HELENA TOMAS
ZDRAVKA HINCAK

Filozofski fakultet Sveučilišta u Zagrebu
Odsjek za arheologiju
I. Lučića 3
HR-10000 Zagreb
htomas@ffzg.hr
zhincak@ffzg.hr

UDK: 903.3(497.583Rumin)"637"

Izvorni znanstveni članak / Original scientific paper
Primljen / Received: 5.6.2023.
Prihvaćen / Accepted: 25.9.2023.

PROBNA ISKOPAVANJA U ŠPILJI CRVENKUŠI IZNAD RUMINA U DOLINI CETINE

Tijekom rekognosciranja doline rijeke Cetine u blizini sela Rumina, nedaleko od mjesta Hrvace, uočena je špilja na padini visoravni na kojoj su svojevremeno istraživane gomile cetinske kulture. Članak donosi rezultate probnih iskopavanja provedenih u toj špilji 2017. godine, uz poseban dodatak s analizom prikupljenih životinjskih kostiju.

Ključne riječi: rekognosciranje, špilja, cetinska kultura, probno iskopavanje, keramika, životinjske kosti

TRIAL EXCAVATIONS IN CRVENKUŠA CAVE NEAR THE VILLAGE OF RUMIN IN THE CETINA VALLEY

During a survey of the River Cetina Valley, just above the village of Rumin near the town of Hrvace, a cave was spotted on a slope of the plateau where Cetina culture tumuli had earlier been explored. This paper presents the results of the trial excavations carried out in the cave in 2017. It also features an addendum with an analysis of the animal bones collected.

Key words: survey, cave, Cetina culture, trial excavation, pottery, animal bones

Od 2014. g. H. Tomas provodi intenzivno rekognosciranje doline rijeke Cetine radi pronalaska naseljâ te kulture, s ciljem boljeg razumijevanja odnosa cetinske kulture i Grčke tijekom ranog brončanog razdoblja.[1] Prije no što prijeđemo na samu temu istraživanja špilje Crvenkuše kod sela Rumina, a koja je u fokusu ovog članka, dajemo kratak povijesno-geografski osvrt na dolinu rijeke Cetine u kojoj se razvila ranobrončanodobna cetinska kultura, koja je i bila povod ovdje opisanom istraživanju u Ruminu.

Tijekom željeznog doba dolina je bila dio rimske provincije Dalmacije, nazvane prema Delmatima[2] koji su obilno spominjani u rimskim povijesnim izvorima zbog učestalih pobuna protiv rimske vlasti. Te su pobune dovele do toga da dvije rimske legije budu permanentno stacionirane u njihovoj blizini, jedna upravo na uzvisini iznad rijeke Cetine – na lokalitetu Tilurium kraj današnjeg Trilja[3] (lokalitet je to koji već dugi niz godina istražuje prof. M. Sanader sa svojim suradnicima).[4] Legionari su ispod tog svog logora preko Cetine sagradili most – *Pons Tiluri*.[5] Taj je most ležao na ruti važne rimske ceste koja je od Salone i Spalatuma vodila k unutrašnjosti Balkana.[6] Dolina Cetine tako je postala važna tranzitna zona rimske provincije Dalmacije. U to rimsko doba rijeka Cetina zvala se Hippus. Ime rijeke mijenja se u oblik Cetina tek s dolaskom Slavena/Hrvata 7. – 8. st. po. Kr.[7] Dolina je bila turbulentna zona i u osmansko doba, a i tijekom Domovinskog rata.

Možemo, dakle, zaključiti da je dolina Cetine tijekom cijele svoje povijesti bila važna tranzitna zona.[8] Nije pogrešno reći da je takva njezina uloga započela već u prapovijesno doba, pogotovo u doba ranobrončanodobne cetinske kulture. Od svog podzemnog vrela kod istoimenog sela do svog ušća u Jadransko more kod Omiša, rijeka Cetina dugačka je oko 100 km. Neki su njezini dijelovi plovni, što je možda bio i presudan čimbenik pri širenju cetinske kulture k jugu (skroz do Jonskog mora, pogotovo jonskog otoka Lefkade gdje su na lokalitetu Steno nađeni tumuli cetinskog tipa[9]).

Dolina Cetine bila je nastanjena već u doba paleolitika i neolitika[10] što nam potvrđuje i komad *impresso* keramike pronađen upravo u špilji Crvenkuši kod Rumina, kojoj je posvećen ovaj članak. No svoj najveći prapovijesni razvitak dolina je dosegla u doba ranog brončanog doba tijekom

1 Hrvatski arheološki godišnjak 13/2016, 717–721; H. Tomas 2020. Radi se o projektu *CeVaS* koji financijski podupire Hrvatska zaklada za znanost (HRZZ).
2 M. Sanader 2004; M. Zaninović 2007.
3 Legija stacionirana u Tiluriju bila je *Tiluri Legio VII Claudia Pia Fidelis* (M. Sanader 2001). Drugi legionarski logor bio je u Burnumu , nedaleko od današnjeg Drniša. Ondje se suksecivno izmijenilo nekoliko legija: *Legio XX Valeria Victrix*, *Legio XI Claudia Pia Fidelis* i *Legio IIII Flavia Felix* (A. Librenjak 2011).
4 M. Sanader 2003; 2018.
5 A. Milošević 2009; 2017, 81.
6 I. Bojanovski 1974.
7 A. Milošević 2017, 19, 139.
8 A. Milošević 2017, 17.
9 I. Kilian- Dirlmeier 2005.
10 A. Milošević 2017, 25–33.

Since 2014, H. Tomas has been intensively surveying the River Cetina Valley, searching for the settlements associated with the Cetina culture in order to contribute to our insight into the relations between this culture and Greece in the Early Bronze Age.[1] Before focusing on its main topic – the excavations in Crvenkuša Cave near Rumin – the paper offers a brief historical and geographical overview of the River Cetina Valley and its Early Bronze Age Cetina culture that was the reason for the Rumin excavations described here.

In the Iron Age, the valley was part of the Roman province of Dalmatia, named after the Delmatae,[2] a tribe often mentioned in Roman historical sources because of their frequent revolts against the Roman rule. These revolts forced Rome to deploy permanently two of its legions in their vicinity. One of them was stationed at the site called Tilurium near present-day Trilj, on a high ground above the River Cetina[3] (Prof. M. Sanader and her associates have been exploring the site for a number of years).[4] Below their encampment, legionaries built a bridge – *Pons Tiluri* – over the Cetina.[5] The bridge was on the route of an important Roman road leading from Salona and Spalatum to the Balkans hinterland.[6] The Cetina Valley thus became an important transit zone of the Roman province of Dalmatia. In the Roman period, the river's name was Hippus. It was changed to Cetina only upon the arrival of the Slavs/Croats in the 7th–8th centuries AD.[7] The valley also saw troubled times in the Ottoman period and then again during Croatian Homeland War.

We can therefore conclude that Cetina Valley has been an important transit zone throughout its history.[8] It is safe to say the river already had this role back in prehistory, particularly during the Early Bronze Age Cetina culture period. From its underground spring at the eponymous village to Omiš, where it flows into the Adriatic Sea, it is approx. 100 kilometers long. Some of its parts are navigable, which was perhaps the crucial reason why the Cetina culture expanded southward (all the way to the Ionian Sea and the island of Lefkas, where Cetina-type tumuli can be found at Steno site[9]).

Cetina Valley was inhabited as far back as Paleolithic and Neolithic.[10] The piece of *impresso* pottery from

1 Hrvatski arheološki godišnjak 13/2016, 717– 721; H. Tomas 2020. It is the CeVaS project financially supported by Croatian Science Foundation (HRZZ).
2 M. Sanader 2004; M. Zaninović 2007.
3 The legion stationed in Tilurium was *Tiluri Legio VII Claudia Pia Fidelis* (M. Sanader 2001). The other legionary encampment was located in Burnum, near present-day Drniš. A succession of legions was stationed there: *Legio XX Valeria Victrix*, *Legio XI Claudia Pia Fidelis* and *Legio IIII Flavia Felix* (A. Librenjak 2011).
4 M. Sanader 2003; 2018.
5 A. Milošević 2009; 2017, 81.
6 I. Bojanovski 1974.
7 A. Milošević 2017, 19, 139.
8 A. Milošević 2017, 17.
9 I. Kilian- Dirlmeier 2005.
10 A. Milošević 2017, 25–33.

kojeg se u njoj razvila kultura nazvana cetinskom. Prapovijesni dokazi o ljudskom obitavanju u dolini otkriveni su u poljima uz rijeku, diljem krških brežuljaka, u vrtačama, ali i u samoj rijeci. Primjerice, u ušću pritoka Rude u Cetinu, na samom rubu grada Trilja, nađena je skupina prapovijesnih artefakata, ali i rimskih. Ovi drugi uključuju i komade oružja i vojne opreme koji su na poziciju tog ušća možda bili namjerno bačeni[11] – rečeno je već da je rimska legija u dolini bila stacionirana da bi držala pod nadzorom delmatske pobunjenike i omogućavala nesmetan pristup Saloni, glavnom središtu provincije Dalmacije, od eventualnih napadača iz unutrašnjosti Balkanskog poluotoka.[12] Spomenuta vojna oprema nađena na ušću Rude u Cetinu govori u prilog tom vojnom karakteru doline u rimsko doba. No pokoji komad oružja prapovijesne datacije ukazuje na potrebu obrane doline i u predrimsko doba.

U kasnijim vremenima dolina je bila meta raznih osvajača upravo zbog svog tranzitnog položaja. Naposljetku su je u ranom 16. st. po. Kr. osvojili Osmanlije.[13] Time je dolina Cetine zadobila ulogu svojevrsne međe Osmanskoga Carstva od Republike Venecije. Sjećanja na tu osmansku prisutnost još su živa u lokalnim pričama,[14] a i sami ostatci osmanske arhitekture raštrkani su diljem cetinskog krajobraza.[15] Rat je dolinu obilježio i u novija vremena. Tijekom Drugog svjetskog rata ondje je spaljeno mnogo sela, o čemu su nam govorili stariji stanovnici. Isti tragičan scenarij ponovio se tijekom Domovinskog rata pa smo na nekim gradinama naišli na ostatke dijelova bedema ili uz njih lociranih gomila preobraženih u postolja za minobacače. Dijelovi doline još uvijek su minska polja. Te smo dijelove pri rekognosciranju bili prisiljeni zaobići. Već i ti recentniji i dobro dokumentirani primjeri jasno govore da je dolina bila podložna brojnim konfliktima i ratovima, što ne čudi kad uzmemo u obzir njezin već spomenuti strateški i tranzitni položaj na putu od središnjeg Balkana k Jadranskome moru.

No vratimo se sad u prapovijest kad je dolina prvi put iskazala taj svoj tranzitni karakter – a to se događalo, koliko nam je zasad poznato, u vrijeme ranog brončanog doba i cetinske kulture.

Cetinska je kultura, prema riječima Josepha Marana, po pitanju dalekosežnih kontakata predstavljala najuspješniju fazu cijelog brončanog doba u dolini.[16] Razvila se na prostorima gornjeg i srednjeg toka rijeke Cetine, odakle se postupno proširila najprije u sjevernu

Crvenkuša Cave at Rumin to which this paper is dedicated can be seen as evidence of it. But the prehistoric period in the valley had its peak in the Early Bronze Age, when the Cetina culture developed in it. Evidence of human presence in prehistory was found in the fields along the river, on the surrounding karst hills, in the sinkholes and in the river itself. For example, on the outskirts of Trilj, where the River Ruda flows into the Cetina, some prehistoric and Roman artifacts were found. The latter ones include weapons and pieces of accoutrement, which could have been left there intentionally[11] (we have already mentioned that a Roman legion was stationed in the valley in order to control the Delmatae insurgents, ensure undisturbed access to Salona as the capital of the province of Dalmatia, and keep at bay possible raiders from the Balkans hinterland).[12] The accoutrement found at the place where the Ruda and Cetina meet is another evidence of the valley's military role in the Roman period, but a few weapons dated to prehistory indicate that the valley was defended even in the pre-Roman times.

In subsequent periods, various conquerors wanted to seize the valley because of its relevance as a transit zone. Eventually, in the early 16th century, the Ottomans took it.[13] The valley then became a border of a sort between the Ottoman Empire and Republic of Venice. The memories of the Ottoman presence still survive in the local lore[14] and the remains of Ottoman architecture are scattered across the Cetina landscape.[15] Wars left their scars on the valley even in recent times. Many villages were burnt down during World War II. Older villagers told us about it. The same tragic scenario took place during Homeland War; for instance, in places, rampart remains or tumuli were turned into mortar base plates. Some parts of the valley are still covered with mines, so we had to avoid them during our survey. These recent, well-recorded examples clearly show that, throughout its history, the valley was the scene of numerous conflicts and wars. This is no surprise given its abovementioned strategic importance on the route from Central Balkans to the Adriatic Sea.

But let us go back to prehistory, when the valley first manifested its transit-related characteristics. Based on what is known so far, it happened in the Early Bronze Age, during the Cetina culture period.

According to Joseph Maran, the Cetina culture period was the most successful phase of the entire Bronze Age in

11 A. Milošević 2017, 19–20, 68, 207–237.
12 M. Zaninović 2015; A. Milošević 2017, 55, 73.
13 K. Jurin Starčević 2006.
14 Te je priče sakupio i obradio etnolog Matija Dronjić, jedan od suradnika na ovom HRZZ-ovu projektu posvećenom arheološkim rekognosciranjima u dolini Cetine. One će biti objedinjene i objavljene zasebno.
15 Tijekom rekognosciranja doline nailazili smo na ostatke turskih kula, fragmente osmanske keramike ili pak turskih lula.
16 J. Maran 2007, 15–18.

11 A. Milošević 2017, 19–20, 68, 207–237.
12 M. Zaninović 2015; A. Milošević 2017, 55, 73.
13 K. Jurin Starčević 2006.
14 These stories were collected and edited by ethnologist Matija Dronjić, one of the collaborators on this HRZZ project dedicated to the archaeological surveying of the Cetina Valley. They will be compiled and published.
15 During our survey in the valley, we found remains of Turkish towers and fragments of Turkish pottery and pipes.

Dalmaciju, Bosnu i Hercegovinu, Crnu Goru i sjevernu Albaniju, Jonsko otočje i Peloponez,[17] a zatim na Apeninski poluotok i Siciliju. Neka njezina obilježja nalazimo čak i na Malti.[18] Datiranje kulture velik je problem s obzirom na to da nam je zasad dostupno svega nekoliko C^{14} datuma iz arheoloških konteksta koji se daju povezati s cetinskom kulturom.[19] Zapravo, svega je nekoliko lokaliteta cetinske kulture sustavno istraženo otkad se C^{14} metoda datiranja počela primjenjivati u arheološkoj znanosti. Hrvatski arheolozi cetinsku kulturu datiraju kasnije nego što su to učinili neki strani arheolozi koji su se tom kulturom pozabavili. Primjerice, Milošević ju datira u razdoblje 1900. – 1600. g. pr. Kr.[20] Takvo datiranje uklapa se u sliku drugih relevantnih lokalnih kultura, ali je kasno kada uzmemo u obzir arheološke kontekste inozemnih lokaliteta na kojima je nađena keramika cetinske kulture. Na primjer, grčki lokaliteti s cetinskim materijalom, kao što nam navodi Joseph Maran, pripadaju razdoblju rano heladsko III, koje je započelo oko 2200. g. pr. Kr. Maran je primijetio da su cetinsko-egejski kontakti bili posebno intenzivni krajem 3. tisućljeća pr. Kr., da bi početkom grčkog razdoblja srednjoheladsko I (oko 1600. g. pr. Kr.) dokazi o tim kontaktima nestali, na temelju čega je Maran zaključio da je to bilo doba prekida postojanja cetinske kulture ili bar prekida kontakata te kulture s egejskim područjem.[21] Tako nam egejske poveznice cetinsku kulturu smještaju u razdoblje oko 2200. – 2000. g. pr. Kr. Philippe Della Casa cetinsku je kulturu datirao još i ranije nego Joseph Maran, u sredinu 3. tis. pr. Kr.,[22] što je daleko ranije od Miloševićeve datacije koju smo naveli. Po pitanju korelacija sa srednjoeuropskom relativnom kronologijom, Govedarica je cetinsku kulturu povezao s Reinecke fazama bronca A1 i A2.[23] Problem kronološkog određivanja cetinske kulture detaljno su raspravili D. Ložnjak-Dizdar i H. Potrebica.[24]

Čak i ovaj kratak uvodni pregled ukazuje na potrebu za daljnjim podatcima koji bi nam omogućili sigurniji kronološki smještaj cetinske kulture (kompleksni problem njezine povezanosti s ljubljanskom kulturom razradio je

17 A. Milošević 2017, 34–35. Cetinska keramika nađena je na lokalitetu Kolonna na otoku Egina u Saronskom zaljevu kraj Atene te na cijelom nizu peloponeških lokaliteta: Tirint, Tsoungiza, Zigouries Korakou, Lerna, Mikena i Prosimna, a najviše na lokalitetu Altis kraj slavne Olimpije. Osim izvorne cetinske keramike, ondje je lokalna srednjoheladska minijska keramika bila izrađivana oponašajući cetinsku dekoraciju (J. Rambach 2007, 86). Prvi arheolog koji je otkrio cetinsku keramiku u Altisu bio je Weege koji je predložio da su naselje Altis zapravo osnovali doseljenici s istočne jadranske obale (J. Rambach 2007, 82; F. Weege 1911, 184–185). No povezanost cetinske kulture i Altisa prvi je izrijekom naveo J. Maran (Maran 1986).
18 T. Kaiser, S. Forenbaher 1999; M. Gori, G. Recchia, H. Tomas 2018.
19 Vidi S. Forenbaher 2018, 136.
20 A. Milošević 2017, 34.
21 J. Maran 1998, 326–330; 2007, 15–18.
22 Ph. Della Casa 1995, 573.
23 B. Govedarica 1989, 111.
24 D. Ložnjak–Dizdar, H. Potrebica 2017, 43–46.

the valley when it comes to far-reaching contacts.[16] It flourished in the Upper and Middle Cetina, from where it gradually expanded, first to Northern Dalmatia, Bosnia and Herzegovina, Montenegro, Northern Albania, Ionian islands and Peloponnese,[17] and then to the Italian Peninsula and Sicily. Some of its characteristics are found as far as on Malta.[18] Dating of this culture is difficult; there are but a few cases of C^{14} dating based on the archaeological contexts that can be associated with the Cetina culture.[19] Actually, only a few Cetina culture sites have been systematically excavated since the C^{14} dating method was first introduced to archaeology. Unlike some foreign archaeologists who researched the Cetina culture, their Croatian colleagues dated this culture to a later period. For example, Milošević dated it to the period from 1900 to 1600 BC.[20] Such dating corresponds with the dating of other local cultures, but can be perceived as late when we take into account the archaeological contexts of foreign sites where the Cetina culture pottery is found. For instance – according to Joseph Maran – Greek sites with Cetina culture finds belong to the Early Helladic III period that began around 2200 BC. Maran noticed that Cetina–Aegean contacts were particularly intensive in the late third millennium BC but that evidence of them all but disappeared in the beginning on the Middle Helladic I period (around 1600 BC). This made Maran conclude that either this was the period when the Cetina culture disappeared or, at least, when its contacts with the Aegean were disrupted.[21] Thus, based on these Aegean links, the Cetina culture could be dated to the period from 2200 to 2000 BC. Philippe Della Casa dated it to an even earlier period than Joseph Maran – to the mid-3rd millennium BC.[22] This is much earlier than the above mentioned Milošević's dating. As regards correlations with Central European relative chronology, Govedarica links the Cetina culture with the Reinecke phases Bronze A1 and A2.[23] The problem of chronological determination of the Cetina culture was discussed in detail by D. Ložnjak-Dizdar and H. Potrebica.[24]

Even this brief introductory overview suggests the need for additional information that would help us date the Cetina culture more accurately (the complex issue of its links

16 J. Maran 2007, 15–18.
17 A. Milošević 2017, 34–35; Cetina pottery was found at Kolonna site on the island of Aegina in Saronic Gulf near Athens and at numerous sites in the Peloponnese: Tiryns, Tsoungiza, Zigouries Korakou, Lerna, Mycenae, Prosimna and – mostly – Altis near the famed Olympia. Apart from the original Cetina pottery, available in those places was also local Middle Helladic Minyan pottery that copied the Cetina decorations (J. Rambach 2007, 86). The first archaeologist to discover the Cetina pottery in Altis was Weege, who proposed that Altis was actually founded by settlers from the Eastern Adriatic (J. Rambach 2007, 82; F. Weege 1911, 184–185). But it was J. Maran who was the first one to expressly mention the connection between Cetina culture and Altis (Maran 1986).
18 T. Kaiser, S. Forenbaher 1999; M. Gori, G. Recchia, H. Tomas 2018.
19 See S. Forenbaher 2018, 136.
20 A. Milošević 2017, 34.
21 J. Maran 1998, 326–330; 2007, 15–18.
22 Ph. Della Casa 1995, 573.
23 B. Govedarica 1989, 111.
24 D. Ložnjak–Dizdar, H. Potrebica 2017, 43–46.

S. Forenbaher[25]). Daljnja su arheološka istraživanja nužna. Zasad su nam najbolja kronološka vodilja precizno datirani grčki lokaliteti na kojima je nađen cetinski materijal,[26] a na temelju kojih je cetinsku kulturu, kako je navedeno, datirao J. Maran. Njegovu dataciju prihvaćamo u ovom radu, a prihvatio ju je i S. Forenbaher.[27] Nesumnjivo je da bi nam daljnja otkrića naselja cetinske kulture pomogla riješiti problem njezinih kronoloških odrednica. Međutim, tu odmah nailazimo na sljedeći problem: naselja cetinske kulture općenito su nam slabo poznata. Neka su cetinska naselja bila u nizini uza samu rijeku (i sojeničarske su gradnje), no neka su bila na gradinama i u špiljama. U ovoj posljednjoj kategoriji najvažnije cetinsko naselje je špilja Škarin Samograd.[28] Upravo je potraga za daljnjim naseljima cetinske kulture bila povod sustavnom rekognosciranju doline Cetine.[29] Uočavanje špilje Crvenkuše nad selom Ruminom (Karta 1) bilo je stoga posebno uzbudljivo ako imamo u vidu spomenutu činjenicu da je dosad najvažnije otkriveno naselje cetinske kulture bilo u špilji, a upravo su nalazi iz špilje Škarin Samograd i dali temelj za uspostavu kronologije cetinske kulture.[30] No revizijsko iskopavanje tog nalazišta bilo bi dragocjeno jer zahvaljujući novim metodama špiljskih istraživanja i modernijim tehnologijama postoji mogućnost pronalaska uzoraka pogodnih za C^{14} datiranja koja bi nam cetinsku kulturu onda smjestila i u apsolutne kronološke okvire. Stoga je odlična vijest da su u ljeto 2023. g. obnovljena istraživanja špilje Škarin Samograd (pod vodstvom arheologinja Maje Gori i Giulije Recchije).

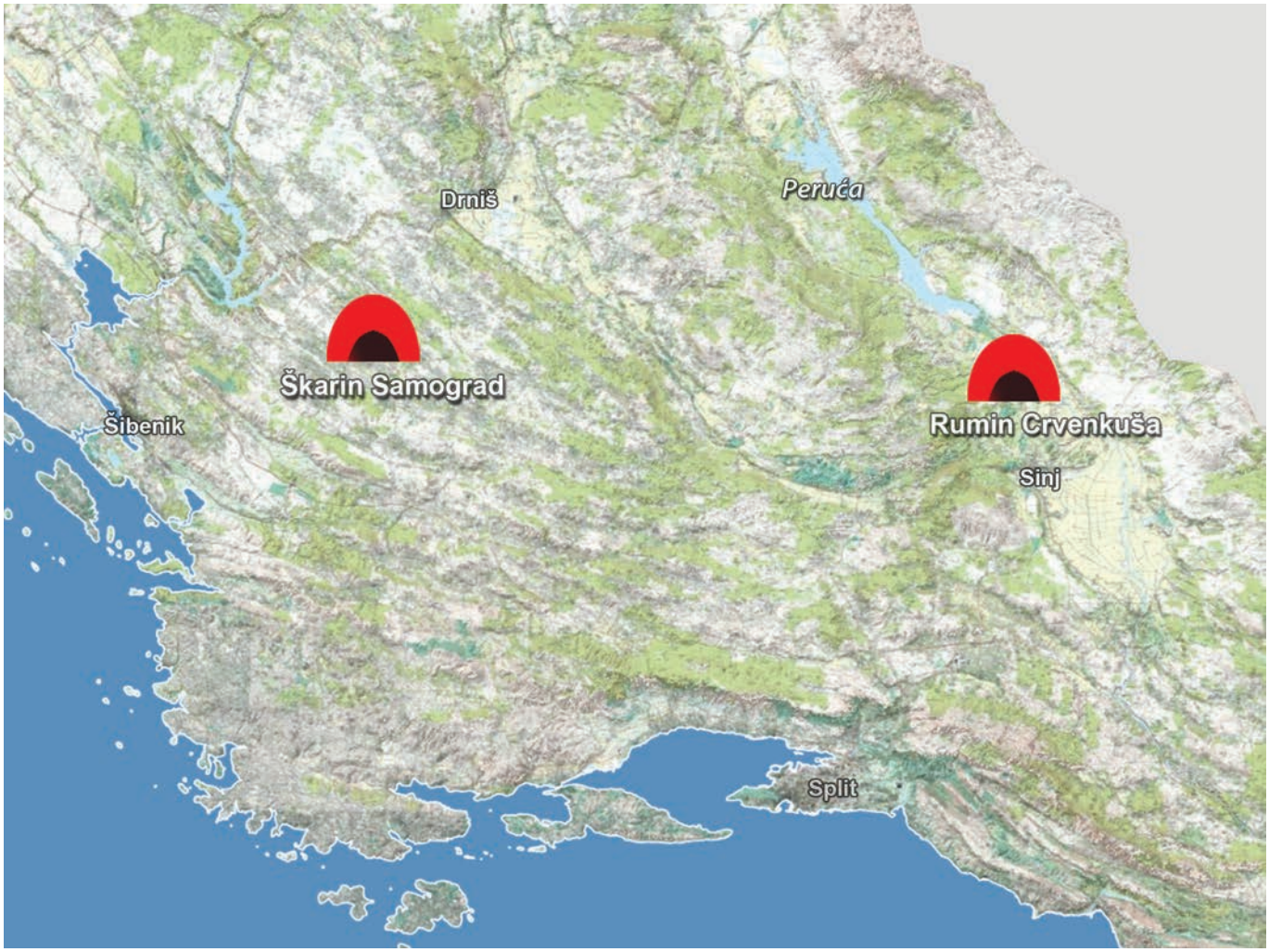
Rečeno je da se intenzivno rekognosciranje doline rijeke Cetine provodi radi pronalaska naseljâ te kulture, s ciljem boljeg razumijevanja odnosa cetinske kulture i Grčke tijekom ranog brončanog razdoblja.[31] Na velikom broju ranobrončanodobnih naselja u Grčkoj nađena je keramika cetinske kulture[32] pa je očito da su njezini nositelji bili u nekoj vrsti kontakta s područjem Grčke tijekom ranog brončanog doba. Sličan je slučaj i s južnom Italijom gdje je također nađen cetinski materijal na nizu lokaliteta.[33] Cetinska nam je kultura na matičnom području, tj. u dolini rijeke Cetine, poznatija na temelju nalaza iz pogrebnih gomila koje je sredinom 20. st. najviše istraživao Ivan Marović.[34] Imajući u vidu sve do sada navedeno, sudionici spomenutog rekognosciranja posebnu su pažnju obratili na spomenutu špilju, smještenu na padini visoravni iznad sela Rumina, nedaleko od mjesta

with Ljubljana culture was discussed by S. Forenbaher[25]). Additional archaeological excavations will be required. At the moment, our best chronological guideline are the accurately dated Greek sites with Cetina finds,[26] based on which the Cetina culture was dated by J. Maran. His dating is accepted in this paper, as was accepted by S. Forenbaher.[27] Beyond doubt, discovery of additional Cetina culture settlements would help us solve the problem of chronological determinants for this culture. But there is another problem here: generally, we do not have much knowledge of the Cetina culture settlements. While some of them were located in the valley, in the immediate vicinity of the river (and were of pile-dwelling type), others were organized in hillforts and caves. In this latter category, the most important one is Škarin Samograd Cave.[28] It was the search of new Cetina culture settlements that was the reason for the systematic surveying of the Cetina Valley.[29] The discovery of Crvenkuša Cave just above the village of Rumin (Map 1) was so exciting particularly due to the fact that the hitherto most important Cetina culture settlement had been found in a cave and that the finds from Škarin Samograd Cave had provided the basis for the chronology of that culture.[30] A reassessment of these finds would be invaluable because new methods of cave research and modern technologies could help us find samples suitable for C^{14} dating and put the Cetina culture into an absolute chronological framework. This is why it is great news that excavations in Škarin Samograd Cave were resumed in summer 2023 (under the leadership of Maja Gori and Giulia Recchia).

As it was said earlier in this paper, the intensive surveying of the River Cetina Valley was carried out in order to discover Cetina culture settlements and obtain a better insight into the relations between this culture and Greece during the Early Bronze Age.[31] As Cetina culture pottery was found at numerous Early Bronze Age sites in Greece,[32] it is clear that the people of this culture had some sort of contact with Greece during that period. The same can be said for Southern Italy, where Cetina culture finds were also recorded at a number of sites.[33] In its original territory – the River Cetina Valley – the Cetina culture is best known by the finds from funerary tumuli. Most of the tumulus research was carried out by Ivan Marović in the mid-20th century.[34] This is why the archaeologists that took part in this survey paid particular attention to Crvenkuša Cave on a slope of the plateau above the village of Rumin in the vicinity of Hrvace in the Cetina Valley (Fig. 1). When surveying this

25 S. Forenbaher 2018a.
26 Vidi bilj. 17.
27 S. Forenbaher 2018, 133.
28 I. Marović, B. Čović 1983, 201–203; A. Milošević 2017, 35, 39, 177.
29 Vidi bilj. 1.
30 I. Marović, B. Čović 1983; B. Govedarica 1989.
31 Projekt je detaljno opisan u: H. Tomas 2020.
32 H. Tomas 2017; vidi također bilj. 17.
33 M. Gori, G. Recchia, H. Tomas 2018.
34 I. Marović 1963.

25 S. Forenbaher 2018a.
26 See n. 17.
27 S. Forenbaher 2018, 133.
28 I. Marović, B. Čović 1983, 201–203; A. Milošević 2017, 35, 39, 177.
29 See n. 1.
30 I. Marović, B. Čović 1983; B. Govedarica 1989.
31 For a detailed description of the project, see H. Tomas 2020.
32 H. Tomas 2017; see also n. 17.
33 M. Gori, G. Recchia, H. Tomas 2018.
34 I. Marović 1963.



Karta 1. Položaj špilje Crvenkuša iznad Rumina
Map 1. The location of Crvenkuša Cave above the village of Rumin

izradio / made by: **I. Čondić**

Hrvace u dolini Cetine (Sl. 1). Naime, rekognoscirajući taj dio doline u jesen 2016. godine, primijećen je ulaz u špilju. Plato na padini na kojoj se špilja nalazi bio je lokacija cijelog niza gomila cetinske kulture (koje je također istražio Ivan Marović).[35] Imajući u vidu prostornu blizinu tih cetinskih gomila te činjenicu da je ključno naselje cetinske kulture bilo u špilji, sudionici rekognosciranja ponadali su se da bi i ta uočena špilja nad selom Ruminom možda mogla čuvati naseobinske ostatke cetinske kulture. Već u prvom obilasku špilje s tla je sakupljena velika količina keramike. Ona je kasnije pregledana i, nažalost, među tim brojnim sakupljenim fragmentima nije uočen ni jedan fragment s odlikama cetinske kulture. Sakupljena je i velika količina životinjskih kostiju koje je za potrebe ovog članka obradila prof. dr. sc. Zdravka Hincak s Odsjeka za arheologiju Filozofskog fakulteta u Zagrebu (v. Addendum na kraju članka).

part of the valley in the fall of 2016, they discovered the entrance to the cave. A number of Cetina culture tumuli (also researched by Ivan Marović) are located on this plateau.[35] Keeping in mind the vicinity of these tumuli and the fact that the most important Cetina culture settlement was also in a cave, the surveyors hoped that this cave above Rumin might also contain settlement finds of the Cetina culture. Unfortunately, although the very first visit to the cave resulted in a large quantity of pottery fragments found on its ground, it was later established that none of the collected fragments contained the characteristics of this culture. A large quantity of animal bones was also collected then. For the purpose of this paper, they were analyzed by Prof. Zdravka Hincak, PhD from the Department of Archaeology of the Faculty of Humanities and Social Sciences in Zagreb (see Addendum at the end).

35 I. Marović 1991. Novije analize u: S. Forenbaher 2023.

35 I. Marović 1991. For recent analyses, see S. Forenbaher 2023.

Slika 1. Unutrašnjost špilje kod Rumina
Figure 1. Interior of cave near Rumin

foto / photo: **H. Tomas**

Opisani površinski nalazi keramike i životinjskih kostiju nesumnjivo nam govore da se špilja koristila kao obitavalište. Nažalost, većina sakupljene keramike nema dijagnostičke odlike pa ju nismo mogli niti datirati. Pripada prapovijesnom tipu keramike koju kolege arheolozi koji su također istraživali na području cetinske doline popularno nazivaju gradinskom. Usprkos očitim naznakama nastanjivanja špilje ni jedan površinski nalaz nije ukazao na to da je ona bila nastanjena i u doba cetinske

The described surface finds of pottery and animal bones clearly indicate that the cave was used as a dwelling. Unfortunately, most of the pottery fragments lack diagnostic features and could not be dated. They belong to the prehistoric type of pottery popularly called "hillfort pottery" by other archaeologists who have carried out excavations in Cetina Valley. Despite clear evidence that the cave was inhabited, none of the surface finds suggested that these dwellers lived in it during the Cetina

kulture. No površinski nalazi nisu dovoljno uvjerljiv materijal pa smo se 2017. godine odlučili u špilji provesti probno iskopavanje.[36]

Ustanovili smo da ovdje opisana špilja u stručnoj speleološkoj literaturi nosi naziv Crvenkuša. Špilja Crvenkuša (Mračna pećina II) predstavlja dio velikog špiljskog sustava Crvenkuša – Tamnica – jama Suhi Rumin[37] koji je smješten sjeverno od grada Sinja, između sela Rumina i Bajagića, na nadmorskoj visini od 355 m. Špilja Crvenkuša mali je dio velikog špiljskog sustava međusobno povezanog brojnim kanalima čiji je ulazni dio dužine cca 15 m, a širine cca 7 m. Ulaz je orijentiran prema jugoistoku i velik je 10 x 9,5 m. U starijoj speleološkoj literaturi špilje Tamnica i Crvenkuša nazivane su Mračna pećina I i Mračna pećina II,[38] dok se u recentnijoj speleološkoj literaturi navode lokalni nazivi.[39]

Špiljski sustav Crvenkuša – Tamnica – jama Suhi Rumin u arheološkoj literaturi poznat je već dugo,[40] no arheološka istraživanja nisu nikad provođena, a naša saznanja o arheološkim ostatcima potječu od nalaza površinskih ulomaka keramike koje su prikupili speleolozi. Oni su vjerojatno

Slika 2a. Probna iskopavanja 2017. g., terenska ekipa
Figure 2a. The trial excavation of 2017, research team
foto / photo: **E. Grabar**

culture period. However, as these finds were not convincing enough, we decided in 2017 to carry out a trial excavation in the cave.[36]

We established that the cave discussed here was called Crvenkuša (Mračna pećina II) in speleological literature. It constitutes a small part of the extensive cave system Crvenkuša – Tamnica – Suhi Rumin[37] situated north of the city of Sinj, between the villages of Rumin and Bajagić, at the elevation of 355 meters. The system is interconnected with a network of passages the entrance of which is approx. 15 meters long and approx. 7 meters wide. The entrance stretches towards southeast and its size is 10 x 9.5 meters. The earlier speleological literature refers to it as Mračna pećina II (Tamnica Cave being Mračna pećina I),[38] while more recent literature uses their local names.[39]

The Crvenkuša – Tamnica – Suhi Rumin cave system has been known in archaeological literature for some time.[40] However, archaeological excavations never took place in it and the only archaeological finds we know about are the pottery fragments collected by speleologists on its surface. It was probably them who found an eroded iron knife and left it at the cave's entrance (the photo of the knife is not published in this paper because it has not undergone a conservation treatment yet).

The trial excavation of 2017 confirmed the earlier assertions that Early Neolithic finds in the cave were possible: before the trial excavation began, a fragment of Early Neolithic *impresso* pottery was found on the surface (Fig. 2).

Slika 2. Fragment impresso-keramike pronađen na površini špilje Crvenkuša 2017. g.
Figure 2. Fragment of impresso pottery found on surface of Crvenkuša Cave in 2017.
foto / photo: **H. Tomas**

36 Zahvaljujem dr. sc. Marcelu Buriću i prof. dr. sc. Nikoli Vukosavljeviću (obojica s Odsjeka za arheologiju Filozofskog fakulteta u Zagrebu) što su sudjelovali u tom probnom iskopavanju i sastavili preliminarno izvješće koje smo predali Hrvatskoj zakladi za znanost čijim je financijskim sredstvima provedeno ovdje opisano istraživanje.
37 R. Baković, D. Pleše, N. Buzjak 2008.
38 M. Malez 1955; 1958; 1969.
39 R. Baković, D. Pleše, N. Buzjak 2008.
40 M. Zekan 1969; I. Marović 1979.

36 I wish to express my gratitude to Marcel Burić, PhD and Prof. Nikola Vukosavljević, PhD (both from the Department of Archaeology of the Faculty of Humanities and Social Sciences in Zagreb) for their participation in the trial excavation and their report that was submitted to Croatian Science Foundation which provided financial support for the excavations described in this paper.
37 R. Baković, D. Pleše, N. Buzjak 2008.
38 M. Malez 1955; 1958; 1969.
39 R. Baković, D. Pleše, N. Buzjak 2008.
40 M. Zekan 1969; I. Marović 1979.

zaslužni i za pronalazak jednog erodiranog željeznog noža koji su odložili pri ulazu u špilju (ne donosimo sliku tog noža jer još nije provedeno njegovo konzerviranje).

Probnim iskopavanjem 2017. g. potvrđene su ranije tvrdnje o mogućim ranoneolitičkim ostatcima u špilji: prije početka samog probnog iskopavanja na površini je pronađen jedan ulomak ranoneolitičke *impresso* keramike (Sl. 2).

Probnim iskopavanjima istražena je sonda površine 1 m^2. Debljina slojeva iznosi cca 80 cm. U istraženoj sondi definirane su tri stratigrafske jedinice: vrlo tvrd i tanak površinski sloj, djelomično zasigan (SJ 100) debljine je 5 – 10 cm. U tom sloju pronađeno je malo nalaza. Ispod sloja 100 definiran je sloj SJ 101 u kojem su pronađeni brojni ulomci lončarije i životinjskih kostiju te jedan ulomak brončanog predmeta (igle?). Debljina tog sloja iznosi cca 70 cm u svom najdubljem dijelu. U zapadnom dijelu sonde SJ 101 ležao je na matičnoj stijeni, dok je u istočnom dijelu sonde preslojavao SJ 102, a SJ 102 preslojava matičnu stijenu.

Iako tijekom iskopavanja nisu primijećeni stratigrafski poremećaji, stilska obilježja brojnih ulomaka lončarije u SJ 101 ukazuju na različitu starost arheološke građe tog sloja i na vjerojatno miješanje arheološke građe iz različitih razdoblja. Jedan od mogućih uzroka miješanja mogu biti postdepozicijski poremećaji vezani za urušavanje stropa i zidova špilje. Drugo moguće objašnjenje je da su arheološki nalazi dospjeli u špilju s platoa iznad špilje tijekom brojnih epizoda erozije. Keramički nalazi uključuju ulomke različite starosti (Sl. 3–7): ranoneolitičke, kasnoantičke, novovjekovne (glazirana keramika), a jedan ulomak srednjovjekovne keramike rađene na kolu pronađen je na dnu sonde, cca 10 cm iznad matične stijene. Brojni su i ulomci prapovijesne keramike bez dijagnostičkih obilježja, stoga ju nije moguće pobliže determinirati.

Tijekom pregleda površine špilje Tamnice (drugi horizontalni ulaz u špiljski kompleks smješten tek nekoliko metara od Crvenkuše) zabilježen je mali broj ulomaka prapovijesne keramike. Zaključujemo da su probna iskopavanja u Crvenkuši potvrdila ranije opažanje o špilji, ali nam nisu donijela pouzdane kontekstualne podatke. Buduća istraživanja, ako ih bude, bilo bi dobro provesti u susjednoj špilji Tamnici.

Za razliku od skromnih ostataka naselja te kulture, ostatci grobnih struktura – gomila – brojni su (u većini slučajeva u njihovoj neposrednoj blizini nisu nađeni tragovi pratećih naselja). Pripadnici cetinske kulture prakticirali su dva oblika ukopa: skeletni ukop u grobnim cistama potom prekrivenim kamenim gomilama ili incineraciju – spaljeni ostatci pokojnika pohranili bi se u posudu ili rasuli kroz plašt gomile.[41] Gomile lokaliteta Shtoj kraj grada Skadra u sjevernoj Albaniji uzimaju se kao najjužniji dosad otkriveni

41 I. Marović 1976; 1991; A. Milošević 1998; 2017, 35; S. Forenbaher 2023.

The trial trenching covered an area of 1 m^2. The layers are approx. 80 centimeters thick. Three stratigraphic units were identified in the trench. The very hard surface layer (SJ 100) contains stalagmites in places and is 5–10 centimeters thick. Very few finds were recorded in it. The layer SJ 101 underneath it contains numerous finds of pottery and animal bones, as well as a bronze fragment (of a needle?). The thickness of this layer is approx. 70 centimeters at its deepest section. In the western section of the trench, the layer SJ 101 lies on the bedrock. In the eastern section, it alternates with the layer SJ 102, while SJ 102 alternates with the bedrock.

Although no stratigraphic disturbances were recorded during the excavation, the style features of the numerous pottery finds in SJ 101 indicate that the archaeological finds recorded in this layer belong to different periods and that they ended up mixed together. This could be a result of post-depositional disturbances caused by caving in of the cave's ceiling and walls. The other explanation is that the finds originally lied on the plateau above the cave and ended up in the cave during numerous erosion episodes. The pottery finds include fragments ranging from Early Neolithic to Late Antique and Modern Age (glazed pottery) (Figs. 3–7). One fragment of medieval pottery (made on a potter's wheel) was found at the bottom of the trench, approx. 10 centimeters above the bedrock. Numerous fragments of prehistoric pottery were also found, but the lack of diagnostic features makes their accurate dating impossible.

When surveying the surface of Tamnica Cave (the second horizontal entrance to the cave system, located meters away from Crvenkuša), a small number of prehistoric pottery fragments were recorded. The conclusion was that the trial excavation in Crvenkuša confirmed our earlier observations about the cave, but that no reliable contextual information had been obtained. Carrying out excavations in the neighboring Tamnica Cave would be advisable.

While the remains of the Cetina culture settlements are modest, the remains of its grave structures – tumuli – are ample (in most cases, no traces of accompanying settlements were found in their vicinity). The Cetina culture communities practiced two types of burials: skeletal burials in cists covered with stone tumuli, and incineration burials (storing burnt remains in a vessel or scattering them through the mantle of a tumulus).[41] The tumuli at the Shtoj site near Scutari in Albania are believed to be the southernmost site of the Cetina culture discovered so far. Not only the burial type used there corresponds with the Cetina culture practice, but the Shtoj tumuli also contain fragments of the pottery typical of this culture.[42] This Albanian site is

41 I. Marović 1976; 1991; A. Milošević 1998; 2017, 35; S. Forenbaher 2023.
42 A. Koka 1985, 242; B. Govedarica 1989, 189–190; S. Oikonomidis, A. Papayiannis, A. Tsonos 2011, 187.

Slika 3. Neolitička keramika
Figure 3. Neolithic pottery
foto / photo: **M. Burić**

Slika 4. Prapovijesna keramika
Figure 4. Prehistoric pottery
foto / photo: **M. Burić**

Slika 5. Kasnoantička keramika
Figure 5. Late Antique pottery
foto / photo: **M. Burić**

Slika 6. Srednjovjekovna keramika
Figure 6. Medieval pottery
foto / photo: **M. Burić**

Slika 7. Novovjekovna keramika
Figure 7. Modern Age pottery
foto / photo: **M. Burić**

lokalitet cetinske kulture. Ne samo da tip ukopa odgovara cetinskome nego su u tim gomilama u Shtoju nađeni i fragmenti keramike tipične za cetinsku kulturu.[42] Lokalitet Shtoj u Albaniji važan nam je zbog još jednog razloga – ispod središnjeg tumula br. 6 nađeno je šest antropomorfnih figurica od terakote, izrađenih u obliku violine.[43] One su nalik grčkim figuricama iz Lerne na Peloponezu i onima s otoka Egine u Saronskom zaljevu – sve nabrojene datirane su u razdoblje ranoheladsko III. Figurice tog violinskog tipa nađene su i drugdje u Albaniji, npr. sloju III lokaliteta Maliq.[44] No čini se da su u Shtoju te figurice iz groba predcetinske faze, koje neki povezuju s tipovima tipičnim za vučedolsku kulturu,[45] a s kojima se mogu povezati i crnogorski nalazi s lokaliteta Kuća Rakića kraj Podgorice.[46] Osim lijepo ukrašene keramike[47] u cetinskim tumulima navodno su nađeni i neki metalni predmeti.[48] No budući da dolina Cetine nema izvore metalne rude, očito je da se ona morala uvoziti. S obzirom na to da na dosad otkrivenim cetinskim lokalitetima nema ni dokaza za preradu metala, spomenuti metalni predmeti, navodno nađeni u gomilama, očito su bili uvezeni kao gotovi proizvodi.[49] No budući da smo rekli da je dosad otkriven relativno malen broj naselja cetinske kulture, ne možemo ni imati indicije o eventualnoj preradi metala u njima. Posebno je zanimljiv bodež iz Bitelića kojem su, zajedno s dvama bodežima iz Srbije, predložene paralele s bodežima lokaliteta Sesklo u grčkoj pokrajini Tesaliji, datiranim u srednjoheladsko doba.[50] Za većinu drugih bodeža nađenih u dolini Cetine predložene su srednjoeuropske paralele.[51] Moguće je da je trgovina potaknuta uvozom metalne rude motivirala predstavnike cetinske kulture da se niz obale Jadranskog i Jonskog mora pa preko Peloponeza zapute do egejskog područja koje je u rano brončano doba bilo vibrantna trgovačka zona.[52] Spomenuto je da su figurice nalik cetinskima nađene i na otoku Egini koja bi putujućim „Cetinjanima" bila na putu za najvažniji grčki rudnik Lavrio, smješten na krajnjem jugu poluotoka Atike, a koji je bio navelike eksploatiran već u ranom brončanom dobu.[53] Spomenimo na kraju ovog pregleda da krajem ranog i početkom srednjeg brončanog doba

important to us for yet another reason – six violin-shaped anthropomorphous terracotta figures were found there under the central tumulus No. 6.[43] They resemble the Greek figures found at Lerna site in the Peloponnese and those found on Aegina in the Saronic Gulf. They were all dated to the Early Helladic III period. Such violine-type figures were also found in other places in Albania, like in the layer III of Maliq site.[44] However, it seems that the ones from Shtoj come from a pre-Cetina-period grave. Some associate them with Vučedol-culture types,[45] same as the finds from Kuća Rakića site near Podgorica in Montenegro.[46] In addition to pottery with attractive decorations,[47] some metal objects were also allegedly found in the Cetina Valley tumuli.[48] However, as there is no metal ore in the valley, it must have been imported. Also, as no evidence of metal-processing activity has been found at Cetina Valley sites yet, the metal objects allegedly found in tumuli must have been imported as finished products.[49] But, as said before, a relatively small number of the Cetina culture settlements have been discovered so far, so there is no evidence of possible metal-processing activity in them. A dagger found at Bitelić is particularly interesting. For this dagger and for two daggers from Serbia analogies were proposed with the daggers from Sesklo site in Greek Thessaly, dated to the Middle Helladic period.[50] For most of the remaining daggers found in Cetina Valley, Central European analogies were proposed.[51] It is possible that the trade stimulated by import of metal ore motivated the Cetina culture communities to travel down the Adriatic and Ionian coasts and across the Peloponnese to establish contacts with the Aegean region which, in the Early Bronze Age, was a vibrant trading zone.[52] We have already mentioned that figures resembling the ones typical of the Cetina culture were found on the island of Aegina, which would be en route for the Cetina Valley inhabitants if they were to undertake a journey to Lavrion, the most important Greek mine located on the southernmost part of Attica. This mine was extensively exploited as far back as Early Bronze Age.[53] We should also mention at the end of this overview that the tradition of tumulus burials was adopted in Greece at the

42 A. Koka 1985, 242; B. Govedarica 1989, 189–190; S. Oikonomidis, A. Papayiannis, A. Tsonos 2011, 187.
43 A. Koka 1985, 241–250; B. Jubani 1992.
44 J. Maran 1998, 329–330; M. Gori 2015, 201–201, sl. 62.
45 B. Govedarica 1991.
46 L. Saveljić-Bulatović, P. Lutovac 2003, 25.
47 E. Ballan 2017.
48 S. Forenbaher 2018, 132–133; 2023, 2. Forenbaher, međutim, naglašava da su opisi gomila cetinske kulture istraživanih u doba I. Marovića relativno površni, što uključuje i opise sadržaja gomila i konteksta otkrića. Tako se o spomenutim metalnim nalazima navodno nađenim u cetinskim gomilama zna malo, mnogo je tu sumnjivih podataka. Također, donosi da se na Jadranu prva prava bronca pojavljuje od početka 3. st. pr. Kr., no u širu upotrebu ulazi tek u 2. tis. pr. Kr.
49 I. Marović, B. Čović 1983, 217.
50 I. Marović, B. Čović 1983, 207, T. 33/7.
51 A. Milošević 2017, 37.
52 J. Maran 2007, 16; J. Rambach 2007, 86; F. Nicolis 2005.
53 P. Spitaels 1984; N. H. Gale 1980, 174–178.

43 A. Koka 1985, 241–250; B. Jubani 1992.
44 J. Maran 1998, 329–330; M. Gori 2015, 201–201, sl. 62.
45 B. Govedarica 1991.
46 L. Saveljić-Bulatović, P. Lutovac 2003, 25.
47 E. Ballan 2017.
48 S. Forenbaher 2018, 132–133; 2023, 2. However, Forenbaher points out that the descriptions of the Cetina culture tumuli researched during I. Marović's excavations are relatively superficial. This also applies to the description of their contents and the context in which they were discovered. Little is known about these alleged metal finds from the Cetina Valley tumuli and the information about them is not reliable. Forenbaher also mentions that true bronze first appeared in the Adriatic no earlier than in the early 3rd millennium BC and that it became widespread only in the 2nd millennium BC.
49 I. Marović, B. Čović 1983, 217.
50 I. Marović, B. Čović 1983, 207, T. 33/7.
51 A. Milošević 2017, 37.
52 J. Maran 2007, 16; J. Rambach 2007, 86; F. Nicolis 2005.
53 P. Spitaels 1984; N. H. Gale 1980, 174–178.

u Grčku stiže tradicija pokapanja u tumulima,[54] što je bila i tradicija cetinske kulture. Možda se i prijenos te tradicije u Grčku može povezati s opisanim trgovanjem. Zasad nemamo dokaza da su predstavnici cetinske kulture putovali prema Grčkoj, a ne obratno, no ta je ideja vrlo privlačna. Govedarica je zapravo smatrao da su utjecaji u cetinsku dolinu stizali s juga, navodeći neke motive na keramici prisutne u Lerni faze IV, koji su tako stariji od istočnojadranskih paralela, a starija je i egejska praksa kremacije od bilo kojeg primjera kremacije pokojnika na istočnoj jadranskoj obali ili na zapadnom Balkanu.[55]

O važnosti ranobročanodobne trgovine koja se protezala duž istočne jadranske obale i Jonskog otočja (gdje je otok Lefkada očito služio kao važno trgovačko središte) raspravljali su već brojni autori.[56] Ta se trgovina očituje u opisanom širenju keramike cetinske kulture, ali i u uvozu prestižnih metalnih predmeta – ti uvezeni metalni predmeti uglavnom su nađeni u grobnom kontekstu, položeni kao grobni prilog s namjerom da svojom luksuznom prirodom i udaljenim mjestom podrijetla naglase viši društveni stalež pokojnika. U vezi s tim treba spomenuti tri tumula s luksuznim grobnim prilozima iz crnogorskog dijela jadranske zone: Mala gruda i Velika gruda kraj Kotora te Gruda Boljevića kraj Podgorice.[57] U njima su nađene zlatne karičice za kosu kakve su otkrivene i u jednom tumulu nekropole Steno na jonskom otoku u Lefkadi, a koje su datirane u razdoblje ranoheladsko III.[58] Maran je pak naglasio da je središte distribucije takvih karičica bilo na Balkanu i u karpatskom bazenu pa bi onda navedeni primjerci s Lefkade bili uvozni artikl na taj grčki otok[59] i u tom slučaju one ne bi išle u prilog ideji o egejskoj trgovačkoj ekspanziji k sjeveru. No, osim zlatnih karičica, u nabrojenim crnogorskim tumulima nađeni su još neki luksuzni metalni predmeti: (1) zlatni bodež, za koji je predloženo egejsko podrijetlo[60], levantsko[61] i anatolijsko[62] te (2) srebrna sjekira s rupom za nasad drške, isprva interpretirana kao dalmatinski,[63] a zatim kao egejski proizvod.[64] Ta dva metalna komada po nekim citiranim interpretacijama ipak mogu biti južnog podrijetla, a sasvim sigurno su u grobove položeni da bi naglasili visok društveni status pokojnika.

end of the Early Bronze Age and the beginning of the Late Bronze Age[54] – a tradition that was also typical of the Cetina culture. Maybe the import of this tradition to Greece could be associated with the above mentioned trade. There is no evidence yet that the inhabitants of Cetina Valley traveled to Greece and not the other way round, but the idea as such is very attractive. Govedarica believed that Cetina Valley imported practices from the south, substantiating this claim with the fact that some motifs typical of Lerna phase IV pottery predate their Eastern Adriatic analogies and with the fact that the Aegean cremation practices are older than any such practice in the Eastern Adriatic or Western Balkans.[55]

The importance of the Early Bronze Age trade that took place along the Eastern Adriatic and on the Ionian islands (including Lefkas, the island that was clearly an important trading center), has already been discussed by numerous authors.[56] This trade is reflected in the above-described expansion of the Cetina culture pottery and in the import of prestigious metal objects. These metal objects are mostly found in the grave context; they were used as grave goods because the fact that they were luxurious and came from distant places underlined that the deceased had belonged to higher classes. In this context we should mention three tumuli with luxury grave goods found in the Montenegrin part of the Adriatic zone: Mala Gruda and Velika Gruda near Kotor and Boljevića Gruda near Podgorica.[57] The golden hair rings found in them resemble the ones found in a tumulus at Steno Necropolis on the Ioniansland of Lefkas, dated to the Early Helladic III period.[58] Maran points out that the distribution centers for these rings were in the Balkans and in the Carpathian Basin. If so, the Lefkas specimens must have been imported to this Greek island,[59] which does not support the idea of an Aegean trading expansion to the north. But then again, the Montenegrin tumuli have yielded some other luxurious metal objects in addition to the golden rings: (1) a golden dagger, for which Aegean[60], Levantine[61] and Anatolian[62] origins, respectively, are proposed; (2) a silver axe with a handle hole, first interpreted as a Dalmatian product[63] and then as an Aegean product.[64] Some cited interpretations describe these objects as originating from the south; they

54 E. Borgna, P. Càssola Guida 2007; S. Oikonomidis, A. Papayiannis, A. Tsonos 2011.
55 B. Govedarica 1989, 144, 217, 225.
56 vidi pregled u E. Borgna, P. Càssola Guida 2009, 99; V. Heyd 2013, 3–37; 2013 a.
57 M. Parović-Pešikan, V. Trbuhović 1974; M. Parović-Pešikan 1976; S. Dimitrijević 1979, 322–323; M. Primas 1992, 47–55; 1996; Ph. Della Casa 1996; L. Saveljić Bulatović, P. Lutovac 2003, 15–16, 27–32; M. Guštin 2006; M. Baković 2011.
58 J. Maran 1998, 330–332,T.21/3-7; 2007, n. 42; M. Primas 1992, 176; 1996, 75–88, 146.
59 J. Maran 2007, 9.
60 M. Parović-Pešikan, V. Trbuhović 1974, 135.
61 M. Primas 1992, 177; 1996, 88–91.
62 J. Maran 1998,175, 33–332.
63 M. Parović-Pešikan, V. Trbuhović 1974, 135; vidi također diskusiju u M. Primas 1996, 105–109.
64 S. Dimitrijević 1979, 323.

54 E. Borgna, P. Càssola Guida 2007; S. Oikonomidis, A. Papayiannis, A. Tsonos 2011.
55 B. Govedarica 1989, 144, 217, 225.
56 See overview in E. Borgna, P. Càssola Guida 2009, 99; V. Heyd 2013, 3–37; 2013 a.
57 M. Parović-Pešikan, V. Trbuhović 1974; M. Parović-Pešikan 1976; S. Dimitrijević 1979, 322–323; M. Primas 1992, 47–55; 1996; Ph. Della Casa 1996; L. Saveljić Bulatović, P.Lutovac 2003, 15–16, 27–32; M. Guštin 2006; M. Baković 2011.
58 J. Maran 1998, 330-332, Pl.21/3-7; 2007, n. 42; M. Primas 1992, 176; 1996, 75–88, 146.
59 J. Maran 2007, 9.
60 M. Parović-Pešikan, V. Trbuhović 1974, 135.
61 M. Primas 1992, 177; 1996, 88-91.
62 J. Maran 1998, 175, 33–332.
63 M. Parović-Pešikan, V. Trbuhović 1974, 135; see also discussion in M. Primas 1996, 105–109.
64 S. Dimitrijević 1979, 323.

Što se tiče metalnih predmeta iz gomila cetinske kulture, okolnosti njihova pronalaska slabo su nam dokumentirane.[65] Ako bismo nekom provizornom crtom povezali lokacije u Grčkoj na kojima je nađena keramika cetinske kulture, ta bi nas crta sasvim jasno vodila k rudniku Lavrion na jugu Atike – to je bio najveći grčki rudnik eksploatiran u prapovijesno doba i uvjerljiv povod za kontakte predstavnika cetinske kulture s ranije nabrojenim grčkim lokalitetima.[66] Ti su kontakti, prema mišljenju nekih talijanskih arheologa, mogli dovesti do širenja tradicije građenja kamenih tumula/gomila iz jadranskog područja u Grčku krajem ranog i početkom srednjeg brončanog doba.[67] Egejsko-cetinski kontakti stoga nisu bili nužno fokusirani samo na razmjenu dobara već i na moguću razmjenu ideja. Borgna i Càssola Guida spekuliraju s idejom da je spomenuta tradicija pokapanja pod kamenim tumulima/gomilama moguća posljedica ranobrončanodobnih cetinsko-egejskih kontakata, kojima je povod bio uvoz metalne rude iz Grčke na područje cetinske kulture.[68] Neki autori, štoviše, uzimaju u obzir i mogućnost da su predstavnici cetinske kulture tijekom razdoblja rano heladsko I–II (oko 2700. g. pr. Kr.)[69] naselili otok Lefkadu i sjeverozapadni Peloponez.[70]

U uvodu je navedeno da su pripadnici cetinske kulture prakticirali raznolike oblike naseljavanja (naselja na otvorenom – ponekad u obliku sojenica – te naselja u špiljama). Iako ovdje opisana probna istraživanja u špilji Crvenkuši zasad nisu dala potvrde da je i ona bila naseljena predstavnicima cetinske kulture, njezin potencijal nije iscrpljen pa namjeravamo provesti daljnja istraživanja u njezinim uvučenijim dijelovima, a i u susjednoj špilji Tamnici. Ulaz u obje špilje pruža odličan pogled na samu rijeku Cetinu, što se može uzeti kao važan strateški faktor.

ADDENDUM: OSTEOLOŠKA ANALIZA ANIMALNIH OSTATAKA S NALAZIŠTA ŠPILJA CRVENKUŠA, CETINSKA DOLINA (AUTOR: PROF. DR. SC. ZDRAVKA HINCAK)

Analizom je obuhvaćen animalni koštani materijal s nalazišta Crvenkuša na području cetinske doline. Istraživanje je provedeno u listopadu 2016. i 2017. godine, u sklopu projekta *Cetina Valley Survey* (*CeVaS*), voditeljice H. Tomas. Svi analizirani uzorci potječu iz istog (površinskog) sloja.

Analiza materijala izvršena je na Katedri za arheometriju i metodologiju Filozofskog fakulteta Sveučilišta u Zagrebu, uz uporabu komparativne osteološke zbirke. Mikroskopske snimke ureza na kostima učinjene su

65 Vidi bilj. 48.
66 Vidi bilj. 17.
67 E. Borgna, P. Càssola Guida 2007; 2009.
68 E. Borgna, P. Càssola Guida 2007, 199–200; 2009, 91–92.
69 Egejska brončanodobna kronologija može se naći u H. Tomas 2016, 10–11.
70 Vidi diskusiju u Ballan 2014, 54,186–187; 2017.

were certainly placed in the graves in order to convey the high social status of the deceased.

As regards the metal objects from the Cetina culture tumuli, the circumstances of their discovery are not well-documented.[65] If we were to draw a provisory line connecting the Greek sites where Cetina culture pottery was found, this line would clearly lead to Lavrion mine in Southern Attica – the biggest Greek mine exploited in the prehistoric period and a convincing reason for the Cetina culture communities to establish contacts with these Greek sites.[66] According to some Italian archaeologists, these contacts could have caused the expansion of the stone tumulus tradition from the Adriatic to Greece at the end of the Early Bronze Age and in the beginning of the Middle Bronze Age.[67] For this reason, the contacts between Greece and Cetina Valley were not necessarily focused only on exchange of goods, but also on exchange of ideas. Borgna and Càssola Guida speculate that the tradition of stone tumulus burials could have been a result of the Early Bronze Age contacts between Cetina and Greek cultures that had originally been established for the purpose of importing Greek metal ore to the Cetina culture sites.[68] Indeed, some authors also consider the possibility that, in the Early Helladic I-II periods (around 2700 BC),[69] the people from the Cetina culture communities settled on the island of Lefkas and in the Northwestern Peloponnese.[70]

We mentioned in the introduction that the Cetina culture communities lived in various types of settlements: in the open (sometimes in pile dwellings) and in caves. While the trial excavations in Crvenkuša Cave described in this paper have not yet yielded evidence that the Cetina culture people lived in it, the cave's potential for further research has not been exhausted. We intend to carry out additional excavations in the more remote parts of the cave and also in the nearby Tamnica Cave. The entrance to both caves commands a great view of the River Cetina, which can be considered as an important strategic factor.

ADDENDUM: OSTEOLOGICAL ANALYSIS OF THE ANIMAL REMAINS FROM CRVENKUŠA CAVE IN CETINA VALLEY (AUTHOR: PROF. ZDRAVKA HINCAK, PhD)

The analysis was carried out on the animal osteological material excavated at Crvenkuša site in Cetina Valley in October 2016 and 2017, as part of the *Cetina Valley Survey (CeVaS)* Project led by H. Tomas. All the analyzed samples come from the same (surface) layer.

The analysis was carried out at the Chair of Archaeometry and Methodology of the Faculty of Humanities and

65 See n. 48.
66 See n. 17.
67 E. Borgna, P. Càssola Guida 2007; 2009.
68 E. Borgna, P. Càssola Guida 2007, 199–200; 2009, 91–92.
69 For the Aegean Bronze Age chronology, see H. Tomas 2016, 10–11.
70 See discussion in Ballan 2014, 54,186–187; 2017.

komparativnom lupom (Leica FSM) u Centru za forenzična ispitivanja, istraživanja i vještačenja „Ivan Vučetić", jedinici Ravnateljstva policije Ministarstva unutarnjih poslova Republike Hrvatske, uz vodstvo doc. dr. sc. Gordana Mršića i dipl. ing. Darka Tomašeka. Makroskopske fotografije uzoraka snimila je autorica Z. Hincak digitalnom kamerom (Olympus C-Zoom 5050).

Na materijalu je izvedena makroskopska analiza anatomske i taksonomske pripadnosti svakog uzorka (D. L. France 2010; König, Liebich 2009; A. Cohen, D. Serjeantson 1996; B. M. Gilbert *et al*. 1996; S. Hillson 1992; Schmid 1972).

Rezultati

Analizom je obuhvaćeno 86 koštanih i zubnih ostataka životinja iz jednog stratigrafskog sloja na nalazištu (riječ je o površinskom sloju), od toga 15 ostataka zuba te 71 koštani ostatak. Uzorci su srednjeg stupnja očuvanosti, dok potpuno očuvani uzorci obuhvaćaju čak 20,9 % cjelokupnog materijala.

Rezultati postotne zastupljenosti pojedinih životinjskih vrsta (Graf 1) prikazuju najbrojnije ostatke malih preživača, ovaca i koza (*Ovis aries*, *L*., *Capra hircus*, *L*.), odnosno ovce (*Ovis aries*, *L*.) sa 72,1 %. Drugi prema postotku zastupljenosti su ostatci psa (*Canis lupus familiaris*, *L*.) sa 11,6 %. Slijede malobrojni koštani ostatci običnog jelena (*Cervus elaphus*, *L*.) sa 7 %, domaće svinje (*Sus scrofa domestica*, *L*.) sa 5,8 % te domaće kokoši (*Gallus gallus domesticus*, *L*.) sa 3,5 %.

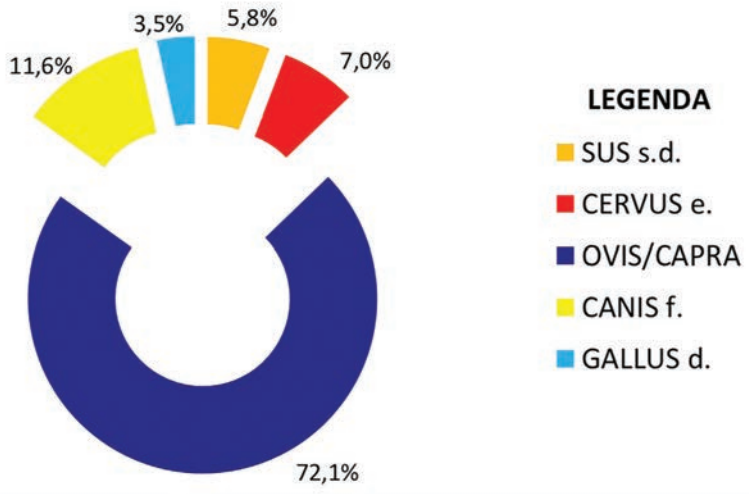
Social Sciences in Zagreb, using the comparative osteological collection. The microscopic images of incisions on the bones were made using a Leica FSM forensic comparison macroscope. It was done in Ivan Vučetić Forensic Science Centre at the Police Directorate of the Ministry of Interior of the Republic of Croatia, under the leadership of Assistant Professor Gordan Mršić, PhD and Darko Tomašek, B.Sc. The macroscopic photographs of the samples were made by the author, Z. Hincak, using Olympus C-Zoom 5050 digital camera.

Anatomic and taxonomic analyses of each sample were carried out (D. L. France 2010; König, Liebich 2009; A. Cohen, D. Serjeantson 1996; B. M. Gilbert et al. 1996; S. Hillson 1992; Schmid 1972).

Results

The analysis included 86 skeletal and dental remains of animals from the surface layer at the site – specifically, 71 skeletal remains and 15 dental remains. The samples are of a medium degree of preservation; fully preserved samples account for as much as 20.9% of the osteological material.

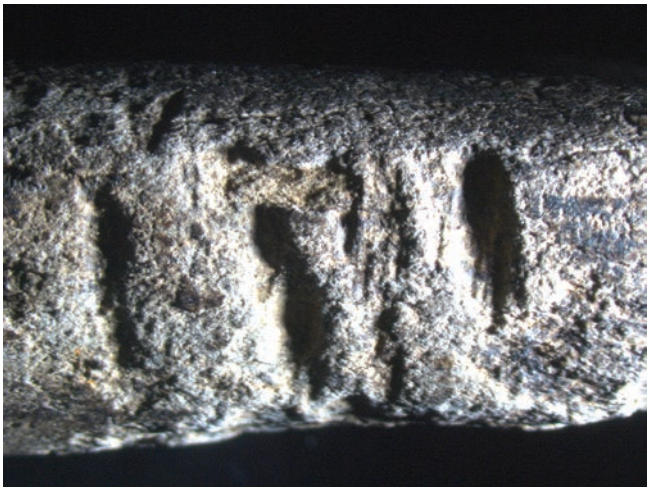
As shown in Chart 1, the remains of small ruminants – sheep and goats (*Ovis aries, L., Capra hircus, L.*) – account for most of the remains found: 72.1%. The second most numerous are the remains of the dog (*Canis lupus familiaris, L.* – 11.6%), followed by those of the red deer (*Cervus elaphus, L.* – 7%), domestic pig (*Sus scrofa domestica, L.* – 5.8%) and domestic chicken (*Gallus gallus domesticus, L.* – 3.5%).



Grafikon 1. Rezultati postotne zastupljenosti pojedinih životinjskih vrsta sakupljenih u špilji Crvenkuši
Chart 1. Percentages of individual species in the animal remains found in Crvenkuša Cave
izradila / made by: **Z. Hincak**

Legenda: Sus s. d. – domaća svinja (*Sus scrofa domestica, L.*), Cervus e. – običan jelen (*Cervus elaphus, L.*), OVIS/CAPRA – mali preživači, ovca i koza (*Ovis aries, L., Capra hircus, L.*), CANIS f. – pas (*Canis familiaris, L.*), GALLUS d. – domaća kokoš (*Gallus gallus domesticus, L.*)
Legend: Sus s.d.- domestic pig (*Sus scrofa domestica, L.*), Cervus e.- red deer (*Cervus elaphus, L.*), OVIS/CAPRA- small ruminants, sheep and goat (*Ovis aries, L., Capra hircus, L.*), CANIS f.- dog (*Canis familiaris, L.*), GALLUS d.- domestic chicken (*Gallus gallus domesticus, L.*)

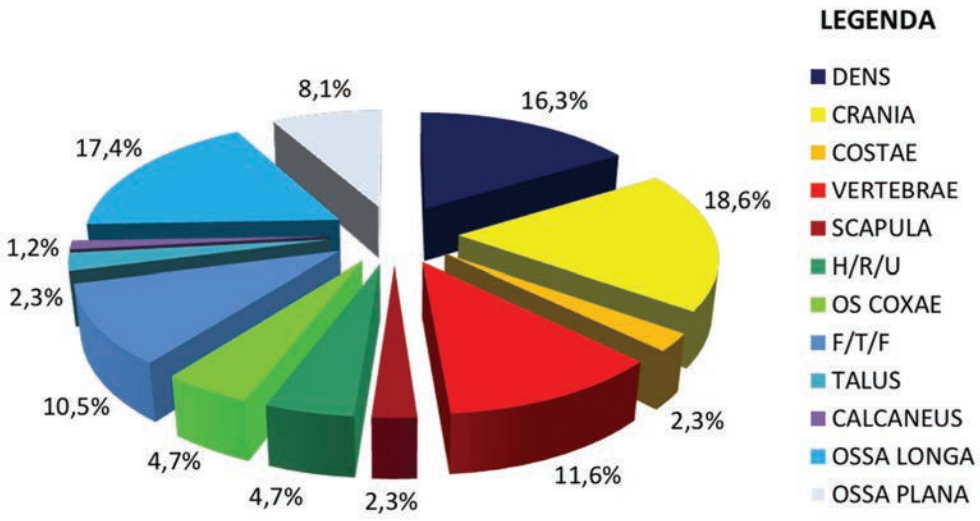
Slika 8. Detalj (10 x): urezi na lijevoj nadlaktičnoj kosti (*Ovis aries, L.*)
Figure 8. Detail (10x): incisions on left humerus (*Ovis aries*, L.)
foto / photo: **D. Tomašek**



Slika 9. Detalj (20 x): urezi na desnoj goljeničnoj kosti
Figure 9. Detail (20x): incisions on right tibia
foto / photo: **D. Tomašek**

Najmanji broj jedinki (MNI) u istraživanom sloju iznosi šest. Dvije jedinke ovce utvrđene su prema dva očuvana fragmenta distalne lijeve goljenice (*tibia*). Ostale životinjske vrste prisutne su s jednom jedinkom: domaća svinja (MNI) određena je prema fragmentu distalne nadlaktične kosti (*humerus*), jelen (MNI) određen je prema očuvanom prvom vratnom kralješku (*atlas*), pas (MNI) određen je prema drugom vratnom kralješku (*axis*) i domaća kokoš (MNI) određena je prema očuvanoj lijevoj natkoljeničnoj kosti (*femur*).

The minimum number of individuals (MNI) in the layer explored is six. Two sheep units were determined on the basis of two preserved fragments of a left distal shin bone (*tibia*). Other animal species are each represented by a single individual: domestic pig's MNI was determined by a fragment of a distal humerus; the deer's MNI was determined by a preserved first cervical vertebra (*atlas*); the dog's MNI was determined by a second cervical vertebra (*axis*); and a preserved femoral bone determinated chicken's MNI.



Grafikon 2. Postotna zastupljenost pojedinih anatomskih elemenata otkrivenih u špilji Crvenkuši
Chart 2. Percentages of individual anatomic elements found in Crvenkuša Cave
izradila / made by: **Z. Hincak**

Legenda: DENS – zub, CRANIA – kosti glave s donjom čeljusti, COSTAE – rebra, VERTEBRAE. – kralješci, SCAPULA – lopatica, H/R/U – kosti nadlaktice i podlaktice (humerus, radius, ulna), OS COXAE – bočna kost, F/T/F – kosti natkoljenice i potkoljenice (femur, tibia, fibula), TALUS – kost gležnja, CALCANEUS – petna kost, OSSA LONGA – duge kosti, OSSA PLANA – plosnate kosti
Legend: DENS- tooth, CRANIA-cranial bones with lower jawbone, COSTAE- ribs, VERTEBRAE. -vertebrae, SCAPULA- shoulder blade, H/R/U- upper and lower forelimb bones (humerus, radius, ulna), OS COXAE- hip bone, F/T/F- upper and lower hindlimb bones (femur, tibia, fibula), TALUS- ankle bone, CALCANEUS- heel bone, OSSA LONGA- long bones, OSSA PLANA- flat bones

Važne podatke pružaju nam postotne zastupljenosti pojedinog anatomskog elementa na nalazištu (Graf. 2). Najbrojniji su nalazi kosti glave (*ossa cranii*) i donje čeljusti (*mandibula*) sa 18,6 % te fragmenti dugih kosti (*ossa longa*) sa 17,4 %. Slijede ostatci zuba sa 16,3 %. Začuđuje tek treće mjesto prema brojnosti fragmenata kralježaka sa 11,6 % te fragmenata natkoljeničnih i potkoljeničnih kostiju sa 10,5 %. Plosnate kosti (*ossa plana*) zastupljene su sa 8,1 %, a obuhvaćaju većinom vrlo sitne ulomke bočne kosti i kosti glave. Ostali elementi prisutni su s manje od 5 % ulomaka: kosti nadlaktice i podlaktice (*humerus*, *radius*, *ulna*) te bočna kost (*os coxae*), svaki s po 4,7 %, fragmenti rebara (*costae*), lopatice (*scapula*) i gležnja (*talus*) s po 2,3 % te petna kost (*calcaneus*) sa 1,2 %. Postotno je moguće podijeliti analizirani materijal u dvije velike skupine, elemente osovinskog i privjesnog kostura. Ostatci osovinskog kostura (*skeleton axiale*) obuhvaćaju 32,5 % uzoraka, dok su ostatci privjesnog kostura (*skeleton appendiculare*) brojniji sa 67,5 %. Ipak, analizirane animalne uzorke nije moguće objasniti kao ostatke prehrane jer je većinom riječ o dijelovima tijela koji se ne koriste u tu svrhu. Ostatci zuba, čeljusti, lubanje i rogova predstavljaju otpatke nakon komadanja mesa.

Tragovi ureza na kostima utvrđeni su na dvije duge kosti malog preživača, najvjerojatnije ovce. Na distalnoj trećini lijeve nadlaktične kosti (*humerus*) odrasle jedinke ovce, na kranijalnoj površini (*facies cranialis*) distalno, vidljiva su tri poprečna ureza koja od proksimalnog prema distalnom kraju mjere: 1 = 7,7 mm, 2 = 12,3 mm, 3 = 7,2 mm. Urezi dodiruju lateralnu površinu (*facies lateralis*). Slika 8 prikazuje detalj ureza snimljen komparativnim mikroskopom, jasno se vide urezi cik-cak redoslijeda, s naizmjeničnim rubovima ureza u tipu „V" i „U", najvjerojatnije zbog skidanja kože s trupla životinje. Na proksimalnoj polovici desne goljenične kosti (*tibia*) prate se tragovi zasijecanja na medijalnoj površini (*facies medialis*): tri kratka i duboka reza koja mjere: 1 = 3 mm, 2 = 5,3 mm, 3 = 4,6 mm. Slika 9 prikazuje detalj ureza snimljen komparativnim mikroskopom, vide se izdvojeni urezi koji podsjećaju na udarce sa zarezivanjem teškim, nedovoljno naoštrenim alatom.

Zbog malog broja uzoraka i visoke fragmentiranosti dugih kostiju nije bilo moguće odrediti raspon prosječne visine za pojedinu životinjsku vrstu.

Percentages of individual anatomic elements in the animal remains found at the site (Chart 2) offer important information. Cranial bones (*ossa cranii*) and lower jawbones (*mandibulae*) account for 18.6%, and fragments of long bones (*ossa longa*) account for 17.4% of all the bones found – more than any other group of bones. They are followed by remnants of teeth (16.3%). Surprising is that vertebra fragments (11.6%) and upper and lower hindlimb bone fragments (10.5%) rank only third. Flat bones (*ossa plana*) account for 8.1%; they mostly include tiny fragments of hip and cranial bones. Other elements each account for less than 5% of the fragments: upper and lower forelimb bones (*humerus, radius, ulna*) and hip bone (*os coxae*) each account for 4.7%; rib (*costae*), shoulder blade (*scapula*) and ankle bone (*talus*) fragments each account for 2.3%, and heel bones (*calcaneus*) account for 1.2%. In terms of percentages, the analyzed material can be divided into two large groups – elements of the axial skeleton and elements of the appendicular skeleton. The former comprises 32.5% of the sample and the latter comprises the remaining 67.5%. Nevertheless, the analyzed animal samples cannot be explained as food remains because they mostly belong to body parts not used for this purpose. The remains of teeth, jaws, skull and horns are the waste left after carving up the meat.

Incisions were found on two long bones belonging to a small ruminant – most likely a sheep. Three transversal incisions (1=7.7 mm, 2=12.3 mm, 3=7.2 mm, extending from the proximal to distal end) can be seen on the distal third of the left upper forelimb bone (*humerus*) of an adult sheep individual, on the distal cranial surface (*facies cranialis*). These incisions come in contact with the lateral surface (*facies lateralis*). The incisions are detailed in Photo No. 8, made with a comparison microscope. A zig-zag pattern can be seen, with alternate V and U-shaped edges – most likely due to skinning the animal. On the proximal half of the right shin bone (*tibia*), traces of cutting can be seen on the medial surface (*facies medialis*): three short and deep cuts (1=3mm, 2=5.3mm, 3=4.6 mm). The incisions are detailed in Photo No. 9, made with a comparison microscope. The detached incisions seem to result from blows and cuts made by a heavy and unsharpened piece of tool.

Due to a small number of samples and highly fragmented condition of long bones, establishing the average height range for each animal species was not possible.

OPIS UZORAKA

1.CeVaS, AT 113, 23. listopada 2017. godine

Životinjska vrsta: domaća svinja (*Sus scrofa domestica*, *L.*)

Doživljena starost: odrasla jedinka (starija od tri godine)

Očuvan je pretkutnjak donje čeljusti (*mandibula*) i dva fragmenta tijela donje čeljusti (*corpus mandibulae*).

Očuvan je fragment rebra (*costa*) i distalna četvrtina desne nadlaktične kosti (*humerus*).

Životinjska vrsta: jelen (*Cervus elaphus*, *L.*)

Doživljena starost: odrasla jedinka

U potpunosti je očuvan prvi vratni kralježak (*atlas*). Očuvan je vratni kralježak s lukom (*arcus vertebrae*) te djelomice tijelom kralješka (*corpus vertebrae*) – ploha površine tijela kralješka nema okrajke (*extremitas cranialis et extremitas caudalis*). Očuvan je fragment luka (*processus articularis caudalis*) posljednjeg prsnog kralješka (*vertebra thoracica*). Očuvan je fragment luka (*processus articularis cranialis*) slabinskog kralješka (*vertebra lumbalis*).

Očuvan je fragment lijeve lopatice (*scapula*) u dijelu kaudalnog, blago konkavnog ruba (*margo caudalis*), koji obuhvaća ventralnu trećinu.

Očuvan je fragment distalne dijafize natkoljenične kosti (*femur*).

Životinjska vrsta: mali preživači – ovca, koza (*Ovis aries*, *L.*, *Capra hircus*, *L.*)

Doživljena starost: mlada i odrasla jedinka

Očuvan je fragment grane i tijela desne donje čeljusti (*ramus mandibulae et corpus mandibulae*) s denticijom: p1, p2 te PM3 koji tek izbija. Doživljena starost jedinke nalazi se u rasponu od godine i pol do dvije godine. Očuvano je jedanaest fragmenata alveolarnog zida donje čeljusti (*mandibula*).

Denticija izvan alveola obuhvaća: M3 donje čeljusti vrlo mlade životinje, pet kutnjaka s tek naznačenim korijenom zuba pri bazi, p1 gornje desne čeljusti (*maxilla*), pretkutnjak koji tek niče i nije u okluzalnoj ravnini. Doživljena starost odgovarala bi životinji između godine i pol do dvije godine starosti.

U potpunosti je očuvan drugi vratni kralježak (*axis*), najvjerojatnije ovce. Očuvan je luk prsnog kralješka (*arcus vertebrae thoracicae*) te tri fragmenta trnastog izdanka različitih kralježaka (*processus spinosus*).

Očuvana je distalna trećina lijeve nadlaktične kosti (*humerus*) odrasle jedinke, najvjerojatnije ovce). Na kranijalnoj površini kosti (*facies cranialis*) distalno vidljiva su tri poprečna ureza koja mjere (od proksimalnog prema distalnom): 1 = 7,7 mm, 2 = 12,3 mm, 3 = 7,2 mm. Urezi dodiruju lateralnu površinu (*facies lateralis*).

DESCRIPTION OF THE SAMPLES

1.CeVaS, AT 113, 23 October 2017

Animal species: domestic pig (*Sus scrofa domestica, L.*)

Age: adult individual (more than three years of age)

A premolar of the lower jaw (*mandibula*) and two fragments of the lower jaw (*corpus mandibulae*) have been preserved.

A fragment of a rib (*costa*) and the distal quarter of the right upper forelimb bone (*humerus*) have been preserved.

Animal species: red deer (*Cervus elaphus, L.*)

Age: adult individual

The first cervical vertebra (*atlas*) has been fully preserved. A cervical vertebra with the vertebral arch (*arcus vertebrae*) and a part of the vertebral body (*corpus vertebrae*) have been preserved; extremities (*extremitas cranialis et extremitas caudalis*) on the surface of the vertebral body have not been preserved. A fragment of the arch (*processus articularis caudalis*) of the last thoracic vertebra (*vertebra thoracica*) has been preserved. A fragment of the arch (*processus articularis cranialis*) of a lumbar vertebra (*vertebra lumbalis*) has been preserved.

A fragment of the left shoulder blade (*scapula*) in a part of a slightly concave caudal border (*margo caudalis*) extending over the ventral third has been preserved.

A fragment of the distal diaphysis of an upper hindlimb bone (*femur*) has been preserved.

Animal species: small ruminants: sheep, goat (*Ovis aries, L., Capra hircus, L.*)

Age: young and an adult individual

A fragment of the mandibular corpus and ramus of the lower jaw (*ramus mandibulae et corpus mandibulae*) has been preserved (with dentition: p1, p2 and PM3 just cropping up). The individual age was between 1.5 to 2 years. Eleven fragments of the alveolar ridge of the lower jaw (*mandibula*) have been preserved.

The dentition outside alveolae includes: M3 of the lower jaw of a very young animal; five molars with a trace of tooth root at the base; p1 of the right maxilla; and a molar which is just cropping up and is not in the occlusal plane. This indicates an animal of 1.5 to 2 years of age.

The second cervical vertebra (*axis*), most likely of a sheep, has been fully preserved. The arch of a thoracic vertebra (*arcus vertebrae thoracicae*) and three fragments of the spinous processes (*processus spinosus*) of various vertebrae have also been preserved.

The distal third of the left upper forelimb bone (*humerus*) of an adult individual – most likely a sheep – has been preserved. Three transversal incisions

Očuvan je fragment tijela rebra (*corpus costae*). Očuvana je lijeva lopatica (*scapula*) vrlo mlade jedinke.

Očuvana je proksimalna trećina lijeve lakatne kosti (*ulna*) mlađe životinje, najvjerojatnije ovce. Proksimalna trećina lijeve palčane kosti (*radius*) odrasle jedinke najvjerojatnije je pripadala ovci.

Očuvan je fragment zglobne čašice lijeve bočne kosti (*acetabulum*) s dijelom polumjesečaste površine (*facies lunata*) i fragmentom sjedne kosti (*os ischium*). Očuvan je fragment čašice desne bočne kosti (*acetabulum*) s dijelom polumjesečaste površine (*facies lunata*) i fragmentom crijevne kosti (*os ilium*).

Očuvana je proksimalna četvrtina desne natkoljenične kosti (*femur*) mlade životinje, najvjerojatnije ovce. Doživljena starost jedinke nalazi se u rasponu od godine i pol do dvije godine.

Očuvana je distalna trećina lijeve natkoljenične kosti (*femur*).

Očuvana je proksimalna polovica desne goljenične kosti (*tibia*) s tragovima zasijecanja na medijalnoj površini (*facies medialis*). Uočavaju se tri kratka reza koja mjere: 1 = 3 mm, 2 = 5,3 mm, 3 = 4,6 mm (Sl. 8). Detalj (20 x): urezi na desnoj goljeničnoj kosti (*tibia*), mali preživač (*Ovis aries*, *L*., *Capra hircus*, *L*.), Rumin (foto: D. Tomašek, Centar „Ivan Vučetić“).

Očuvana je distalna polovica lijeve goljenične kosti (*tibia*), distalna trećina lijeve goljenične kosti te distalni dio desne goljenične kosti.

U potpunosti je očuvana desna petna kost (*calcaneus*) te lijeva i desna kost gležnja (*talus*) odrasle jedinke.

Očuvano je devet sitnih fragmenata dugih kostiju i sedam fragmenata plosnatih kostiju.

Životinjska vrsta: pas (*Canis lupus familiaris*, *L*.)

Doživljena starost: odrasla jedinka (starija od šest godina)

Očuvan je dio lubanje (*neurocranium*): vrlo kratki fragment čeone kosti (*os frontale*), obje potpuno očuvane tjemene kosti (*os parietale*), djelomice očuvane sljepoočne kosti (*os temporale*), u potpunosti očuvana zatiljna kost (*os occipitale*).

U potpunosti je očuvan drugi vratni kralježak (*axis*) te gotovo u potpunosti desna bočna kost (*os coxae*), dok je lijeva bočna kost očuvana u dvije trećine kosti.

Očuvan je fragment dijafize lijeve natkoljenične kosti (*femur*) te pet fragmenata duge kosti (*ossa longa*).

Životinjska vrsta: domaća kokoš (*Gallus gallus domesticus*, *L*.)

Doživljena starost: odrasla jedinka

U potpunosti je očuvana lijeva natkoljenična kost (*femur*) te proksimalna polovica desne natkoljenične kosti (Sl. 10) te kratki fragment dijafize duge kosti (*os longum*).

(1=7.7 mm, 2=12.3 mm, 3=7.2 mm, extending from the proximal to distal end) can be seen on the distal cranial surface (*facies cranialis*) of the bone. These incisions come in contact with the lateral surface (*facies lateralis*).

A fragment of the body of a rib (*corpus costae*) has been preserved. The left shoulder (*scapula*) of a very young individual has also been preserved.

The proximal third of a left elbow bone (*ulna*) of a young animal – most likely a sheep – has been preserved. The proximal third of a left radius of an adult animal – most likely a sheep – has been preserved.

A fragment of the socket (*acetabulum*) of the left hip bone with a part of the lunate surface (*facies lunata*) and a fragment of the ischium (*os ischium*) have been preserved. A fragment of the socket (*acetabulum*) of the right hip bone with a part of the lunate surface (*facies lunata*) and a fragment of the ilium (*os ilium*) have been preserved.

The proximal quarter of the right upper hindlimb bone (*femur*) of a young animal – most likely a sheep – has been preserved. The age of the individual ranged from 1.5 to 2 years.

The distal third of the left upper hindlimb bone (*femur*) has been preserved.

The proximal half of the right lower hindlimb bone (*tibia*) has been preserved. Traces of cutting can be seen on the medial surface (*facies medialis*): three short and deep cuts (1=3mm, 2=5.3mm, 3= 4.6 mm) (Fig. 8). Detail (20x): incisions on the right hindlimb bone (*tibia*) of a small ruminant (*Ovis aries, L*., *Capra hircus, L*.), Rumin (photo by D. Tomašek, Ivan Vučetić Forensic Science Center).

The distal half of a right lower hindlimb bone (*tibia*), distal third of a left tibia and distal part of a right tibia have been preserved.

The right heel bone (*calcaneus*) and the left and right ankle bones (*talus*) of an adult individual have been preserved.

Nine tiny fragments of long bones and seven fragments of flat bones have bee preserved.

Animal species: dog (*Canis lupus familiaris, L*.)

Age: adult individual (of more than 6 years of age)

A part of the skull (*neurocranium*) has been preserved: very short fragments of a frontal bone (*os frontale*); both parietal bones (*os parietale*) – fully preserved; temporal bones (*os temporale*) – partially preserved; and an occipital bone (*os occipitale*) – fully preserved.

Th second cervical vertebra (*axis*) has been fully preserved. The right hip bone (*os coxae*) has been almost fully preserved. Two thirds of the left hip bone have been preserved. A fragment of the diaphysis of a left upper hindlimb bone (*femur*) has been preserved. Five

Slika 10. Lijeva natkoljenična kost (*femur*) domaće kokoši (*Gallus gallus domesticus, L.*)
Figure 10. Left upper leg bone (*femur*) of domestic chicken (*Gallus gallus domesticus, L.*)
foto / photo: **Z. Hincak**

fragments of a long bone (*ossa longa*) have also been preserved.

Animal species: domestic chicken (Gallus gallus domesticus, L.)
Age: adult individual
The left upper leg bone (*femur*) has been fully preserved. The proximal half of the right upper leg bone (Fig. 10) has been preserved. A short fragment of the diaphysis of the long bone (*os longum*) has been preserved.

Literatura / Bibliography

Baković, M. 2011 – *The princely tumulus Gruda Boljevića Podgorica, Montenegro*. U: E. Borgna and S. Müller Celka (eds), Ancestral Landscapes. Burial Mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th-2nd Millennium B.C.), 376–381. Lyon, Maison de l'Orient et de la Méditerranée.

Baković, R., Pleše, D., Buzjak, N. 2010 – Speleološka ekspedicija „Vrdovo 2007." *Subterranea Croatica* 10, 3–10.

Ballan, E. 2014 – La *diffusione della ceramica decorata in area adriatica* e *balcanica occidentale nell'ultimo quarto dell III millennio a.C.*, unpublished PhD thesis, University of Venice, Venice, 2014.

Ballan, E. 2017 – *The decorated pottery of the Adriatic and western Balkan areas in the last quarter of the 3rd millennium BC: continuity, discontinuity and duggestion of dating*. In M. Fotiadis, R. Laffineur, Y. Lolos and A. Vlachopoulos (eds), Hesperos. The Aegean seen from the West. Proceedings of the 16th International Aegean Conference, University of Ioannina, 18-21 May 2016 (Aegaeum 41), 235–242. Leuven, Peeters.

Bojanovski, I. 1974 – Dolabelin sistem cesta u rimskog provinciji Dalmaciji, *Djela Centra za balkanološka ispitivanja* XLVII), Sarajevo, Akademija nauka i umjetnosti Bosne i Hercegovine.

Borgna, E., Càssola Guida, P. 2007 – *At the fringe of the tumulus culture: Bronze Age tumuli of north-eastern Italy between Europe and the Aegean*. In I. Galanaki, H. Tomas, Y. Galanakis and R. Laffineur (eds), Between the Aegean and Baltic Seas: Prehistory across Borders (Aegaeum 27) 191–201. Liège and Austin, Université de Liège – University of Texas at Austin.

Borgna, E., Càssola Guida, P. 2009 – *Seafarers and land-travellers in the Bronze Age of the northern Adriatic*. In S. Forenbaher (ed.), A Connecting Sea: Maritime Interaction in Adriatic Prehistory (British Archaeological Reports, International Series 2037), 89–104. Oxford, Archaeopress.

Della Casa, Ph. 1995 – The Cetina group and the transition from Copper to Bronze Age in Dalmatia, *Antiquity* 69, 565–576.

Dimitrijević, S. 1979 – Vučedolska kultura i vučedolski kulturni kompleks. U: A. Benac (ed.), Praistorija jugoslavenskih zemalja III. Eneolitsko doba, 267–341. Sarajevo, Akademija nauka i umjetnosti Bosne i Hercegovine

Forenbaher, S. 2018 – Special Place, Interesting Times. The Island of Palagruža and Transitional Periods in Adriatic Prehistory. Oxford: Archaeopress.

Forenbaher, S. 2018a – Ljubljana i Cetina: lončarski stilovi 3. tisućljeća prije Krista na prostoru istočnoga Jadrana / Ljubljana and Cetina: Pottery Styles of the Third Millennium BC in the Eastern Adriatic *Prilozi Instituta za arheologiju* 35, 113–157.

Forenbaher, S. 2023 – *Rane grobne gomile na Jadranu. Raznnolikost pogrebnih običaja u 3. tis. pr. Kr.* (u tisku).

Gale, N. H. 1980 – Some aspects of lead and silver mining in the Aegean, in: Ch. Doumas (ed.), *Thera and the Aegean World II. Papers Presented at the Second InternationalScientific Congress, Santorini, Greece, August 1978,* London, 1980, 161–195.

Gori, M., Recchia, G., Tomas, H. 2018 – The Cetina phenomenon across the Adriatic during the 2nd half of the 3rd millennium BC: new data and research perspectives, in: A. Gravina (ed.), *Atti del 38° Convegno Nazionale di Studi sulla Preistoria, Protostoria e Storia della Daunia,* San Severo, 61–78.

Govedarica, B. 1989 – Rano bronzano doba na području istočnog Jadrana (Centar za balkanološka ispitivanja, Djela 7). Sarajevo, Akademija nauka i umjetnosti Bosne i Hercegovine.

Govedarica, B. 1991 – Hronološki položaj i porijeklo violinskih idola iz Štoja. U: B. Čović (ed.), Zbornik radova posvećenih akademiku Alojzu Bencu, Sarajevo, Akademija nauka i umjetnosti Bosne i Hercegovine, 105–112.

Guštin, M. 2006 – The first rulers between the Aegean and Adriatic seas. U: A. Durman (ed.), Symbol of God and King. The First European Rulers, 87–98. Zagreb, Galerija Klovićevi dvori.

Heyd, V. 2013 – Europe at the dawn of the Bronze Age. In V. Heyd, G. Kulcsár and V. Szeverényi (eds.), Transitions to the Bronze Age. Interregional Interaction and Socio-Cultural Change in the Third Millennium BC Carpathian Basin and Neighbouring Regions, 9–66. Budapest, Archaeolingua Alapítvány.

Heyd, V. 2013a – Europe 2500 to 2200 BC: between expiring ideologies and emerging complexity. In H. Fokkens and A. Harding (eds), The Oxford Handbook of the European Bronze Age, 47–67. Oxford, Oxford University Press.

Jubani, B. 1992 – Gërmime në tumat nr. 2 e 3 të Fushës së Shtojit (Fouilles des tumulus 2 et 3 de la plaine de Shtoi), *Iliria* 22/1–2, 23–58.

Jurin Starčević, K. 2006 – Islamsko-osmanski gradovi dalmatinskog zaleđa: prilog istraživanju urbanog razvoja u 16. i 17. stoljeću, *Radovi Zavoda za hrvatsku povijest* 38, Zagreb, 113–154.

Kaiser, T., Forenbaher, S. 1999 – Adriatic Sailors and Stone Knappers: Palagruža in the 3rd Millennium BC. *Antiquity* 73 (280), 313–324.

Kilian-Dirlmeier, I. 2005 – Die bronzezeitlichen Gräber bei Nidri auf Leukas: Ausgrabungen von W. Dörpfeld 1903-1913 (Römisch-Germanisches Zentralmuseum Monographien, Band 62). Mainz, Römisch-germanisches Zentralmuseum.

Koka, A. 1985 – Kultura e varrezës tumulare të Shtojit. Iliria 15/2, 241–250.

Librenjak, A. (ed.) 2011 – Rimska vojska u procesu romaniziranja provincije Dalmacije. Arheološka istraživanja u Cetinskoj Krajini. Radovi kolokvija. Zagreb: Hrvatsko arheološko društvo.

Ložnjak–Dizdar, D., Potrebica, H. 2017 – Brončano doba Hrvatske u okviru srednje i jugoistočne Europe, Zagreb: Meridijani.

Malez, M. 1955 – Neke pećine i jame duž Cetine. *Geografski glasnik*, XVI-XVII, 39–59.

Malez, M. 1958 – Pećine, jame i ponori Biteličke krške zaravni. *Geološki vjesnik*, XI, 101– 122.

Malez, M. 1969 – Neki značajniji speleološki objekti s vodom u kršu i njihov praktični značaj. *Krš Jugoslavije*, 6, 105–136.

Maran, J. 1986 – Überlegungen zur Abkunft der FH III-zeitlichen ritz- und einstichverzierten Keramik, Hydra-Working Papers in Middle Bronze Age Studies 2, 1–28.
Maran, J. 1998 – Kulturwandel auf dem griechischen Festland und den Kykladen im Späten 3. Jahrtausend v. Chr. Studien zu den kulturellen Verhältnissen in Südosteuropa und dem zentralen sowie östlichen Mittelmeerraum in der späten Kupfer- und frühen Bronzezeit (Universitätforschungen zur Prähistorischen Archäologie 53). Bonn, Dr. Rudolf Habelt GmbH.
Maran, J. 2007 – Sea-Borne contacts between the Aegean, the Balkans and the Central Mediterranean in the 3rd millennium BC: The unfolding of the Mediterranean world. In I. Galanaki, H. Tomas, Y. Galanakis and R. Laffineur (eds.) Between the Aegean and Baltic Seas. Prehistory across Borders (Aegaeum 27), 3–21. Liège and Austin, Université de Liège – University of Texas at Austin.
Marović, I. 1963 – Iskopavanja kamenih gomila oko vrela rijeke Cetine Cetine god. 1953., 1954. i 1958., *Vjesnik za arheologiju i historiju dalmatinsku* 61, 5–80.
Marović, I. 1976 – Rezultati dosadašnjih istraživanja kamenih gomila oko vrela rijeke Cetine u god. 1953., 1954., 1958., 1966. i 1968. *Materijali XII*. IX kongres arheologa Jugoslavije, Zadar 1972. Zadar, Hrvatsko arheološko društvo [i] Savez arheoloških društava Jugoslavije, 1976. str. 55–75
Marović, I. 1979 – Rezultati arheološkog sondiranja u Gospodskoj pećini kod vrela Cetine. *Vjesnik za arheologiju i historiju dalmatinsku* LXXII-LXXIII, 13–50.
Marović, I. 1991 – Istraživanja kamenih gomila Cetinske kulture u srednjoj Dalmaciji. *Vjesnik za arheologiju i historiju dalmatinsku* 84, 15–214.
Marović, I., Čović, B. 1983 – „Cetinska kultura", u: A. Benac (ur.), Praistorija jugoslavenskih zemalja IV. Bronzano doba, Sarajevo, 191–231.
Milošević, A. 1998 – *Arheološka topografija Cetine*. Split, Muzej hrvatskih arheoloških spomenika.
Milošević, A. 2009 – Pons Tiluri, *Histria antiqua* 17, 168–182.
Milošević, A. 2017 – *Arheologija Sinjskog polja*. Muzej hrvatskih arheoloških spomenika, Split.
Nicolis, F. 2005 – Long distance cultural links between northern Italy, the Ionian islands and the Peloponnese in the last centuries of the 3rd Millennium BC, In: R. Laffineur and E. Greco (eds.), Emporia. Aegeans in Central and Eastern Mediterranean. Proceedings of the 10th International Aegean Conference (Aegaeum 25), 527–538. Liège and Austin, Université de Liège – University of Texas at Austin.
Oikonomidis, S., Papayiannis, A., Tsonos, A. 2011 – The emergence and the architectural development of the tumulus burial custom in NW Greece (Epirus and the Ionian islands) and Albania and its connections to the settlement organization. In E. Borgna and S. Müller Celka (eds), Ancestral Landscapes. Burial Mounds in the Copper and Bronze Ages (Central and Eastern Europe – Balkans – Adriatic – Aegean, 4th-2nd Millennium B.C.), 185–201. Lyon, Maison de l'Orient et de la Méditerranée.
Parović-Pešikan, M. 1976 – Najnovija istraživanja u Boki Kotorskoj s posebnim osvrtom na problem ilirskih i predilirskih veza s Egejom. U: Š. Batović (ed.), IX kongres arheologa Jugoslavije, Zadar 1972 (Materijali 12), 77–88. Zadar, Hrvatsko arheološko društvo.
Parović-Pešikan, M., Trbuhović, V. 1974 – Iskopavanja tumula ranog bronzanog doba u Tivatskom polju. *Starinar* 22, 129–141.
Primas, M. 1992 – Velika Gruda. Ein Grabhügel des 3. und 2. Jahrtausends v. Chr. in Montenegro, Archäologisches Korrespondenzblatt 22, 47–55.
Primas, M. 1996 – Velika Gruda I. Hügelgräber des frühen 3. Jahrtausends v. Chr. im Adriagebiet–Velika Gruda, Mala Gruda und ihr Kontext (Universitätforschungen zur prähistorischen Archäologie 32). Bonn, Dr. Rudolf Habelt GmbH.
Rambach, J. 2007 – Olympia and Andravida-Lechaina: Two Bronze Age sites in the northwest Peloponnese with far-reaching overseas cultural connections. In I. Galanaki, H. Tomas, Y. Galanakis and R. Laffineur (ed.), Between the Aegean and Baltic Seas. Prehistory across Borders (Aegaeum 27), 81–90. Liège and Austin, Université de Liège – University of Texas at Austin.
Sanader, M. 2003 – *Tilurium I. Istraživanja 1997–2001*. Zagreb, Arheološki zavod Filozofskog fakulteta u Zagrebu.
Sanader, M. 2004 – *Ancient Greek and Roman Cities in Croatia*. Zagreb, Školska knjiga.
Sanader, M., Tončinić, D., Šimić-Kanaet, Z., Buljević, Z., Ivčević, S. 2018 – *Tilurium V. Arheološka istraživanja 2010. – 2018. godine.* Arheološki zavod Odsjeka za arheologiju Filozofskog fakulteta Sveučilišta u Zagrebu, FF Press.
Saveljić Bulatović, L., Lutovac, P. 2003 – *The Golden Age of Montenegro*. Podgorica, Muzeji i galerije Podgorice.
Spitaels, P. 1984 – The Early Helladic period in mine no. 3 (theatre sector). In: H. F. Mussche, J. Bingen, J. Servais and P. Spitaels (eds), Thorikos VIII, 1972–1976. Rapport préliminaire sur les 9e, 10e, 11e et 12e campagnes de fouilles, 151–174. Gent: Comité des fouilles belges en Grèce.
Tomas, H. 2017 – Early Bronze Age sailors of the eastern Adriatic: the Cetina Culture and its impact. In: M. Fotiadis, R. Laffineur, Y. Lolos & A. Vlachopoulos (eds), *Hesperos. The Aegean seen from the West. Proceedings recchiaof the 16th International Aegean Conference, University of Ioannina, 18-21 May 2016*, Leuven–Liège, 2017, 215–222.
Tomas, H. 2020 – Cetina Valley – an ancient pathway of communication. In: J. Maran, R. Bajenaru, S.-C. Ailincai, D. Papescu& S. Hansen (eds.) *Objects, Ideas and Travellers. Contacts between the Balkans, the Aegean and Western Anatolia during the Bronze and Early Iron Age. Conference to the Memory of Alexander Vulpe*, RudolphTulcea, Romania, November 2017 Bonn:Rudolph Habelt GmbH, 53–63.
Weege, F. 1911 – Einzelfunde von Olympia 1907-1909, Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung 36, 163–192.
Zaninović, M. 2007 – *Ilirsko pleme Delmati*. Šibenik: Ogranak Matice hrvatske.

Zaninović, M. 2015 – *Ilirski ratovi*. Zagreb: Školska knjiga.
Zekan, M. 1969 – Novi arheološki nalazi u pećinama srednje Dalmacije. *Vjesnik za arheologiju i historiju dalmatinsku*, LXX– LXXI (1968-1969), Split 1969, 137–147.

Addendum

Cohen, A., Serjeantson, D. 1996 – *A Manual for the Identification of Bird Bones from Archaeological Sites*. Archetype Publications Ltd., London.
France, D. L. 2010 – *Human and Nonhuman Bone Identification. A Concise Field Guide*. CRC Press, Taylor & Francis, Boca Raton.
Gilbert, B. M., Martin, L. D., Savage, H. G. 1996 – *Avian Osteology*. Missouri Archaeological Society, Springfield.
Hillson, S. 1992 – Mammal Bones and Teeth: An Introductory Guide to Methods of Identification. University College London, London.
Nickel, R., Schummer, A., Seiferle, E. 1977 – The Anatomy of Domestic Mammals: The Locomotor System of the Domestic Mammals. Verlag Paul Parey, Berlin.
Von den Driesch, A. 1976 – A Guide to the Measurement of Animal Bones from Archaeological Sites.Harvard University Press, Massachussets.