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Osteological finds from Early Iron Age hillfort of Vis: faunal remains and bone artefacts

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Abstract: The site of Vis is situated in northern Bosnia, in a vicinity of present-day town of Derventa. In period 1957-1959, Z. Marić conducted several archaeological campaigns and investigated approximately 120 m². The prehistoric settlement at Vis encompassed an area of more than 8000 m², and can be dated into the Early Iron Age, approximately from 10th century to late 9th century BC. Z. Marić defined two main phases, Vis I-II. Excavations were subsequently carried out on one of terrace/suburbia below Vis hillfort. In this paper will be presented the analyses of osteological remains – faunal remains as well as few bone artefacts. These were collected selectively during excavations; however, some data can be extracted. Faunal remains included mainly larger, identifiable or complete bones (phalanges, teeth, metapodial bones, etc.). Most of them were identified, and belong to pig, cattle, sheep, goat, red deer, wild swine. Numerous red deer and one roe deer antler were discovered. Assemblage of osseous objects included several tools made from cattle ulnae, as well as one interesting find of a possible protective plate, part of protective equipment for archers.

Key words: Vis, hillfort, bone artefacts, Northern Bosnia, faunal remains.

The site of Vis

Vis is one of the most important prehistoric stratified sites in Bosnia¹. The prehistoric settlement at Vis was established on the large plateau by Veličanka river in Modran near Derventa in Northern Bosnia². Such position of the settlement enabled easier communication between communities in the area and gave good visual contact in case of attack. Internal settlement organization is divided into two living area; one on the central hillfort plateau and the other on terrace below, suburbia. Large part of late prehistoric settlement on hillfort has been almost completely destroyed by ploughing, on the other hand archaeological excavations have revealed exceptionally well preserved archaeological lay-

ers on the lower terrace³ (Fig. 1.). From 1957-1959 Z. Marić, curator from National museum in Sarajevo, conduct archaeological excavations⁴. During these campaigns Z. Marić investigated some 120 m² and discovered a very rich cultural layer dating from the early Iron Age or Ha B1 and Ha B2/B3 period. Most common finds from settlement are fragments of different pottery vessels⁵. Such considerable quantity of pottery is not surprising since pottery production was one of the most important activities of the settlement inhabitants. Pottery fragments discovered in the settlement belonged to the vessels for everyday use. The pottery material from Vis is a local production of rather uniform quality and technology of manufacture. Metal objects are rarely found

¹ Čović 1965, 40-41; Gavranović 2011, 9-10.

² Marić 1964, 151.

³ Marić 1964, 151.151-152; Belić 1964, 22-23.

⁴ Marić 1964, 151-153.

⁵ Marić 1964, 157-159.

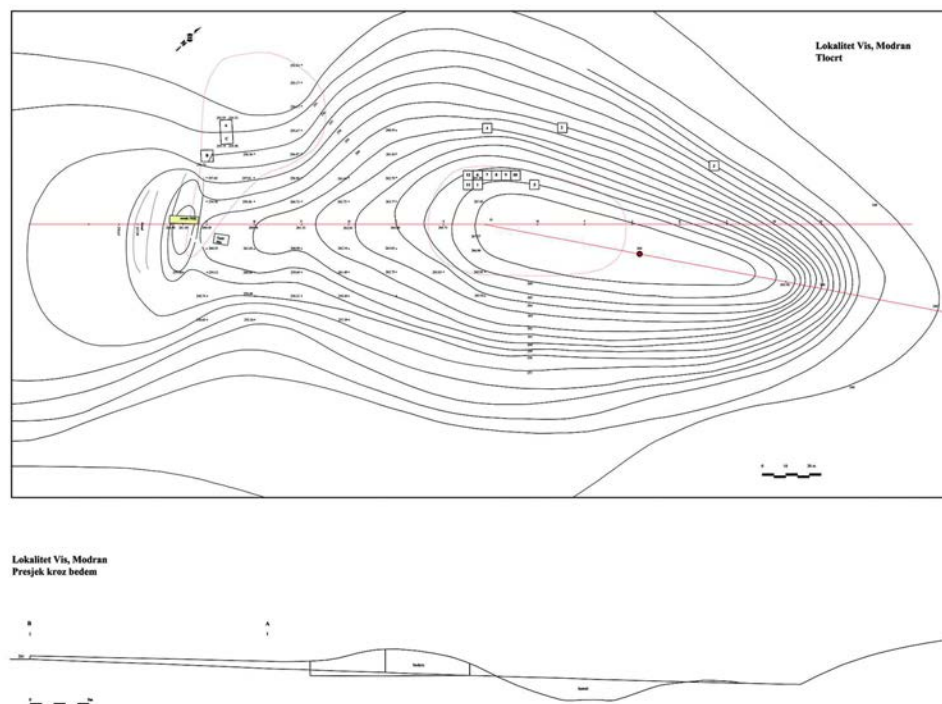


Fig. 1. Site Vis, Modran, excavation plan (Documentation Museum in Doboj).



Fig. 2. List of sites mentioned in the text (1. Zecovi, 2. Donja Dolina, 3. Brdašće kod Laktaša, 4. Sredelj, 5. Pivnica 6. Vrela, 7. Vis, 8. Crkvina, Doboj).

Species	Antler/Horn	Skull	Mandible	Tooth	Scapula	Radius	Ulna	Pelvis	Tibia	Fibula	Calcaneus	Astragalus	Metapodials	Phalanges	Total (NISP)	% NISP	DZ	%DZ
<i>Sus domesticus</i>			5		8		2	1	2	1	1		3		23	31.5	16	41.0
<i>Cervus elaphus</i>	11	1	1	1			1				1	1	3	2	22	30.1	7	17.9
<i>Bos taurus</i>		1	2	4		1	5				1		2		16	21.9	9	23.1
<i>Sus scrofa</i>			1	2			1				1	1			6	8.2	3	7.7
<i>Ovis aries</i>			3		1										4	5.5	4	10.3
<i>Capra hircus</i>	1						1								2	2.7	0	0.0
Total	12	2	12	7	9	1	10	1	2	1	4	2	8	2	73	100	39	100

Fig. 3. The relative frequencies of species and their element distributions

although there is evidence of advanced metallurgy activities at the site⁶.

The chronological framework for the Iron Age settlement at Vis is determined by the pottery typology. First and basic chrono-typological division of the archaeological material from Vis, primarily pottery, was provided by Z. Marić⁷. He divided material into two phases, Vis I-II, which is with some additional changes in certain types, still applied today. After the discovery of Copper Age layers on hillfort plateau during 1963/64 campaigns, Iron Age phase is now defined as Vis C1 and C2⁸. Very similar material was found in the other parts of Northern Bosnia (Fig.2.), at the sites Vrela⁹, Pivnica¹⁰, Sredelj¹¹, Crkvina near Doboj¹², Zecovi¹³, Donja Dolina¹⁴ the authors dates this horizon in Ha B2-B3 period. The finds from the settlement Brdašće near Laktaši¹⁵, particularly from its earlier phase, could also be related to the material from Vis. Similar decorative elements were used on the pottery from some sites in central Bosnia, that B. Čović dates into final Bronze Age¹⁶. In Podunavlje this horizon identify it as Early Iron Age Kalakača horizon and Bosut IVa horizon¹⁷.

The faunal record

During the excavation of the site of Vis-Modran, the faunal remains were hand-recovered selectively. Mostly larger, well-preserved or complete animal remains were collected (mandibles, teeth, metapodial bones, etc.). The unsystematic recovery has resulted in the biased faunal assemblage; however, some data can be extracted. The assemblage is very small; it consists of 81 animal remains of which 91.4% were identifiable to the species level. The species diversity was relatively high for small assemblage (n=6). The animal remains belong to domestic pig (*Sus domesticus*), domestic cattle (*Bos taurus*), sheep (*Ovis aries*), goat (*Capra hircus*), red deer (*Cervus elaphus*) and wild pig (*Sus scrofa*). Their frequencies and element distributions based on NISP and DZ are shown on the (Fig.3.) Remains of domestic pig, red deer and domestic cattle are the most numerous in the assemblage, and all together they comprise around 84% NISP and 82% DZ. Other animals are represented with six or less specimens within species.

Red deer body-part frequencies show considerable variation. Antler fragments are the most common, comprising 50% of identified red deer bones. Besides phalanges and metapodial bones, other red deer elements (skull, mandible, tooth, ulna, astragalus, calcaneum,) are represented by one specimen. All red deer remains belong to adults. Regarding the frequency of domestic pig body-parts, scapulae are the most common, followed in abundance by mandibles, metapodial bones, ulnae and tibiae. Majority of domestic pig bones belongs to the animals older than two

⁶ Marić 1964, 160-161.

⁷ Marić 1964, 158-159; Čović 1965, 40.

⁸ Marić 1971, 76; Gavranović 2011, 13.

⁹ Belić 1963, 35-36; Gavranović 2011, 8.

¹⁰ Benac 1962, 27.

¹¹ Unpublished Museum in Doboj

¹² Marić 1964, 161; Gavranović 2011, 13.

¹³ Benac 1959, 43-44.

¹⁴ Marić 1964, 29-30.

¹⁵ Jamaković/ Žeravica 2010, 49-51.

¹⁶ Čović 1983, 452.

¹⁷ Medović 1978, 43-44; Medović/ Medović 2010, 19.



Fig. 4. Osteoarthritis of tarso-metatarsal joint of cattle (spavin).

years of age, although there are two specimens of pig under the age of two.¹⁸ Out of 5 domestic pig mandibles, 4 belong to the animals which were slaughtered when they were around two years of age (Payne's wear stage E), while one mandible belongs to the piglet, aged between 7 and 14 months (Payne's wear stage C).¹⁹ The most frequent elements of domestic cattle are ulnae, isolated teeth, metapodial bones and mandibles. Both cattle mandibles belong to animals older than three years of age.²⁰ There is a prominent pathological change in one cattle metatarsal bone (Fig. 4). New bone formation and the ankylosis between tarsal and metatarsal bones caused by

osteoarthritis, were observed in tarso-metatarsal joint. This condition is most likely work-related, given that such kind of pathological changes often happens in cattle used for traction.²¹

Different modifications caused by small carnivores (probably dog) are observed in the 18.5% of animal remains. Tooth pits and scores are the most abundant marks. Human modification to this assemblage, apart from their use for producing artefacts, was butchery marks. Cut marks appear on around 5% of the specimens examined, on the bones of red deer (calcaneum), domestic pig (scapula), domestic cattle (metacarpal bone) and goat (horn core).

The osseous artefacts

As mentioned above, this is only a selection of what once existed at the site. We may presume that mainly large, easily recognizable pieces were collected, and we can only guess what was recovered during excavations, but discarded in the post-excavation process. However, as the bone artefacts from this period and this region are virtually unknown, this selected assemblage gave us first results on the bone industry. Typological grouping follow the criteria established for diverse prehistoric industries, and were divided into I pointed tools, II cutting tools, III burnishing tools, IV punching tools, V objects of special use, VI decorative items, VII non-utilitarian items and VIII incomplete pieces and manufacture debris.²² Several outstanding artefacts may be outlined, that may be considered as characteristic for the site of Vis and probably for the entire region in this period.

I. Pointed tools. One small pointed tool was noted, probably a needle or cosmetic tool, was made from unidentified long bone, worn from use (Tab. 2, 1).

II. Cutting tools (Tab. 1, 2, 4-6). Four large tools made from *Bos taurus* ulnae were discovered. The epiphysis is preserved as a handle, sometimes perforated, and the diaphysis is at the distal end modified into blunt tip. Perforation at one specimen is quite large, obtained by drilling

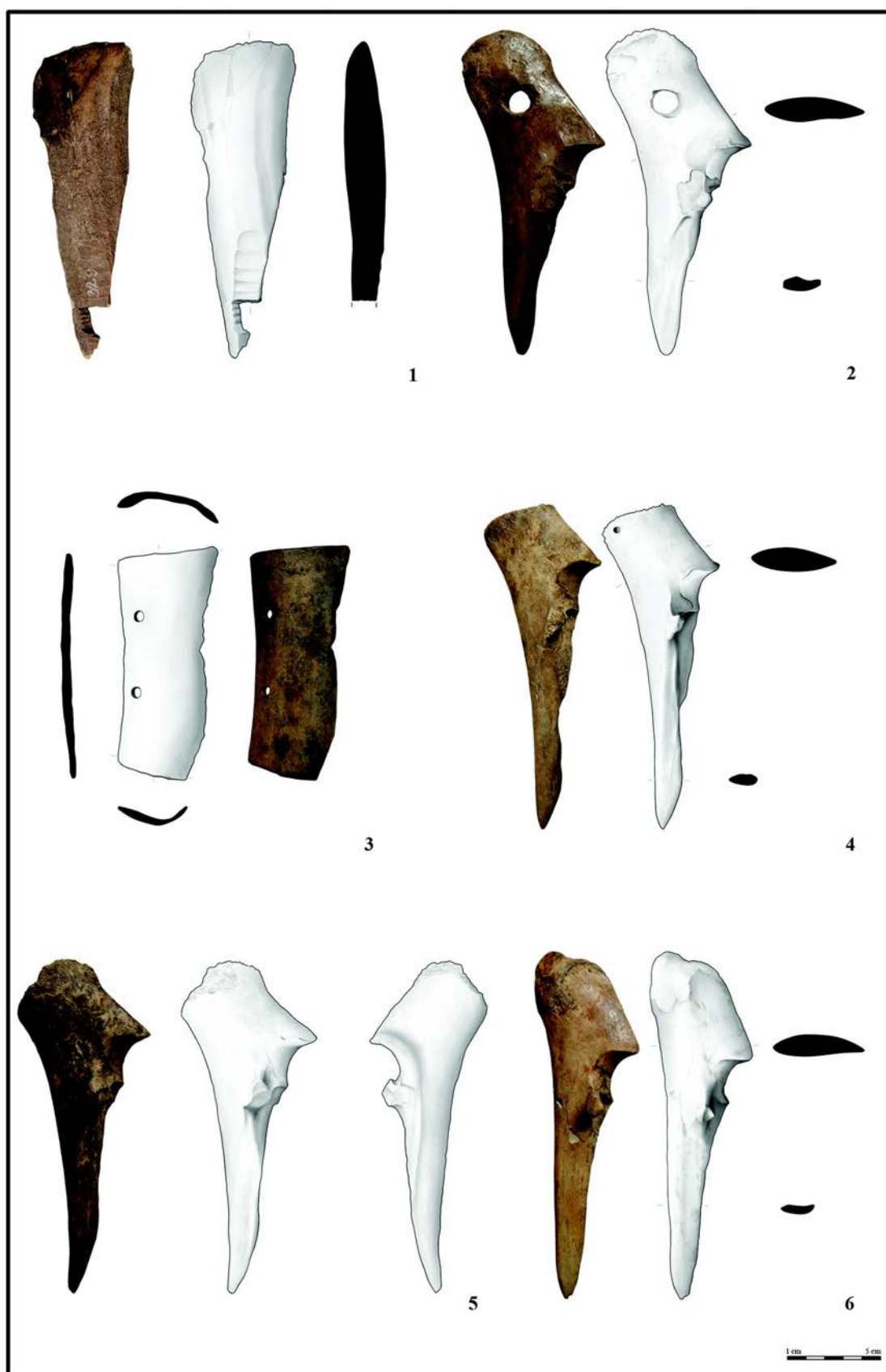
¹⁸ Schmid 1972; Silver 1969; Reitz, Wing 2008.

¹⁹ Hambleton 1999.

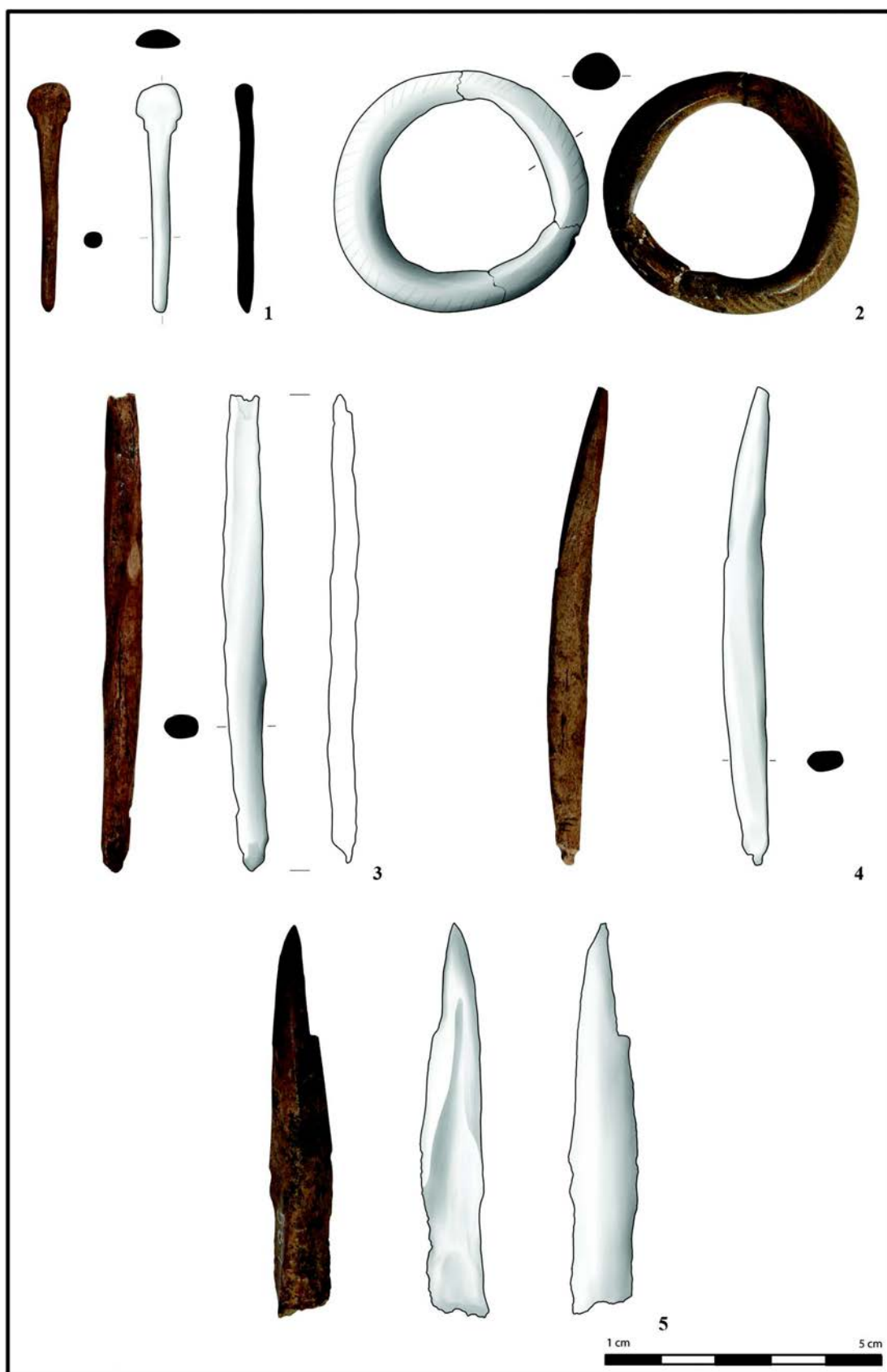
²⁰ Halstead 1985.

²¹ Bartosiewicz et al. 1997.

²² Vitezović 2013 and references therein. Methodology of the determination of the artifacts and their function is based on bone tools typology from the regional Early Iron age sites.



Tab. 1. Bone tools



Tab. 2. *Bone tools*

with a hollow tool. On these artefacts we may observe that large portions, distal and mesial parts, are heavily polished from use, especially the working end. Working ends were not pointed, but more blunt tips, and the traces of use extend to lateral sides, suggesting they were most likely used as some sort of a knife, on soft, organic materials.²³

Larger cutting tools were present in diverse prehistoric osseous assemblages, however, the analogies for this particular variant we may find at Late Bronze Age and Early Iron Age pile dwellings sites of Donja Dolina²⁴ and Ripač.²⁵ In both cases they were identified as large awls. Moreover, the same type of tool is also known from sites Afaltna baza near Zemun, made from deer ulnae²⁶.

VI. Decorative items / Parts of garment (Tab. 2, 2). Two peculiar artefact made from red deer antler may be classified as decorative disks or cylinders. The first one is made from an antler beam segment, from the outer cortex – the beam was first transversally divided into segments and then the interior was scooped out. The artefact was further modified by cutting, burnishing and polishing, so a final form is in a shape of a large ring, biconical in profile. The outer surfaces were decorated by paralleled incised chevron lines (<<<< >>>>), oriented in two directions.

Another object represents an unfinished version of the former – it is a cylindrical segment of a beam, with traces of transversal cutting.

Similar ring-shaped/cylindrical artefacts are known from the Bronze Age, especially from Vatin culture – several were discovered at eponymous site of Vatin²⁷, and at least one is known from Vatin layers of Vinča-Belo Brdo²⁸. Also, they were present on other Bronze Age sites in the Pannonian basin²⁹. One cylinder that may be the same type comes from Bronze Age/Iron Age site of Feudvar near Mošorin³⁰. Therefore, this was a widespread type, with probable regional

and chronological variations. Its function is unclear, it may have been part of personal garment, but also a piece of horse harness – the damage present on the Vis specimen may be related to such usage.

Protective plate (Tab. 1, 3). One completely preserved rectangular, slightly concave plate belongs to this group. It was made from a large segment of an antler beam. It was more-less regularly and carefully cut on all the edges (a small mistake is visible on one) and it had two small perforation along one of the longer edges. The entire object is highly polished and heavily worn from intensive contact with soft organic materials, leather or perhaps textiles³¹. Also, striations and dark stains are visible, probably also due to contact with organic materials (such as tanned leather). The perforations were also used for attaching the object (but not for hanging; they are smoothed but not distorted). Such a piece was most likely a part of garment, and was most likely a wrist guard. Bracers, or wrist-guards, are traditionally thought to have functioned as archery equipment, protecting the arm against the sting of the bowstring. Their position on the body is therefore thought to have been on the inside of the lower arm. Originally, the interpretation of these objects as wrist-guards come from the analogy with modern or ethnographic examples. The relatively large number of these protective plate come from site Donja Dolina³². This is not surprising because Donja Dolina had a very important role in the distribution and transformation of cultural impulses and elements of the material culture between Northern Bosnian sites.

VIII. Incomplete pieces (Tab. 1, 1; Tab. 2, 3-5). The assemblage also included relatively large number of blanks/ manufacture debris, exclusively from red deer antler – cortex segments in shape of plates, rods and entire tines. Numerous tines have traces of working that include: negatives from removing small flakes, by indirect percussion and by cutting and whittling, and deep notches and grooves from transversal dividing by direct chopping with a metal axe, adze or similar tool. Also, cortex segments with traces of cutting and scraping are noted. The relatively large quantity of debris from antler was observed

²³ Cf. Peltier 1986, Legrand 2007.

²⁴ Truhelka 1901, 253. Tab. XXVII, sl.9; Truhelka 1906, 222. Tab. LXII. sl.8.

²⁵ Ćurčić 1908, 159, Tab. VII. sl.3-4; Radimsky 1895, 500. Tab. XL sl.382-386.

²⁶ Петровић 2010, 207-208.

²⁷ Узелац 1976, 136-137, Tab. XI.

²⁸ Perišić 1984, Tab. 19/144.

²⁹ Choyke 2005.

³⁰ Gačić 1991, Tab. 44/4.

³¹ Cf. Peltier 1986, Legrand 2007.

³² Truhelka 1901, 252; Truhelka 1903, 376.

at Gradina na Bosutu³³ and tines with traces of cutting were noted at Feudvar³⁴.

Discussion

Osseous assemblages from later prehistory are virtually unknown in the central and western Balkans. They are rarely published and even then only briefly mentioned, without any details on raw material selection, manufacturing techniques, etc., and even without a proper typological classification. Therefore, the assemblage from Vis, although selected is very important, since it gives first insight into the use of osseous raw materials in the Early Iron Age.

Antler seems to have been an important raw material in Iron Age, despite the general assumption that the importance of osseous raw materials decreased with the rise of metallurgy. Numerous fragments of tines and cortex segments with traces of manufacture are preserved from Vis, and their number was probably even greater. This suggests that a workshop /working place for antler manufacture once existed at the settlement of Vis. Manufacture debris is also noted on other Early Iron Age sites in wider region of Pannonian basin and neighbouring areas – at Donja Dolina³⁵, Ripač³⁶, Debelo Brdo³⁷, Feudvar-Mošorin³⁸ and Gradina na Bosutu³⁹, but also on Iron Age sites in Romania⁴⁰ and Bulgaria.⁴¹ This suggests antler working and tasks related to antler tools (woodworking, fishing, fowling, etc.) were important activities on these Iron Age settlements.

In the Iron Age, hunting was not as important for survival as it had been in the Palaeolithic and Mesolithic. Moreover, its contribution to diet was less substantial than in the Neolithic and Bronze Age. However, Iron Age people hunted almost everywhere and they regularly ate venison⁴². There are different interpretations for Iron

Age hunting from meat and raw materials supply to the idea that hunting represent privilege and sport for aristocracy⁴³. In any case hunting is general characteristics of agricultural and pastoral settlements.

Presence of pieces ornamental/garment pieces made from antler on Vis demonstrates the importance and social value of this raw material, but gives indirect evidence on the presence of skilful craftspersons.

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Rezime

Osteološki nalazi iz ranog željeznog doba sa gradine Vis: faunalni ostaci i koštane alatke

Vis kod Modrana jedan je od najznačajnijih višeslojnih praistorijskih lokaliteta u sjevernoj Bosni. Između 1957-1959.g. Zdravko Marić vršio je arheološka istraživanja i na površini od 120m² otkrio bogate slojeve naselja iz perioda najranije faze željeznog doba. Pored najbrojnih keramičkih nalaza, istraživanja u podgrađu gradine otkrila su i bogate slojeve sa osteološkim nalazima. Ova istraživanja prije više od pola vijeka stvorila su osnovu za posmatranje Visa kao jednog od najznačajnijih višeslojnih lokaliteta.

Tokom arheoloških iskopavanja na Visu, vršeno je selektivno, ručno sakupljanje životinjskih kostiju, zbog čega se faunalni uzorak uglavnom sastoji od većih, dobro očuvanih ili cijelih kostiju. U pitanju je uzorak male veličine, koji se sastoji od samo 81 primerka. U uzorku su identifikovani ostaci šest vrsta životinja (Tab. 1). Ostaci domaće svinje (*Sus domesticus*), jelena (*Cervus elaphus*) i domaćeg govečeta (*Bos taurus*) su najbrojniji, i čine oko 84% ukupnog broja

⁴³ Trebsche/ Zaya 2013, 215. It should be emphasized that these interpretations depend upon different perceptions of Iron Age social structure and from archaeology context.

³³ Medović, Medović 2010.

³⁴ Gačić 1991.

³⁵ Truhelka 1901, 251-253; Truhelka 1902, 142-143; Truhelka 1903, 374-376; Truhelka 1906, 221-223.

³⁶ Radimsky 1895, 499-502; Ćurčić 1908, 159.

³⁷ Fiala 1895, 127.

³⁸ Gačić 1991.

³⁹ Medović, Medović 2010.

⁴⁰ Cf. Ferencz / Beldiman eds. 2012.

⁴¹ Gorczyk pers. comm.

⁴² Trebsche/ Zaya 2013, 215.

identifikovanih primjeraka. Ostaci ovce (*Ovis aries*), koze (*Capra hircus*) i divlje svinje (*Sus scrofa*) zastupljeni su u malom broju.

Koštani su artefakti malobrojni, ali uključuju nekoliko interesantnih tipova, koji bi se mogli smatrati karakterističnim za ovaj lokalitet, moguće i širu oblast u ovom periodu. Otkriveno je nekoliko alatki od ulni govečeta, korištenih vjerovatno kao noževi na mekim, organskim materijalima. Jedan cijeli i jedan nedovršeni disk/cilindar od roga predstavljaju ukrase ili dio odeće/opreme, a naročito se izdvaja nalaz pločice od roga za dvije perforacije, moguće korišten kao dio zaštitne opreme strelaca. Konačno, otpaci od rogova svjedoče o postojanju radionice/ radioničkog mjesta na praistorijskom naselju na Visu i o značaju ove sirovine u starijem željeznom dobu.

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