at the tip and slightly bent

Literature: see 13. inv. no.

15. inv. no. H 4202, **T. 1, 15**; buckle; bronze; 1<sup>st</sup> cent.; frame height 1.7 cm, frame length 1.35 cm, height of first ring 1.35 cm, length of first mount 2.2 cm, height of second mount 1.4 cm, length of second mount 2.1 cm, tongue length 1.6 cm; D-shaped buckle frame with round cross-section; becomes thinner at ends and contains openings for cross-tie to which the buckle mount is connected such that it is bent over the cross-tie; the outer side has two forged small holes through which the cross-tie was pulled; it helps fasten the other mount which has two circular openings; the tongue (prong) is slightly wider at the tip and slightly bent

Literature: see 13. inv. no.

### *Riding gear*

16. inv. no. H 4049, **T. 1, 16**; mount for reins; bronze; 1<sup>st</sup> cent.; length 5.2 cm, width 1 cm, thickness with tack 1 cm; the ends of the mount are rounded; it becomes narrow in the middle, and then broadens; the middle is decorated with engravings and concave grooves; each end of the back has one shank for fastening on the strap

Literature: Unz & Deschler-Erb 1997: 47, T. 63, 1817 (Vindonissa); Ritterling 1913: 173, T. XIII, 20 (Hofheim); Voirol 2000: 26, T. 18, 78, 177 (Avenches)

17. inv. no. H 6175, **T. 1, 17**; mount for reins; bronze; 1<sup>st</sup> cent.; length 4.9 cm, width 1.1 cm, thickness

strana ukrašena je urezanim vegetacijskim motivima, a uz rub točkastim linijama; na nekoliko mjesta vidljivi su ostaci posrebrenja; na vrhu privjeska je ušica koja je služila za učvršćivanje privjeska na faleru

Analogije: Šeparović 2003; 243, T. 5, 2 (Gardun); Ivčević 2004: 237, 241, sl. 9 (Narona); Petru 1972: T. XCV, 21 (Ljubljana); Unz & Deschler-Erb 1997: T. 51, 1384 (Vindonissa); Dixon & Southern 1992: 69, sl. 38 (Rottweil); Lawson 1978: 15, sl. 9, 7, 8 (Newstead); Košćević 1992: 49, T. XV, 220 (Sisak); Boube-Piccot 1964: 159, sl. 1, 6 (Tarragona); Mackensen 1991: 174, sl. 4, 4 (Magdalensberg); Ritterling 1913: 178, T. XII, 37 (Hofheim)

20. inv. br. H 6178, **T. 1, 20**; listoliki privjesak; bronca; 1. st.; visina 3,7 cm, širina 1,1 cm, debljina 0,1 cm; rubovi privjeska su valoviti, a sa svake strane uz rub tri su kružna otvora; na dnu je kuglasti završetak; prednja strana ukrašena je urezanim linijama; ušica za vješanje napravljena je savijanjem žice

Literatura: Nedved 1981: 156, sl. 2, 67 (Ivoševci); Unz & Deschler-Erb 1997: 47, T. 55, 1524 (Vindonissa); Behrens 1914: 68, sl. 2, 20 (Mainz), Unz 1972: 47, sl. 6, 63 (Vindonissa)

21. inv. br. H 6180, **T. 2, 21**; listoliki privjesak; bronca; 1. st.; visina 1,4 cm, širina 1,3 cm, debljina 0,1 cm; ulomak privjeska; sačuvan je kuglasti završetak i dio donjeg dijela na kojem je vidljivo da je privjesak imao kružne otvore uz rub te valovite rubove

Literatura: vidi 20. inv. br.

22. inv. br. H 6179, **T. 2, 22**; listoliki privjesak; bronca; 1. st.; visina 4,3 cm, širina 0,9 cm, debljina 0,15 cm; rubovi su valoviti, a prednja strana ukrašena je urezanim linijama i točkama; ima kuglasti završetak; ušica je napravljena savijanjem žice

Literatura: Unz & Deschler-Erb 1997: 47, T. 56, 1533 (Vindonissa)

23. inv. br. H 2482, **T. 2, 23**; listoliki privjesak; bronca; 1. st.; visina 4,8 cm, širina 1,25 cm, debljina 0,1 cm; rubovi su valoviti i ukrašeni koncentričnim kružnicama, a prednja strana ukrašena je urezanim linijama; u donjem dijelu privjesak je raskovan u obliku romba i završava kuglastim ukrasom; ušica je nastala savijanjem žice

Literatura: Unz & Deschler-Erb 1997: 47, T. 56, 1537 (Vindonissa)

### Oružje

24. inv. br. H 6174., **T. 2, 24**; vrh sulice za katapult; željezo; prve dvije trećine 1. st.; dužina 7,6 cm,

0.3 cm; circular perforated ends of the mount widen toward the middle; the middle contains a circle with a central circular opening; the mount is bent so that the middle is raised

Literature: Unz & Deschler-Erb 1997: 47, T. 63, 1809, T. 64, 1820 (Vindonissa); Behrens 1918: 28, fig. 8, 9 (Mainz); Ritterling 1913: 173, T. XIII, 16, 17 (Hofheim); Voirol 2000: 26, T. 18, 78, 178 (Avenches)

18. inv. no. H 4013, **T. 1, 18**; leaf-/heart shaped pendant; bronze; second half of 1<sup>st</sup> cent., beginning of 2<sup>nd</sup> cent.; height 4.9 cm, width 2.3 cm, thickness 0.1 cm; leaf-shaped pendant, undecorated, spherical end; small suspension loop not preserved  
Literature: Šeparović 2003: 224, T. 5, 2 (Gardun); Nedved 1981: 156, fig. 2, 71 (Ivoševci); Košćević 1991: 49, T. XIII, 204 (Sisak); Lawson 1978: 150, fig. 9, 8 (Rottweil); Istenič 2000: 173, 172, T. 112, grave 539, 8, (Ptuj); von Schnurbein 1983: fig. 8, 11 (Friedberg); Behrens 1912, 88, fig. 4, 16 (Mainz); Unz & Deschler-Erb 1997: 41, 44, T. 55, 1504, 1511, 1512 (Vindonissa); Voirol 2000: 24, T. 13, 113 (Avenches)

19. inv. no. H 4617, **T. 1, 19**; three-piece leaf-shaped pendant; bronze; second half of 1<sup>st</sup> cent.; height 7 cm, width 6.3 cm, thickness 0.1 cm; the upper portion of the pendant has two pelta-shaped perforations formed by lateral tendrils that twist outward and then reconnect with the pendant; the middle tendril ends in a palmette, while the lateral tendrils narrow toward the top; the front is decorated with engraved plant motifs and with dotted lines along the edge; the remains of silver plating are visible at several places; there is a small loop at the top of the pendant that served to fasten it to the phalera

Analogies: Šeparović 2003; 243, T. 5, 2 (Gardun); Ivčević 2004: 237, 241, fig. 9 (Narona); Petru 1972: T. XCV, 21 (Ljubljana); Unz & Deschler-Erb 1997: T. 51, 1384 (Vindonissa); Dixon & Southern 1992: 69, fig. 38 (Rottweil); Lawson 1978: 15, fig. 9, 7, 8 (Newstead); Košćević 1992: 49, T. XV, 220 (Sisak); Boube-Piccot 1964: 159, fig. 1, 6 (Tarragona); Mackensen 1991: 174, fig. 4, 4 (Magdalensberg); Ritterling 1913: 178, T. XII, 37 (Hofheim)

20. inv. no. H 6178, **T. 1, 20**; leaf-shaped pendant; bronze; 1<sup>st</sup> cent.; height 3.7 cm, width 1.1 cm, thickness 0.1 cm; the edges of the pendant are undulating, with three circular openings on each side along the edge; there is a spherical end at the bottom; the front is decorated with engraved lines; the loop for hanging is made from bent wire  
Literature: Nedved 1981: 156, fig. 2, 67 (Ivoševci); Unz & Deschler-Erb 1997: 47, T. 55, 1524 (Vindonissa); Behrens 1914: 68, fig. 2, 20 (Mainz), Unz 1972: 47, fig. 6, 63 (Vindonissa)

- dužina glave 5,2 cm, dužina trna 2,4 cm, debljina glave u najširem dijelu 1,3 cm, debljina trna u najširem dijelu 0,4 cm, težina 40 g; glava i trn su četvrtastoga presjeka, trn je nešto širi u dijelu uz glavu, a glava je izduženog piramidalnog oblika; vrh je zaravnjen
- Literatura: Zanier 1994: 589, sl. 2 (Oberammergau); Unz & Deschler-Erb 1997: 9, 24, T. 22, 431–458 (Vindonissa); Radman-Livaja 2001: 135, T. 3,5 (Sisak); Sivec 1997: 146, T. 1,6 (Ljubljana); Tudor 1964: 241, T. 3, 17, 18 (Racari), Roma sul Danubio 2002: 245, IV a, 125 (Aquila); Behrens 1912: 9, sl. 6, 41 (Mainz); Harnecker 1997: 34, 93, T. 79, 848, 849 (Halter); Ritterling 1913: 160, T. XVII, 26, 28 (Hofheim); James, Taylor 1994: 94, fig.1 (Qasr Ibrim)
25. inv. br. H 6010; **T. 2, 25**; vrh strijele; željezo; 6. st.; dužina 8,6 cm, dužina glave 3,9 cm, dužina tuljca 4,7 cm, širina tuljca 0,9 cm, širina glave 1,6 cm, težina 20 g; strelica s tuljcem za nasad; rombična glava plosnatog je presjeka
- Literatura: Bekić 1998: T. 2,8 (Gardun); Sivec 1997: T. 1, 1 (Ljubljana); Unz & Deschler-Erb 1997: 23, 24, T. 361, 362 (Vindonissa); Harnecker 1997: 4, 91, T. 77, 812, 814 (Halter); Behrens & Brenner 1911: sl. 28, 7 (Mainz); Henderson 1949: 152,153, T. LIX, 293 (Richborough); Galliazzo 1979: 210, 211, sl. 92, 9 (Treviso); Voirol 2000: 11, T. 537 (Avenches)
26. inv. br. H 5995; **T. 2, 26**; vrh koplja; željezo; 6. st.; dužina 29,2 cm, dužina tuljca 11,5 cm, dužina vrha 17, 7 cm, promjer tuljca u najširem dijelu 2,2 cm, širina vrha u najširem dijelu 3,6 cm, težina 155 g; rubovi vrha su oštećeni, a uzdužno rebro snažno istaknuto
- Literatura: Fingerlin 1970–1971: T. 14, 3 (Dangstetten); Ritterling 1913: T. XVII, 11 (Hofheim); Harnecker 1997: 90, T. 75, 800, 804 (Halter); Behrens & Brenner 1911: 115, sl. 28, 4 (Mainz); Fisher 1973: sl. 43, 1 (Hedderheim); Henderson 1949: 152, P. LVIII, 287 (Richborough); Roma sul Danubio 2002: 231, IVa.11 (Carnuntum); Reddé & von Schnurbein 1995: 145, fig. 35, 10, 12, 13 (Alésia); Unz & Deschler-Erb 1997: 20, 21, T. 16, 255–258, 17, 262–269 (Vindonissa); Petru 1972: T. XC, 1.
- za uporabu u kasnoj antici: Chadwick Hawkes & Clough Dunning 1962–1963: T. 7, 7,8 (Richborough); Milošević 1998: 230, 374 (Blajići, Krušvar)
27. inv. br. H 5996; **T. 2, 27**; vrh koplja; željezo; antika; dužina 22,4 cm, dužina tuljca 8,5 cm, dužina vrha 13,9 cm, promjer tuljca 1,4 cm, širina vrha u najširem dijelu 3,3 cm, težina 75 g; tuljac za nasad je prilično oštećen i nedostaje mu jedan
21. inv. no. H 6180, **T. 2, 21**; leaf-shaped pendant; bronze; 1<sup>st</sup> cent.; height 1.4 cm, width 1.3 cm, thickness 0.1 cm; pendant fragment; the spherical ending and lower portion have been preserved, which indicate that the pendant had circular openings along the edge and undulating edges
- Literature: 20. inv. no.
22. inv. no. H 6179, **T. 2, 22**; leaf-shaped pendant; bronze; 1<sup>st</sup> cent.; height 4.3 cm, width 0.9 cm, thickness 0.15 cm; edges are undulating, while the front is decorated with engraved lines and dots; spherical ending; loop made of bent wire
- Literature: Unz & Deschler-Erb 1997: 47, T. 56, 1533 (Vindonissa)
23. inv. no. H 2482, **T. 2, 23**; leaf-shaped pendant; bronze; 1<sup>st</sup> cent.; height 4.8 cm, width 1.25 cm, thickness 0.1 cm; the edges are undulating and decorated with concentric circles, while the front is decorated with engraved lines; the pendant is forged into rhomboid form at its lower portion and ends in a spherical decoration; the loop is made of bent wire
- Literature: Unz & Deschler-Erb 1997: 47, T. 56, 1537 (Vindonissa)

### Weapons

24. inv. no. H 6174., **T. 2, 24**; tanged projectile head; iron; first sixty years of 1<sup>st</sup> cent.; length 7.6 cm, length of head 5.2 cm, length of tang 2.4 cm, thickness of head at broadest point 1.3 cm, thickness of tang at broadest point 0.4 cm, weight 40 g; head and tang have rectangular cross-section, tang is somewhat wider at section along head; head has elongated pyramidal form; tip is straight
- Literature: Zanier 1994: 589, fig. 2 (Oberammergau); Unz & Deschler-Erb 1997: 9, 24, T. 22, 431–458 (Vindonissa); Radman-Livaja 2001: 135, T. 3,5 (Sisak); Sivec 1997: 146, T. 1,6 (Ljubljana); Tudor 1964: 241, T. 3, 17, 18 (Racari), Roma sul Danubio 2002: 245, IV a, 125 (Aquila); Behrens 1912: 9, fig. 6, 41 (Mainz); Harnecker 1997: 34, 93, T. 79, 848, 849 (Halter); Ritterling 1913: 160, T. XVII, 26, 28 (Hofheim); James & Taylor 1994: 94, fig.1 (Qasr Ibrim)
25. inv. no. H 6010; **T. 2, 25**; arrowhead; iron; 6<sup>th</sup> cent.; length 8.6 cm, length of head 3.9 cm, length of socketed shaft 4.7 cm, width of shaft 0.9 cm, width of head 1.6 cm, weight 20 g; arrow with socketed shaft; rhomboid head with flat cross-section
- Literature: Bekić 1998: T. 2,8 (Gardun); Sivec 1997: T. 1, 1 (Ljubljana); Unz & Deschler-Erb 1997: 23, 24, T. 361, 362 (Vindonissa); Harnecker 1997: 4, 91, T. 77, 812, 814 (Halter); Behrens & Brenner 1911: fig. 28, 7 (Mainz); Henderson 1949: 152,153, T. LIX, 293 (Richborough); Gal-

dio; listolikog je oblika i uzduž vrha jedva je vidljivo rebro

Literatura: vidi 26. inv. br.

28. inv. br. H 5998; **T. 2, 28**; vrh koplja; željezo; antika; dužina 20, 2 cm, dužina tuljca 7,3 cm, dužina vrha 12,9 cm, promjer tuljca u najširem dijelu 1,5 cm, širina vrha u najširem dijelu 2,1 cm, težina 60 g; tuljac za nasad je oštećen, a vrh je listolikog oblika s rebrom na sredini

Literatura: vidi 26. inv. br.

29. inv. br. H 6011; **T. 2, 29**; pojačanje dna koplja; željezo; antika; visina 9,2 cm, širina 3,3 cm; dno koplja u obliku je tuljca; na mjestu gdje je tuljac spojen uzduž nalazi se prorez

Literatura: Šeparović 2003: 237, 238, T. 3, 2 (Gardun); Bekić 1998: 235, T. 2, 9 (Gardun); Harnecker 1997: 92, T. 78, 825 (Haltern); Behrens & Brenner 1911: 115, sl. 28, 18 (Mainz); Sivec 1997: 146, T.10 (Ljubljana); Unz & Deschler-Erb 1997: 21, T. 18, 301 (Vindonissa)

30. inv. br. H 4911; **T. 2, 30**; trnokop; željezo; 1. st.; dužina 47 cm, dužina sječiva sjekire 13,4 cm, otvor za nasad drške 5 x 3,5 cm, težina 1900 g; rupa za nasad drške je ovalna; s jedne je strane blago povijeni trn, a s druge raskovana sjekira u obliku trapeza

Literatura: Šeparović 2003: 223, T. 4,1 (Gardun); Hoffiller 1910/1911: 174, sl. 17 (Sisak); Pietsch 1983: 16, 17, T. 3, 45 (Saalburg)

liazzo 1979: 210, 211, fig. 92, 9 (Treviso); Voirol 2000: 11, T. 537 (Avenches)

26. inv. no. H 5995; **T. 2, 26**; spearhead; iron; 6<sup>th</sup> cent.; length 29.2 cm, length of shaft 11.5 cm, length of top 17.7 cm, diameter of shaft at broadest point 2.2 cm, width of top at broadest point 3.6 cm, weight 155 g; edges of top are damaged, while lengthwise rib is very marked

Literature: Fingerlin 1970–1971: T. 14, 3 (Dangstetten); Ritterling 1913: T. XVII, 11 (Hofheim); Harnecker 1997: 90, T. 75, 800, 804 (Haltern); Behrens & Brenner 1911: 115, fig. 28, 4 (Mainz); Fisher 1973: fig. 43, 1 (Hedderheim); Henderson 1949: 152, P. LVIII, 287 (Richborough); Roma sul Danubio 2002: 231, IVa.11 (Carnuntum); Reddé & von Schnurbein 1995: 145, fig. 35, 10, 12, 13 (Alésia); Unz & Deschler-Erb 1997: 20, 21, T. 16, 255–258, 17, 262–269 (Vindonissa); Petru 1972: T. XC, 1. for use in Late Antiquity: Chadwick Hawkes & Clough Dunning 1962–1963: T. 7, 7,8 (Richborough); Milošević 1998: 230, 374 (Blajici, Krušvar)

27. inv. no. H 5996; **T. 2, 27**; spearhead; iron; Classical Antiquity; length 22.4 cm, length of shaft 8.5 cm, length of point 13.9 cm, diameter of shaft 1.4 cm, width of top at broadest point 3.3 cm, weight 75 g; the socketed shaft is quite damaged and part of it is missing; it is leaf-shaped and all along the top there is a barely visible rib

Literature: see 26. inv. no.

28. inv. no. H 5998; **T. 2, 28**; spearhead; iron; Classical Antiquity; length 20.2 cm, length of shaft 7.3 cm, length of point 12.9 cm, diameter of shaft at broadest point 1.5 cm, width of top at broadest point 2.1 cm, weight 60 g; the socketed shaft is damaged, while the top is leaf-shaped with a rib in the middle

Literature: see 26. inv. no.

29. inv. no. H 6011; **T. 2, 29**; reinforcement at bottom of spear; iron; Classical Antiquity; height 9.2 cm, width 3.3 cm; cylindrical bottom of spear; there is a slot where the shaft is connect lengthwise

Literature: Šeparović 2003: 237, 238, T. 3, 2 (Gardun); Bekić 1998: 235, T. 2, 9 (Gardun); Harnecker 1997: 92, T. 78, 825 (Haltern); Behrens & Brenner 1911: 115, fig. 28, 18 (Mainz); Sivec 1997: 146, T.10 (Ljubljana); Unz & Deschler-Erb 1997: 21, T. 18, 301 (Vindonissa)

30. inv. no. H 4911; **T. 2, 30**; pickaxe; iron; 1<sup>st</sup> cent.; length 47 cm, length of axe blade 13.4 cm, opening for handle slot 5 x 3.5 cm, weight 1900 g; the hole for the handle is oval; one side is a slightly bent pick, the other is a forged trapezoidal axe

Literature: Šeparović 2003: 223, T. 4,1 (Gardun); Hoffiller 1910/1911: 174, fig. 17 (Sisak); Pietsch 1983: 16, 17, T. 3, 45 (Saalburg)



## KRATICE/ABBREVIATIONS

- Roma sul Danubio 2002 M. Buora & W. Jobst (ed.): *Da Aquileia a Carnuntum lungo la via dell'ambra* (Catalogi e monografie archeologiche dei Civici musei di Udine 6), Udine, 2002.

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