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GROB TESARA S NEKROPOLE NA RELJI U ZADRU

Poštovanom profesoru Janku Beloševiću s kojim sam prvi put iskusio radost terenskog istraživanja

*„fabricam materiariam Daedalus [invenit], et in ea serram, asciam, perpendiculum, terebram, glutinum, ichtyocollum" (Plinije N.H., 7, 198)**

Tijekom istraživanja velikog rimskodobnog groblja na Relji u Zadru 1989./90. godine, među gotovo tisuću grobova s oba ritusa pokapanja, pronađen je i grob s tegulama na dvije vode obrubljen amorfnim kamenom. U njemu su se nalazili ostatci inhumiranog pokojnika, a grobne priloge činilo je jedanaest željeznih predmeta. Radi se o osam alatki, dva okova za dršku i jednom vršku koplja. Grobovi s alatkama rijetko su nalaženi na širem prostoru Zadra, ali i u Liburniji odnosno rimskoj provinciji Dalmaciji. Budući da su neki od predmeta vrlo rijetki, ne samo na našim nalazištima, napravljena je detaljna tipološka i kronološka analiza. Prigodom konzervatorske obrade pronađeni su tragovi drveta i tekstila pa su i oni podvrgnuti ispitivanju. Antropološka obrada skeleta pokazala je da se radi o mlađoj osobi koja se bavila fizičkim radom. Na osnovi svih podataka zaključilo se kako se radi o tesaru koji je možda bio dijelom neke vojne jedinice koja je u to vrijeme, dakle na prijelazu iz 4. u 5. st. boravila u Zadru.

Ključne riječi: Relja, grob, inhumacija, alat, antropologija, konzervacija

* „Drvodjelstvo (je izumljeno) od Dedala i s pilom, teslom, viskom, svrdlom, biljnim ljepilom, ribljim ljepilom."

GRAVE OF A CARPENTER FROM THE NECROPOLIS AT RELJA IN ZADAR

To the honourable Professor Janko Belošević with whom I had first experienced the joy of fieldwork

*"fabricam materiariam Daedalus [invenit], et in ea serram, asciam, perpendiculum, terebram, glutinum, ichtyocollum" (Pliny N. H., 7, 198)**

During excavation of the large Roman cemetery at Relja in Zadar during the period of 1989-90, a grave with tegulae on two guides and featuring amorphous stone was found among the nearly one thousand graves that featured both burial rites. It contained the remains of an inhumed deceased person and grave goods comprising eleven iron objects. The objects were in fact eight tools, two braces and a spear tip. Graves with tools have been found in the wider area of Zadar, but in Liburnia, i.e. the Roman province of Dalmatia, such finds have been rare. As some of the objects are very rare, and not only on our sites, a detailed typological and chronological analysis was undertaken. During conservation treatment, traces of wood and textiles were found, hence they too were subject to testing. Anthropological analysis of the skeleton showed that the grave contained a young person who had done physical labour. The conclusion, based on all the data, is that the deceased person was a carpenter who may have been assigned to a military unit which at the time, meaning at the transition from the 4th to the 5th century, had been stationed in Zadar.

Keywords: Relja, grave, inhumation, tool, anthropology, conservation

* „Carpentry (was invented) by Daedalus along with the saw, tesla, plummet, drill, vegetable glue, fish glue."

Slika 1-2. Fotografija zatvorenog i otvorenog groba
Figure 1-2. Photograph of the closed and open grave
Snimio/ Photo: **S. Gluščević**

Istraživanje I. faze antičke nekropole na Relji u Zadru provedeno od listopada 1989. do srpnja 1990. god. dalo je ukupno 881 grob[1] s oba ritusa pokapanja. Među njima je pronađen i grob s prilozima što je i predmet ovog članka.[2]

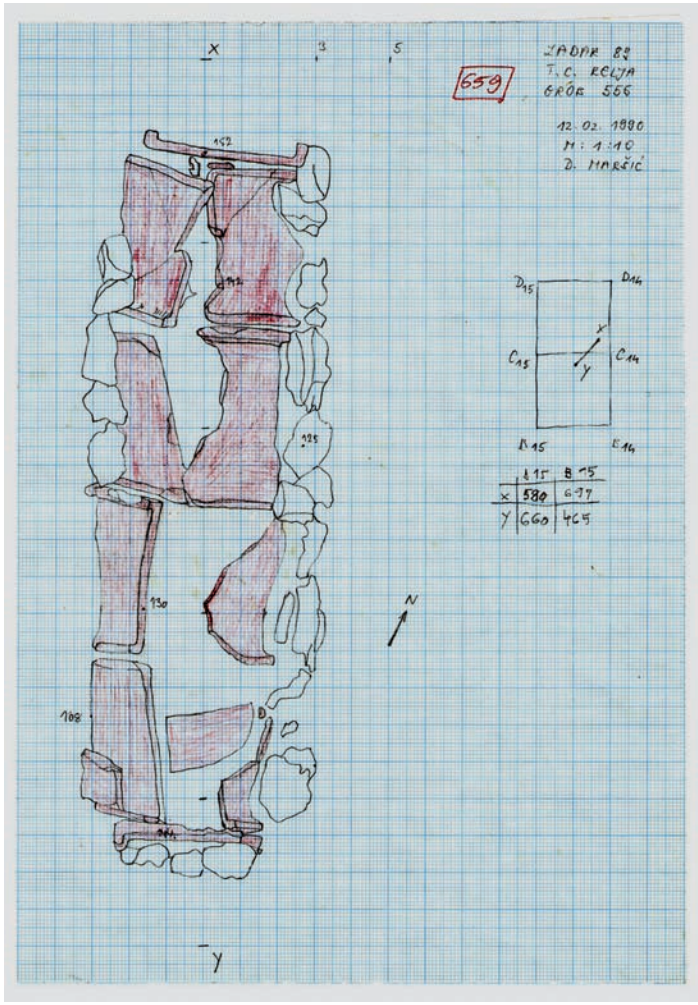
Excavation of phase 1 of the ancient necropolis on Relja in Zadar conducted from October 1989 to July 1990 yielded a total of 881 graves[1] and related to both burial rites. Among these was a tomb found with goods, which is the subject of this article.[2]

1 Z. Brusić – S. Gluščević, 1990.; S. Gluščević, 1999, 117-119; 2001, 217-222; 2002, 381-384; 2005.

2 S. Gluščević, 2005, Knj. 1, 234, Knj. 2, 791 (gr. 555). Deset godina kasnije provedena su prostorno ograničena istraživanja u ulicama Polačišće i Petra Svačića. Prigodom istraživanja provedenog 1998/99. god. prostor iskopa je bio limitiran postavljanjem cijevi ispod spomenutih ulica u širini od oko 2 metra. Pritom je u Ulici Polačišće evidentirano 46 grobova, a u Ulici Petra Svačića 30 grobova (S. Gluščević, 2005, Knj. 2, 1122-1201). Drugom fazom radova koji su provedeni na prostoru Trgovinskog centra od 3. ožujka 2005. - 16. rujna 2006. g. istraženo je 526 grobova, najvećim dijelom s ostacima spaljenih pokojnika (I. Fadić, 2006, 347-349). Iskopavanjima na obližnjim prostorima koji su činili integralni dio ove nekropole evidentirana su još ukupno 443 groba. Nekropole su otkrivene u Vrtu Relja (I. Fadić, 2006, 350-352), Ulici Zrinsko–Frankopanskoj (I. Fadić, 2006, 352-353; Š. Perović – I. Fadić, 2009, 45-131). Istraživanjem kod Hypo banke 2004. godine nađeno je 14 grobova. Istraživanja koja su se prostorno nadovezala na Vrt Relja dala su ukupno 87 grobova, a proveo ih je Odjel za arheologiju Sveučilišta u Zadru (K. Gusar – D. Vujević, 2010, 114). Kasnija istraživanja, u dva navrata provedena na ovom prostoru, s još 90 grobova, obavljena su u Ulici Polačišće i na prostoru parkirališta između Ulica Polačišće i Petra Svačića (T. Alihodžić, 2008, 508-509), dok su istraživanja u Glagoljaškoj ulici iznjedrila novih 13 grobova (J. Vučić, 2009,. 539-540). Radovi na dijelovima nekropole na Murvičkoj ulici,

1 Z. Brusić – S. Gluščević, 1990; S. Gluščević, 1999, 117-119; 2001, 217-222; 2002, 381-384; 2005.

2 S. Gluščević, 2005, Vol. 1, 234, Vol. 2, 791 (Grave 555). Ten years later, excavations, which were restricted in space, were carried out in Ulica Polačišće and Ulica Petra Svačića. During the excavations conducted in 1998-99, the excavated area was limited due to the laying of pipes at a width of about 2 meters under the respective streets. At that time, 46 graves were recorded in Ulica Polačišće and 30 graves in Ulica Petra Svačića (S. Gluščević, 2005, Vol. 2, 1122-1201). In the second phase of works, conducted in the area of the Trgovinski centar in Relja from 3 March 2005 – 16 September 2006, 526 graves were excavated, mostly with the remains of cremated dead (I. Fadić, 2006, 347-349). Excavations at nearby locations that formed an integral part of this necropolis led to uncovering of a total of 443 additional graves. The necropolises were discovered in the Vrt Relja (I. Fadić, 2006, 350-352), Ulica Zrinsko-Frankopanska (I. Fadić, 2006, 352-353; Š. Perović – I. Fadić, 2009, 45-131). The excavation at Hypo Bank in 2004 led to the discovery of 14 graves. The excavations that, in terms of space, were linked to the Vrt Relja provided a total of 87 graves, and were carried out by the Department of Archaeology, University of Zadar (K. Gusar – D. Vujević, 2010, 114). Later excavations, on two separate occasions carried out in this area, containing another 90 graves were conducted in Ulica Polačišće and in the location of the parking area between Ulica Polačišće and Ulica Petra Svačića (T. Alihodžić, 2008, 508-509), and excavations in Glagoljaška ulica led to 13 new graves (J. Vučić, 2009, 539-540). The work on parts of the necropolis at Murvička ulica, Glagoljaška and Zrinsko Frankopanska ulica in 2013 resulted in another 6 graves, while the protective excavation in a section of the Polyclinic area in



Slika 3-4. Crtež zatvorenog i otvorenog groba
Figure 3-4. Drawing of the closed and open grave

Grob 555 sačinjavale su tegule u obliku dvostrešnog krova, ukupno po četiri sa svake strane (Sl. 1-5). Izdignuti rubovi bili su okrenuti prema vani, a spojevi nisu prekriveni. Vrh je bio oštećen osobito u donjem dijelu, uz noge. Podnicu su činile tri uzdužno postavljene tegule kojima su izdignuti rubovi bili okrenuti nagore. Zaglavni i donožni kraj činila je po jedna okomito postavljena tegula čiji su izdignuti rubovi također gledali prema vani. Čitava je sjeveroistočna strana groba (tegula) bila učvršćena nepravilnim kamenom, jednako kao i donožna tegula odnosno gornji, jugozapadni, dio groba. Na jednoj teguli koncentrični krugovi (ispod nogu), a na drugoj natpis TIPANSIANA[3] (ispod

Grave 555 comprises the tegulae in the form of a double-pitched roof, a total of four on each side (Fig. 1-5). The raised edges were facing outward, and the joints were not covered. The top was damaged especially in the lower part, beside the legs. The floor comprised three longitudinally extending tegulae with raised edges facing upwards. The head section and foot section were made up of one vertically aligned tegula with raised edges also facing outwards. The entire north-eastern side of the grave (tegula) was fixed with an irregularly shaped stones, as was the tegula at the tegula at the legs, i.e. the upper, south-western part of the grave. On one tegula there were concentric circles (under the legs), and on the other the inscription TIPANSIANA (under the head).[3] The body of the deceased lay in an extended position with its arms beside the body. The left hand was positioned under the pelvis, and the left lower leg was slightly dislocated to the right. Alongside

Glagoljaškoj i Zrinsko–Frankopanskoj ulici 2013. g. rezultirali su s još 6 grobova, dok je zaštitno istraživanje na dijelu prostora Poliklinike 2014. godine dalo ukupno 43 groba. Tako je na prigradskom prostoru antičkog Jadera od 2. svjetskog rata ukupno evidentirano gotovo 2200 grobova. Najviše grobova s inhumacijom činile su proste grobne jame, ali je bio znatan broj onih kojima su grobnu arhitekturu činile tegule.

3 Inv. broj tegule je A28937. Dimenzije su: duž. 63cm; šir. 48cm; vis. 6,5cm. Slovo A je u ligaturi s drugim slovom N.

2014 provided a total of 43 graves. Therefore, in the suburban area of the ancient lader of World War 2, a total of nearly 2200 graves have been recorded. Most of the graves accompanied by inhumation comprised simple burial pits, but there were also a considerable number of those of which tegulae were part of the tomb architecture.

3 Inventary number of the tegula is A28937. The dimensions are: length 63 cm, width 48 cm, height 6.5 cm. The letter A in the ligature is with another letter N.

glave). Tijelo pokojnika je bilo u ispruženom položaju s rukama uz tijelo. Šaka lijeve ruke nalazila se pod zdjelicom, a lijeva je potkoljenica bila lagano dislocirana udesno. Uz desnu i lijevu potkoljenicu, a dijelom i preko njih, bilo je položeno ukupno devet željeznih alatki uz dva okrugla okova od kojih jedan s čavlom.[4]

U našoj je literaturi općenito vrlo malo prostora posvećeno željeznom alatu. Među objavljenim materijalom mnogo je više pozornosti usmjereno prapovijesnim alatkama, bez obzira odnosi li se to na šire prostore[5] ili je rezultat minuciozne obrade pojedinih skupina nalaza.[6] Neki od tih predmeta, s izvjesnim modifikacijama, nastavljaju svoj život u antičkom,[7] a mnogi i u srednjovjekovnom razdoblju.

Jedan dio alatki nije uvijek jednostavno pripisati određenom zanatu ali, u našem slučaju, s obzirom na ostale predmete priložene u grobu, možemo bez sumnje kazati da se radi o tesaru, iako jedan od predmeta – vrh sulice – unosi stanovitu zabunu.

Nedavno je Roger B. Urlich objavio publikaciju o svim vidovima rimskodobnog drvodjeljskog umijeća s tipovima alata ali i svih, vrlo raznorodnih, zanimanja povezanih s drvom. Alat uzima kao gotovu činjenicu ne upuštajući se u kronološke ili minucioznije tipološke klasifikacije.

Slika 5. Fotografija tegule i pečata
Figure 5. Photograph of the tegula and seal
foto/ photo: **F. Jurković Pešić**

the right and left lower part of the legs, and partly over them, a total of nine iron tools were placed along with two round braces of which one had a nail.[4]

Generally, very little attention is devoted to iron tools in Croatian literature. Among the published material, much more attention is given to prehistoric tools, regardless of whether it relates to wider geographical regions[5] or is the result of a meticulous analysis of certain groups of finds.[6] Some of these items, with certain modifications, continue to exist in ancient times,[7] and many perhaps in the medieval period.

At times, a particular part of a tool cannot be easily attributed to a particular craft, but in our case, on account of other items found in the grave, we can undoubtedly say that it is the grave of a carpenter, although one of the items – a javelin tip – does cause definite confusion.

Recently, Roger B. Ulrich released a publication on all aspects of woodworking skills from the Roman times including the types of tools and all types of very diverse woodworking occupations. He treats the tool as a definite fact and does not engage in chronological or minuscule typological classifications.

4 S. Gluščević, 2005, Katalog grobova, 791. Grob je datiran u širi kontekst 4. st. kako na osnovi tipologije, tako i na osnovi datiranja grobova 500 (druga polovica 4. st.) i 542 (kraj 4. - poč. 5. st.) u neposrednoj blizini.
5 A. Stipčević, 1962, 135-172.
6 A. Milošević, 1986, 97-127. Radi se o 12 željeznih predmeta iz Obrovca na Cetini i 31 predmetu iz Kijeva kod Vrlike.
7 Tekstualni pregled pojave različitog oružja i oruđa od prapovijesti do antike daje D. Kliškić, 2002, 483-548.

4 S. Gluščević, 2005, Catalogue of graves, 791. The grave was dated in a wider context of the 4th century not just in terms of the typology, but also based on the dating of the grave 500 (second half of the 4th century) and grave 542 (end of the 4th – beginning of the 5th century) in the immediate vicinity.
5 A. Stipčević, 1962, 135-172.
6 A. Milošević, 1986, 97-127. It entails 12 iron items from Obrovac on the Cetina River and 31 items from Kijevo near Vrlika.
7 Textual overview of the discovering of various weapons and implements from Ancient Times to the Antique period is given by D. Kliškić, 2002, 483-548.

KATALOG

1. Sjekira[8]

Željezna sjekira (*securis)* produženog i na prednjem kraju lagano zaobljenog lista (Sl. 6, 7). Stražnji je dio ravno odrezan. Na prednjem dijelu sječiva nepravilno polukružno udubljenje. Završni je dio pravokutno oblikovan, proširen na oba kraja, a s donje strane polukružno zaobljen. Ovalno oblikovana ušica na oba je kraja ojačana produžecima. Unutar otvora ušice nalaze se ostaci drva.

Dužina 16,3 cm
Visina 16,3 cm
Visina stražnjeg dijela sječiva 4,2 cm
Dužina ušice 7,2 cm
Promjer ušice 3,8 x 1,9 cm
Debljina iznad ušice 4,4 x 3,3 cm
Težina 1150 g

Slika 6-7. Fotografija i crtež sjekire
Figure 6-7. Photograph and drawing of the axe
foto / photo: **I. Čondić, crtež** / drawing: **J. Belevski**

Je li polukružno udubljenje na oštrici sjekire s Relje nastalo uslijed oštećenja (što se čini vjerojatnije) ili je to dio originalnog izgleda ne može se sa sigurnošću tvrditi.

Radi se o tzv. bradatoj sjekiri (njem. Bärtaxt) kakve se u različitim varijantama javljaju širom Rimskog Carstva. Služila je prvenstveno sa sječenje drva, ali je upotreba zavisila i o veličini uvjetovanoj namjenom. Tako su ih upotrebljavali i npr. mesari ili rudari, a minijaturne su sjekire služile za fino rezbarenje.[9]

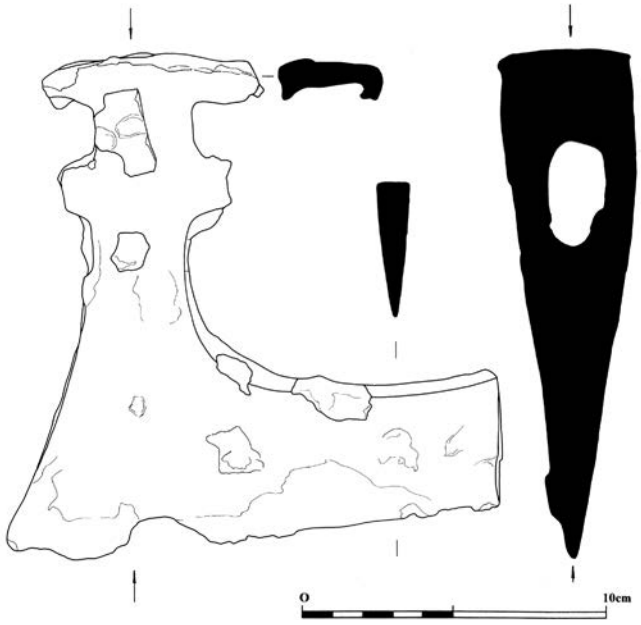
8 Crteže svih predmeta napravila je Jadranka Belevski.
9 I. Popović, 1988, 62.

CATALOGUE

1. Axe[8]

An iron axe *(securis)* with an extended and at the front end slightly rounded cheek (Fig. 6, 7). The butt is cut straight. There is an irregular semi-circular recess on the front part of the blade. The end section is rectangular shaped, extended at both ends, and the underside is a semi-circular arched shape. The oval shaped eye is reinforced at both ends with extensions. There are remains wood inside the eye opening.

Length 16.3 cm
Height 16.3 cm
Height of rear end of blade 4.2 cm
Length of eye 7.2 cm
Diameter of eye 3.8 x 1.9 cm
Thickness above eye 4.4 x 3.3 cm
Weight 1150 g



Whether the semi-circular recess on the blade of the axe from Relje occurred as a result of damage (which seems likely), or whether it is part of the original appearance, cannot be said with certainty.

It is the so-called bearded axe (Germ. Bärtaxt), which appeared throughout the Roman Empire in different variants. It served primarily for woodcutting, although its use depended on the purpose related size. Hence, for example, these were used by butchers and miners, whereas the miniature axes were used for fine carving.[9]

V. Pflaum[10] presents three axes, which he calls bradva and which he says differed in size and detail. He places

8 Drawings of all items done by Jadranka Belevski
9 I. Popović, 1988, 62.
10 V. Pflaum, 2007, 301, 317, 323, T. II, 16-18.

V. Pflaum[10] donosi tri sjekire koje naziva bradve i za koje kaže da se razlikuju u veličini i pojedinostima. Ubraja ih u istu skupinu jer sve tri imaju produžen donji dio lista. Na osnovi Pietscha, V. Pflaum navodi da se ovaj tip uglavnom javlja u kasnocarsko vrijeme, dok neki primjerci potječu iz srednjeg doba Rimskog Carstva. Najsličnija našoj je sjekira (T. 2, br. 17) kojoj nedostaje jedino izduženi gornji dio. Otvor je također ojačan pravokutnim krilcima, a i dimenzije su dosta slične.[11] Sličnih sjekira nalazimo na različitim mjestima. Tako se primjerak iz Austrije razlikuje od našeg po gornjem dijelu. Završni je dio doduše proširen, ali nedostaje donje proširenje u razini ušice.[12] Vrlo slična ovoj je i sjekira kojoj je duži kraj sječiva oblo završen i svijen u pužnicu.[13] Pod znakom upitnika sjekira se stavlja u kasnu antiku, dok je prvoj širi vremenski okvir rimski carski period. Obje se klasificiraju kao tipovi Bartäxte 9 i 9a. Identično oblikovano sječivo, ali s blagim horizontalnim proširenjem u visini ušice, kao lagano također horizontalno proširenje gornjeg udarnog dijela, ima i sjekira koju Pohanka klasificira kao tip 8.[14] Međutim na tipološkoj tabli[15] na kojoj su prikazani shematski crteži svih tipova, gornji dio sjekire je potpuno ravan, bez ikakvih proširenja bilo na gornjem dijelu ili u ravnini ušice. Na istoj tipološkoj tabli našem je primjerku, kako je već kazano, najsličniji tip 9a kojem, međutim, nedostaje horizontalno proširenje u visini ušice. Bradata sjekira tipa 8 je iz Carnuntuma, ali njezino datiranje, uslijed oskudnih podataka u kratkom terenskom izvještaju iz kraja 19. st., kako navodi Pohanka, nije moguće. Stoga kao komparaciju uzima primjerke iz Mađarske[16] i kastela iz Wiesbadena[17] koji se mogu datirati u 3. - 4. st. n. Krista.

Tipu 9a pripada i rijetki nalaz sjekire u Noriku i Panoniji poput one s Velikog vrha nad Osredkom kod Podsrede u Sloveniji.[18]

O sjekirama raspravlja i Pribaković o sklopu rasprave o naoružanju Slavena.[19] Podvodeći je pod slavensko oružje spominje i sjekiru iz Leta u Čehoslovačkoj (sic!) koja ima produženo sječivo i lagano ojačanje na mjestu ušice za nasad. Datira je u 7. st. mada uz ogradu da „pojedini autori smatraju da su slavenske". Sjekiru koja je oblikom gotovo identična sjekiri s Relje, ali bez ojačanja ušice, isti autor donosi i na Sl. 5 datirajući ih od sredine 5. do sredine 7. st. Isti se oblik, po njemu, javlja sve do pred kraj 10. st. Iz teksta nije sasvim jasno s kojeg lokaliteta potječe

10 V. Pflaum, 2007, 317, 323, T. II, 16-18.
11 V. Pflaum, 2007 (v. 18,3 cm, šir. 16,4, deblj. 3,9 cm, težina 1094 g).
12 R. Pohanka, 1986, 380, T. 48:218.
13 R. Pohanka, 1986, 380, T. 48:217.
14 R. Pohanka, 1986, 379, T. 47:214.
15 R. Pohanka, 1986, Textabbildung 14: Tip 8.
16 E. B. Thomas,1955, Taf. XXXIV.
17 OGRL B III/3 (1915), Taf. XI/43.
18 S. Ciglenečki, 1992, 18. Autor je naziva tesača (tesla, tesera) i misli da je zbog rijetkog oblikovanja rupe za nasad bila izrađena u nekoj radionici koja je tim proizvodima opskrbljivala provincije Norik i Panoniju. Generalno je datira u sredinu 3. st. n. Kr.
19 D. Pribaković, 1966, 50-54, sl. 4.

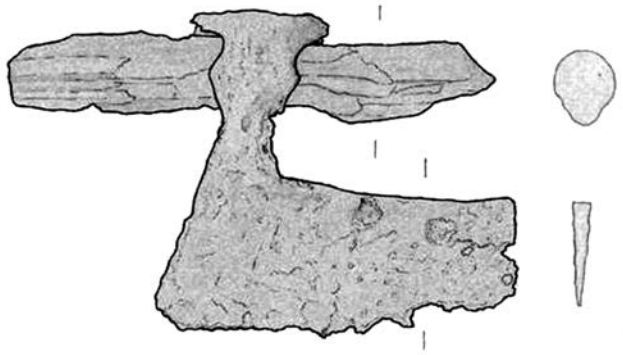
them in the same group as all three that have an extended lower part of the head. With reference to Pietsch, he states that this type usually appears in the late period of the Roman Empire, whereas some specimens date back to the middle period of the Roman Empire. Most similar to ours is the axe (T. 2, no. 17) that lacks only the elongated upper part. The opening was also reinforced with rectangular wings, and the dimensions are quite similar.[11]

Similar axes are found in various places. Thus, the specimen from Austria differs from ours in comparison to the upper part. The end part is definitely wider, but there is no lower widening at the level of the axe eye.[12] The axe with the longer end of the blade rounded and curved into a cochlea shape, is very similar to the one in question.[13] It is uncertain whether the axe belongs to the Late Antique period, whereas the period of the first one is the Roman Empire period. Both are classified as types Bartäxte 9 and 9a. The axe that Pohanka classified as type 8[14] has an identically shaped blade, but with a slight horizontal widening at the level of the axe eye, and also a slightly horizontally widened upper part of the head. However, according to the typological table[15] which shows the schematic drawings of all the types, the upper part of the axe is completely flat, without any extension of the upper part or at the level of the eye. According to the same typological table and as has already been mentioned, our specimen is most similar to type 9a which, however, lacks a horizontal extension at the level of the eye. The type 8, bearded axe is from Carnuntum, but as states Pohanka, dating it is not possible due to scarce data found in a brief field report from the late 19th century. Therefore, as a comparison, specimens are taken from Hungary[16] and the castle from Wiesbaden,[17] where it can be dated approximately the 3rd-4th century A.D.

Type 9a belongs to a rare find of axes in Noricum and Pannonia, such as those from Veliki vrh nad Osredkom in Podsreda, Slovenia.[18]

Discussions on axes are also led by Pribaković with reference to weaponry of the Slavs.[19] Having sub-categorised it as Slavic weaponry, he also mentions the axe from Let in Czechoslovakia (sic!) which has an extended blade and is slightly reinforced in the eye section for the handle. It dates back to the 7th century, although noting with some reservation "some authors believe they are of Slavic origin". The same

11 V. Pflaum, 2007 (height. 18.3 cm, width. 16.4, thickness. 3.9 cm, weight 1094 g).
12 R. Pohanka, 1986, 380, T.48:218.
13 R. Pohanka, 1986, 380, T. 48:217.
14 R. Pohanka, 379, T. 47:214.
15 R. Pohanka, Textabbildung 14: Type 8.
16 E. B. Thomas,1955, Taf. XXXIV.
17 OGRL B III/3 (1915), Taf. XI/43.
18 S. Ciglenečki, 1992, 18. The author calls it an adze and believes that due to the rare shape of the hole for hafting it was made in a workshop that used to supply such products to the provinces of Noricum and Pannonia. It is generally dated to the mid-3rd century A.D.
19 D. Pribaković, 1966, 50-54, fig. 4.



Slika 8-9. Fotografija i crtež sjekire iz Cetine
Figure 8-9. Photograph and drawing of the axe from Cetina
foto / photo: **A. Librenjak, crtež** / drawing: **D. Sabioncello**

spomenuti primjerak koji donosi na priloženoj kronološkoj tabli (isti oblik daje za vrijeme od sredine 5. do kraja 10. st.?), ali valja naglasiti kako kaže da sjekire s povijenim sječivom „vremenski nisu vezane samo za period slavenske kolonizacije" nego ih povezuje i s germanskim i avarskim nekropolama.[20]

Dužina 15,3 cm
Visina 14 cm
Dužina ušice 5,9 cm
Promjer ušice 4,6 x 4 cm

Jedini, tipološki najsličniji, primjerak ovakve sjekire, koliko je autoru poznato, jest onaj nađen u rijeci Cetini (Sl. 8, 9), kod koje je sačuvan i dio drvene ručice.[21] Međutim otvor za nasad ručice je tik ispod čekićaste udarne plohe, dok je ušica za nasad nepravilno trokutasto raskovana. Isto je tako prijelaz od otvora u sječivo i s vanjske i s unutrašnje strane oštar dok je kod naše sjekire on blago izvijen. Sjekira s Relje ima ojačan čekićasti dio, a otvor za nasad drške nije smješten odmah ispod njega nego nešto niže. Isto tako je prijelaz iz gornjeg dijela u sječivo oštro naglašen, dok je kod zadarskog primjerka taj prijelaz riješen lučno. Na žalost, budući da ni sjekira iz Cetine nema kontekst, ne može nam služiti za točnije kronološko određenje.

author presents in Figure 5 an axe shaped almost identically to the axe from Relja, but without reinforcement of the eye, and dates them from the mid-5th to the mid-7th century. The same shape, according to him, appears continually up until the end of the 10th century? From the actual text, it is not entirely clear from which site the mentioned specimen originates and which is presented in the attached chronological table (the same shape suggests the period from the mid-5th to the late 10th century?). However, it should be emphasised that he says that axes with a curved blade, "in terms of period are not only related to the period of Slavic colonisation" but he links them also to the Germanic and Avar necropolises.[20]

Length 15.3 cm
Height 14 cm
Length of eye 5.9 cm
Diameter of eye 4.6 x 4 cm

The only, typologically most similar, specimen of such an axe, to author's knowledge, is the one found in the Cetina River (Fig. 8, 9), where part of the wooden handle has been preserved.[21] However, the eye for the hafting the handle is just under the hammer-like impact surface, while the eye for hafting is a blunted irregular triangular shape. The same also applies to the transition from the opening in the blade and from outside and from the inside where it is sharp, whereas our axe is slightly curved. The axe with Relja has a reinforced hammer section, and an opening for the hafting the handle is not located immediately below it, but somewhat lower. Furthermore, the transition from the upper part of the blade sharply pronounced, whereas on the Zadar specimen this transition is resolved like an arc. Unfortunately, as the axe from Cetina does not provide a context, it cannot serve to provide an exact chronological determination.

20 D. Pribaković, 1966, 53, sl. 5.
21 A. Milošević, 1998, 294, sl. 484, br. 4. (Inv. Br. MCK-5116). Autor se iskreno zahvaljuje kolegici Aniti Librenjak, ravnateljici Muzeja Cetinske krajine u Sinju na ustupljenoj fotografiji i crtežu sjekire koji je napravila Dijana Sabioncello. Nakon što je rad bio dogotovljen, napravljena lektura i prijevod, saznao sam za sličnu sjekiru u Arheološkom muzeju u Splitu (A. Piteša, 2009, 63, br. 86). Potječe s nepoznatog nalazišta, a i dimenzije su slične sjekiri s Relje i onoj iz Cetine (duž. 14,3 cm, vis. 16,5 cm, promjer ušice 3,4 cm). Autor, na osnovi analogija i literature koju donosi, datira sjekiru u šire razdoblje od 6. do početka 9. stoljeća.

20 D. Pribaković, 1966, 53, fig. 5.
21 A. Milošević, 1998, 294, fig. 484, no. 4. (Inv. no. MCK-5116). Here, the author would like to sincerely extend his appreciation to his colleague Anita Librenjak, the director of the Cetina Region Museum in Sinj for the provided photograph and drawing of the axe that was done by Dijana Sabioncello. After the work had been completed, proofread and translated, I learnt that a similar axe existed at the Archaeological Museum Split of (A. Piteša, 2009, 63, no. 86). It originated from an unknown site, with dimensions similar to the axe from Relja and the one from Cetina (length 14.3 cm, height 16.5 cm, diameter of eyelets 3.4 cm). Based on analogies and references that presented, the author has dated the axe to a wider period from the 6th to the 9th century.

Slika 10-11. Fotografija i crtež ascije
Figure 10-11. Photograph and drawing of the adze
foto / photo: **I. Čondić, crtež** / drawing: **J. Belevski**

2. Sjekira - čekić *(ascia)*

Željezna sjekira - tesla *(ascia)* s lučno formiranim sječivom (Sl.10, 11). Drugi je kraj u obliku čekića kojem tijelo ima četvrtastu formu, a završava proširenjem (vjerojatno od udaranja - upotrebe). Između krajeva sječiva i čekića je otvor za ručicu, izvana romboidno a iznutra ovalno formiran i ojačan na sve četiri strane.

Dužina 24,7 cm
Širina sječiva 4,8 cm
Širina otvora (vanjska) 4,4 cm
Širina otvora (unutra) 2,2 cm
V. otvora 4,7 x 4,8 cm
Težina 714 g

Zamjetno je kako gotovo da i ne možemo naći teslu – čekić donekle sličnu našoj, osim među primjercima iz Arheološkog muzeja Zadar.[22] Isto se, zanimljivo, odnosi

22 Primjerak tesle iz Arheološkog muzeja Zadar s nepoznatog nalazišta i bez poznatog konteksta, ponešto se razlikuje od primjerka nađenog na Relji. Ima izrazito kraći čekićasti dio koji završava snažnim okruglim proširenjem. Krak oštrice nešto je oštrije svijen kako je to i inače slučaj s ascijama koje nalazimo na brojnim nadgrobnim spomenicima. Ojačanje otvora za ušicu riješeno je trokutastim raskucavanjem, ali bez bočnog zadebljanja kakvo ima sjekira s Relje (Br. inv. 6011); Iz AMZd potječe i sjekira - ascija inv. br. A3118 također s nepoznatog nalazišta. Čekićasti dio je poligonalan ali bez oštrih rubova na kutovima. Vrlo sličan primjerak nalazi se u Narodnom muzeju Zaječar. Dužina je gotovo ista, a promjer oštrice je identičan. Usp. Dragoslav Piletić, 1971, 14, T XXII, br. 100, inv. br. A/107. Donekle sličan primjerak nalazimo u Istri (R. Matijašić, 1998, 402-403, crtež 2), ali sjekira, međutim, ima oštrice na obje strane.

2. Axe-hammer (*ascia*)

An iron axe-adze *(ascia)* with an arch-shaped blade (Fig. 10, 11). The other end is in the shape of a hammer with a rectangular-shaped body, and a wider ending (probably when used for hitting). Between the ends of the blade and hammer is an opening for the handle, outside a rhomboidal shape and on the inside an oval shape, and reinforced on all four sides.

Length 24.7 cm
Width of blade 4.8 cm
Width of opening (external) 4.4 cm
Width of opening (internal) 2.2 cm
Size of opening 4.7 x 4.8 cm
Weight 714 g

What is noticeable is that we are almost unable to find an adze-hammer somewhat similar to ours, except among the specimens from the Archaeological Museum Zadar.[22] The same, interestingly, also applies to an almost unique specimen of an axe. In Croatia in general, but so too on the coast, an exceptionally small number of different tools has been published. Some published tools are found only in the Archaeological Museum Split.[23] This supports the thesis that specific regions have their own particular characteristics based on local tradition.[24]

A presentation of the asce–adze is found on a number of ancient monuments[25] for which the adze was undoubtedly used as a carpentry tool. For example, this tool has been reproduced many times, the shipbuilder's monument from Ravenna (*faber navalis*)[26] (Fig. 12), followed by the tombstone of the Lateran Museum in Rome[27] or the carpenter's monument from the Captoline Museums also in Rome.[28]

Its shape is very similar to that of an axe (but not of an adze) which A. Milošević categorises among the early

22 A specimen of an adze from the Archaeological Museum Zadar from an unknown site and without a specific context is somewhat different from the specimen found on Relja. It has a distinctly shorter hammer section that ends with a pronounced round extension. The blade section is somewhat curved more sharply as is the case with asce that we find on numerous tombstones. Reinforcement of the eye is done using a triangular hammered opening, but without a thickening of the check as is the case with the axe from Relja (No. inv. 6011); Axe-adze inv. no. A 3118, also from an unknown site comes from the Archaeological Museum Zadar. The hammer section is polygonal but without sharp edges on the corners. A very similar example is located at the Zaječar National Museum. The length is almost the same, and the diameter of the blade is identical. Cf. Dragoslav Piletić, 1971, 14, T XXII, no. 100, Inv. no. A/107. A somewhat similar specimen is found in Istria (R. Matijašić, 1998, 402-403, Drawing 2), however, the axe has a blade edge on both sides.
23 D. Kliškić, 2002, I, 483-548; II, 217-222.
24 D. Kliškić, 2002, 490. This is supported by, for instance, the finds providing a few metal items, including an iron knife and an iron axe, in the grave of an inhumed deceased person from Hrvatska Dubica. In addition, corroded pieces of amorphous iron were also found, whereas previous excavations also yielded iron crowbars, probably ingots. Cf. R. Koščević – R. Makjanić, 1985, 120, 122-123, fig. 1. It should also be mentioned that the iron knife was lying over the left lower part of the leg, while the iron axe was thrust into the right thigh (femur).
25 W. Gaitzch, 1978, 20-22.
26 K. Popović, 1988, 51, Note 124.
27 K. Popović, 1988, 51, Note 123.
28 K. Popović, 1988, 51, Note 122.

i na gotovo unikatan primjerak sjekire. U Hrvatskoj općenito, pa tako i na obali, objavljeno je iznimno malo različitih alatki. Nešto objavljenog oruđa nalazimo jedino u Arheološkom muzeju u Splitu.[23] Ti podaci idu u prilog teze da pojedine regije posjeduju svoje posebnosti proistekle iz lokalne tradicije.[24]

Prikaz ascije – tesle nalazimo na nizu antičkih spomenika[25] na kojima je tesla bez sumnje iskorištena kao drvodjeljski alat. Takav je npr., mnogo puta reproduciran, spomenik brodograditelja iz Ravene *(faber navalis)*[26] (Sl. 12), zatim nadgrobni spomenik iz Lateranskog muzeja u Rimu[27] ili spomenik tesara iz Kapitolinskog muzeja također u Rimu.[28]

Oblikom vrlo slična jest sjekira (a ne tesla) koju A. Milošević ubraja u ranosrednjovjekovne sjekire 7. i 8. st.,[29] a kojoj je sječivo paralelno s drškom. Radi se dakle o sjekiri, a ne o tesli, međutim ukupan izgled kao i trokutasto proširena ušica za nasad drške gotovo se podudaraju.

Tesla se, osim primarno u drvodjelstvu, upotrebljavala i kod različitih građevinskih radova, primjerice kod miješanja vapna ili žbuke,[30] ali i kod klesara jer se njezin prikaz javlja i na nadgrobnim spomenicima klesara. Ascije, koncipirane poput našeg primjerka, mogu imati više ili manje povijeno ili pak prelomljeno sječivo dok čekićasti dio može biti četverokutan ili kružan. Usadnik, kako se može vidjeti na brojnim nadgrobnim spomenicima, često može biti cilindričan što je doprinosilo boljem učvršćenju drške.[31]

I. Popović donosi nekoliko sličnih primjeraka sjekira - čekića (*securis, is. f.)*.[32] Posljednju (T. V:4) Popović klasificira kao budak-čekić (*acisulus, i, m.)*. Osim što je čekićasti dio nešto kraći, a suprotni kraj manje svijen, oblik se dosta približava našem primjerku. Međutim, prema Popović, čini se da su ovakve alatke, koje imaju uži dio za tesanje i manji luk kraka sa sječivom, služile ponajprije za obradu kamena. Upravo po tom manjem kutu koji zatvara sječivo u odnosu

Slika 12. Dio nadgrobnog spomenika iz Ravene koji prikazuje brodograditelja

Figure 12. Part of the tombstone of Ravenna which shows a shipbuilder

medieval axes of the 7th and 8th century,[29] and which has a blade parallel to the handle. It is therefore an axe, not an adze, but its overall appearance and the triangular-widened eye for mounting the handle are almost the same.

The adze, besides being primarily used in carpentry, was also used for various construction works, such as mixing lime or plaster,[30] but also by stonemasons because an image of it appears on the tombstones of stonemasons. The asce (adzes), designed like our specimen, can have a more or less bent or however a broken blade, whereas the hammer-like section can be rectangular or circular. The handle, as can be seen on numerous tombstones, is often cylindrical which provided a better way of fixing the handle.[31]

I. Popović presents several similar specimens of the axe-hammer *(securis, is. f.)*.[32] The last is classified by (T. V: 4) Popović as a pickaxe-hammer *(acisulus, i*, m.). In addition to the hammer section being something shorter and less

23 D. Kliškić, 2002, I, 483-548; II, 217-222.
24 D. Kliškić, 2002, 490. U tome smislu govori npr. nalaz nekoliko metalnih predmeta, među njima i željezni nož i željezna sjekira, u grobu inhumiranog pokojnika iz Hrvatske Dubice. Uz to našlo se i korodiranih komada amorfnog željeza, a ranijim istraživanjima i željezne poluge, vjerojatno ingoti. Usp. R. Koščević – R. Makjanić, 1985, 120, 122-123, sl. 1. Valja spomenuti da je željezni nož ležao preko lijeve potkoljenice, dok je željezna sjekira bila zabodena uz desnu natkoljenicu (femur).
25 W. Gaitzch, 1978, 20-22.
26 K. Popović, 1988, 51, bilj. 124.
27 K. Popović, 1988, 51, bilj. 123.
28 K. Popović, 1988, 51, bilj. 122.
29 A. Milošević, 1987, 114, sl. 3:1. Valja međutim kazati kako autor na više mjesta naglašava „izrazite analogije među oblicima kasnoantičkih sjekira" (str. 112).
30 MARCUS VITRUVIUS POLLIO, *De architectura libri decem,* Zagreb 1997, (prijevod Matija Lopac) VII, II.
31 Prikaze ascije s oštro svinutim sječivom (ponekad i cilindričnim usadnikom za dršku) nalazimo na velikoj većini nadgrobnih spomenika na kojima ona ima apotropejsko značenje (o tome usp. B. Gabričević, 1959, 299-309). O prikazima tog tipa ascija na nadgrobnim spomenicima različitih zanatlija u W. Gaitzch, 1978, 48, Abb.18; 53, Abb. 25; 54, Abb. 26; 55, Abb. 27; 64, Abb. 38; 67, Abb. 42. Tipove ascija vidi i kod M. Pietsch, 1983, 27, 81, Abb. 26; T. 7:109-118.
32 I. Popović, 1988, 69, T. XI:1 ili vjerojatnije 65-66, T. IX: 1-3 ili ascia, 50 i T. VI: 1-3, T. XXXIII: 2-3, osobito usporedi T. V: 4.

29 A. Milošević, 1987, 114, fig. 3:1. However, it should be mentioned, that the author emphasises in several places the "exceptional analogies between the forms of late antique axes" (p. 112).
30 Vitruvius, *De architectura libri decem*, Zagreb 1997 (*The Ten Books on Architecture*) VII, II.
31 Presents adzes with a sharply bent blade (sometimes also with a cylindrical haft socket for the handle) is found on the vast majority of tombstones where it has an apotropaic meaning (for more information cf. B. Gabričević, 1959, 299-309). Concerning representations of this type of adze on the tombstones of various artisans, see: W. Gaitzch, 1978, 48, Abb.18; 53, Abb. 25; 54, Abb. 26; 55, Abb. 27; 64, Abb. 38; 67, Abb. 42. For types of adzes, see: M. Pietsch, 1983, 27, 81, Abb. 26; T. 7: 109-118.
32 I. Popović, 1988, 69, T. XI:1 or more likely 65-66, T. IX: 1-3 or ascia, 50 and T. VI: 1-3, T. XXXIII: 2-3, especially cf. T. V: 4.

na dršku naglašava se razlika između tesle s čekićastim završetkom (tip III B) i tesle za tesanje drveta.[33]

Pod nazivom *ascia* podrazumijevaju se oruđa koja u osnovi mogu biti slična, ali istovremeno imati različitu namjenu.[34] Tako se može raditi o oruđu čija je oštrica paralelna s drškom pa prema tome služi za sječenje, ali i ona čija je oštrica postavljena okomito u odnosu na dršku pa prema tome služi za tesanje drveta. O toj karakteristici ascije govori i Ciceron naglašavajući da ona služi za izravnavanje i uglačavanje drveta.[35] Ascija se javlja i na brojnim nadgrobnim spomenicima, a interpretacije značenja kraću se od isključivo materijalističkog do strogo spiritualističkog shvaćanja.[36]

Vrlo sličnu asciju, barem koliko se može zaključiti iz priložene fotografije, čini se nalazimo i u ostavi iz Limberka nad Veliko Račno,[37] a drugu u ostavi oruđa iz Ljubična nad Zbelsko Goro,[38] oba u Sloveniji.

Teslu (*asciu)* kojoj je drugi kraj riješen kao nasuprot postavljena kratka oštrica paralelna s drškom (za sječenje) nalazimo u jednoj gomili na vrelu Cetine.[39]

Vrlo sličnu sjekiru (Streitaxt) ali s kraćim dijelom za udaranje nego li je to kod ove s nepoznatog nalazišta, imamo u Pergamonu,[40] s tim da je udarni dio četvrtast, a ne okrugao. Uz to ni oštrica nije svijena poput naše nego je ravna.

curved at the opposite end, the shape is a lot similar to our specimen. However, according to Popović, it appears that these kinds of tools, which have a narrower part for trimming and smaller arc of the arm for the blade, served primarily for working with stone. It is this smaller angle that closes the blade in comparison to the handle that emphasises the difference between the adze with the hammer ending (type III B) and the adze for trimming wood.[33]

Implements under the name of *ascia* include tools that, basically, can be similar, but at the same time have a different purpose.[34] Thus, this can refer to an implement with blade that is set parallel to the handle and therefore used for cutting, but also an implement with its blade set perpendicular to the handle and therefore used for trimming wood. Ciceron also speaks of this characteristic of the adze stressing that it is used for levelling and smoothening wood.[35] Adze also appears on numerous tombstones, and interpretations of its meaning extend from exclusively materialistic to strictly spiritualistic.[36]

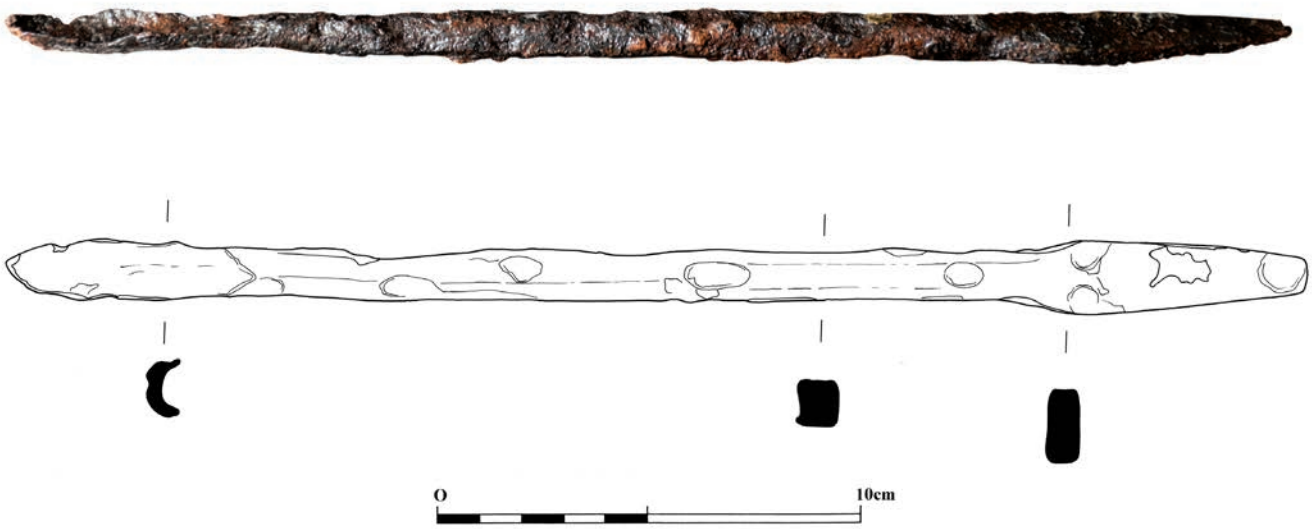
Very similar to the adzes, as far as can be inferred from the attached photographs, seems to be found in the hoard at Limberk nad Veliko Račno,[37] and another in the hoard of implements at Ljubična nad Zbelsko Goro,[38] both in Slovenia.

The adze *(ascia)* that had the other end designed as an opposing fixed, short blade parallel to the handle (for cutting), is found in a mound at the source of the Cetina River.[39]

Very similar to the axe (Streitaxt), but with a shorter section used for hitting, than was the case for this design from an unknown site, was found in Pergamon,[40] except that the head section was square, not round. Furthermore, neither is the blade bent like ours but is instead flat.

33 I. Popović, 1988, 50.
34 O tome i o izvorima u kojima se *ascia* spominje vidi W. Smith, A Dictionary of greek and Roman Antiquities, London 1878, s.v. ascia (članak J. Yates). Usp. ISIDOR IZ SEVILJE, *Etimologiarum sive originum*, liber XIX, De lignariis, gdje i o asciji.
35 Prema Popović, 1988, 50, bilj. 114.
36 Popović, 1988, 170, bilj. 120 sa svom relevantnom literaturom.
37 *Od Rimljanov do Slovanov - predmeti*, 2001, 32-33, sl. 87:48. Čekićasti dio osmerokutno je oblikovan. U tekstu se govori o „željeznom kladivu" – dakle čekiću, što iz priložene fotografije nije sasvim razvidno. Čitava je ostava datirana oko 400. godine.
38 *Od Rimljanov do Slovanov - predmeti*, 2001, 58, sl. 168, gdje se izričito govori o željeznoj tesli. Ovoj je čekićasti dio šesterokutno oblikovan. Ostava je datirana u 6. - 7. st.
39 I. Marović, 1959, 60, sl. 4: 7. Dužina je sjekire 24,2 cm.
40 W. Gaitzsch, 2004, 74, Abb. 14, BA 10, T. 8: BA 10.

33 I. Popović, 1988, 50.
34 On this and the sources that mention the ascia, see W. Smith, *A Dictionary of Greek and Roman Antiquities*, London 1878, s. v. ascia (article J. Yates). Cf. ISIDOR OF SEVILLE, *Etimologiarum sive originum, liber XIX, De lignariis,* which also mentions the adze.
35 According to Popović, 1988, 50, Note 114.
36 Popović, 1988, 170, Note 120 with the relevant literature.
37 *Od Rimljanov do Slovanov*-predmeti, 2001, 32-33, fig. 87:48. the hammer section has an octagonal shape. The text refers to an "iron hammer" – that is, a hammer, which in the attached photograph is not altogether obvious. The entire hoard is dated to the year 400.
38 *Od Rimljanov do Slovanov* - predmeti, 2001, 58, fig. 168, where there is specific talk of the iron adze. This one has the hexagonal hammer section. Hoard dated to the 6th -7th century.
39 I. Marović, 1959, 60, fig. 4: 7. Length of axe 24.2 cm.
40 W. Gaitzsch, 2004, 74, Abb. 14, BA 10, T. 8: BA 10.



Slika 13-14. Fotografija i crtež većeg svrdla
Figure 13-14. Photograph and drawing of a larger auger
foto / photo: **I. Čondić, crtež** / drawing: **J. Belevski**

3. Svrdlo

Željezno svrdlo *(terebra)* s dugačkim središnjim dijelom koje na jednom kraju završava trapezastim proširenjem, a na drugom se lagano širi i završava u obliku udubljene žlice s oštrim bridovima i vrhom (Sl. 13, 14). Središnji je dio u presjeku generalno bio riješen četvrtasto, ali s blago sječenim rubovima tako da se na nekim dijelovima vidi kako se radi o nepravilnom osmerokutu.

Dimenzije:
Dužina 30,7 cm
Širina debla 0,9 - 1,1 cm
Širina oštrice 1,5 cm
Dubina oštrice 0,9 cm
Širina dijela za nasad 0,8 - 1,7 cm
Dužina dijela za nasad 5,4 - 6,1 cm
Težina 168 g

Ovo je najčešći tip svrdla koji se upotrebljavao u rimskom drvodjelstvu. Oštrica, kako to i englesko ime (spoon bit) sugerira, nalikuje žlici koja je oštra na rubovima i vrhu, može varirati u veličini, ali svrdlo je generalno relativno dugačko i usko. Ponekad se u arheološkoj literaturi klasificira kao dlijeto, ali je to svakako pogrešna interpretacija.[41] Kod dijela šiljaka, koji na prvi pogled mogu izgledati poput polukružno formiranog dlijeta, zapravo se radi se o puknutim svrdlima. Takvog je tipa i dio svrdla koji se donosi u nastavku teksta.

Vrlo detaljnu tipologiju izradio je Pietsch. Osnova je oblik žlice i nasada. Kod kasnoantičkih primjeraka, a takvi

3. Auger

An iron auger *(terebra)* featuring a long central section, which on one end ends with a trapezoidal extension and on the other is slightly wider and ends in the form of a concave spoon with sharp edges and a tip (Fig. 13, 14). The central part in terms of the cross section was generally designed to be square, but with slightly cut edges so that in some parts an irregular octagon is evident.

Dimensions:
Length 30.7 cm
Width of shaft 0.9 - 1.1 cm
Width of blade 1.5 cm
Depth of blade 0.9 cm
Width of section for hafting 0.8 - 1.7 cm
Length of section for hafting 5.4 - 6.1 cm
Weight 168 g

This is the most common type of auger used in Roman carpentry. The blade, as the English name (spoon bit) suggests, resembles a spoon, which is sharp on the edges and tip, can vary in size, but in general is relatively long and narrow. Sometimes in archaeological literature, it is classified as a chisel, but this certainly is an erroneous interpretation.[41] At the spike section, which at first glance may seem like a semi-circular shaped chisel, it is actually a cracked auger. This type is also attributed to some of the augers presented in the section below.

A very detailed typology was performed by Pietsch. The basis is the spoon shape and the hafting section. In late antique specimens, which appear also in the non-Roman assemblies, the largest width of the spoon is above midway along the length. Similarly, the wide, triangular-shaped hafting sections for the handles, which are clearly separated

41 W. H. Manning, 1985, 25-27, fig. 5: 3, B 55; W. Gaitzch, 2004, 167 (BO 3), T, 8: 3.

41 W. H. Manning, 1985, 25-27, fig. 5: 3, B 55; W. Gaitzch, 2004, 167 (BO 3), T, 8: 3.

se javljaju i u nerimskim sklopovima, najveća širina žlice nalazi se iznad sredine njihove dužine. Isto se tako razlikuju i široki trokutasti nasadi za ručicu, jasno odvojeni od stabla, ranog i srednjeg Carstva od duljih, uskih i manje odvojenih tipova kasnocarskog vremena.[42] Mada ih ima jako puno širom Rimskog Carstva,[43] zbog relativne geografske blizine spominjemo i nalaz svrdla iz Slovenije s vrlo sličnim dimenzijama.[44] Čitav niz sličnih alatki, koje Popović ubraja u svoj Tip A, Varijantu C, nađeno je istraživanjima na različitim lokalitetima u Srbiji, osobito Caričinu Gradu. Iako su istih tipoloških obilježja, datiraju se od 3. st. sve do prvih desetljeća 7. st. Mnogi potječu iz, novcem dobro datiranih, ostava alata iz Sirmija i Brovića kod Obrenovca[45] koje se datiraju u 3 - 4. st. n. Kr.

4. Svrdlo

Slika 15-16. Fotografija i crtež manjeg svrdla
Figure 15-16. Photograph and drawing of a smaller auger
foto / photo: **I. Čondić, crtež /** drawing: **J. Belevski**

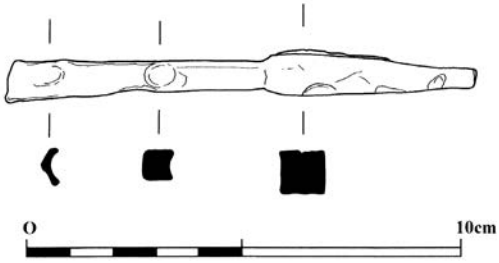
Dio svrdla s romboidno riješenim dijelom za nasad ručice (Sl. 15, 16). Tijelo je četvrtastog presjeka i lagano se širi u žličasto riješen donji dio. Vrh nedostaje.

Dimenzije:
Dužina sačuvana 10,7 cm
Širina oštrice 0,9 cm
Širina dijela za nasad (baza) 0,9 x 1 cm
Širina dijela za nasad (vrh) 0,35 x 0,45 cm
Dužina dijela za nasad 4,7 cm
Promjer debla 0,7 x 0,7 cm
Težina 26 g

Svrdlo slične dužine imamo u AMZ[46] a, kao i sjekira potječe s istraživanja provedenih u Medviđi početkom 20. st.[47] Takav primjerak nalazimo i u Ateni, a radi se o vrlo

from the haft, belonging to the early and middle Roman Empire period, also differ from the longer, narrow and less separated types from the late Roman Empire period.[42] Though there are many of them throughout the Roman Empire,[43] due to the relative geographical proximity, we also note the finds of augers from Slovenia with very similar dimensions.[44] A whole series of similar tools, which Popović includes in her Type A, Variant C, was found in the excavations conducted at various sites in Serbia, especially in Caričin Grad. Although the same typological features date from the 3rd century to the early decades of the 7th century. Based on dated coins, many originate from the hoard of tools from Srimium and Brović near Obrenovac,[45] which have been dated to the 3rd-4th century A.D.

4. Auger



Part of an auger with a rhomboidal part for hafting the handle (Fig. 15, 16). The body has a rectangular cross-section and slightly widens into a spoon shape at the bottom section. The tip is missing.

Dimensions:
Length preserved 10.7 cm
Width of blade 0.9 cm
Width of hafting section (base) 0.9 x 1 cm
Width of hafting section (tip) 0.35 x 0.45 cm
Length of hafting section 4.7 cm
Diameter of trunk 0.7 x 0.7 cm
Weight 26 g

We have an auger with a similar length at the Archaeological Museum Zadar[46] and, just as is the case with the

42 Pietsch, 1987, 43-44. Najčešći oblik debla je osmerokutni ili kvadratični. Na slici 26 donosi tablu na kojoj ovaj tip svrdla (Löffelbohrer) stavlja u vrijeme između 260 - oko 400. g. n. Krista.
43 W. Gaitzsch, Eisenfunde aus Pergamon geräte, *Werkzeuge und Waffen*, Deutsches archäologischen institut, Pergamenische forschungen, Band 14, Berlin-New York 2004., 167, T. 8 Abb. 3, BO 3., T. 8: BA 10.
44 V. Pflaum, 2007, 317, br. 29 (duž. 31,4, šir. žlice 2,2 cm, šir. nasada 2 cm, promjer debla 1,1 cm, težina 164 gr).
45 I. Popović, 1988, 120-122, brojevi 1-22, varijanta C, T. XXII: 5. Pritom donosi i njihovu dataciju pa tako: br. 5 – 3. st. (3 Aurelijanova novca), br. 6 – 6. st prema uvjetima nalaza, br. 7 – 4. st. prema uvjetima nalaza, br. 8 – 535-615. god., br. 9 - 535-625. god., br.10 – ostava alata, kraj 6. - prva des. 7. st., br. 17. Sirmium – novac 3. - 4. st., br. 20. – ostava alata 3. - 4. st. (novac A. Severa), br. 21 - ostava alata 3. - 4. st. (novac A. Severa).
46 Inv. br. 6007.
47 A. Colnago – J. Keil, 1905, Bbl. 51, fig. 13b. Donose se tri fotografije s različitim željeznim alatkama, priborom i ukrasima. Jedini podatak jest da se radi o grobu.

42 Pietsch, 1987, 43-44. The most common shape of the trunk is octagonal or square. Figure 26 shows a table that places this type of auger (Löffelbohrer) in the period between 260 - and approx. 400 A.D.
43 W. Gaitzsch, Eisenfunde aus Pergamon geräte, *Werkzeuge und Waffen,* Deutsches archäologischen institut, Pergamenische forschungen, Band 14, Berlin-New York, 2004, 167, T. 8 Abb. 3, BO 3., T. 8: BA 10.
44 V. Pflaum, 2007, 317, no. 29 (length 31.4, width of spoon 2.2 cm, width of haft socket 2 cm, diameter of stem 1.1 cm, weight 164 g).
45 I. Popović, 1988, 120-122, numbers 1-22, variant C, T. XXII: 5. Thereafter, also presents their dating as follows: no. 5 – 3rd century (3 Aurelian's coins), no. 6 – 6th century according to conditions of finds, no. 7 – 4th century according to conditions of finds, br. 8 – year 535-615, no. 9 – year 535-625, no. 10 – hoard of implements, end of 6th – first decade of 7th century, no. 17. Sirmium – coins 3rd – 4th century, no. 20. – hoard of implements 3rd – 4th century (coins from A. Sever), no. 21 – hoard of implements 3rd – 4th century (coins from A. Sever).
46 Inv. no. 6007.

staroj akviziciji.[48] Riječ je o puknutom svrdlu pa se ponekad navodi da se radi o dlijetu, što svakako nije točno.[49]

5. Nož *(cultellus)?-* **strugač (***scalprum)*

Slika 17-18. Fotografija i crtež strugača
Figure 17-18. Photograph and drawing of the scraper
foto / photo: **I. Čondić, crtež** / drawing: **J. Belevski**

Željezni nož? s koničnim okruglo formiranim tuljcem za nasad drške (Sl. 17, 18). Šuplji tuljac se nastavlja na središnji dio koji se lagano širi i završava širokom, trokutasto proširenom i koljenasto svinutom oštricom. Stražnji dio tuljca po sredini je sječen.

Dimenzije:
Dužina 17 cm
Promjer tuljca vanjski 2,3 cm
Promjer tuljca unutrašnji 1,6 cm
Debljina stjenka tuljca 0,3 cm
Širina oštrice 4,3 cm
Visina koljena 1,9 cm
Težina 169 g

U dostupnoj literaturi nije pronađen identičan primjeraK. Popović za ovaj tip alata kaže da je nož koji služi za dubljenje drvenih recipijenata pa je to ujedno i

48 W. M. Flinders Petrie, 1974, T. XXIII: 174.
49 W. H. Manning 1985, 25-27, fig. 5: 3, Pl. 12, B 57.

axe, it originated from excavations conducted in Medviđa in the early 20th century.[47] This specimen can be found in Athens, and it is a very old acquisition.[48] It is in fact a cracked auger, so sometimes it is said that it is a chisel, which certainly is not the case.[49]

5. Knife (cultellus)? - scraper (scalprum)

An iron knife? with conical, round stem for hafting the handle (Fig. 17, 18). The hollow shaft extends to the centre, which slightly widens and ends with a wide, triangular extended blade bent at a right-angle. The rear part of the shaft is cut along the middle.

Dimensions:
Length 17 cm
Outer diameter of the stem 2.3 cm
Inner diameter of the stem 1.6 cm
Thickness of stem wall 0.3 cm
Width of blade 4.3 cm
Height of right-angled bend 1.9 cm
Weight 169 g

There is no identical specimen found in the available literature. In regard to this type of tool, Popović says that the knife is used for gouging wooden recipients, and this is also the reason why we have mentioned it under this name, but nonetheless a question remains. In terms of typology, it is classified as Type C, Variant B.[50] Nonetheless, the examples cited are somewhat different from ours, because their upper part mainly becomes more narrow in the form of a tang for hafting the small handle. With its Variant C, the blunt part bent is at the end to form a wedge hole to which the wooden handle was attached.[51]

Similar to these types is only the much narrower iron hoe found on Kuzelin, and which the author says was used

47 A. Colnago – J. Keil, 1905, Bbl. 51, fig. 13b Presents three photographs with various iron tools, implements and ornaments. The only piece of information is that it is a grave.
48 W. M. Flinders Petrie, 1974, T. XXIII: 174.
49 W. H. Manning1985, 25-27, fig. 5: 3, Pl. 12, B 57.
50 I. Popović, 1988, 90/91, T. XV, 6. Seven specimens that originate from the excavations in Caričin Grad dating back to between the years 535 and 615. There are two specimens from Gamzigrad from the hoard of tools dating to the second half of the 4th century and to the first half of the 5th century. Another two specimens from Saldum and Ravno "according to other finds" can be dated to the 4th century A.D., whereas the specimen from Srijemska Mitrovica is mentioned as being from grave 323 that belongs to an artisan. The entire necropolis, including this tomb, dates back to the end of the fourth and beginning of the 5th century.
51 I. Popović, 1988, T. XVI, 1. From the description and drawing, the manner in which the handle was fastened is not clear. Perhaps the wooden handle was first fixed onto a tang, which was then eventually further bent to fasten the handle? But, what happened in case the wooden handle broke? The author mentions 13 specimens in the catalogue section: five from Carčina Grad dating back to between the years 535 and 615, two specimens from Gamzigrad, from the other hoards of tools, is placed in the second half of the 4th and beginning of the 5th century, the two specimens from Srijemska Mitrovica (from the grave of an artisan) as does the entire necropolis dates to the end of the 4th and beginning of the 5th century, the specimen from Saldun dates to the 4th century, as does a specimen from Ravna. Of the remaining two, one has not been dated, whereas the other has been dated to the end of the 6th or beginning of the 7th century.

razlog zašto smo ga naveli pod ovim imenom, ali ipak uz znak pitanja. U tipološkom ga smislu svrstava u svoj Tip C, Varijantu b.[50] Međutim, primjerci koje navodi donekle se razlikuju od našega, jer im se gornji dio uglavnom sužava u vidu trna za nasad ručice. Kod njezine Varijante c tupi dio je na kraju povijen tako da formira otvor za klin kojim je drvena drška bila pričvršćena.[51]

Samo donekle sličan ovim tipovima je i mnogo uži željezni rovaš nađen na Kuzelinu, a za koji autor kaže da je služio za kožu ili drvo.[52] Sa znakom upitnika datira se u 4. st.

Naša alatka je takvog oblika da je vrlo teško vjerovati kako je služila kao nož u bilo kakvom obliku? Što se njom moglo rezati i na koji način? Ako je oštrica bila dovoljno oštra svakako su se mogli skidati neki tanji slojevi na eventualno teže dostupnijim mjestima. Međutim *per analogiam* s današnjim alatima izgleda da bi se moglo raditi o strugaču.[53] Takav jedan, eksplicite navodeći da se radi o strugaču, iz prijelaza era donosi Manning (*scraper, engl.)*[54] Međutim kaže kako je forma ovih primjeraka, makar se činila jedinstvena, „vjerojatno u sprezi s brojnim alatima kojima je oštrica postavljena pod pravim kutom u odnosu na deblo".[55] U raspoloživoj literaturi nije pronađen približno identičan primjerak. Premda se donekle slični alati determiniraju kao noževi, ne može se oteti dojmu kako se radi o predmetu koji neodoljivo podsjeća na još donedavno upotrebljavani alat koji je služio za skidanje stare boje s drvenih brodova! Po mišljenju autora, radilo bi se, osim o nožu i o svojevrsnom strugaču[56] premda su primjerci koji se u literaturi donose kao strugači, ipak nešto drugačiji.

for skin or wood.[52] With some uncertainty, it is dated to the 4th century.

Our tool is such a shape that it is hard to believe it was used in any way as a knife. What could have been cut with it and in what way? If the blade was sharp enough, certain thinner layers could be removed in particular places that were hard to access. However, per analogiam to today's tools, it seems as though it could have been a scraper.[53] Such a scraper, and explicitly stating that it is a scrapper, from the transition of the period is presented by Manning.[54] However, he says that the shape of these specimens, though appearing unique, "is probably in conjunction with a number of tools on which the blade is set at a right angle to the trunk."[55] The available literature has not yielded any approximately identical specimen. Although similar tools have been determined to be knives, one cannot but feel that it is an item that definitely reminds us of an, until recently, tool used for removing old lacquer from wooden boats! Therefore, it seems to be, in this author's opinion, besides a knife, some kind of scraper,[56] although the specimens in the literature presented as scrapers, are somewhat different.

6. Chisel

An iron chisel with a narrow, rectangular cross-section of the body and a skewed end (Fig. 19, 20). A thick-walled conical stem extends from the body. The circumference of the stem base is partly twisted outwards due to inflicted knocks.

Length 26.2 cm
Height of body 2 cm
Width of body 1 cm
Length of body 16.1 cm
Outer diameter of stem 3.2 cm
Inner diameter of stem 1.7 cm
Weight 425 g

50 I. Popović, 1988, 90/91, T. XV, 6. Sedam primjeraka koji potječu s istraživanja u Caričinu Gradu datiraju se između 535 i 615. godine. Dva su primjerka iz Gamzigrada iz ostave alata datirane u 2. pol. 4. – prvu pol. 5. st. Za još dva iz Salduma i iz Ravna kaže da se „prema ostalim nalazima" mogu datirati u 4. st., dok za onaj iz Srijemske Mitrovice navodi da je iz groba 323 koji pripada zanatliji. Čitava se nekropola, pa tako i ovaj grob, datiraju u kraj 4. i početak 5. st.

51 I. Popović, 1988, T. XVI, 1. Iz opisa i crteža nije jasno na koji se to način ta ručica pričvršćivala. Možda se drvena ručica najprije aplicirala na trn koji se zatim na kraju dodatno svijao kako bi fiksirao ručicu? Ali što se događalo u slučaju da drvena ručica pukne? Autorica u kataloškom dijelu navodi 13 primjeraka: pet iz Caričina Grada datira između 535. i 615. godine, dva primjerka iz Gamzigrada, iz ostave alata, stavlja u drugu pol. 4. i prvu pol. 5. st., dva iz Srijemske Mitrovice (iz groba zanatlije) datira, kao i čitavu nekropolu, na kraj 4. i poč. 5. st., onaj iz Salduna stavlja u 4. st., jednako kao i primjerak iz Ravna. Od ostala dva jedan nije datiran, a drugi se stavlja u kraj 6. i poč. 7. st.

52 V. Sokol, 1998, 27, br. 44. Ima široki trn i glavu raskovanu udarcima. Valja napomenuti da je sječivo polukružno formirano i vrlo usko tako da se njima moglo služiti samo za rovašenje uskih površina. Autor donosi mnogo različitih alatki i drugih predmeta ali u kataloškom dijelu ne navodi konkretne paralele za pojedine primjerke nego samo generalne navode u uvodnom tekstu uz zamašnu literaturu na kraju publikacije. Svakako je zanimljivo kako među tolikim brojem predmeta nema ni jednog koji bi odgovarao našim primjercima. Oblikom oštrice i tuljca, ali bez da je oštrica koljenasto svinuta donosi Pietsch, 1983, T. 20:468, navodeći da se radi o sjekaču.

53 I. Popović, 1988, 114, navodi kako se strugači ne spominju u izvorima, a nisu poznati ni s antičkih nadgrobnih spomenika.

54 W. H. Manning, 1985, 21, Pl. 9, B 24, ali je nešto drugačiji od uobičajenih (Usp. Dechelette, 1927, 874, fig. 603, 1-3.) Ovi „uobičajeni" (podcrtao S.G.) imaju oštricu svinutu pod pravim kutom dok je kod drugih ona riješena polukružno (prijelaz iz tijela u oštricu, op. S.G.). (Usp. Antik. Journal, 37, 1957, 218, fig. 2B).

55 W. H. Manning, 1985, 21.

56 J. Marević, 2000, 2839, s.v. scalprum kaže kako je 1. značenje „naprava za rezanje, postolarski nož", dok je 3. značenje – dlijeto. U svakom slučaju alatka do nekog sretnijeg nalaza donekle ostaje *sub iudice.*

52 V. Sokol, 1998, 27, no. 44. It has a wide tang and a head blunted from hits. It is worth mentioning that the blade is a semi-circular shape and very narrow so that they could be used only for hoeing narrow areas. The author presents numerous various tools and other items and in the catalogue section does not provide specific parallels to particular specimens but only general references in the introductory section along with the extensive literature at the end of the publication. It is certainly interesting that among the many items not only conforms to our specimens. The shape of the blade and the stem, but without the blade being bent at a right angle is presented by Pietsch, 1983, T. 20: 468, who states that it is a cutter.

53 I. Popović, 1988, 114, states that scrappers are not mentioned in the sources, and have not been found on the Antique tombsones.

54 W. H. Manning, 1985, p. 21, Pl. 9, B 24, but is somewhat different from the ordinary ones (Cf. Dechelette, 1927, 874, fig. 603, 1-3.) These "ordinary ones" (underlined by S. G.) have a blade bent to a right angle whereas the others are a semi-circle design (transition from the body to the blade, op. S. G.). (Cf. Antik. Journal, 37, 1957, 218, Fig 2B).

55 W. H. Manning, 1985, 21.

56 J. Marević, 2000, 2839, s.v. *scalprum* says that the first meaning is "a device for cutting, a shoemaker's knife, whereas the third meaning is a chisel. In any case, the tool until finding a better solution shall remain *sub iudice.*

6. Dlijeto

Željezno dlijeto uskog pravokutnog presjeka tijela i zakošenog završetka (Sl. 19, 20). Na tijelo se nastavlja konični tuljac debelih stjenki. Obod baze tuljca uslijed udaraca dijelom je lagano izvijen prema vani.

Dužina 26,2 cm
Visina tijela 2 cm
Širina tijela 1 cm
Dužina tijela 16,1 cm
Promjer tuljca, vanjski 3,2 cm
Promjer tuljca, unutrašnji 1,7 cm
Težina 425 g

7. Dlijeto

Slika 21-22. Fotografija i crtež širokog dlijeta
Figure 21-22. Photograph and drawing of a broad chisel
foto / photo: **I. Čondić, crtež /** drawing: **J. Belevski**

Željezno dlijeto širokog tankog tijela i zakošene oštrice (Sl. 21, 22). Na tijelo se nastavlja konični okrugli tuljac za nasad drške.

Dužina 21,5 cm
Širina tijela 1,8 – 2,2 cm
Visina tijela 0,2 – 1 cm
Dužina tijela 12,3 cm
Promjer tuljca, vanjski 2,4 – 2,6 cm
Promjer tuljca, unutrašnji 1,5 cm
Težina 201 g

Dlijeto je služilo za dubljenje drvenih recipijenata.[57] Mnogo bolje sačuvan, a oblikom gotovo identičan primjerak nalazimo u sklopu metalnog željeznog alata u Arheološkom muzeju u Zadru, ali bez ikakvih okolnosti nalaza.

57 I. Popović, 1988, 91, Tip C, Varijanta b, ali za razliku od našega ima trn, dok Tipovi A i B imaju nasad za drvenu dršku. W. H. Manning, 1985, 22-23 (Firmer chisel B 31-34), 20, fig. 4:4, T. 10: B 31 i možda B 35 i B 36). Dlijeto B 31 datira u kasno 1. - rano 2. st. n. Kr.; J. Ward, 1911, 200. Dlijeto pod slovom O identično je našemu. Preračunata dužina, na osnovi crteža i mjerila, iznosi cca 21 cm.

Slika 19-20. Fotografija i crtež uskog dlijeta
Figure 19-20. Photograph and drawing a narrow chisel
foto / photo: **I. Čondić, crtež /** drawing: **J. Belevski**

7. Chisel

An iron chisel with a wide, thin body and skewed blades (Fig. 21, 22). A round conical stem for hafting the handle extends from the body.

Length 21.5 cm
Width of body 1.8 - 2.2 cm
Height of body 0.2 - 1 cm
Length of body 12.3 cm
Outer diameter of stem 2.4 - 2.6 cm
Inner diameter of stem 1.5 cm
Weight 201 g

The chisel was used for gouging wooden recipients.[57] A much better preserved specimen, with a shape almost identical to the specimen, has been found among the metal iron tools in the Archaeological Museum Zadar, but with no definite circumstances surrounding its findings.

8. File *(lima, scobina)*

An iron file[58] featuring a uniform flat face with a triangular cross-section, from which extends a square thorn for hafting a handle (Fig. 23, 24). The other end is forged and extended, and is drawn out into a cochlea shape. The face is cut perpendicular to the axis, and there is a V-shaped recess at the end, nearer the handle.

57 I. Popović, 1988, 91, Type C, Variant B, but unlike our type it has a tang, whereas Types A and B have an eye for the attaching a wooden handle. W. H. Manning, 1985, 22-23 (Firmer chisel B 31-34), 20, fig. 4: 4, T. 10: B 31 and perhaps B 35 and B 36). The chisel designated as B 31 dates to the late 1st or early 2nd century A.D.; J. Ward, 1911, 200. The chisel designated by the letter O is identical to ours. The calculated length, based on drawings and a scale, is about 21 cm.

58 L. Jacobi, 1897, 239, fig. 35: 24-25. The file categorised as a blacksmith, locksmith or tinsmith tool.

Slika 23-24. Fotografija i crtež turpije
Figure 23-24. Photograph and drawing of the file
foto / photo: **I. Čondić, crtež** / drawing: **J. Belevski**

8. Turpija *(lima, scobina)*

Željezna turpija[58] jednolikog ravnog lista trokutastog presjeka na koji se nastavlja četvrtasto formiran trn za nasad ručice (Sl. 23, 24). Drugi kraj završava kovanjem izvučenog i u pužnicu svijenog završetaka List je izbrazdan okomito na os, a na kraju bližem ručici ima utor u obliku slova V.

Dužina 22,2 cm
Visina sječiva 2,3 cm
Visina vrha 3,5 cm
Dužina trna 4,6 cm
Dužina sječiva 17,4 cm
Debljina sječiva (gornja) 0,6 - 0,8 cm
Promjer trna 0,9 x 0,9 cm
Dub. zuba 0,7 cm
Širina zuba 0,3 cm
Težina 125 g

Antički izvori spominju dva naziva za turpiju: *lima i scobina.* Izrazi se nalaze kod brojnih rimskih autora koji ih jednakopravno koriste objašnjavajući iste stvari. Prema tome budući da ti nazivi sami po sebi ne predstavljaju tipološki ili namjenom različite turpije nije moguće utvrditi radi li se u pojedinom slučaju o turpiji s izrazitim zupcima ili se radi o žlijebljenoj turpiji s finijim zupcima. Drugim

Length 22.2 cm
Height of blade 2.3 cm
Height of tip 3.5 cm
Length of tang 4.6 cm
Length of blade 17.4 cm
Thickness of blade (upper) 0.6 - 0.8 cm
Diameter of tang 0.9 x 0.9 cm
Depth of tooth 0.7 cm
Width of tooth 3 cm
Weight 125 g

Ancient sources mention two names for the file: *lima* and *scobina.* The expressions are used by a number of Roman authors who use them equally to explain the same thing. Accordingly, as these names alone do not represent the typological or in terms of intended purpose different files, whether in particular cases the item is a file with distinct teeth or a chamfered file with finer teeth cannot be ascertained with any certainty. In other words, based only on the name, there is no way to determine whether a particular file was used for metal or wood. A distinction can be made only in the case that along with the basic concept an attribute is provided such as *lima lignariae,* meaning a wood file.[59]

Rarely can presentations of files be found on tombstones. One such find has been found on the monument of a carpenter from Mainz, although it is nonetheless a rasp, that is, a crude file for the more powerful removal of certain surfaces.[60] Note that Latin dictionaries interpret both

58 L. Jacobi, 1897, 239, fig. 35: 24-25. turpije ubraja u kovački, bravarski ili limarski alat.

59 W. Gaitzsch, 1980, 47-48.
60 W. Gaitzsch, 1980, 48, T. LXVII, 312.

riječima ne može se, na osnovi naziva, kazati je li se neka turpija koristila za metal ili za drvo. Razlikovanje je moguće jedino u slučaju da se uz osnovni pojam daje neki atribut poput *limae lignariae,* dakle turpije za drvo.[59]

Relativno se rijetko prikazi turpije mogu naći na nadgrobnim spomenicima. Jedan takav nalazimo na spomeniku tesara iz Mainza, premda se tu ipak radi o rašpi, dakle gruboj turpiji za snažnije skidanje određene površine.[60] Valja primijetiti kako latinski rječnici oba izraza (*lima, scobina)* tumače dvojako: kao pilu i kao turpiju,[61] ali i brus.[62]

Radi se u svakom slučaju o osobitom tipu turpije odnosno varijanti trobridnih turpija koje se u njemačkoj terminologiji nazivaju Sägefeilen.[63] Takav je oblik nepoznat na predrimskim nalazištima. Kako Gaitzsch navodi: „Die Entstehung der Sägefeile hängt unmittelbar mit einer… Sägetecnik und der zunehmenden Anwendung verschiedenster Sägeformen, wie wir sie in römischer Zeit erstmals fassen, zusammen."[64]

Prema tome može se kazati kako je ova turpija zapravo u potpunosti razvijen rimski proizvod. Među ogromnim brojem primjeraka različitog rimskog alata do prije nekog vremena bila su poznata svega 24 primjerka ovakvih turpija. Primarna joj je uloga bila brušenje ili oštrenje izlizanih zubi pile. Na kraju bližem ručici ponekad se nalazio utor različitog oblika. Mogao je biti u obliku slova V (kao u našem slučaju), slova U (najčešće) ili pak u obliku ključanice dakle s okruglo proširenim gornjim dijelom.

Zabilježeno je svega nekoliko alata posebno namijenjenih za razmicanje zubi pile.[65] Međutim s turpijom poput našeg primjerka pojavio se alat koji je imao dvostruku namjenu: služio je kako za obradu (razmicanje) zubi pile tako i za njihovo oštrenje.

Uslijed relativno loše sačuvanosti lista turpije moguće je samo na izoliranim dijelovima pratiti horizontalne tragove nazubljenosti koji su samo jedna od mogućih varijanti.[66] O turpijama ovog tipa, donoseći nove primjere, kratko raspravlja i Pietsch.[67] U crtežu donosi dva izvanredna primjerka s horizontalnim žlijebljenjem i cik-cak ukrasom u gornjem dijelu.[68] Za nas su zanimljivi primjerci br. 399 i 400, osobito posljednji, koji ima ravno koncipiranu gornju ivicu i potpuno horizontalno žlijebljen list uz U utor za razmicanje zubi pile.[69]

expressions *(lima, scobina)* in two ways: as a saw or as a file,[61] but also as a burnisher.[62]

In any case, it involves a particular type of file or version of tribolate files, which in German terminology is referred to as Sägefeilen.[63] This form has not been found at pre-Roman sites. As Gaitzsch states: "Die Entstehung der Sägefeile hängt unmittelbar mit einer ....Sägetecnik und Anwendung der zunehmenden verschiedenster Sägeformen, wie wir sie and römischer Zeit erstmals fassen, zusammen"[64]

Accordingly, it can be said that this file is actually a fully developed Roman product. Among the vast number of specimens of various Roman tools before not long ago, there were only 24 known specimens of these kinds of files. Its primary role was to burnish or sharpening worn-out saw teeth. At the end closer to the handle, sometimes there was a slot of various shapes. It could it be V-shaped (as in our case), U-shaped (most often), or a keyhole shape with a rounded, extended upper section.

Only a few tools specially designed for spacing saw teeth have been recorded.[65] However, along with the file like our specimen, a tool that had a dual purpose has appeared; it was used for tooling (spacing) saw teeth and sharpening them.

Due to the relatively poor preservation of the file face, horizontal traces of raggedness can be noticed only on isolated parts, and which is only one of the possible variants.[66] Pietsch briefly discusses these types of files and introduces new types.[67] He presents in his drawings two exceptional specimens with horizontal chamfers and zigzag ornamentations in the upper section.[68] We consider examples no. 399 and 400 to be interesting, especially the last one, which has a top edge with a flat design and completely horizontally grooved face with a U-recess for spacing saw teeth.[69]

Besides the axe and javelin, the file too has some stylistic features. This applies to the strip drawn out, and then the upper edge of the workpiece bent like a snail. A similar end was found on an axe from Austria, which is questionably dated to Late Antiquity.[70]

59 W. Gaitzsch, 1980, 47-48.
60 W. Gaitzsch, 1980, 48, T. LXVII, 312.
61 M. Žepić, 1972, *s.v. lima, ae.;* J. Marević, 2000, 2855, *s.v. scobina, ae.*
62 J. Marević, 2000, 1773, *s.v. lima,ae.*
63 W. Gaitzsch, 1980, str. 51, Tail I, Abb. 4, Tail II, T. 60: 295
64 W. Gaitzsch, 1980, 205.
65 W. Gaitzsch, 1980, 204.
66 W. Gaitzsch, 1980, Abb. 5. U spomenutom je djelu Gaitzsch svakako najtemeljitije obradio ovaj tip, ali i mnoge druge tipove rimskog alata.
67 M Pietsch, 1983, 50-51.
68 M Pietsch, 1983, T. XVI, 397, 398.
69 M Pietsch, 1983, 50, 100, T. XVI, 399, 400. Sačuvana dužina turpije 400 je 15,7 cm, a težina 126 g.

61 M. Žepić, 1972, s.v. *lima, ae.;* J. Marević, 2000, 2855, s.v. *scobina, ae.*
62 J. Marević, 2000, 1773, s.v. *lima,ae.*
63 W. Gaitzsch, 1980, str. 51, Tail I, Abb. 4, Tail II, T. 60: 295
64 W. Gaitzsch, 1980, 205.
65 W. Gaitzsch, 1980, 204.
66 W. Gaitzsch, 1980, Abb. 5. In the mentioned work, Gaitzsch had indeed most thoroughly dealt with this type, but also many other types of Roman tools.
67 M. Pietsch, 1983, 50-51.
68 M Pietsch, 1983, T. XVI, 397,398.
69 M Pietsch, 1983, 50, 100, T. XVI, 399,400. Preserved length of file 400 is 15.7 cm, with a weight of 126 g.
70 R. Pohanka, 1986, 380, T. XLVIII, 217. Interestingly enough, among the large number of various tools treated by I. Popović, 1988, 113, there is not a single file like ours. The author links this to difficulties in identification if the working surface is worn out or corroded.

Slika 25. Fotografija većeg i manjeg okova
Figure 25. Photograph of a larger and smaller brace
foto / photo: **I. Čondić**

Slika 26. Crtež većeg i manjeg okova s čavlom
Figure 26. Drawing of a large and small brace with a nail
crtež / drawing: **J. Belevski**

Osim za sjekiru i sulicu i za turpiju se može kazati kako ima neke stilske osobitosti. Odnosi se to na trakasto izvučeni, a zatim poput puža svijeni završetak gornje ivice radnog dijela. Sličan završetak nalazimo na jednoj sjekiri iz Austrije koja se uz znak upitnika datira u kasnu antiku.[70]

9. Okovi

Okov a

Željezni okov prstenastog oblika (Sl. 25, 26). Nedostaje manji pojas, vjerojatno s dijela gdje je okov bio spojen. Donja ivica ravna, gornja zakošena od udaranja.

Dimenzije:
Promjer vanjski 4,3 cm
Promjer unutrašnji 3,7 cm
Visina 2 - 2,2 cm
Težina 33 g

Okov b

Manji okov prstenastog oblika (Sl. 25, 26). Malo dislocirano od središta kvadratno oblikovan željezni čavao sa širokom nepravilnom glavom.

Dimenzije:
Promjer vanjski 3 cm
Promjer unutrašnji 2,5 cm
Visina 1,5 cm
Visin s čavlom 5,5 cm
Dužina čavla 6,6 cm
Promjer glave čavla 2,1 - 2,3 cm
Promjer trna 0,5 - 0,6 cm
Težina 28 g

Okove ne možemo vezivati uz sjekiru i asciju, a tako ni uz svrdla odnosno uz turpiju kojima nije potrebno ojačanje na kraju. Naravno valja isključiti i sulicu. Prema tome najvjerojatnije su bili vezani uz dršku nekog od preostalih alata. O njihovoj pripadnosti više nam otkriva fotografija načinjena tijekom istraživanja. Na samom crtežu vidljiv je veći okov, dok je manji bio skriven oku crtača (Sl. 27, 28).

70 R. Pohanka, 1986, 380, T. XLVIII, 217. Zanimljivo je primijetiti kako među velikim brojem različitog alata koje je obradila I. Popović, 1988, 113, nema ni jedne turpije slične našoj. Autorica to dovodi u vezu s teškoćama u prepoznavanju ukoliko joj je radna površina istrošena ili korodirana.

9. Braces

Brace a

An iron, ring-shaped brace (Fig. 25, 26). The lower band is missing, probably from the part where the brace was connected. The lower edge is flat whereas the upper is skewed from knocks.

Dimensions:
Outer diameter 4.3 cm
Inner diameter 3.7 cm
Height 2 - 2.2 cm
Weight 33 g

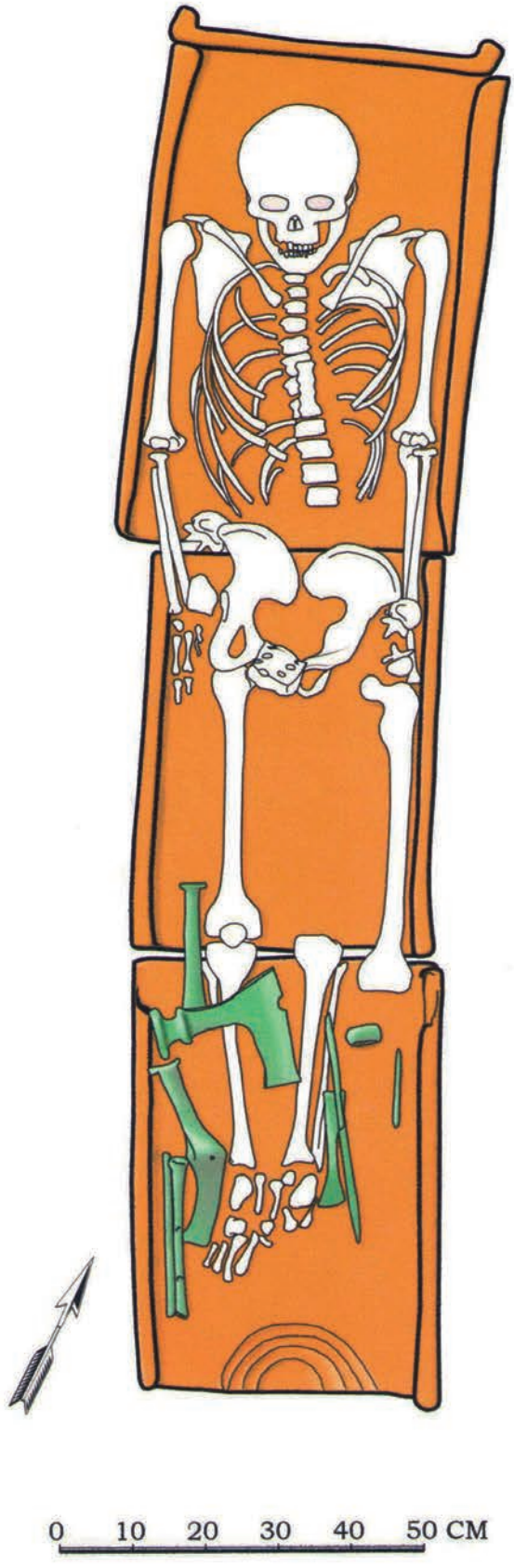
Brace b

A smaller, ring-shaped brace (Fig. 25, 26). A little dislocated from the centre, square-shaped iron nail with a wide irregular head.

Dimensions:
Outer diameter 3 cm
Inner diameter 2.5 cm
Height 1.5 cm
Height with nail 5.5 cm
Length of nail 6.6 cm
Diameter of nail head 2.1 - 2.3 cm
Diameter of tang 0.5 - 0.6 cm
Weight 28 g

The braces cannot be linked to the axe and adze, nor to the drills or file, which do not require reinforcement on the ends. Nonetheless, the javelin should also be excluded. Accordingly, they were most likely related to the handle of one of the other tools. A photograph taken during excavations reveals more about its origin. Evidently, there is a larger brace on the actual drawing, while the smaller was hidden from the eye of the drawer (Fig. 27, 28).

The larger brace is located alongside the left lower leg, a little above the scraper. Its inner and outer diameter does not match the diameter of the scraper but, based on their mutual relationship, it is clear that they were once a whole unit. The conclusion drawn from the dimensions is that the handle of the scraper was wider towards the top where it ended with a brace. This concept of a handle is understandable, because the scraper was used by dragging, and hence a wider handle facilitated stabilising the hand and preventing slippage. Smaller braces belonged to



Slika 27. Crtež otvorenog groba prema terenskom crtežu s položajem većeg okova

Figure 27. Drawing of an open grave according to the field drawing indicating the position of larger braces

crtež / drawing: **I. Čondić**

Slika 28. Donji dio groba s vidljivim manjim okovom ispod ascije.

Figure 28. Lower section of the grave with visible smaller braces below the adze.

foto / photo: **S. Gluščević**

a wider chisel, because it was used for less hits and the iron ring on the end seemed to be justified. It was positioned directly below the hammer end of the adze and exactly in the extended section of the chisel opening. Based on the internal diameter of the chisel and the smaller brace with the tang, it becomes clear that this handle was also conically expanded towards the top. Due to the pronounced traces of knocks that are visible on the chisel with the narrow blade, which was made possible due to the thick walls, the assumption is that for some reason a wooden handle was missing.[71]

71 F. Leben – Z. Šubic, 1990, 327, (T. 2: 24), round, with a flat iron hoop at one end, which is used as a clamp.

Veći se okov nalazio uz lijevu potkoljenicu samo malo poviše strugača. Njegov unutrašnji i vanjski promjer ne odgovara promjeru strugača ali je, na osnovi njihova međusobnog odnosa, jasno da su činili jednu cjelinu. Iz dimenzija se također može zaključiti kako se drška strugača širila prema gore gdje je završavala okovom. Takva koncepcija drške je i razumljiva, jer se strugač upotrebljavao na način da se potezao pa je šira drška olakšavala zadržavanje ruke odnosno otežavala njezino skliznuće. Manji okov je pripadao širem dlijetu, jer je tu bilo više udaraca i prisutnost željeznog prstena na kraju ima više opravdanja. Nalazio se točno ispod čekićastog kraja ascije i točno u produžetku otvora dlijeta. Na osnovi unutrašnjeg promjera i dlijeta i manjeg okova s trnom, također je jasno kako se i ova drška konično širila prema vrhu. Zbog jakih tragova udaranja koji su vidljivi na dlijetu s uskom oštricom, a to su omogućavale i debele stjenke, može se pretpostaviti da je njemu, iz nekog razloga, nedostajala drvena drška.[71]

10. Sulica

Željezna sulica[72] s tuljcem za nasađivanje koji prelazi u romboidno oblikovani i zašiljeni vrh, čiji dio nedostaje (Sl. 29, 30). Na prijelazu tuljca u trn s obje se strane ističu krilca (jednom nedostaje dio) koljenasto oblikovana i četvrtastog presjeka. Ostaci drveta na tuljcu, slomljenom krilcu i trnu.

Dužina 16,4 cm
Promjer tuljca (vanjski) 1,8 cm
Promjer tuljca (unutrašnji) 1,4 cm
Promjer tuljca ispod krilca 1 cm
Promjer vrha 0,5 - 0,6 cm
Dužina tuljca 6,7 cm
Dužina vrha 9,7 cm
Raspon krilaca rekonstruiran 4 cm
Težina 72 g

O oružju svog vremena dakle prijelaza 4. i 5. stoljeća, a to je upravo vrijeme u koje datiramo i ovaj grob, govori nam i čuveni Vegecije. On navodi kako su teški pješaci, među ostalim, imali i „dvije sulice, jednu veću, s trokutastom oštricom od devet palaca i drškom od pet i pol stopa".[73] Na istom mjestu kaže da se takvo oružje prije nazivalo *pilum, a da se sada zove spiculum*.

10. Javelin

An iron spear[72] with a stem for hafting that extends into a rhomboid shaped, pointed tip, which is missing (Fig. 29, 30). As the stem extends to the tang, there are pronounced right-angled wings on both sides (one of them is missing a part) with a rectangular cross-section. There are remains of wood on the stem, the broken wing and tang.

Length 16.4 cm
External diameter of stem 1.8 cm
Internal diameter of stem 1.4 cm
Diameter of the stem below the wings 1 cm
Diameter of the tip 0.5 - 0.6 cm
Length of stem 6.7 cm
Length of tip 9.7 cm
Span of wings reconstructed 4 cm
Weight 72 g

The famous Vegetius talks about the weapons of his time, during the transition from the 4th to the 5th century, the period to which we have dated this grave. He notes that the heavy infantry, among other things, also had "two lances, one larger, with a triangular blade spanning nine thumbs and a handle spanning half a foot".[73] In the same section, he says that before this kind of weapon was called a *pilum,* and that it is now called a *spiculum.*

There are also a few spikes from northern Britain, and also from other destinations,[74] that have a long base like a pilum and complement information noting also the blades that are much longer than what Vegetius mentioned. Undated specimens from Catterick, Lauriacum and Vindonissa had a spike with double wings, but were 549 and 590 mm long.[75] Close parallels appear in Vimose, Illerup (3rd century), Ejsbøl and Nydam (4th century) and suggest a link with the Germanic weapons.[76] Similarly, the Germanic spikes from Nydam, Kragehul and Illerup, with the long and narrow tip and wings are very similar to the stem used for hafting spear handles, and analogous to the spikes from Pilismarót. Perhaps some Roman spears were variants adopted from Germania and reintroduced to the empire in the period of the 3rd – 4th century, and therefore represent an indirect link between the *pilum* and

71 F. Leben – Z. Šubic, 1990, 327, (T. 2: 24) okrugli, na jednom kraju ravan željezni obruč koji se upotrebljavao kao obujmica.

72 Sulica nije vidljiva na fotografiji ni na crtežu. U bilježnici „Pomoćna dokumentacija, T.C. Relja 1989/90, br. 1., pod datumom 15.02.1990., za grob 555 se navodi: „Skelet na teguli s Fe oruđem i oružjem kao prilogom". S obzirom na to jedina je mogućnost da se sulica nalazila između potkoljenica ili u trokutastom prostoru koji su zatvarali desna potkoljenica, gornji dio bradate sjekire i gornji, čekićasti, dio ascije. Taj dio nije bilo moguće očistiti prije dizanja vidljivog alata.

73 P. Flavii Vegeti Renati, 2002, 142, Druga knjiga, 15. Znači da je oštrica bila dugačka 16,65 cm, a drška 163 cm.

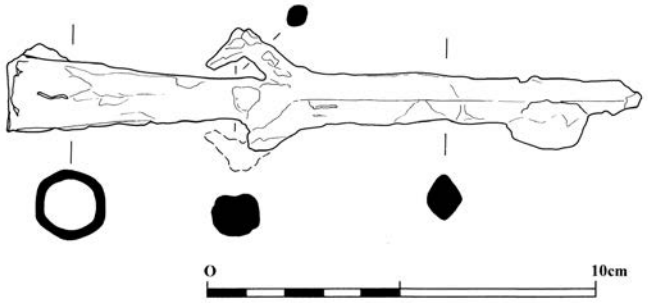
72 The javelin is not visible in the photograph or the drawing. The notebook titled "Pomoćna dokumentacija, T.C. Relja 1989/90, br. 1.", dated 15 February 1990, for grave 555 it states: "The skeleton on the tegula with Fe tools and weapons as accessories". Having said that, the only possibility was that the javelin was located between the lower parts of the legs or in the triangular space closed by the right lower part of the leg, the upper section of the bearded axe and upper, hammer-like, part of the adze. That part could not be cleaned before lifting the visible tools.

73 P. Flavii Vegeti Renati, 2002, 142, Second Book: 15 meaning that the blade was 16.65 cm long, and the handle was 163 cm.

74 The spike very similar to ours is presented by W. M. Flinders Petrie, 1917, T. XXXVIII: 99.

75 M. C. Bishop – J. C. N. Coulston, 2006, 200, fig. 127:4. The dimensions are most similar to our javelin from Catterick, 201, fig. 127:15.

76 M. C. Bishop – J. C. N. Coulston, 2006.



Slika 29-30. Fotografija i crtež sulice
Figure 29-30. Photograph and drawing of the javelin
foto / photo: **S. Gluščević, crtež** / drawing: **J. Belevski**

Nalazi nekoliko šiljaka iz sjeverne Britanije, ali i s drugih destinacija,[74] koji imaju dugačak donji dio poput piluma dopunjuju podatke navodeći i oštrice koje su bitno duže od onih koje spominje Vegecije. Nedatirani primjerci iz Cattericka, Lauriacuma i Vindonisse imali su šiljak s dvostrukim krilcima dužine 549 i 590 mm.[75] Uske paralele javljaju se u Vimoseu, Illerupu (3. st.), Ejsbølu i Nydamu (4. st.) i sugeriraju vezu s germanskim oružjem.[76] Na sličan način su germanski šiljci iz Nydama, Kragehula i Illerupa, s dugačkim i uskim šiljkom i krilcima vrlo blizu tuljcu za nasad drške koplja, analogni šiljcima iz rimskog Pilismaróta. Možda su neka rimska koplja bile varijante prihvaćene iz Germanije i ponovo uvedeni u Carstvo za vrijeme 3. - 4. st., pa dakle predstavljaju neizravnu vezu *piluma* s germanskim *angonom*.[77] Služeći se donesenim mjerilima, mogu se relativno točno preračunati dimenzije vrška iz Pilismaróta. Tako je tuljac do korijena krilca dugačak oko 6,5 cm, jednako kao i tuljac iz groba 555 s Relje (6,7 cm). Sam vrh je od korijena krilca dugačak oko 16 cm, a naš 9, 5 cm. Treba međutim imati u vidu činjenicu da sam vrh kod zadarskog primjerka nedostaje. Prema tome Pilsmarótski vrh koplja ima ukupnu dužinu od cca 22 cm. Po tom bi izračunu našem koplju nedostajalo još 5,5 cm. Valja kazati kako je i vanjski promjer tuljca gotovo identičan kao i naš - nešto manje od 2 cm. Treba istaknuti da su krilca koplja iz Pilismaróta nejednaka, a da je desno pritom koljenasto svijeno, ali ipak manje negoli je to kod sulice iz Zadra. Na žalost ne donosi se presjek samog vrha ni krilaca pa se ne mogu utvrditi eventualne dalje analogije.

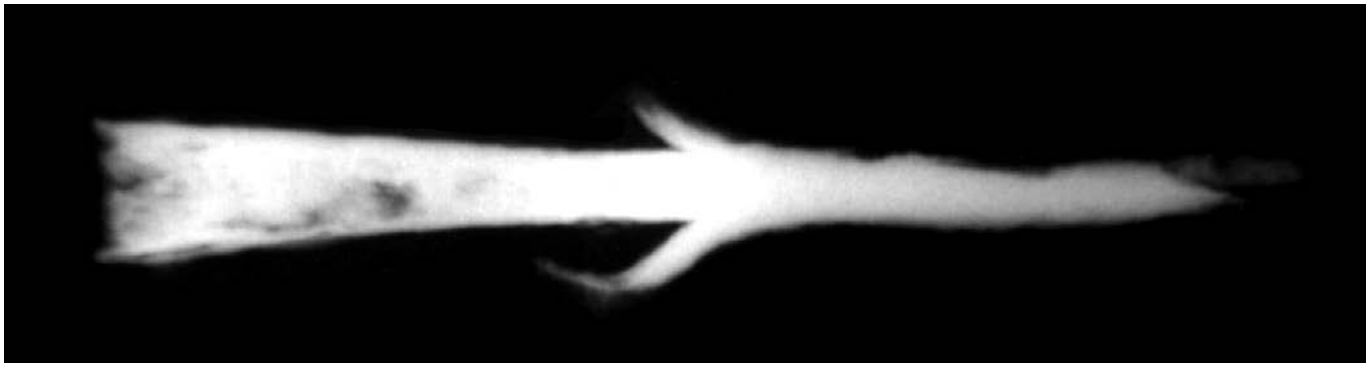
Još čitav niz vrhova kopalja s krilcima javlja se na različitim nalazištima. Radi se, međutim, o vršcima kojima je donji dio (dakle šuplji tuljac do baze krilaca) u principu tri puta duži od samog vrha. Uz to vrhovi su vanjskim oblikom nešto drugačije koncipirani, a presjek im je pretežito deltoidan (u formi leće). Takve vrhove kopalja nalazimo

74 Šiljak vrlo sličan našem donosi W. M. Flinders Petrie, 1917, T. XXXVIII: 99.
75 M. C. Bishop – J. C. N. Coulston, 2006, 200, fig. 127:4. Dimenzijama najsličniji našoj je sulica iz Cattericka, 201, fig. 127:15.
76 M. C. Bishop – J. C. N. Coulston, 2006, sp. mj.
77 M. C. Bishop – J. C. N. Coulston, 2006, 200, 228, bilj. 6.; O pilumu O. Dahm, 1895, 226-248, T. VIII- IX, gdje donosi i crtež *angona* kojeg stavlja u kraj 4. st. S germanskim oružjem angon kompariraju ih i P. Southern-K. R. Dikon, 1996, 113-115, fig. 45.

the Germanic *angon*.[77] Based on the adopted criteria, the dimensions of the tip from Pilismarót can be accurately recalculated. Thus, the stem running to the root of the wing is about 6.5 cm long, as well as from the stem from grave 555 from Relja (6.7 cm). The actual tip leading from the root of the wing is about 16 cm long, whereas ours is 9.5 cm. It should be kept in mind that the very tip of the Zadar specimens is missing. Therefore, spearhead from Pilsmarót has a total length of about 22 cm. According to this calculation, our spear is missing as much as 5.5 cm. It should be noted that the outer diameter of the stem is almost identical to ours - a little less than 2 cm. Furthermore, the wings of the spear from Pilismarót are uneven, and the right wing is bent into a right angle, but still less than is the case with javelins from Zadar. Unfortunately, no cross-section of the tip nor the wings is given, so any further analogies cannot be determined.

Still another entire series of spear tips with wings appear at different sites. However, they are the tips where the lower part (that is, a hollow stem leading to the base of the wings), in principle, is three times longer than the actual tip. In addition, the outer shapes of the tips are somewhat differently conceived, and the cross section is mainly a deltoid shape (in the form of lenses). Such spear tips have been found in Slovenia[78] and in Croatia.[79] Radman Livaja notes that these examples "correspond to the findings of late antique Roman spears and javelins," and can be dated to the period from the late 2nd to the 4th century A.D., or even later. He also mentions that the possible origin of this type of light javelin was the Germanic tribes east of the Rhine.

77 M. C. Bishop – J. C. N. Coulston, 2006, 200, 228, Note 6; on the *pilum* O. Dahm, 1895, 226-248, T. VIII- IX, where he also presents a drawing of an *angon* which he places at the end of the 4 century. They are also compared with the Germanic weapons *angon* by P. Southern – K. R. Dikon, 1996, 113-115, fig. 45.
78 F. Leben – Z. Šubic, 1990, 318, 327, Catalogue numbers 20-22, T. II, 16-18. Include "tri puščične osti s krilci" as assault weapons. All three have an oval-rhomboid cross-section and a long stem for hafting, round or octagonal type. The same is presented in the catalogue "*Od Rimljanov do Slovanov-predmeti*", 2001, 22, fig. 43, where it is date to the period of the 4th – 5th century. Similar spears have been found in (according to Leben) from Emona (S. Petru, 1972, T. XC, 3), Drnovo (S. Petru – P. Petru, 1978, T. I, :9), Predjama (P. Korošec, 1982, 93, P. VIII, 5) and Hrušica (U. Giessler, Die Kleinfunde, v: T. Ulbert, 1981, T. XXII, 181.182).
79 I. Radman – Livaja, 2004, 30, T. VII, 28; T. VIII, 29.



Slika 31. Fotografija rendgenske snimke sulice
Figure 31. Photograph of an x-ray recording of a javelin
foto / photo: **S. Gluščević**

u Sloveniji[78] i u Hrvatskoj.[79] Radman Livaja navodi kako ti primjerci „odgovaraju nalazima kasnoantičkih rimskih kopalja i sulica" te da se mogu datirati od kasnog 2. do 4. st. n. Krista, ali i kasnije. Spominje i moguće ishodište ovog tipa lakih sulica kod germanskih plemena istočno od Rajne. Pritom valja naglasiti kako se prva sulica izvija od krilaca do vrha u ravnoj izduženoj formi romboidnog presjeka kakav je slučaj i sa sulicom s Relje. Oba su krilca blago koljenasto svinuta, ali je sam šiljak u odnosu na čitavu sulicu opet u razmjeru 1 : 3.[80] R Martel kaže kako su, zbog velikog broja germanskih vojnika koji su služili u rimskoj vojsci od 4. st., Germani općenito imitirali Rimljane pa bi tako *angon* mogao biti germanizirani *pilum*. I kod *angona* oštrica varira u izgledu od oblika lista do onog s krilcima.[81]

Mada je forma šiljaka listoliko riješena, primjerak koji potječe iz Hrušice u Sloveniji ima odnos šiljka i tuljca otprilike 1 : 1. Šiljak je romboidnog presjeka, a krilca su, od kojih jedno jako oštećeno, lučno svinuta prema tuljcu gotovo ga dodirujući.[82] Možda bi tome obliku trebalo pripisati i naš šiljak s obzirom da se na rendgenskoj snimci vidi da je sačuvano krilce također bilo lučno svinuto (Sl. 31).

Jedini primjerak koji gotovo u potpunosti odgovara našemu jest onaj u zbirci Vojnog muzeja u Beogradu (Sl.

It worth noting that the first spear twists from the wings to the head across a flat elongated rhomboid cross-section, as is the case with the javelin with Relja. Both wings are slightly bent, and the actual tip in relation to the entire javelin is again in the ratio 1:3.[80] R. Martel says that, because of the large number of German soldiers who served in the Roman army of the 4th century, the Germans generally imitated the Romans, and so the *angon* could have been a Germanised *pilum*. The blade of the *angon* also varied in its appearance from the shape of a leaf to that of having wings.[81]

Although the point had a leaf-like shape, the artefact originates from Hrušica in Slovenia, has a tip to stem ratio of about 1:1. The point has a rhomboid cross-section, and the wings, of which one of them is seriously damaged, are bent into an arc toward the stem and almost touching it.[82] Perhaps our point should also be attributed to that shape, given that the x-ray recording shows the preserved wing also had been bent into an arc (Fig. 31).

The only artefact that almost fully corresponds to ours is the one in the collection of the Belgrade Military Museum (Fig. 32), and since it is a unique artefact, the entire passage should be quoted. D. Pribaković says, "Short spear for throwing. Forged iron. Quad-edge shape, elongated head. At the transition to the stem, which is a circular shape, there are two wings in the shape of a 'swallowtail' and bent downwards... Found at the site Poljana near Mladenovac. Excavated … at a depth of 0.50 m. Besides this artefact, another spear was also dug up (much bigger and having a "normal" appearance, note: S. G.) and also a gold coin of Emperor Theodosius II (408-450).[83]

78 F. Leben – Z. Šubic, 1990, 318, 327, kat. brojevi 20-22, T. II, 16-18. Ubrajaju „tri puščične osti s krilci" u napadačko oružje. Sve tri imaju ovalno-romboidan presjek i dugi tuljac za nasad, okruglog ili osmerokutnog tipa. Isto se donosi u katalogu „*Od Rimljanov do Slovanov - predmeti*", 2001, 22, sl. 43, gdje se datiraju se u 4. - 5. st. Slična su koplja poznata (po Lebenu) iz Emone (S. Petru, 1972, T. XC, 3), Drnova (S. Petru – P. Petru, 1978, T. I,:9), Predjame (P. Korošec, 1982, 93, T. VIII, 5) i Hrušice (U. Giessler, Die Kleinfunde, v: T. Ulbert, 1981, T. XXII, 181,182).

79 I. Radman – Livaja, 2004, 30, T. VII, 28; T. VIII, 29.

80 Prigoda je ovdje zahvaliti kolegi Livaji na pokušaju da pronađe izravne analogije za zadarski primjerak, nažalost bez uspjeha. Preporučio je literaturu koju je autor uz pomoć kolege Ronalda Bockiusa provjerio u Mainzu. Među ogromnim brojem primjeraka u ediciji J. Ilkaer – A. Illerup, 1990, nije se našao ni jedan sličan primjerak. Bockius je konsultirao i kolegu Dietera Quasta, također bez uspjeha. On kaže *„the spears in Ilkaer´s book look completely different. The types in question show "barbed" blades, in German "Widerhaken". My colleague Dieter Quast, an expert of European late Roman Iron Age told me that he have never seen such a type you present"*.

81 R. Martel, http://housebarra.com/EP/ep07/09angon.html

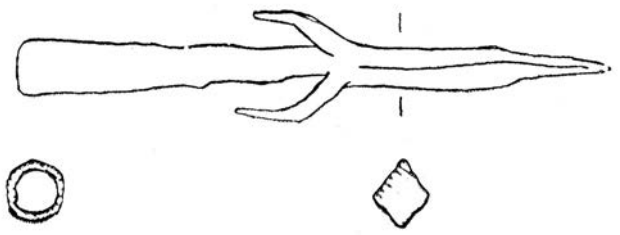
82 „*Od Rimljanov do Slovanov*" 2001, sl. 42.

80 We take this occasion to thank our colleague Radman Livaja in his attempt to find a direct analogy for the Zadar artefact, unfortunately, without much success. He has recommended literature, which, with the help of my colleague, Ronald Bockius, I. Have Checked In Mainz. Among The Great Number Of Artefacts In The Edition Of J. Ilkaer – A. Illerup, 1990, no similar artefact was found. Bockius also consulted with his colleague Dieter Quast, also without success. He says, "the spears in Ilkaer´s book look completely different. The types in question show "barbed" blades, in German "Widerhaken". My colleague Dieter Quast, an expert of European late Roman Iron Age told me that he have never seen such a type you present."

81 R. Martel, http://housebarra.com/EP/ep07/09angon.html

82 "*Od Rimljanov do Slovanov*" 2001, fig. 42.

83 D. Pribaković, 1966, 42, no. 2, T. X. The text does not reveal the context of the finds although it says that, according to the statement of the finder, all was found in the same place. Dimensions of the spear are: length 15.5 cm, head 7.5 cm, stem 8 cm, span of wings 2.4 cm, stem diameter 1.5 cm.



Slika 32. Crtež sulice iz Vojnog muzeja u Beogradu
Figure 32. Drawing of a javelin from the Belgrade Military Museum

32), a budući da se radi o jedinstvenom primjerku smatra se da je potrebno navesti kompletan citat. D. Pribaković kaže: „Kratko koplje za bacanje… Kovano gvožđe. Bodilo četverobridnog oblika, izduženo. Na prelazu u tuljac, koji je kružnog oblika, nalaze se dva krilca oblika „lastavičjeg repa" povijena nadole"… Nađeno je na lokalitetu Poljana kod Mladenovca. Iskopano je…. na dubini od 0,50 m. S ovim je iskopano još jedno koplje (mnogo veće i „uobičajenog" izgleda, op. S. G.) ali i zlatnik cara Teodozija II (408. - 450. god.).[83]

Potvrdu za svoje pretpostavke Pribaković nalazi u djelima različitih pisaca (Pseudo Mauricije, Lav VI, Ivan Efeški itd.) koji navode kako su osnovno naoružanje Slavena dva do tri laka koplja.[84] Premda priznaje kako, zbog nedostataka drugih elemenata, nema dovoljno argumenata za pripisivanje ovog koplja Slavenima, misli da je u pitanju spaljeni grob iz 6. stoljeća pa oba koplja ipak smatra svojinom slavenskih ratnika iz 6. ili 7. st.[85]

Svi željezni predmeti iz groba 555 s nekropole na Relji konzervirani su metodom plazme 2005. godine u Švicarskom nacionalnom muzeju (Schweizerisches landesmuseum).[86] Tom su prigodom u ili na jako korodiranim alatkama zamijećeni tragovi drveta,[87] tekstila i kože.[88] Ostatci drveta su nađeni na četiri alatke i to unutar tuljca sjekire (br. 1), u tuljcu širokog dlijeta (br. 8) te na unutrašnjim stranama oba okova (br. 10a,10b). Utvrđeno je da se u prvom slučaju radi o božikovini (*Ilex aquifolium)* koja je rasprostranjena na širim područjima kao uostalom i ostali pronađeni tipovi. U tuljcu dlijeta nađeni su ostatci bazge/zove *(Viburnum sp.),* unutar manjeg okova s čavlom pronađeni su tragovi jabuke ili kruške *(Moloideae),* a unutar

Pribaković finds evidence of his assumptions in the works of various writers (Pseudo Mauritius, Leo VI, John of Ephesus, etc.), who claim that the basic weapons of Slavs are two to three light spears.[84] Though admitting that, due to the lack of other elements, there are insufficient arguments for attributing this spear to the Slavs, he believes it to be a burnt grave from the 6th century, and therefore considers that both spears belong to Slavic warriors of the 6th or 7th century.[85]

All iron artefacts found in grave 555 from the necropolis on Relja were preserved using a plasma method in 2005 at the Swiss National Museum (Schweizerisches Landesmuseum).[86] On that occasion, traces of wood, textiles and leather were found in or on the very corroded tools,[87] textiles and leather.[88] Wood remains were found on four tools, specifically within the axe stems (no. 1), in the stem of the wide chisel (no. 8) and on the inner sides of both braces (no. 10a, 10b). It was ascertained that in the first case, it involved a holly *(Ilex aquifolium*), which is generally widespread as is the case with other types that were found. The remains of cranberry *(Viburnum* sp.) were found in the stems of chisels, traces of either apples or pears *(Moloideae)* were found inside a smaller brace that had a nail, and within the larger one the remains of the common ash *(Fraxinus excelsior)*. Therefore, in almost all cases, where it was possible to conduct analyses, the remains of this hard wood was found. It is unusual that there are remains of the elder tree within the stem of a wider flat chisel, considering that it is a soft wood not suitable for hitting, but there must have been some reason that it was used.

Traces of textiles were found also on several tools, specifically in two places on an adze, on a completely preserved auger and on both chisels, while the remains were not on the file (no.9).

83 D. Pribaković, 1966, 42, br. 2, T. X. Iz teksta ipak ne saznajemo kakav je bio kontekst nalaza iako kaže kako je, prema izjavi nalaznika, sve nađeno na istom mjestu. Dimenzije koplja: duž. 15,5 cm, vršak 7,5 cm, tuljac 8 cm, raspon krilaca 2,4 cm, promjer tuljca 1,5 cm.

84 D. Pribaković, 1966, 44.

85 D. Pribaković, 1966, 47. Po autorovim riječima ovaj tip koplja (s produžetkom u obliku „lastavičjeg repa") poznat je u naoružanju kasne antike i ranog Bizanta. Analogiju nalazi na poznatom diptihu iz Monze, nastalom početkom 5. st. gdje je prikazana jedna varijanta ovog koplja Usp. W. F. Volbach, 1952, 42 (s literaturom), br. 63, Diptih Monza, riznica katedrale, oko 400. god. T. 19.

86 Konzervaciju je obavila konzervatorica Katharina Smidth-Ott.

87 Analizu drveta obavio je Werner H. Schoch iz Labor für quartaere hoelzer iz Langnaua u Švicarskoj. Navodi kako su ostati drveta sačuvani samo zbog toga što su bili mineralizirani, a uslijed oskudnih ostataka determinacija je bila jako otežana.

88 Analizu tekstila i kože napravila je dr. sc. Antoinette Rast Eicher iz *ArcheoTex - Büro für archäologische Textilien, iz Ennenda u Švicarskoj.*

84 D. Pribaković, 1966, 44.

85 D. Pribaković, 1966, 47. According to the author's words, this type of spear (with an extension in the form of "sparrow tail") is known in the arms of late antiquity and the early Byzantine. We find such analogy in the famous diptych of Monza, originating from the beginning of the 5th century where a variant of the spear is shown. Cf. W. F. Volbach, 1952, 42 (accompanied by literature), no. 63, Diptych Monza, the treasury of the cathedral, about the year 400. T. 19.

86 The conservation was conducted by the conservator Katharina Smidth-Ott.

87 Analysis of the wood was carried out by Werner H. Schoch from Labor für quartaere Hoelzer at Langnau in Switzerland. She says that the wood remains are preserved only because they were mineralised, and due to the scarce remnants, determination was very difficult.

88 Analysis of textile and leather was done by Antoinette Rast Eicher PhD from ArcheoTex - Büro für Archäologische Textilien, from Ennenda in Switzerland.

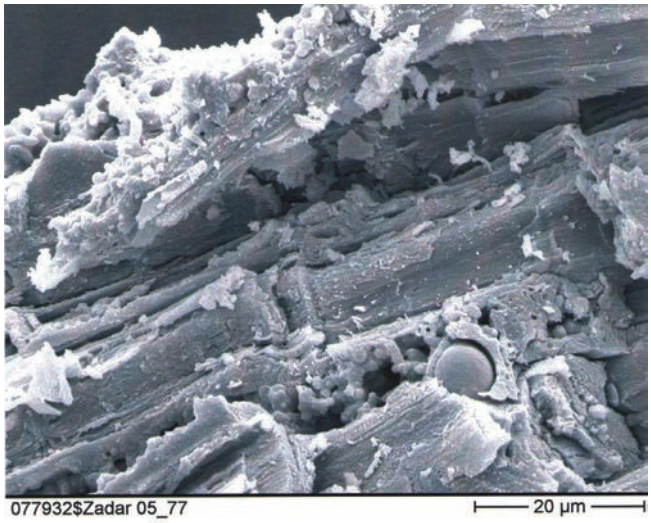
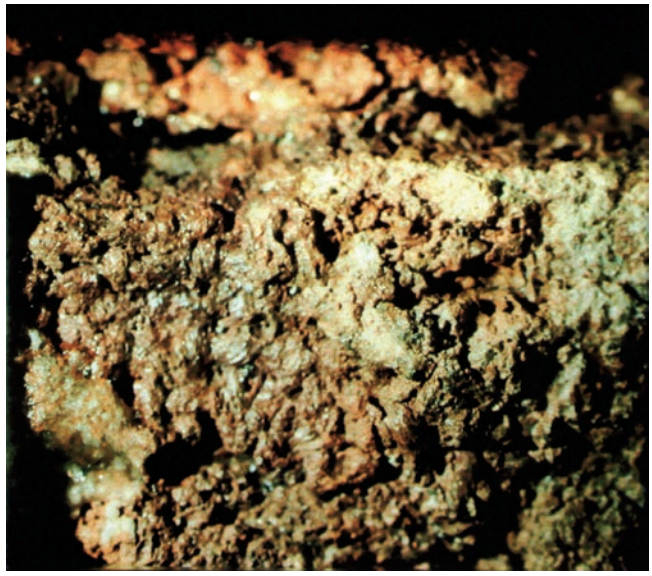


Fig. 2: Zadar, Flax fibres from object No 9. SEM-picture: A. Rast-Eicher

Slika 33. SEM fotografija ostataka tekstila na turpiji.
Figure 33. SEM photograph of textiles remains on a file.
foto / photo: **A. Rast Eicher**



Slika 34. Fotografija ostataka tekstila na asciji.
Figure 34. Photograph of textile remains on an adze.
foto / photo: **A. Rast Eicher**

većeg ostaci drveta jasena *(Fraxinus excelsior)*. Dakle u gotovo svim slučajevima, kod kojih je analiza bila moguća, identificirani su ostaci tvrdog drveta. Čudno je da se unutar tuljca šireg plosnatog dlijeta nalaze ostaci drveta bazge s obzirom da se radi o mekom drvetu koje nije pogodno za udaranje, ali mora da je postojao neki razlog zbog kojeg je upotrijebljeno baš ono.

Tragovi tekstila pronađeni su također na nekoliko alatki pa tako na dva mjesta na asciji, na cjelovito sačuvanom svrdlu i na oba dlijeta, dok se na turpiji mogu naći ostaci niti (br. 9). Na nožu - strugaču je identificiran ostatak kože. S obzirom da se radi o specifičnom istraživanju koje će možda u budućnosti naići na interes ili kao komparacija nekim budućim nalazima, smatramo da je korisno donijeti analizu A. Rast Eicher u cjelini,[89] ali i fotografije napravljene SEM mikroskopom[90] (Sl. 33, 34). Prema rezultatima analize S-tkanje (?) iz Zadra, Rast Eicher navodi na pretpostavku kako se radi ili o posebnoj vrsti pletenja ili pak o importu s prostora Bliskog istoka.

The remains of leather have been found on the knife-scraper. Given that this is specific research that might in the future be of interest or used as a comparison for some future finds, I consider it useful to present the entire analysis of A. Rast Eicher,[89] as well as photographs taken using the SEM microscope[90] (Fig. 33, 34). According to the finds of S-weave (?) from Zadar, Rast Eicher assumes that this is a special kind or knitting, or an import from the Middle East.

The remains of skin were noticed only on the scraper (Fig. 35), and Rast Eicher states that leather made from pig, goat and sheepskin can be excluded.[91] It is thought that the scraper was probably wrapped in leather.

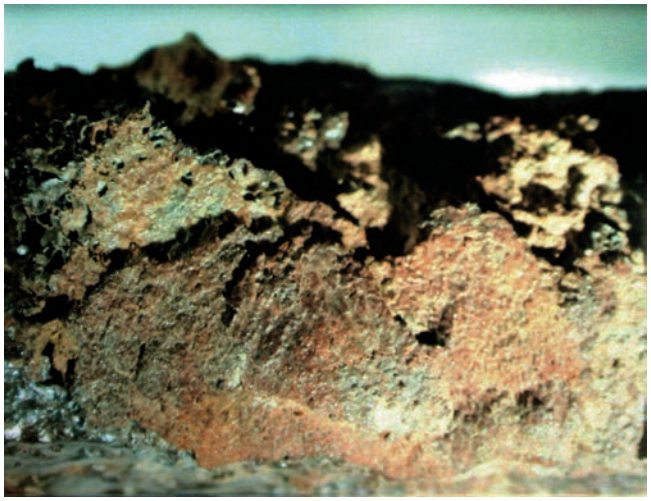
89 U analizi se kaže: „Three remains of textile and two fibers could be documented. All of them were made from plant fibers, flax or hemp. In one case hemp could be excluded, but otherwise flax is difficult to differentiate from hemp. Hence most classifications are simply "flax/hemp". The spin direction of the threads is interesting: all the textiles are s-spun, which greatly contrasts to the rest of Europe (north of the Alps), where we find at least "z"-spun warp, followed by "z" or "s" spun weft. The "z" spin tradition is due to use of a drop spindle worked in a clockwise direction with the right hand, resulting in z-spun yarn. Egyptian yarns are known especially to have been s-spun (Bender Jørgensen, 1992, 128), which is due to a different spindle and a different way of spinning. The s-spun yarns from Zadar let us suppose either a special type of spindle or imported textiles from the Near Eastern region. All textiles were made in tabby. All objects were probably wrapped in textiles. On some objects, such as no. 2 and no. 4 (ascija i usko dlijeto - op. S.G.), textile can be seen around the edges as well.

90 Analiza je načinjena pomoću Scanning electron microscope (SEM) na Institutu za botaniku Sveučilišta u Zürichu.

89 The analysis states: „Three remains of textile and two fibres could be documented. All of them were made from plant fibres, flax or hemp. In one case hemp could be excluded, but otherwise flax is difficult to differentiate from hemp. Hence, most classifications are simply "flax/hemp". The spin direction of the threads is interesting: all the textiles are s-spun, which greatly contrasts to the rest of Europe (north of the Alps), where we find at least "z"-spun warp, followed by "z" or "s" spun weft. The "z" spin tradition is due to use of a drop spindle worked in a clockwise direction with the right hand, resulting in z-spun yarn. Egyptian yarns are known especially to have been s-spun (Bender Jørgensen, 1992, 128), which is due to a different spindle and a different way of spinning. The s-spun yarns from Zadar allow us to suppose either a special type of spindle or imported textiles from the Near Eastern region. All textiles were made in tabby. All objects were probably wrapped in textiles. On some objects, such as no. 2 and no. 4 (ascia and thin chisel- remark S. G.), textile can be seen around the edges as well.

90 The analysis was conducted using a scanning electron microscope (SEM) at the Institute of Botany, University of Zurich.

91 In a letter providing an explanation he states: "Leather in a mineralised state is very difficult to determine. You need the skin surface with the pores. The little holes show characteristic pictures, alinements or grouping. So sheep has often 3 small together with a larger pore, goat an alignment of small pores forming a wave line; pig is the only animal having pores (large!) going through all skin layers."



Slika 35. Fotografija ostataka kože na strugaču.
Figure 35. Photograph of leather remains on a scraper.
foto / photo: **A. Rast Eicher**

Ostatci kože zapaženi su samo na strugaču (Sl. 35), s tim da Rast Eicher navodi kako se može isključiti koža svinje, koze i ovce.[91] Smatra kako je strugač vjerojatno bio omotan u kožu.

Isto tako misli kako su svi predmeti nađeni u grobu bili umotani ili prekriveni tekstilom te da su u grob položeni samo metalni dijelovi.[92] Tradicija omatanja odnosno prekrivanja poznata je u halštatskom razdoblju npr. u poznatom „Fürstengrab" iz Eberdingen-Hochdorfa,[93] a zatim tijekom mlađeg željeznog doba i rimskog razdoblja.[94] Analiza kaže kako je grubi tekstil nađen u grobu 555 u Zadru mogla biti sekundarno upotrijebljena odjeća poput tunike ili nekog drugog odjevnog predmeta.

Koliko je autoru poznato, ovo je jedini grob s predmetima koji su pripadali nekom obrtniku a koji su nađeni u antičkom Zadru. Mali broj predmeta u Arheološkom muzeju Zadar, često bez podataka o podrijetlu, upućuje da su se takvi predmeti u grob stavljali vrlo rijetko. Na nekropoli na Relji nađeno je još svega nekoliko većih alatki poput manje motike ili, možda, još jednog svrdla, ali bez konteksta.

Aktivnu fizičku aktivnost pokojnika sugeriraju rezultati antropološke analize.[95] Analiza kompletnog kostura govori

She is also of the opinion that all other items found in the grave were wrapped or covered with textiles and that only metal items were laid in the tomb.[92] The tradition of wrapping or covering is known from the Hallstatt period, e.g. in the famous Fürstengrab from Eberdingen-Hochdorf,[93] and then during the late Iron Age and Roman period.[94] The analysis shows that the rough textile found in grave 555 in Zadar could have been clothing previously used such as tunics or another article of clothing.

To knowledge of this author, this is the only tomb containing items found in ancient Zadar that belonged to a craftsman. A small number of items at the Archaeological Museum Zadar, often without information on their origin, suggest that such items were placed in graves very rarely. Only a few more pieces of larger tools such as hoes or just another auger, were found at the necropolis at Relja, but without an indicating context,.

Evidence of physical activity undertaken by the deceased is suggested from the results of anthropological analysis.[95] The analysis of the complete skeleton provides evidence of the deceased's occupation and, due to the uniqueness of the findings, is worth quoting in full: "In grave 555 a remarkably well preserved skeleton of a man, 31-35 years of age, was buried. The height of the person is 166.2 cm.

Pathology has uncovered two old, well-healed depression fractures on the head: 1) located on the frontal bone 20 mm from the bregma, oval in shape, 11x10 mm in size; 2) located on the left parietal bone, elongated shape, 33x9 mm in size. Both trauma occurred long before death.

On the right collarbone, a pronounced rhomboid fossa is noticeable. The rhomboid fossa are essentially benign cortical defects at the insertion point of the costoclavicular ligaments, and as do all benign cortical defects, it testifies to intense physical activity, which in this case were conducted by the shoulder girdle muscles.

91 U pismu kao objašnjenje navodi: „Leather in mineralized state is very difficult to determine. You need the skin surface with the pores. The little holes show characteristic pictures, alinements or grouping. So sheep has often 3 small together with a larger pore, goat an alignement of small pores forming a wave line; pig is the only animal having pores (large!) going through all skin layers".

92 Smatra kako su ručice alata i štap koplja bili odstranjeni prije stavljanja u grob. Međutim nalazi dvaju okova, barem za strugač i jedno dlijeto, demantiraju takvo mišljenje. Moguće je doduše pomišljati kako su odstranjene drške sjekire, ascije i koplja s obzirom da su bile bitno veće. To je vrlo vjerojatno za koplje i asciju, dok se za sjekiru može pomišljati da je (premda ne znamo razlog) drška ostavljena. Naime otvor ascije okrenut je prema stjenkama groba tako da je bilo nemoguće da se u tom uskom prostoru može smjestiti drška. S druge strane otvor sjekire, pa prema tome i drška, usporedni su s kosturom, položeni iznad kostura i uskog dlijeta pa je, sudeći po tome, moguće da je drška bila ostavljena.

93 J. Banck-Burgess, 1999.

94 Rast-Eicher, 2001, 2005.

95 M. Novak, *Antropološka analiza antičke nekropole Zadar-Relja u kontekstu antičkih nekropola Hrvatske*, (Doktorska disertacija), Zagreb, 2008, 229. Navodi se kako je bio star između 31 i 35 godina.

92 It is believed that the handles of tools and the staff of spears were removed before being placed in the tomb. However, the discovery of two braces, at least for a scraper and a chisel, refute this opinion. It is possible however to conceive that the handles of the axe, adze and spear were removed, given that they were significantly larger. Most likely, this is the case for the spear and adze, whereas we can assume that the handle for the axe (although we do not know the reason) was left untouched. Specifically, the opening of the adze faces the tomb walls, so that it was impossible that a handle could be placed in such a narrow space. On the other hand, the axe openings, and therefore the shaft, were placed parallel with and above the skeleton and the narrow chisel, hence judging by this, it is possible that the handle remained untouched.

93 J. Banck-Burgess, 1999.

94 Rast-Eicher, 2001, 2005.

95 M. Novak, *Antropološka analiza antičke nekropole Zadar-Relja u kontekstu antičkih nekropola Hrvatske,* (doctoral dissertation), Zagreb, 2008, 229. It states that he was between 31 and 35 years of age.

u prilog zanimanja pokojnika pa s obzirom na jedinstvenost nalaza vrijedi navesti u potpunosti: "U grobu 555 pokopan je odlično sačuvan kostur muškarca starog 31 do 35 godina. Visina osobe je 166,2 cm.

Od patologija prisutne su dvije stare, dobro zarasle depresijske frakture na glavi: 1) nalazi se na čeonoj kosti 20 mm od bregme, ovalnog je oblika, veličine 11 x 10 mm; 2) nalazi se na lijevoj tjemenoj kosti, izduženog oblika, veličine je 33 x 9 mm. Obje traume su nastale davno prije smrti.

Na desnoj ključnoj kosti prisutna je izražena romboidna fossa. Romboidne fossae su u svojoj osnovi benigni kortikalni defekti na hvatištu kostoklavikularnog ligamenta te kao i svi benigni kortikalni defekti svjedoče o intenzivnoj fizičkoj aktivnosti, koju su u ovom slučaju provodili mišići ramenog obruča.

Na 6., 7., 9. 10. i 12. prsnom te 1., 2. i 4. slabinskom kralješku prisutni su Schmorlovi defekti. Schmorlovi defekti nastaju uslijed prolapsa intervertebralnog diska u tijela susjednih kralješka. Njihova prisutnost može biti idiopatska ili povezana s nizom uzročnika među kojima je najčešći prekomjerni, kontinuirani fizički rad.

Blagi degenerativni osteoartritis (osteofiti) prisutan je na 4. slabinskom kralješku. Degenerativni osteoartritis karakterizira progresivna pojava osteofita oko rubova zglobnih ploština. Ove promjene rezultat su mikrotrauma koje su posljedica svakodnevnih aktivnosti.

S obzirom na prisutnost romboidne fossae na ključnoj kosti, Schmorlovih defekata i osteoartritisa na kralješcima može se zaključiti da se ova osoba bavila svakodnevnim teškim fizičkim radom. Smještaj ovih patologija na području ramenog obruča i kralježnice sugerira da se analizirana osoba bavila nekom vrstom posla ili obrta pri kojem je najveći fizički napor i stres djelovao upravo na gornji dio tijela. Nažalost, na temelju antropološke analize ne može se sa sigurnošću tvrditi o kojoj aktivnosti bi mogla biti riječ."[96]

U antičkom svijetu natpisi nerijetko bilježe različita zanimanja koja su unutar rimskih gradova i municipija bila okupljena u različita *collegia* – udruge. Postojala su tako profesionalna collegia, religiozna collegia, funerarna collegia itd. Jedna od predloženih podjela temelji se na profilu članstva i dijeli collegia na pet kategorija. Jedna od njih je i zajedničko zanimanje.[97] B. Sirks, povjesničar prava, razlikuje dvije kategorije *corpora*. U Tip A ubraja, među ostalim, i *collegia fabrum, centonariorum i dendrophorum*, dok u Tip B ubraja npr. i *collegia naviclariorum*.[98] Mnogi *collegia* vide kao čisto socijalnu kategoriju. Fabri su bili radnici koji su radili u tvrdim materijalima. Ponajviše natpisa na kojim su zabilježena različita zanimanja kod

96 Analizu je napravio kolega Mario Novak kojem i ovom prigodom autor izražava zahvalnost.

97 Jinyu Liu, Acknowledgments fs6.depauw.edu:50080/~jliu/Research.doc.

98 A. J. B. Sirks, 1991, 86-89, 93.

Schmorl's nodes are present on the 6th, 7th, 9th 10th and 12th thoracic and the 1st, 2nd and 4th lumbar vertebrae. Schmorl's nodes result from an intervertebral prolapsed disc in the adjacent vertebrae sections. Their presence can be idiopathic or associated with a variety of causes, among which the most common is excessive, continuous physical work.

Mild degenerative osteoarthritis (osteophytes) is present at the 4th lumbar vertebra. Degenerative osteoarthritis is characterised by the progressive onset of osteophytes around the edges of joint surfaces. These changes are caused by microtrauma resulting from daily activities.

Due to the presence of the rhomboid fossa on the collarbone, the presence of Schmorl's nodes and osteoarthritis, the conclusion is that this person undertook hard work on a daily basis. The positioning of these pathologies in the area of the shoulder girdle and spine suggests that the analysed person undertook some kind of work or craft where the greatest physical effort and stress was applied to the upper body. Unfortunately, anthropological analysis cannot with certainty ascertain what activities these could have been."[96]

In the ancient world, inscriptions often recorded different occupations, which were assembled in different *collegia* - associations within Roman cities and municipia. Accordingly, there were professional *collegia,* religious *collegia,* funerary *collegia,* etc. One of the proposed divisions is based on membership profile thus dividing the *collegia* into five categories. One of them is a common occupation.[97] B. Sirks, a historian of law, distinguishes two categories *of corpora*. Type A includes, among other things, also the *collegia fabrum, centonariorum* and *dendrophorum,* while Type B includes, for example, *collegia naviclariorum*.[98] Many *collegia* were viewed as a purely social category. *Fabri* were workers who worked with hard materials. In our region, most of inscriptions that record various occupations are found in Salona, whereas in the Zadar area there is only one that talks about the *collegia fabrum et centonarium* and originates from Biograd.[99]

96 The analysis was conducted by my colleague Mario Novak, whom I would like to take this opportunity to extend my appreciation.

97 Jinyu Liu, Acknowledgments fs6.depauw.edu:50080/~jliu/Research.doc.

98 A. J. B. Sirks, 1991, 86-89, 93.

99 A. Kurilić, 1999, 199, Catalogue AK 23891 and AK 2574; M. Suić, 1981, states that the inscription comes from Zadar (CIL III, 9997); G. Novak, 1948, 138, Note 21. It should be noted that the word faber designates an artisan who worked on a solid object, which also included wood (as well as stone, metal, etc.) (See in Pauly - Wissova, Realencyclöpedie, VII, 393). On the other hand, centonarius, according to Novak, is a craftsperson for thick bed blankets..., which were made from old rags (centares) for those that were poorer (Cf. G. Novak, n. cit., 137, Note 19). However, in another place he says that the centonarii were "producers of thick blankets that, soaked in water and vinegar, were used for firefighting" (Cf. Povijest 5, Kasno rimsko carstvo i rani srednji vijek, Biblioteka Jutarnjeg lista, Zagreb 2007, 59). Therefore, the centonarii were responsible for firefighting duties. For the collegium fabrum et centenariorum cf. J. J. Wilkes, 1969, 236, Note 3, CIL III, 8824, 2107.

nas nalazimo u Saloni dok sa zadarskog prostora postoji samo jedan, onaj koji govori o *collegia fabrum et centonarium*, a potječe iz Biograda.[99] Ipak, bez obzira što nemamo više natpisa ovog tipa, jasno je da su u Jaderu postojala takva udruženja, jer je on bez sumnje bio najjači trgovački i proizvodni centar na ovome dijelu obale. Uz to su zanatlije svih vrsta, pa tako i tesari, bili nužno potrebni u svakodnevnim poslovima. Fabri su dakle općenito bili obrtnici koji su radili u tvrdim materijalima., a takvi su npr. bili i *fabri tignarii*[100] *(*drvodjelje, tesari) kojima je najvjerojatnije pripadao i naš. Spominju se još u zakonima Servija Tulija, a s još nekim drugima su sačinjavali dvije centurije.[101] Poznat je podatak kako su u Rimu pripadnici *collegium fabrum tignuariorum* podigli oltar Minervi, božici zaštitnici zanata i njihovom patronu.[102]

Svi oni koji su se bavili trgovinom drvom ili su bili tesari nazivali su se i *dendrophori.*[103] Bili su uključeni u kult Velike Majke *(Magnae Matris)* pa su svake godine na svetkovinu koja se slavila u ožujku u njezin hram nosili sveti bor.[104] Općenito se smatra kako je primarni zadatak *collegia centonariorum* bila protupožarna borba.[105] Često se ove *collegia* spominju zajedno s collegia fabrum. Inačicu ove teorije donosi P. Kneissel (1994: 133-46) koji grupira *centonarii s fabri tignarii, fabri subaediani i fabri dolabrarii* kao vatrogasce u zapadnim provincijama. Međutim Van Nijf donosi sasvim novu teoriju sugerirajući da *collegia centonariorum*[106] jednako kao i *collegia fabrum i collegia dendrophorum* treba shvatiti kao paralelu „civilnoj straži" u suvremenoj Nizozemskoj koji su u stvari statusna grupa uspješnijih obrtnika i trgovaca (Van NIJF, 1997: 177-181; 1999: 198).

Nonetheless, despite not possessing more inscriptions of this type, it is clear that such associations existed in Iader, since without a doubt, it was the strongest commercial and manufacturing centre on this part of the coast. Furthermore, craftsmen of all kinds, including carpenters, were indispensable in the daily jobs. Therefore, *fabri* were generally artisans who worked with hard materials, and these were, for example, the *fabri tignarii*[100] (woodworkers, carpenters), to which ours also belonged. They are also mentioned in the laws of Servius Tullius, and with others made up two centuriae.[101] It is well known fact that in Rome, members of the *collegium fabrum tignuariorum* erected the altar to Minerva, the goddess and protectress of their crafts and their patron.[102]

All those involved in the commercial trading of wood or carpenters were called *dendrophori*.[103] They were involved in the cult of the Great Mother (*Magna Matris*), so each year on the feast celebrated in March they carried a sacred pine tree to her temple.[104] It is generally thought that the primary task of the *collegia centonariorum* was firefighting.[105] This *collegia* is often mentioned together with the *collegia fabrum.* A variation of this theory was presented by P. Kneissel (1994: 133-46) who grouped *centonarii* with *fabri tignarii, fabri subaediani* and *fabri dolabrarii* as firefighters in the western provinces. However, Van Nijf presents a entire new theory suggesting that *collegia centonariorum*[106] as well as *collegia fabrum* and *collegia dendrophorum* were to be understood as the similar "civil guard" in modern-day Netherlands, which are in fact a status group of successful tradespersons and traders (Van NIJF, 1997: 177-181; 1999: 198).

Therefore, it is almost certain, that the deceased, buried in grave 555, on the necropolis at Relja in Zadar, was a member of one of the associations that most certainly existed in ancient Iader. However, it is also possible that he was a member of a military unit, which in the late fourth and early fifth century resided in Iader or the area. This was the period of stay of the Western Goths in Illyria, where they

99 A. Kurilić, 1999, 199, Katalog AK 23891 i AK 2574; M. Suić, 1981., navodi da je natpis iz Zadra (*CIL III*, 9997); G. Novak, 1948., 138, bilj. 21. Valja naglasiti kako se riječju *„faber"* označavalo zanatliju koji je obrađivao neki tvrdi predmet pa tako i drvo (ali i kamen, metal i sl.) (vidi u Pauly – Wissova, Realencyclöpedie, VII, 393). S druge strane *„centonarius"* je, prema Novaku, radnik debelih pokrivača za krevete… koji su se radili iz starih krpa *(centares)* za siromašniji svijet (Usp. G. Novak, n. dj., 137, bilj. 19). Međutim na drugom se mjestu kaže kako su centonariji bili „proizvođači debelih složenih deka koje su, namočene u vodu i ocat, služile za gašenje požara" (Usp. Povijest 5, Kasno Rimsko Carstvo i rani srednji vijek, Biblioteka Jutarnjeg lista, Zagreb 2007., 59). Zbog toga su centonariji bili zaduženi i za vatrogasnu službu. Za *collegium fabrum et centenariorum* usp. J. J. Wilkes, 1969, 236, bilj. 3, CIL III, 8824, 2107.

100 Za *collegium tignariorum fabrum – probably wood-carvers,* vidi WILKES, 1969, 236, bilj.3, CIL III, 8841. O njima je disertaciju napisao J. H. More, The Fabri Tignarii of Rome, Ph. Diss., Harvard University, Cambridge, Mass, 1969. Fabri tignarii su bili i najveća rimska udruga. Usp. Halsey L. Royden, 1988.

101 W. Smith, *A Dictionary of Greek and Roman Antiquities*, John Murray, London, 1875, str. 517, s.v. fabri.

102 R. B. Ulrich, *Roman Woodworking*, 2007, 9.

103 J. Marević, 2000, gdje se kao doslovan prijevod navodi „drvonoša". 1. značenje je (na osnovi CIL-a) da je to Silvanov epitet; 2. „zbor svećenika koji su okolo nosili grane drveće u počast božanstvu" (također CIL), a 3. značenje jest „tesar" ponovo na osnovi CIL-a ali i Codex Theodosianus iz 5. st.

104 U Dalmaciji su poznata dva dendrophora, oba iz Salone, CIL III, 8823 i 8824; Usp. J. J. Wilkes, 1969, 236, bilj. 4.

105 Jinyu Liu, Acknowledgments, 15, bilj. 27-28. fs6.depauw.edu:50080/~jliu/Research.doc. O svim drugim funkcijama, rasprostranjenosti i ulogama kolegija vidi Jinyu Liu, *Collegia Centenariorum. The Guilds of Textile Dealers in the Roman West, 2009.*

106 Sveobuhvatnu obradu centonaria sa svim dosadašnjim teorijama i dokumentima vidi u Jinyu Liu, 2009.

100 For the *collegium tignariorum fabrum* - probably woodcarvers, see Wilkes, 1969, 236, Note 3, CIL III, 8841. A dissertation was written about them by J. H. More, *The Fabri Tignarii of Rome*, Ph. Diss., Harvard University, Cambridge, Mass., 1969. Fabri tignarii were the largest Roman association. Cf. Halsey L. Royden, 1988.

101 W. Smith, *A Dictionary of Greek and Roman Antiquities*, John Murray, London, 1875, page 517, s.v. fabri.

102 R. B. Ulrich, *Roman Woodworking*, 2007, 9.

103 J. Marević, 2000, where the literal translation says "tree-bearer". 1. the meaning (based on CIL) is that it is Silvanus's epithet; 2. "assembly of priests who carried around tree branches in honour of a deity" (also CIL), and 3. the meaning is "carpenter" again based on CIL as well as the Codex Theodosianus from the 5th century.

104 In Dalmatia, two *dendrophorii* are known, both from Salona, CIL III, 8823 and 8824; Cf. J. J. Wilkes, 1969, 236, Note 4.

105 Jinyu Liu, Acknowledgments, 15, bilj. 27-28. fs6.depauw.edu:50080/~jliu/Research.doc. For information on all other functions, coverage and roles of the courses, see Jinyu Liu, Collegia Centenariorum. The Guilds of Textile Dealers in the Roman West, 2009.

106 A comprehensive treatment of the centonaria with all previous theories and documents can be found in Jinyu Liu, 2009.

Prema tome gotovo je sigurno da je pokojnik sahranjen u grobu 555 na nekropoli na Relji u Zadru bio pripadnik nekog od kolegija koji su u antičkom Jaderu zasigurno postojali. Međutim isto je tako moguće da je bio pripadnik neke vojne jedinice koja je krajem 4. i početkom 5. st. boravila u Jaderu ili okolici. Vrijeme je to boravka Zapadnih Gota u Iliriku gdje ih je car Honorije primio u svoju službu, a *„Alarihu potvrdio naslov magister militum per Illyricum"*.[107] S obzirom na sulicu čini se vrlo vjerojatnim da je barem neko vrijeme služio u nekoj vojnoj jedinici kao majstor drvodjelac te ga je u toj ulozi zatekla i smrt.

were received by Emperor Honorius into his service, and "who endowed Alarih with the title of *magister militum per Illyricum*".[107] When taking into account the javelin, it seems very likely to this author that the deceased had served in a military unit, at least for a while, as a master woodworker and that he met his death while fulfilling that role.

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