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SADRŽAJ
CONTENTS

MEZOLITIK SLOVENIJE

THE MESOLITHIC IN SLOVENIA

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V članku predstavljamo zgodovino in stanje raziskav mezolitika ter pomembnejša mezolitska najdišča v Sloveniji. Poznavanje mezolitika v Sloveniji je kljub številnim novoodkritim najdiščem še vedno skromno. Razlog za to so neustrezne izkopavalne metode v preteklosti in pomanjkanje sistematičnih raziskav, ki bi zajele večje površine. Revizijsko mokro sejanje dela deponije izkopane mezolitske plasti Male Triglavce je na dan prineslo bogato zbirko mikrolitskih orodij, ki kažejo, da je na najdišču poleg kastelnovjenske zastopana tudi sovterjenska tehnološka tradicija. Obe mezolitski fazi sta verjetno zastopani tudi v najdišču Viktorjev spodmol. Pri podvodnih raziskavah struge potoka Ljubija na Ljubljanskem barju je bila poleg resedimentiranih kamnitih in koščenih orodij najdena človeška lobanja, radiokarbonsko datirana v zgodnji holocen. V gorah Zgornjega Posočja je bilo po zaslugi ljubiteljskih arheologov odkritih več planih najdišč kamnitih artefaktov. Na podlagi kamnitih najdb, zbranih s površinskim nabiranjem in pri arheoloških izkopavanjih, lahko nekatera izmed njih opredelimo v sovterjen, najdišče Leskovca II na planini Leskovca pa bi lahko pripadalo celo epigravetjenu. Na najdiščih, kjer so se ohranili živalski ostanki, sta med lovnimi živalmi najbolje zastopana navadni jelen in divja svinja.

KLJUČNE BESEDE: mezolitik, Slovenija, zgodovina raziskav, jamska najdišča, plana najdišča, kamnita orodja, koščena orodja

The article presents the history, the state of Mesolithic research and the most important Mesolithic sites in Slovenia. Knowledge about the Mesolithic in Slovenia is still poor, despite numerous newly discovered sites. This is due to inadequate excavation methods in the past and the lack of systematic research that would cover larger areas. Revision and wet sieving of part of the backdirt of the excavated Mesolithic layer of Mala Triglavca revealed a rich collection of microlithic tools, showing that, in addition to the Castelnovian, the Sauveterrian technological tradition is also represented at this site. Both Mesolithic phases are probably also represented in the Viktorjev spodmol. During underwater investigations of the Ljubija stream in the Ljubljansko barje (Ljubljana Marshes), in addition to resedimented stone and osseous tools, a human skull was found, which was radiocarbon dated to the Early Holocene. Thanks to amateur archaeologists, several open-air sites with stone artefacts were discovered in the mountains of the Upper Soča Valley. Based on stone artefacts collected during surface surveys and archaeological excavations, some of these sites can be assigned to the Sauveterrian, and the site of Leskovca II on the Leskovca alp may even belong to the Epigravettian. At the sites where faunal remains have been preserved, red deer and wild boar predominate among the hunting animals.

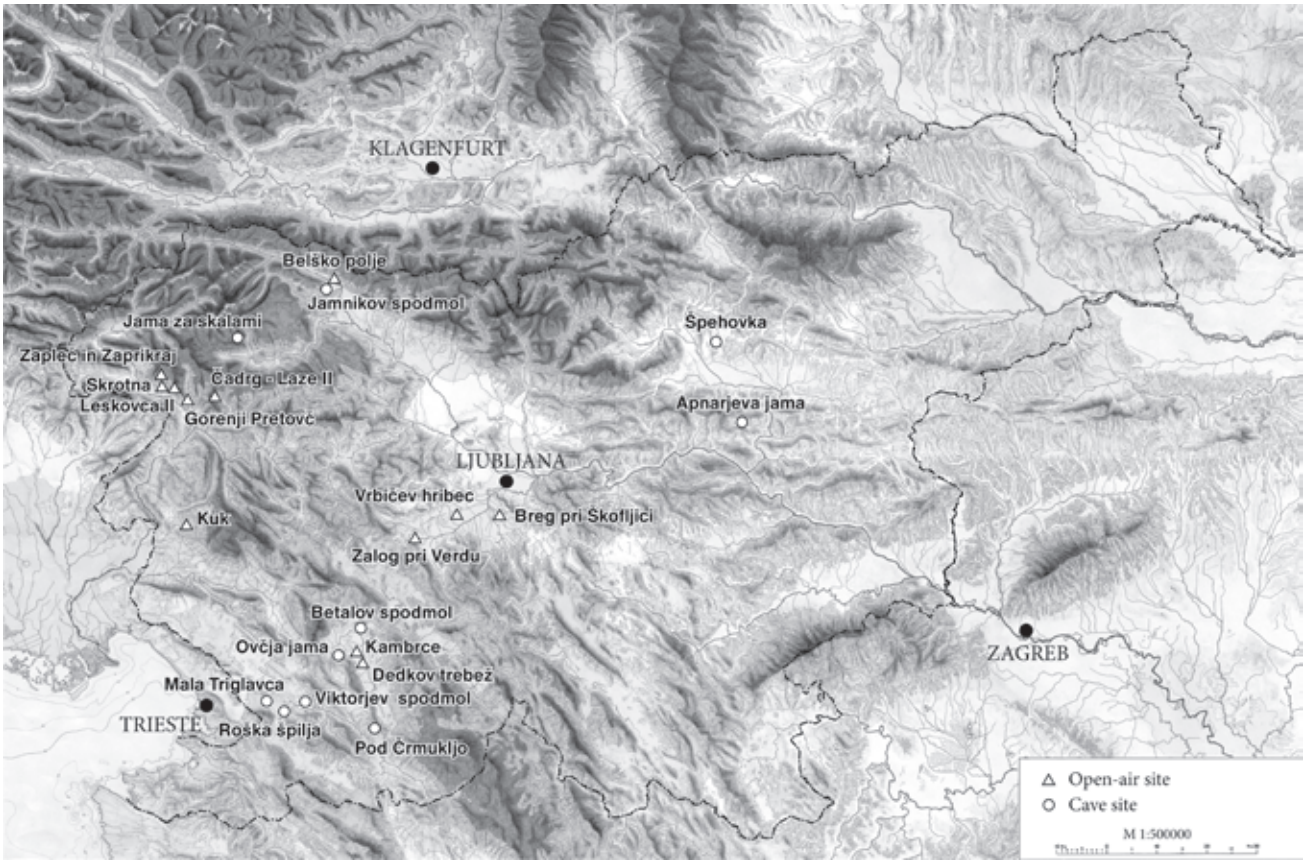
KEY WORDS: Mesolithic, Slovenia, history of research, cave sites, open-air sites, stone tools, osseous tools

UVOD

Mezolitsko obdobje v Sloveniji vse do nedavna ni bilo deležno sistematičnega zanimanja stroke. Posledično še nobeno mezolitsko najdišče ni bilo sistematično in interdisciplinarno raziskano v zadovoljivem obsegu. V Sloveniji so bile raziskave mezolitika že od vsega začetka v domeni paleolitske arheologije, pri čemer mezolitik ni bil primarni cilj zanimanja raziskovalcev (Kavur 2008). Prve mezolitske najdbe so prišle na dan pri jamskih izkopavanjih, ki so bila usmerjena v iskanje paleolitskih najdišč. Posledično je poznavanje mezolitskega obdobja v Sloveniji kljub številnim najdiščem (karta 1) še vedno skromno. V članku predstavljamo zgodovino in stanje raziskav ter pomembnejša najdišča. Podatke povzemamo po objavljeni literaturi, ki je večinoma v slovenskem jeziku. Če je bilo mogoče, smo si najdbe osebno ogledali in dodali nekaj lastnih opažanj. Vključili smo tudi nekaj še neobjavljenih rezultatov lastnih raziskav.

INTRODUCTION

Until recently, the Mesolithic period has not received systematic interest of the archaeological profession in Slovenia. As a result, no Mesolithic site has been studied systematically and interdisciplinarily to a satisfactory extent. In Slovenia, the study of the Mesolithic belonged to the field of Palaeolithic archaeology from the very beginning, where the Mesolithic was not the primary goal of research interest (Kavur 2008). The first Mesolithic finds came to light during cave excavations that targeted Palaeolithic sites. Therefore, knowledge about the Mesolithic in Slovenia is still poor, despite numerous sites (Map 1). In this article, we present the history and state of research as well as the most important sites. The data are summarised according to the available literature, mostly published in Slovenian. As far as it was possible, we have personally examined the finds and made our observations. We have also included some results of our research.



Karta 1 — Mezolitska in potencialno mezolitska najdišča Slovenije, omenjena v članku (izdelal: D. Valoh, 2021)
Map 1 — Mesolithic and potentially Mesolithic sites in Slovenia mentioned in the article (made by: D. Valoh, 2021)

ZGODOVINA RAZISKAV

Naravoslovno in arheološko raziskovanje jam ima v Sloveniji dolgo tradicijo (Prijatelj 2011). Srečko Brodar je z izkopavanjem mlajšepaleolitskega najdišča v jami Potočki zijalki v Karavankah v letih 1928–1935 postavil temelje slovenski paleolitski arheologiji. Leta 1936 je v jami Špehovki pri Šoštanju odkril prve mezolitske najdbe v Sloveniji: dve enoredni harpuni, ki sta ležali v plasti sige nad pleistocenskimi plastmi (T. 1: 3–4) (Brodar 1993: 18–19).

Po 2. svetovni vojni je paleolitska stroka z ustanovitvijo Inštituta za prazgodovino človeka na Filozofski fakulteti v Ljubljani leta 1946 končno dobila svoj institucionalni okvir. S. Brodar je začel raziskovati v Betalovem spodmolu pri Postojni. V najstarejši holocenski plasti je našel nekaj neizpovednih kamnitih artefaktov in prevrtan grandl, ki bi lahko pripadali mezolitiku (Osole 1991; Pohar, Josipovič 1992: T. 1: 5a–b). Verjetno je že pred Brodarjem na mezolitske najdbe naletel italijanski speleolog Franco Anelli, ki je v Betalovem spodmolu izkopaval pred 2. svetovno vojno. Del najdb Anellijevih izkopavanj je bil nedavno vrnjen v Notranjski muzej v Postojno, večina njih pa je izgubljena (Bavdek, Josipovič 2017).

Desetletja po drugi svetovni vojni so bila čas intenzivnega iskanja novih jamskih paleolitskih najdišč. Na zakraselem obrobju Pivške kotline, zlasti v okolici Postojne, so bile sondirane številne jame. Območje Pivške kotline je območje z največjo koncentracijo paleolitskih najdišč v Sloveniji. Vendar je bil poleg Betalovega spodmola mezolitik v jamah domnevno odkrit samo še v Ovčji jami pri Prestranku (Osole 1963: 134), kjer so bili mezolitiku pripisani maloštevilni neizpovedani kamniti artefakti iz holocenske plasti. Glede na stratigrafsko lego bi mezolitiku lahko pripadali tudi dve kurišči in kamniti artefakti iz jame Roška špilja pri Divači (Osole 1975: 133).

Pri Prestranku v Pivški kotlini je domačin Zmago Žele odkril prvi plani mezolitski najdišči, Dedkov trebež in Kambrce. Najdišči ležita na nasprotnih si bregovih potoka Slavinšček, ob sotočju z reko Pivko. Arheološko sondiranje na Kambrcah je pokazalo, da tanek sloj orne zemlje, ki vsebuje najdbe, leži neposredno na kamniti podlagi. Večina, skupaj več tisoč najdb iz obeh najdišč, je bila zbrana s površinskim nabiranjem. Najdbe, z izjemo redkih geometrijskih armatur, so tipološko skromne in slabo iz-

HISTORY OF RESEARCH

Scientific and archaeological exploration of caves has a long tradition in Slovenia (Prijatelj 2011). The foundation stone for Slovene Palaeolithic archaeology was laid by Srečko Brodar in 1928–1935 with the excavation of an Upper Palaeolithic cave site Potočka zijalka in the Karavanke mountains. In 1936, in the Špehovka cave near Šoštanj, he discovered the first Mesolithic finds in Slovenia: two unilateral harpoons lying in the sinter above the Pleistocene layers (Pl. 1: 3–4) (Brodar 1993: 18–19).

After World War II, Palaeolithic research finally received its institutional framework with the founding of the Institute for Prehistory of Man at the Faculty of Arts in Ljubljana in 1946, and soon after S. Brodar began his research in the Betalov spodmol cave near Postojna. In the lowest Holocene layer he found some atypical stone artefacts and a perforated red deer tooth, which could belong to the Mesolithic (Osole 1991; Pohar, Josipovič 1992: Pl. 1: 5a–b). In the Betalov spodmol, the Mesolithic finds were probably already discovered by the Italian speleologist Franco Anelli, who dug there before World War II. Some of the finds from Anelli's excavation were recently returned to the Notranjska Museum in Postojna, but most of them have been lost (Bavdek, Josipovič 2017).

The decades following World War II were a time of the intense search for new Palaeolithic cave sites. Numerous caves on the karst fringe of the Pivka Basin, especially in the vicinity of Postojna, have been the subject of test excavations. The Pivka Basin is the area with the highest concentration of Palaeolithic sites in Slovenia. However, the Mesolithic in caves, apart from Betalov spodmol, was supposedly discovered only in the Ovčja jama cave near Prestranek, where atypical stone artefacts from the Holocene layer have been attributed to the Mesolithic (Osole 1963: 134). Two fireplaces and stone artefacts from the Roška špilja cave near Divača could be attributed to the Mesolithic based on their stratigraphic position (Osole 1975: 133).

Near Prestranek in Pivka Basin a native Zmago Žele discovered the first open-air Mesolithic sites, Dedkov trebež and Kambrce. The sites are located on the opposite banks of the Slavinšček stream, at the confluence with the Pivka River. Test excavation in Kambrce has shown that a thin layer of arable soil containing the lithics lies directly on bedrock. Most of the finds, thousands in

povedne (Josipovič 1989; Kozlowski, Kozlowski 1984: sl. 6: B–B; Brodar 2009: T. 55: 10–12).

Najdišče v spodmolu Pod Črmukljo (sl. 1) severno od Ilirske Bistrice je leta 1964 odkril Italijan Mario de Ruiz. To je bil čas, ko so v sosednji Italiji odkrili prva mezolitska najdišča na Tržaškem Krasu (Cannarella 1984). Leta 1965 je Mitja Brodar pri izkopavanju spodmola Pod Črmukljo pri pregledovanju izkopanih usedlin prvič v slovenski arheologiji uporabil suho sejanje, ki ga je pri izkopavanju Betalovega spodmola uporabil že F. Anelli. Pridobljena je bila prva večja zbirka mikrolitskih armatur, ki je omogočala tipološke in posledično kronološke primerjave s sorodnimi najdišči (Brodar 1992).

V 70. in 80. letih preteklega stoletja so bila med načrtno arheološko topografijo Ljubljanskega barja pod vodstvom Davorina Vuge (Zavod SR Slovenije za varstvo naravne in kulturne dediščine) odkrita številna plana najdišča kamnitih artefaktov (Frelih 1986: sl. 1; 1987; Josipovič 1983; 1985; 1989). Najdišča, kjer keramika ni bila prisotna, so pripisali predneolitskemu obdobju. Ta najdišča ležijo na osamelih vzpetinah ali ob njihovem vznožju in se nahajajo večinoma na obrobju barja. Arheološka izkopavanja so bila izvedena le na Vrbičevem hribcu in na Bregu pri Škofljici. Poskusno izkopavanje ob vznožju osamelca Vrbičev hribec leta 1983 je razkrilo tri kulturne plasti. Najnižja kulturna plast, v kateri je bil najden odlomek koščene konice ali šila, je bila na podlagi pelodnih analiz datirana v konec poznega glaciala (Culiberg et al. 1984: 191). Skromno število neizpovednih stratificiranih kamnitih najdb, pridobljenih med izkopavanjem, ne dopušča njihove natančnejše časovne opredelitve. Med površinsko zbranimi najdbami, kjer prevladujejo odbitki in razbitine, pa najdemo tako epigravetjenske (gravetjenska konica, klinice s hrbtom) kot mezolitske elemente (raznostranični trikotniki, enakokraki tapez) (cf. Brodar 2009: 609–610, T. 55: 1–9; Kozlowski 2009: 288–289).

Mezolitik je bil na Ljubljanskem barju z arheološkimi izkopavanji Franca Osoleta (Katedra za kvartarologijo, Naravoslovnotehniška fakulteta v Ljubljani) leta 1983 in 1984 potrjen na Bregu pri Škofljici (sl. 4) (Pohar 1984; Frelih 1986; 1987). Na tem najdišču je bila pridobljena prva radiometrična datacija za mezolitik v Sloveniji. Leta 1996 in 1997 je na Bregu pri Škofljici novo izkopavanje izvedel Mihael Budja (Oddelek za arheologijo Filozofske fakultete v Ljubljani).[1]

1 Rezultati izkopavanja še niso objavljeni. Kratek pregled najdb na podlagi lastnih opažanj podaja S. K. Kozlowski (2009).

total from both sites, were collected during surface surveys. With the exception of rare geometric armatures, the finds are typologically modest (Josipovič 1989; Kozlowski, Kozlowski 1984: Fig. 6: B–B; Brodar 2009: Pl. 55: 10–12).

The site in the Pod Črmukljo rock shelter (Fig. 1) north of Ilirska Bistrica, was discovered in 1964 by Italian Mario de Ruiz. At that time, the first Mesolithic sites were discovered at Trieste Karst in neighbouring Italy (Cannarella 1984). In 1965, Mitja Brodar used dry sieving for the first time in Slovenian archaeology during the excavation of the rock shelter Pod Črmukljo. This yielded the first major collection of microlithic armatures, which enabled typological and consequently chronological comparisons with related sites (Brodar 1992). It is worth mentioning that dry sieving was already used by F. Anelli at the excavation of the Betalov spodmol.

In the 1970s and 1980s, systematic archaeological surveys of Ljubljansko barje (Ljubljana Marshes) under the direction of Davorin Vuga (Institute for the Protection of Natural and Cultural Heritage of Slovenia) revealed numerous open-air sites of the lithic industry (Frelih 1986: Fig. 1; 1987; Josipovič 1983; 1985; 1989). The sites without pottery have been attributed to the Pre-Neolithic period. These sites are located on isolated hills or at their foot and are usually situated at the edge of the marshes. Excavations were carried out only at Vrbičev hribec and at Breg pri Škofljici. A test excavation at the foot of the isolated hill Vrbičev hribec in 1983 revealed three cultural layers. The lowest cultural layer, in which a fragment of a bone point or awl was found, was dated to the end of the Late Glacial based on pollen analyses (Culiberg et al. 1984: 191). The modest number of nondiagnostic, stratified stone artefacts recovered from the excavation does not permit a more precise chronological determination. Among the surface-collected finds, where flakes and debris predominate, we find both Epigravettian (Gravettian point, backed bladelets) and Mesolithic elements (scalene triangles, isosceles trapeze) (cf. Brodar 2009: 609–610, Pl. 55: 1–9; Kozlowski 2009: 288–289).

The Mesolithic was first confirmed in Ljubljansko barje by excavation carried out by Franc Osole (Department of Quaternary Research, Faculty of Natural Sciences and Engineering in Ljubljana) in 1983 and 1984 at Breg pri Škofljici (Fig. 4) (Pohar 1984; Frelih 1986; 1987). At this site, the first radiometric date for the Mesolithic in Slovenia was obtained. In 1996 and 1997 a new excavation was

V strugi Ljubljanice na Ljubljanskem barju je bilo najdenih več koščenih harpun. Med njimi izstopa enoredna harpuna iz rogovja, ki jo je ljubiteljski arheolog Miro Potočnik našel v strugi Ljubljanice ob izlivu Ižice (T. 1: 1). Ker takšne harpune iz koliščarskih naselbin iz časa poznega neolitika, eneolitika in bronaste dobe na Ljubljanskem barju niso znane, se je domnevalo, da je mezolitska (Turk 2004b: 15–16). Nedavno radiokarbonsko datiranje harpune je pokazalo starost 9950 ± 50 BP (Poz–109693) (kalibrirana starost 9664–9292 BC, kalibracija narejena s programom OxCal), kar jo uvršča na sam začetek mezolitika (Turk, Turk 2019: 85).

V letih 1980–1985 je France Leben (ZRC SAZU Inštitut za arheologijo) sistematično izkopaval spodmol Mala Triglavca pri Divači (sl. 2), kjer so pri sondiranju odkrili neolitske in druge, mlajše najdbe. V zadnjem letu izkopavanja so naleteli na mezolitske najdbe (Leben 1988). Od leta 2002 potekajo v Mali Triglavci revizijska izkopavanja, ki jih vodi M. Budja z Oddelka za arheologijo Filozofske fakultete v Ljubljani. Leta 2013 so začeli z izkopavanjem mezolitske plasti (D. Mlekuž, ustna informacija).

V 80. letih prejšnjega stoletja sta Ivan Turk in Janez Dirjec (ZRC SAZU Inštitut za arheologijo) nadaljevala z iskanjem paleolitskih najdišč in sistematično sondirala arheološko zanimive jame. V zgornjem delu izkopa v Apnarjevi jami pri Celju sta odkrila dve koščeni šili, ki bi lahko glede na prisotnost alpskega svizca pripadali mezolitiku zgodnjega postglaciala (Turk, Dirjec 1989: sl. 7). V Julijskih Alpah sta v Jami za skalami (1550 m) nad Bohinjem našla ostanke kurišča in tik nad njim dve razbitini roženca. Antrakotomska analiza oglja kurišče uvršča v zgodnji holocen (Dirjec et al. 1989: 202–203).

V 80. letih prejšnjega stoletja je z iskanjem kamenodobnih najdišč začel ljubiteljski arheolog Pavel Jamnik, ki je v Jamnikovem spodmolu nad Jesenicami odkril koščen artefakt (T. 1: 2), ki spominja na neizdelano harpuno (Jamnik 1998). Na podlagi antrakotomske analize oglja je bilo najdišče okvirno določeno v boreal. Nedaleč stran leži v dolini Save na Belškem polju pri Jesenicah plano najdišče kamnitih artefaktov. Med zbranimi najdbami, med katerimi je veliko novoveških kresilnikov, so tudi trapezi in odlomki klinic s hrbtom (Jamnik 2013).

Bogato mezolitsko najdišče sta leta 1997 pri Famljah jugovzhodno od Divače odkrila jamarja Viktor Saksida in Ludvik Husu. Najdišče je bi-carried out at Breg pri Škofljici by Mihael Budja (Department of Archaeology, Faculty of Arts in Ljubljana).[1]

Several osseous harpoons were found in the bed of the Ljubljanica River in Ljubljansko barje. Among them, the completely preserved unilateral antler harpoon found by amateur archaeologist Miro Potočnik in the bed of the Ljubljanica at the mouth of the Ižica stands out (Pl. 1: 1). Since such harpoons are not known in Late Neolithic, Eneolithic and Bronze Age pile dwellings in the Ljubljansko barje, it was assumed to be of Mesolithic origin (Turk 2004b: 15–16). A recent radiocarbon dating of this harpoon gave an age of 9950 ± 50 BP (Poz–109693) (calibrated age 9664–9292 BC, calibration was done with the OxCal programme), which places it at the very beginning of the Mesolithic (Turk, Turk 2019: 85).

In 1980–1985, France Leben (ZRC SAZU Institute of Archaeology) systematically excavated Mala Triglavca rock shelter near Divača (Fig. 2), where test excavation revealed neolithic and younger finds. In the last year of excavation Mesolithic finds came to light (Leben 1988). Since 2002, revision excavation has been carried out in Mala Triglavca, led by M. Budja (Department of Archaeology, Faculty of Arts in Ljubljana). In 2013, excavation of the Mesolithic layer began (D. Mlekuž, oral information).

In the 1980s, Ivan Turk and Janez Dirjec (ZRC SAZU Institute of Archaeology) continued the systematic investigation of caves in search of new Palaeolithic sites. In the Apnarjeva jama cave near Celje, they unearthed two bone awls in the upper layers, which, due to the presence of the alpine marmot, could belong to the Mesolithic of the early post-glacial period (Turk, Dirjec 1989: Fig. 7). In the Julian Alps, they found the remains of a fireplace and two chert debris in the Jama za skalami cave (1550 m a.s.l.) above Bohinj. Anthracotomical analysis of the charcoal places the fireplace in the Early Holocene (Dirjec et al. 1989: 202–203).

In the 1980s, amateur Pavel Jamnik began searching for archaeological sites. In the rock shelter Jamnikov spodmol above Jesenice, he dug up a bone artefact that resembled an unfinished harpoon (Pl. 1: 2) (Jamnik 1998). Based on anthracotomical analysis of charcoal, the site was assigned to the Boreal. Not far away, an open-air

1 The results of the excavation have not yet been published. A brief overview of the finds, based on personal observations, is given by S. K. Kozlowski (2009).

lo po Viktorju Saksidi, ljubiteljskem arheologu, ki je zaslužen za odkritje številnih arheoloških najdišč v jamah na Krasu, poimenovano Viktorjev spodmol (sl. 3). Zaradi pestrosti in številčnosti najdb, odkritih pri naknadnem mokrem sejanju sedimenta, ki sta ga izkopala L. Husu in V. Saksida, se je I. Turk odločil izvesti še revizijski pregled deponije izkopanih mezolitskih sedimentov v spodmolu Mala Triglavca. Mokro sejanje manjšega dela že izkopanih sedimentov leta 1998 in 2001 je razkrilo, da je mezolitski inventar Male Triglavce primerljiv z najbogatejšimi mezolitskimi najdišči Tržaškega Krasa (Turk 2004a). Leta 2017 je Matija Turk (ZRC SAZU Inštitut za arheologijo) začel izkopavati v Viktorjevem spodmolu. Izkopavanje je še v teku.

Na Trnovskem gozdu, dinarsko kraški planoti, ki se dviga nad Vipavsko dolino, sta Jurij Mikuletič in Janez Bizjak leta 2000 pod vrhom Kuka (946 m) vzhodno od Trnovega odkrila plano najdišče, ki je na podlagi mikrolitskih armatur (zastopan je raznostranični trikotnik in klinica s hrbtom in poševno prečno retušo) pripisano mezolitiku. Površinski pregledi razgaljenih travnatih površin so pokazali, da so številčno skromne najdbe razpršene na večjem prostoru (Bizjak, Jamnik 2008: 24–31).

Novo tisočletje je prineslo nova spoznanja o zgodnjeholocenskem izkoriščanju gorskega sveta. Na planini Kašina (1049 m) v Zgornjem Posočju so I. Turk in sinova leta 2001 odkrili prvo plano najdišče kamnitih artefaktov v Julijskih Alpah, pripisano mezolitiku. Najdišče se nahaja v okolici dveh skalnih osamelcev na ledini Skrotna (Jamnik, Bizjak 2003). To odkritje je vzpodbudilo ljubiteljska arheologa P. Jamnika in J. Bizjaka, ki sta se jima pozneje pridružila Gorazd in Jani Kutin, k iskanju podobnih najdišč. Jamnik (2015; 2020) na planinah in v gorah Zgornjega Posočja navaja odkritja že več kot 20 planih arheoloških najdišč, ki jih večinoma pripisuje mezolitiku. Na to število moramo gledati z zadržkom, saj najdbe nekaj neznačilnih odbitkov, ki so lahko naravnega izvora, še ne pomenijo arheološkega najdišča. Najdišča v Zgornjem Posočju so bila odkrita s pregledovanjem erodiranih travnih površin, usekov cest in poti na pašnih planinah. Arheološke raziskave so bile opravljene na najdiščih Planina Kašina (Skrotna), Planina Pretovč (Gorenji Pretovč), Planina Zapleč, Planina Zaprikraj, Čadrg – Laze II in Planina Leskovca (Leskovca II) (Jamnik, Bizjak 2003; Turk 2006; 2007; 2020; Mlinar, Turk 2016: 20–23; Turk et al. 2005).

site of the lithic industry is known in the Sava Valley at Belško polje near Jesenice. The superficially collected finds, among which there are many post-medieval gunflints, also include trapezes and fragments of backed bladelets (Jamnik 2013).

A rich Mesolithic site was discovered in 1997 in the rock shelter near Famlje southeast of Divača by cavers Viktor Saksida and Ludvik Husu. After Viktor Saksida, an amateur credited with the discovery of many cave archaeological sites in the Karst, the site was named Viktorjev spodmol (Fig. 3). Because of the variety and abundance of finds discovered during the subsequent wet sieving of the sediment excavated by L. Husu and V. Saksida, I. Turk decided to revise the Mesolithic backdirt in Mala Triglavca. Wet sieving of a small portion of the excavated sediment deposited in front of the rock shelter took place in 1998 and 2001. It revealed that the Mesolithic assemblage from Mala Triglavca is comparable to the richest Mesolithic sites from Trieste Karst (Turk 2004a). In 2017, Matija Turk (ZRC SAZU Institute of Archaeology) started excavation in Viktorjev spodmol. The excavation is still in progress.

In the Trnovo forest, a Dinaric karst plateau rising above Vipava Valley, Jurij Mikuletič and Janez Bizjak discovered in 2000 an open-air site below the summit of Kuk (946 m a.s.l.) east of Trnovo. Based on the presence of microlithic armatures (scalene triangle and backed and truncated bladelet were found), the site is attributed to the Mesolithic. Surface inspections have shown that the rare finds are scattered over a larger area (Bizjak, Jamnik 2008: 24–31).

The new millennium brought new insights into the Early Holocene exploitation of the mountains. In 2001, on the Kašina alp (1049 m a.s.l.) above the Upper Soča Valley, I. Turk and his sons discovered the first open-air site of lithic artefacts in the Julian Alps. The site is located near two isolated rocks called Skrotna (Jamnik, Bizjak 2003). This discovery encouraged amateurs P. Jamnik and J. Bizjak, who were later joined by Gorazd and Jani Kutin, to start searching for new such sites in the area. Jamnik (2015, 2020) reports the discovery of more than 20 open-air archaeological sites at the alpine pastures and mountains of the Upper Soča Valley, most of which are assigned to the Mesolithic. However, this number should be taken with caution, as the discovery of a few atypical flakes of chert, which may also be of natural origin, does not yet constitute an archaeological site. Sites above the Upper Soča Valley were discov-

Leta 2004 je Skupina za podvodno arheologijo Zavoda za varstvo kulturne dediščine Slovenije pod vodstvom Andreja Gasparija opravljala podvodni arheološki pregled struge potoka Ljubija na Ljubljanskem barju. Na lokaciji Zalog pri Verdu so v strugi našli kamnita orodja in orodja iz rogovja in kosti, ki so jih pripisali mezolitiku (T. 2: 4–5; 3: 1–2) (Gaspari 2006a).

PREGLED IZBRANIH NAJDIŠČ

Pod Črmukljo

Najdišče Pod Črmukljo (sl. 1) leži pod previsnim delom dolge skalne stene zahodno od vasi Šembije pri Ilirski Bistrici (Brodar 1992). Arheološki izkop je zajel okoli 10 m² površine. Najdbe so ležale v do 45 cm debeli plasti humusa, ki pokriva matično flišno kamnino. Zaradi prisojne in zavetrne lege so na najdišču domačini gojili sadike in pri prekopavanju najdbe premešali. Skupaj z mezolitskimi najdbami je bila najdena novoveška in prazgodovinska keramika (Velušček 2007: sl. 2–5). Slednja izvira iz gradišča, ki je v železni dobi stalo na platoju nad steno. Ves izkopani humus je bil suho presejan na situ. Skupaj je bilo najdenih več kot 3000 kamnitih artefaktov, od katerih je retuširanih orodij 290 (9,6 %) (Brodar 1992: T. 1–5).

Ohranjen korteks na jedrih in odbitkih kaže, da so surovino predstavljali prodniki roženca. Prevladujejo raznobarvni roženci slabše kvalitete. Na večini jeder je vidno večsmerno odbijanje. Sledovi odbijanja dolgih in ozkih klinic so redki. Tipične klinice z ravnimi in vzporednimi robovi so slabo zastopane. Večja orodja so izdelana površno in tipološko pogosto težko opredeljiva. Med njimi so dobro zastopana praskala, orodja s poševno prečno retušo in orodja z izjedo. Vbadala so redka. Mikrovbadala, značilen odpadni produkt pri izdelavi geometrijskih mikrolitov, so dobro zastopana (T. 4: 15–16). Med mikroliti so zastopani raznostranični trikotniki, klinice s hrbtom in prečno retušo ter trapezi (T. 4: 1–11). Dva mikrolita je Brodar (1992: T. 5: 13–14) določil kot tardenoazjenski konici. Ob ogledu zbirke v Narodnem muzeju Slovenije smo ugotovili, da gre za običajna raznostranična trapeza z lomno ploskvijo (*piquant trièdre*) na daljši stranici.

Favnistični ostanki so bili ožgani in močno fragmentirani. Po številu določljivih ostankov si sledijo naslednje vrste: *Sus scrofa, Cervus*

ered by inspecting eroded grasslands, road cuts and paths on the pastures. Archaeological excavations were carried out at the sites Kašina alp (Skrotna), Pretovč alp (Gorenji Pretovč), Zapleč alp, Zaprikraj alp, Čadrg – Laze II and Leskovca alp (Leskovca II) (Jamnik, Bizjak 2003; Turk 2006; 2007; 2020; Mlinar, Turk 2016: 20–23; Turk et al. 2005).

In 2004, a Group for Underwater Archaeology at the Institute for the Protection of Cultural Heritage of Slovenia, led by Andrej Gaspari, conducted an underwater survey of the Ljubija stream in Ljubljansko barje. In Zalog pri Verdu, stone and osseous artefacts assigned to the Mesolithic were found in the river bed (Pl. 2: 4–5; 3: 1–2) (Gaspari 2006a).

OVERVIEW OF THE SELECTED SITES

Pod Črmukljo

The Pod Črmukljo site (Fig. 1) is located under an overhanging wall west of Šembije near Ilirska Bistrica (Brodar 1992). The archaeological excavation covered an area of about 10 m². The finds lay in a humus up to 45 cm thick, which covered the flysch bedrock. Due to the sunny and wind-protected location, the local people used this place as a garden, so they mixed the finds when working the soil. Together with Mesolithic finds, post-medieval and prehistoric pottery was also found (Velušček 2007: Figs. 2–5). The latter came from an Iron Age fort located on a plateau above the wall. All the excavated humus was dry-sieved. In total, more than 3,000 lithic artefacts were found, of which 290 (9.6%) were retouched tools (Brodar 1992: Pl. 1–5).

Cortex on the cores and flakes shows that the raw material was collected in the form of chert cobbles. Different coloured cherts of mediocre quality predominate. Multidirectional flaking is evident on most cores. Removals of long and narrow bladelets are rarely seen on the cores and typical bladelets with straight and parallel edges are hardly represented. Common retouched tools are superficially made and difficult to define typologically. Among them are well-represented end-scrapers, truncated tools and notches. Burins are rare, while microburins, a typical by-product of the manufacture of geometric microliths, are numerous (Pl. 4: 15–16). Microlithic armatures include scalene triangles, backed and truncated bladelets, and trapezes (Pl. 4: 1–11). Two microliths

Sl. 1 — Pod Črmukljo (foto: M. Turk)
Fig. 1 — Pod Črmukljo (photo by: M. Turk)

elaphus, Capreolus capreolus, Bos seu Bison, Meles meles, Crocidura russula, Martes sp., Lutra lutra in Lynx lynx **(Pohar 1986). Edini ostanek domače živali, fragmentiran inciziv ovce ali koze, lahko povežemo s prisotnostjo prazgodovinske lončenine. Najdena sta bila dva preluknjana morska polža vrste *Columbella rustica* (Brodar 1992: sl. 6).**

Brodar (1992) je v svoji končni objavi najdišče uvrstil v tardenoazjen, čeprav omenja tudi možnost uvrstitve v kastelnovjen, kamor sta ga uvrstila J. K. in S. K. Kozlowski (1984). Favnistična analiza najdišče umešča v boreal (Pohar 1986), kar ni skladno z arheološko opredelitvijo najdb v kastelnovjen, ki je datiran v atlantik. Čeprav predstavljajo trapezi in mikrovbadala značilen kastelnovjenski element, prisotnost majhnih in ozkih trikotnikov kaže, da bi bila na najdišču lahko prisotna tudi sovterjenska faza.

were determined by Brodar (1992: Pl. 5: 13–14) as Tardenoisian points. Inspecting the collection at the National Museum of Slovenia, we found that they are ordinary scalene trapezes with a break surface (*piquant trièdre*) on the longer truncated side.

The faunal remains are burnt and heavily fragmented. According to the number of identifiable remains, these species follow: *Sus scrofa*, *Cervus elaphus*, *Capreolus capreolus*, *Bos* seu *Bison*, *Meles meles*, *Crocidura russula*, *Martes* sp., *Lutra lutra*, and *Lynx lynx* (Pohar 1986). A single domestic animal remain, a fragmented incisor of a sheep or goat may be associated with prehistoric pottery finds. Two perforated marine snail shells of *Columbella rustica* were found (Brodar 1992: Fig. 6).

In his final publication, Brodar (1992) assigns the site to the Tardenoisian, although he also mentions the possibility of placing it in the

Mala Triglavca

V Mali Triglavci, kraškem spodmolu v bližini Divače, so izkopali najdbe od mezolitika do pozne antike (sl. 2) (Leben 1988). Pod mezolitskim horizontom so na globini 4,5 m naleteli na skalni podor, ki ločuje holocenske in pleistocenske sedimente. Pleistocenski sedimenti pod skalnim podorom so bili le delno raziskani in z izjemo enega odbitka brez arheoloških najdb (V. Pohar, ustna informacija).

Mezolitski horizont, ki je bil brez keramičnih najdb, je vseboval dve kurišči (Leben 1988: 71). Glede na Lebnovo izkopavalno dokumentacijo so ga tvorile vsaj tri plasti v skupni debelini 1 m. V njem je bilo najdenih okoli 800 kamnitih artefaktov, ki večinoma niso bili objavljeni. Tipološko določljivih orodij je nekaj več kot 100 (12,5 %) (Petru 1997: 84–86; Leben 1988: T. 2: 13–17). Mikrolitske armature, med katerimi prevladujejo trapezi, so maloštevilne. Analiza sledov uporabe na kamnitih orodjih kaže, da so jih uporabljali predvsem za obdelavo živalskih ostankov. Mnogo orodij je bilo verjetno nasajenih na lesene ali koščene nosilce. Pri trapezih so bile ugotovljene poškodbe, značilne za projektile. Sledovi uporabe so bili ugotovljeni tudi na mikrovbadalih in neretuširanih odbitkih (Petru 1997; 2004).

Od sorodnih najdišč na Tržaškem Krasu (Cremonesi et al. 1984) Mala Triglavca izstopa po številu izdelkov iz kosti in rogovja (Leben 1988: T. 1–2). Zastopane so kopače sekirastih oblik, koščena dleta, valjasti ročaji, šila in vsaj ena konica (T. 2: 6). Na meji med neolitskim in mezolitskim horizontom je bila najdena prstnica navadnega jelena, ki jo lahko interpretiramo kot žvižgalko (T. 8: 2). Preluknjan koščen predmet v obliki ribice je bil lahko amulet ali brnivka (T. 2: 7) (Omerzel Terlep 1998: 171 ss).

Med favnističnimi ostanki si po zastopanosti sledijo *Cervus elaphus, Sus scrofa, Cervus elaphus maral, Meles meles* in *Capreolus capreolus*. V manjši meri so zastopani še *Martes martes, Vulpes vulpes, Bison bonasus, Bos primigenius, Alces alces, Lepus europeaus* in *Canis lupus* (Pohar 1990).

Revizija manjšega dela izkopanega sedimenta mezolitskega horizonta je bistveno dopolnila sliko o najdišču. Skupaj je bilo z deponije odvzetih skoraj 1700 kg sedimenta, ki je bil mokro presejan na sitih. Najdenih je bilo skoraj 23.000

Castelnovian, where it was classified by J. K. and S. K. Kozlowski (1984). Faunal analysis assigns the site to the Boreal (Pohar 1986), contradicting the archaeological assignment of the finds to the Castelnovian, which is dated to the Atlantic. Although trapezes and microburins are characteristic Castelnovian elements, the presence of small and narrow triangles suggests that a Sauveterrian phase may also be present at this site.

Mala Triglavca

In the Mala Triglavca rock shelter in the Karst near Divača, finds dating from the Mesolithic to Late Antiquity have been excavated (Fig. 2) (Leben 1988). At the bottom of the Mesolithic level, at a depth of 4.5 m, a rockfall separated Holocene and Pleistocene sediments. The latter were only partially explored and, except one flake, contained no archaeological remains (V. Pohar, oral information).

The Mesolithic level, which had no pottery finds, contained two fireplaces (Leben 1988: 71). According to Leben's excavation documentation, the Mesolithic level consists of at least three layers with a total thickness of 1 m. About 800 stone artefacts were found in the Mesolithic level, most of which are unpublished. They are about 100 typologically definable tools (12.5%) (Petru 1997: 84–86; Leben 1988: Pl. 2: 13–17). Microlithic armatures, among which trapezes predominate, are scarce. Use-wear analysis suggests that stone tools were used primarily for working animal remains. Many tools were probably mounted on wooden or bone shafts. Projectile-specific damage was found on trapezes. Use-wear traces were also noted on microburins and unretouched flakes (Petru 1997; 2004).

Among related sites in Trieste Karst (Cremonesi et al. 1984), Mala Triglavca stands out for the number of bone and antler artefacts (Leben 1988: Pl. 1–2). Antler mattocks, bone chisels, cylindrical handles, awls, and at least one point are represented (Pl. 2: 6). At the contact of the Mesolithic and Neolithic level, the perforated phalange of a red deer was found, which can be interpreted as a whistle (Pl. 8: 2). The perforated bone object in the shape of a fish might have been an amulet or a bullroarer (Pl. 2: 7) (Omerzel Terlep 1998: 171 ss).

Faunal remains of *Cervus elaphus*, *Sus scrofa*, *Cervus elaphus maral*, *Meles meles* and *Capreolus capreolus* are the most abundant. *Martes martes*, *Vulpes vulpes*, *Bison bonasus*, *Bos primigenius*,

kamnitih artefaktov, od tega 348 retuširanih orodij (1,5 %) (Turk 2004a: T. 8–20; Turk, Turk 2004a: tab. 2.1). Med kamnitimi artefakti, ki so večinoma prekriti s sigo, prevladujejo odpadki vseh vrst, od jeder do lusk, kar dokazuje izdelavo orodij na najdišču. Kot surovino, ki je večinoma lokalnega izvora, so uporabljali prodnike roženca in tufa različne kvalitete. Na najdišče je bilo prinesenih več kot tisoč prodnikov, ki so jih po začetni obdelavi zaradi slabe kakovosti zavrgli. Fragmenti keramike kažejo, da so mezolitskim najdbam primešane neolitske najdbe. Neolitiku lahko pripišemo predvsem nekaj redkih kamnitih artefaktov iz eksotične surovine (domnevno roženec tipa Monti Lessini), kot so dolga in ozka retuširana klina, enakokraki trapez in romboid (Turk 2004a: T. 12: 45; 13: 82; 17: 149).

Med jedri prevladujejo neizoblikovana in enopolarna jedra. Tri piramidalna jedra so glede na velikost uvrščena v kategorijo mikrojeder (Turk 2004a: T. 9: 270–272). Mnogi odbitki in orodja so krakelirani. Številčne segmentirane kline in mikrovbadala (T. 5: 21–24) kažejo na dva različna postopka lomljenja klin v procesu izdelave mikrolitov. Mikrolitska orodja prav tako kažejo na obstoj sovterjenske (T. 5: 1–15, 20) in kastelnovjenske (T. 5: 16–19) tehnološke tradicije v Mali Triglavci. Med mikrolitskimi orodji so najštevilčnejši neenakokraki trapezi. Prisotnost lomne ploskve (*piquant trièdre*) na daljši stranici kaže, da so bili izdelani z mikrovbadalno tehniko. Sledijo raznostranični trikotniki, klinice s hrbtom in poševno prečno retušo ter mikrokonice. Večina mikrokonic je dvojnih in ima strmo retuširana oba lateralna robova. Med običajnimi retuširanimi orodji prevladujejo retuširani odbitki, ki jim sledijo praskala, pretežno izdelana na odbitkih, kline z izjedo, retuširane kline in kline s prečno retušo (Turk, Turk 2004a).

Med ostalimi najdbami, pridobljenimi med revizijo mezolitske deponije, so zastopani fragment preluknjane ptičje diafize in dve kamniti mikrojagodi (T. 8: 3–4), koščeno šilo, fragment koščenega obročka in več sto koščkov okre (Turk, Turk 2004a: sl. 2.4–2.6). Med izkopavanjem sta bili najdeni dve preluknjani lupini morskega polža *Columbella rustica* (Pohar, Josipovič 1992: T. 1: 4a–b). Med revizijo deponije mezolitskih sedimentov jih je bilo najdenih 32 in ena preluknjana lupina morskega polža *Smaragdia viridis*. Najdena je bila tudi večja količi-

Alces alces, *Lepus europeaus* and *Canis lupus* are also represented (Pohar 1990).

The revision of a smaller part of the excavated sediment of the Mesolithic level improved the picture of the site considerably. Nearly 1700 kg of sediment, taken from the backdirt, was wet-sieved. Nearly 23,000 stone artefacts were collected, of which 348 were retouched tools (1.5%) (Turk 2004a: Pl. 8–20; Turk, Turk 2004a: Tab. 2.1). Stone artefacts, most of which were covered with a calcareous incrustation, were dominated by waste from cores to chips, indicating intensive knapping activity at the site. The raw material used was chert and tuff cobbles of various qualities, mostly of local origin. More than 1,000 cobbles were brought to the site and discarded after initial knapping due to poor quality. Only a few stone artefacts are of exotic raw material (presumably Monti Lessini chert): long and narrow retouched blade, isosceles trapeze and rhomb (Turk 2004a: Pl. 12: 45; 13: 82; 17: 149). These finds can be assigned to the Neolithic period and, together with pottery fragments, indicate certain intermixing with the Neolithic level.

Among the cores, the unformed and unipolar cores predominate. Three pyramidal cores are designated as microcore due to their size (Turk 2004a: Pl. 9: 270–272). Many flakes and tools exhibit thermal damage. Numerous segmented blades and microburins (Pl. 5: 21–24) indicate two different blade breaking techniques used in microlith production. Microlithic tools also indicate the existence of the Sauveterrian (Pl. 5: 1–15, 20) and Castelnovian (Pl. 5: 16–19) technological traditions in Mala Triglavca. Among microlithic tools, scalene trapezes predominate. The break surface (*piquant trièdre*) on the longer truncated side indicates that they were produced by the microburin technique. Trapezes are followed by scalene triangles, backed and truncated bladelets, and micropoints. Most micropoints are double and have abrupt retouch on both lateral edges. Among the common retouched tools, retouched flakes predominate, followed by endscrapers (most of which are made on flakes), notched blades, retouched blades, and truncated blades (Turk, Turk 2004a).

Other finds collected during the revision of the Mesolithic backdirt include a perforated bird diaphysis and two stone microbeads (Pl. 8: 3–4), a bone awl, a fragment of a bone hoop, and several hundred pieces of ochre (Turk, Turk 2004a: Fig.

na fragmentiranih hišic velikega vrtnega polža (*Helix pomatia*) (Mikuž, Turk 2004).

Zbrana je bila velika količina ožganih in kalciniranih drobcev živalskih kosti. Med določljivimi živalskimi ostanki prevladujeta *Cervus elaphus* in *Sus scrofa*. Ostanki rogovja in fragmentirani parožki jelena kažejo na izkoriščanje in obdelavo jelenjega rogovja. Dodatno je bilo ugotovljenih pet vrst velikih sesalcev (*Castor fiber, Ursus arctos, Capra* seu *Ovis, Canis familiaris* in *Felis catus*) in 25 vrst malih sesalcev (Turk et al. 2004). Ostanki domačih živali kažejo na mešanje z mlajšimi plastmi. Najden je bil tudi človeški mlečni sekalec (Štamfelj et al. 2004: sl. 1–2).

Od leta 2002 potekajo v Mali Triglavci revizijska izkopavanja, usmerjena v proučevanje prehoda mezolitika v neolitik in neolitizacije Krasa. Preliminarni rezultati še niso bili objavljeni. V sklopu raziskovalnega projekta so bile opravljene in objavljene datacije vzorcev kosti iz Lebnovega izkopavanja ter revizija profila (Mlekuž et al. 2008).

2.4–2.6). Only two perforated shells of the marine snail *Columbella rustica* were found during the excavation (Pohar, Josipovič 1992: Pl. 1: 4a–b), while the revision of the Mesolithic backdirt revealed another 32 perforated shells of *Columbella rustica*, a shell of the marine snail *Smaragdia viridis*, and a large number of fragmented shells of large garden snails (*Helix pomatia*) (Mikuž, Turk 2004).

A large quantity of burnt and calcined animal bone fragments was collected. Among the diagnostic animal remains, *Cervus elaphus* and *Sus scrofa* are the most abundant. Antler fragments confirm the use and processing of red deer antlers. In addition, five newly discovered species of large mammals (*Castor fiber*, *Ursus arctos*, *Capra* seu *Ovis*, *Canis familiaris*, and *Felis catus*) and 25 species of small mammals have been identified (Turk et al. 2004). Domestic animal remains indicate intermixing with younger layers. A human deciduous tooth was also found (Štamfelj et al. 2004: Figs. 1–2).

Since 2002, revision excavation has been carried out in Mala Triglavca to investigate the Mes-

Sl. 2 — Mala Triglavca (foto: A. Velušček)
Fig. 2 — Mala Triglavca (photo by: A. Velušček)

Viktorjev spodmol

Viktorjev spodmol, ki leži pri Famljah v dolini reke Reke, je ostanek večje podrte jame (sl. 3). V spodmolu sta jamarja V. Saksida in L. Husu leta 1997 izkopala sondo površine 1 x 2 m, ki je segala do 1 m globoko do skalnega podora. Odkopani sediment sta za njima istega leta mokro presejala in ponovno pregledala I. Turk in J. Dirjec z Inštituta za arheologijo ZRC SAZU. Med drugim sta odkrila številne mikrolitske armature, ki sta jih izkopavalca spregledala.

Da bi ugotovila sosledje najdb, sta I. Turk in J. Dirjec leta 1999 izvedla vzorčenje profila izkopane sonde. Profil sta vzorčila arbitrarno po režnjih debeline 5 cm in ves odkopani sediment mokro presejala. V na pogled homogenem profilu sta nad skalnim podorom ločila tri plasti. Plast 1 in zgornji del plasti 2 je vseboval prazgodovinsko keramiko in kamnite artefakte, spodnji del plasti 2 in plast 3 pa kamnite in koščene artefakte (Turk 2004d: tab. 6.3.1). Največja koncentracija mezolitskih najdb je bila na meji med plastjo 2 in 3. Vzorčenje celotnega profila je obsegalo 19 režnjev. Mezolitske faze glede na režnje ni bilo mogoče stratigrafsko jasno razmejiti od mlajših prazgodovinskih obdobij, saj so najdbe v režnjih 6 do 11 delno premešane (Turk 2004e: 74). Vseh kamnitih najdb iz Viktorjevega spodmola je skoraj 13.000. Od tega je okoli 10.000 odpadkov, manjših od 5 mm. Retuširanih artefaktov je 176 (1,36 %) (Turk 2004a: T. 1–7; 2004d: tab. 6.4.1–6.4.3).

Veliko število jeder različnih oblik, med katerimi prevladujejo piramidalna jedra in vse vrste odpadkov, potrjujejo izdelavo in popravilo orodij na najdišču. Dobro so zastopane segmentirane kline, medtem ko so mikrovbadala redka. Surovino predstavljajo predvsem manjši prodniki roženca in tufa, ki se nahajajo v nanosih bližnje reke Reke. Med surovino izstopa nekaj kosov kamene strele, med katerimi je odlomek klinice s hrbtom (Turk 2004d: sl. 6.2.1).

**Med mikrolitskimi armaturami (T. 6: 1–21) prevladujejo klinice s hrbtom in poševno prečno retušo, raznostranični trikotniki in mikrokonice. Zastopane so enojne in dvojne mikrokonice, ki imajo strmo retuširana oba lateralna robova. Trapezi so redki, večina ima na daljšem kraku lomno ploskev (*piquant trièdre*). Krožni segmenti, razen morda enega fragmentiranega primerka (Turk 2004a: T. 4: 51), niso prisotni. Posebno skupino predstavljajo klinice z dvojolithic-Neolithic transition and the neolithisation of the Karst. Preliminary results have not yet been published. Radiocarbon analyses of bone samples from the original excavation and a revision of the stratigraphic profile were carried out as part of the research project (Mlekuž et al. 2008).

Viktorjev spodmol

The rock shelter Viktorjev spodmol is the remnant of a collapsed cave above the valley of the Reka River near Famlje (Fig. 3). In 1997, a test trench measuring 1 x 2 m and up to 1 m deep, where a rockfall was encountered, was excavated by cavers V. Saksida and L. Husu. Subsequently, the excavated sediment was wet-sieved and re-examined by I. Turk and J. Dirjec (ZRC SAZU Institute of Archaeology). Many microlithic armatures and the remains of microfauna, overlooked by the excavators, were collected.

In order to determine the sequence of finds, I. Turk and J. Dirjec carried out a sampling of the profile of the trench in 1999. The profile was sampled arbitrarily in 5 cm thick slices and all the removed sediment was wet-sieved. In a seemingly homogeneous profile, they recognized three layers above the rockfall. Layer 1 and the upper part of layer 2 contained prehistoric pottery and lithics, while the lower part of layer 2 and layer 3 contained lithics and osseous artefacts (Turk 2004d: Tab. 6.3.1). The highest concentration of Mesolithic finds was at the boundary between layers 2 and 3. A sampling of the complete profile consisted of 19 slices. The Mesolithic phase could not be clearly distinguished from later prehistoric periods, as the finds in slices 6 to 11 were partially mixed (Turk 2004e: 74). In total, almost 13,000 lithic finds were collected. Of these, about 10,000 are debitage smaller than 5 mm and 176 are retouched tools (1.36%) (Turk 2004a: Pl. 1–7; 2004d: Tab. 6.4.1–6.4.3).

A large number of cores of various shapes, among which pyramidal cores predominate, and all kinds of debitage confirm the manufacture and maintenance of tools at the site. Segmented blades are well-represented, while microburins are rare. Among the raw material, chert and tuff predominate, collected as cobbles in the alluvial deposits of the nearby Reka River. Rock crystal is also represented, from which a backed bladelet is made (Turk 2004d: Fig. 6.2.1).

Microlithic armatures (Pl. 6: 1–21) are dominated by backed and truncated bladelets, scalene

nim hrbtom, ki imajo izdelan pecelj ali izrobo (T. 6: 18–19) (Turk 2004a: T. 3: 32–36). Med mikroliti najdemo hipermikrolitske primerke: trikotnike (Turk 2004a: T. 4: 53, 57, 58; 7: 107/10), konico (Turk 2004a: T. 7: 113/14) in trapez (Turk 2004a: T. 5: 80/16). Med običajnimi retuširanimi orodji prevladujejo retuširani odbitki in retuširane kline. Slednje so vse fragmentirane. Praskala so izdelana na odbitkih, le eno je izdelano na mikrojedru (Turk 2004a: T. 5: 77/16). Kline s prečno retušo in kline z izjedo so redke. Vbadala niso zastopana. Najdeni so bili štirje odlomki koščenih orodij, ki bi lahko bili del šivank (Turk 2004a: T. 7: 115–118).

Med pregledom sedimenta, izkopanega pri sondiranju, sta bili najdeni dve človeški prstnici in mlečni sekalec. Med vzorčenjem profila sta bili v plasti 2 najdeni še dve človeški prstnici (Štamfelj et al. 2004; Štamfelj, Turk 2004).

Favnistični ostanki so močno fragmentirani in pripadajo 14 vrstam velikih sesalcev. Najbolje je zastopan *Cervus elaphus* (44 %), ki mu sledijo *Sus scrofa* (38 %), *Meles meles, Lepus* triangles, and micropoints. Single and double micropoints are represented, with both lateral edges abruptly retouched. Trapezes are rare, most having a break surface (*piquant trièdre*) on the longer, truncated side. Lunates are absent, with the possible exception of one fragmented specimen (Turk 2004a: Pl. 4: 51). The shouldered double-backed bladelets represent a special type (Pl. 6: 18–19) (Turk 2004a: Pl. 3: 32–36). Among the microlithic armatures, we find hypermicrolithic ones: triangles (Turk 2004a: Pl. 4: 53, 57, 58; 7: 107/10), the micropoint (Turk 2004a: Pl. 7: 113/14) and the trapeze (Turk 2004a: Pl. 5: 80/16). Retouched flakes and blades, the latter all fragmented, predominate among the common retouched tools. Endscrapers are made on flakes, one is made on a microcore (Turk 2004a: Pl 5: 77/16). Truncated blades and notched blades are rare while burins are not present. Four fragments of bone tools may have been part of needles (Turk 2004a: Pl. 7: 115–118).

Two human phalanges and one deciduous incisor were found during the examination of the

Sl. 3 — Viktorjev spodmol (foto: M. Turk)

Fig. 3 — Viktorjev spodmol (photo by: M. Turk)

europaeus, Canis familiaris, Capreolus capreolus **in** ***Vulpes vulpes*** **(Toškan, Dirjec 2004: sl. 16.5a; 16.6). Ugotovljenih je bilo 30 vrst malih sesalcev, 13 vrst mrzlokrvnih vretenčarjev, 46 vrst kopenskih in sladkovodnih polžev, tri vrste morskih polžev in morska školjka** ***Mytilus galloprovincialis*** **(Toškan, Dirjec 2004; Kryštufek, Toškan 2004; Paunović 2004; Slapnik 2004; Mikuž 2004). Štirje morski polži, od katerih so trije preluknjani, pripadajo vrsti** ***Columbella rustica*****, eden pripada vrsti** ***Nassarius cuvieri*** **in en preluknjan polž vrsti** ***Fossarus sp.*** **(T. 8: 5–7) (Mikuž 2004).**

Breg pri Škofljici

Plano najdišče Breg pri Škofljici leži na vzhodnem delu Ljubljanskega barja v bližini Škofljice (sl. 4) (Pohar 1984; Frelih 1986; 1987). Najdišče se nahaja na osameli vzpetini, rahlo dvignjeni nad okoliško ravnino. Pri površinskih pregledih je bilo zbranih več kot 600 kamnitih artefaktov in več kosov keramike, ki je primerljiva s keramiko z bližnjega pozno neolitskega kolišča Resnikov prekop. Med kamnitimi orodji so bila zastopana različna praskala, kline z izjedo, vbadala, klinice s hrbtom in trapezi (Josipovič 1983: 187; Frelih 1987: 115–116).

Izkopani sta bili dve sondi površine 4 m², ki sta segli do 1 m globoko. Plasti 1 in 2 sta vsebovali recentne najdbe, kamnite artefakte in keramiko tipa Resnikov prekop. V plasti 3, kjer keramika ni bila več prisotna, je narastlo število živalskih kosti in kamnitih artefaktov. Plast 3a je vsebovala ognjišče, obloženo s kosi peščenjaka in skrilavca alohtonega izvora, kamnite artefakte, koščene konice, drobce okre in številne favnistične ostanke. Posamezna kamnita orodja in živalske kosti so bile najdene tudi v peščeni plasti 4, ki leži na dolomitni osnovi (Frelih 1986; Pohar 1984).

V mezolitskem kulturnem horizontu, ki ga tvorita plasti 3 in 3a, je bilo skupaj pobranih 870 kamnitih artefaktov, od tega je bilo tipološko opredeljivih orodij 119 (13,6 %) (Frelih 1986: T. 1–5). Med orodji prevladujejo različna praskala, ki jim sledijo svedri, kline s prečno retušo, kline z izjedo in vbadala. Mikrolitske armature predstavljajo trapezi, krožni segmenti in klinice s hrbtom (T. 4: 17–27). Povsem manjkajo trikotniki in klinice s hrbtom in poševno prečno retušo, ki jih ni niti med površinsko zbranimi najdbami. Med trapezi prevladujejo neenakokraki trapezi

excavated sediment from the trench. In addition, two human phalanges were found during profile sampling in layer 2 (Štamfelj et al. 2004; Štamfelj, Turk 2004).

The remains of the large mammals are highly fragmented and belong to 14 species. *Cervus elaphus* (44%) is best represented, followed by *Sus scrofa* (38%), *Meles meles*, *Lepus europaeus*, *Canis familiaris*, *Capreolus capreolus* and *Vulpes vulpes* (Toškan, Dirjec 2004: Fig. 16.5a; 16.6). In addition, 30 species of small mammals, 13 species of cold-blooded vertebrates, 46 species of terrestrial and freshwater snails, three species of marine snails and the marine bivalve *Mytilus galloprovincialis* are represented (Toškan, Dirjec 2004; Kryštufek, Toškan 2004; Paunović 2004; Slapnik 2004; Mikuž 2004). Four marine shells, three of them perforated, belong to the *Columbella rustica*, one to *Nassarius cuvieri* and one perforated shell to *Fossarus sp*. (Pl. 8: 5–7) (Mikuž 2004).

Breg pri Škofljici

The open-air site of Breg pri Škofljici is located in the eastern part of Ljubljansko barje near Škofljica, on an isolated hill slightly elevated above the surrounding plain (Fig. 4) (Pohar 1984; Frelih 1986; 1987). Surface surveys yielded more than 600 lithic artefacts and several pieces of pottery comparable to the pottery from the nearby Late Neolithic pile-dwelling site Resnikov prekop. Lithic assemblage included various endscrapers, notched blades, burins, backed bladelets and trapezes (Josipovič 1983: 187; Frelih 1987: 115–116).

Two test trenches, each 4 m² in size, were excavated to a depth of 1 m. In layers 1 and 2 recent finds, lithics and pottery of the Resnikov prekop type were found. In layer 3, where pottery was no longer present, the number of faunal remains and stone artefacts increased. Layer 3a contained a hearth surrounded by pieces of sandstone and slate of allochthonous origin, stone artefacts, osseous points, ochre fragments and a considerable amount of faunal remains. Few stone tools and animal bones were also found in sandy layer 4, which lies on a dolomite bedrock (Frelih 1986; Pohar 1984).

In the Mesolithic level, consisting of layers 3 and 3a, a total of 870 stone artefacts were collected, of which 119 (13.6%) were typologically definable tools (Frelih 1986: Pl. 1–5). Among them, various endscrapers predominate, followed by borers, truncated blades, notched blades, and

s konkavno bazo. Najdena sta bila koščena retušerja in kamnita brusa ter kos skrilavca ovalnega preseka z vzporednimi vrezi (T. 8: 8) (Frelih 1986: T. 6). Iz mezolitskega horizonta izvira 31 koščenih konic, izdelanih iz ostankov cevastih kosti velikih sesalcev in jelenjih parožkov (T. 2: 1–3) (Frelih 1986: T. 7–9). Koščene konice so večinoma ohranjene fragmentarno. Imajo okrogel, ovalen ali trikoten presek.

Med favnističnimi ostanki v mezolitskem horizontu prevladuje *Cervus elaphus*, ki mu sledijo *Sus scrofa, Alces alces, Ursus arctos, Capreolus capreolus, Bison bonasus, Castor fiber* in *Lutra lutra*. Najden je bil zob psa (*Canis familiaris*) (Pohar 1984). Ribji ostanki pripadajo ščuki (*Esox lucius*), somu (*Silurus glanis*) in smuču (*Sander lucioperca*) (Križnar, Kovalchuk 2016).

Glede kronološke in kulturne umestitve mezolitskega horizonta najdišča Breg pri Škofljici obstajajo določene nejasnosti. Na podlagi primerjav kamnitih artefaktov z najdiščema Pod Črmukljo in Dedkov trebež ter z najdišči na Tržaškem Krasu, je Frelih (1986: 32–35) Breg pri Škofljici uvrstil v kastelnovjen. Pri tem moramo opozoriti, da so trapezi z Brega pri Škofljici brez lomne ploskve (*piquant trièdre*), ki je sicer značilnost trapezov iz mlajšemezolitskih burins. Microlithic armatures are represented by trapezes, lunates, and backed bladelets (Pl. 4: 17–27), while triangles and backed and truncated bladelets are absent (they are not even represented among the finds collected on the surface). Among trapezes, scalene ones with concave base predominate. Bone retouchers, stone grinders and an oval piece of slate with parallel incisions were found (Pl. 8: 8) (Frelih 1986: Pl. 6). In addition, the Mesolithic level yielded 31 osseous points from tubular bones of large mammals and deer antler (Pl. 2: 1–3) (Frelih 1986: Pl. 7–9). The osseous points are mostly fragmentary and have a round, oval or triangular cross-section.

In the Mesolithic level faunal remains of *Cervus elaphus* predominate, followed by *Sus scrofa*, *Alces alces*, *Ursus arctos*, *Capreolus capreolus*, *Bison bonasus*, *Castor fiber* and *Lutra lutra*. Tooth of a dog (*Canis familiaris*) have been found (Pohar 1984). Fish remains belong to the northern pike (*Esox lucius*), catfish (*Silurus glanis*) and zander (*Sander lucioperca*) (Križnar, Kovalchuk 2016).

There is some ambiguity about the chronological and cultural position of the Mesolithic level of Breg pri Škofljici. Based on comparisons of the stone artefacts with the sites of Pod Črmukljo and Dedkov trebež, as well as with sites in Trieste Karst, Frelih (1986: 32–35) classifies Breg pri

Sl. 4 — Breg pri Škofljici (foto: M. Turk)
Fig. 4 — Breg pri Škofljici (photo by: M. Turk)

kraških najdišč. Izjema med kraškimi najdišči je najdišče Dedkov trebež, kjer imajo trapezi v celoti retuširano zgornjo stranico.[2] Z uvrstitvijo v kastelnovjen se ne ujemajo izsledki antrakotomske analize oglja iz ognjišča in izsledki pelodne analize, ki postavljajo mezolitski horizont v konec preboreala (Pohar 1984; 1990). Kot rezultat radiokarbonske datacije oglja iz ognjišča Frelih (1986: 33) navaja starost 4880 ± 150 BC (nekalibriran datum je 6630 ± 150 BP (Z–1421), glej Mlekuž et al. 2006: tab. 1). Za mezolitik je glede na današnje védenje to premlad datum. Pozneje, med izkopavanjem M. Budje, ki je potekalo nekaj 10 metrov stran od Osoletovega izkopa, je bila za spodnji del mezolitskega horizonta pridobljena radiokarbonska datacija, ki je pokazala nekalibrirano starost 9180 ± 50 BP (GrA–10018) (Mlekuž 2001: sl. 4; Mlekuž et al. 2006: tab. 1). Glede na to datacijo bi spodnji del mezolitskega horizonta, odkrit med izkopavanji M. Budje, sodil že v sovterjen.

Zalog pri Verdu

Ostanki planega najdišča Zalog pri Verdu so bili odkriti v strugi in v razgaljenem profilu desne brežine potoka Ljubija na zahodnem robu Ljubljanskega barja (Gaspari 2006a). Zaradi vodne erozije se mezolitska plast v profilu brežine ni ohranila, ostale so le presedimentirane najdbe, ki so ležale pod debelimi aluvialnimi nanosi na stiku s polžarico. Radiokarbonske datacije rastlinskih ostankov iz plasti z najdbami ter pedološke in palinološke analize sedimentov kažejo na hiatus v sedimentaciji med polžarico in mlajšeholocenskimi plastmi (Gaspari, Erič 2006: tab. 1.1; Verbič 2006; Culiberg 2006).

Arheološka raziskava je bila omejena zgolj na pobiranje in dokumentiranje najdb iz struge ter na dokumentiranje in vzorčenje plasti brežine potoka. V profilu brežine so najdbe ležale v dolžini 60 m, medtem ko so bile na dnu struge iz brežine erodirane najdbe razpršene v dolžini 90 m (Gaspari, Erič 2006: 22–27). Glede na ostro zamejeno razprostranjenost artefaktov, ostanek navpično zabitega lesenega kola ter koncentracije večjih kamnov Gaspari in Kavur (2006: 199) menita, da odkrite najdbe niso ležale daleč od svojega prvotnega položaja.

Pri podvodnem pregledu struge potoka Lju-

2 V jami Stenašca (Grotta dell'Edera) na Tržaškem Krasu so trapezi z retuširanima stranicama zastopani v mlajše sovterjenski plasti 3b, ki se je odložila na prehodu boreala v atlantik (Biagi et al. 2008: 8).

Škofljici as Castelnovian. It should be noted that the trapezes from Breg pri Škofljici do not have a *piquant trièdre*, which is a characteristic of trapezes from the Late Mesolithic sites at Karst. The exception is the karst site Dedkov trebež, where trapezes have a completely retouched longer truncated side.[2] The results of the anthracotomical analysis of the charcoal from the hearth and the results of the pollen analysis, which place the Mesolithic level at the end of the Preboreal (Pohar 1984; 1990), do not agree with the archaeological assignment in the Castelnovian. As a result of radiocarbon dating of charcoal from the hearth, Frelih (1986: 33) quotes age of 4880 ± 150 BC (uncalibrated date is 6630 ± 150 BP (Z–1421), see Mlekuž et al. 2006: Tab. 1). According to current knowledge, this date is too young for the Mesolithic. Later, during the excavation of M. Budja, which took place a few dozen metres from the Osole trenches, a radiocarbon dating was carried out for the lower part of the Mesolithic level, where a stone platform was recognised, giving an uncalibrated age of 9180 ± 50 BP (GrA–10018) (Mlekuž 2001: Fig. 4; Mlekuž et al. 2006: Tab. 1). Based on this dating, the lower part of the Mesolithic level excavated during the Budja excavation would belong to the Sauveterrian.

Zalog pri Verdu

The remains of the open-air site Zalog pri Verdu were discovered in the bed and on the eroded right bank of the Ljubija stream on the western edge of the Ljubljansko barje (Gaspari 2006a). Due to water erosion, the Mesolithic layer in the profile has not been preserved, only resedimented finds lying under thick alluvial deposits at the contact with the lake marl. Radiocarbon dating of plant remains from the layer with archaeological finds, as well as pedological and palynological analyzes of the sediments, indicate a hiatus in sedimentation between the lake marl and the Early Holocene layers (Gaspari, Erič 2006: Tab. 1.1; Verbič 2006; Culiberg 2006).

The archaeological investigations focused on the collection and recording of finds from the river bed and on the recording and sampling of the layers exposed on the bank. In the profile of the bank, finds were scattered at a distance of 60 m, while at the bottom of the bed, finds eroded

2 In Grotta dell'Edera in the Trieste Karst trapezes with a completely retouched both truncated sides appeared for the first time in late Sauveterrian layer 3b, deposited at the transition from the Boreal to the Atlantic (Biagi et al. 2008: 8).

bija je bilo zbranih 2242 kamnitih artefaktov. Med njimi je okoli 300 retuširanih orodji (13,3 %) (Kavur 2006: T. 1–24). Najdbe, ki jih hrani Narodni muzej Slovenije, smo si osebno ogledali in tako dodajamo nekaj lastnih opažanj. Preučevanje kamnite zbirke otežujejo obloge, prisotne na mnogih artefaktih. Zaradi oblog je težko določiti surovino, smer odbijanja in vrsto retuše. Med jedri različnih oblik in velikosti (Kavur 2006: sl. 4.2) prevladujejo večja, neizoblikovana jedra s sledovi odbijanja odbitkov. Tipične kline in klinice z ravnimi vzporednimi robovi so redke. Retuširana orodja, z izjemo praskal, so tipološko težko opredeljiva. Večinoma gre za slabo izdelana, priložnostna orodja.

Mikrolitske armature so maloštevilne. Njihovo izdelavo nakazujejo segmenti klin in jedra s sledovi odbijanja klinic. Dva mikrolita sta objavljena kot trikotnik (Kavur 2006: T. 1: 2, 16), vendar nobeden od njiju ne ustreza zahtevanim kriterijem za trikotnike (G.E.E.M. 1969). Med inventarjem smo ugotovili samo en trikotnik, ki je določen kot klinica s hrbtom (Kavur 2006: T. 16: 240). Prav tako nismo opazili nobene tipične klinice s hrbtom, čeprav jih Kavur (2006: tab. 4.3) navaja osem. Vsaj dva primerka, opredeljena kot klinica s hrbtom (Kavur 2006: T. 6: 86; 14: 218), bi lahko bila ostanka enojne mikrokonice (sovterjenske konice *sensu lato*) (G.E.E.M. 1972).

Med surovino, uporabljeno za izdelavo kamnitih orodij, prevladuje surovina slabše kvalitete. Čeprav med surovino najdemo tudi zelo kvaliteten roženec, so mikrolitske armature izdelane iz slabših surovin. Pri makroskopskem pregledu vzorca surovine so bili ugotovljeni različni roženci, tuf in kalcedon. Prevladujejo odbitki iz rožencev neznanega izvora (Horvat 2006: sl. 5.1). Nahajališča uporabljenih rožencev, z izjemo rdečih rožencev (jaspisa), v okolici Ljubljanskega barja niso znana. Med surovino je zastopan tudi odbitek kamene strele. Najbližje nahajališče kamene strele je znano v bližnjem Polhograjskem hribovju severno od Ljubljanskega barja (Vidrih, Mikuž 1995: 134).

Kamnito industrijo dopolnjujejo artefakti iz kosti in rogovja. Odkritih je bilo 14 masivnih orodij iz rogovja navadnega jelena, sedem koščenih predmetov ter številni odpadki. Iz kosti so izdelovali dletasta orodja, šila in konice (Gaspari 2006a: T. 30: 15–17; 31). Celotno ohranjena konica je priostrena na obeh koncih, medtem ko imata preostali konici odlomljen bazalni del (T. 2: 4–5).

from the bank were scattered at a distance of 90 m (Gaspari, Erič 2006: 22–27). Given the sharply defined distribution of artefacts, the vertically driven pile and the concentration of larger stones, Gaspari and Kavur (2006: 199) believe that the finds were collected not far from their original position.

During the underwater survey of the Ljubija bed, 2,242 stone artefacts were gathered. Among them, there are about 300 retouched tools (13.3%) (Kavur 2006: Pl. 1–24). We have examined these finds kept at the National Museum of Slovenia, and add here some of our observations. Examination of the stone collection is complicated by the coatings present on many artefacts. Because of the coatings, it is difficult to determine the raw material, the direction of flaking and the type of retouch. Among the cores of various shapes and sizes (Kavur 2006: Fig. 4.2), larger unformed cores with flake removals predominate. Typical blades and bladelets with straight parallel edges are rare. Retouched tools, except endscrapers, are difficult to define typologically. Mostly they are poorly worked occasional tools.

Microlithic armatures are scarce. The production of microlithic armatures is indicated by blade segments and cores bearing bladelets removals. Two microliths are published as triangles (Kavur 2006: Pl. 1: 2, 16), but none of them meets the criteria for this tool type (G.E.E.M. 1969). In the assemblage, we found only one triangle defined as a backed bladelet (Kavur 2006: Pl. 16: 240). We did not observe any typical backed bladelet, although Kavur (2006: Tab. 4.3) mentions eight of them. At least two specimens defined as the backed blade (Kavur 2006: Pl. 6: 86; 14: 218) could be fragments of a micropoint (Sauveterrian point *sensu lato*) (G.E.E.M. 1972).

The raw material used for the manufacture of stone tools is mainly of poor quality. Although high-quality chert is also represented, it was not used for the production of microliths. Macroscopic examination of the raw material sample revealed various cherts, tuff and chalcedony. Flakes from cherts of unknown origin predominate (Horvat 2006: Fig. 5.1). The locations of the represented cherts, except the red chert (jasper), in the surroundings of Ljubljansko barje are not known. One flake is of rock crystal, whose location is known in the nearby hills Polhograjsko hribovje north of Ljubljansko barje (Vidrih, Mikuž 1995: 134).

The lithic industry is supplemented by osseous artefacts. Fourteen massive tools made of deer

Posebnost predstavljajo orodja, izdelana iz srednjega dela stebla rogovja, ki imajo luknjo na lateralno medialnem delu (T. 3: 1–2) (Gaspari 2006b: 128–132). Kjer je ohranjen, je proksimalni konec eno ali dvostransko prisekan in tvori delovni rob, ki je vzporeden z luknjo. Za ta orodja v Sloveniji in bližnji okolici ne najdemo ustrezne primerjave. Podobna orodja se pojavljajo predvsem v severni Evropi, znana pa so tudi z mezolitskih najdišč v Železnih vratih (Zvelebil 1994: sl. 5). Njihova funkcija ni popolnoma jasna (Elliott 2015: 229–231). Orodja, ki imajo delovni rob orientiran pravokotno na luknjo, bi lahko uporabljali kot kopače ali tesla, orodja, ki imajo delovni rob vzporeden z luknjo, pa kot sekire. Ker luknja in delovni rob pri orodjih iz Zaloga pri Verdu nista poravnana, menimo, da so kot kopače, tesla in sekire neuporabna. Podobne predmete, vendar brez luknje, so našli na planem gravetjenskem najdišču Kammern-Grubgraben v Avstriji. Bili so zabiti v tla okoli ostankov bivališča. Domnevno so jih uporabljali kot sidrišča za pritrditev jurte (Neugebauer-Maresch et al. 2016: T. 6: 3–9).

Med ostanki velikih sesalcev je daleč najbolj zastopan *Cervus elaphus* (61,6 %), ki mu sledi *Sus cf. scrofa* (28,9 %) (Toškan, Dirjec 2006: tab. 8.1). Dobro polovico vseh najdb jelena predstavljajo odlomki rogovja, ki pogosto nosijo sledove obdelave. V manjši meri so zastopani *Bos sp., Meles meles, Capreolus capreolus, Castor fiber, Felis sp., Ursus arctos, Bos* seu *Bison, Martes martes, Capra hircus* in *Equus caballus*. Zadnji dve udomačeni vrsti lahko povežemo s prisotnostjo posameznih kosov bronastodobne lončenine, najdene v strugi potoka Ljubije. Živalskim ostankom moramo prišteti še ostanke ščuke (*Esox lucius*) in ostanke 11 vrst ptic, značilnih za vodne in močvirne biotope (Govedič 2006; Janžekovič, Malez: 2006).

V brežini potoka so bili ugotovljeni sledovi domnevne paleostruge, v kateri so našli izolirano človeško lobanjo odrasle ženske. Kalibrirana radiokarbonska AMS datacija lobanje je 7957–7610 BC (2σ, KIA–25792), kar jo uvršča v boreal oz. starejši mezolitik (Hincak, Štefančič 2006; Gaspari, Erič 2006: tab. 1.1).

Planina Pretovč (Gorenji Pretovč)

Planina Pretovč leži v Zgornjem Posočju v Krnskem pogorju na višini med 1100 in 1200 m. Razteza se na območju sedla, ki povezuje doli-

antler, seven bone objects and numerous waste were discovered. Bones were used to making chisels, awls and points (Gaspari 2006a: Pl. 30: 15–17; 31). The complete point is sharpened at both ends, while the other two are broken at the basal part (Pl. 2: 4–5).

Tools made from the central part of the antler with a hole in the lateral-medial part stand out (Pl. 3: 1–2) (Gaspari 2006b: 128–132). Where preserved, the proximal end is bevelled on one or both sides, forming a working edge parallel to the hole. No adequate comparison could be found for these tools in Slovenia and its surroundings. Similar tools occur mainly in northern Europe but are also known from Mesolithic sites in the Iron Gate (Zvelebil 1994: Fig. 5). The function of these tools is not entirely clear (Elliott 2015: 229–231). Tools that have a working edge oriented perpendicular to the hole could be used as mattocks or adzes, and tools that have a working edge oriented parallel to the hole could be used as axes. Since the hole and working edge of the tools from Zalog pri Verdu are not aligned, we consider them useless as mattocks, adzes and axes. Similar objects, but without a hole, were found in the Gravettian open-air site Kammern-Grubgraben in Austria. They were driven into the ground around the remains of the dwelling. Presumably, they served as anchors for fastening the yurt (Neugebauer-Maresch et al. 2016: Pl. 6: 3–9).

Among the remains of large mammals, *Cervus elaphus* (61.6%) is by far the most represented, followed by *Sus* cf. *scrofa* (28.9%) (Toškan, Dirjec 2006: Tab. 8.1). More than half of all red deer finds are antler fragments, which often bear traces of processing. *Bos* sp., *Meles meles*, *Capreolus capreolus*, *Castor fiber*, *Felis* sp., *Ursus arctos*, *Bos* seu *Bison*, *Martes martes*, *Capra hircus*, and *Equus caballus* are represented to a much lesser extent. The latter two domesticated species may be associated with the presence of individual pieces of Bronze Age pottery also found in the Ljubija riverbed. To the animal remains, we must add the remains of pike (*Esox lucius*) and 11 bird species characteristic of water and wetland biotopes (Govedič 2006; Janžekovič, Malez 2006).

An isolated female adult human skull was found in a presumed palaeochannel, recognised on the right bank. The calibrated radiocarbon AMS date of the skull 7957–7610 BC (2σ, KIA–25792) assigns it to the Boreal, i.e. Early Mesolithic (Hincak, Štefančič 2006; Gaspari, Erič 2006: Tab. 1.1).

no Soče z dolino Tolminke. Na območju planine Pretovč sta znani dve najdišči kamnitih artefaktov (Turk et al. 2005). Prvo najdišče leži na severnem koncu (Gorenji Pretovč) in drugo na južnem koncu sedla (Pretovč). Leta 2004 sta Inštitut za arheologijo ZRC SAZU in Tolminski muzej izvedla arheološko izkopavanje na Gorenjem Pretovču (sl. 5). Izkopana je bila sonda velikosti 2 x 2 m do 76 cm globoko. Celoten izkopani sediment je bil mokro presejan. Najdbe predstavljajo kamniti artefakti, nekaj koščkov oglja in semena, ki so ležala v ilovnati plasti pod plastjo humusa. Večina semen ni pooglenelih in so verjetno recentna.

Na Gorenjem Pretovču je bilo skupaj s površinskim nabiranjem zbranih okoli 550 kamnitih artefaktov, od tega je približno 10 % orodij (Turk et al. 2005: sl. 4; T. 1–2). Prisotnost vseh vrst odpadkov skupaj z jedri priča o izdelavi orodij na najdišču. Med jedri prevladujejo enopolarna in navzkrižna jedra. Jedra in odbitki s korteksom kažejo, da so za surovino uporabljali prodnike roženca. Med surovino prevladuje kakovosten alohtoni roženec, ki se zlahka loči od avtohtonega roženca slabe kakovosti. Dve razbitini sta iz kamene strele. Najdenih je bilo več segmentiranih klinic in eno mikrovbadalo (T. 7: 12).

Pretovč alp (Gorenji Pretovč)

The Pretovč alp is located above the Upper Soča Valley in the Krn Mountains at an altitude of 1100 to 1200 m a.s.l. It extends in the area of the saddle connecting the Soča Valley and Tolminka Valley. Two sites of stone artefacts are known in Pretovč alp (Turk et al. 2005). The first site is located at the northern part (Gorenji Pretovč) and the second at the southern part of the saddle (Pretovč). In 2004, the Institute of Archaeology ZRC SAZU and the Tolmin Museum carried out an archaeological excavation at Gorenji Pretovč (Fig. 5). A test trench measuring 2 x 2 m and 76 cm deep was excavated. All the excavated sediment was wet-sieved. The finds consist of stone artefacts, scattered charcoal fragments and plant seeds lying in a clay layer under humus. Most of the seeds are not charred and are probably recent.

Including the finds collected on the surface, about 550 stone artefacts were found in Gorenji Pretovč, of which about 10% are retouched tools (Turk et al. 2005: Fig. 4; Pl. 1–2). All types of debitage together with cores testify to the production of tools at this site. Among the cores, unipolar cores and cores with crossed blank removals

Sl. 5 — Izkopavanje na planini Pretovč (Gorenji Pretovč) (foto: M. Turk)
Fig. 5 — Excavation at Pretovč alp (Gorenji Pretovč) (photo by: M. Turk)

Termične poškodbe so prisotne tako na odpadkih kot na orodjih.

Med običajnimi retuširanimi orodji prevladujejo retuširani odbitki, ki so površno izdelani in dajejo vtis priložnostnih orodij. Sledijo praskala na odbitkih in klinah, izjede, nazobčana orodja, retuširane klinice in prečne retuše. Mikrolitskih orodij je 12 (T. 7: 1–11), med njimi prevladujejo klinice s hrbtom in prečno retušo. Najden je bil le en trikotnik. Gre za enakokraki trikotnik, ki ima s polstrmo retušo retuširano najdaljšo stranico. Zastopane so tri mikrokonice s strmo retušo na obeh lateralnih robovih (t. i. sovterjenske konice *sensu lato*). Popolnoma ohranjena je le dvojna mikrokonica. Na podlagi tipološke analize najdb je najdišče uvrščeno v sovterjen (Turk et al. 2005: 45).

Planina Leskovca (Leskovca II)

Na planini Leskovca v Krnskem pogorju so ljubiteljski iskalci na dveh lokacijah na površju našli kamnite artefakte (Bizjak, Jamnik 2013). Leta 2017 in 2020 je na lokaciji Leskovca II Inštitut za arheologijo ZRC SAZU v sodelovanju s Tolminskim muzejem in Narodnim muzejem Slovenije izvedel arheološko izkopavanje (Turk 2020). Najdišče Leskovca II (1170 m) leži na robu razgledne izravnave ob skupini skal, sredi nekdanjega ledeniškega korita (sl. 6).

Izkopavanje je zajelo 8 m² površine. Večina artefaktov izvira iz zgornje polovice pod humusom ležeče ilovnate plasti. Pod ilovnato plastjo je na globini od 20 do 65 cm pod površjem ležal sterilni morenski grušč. Poleg kamnitih artefaktov so bili najdeni ostanki malih sesalcev, razpršeni koščki oglja in večja količina recentnih rastlinskih semen. Datacija izoliranega koščka oglja ni dala željenega rezultata. Radiokarbonska starost datiranega vzorca je 1650 ± 30 BP (Poz–136337).

Kamniti inventar, pridobljen med izkopavanji, šteje skoraj 4900 kosov, ki se jim pridružuje še okoli 500 kosov, nabranih na površju. Značilnost kamnitega inventarja je močna patiniranost, a je bilo kljub temu mogoče ugotoviti, da so artefakti izdelani iz rožencev različnih barvnih odtenkov in kakovosti. Nekaj odbitkov in razbitin pripada kameni streli. Za sive rožence z ohranjeno skorjo prodnika sklepamo, da so jih lovci in nabiralci prinesli iz doline Nadiže, kjer je ta surovina zastopana v Spodmolu pri Bjarču (Riparo di Biarzo), oddaljenem 20 km zračne razdalje (Turk 2020; Guerreschi 1996).

predominate. Cortex on cores and flakes indicate that cobbles of chert were used as a raw material. High-quality allochthonous chert predominate, which is easily distinguished from low-quality autochthonous chert. Two debris are of rock crystal. Several segmented bladelets and a microburin were found (Pl. 7: 12). Thermal damage is observed on both waste and tools.

Among the common retouched tools, retouched flakes predominate. They are superficially made and give the impression of occasional tools. They are followed by endscrapers on flakes and blades, notches, denticulated tools, retouched flakes and truncations. In the group of 12 microlithic armatures (Pl. 7: 1–11), backed and truncated bladelets predominate. An isosceles triangle with a retouched longest side is the only triangle found. Three micropoints with abruptly retouched both lateral edges (i.e. Sauveterrian points *sensu lato*) are represented, the complete one being a double point. Based on the typological analysis of the finds, the site was assigned to the Sauveterrian (Turk et al. 2005: 45).

Leskovca alp (Leskovca II)

Amateurs found stone artefacts at two sites on the Leskovca alp in the Krn Mountains (Bizjak, Jamnik 2013). In 2017 and 2020, the Institute of Archaeology ZRC SAZU, in cooperation with the Tolmin Museum and the National Museum of Slovenia, conducted an archaeological excavation at the Leskovca II site (1170 m a.s.l.) (Turk 2020). The site is located on the edge of a plateau near a group of rocks, in the middle of a former glacial trough (Fig. 6).

The excavation covered an area of 8 m². Most of the lithics came from the upper half of the clay layer covered by humus. Below the clay layer, at a depth of 20 to 65 cm below the surface, was sterile moraine gravel. In addition to the lithics, remains of small mammals, scattered charcoal, and a large number of recent plant seeds were found. Dating the isolated charcoal piece did not give the desired result. The radiocarbon age of the dated sample is 1650 ± 30 years BP (Poz–136337).

The lithic assemblage recovered during the excavation includes nearly 4,900 pieces, joined by about 500 pieces collected from the surface. A characteristic feature of the lithic assemblage is the heavy patination. Despite the patination, it could be established that chert of various colors and qualities were used. Some of the flakes and debris are rock crystals. For the greyish chert

Približno polovica izkopanega sedimenta je bila mokro presejana. Daleč najbolje so zastopani manjši odbitki in luske, medtem ko so jedra maloštevilna. Retuširanih orodij je 117 (2,4 %), med njimi je kar 73 mikrolitskih armatur (T. 7: 13–29). Večina mikrolitskih armatur je poškodovanih in polomljenih. Med tipološko določljivimi kosi daleč najbolj prevladujejo klinice s hrbtom. Zastopane so še mikrokonice, klinice s hrbtom in prečno retušo in enakokraki trikotnik z retuširano najdaljšo stranico. Med običajnimi retuširanimi orodji prevladujejo retuširani odbitki in praskala na odbitkih. Kline in klinice so večinoma segmentirane. Mikrovbadala niso zastopana.

Med celotnim kamnitim inventarjem z najdišča Leskovca II, zbranim med površinskimi pregledi in izkopavanjem, imamo zaenkrat le en nedvoumni geometrijski mikrolit, enakokraki trikotnik z retuširano najdaljšo stranico with preserved cobble cortex, it can be concluded that it was brought from the banks of the Natisone River. Indeed, comparable raw material is represented in Riparo di Biarzo in Natisone Valley (Italy), about 20 km away as the crow flies (Turk 2020; Guerreschi 1996).

About half of the excavated sediment was wet-sieved. By far the best represented are small flakes and chips while cores are rare. There are 117 (2.4%) retouched tools, of which as many as 73 are microlithic armatures (Pl. 7: 13–29). Most of them are damaged and broken. Among the typologically definable armatures, backed bladelets are most common. Also represented are micropoints, backed and truncated bladelets, and an isosceles triangle with a retouched longest side. Among the common retouched tools, retouched flakes and endscrapers on the flakes predominate. Blades and bladelets are mainly segmented. Microburins are not represented.

Sl. 6 — Planina Leskovca in najdišče Leskovca II z zasutim testnim jarkom (foto: M. Turk)

Fig. 6 — Leskovca alp and the site Leskovca II with a backfilled test trench (photo by: M. Turk)

(T. 7: 13). Na podlagi trenutne slike sklepamo, da je najdišče Leskovca II starejše od mlajšega mezolitika (kastelnovjena). Težje pa na podlagi tipološke analize ugotavljamo, ali gre za najdišče iz končnega paleolitika (epigravetjena) ali iz starejšega mezolitika (sovterjena). Zagotovo gre najdišče umestiti v čas, ko se je lokalni ledenik že umaknil in se je na ledeniško preoblikovanem pobočju formirala prst, pokrita z rastjem.

DISKUSIJA IN ZAKLJUČEK

Ker je bil mezolitik Hrvaške še nekaj desetletij nazaj slabo poznan (Komšo 2006), podobno stanje pa je bilo tudi v Avstriji (Leitner 1984), je bilo najlažje iskati primerjave na področju severovzhodne Italije, še posebej Tržaškega Krasa, kjer je znanih vsaj 17 mezolitskih najdišč. Delitev mezolitika na starejšo fazo – sovterjen in na mlajšo fazo – kastelnovjen, ki se je uveljavila v severni Italiji, smo prevzeli tudi v Sloveniji. Prvi je izraz kastelnovjen uporabil Frelih (1986) pri objavi najdišča Breg pri Škofljici. Pred tem so bili kamniti inventarji, ki so danes opredeljeni v kastelnovjen, označeni kot tardenoazjenski (Osole, Brodar 1979: 140; Brodar 1992).

Če za kamnito industrijo lahko najdemo ustrezne primerjave v mezolitskih najdiščih severovzhodne Italije, to težje storimo za artefakte iz kosti in rogovja. Najbližje primerjave za masivna orodja iz rogovja z luknjo na lateralno medialnem osrednjem delu stebla iz Zaloga pri Verdu Gaspari (2006b: 136–139) navaja v mezolitskih najdiščih na območju Železnih vrat (Vlasac, Ostrovul Mare, Schela Cladovei). Kot najboljšo primerjavo za koščene konice z Brega pri Škofljici Frelih (1986: 30) navaja plano najdišče Vlasac v Srbiji in jamo Zigeunerhöhle (Gratkorn) na avstrijskem Štajerskem. Enoredni harpuni iz rogovja iz Špehovke in Ljubljanice imata prav tako ustrezne primerjave v najdišču Vlasac v Srbiji (Srejović 1979: T. IX: 2), v spodmolu Odmut (Črna gora) (Cristiani, Borić 2016: Fig. 10: 1) in v epigravetjenskem kontekstu v jami Vlakno na Dugem otoku (Hrvaška) (Vujević 2018: sl. 6).

V Sloveniji poznamo vsaj šest najdišč iz končnega paleolitika. V nobenem od teh najdišč niso bile nad epigravetjenom potrjene plasti iz starejšega mezolitika. Najbližje najdišče s stratificiranimi najdbami iz epigravetjena in starejšega mezolitika je Spodmol pri Bjarču v dolini

Of the entire lithic inventory of Leskovca II, obtained during surface surveys and excavation, we currently have only one unambiguous geometric microlith, an isosceles triangle with a retouched longest side (Pl. 7: 13). Based on the actual state, we conclude that the Leskovca II site is older than the Late Mesolithic (Castelnovian). It is more difficult to determine based on typological analysis whether the site dates from the Late Upper Palaeolithic (Epigravettian) or the Early Mesolithic (Sauveterrian). Certainly, the site belonged to a time when the local glacier had already retreated and soil covered with vegetation had formed on the glacially transformed slope.

DISCUSSION AND CONCLUSION

Since the Mesolithic of Croatia was little known a few decades ago (Komšo 2006) and the situation in Austria was similar (Leitner 1984), it was easiest to seek comparisons in northeastern Italy, especially on the Trieste Karst, where at least 17 Mesolithic sites are known. The division of the Mesolithic into the early phase – Sauvetterian and the late phase – Castelnovian, which was accepted in northern Italy, was also adopted in Slovenia. The term Castelnovian was first used by Frelih (1986) in the publication of Breg pri Škofljici. Before that, the lithic assemblages now defined as Castelnovian were assigned to Tardenoisian (Osole, Brodar 1979: 140; Brodar 1992).

While suitable comparisons can be found for lithic industry in the Mesolithic sites of northeastern Italy, the same is not true for osseous artefacts. Massive antler tools with a hole in the lateral-medial central part of the antler from Zalog pri Verdu, have according to Gaspari (2006b: 136–139) the closest comparisons in the Mesolithic sites in Iron Gate (Vlasac, Ostrovul Mare, Schela Cladovei). Frelih (1986: 30) found the best comparisons for the bone points from Breg pri Škofljici in Vlasac in Serbia and in the Zigeunerhöhle cave (Gratkorn) in Styria (Austria). Unilateral antler harpoons from Špehovka cave and Ljubljanica River also have parallels in Vlasac (Srejović 1979: Pl. IX: 2), in the Odmut rock shelter (Montenegro) (Cristiani, Borić 2016: Fig. 10: 1) and the Epigravettian context of the Vlakno cave on the island of Dugi otok (Croatia) (Vujević 2018: Fig. 6).

There are at least six sites from the Late Upper Palaeolithic in Slovenia. In none of these sites both Epigravettian and Early Mesolithic layers have been confirmed. The nearest sites with

Nadiže (Italija) (Guerreschi 1996) ter Pupićina peć in jama Zala na Hrvaškem (Komšo, Pellegatti 2007; Vukosavljević, Karavanić 2015a).[3] V Spodmolu pri Bjarču je epigravetjenska plast vsebovala klinice s hrbtom in prečno retušo ter redke trikotnike. Zaradi prisotnosti mikrolitov in geometrijskih orodij v končnem epigravetjenu severovzhodne Italije, je Guerreschi (1984) izvor sovterjena v severovzhodni Italiji videl v lokalni tradiciji končnega epigravetjena. Vprašanja izvora slovenskega mezolitika je izpostavil I. Turk (2004f), ki je domnevne povezave med končnim paleolitikom in mezolitikom iskal predvsem pri dveh mlajše paleolitskih jamskih najdiščih: Ciganski jami in Poljšiški cerkvi (Brodar 1991; 1995). Medtem ko je Brodar Ciganski jamo opredelil v gravetjen (Brodar 1991), je Poljšiško cerkev zaradi pomanjkanja značilnih mezolitskih orodnih tipov in prisotnosti alpskega svizca opredelil v pozni glacial (Brodar 1995: 16). V obeh najdiščih je opazna izrazita mikrolitizacija, primerljiva z mezolitikom, vendar ni zastopanih geometrijskih armatur. Zdi se, da je glavni povezovalni element med epigravetjenom in mezolitikom v Sloveniji mikrolitizacija orodij in strma retuša. Prelom s paleolitikom predstavlja pojav geometrijskih mikrolitov v mezolitiku.[4] Frelih (1986: 33, op. 10) dopušča možnost, da pojav mikrolitskih orodij in krožnih ter nohtastih praskal v Poljšiški cerkvi predstavlja prehodno fazo iz epigravetjena v starejši mezolitik.

Mezolitska najdišča Slovenije, ki večinoma ležijo v njenem zahodnem delu (karta 1), lahko glede na njihovo regionalno koncentracijo razdelimo v tri skupine. Prvo skupino tvorijo kraška najdišča jugozahodne Slovenije, med katerimi izstopajo Mala Triglavca, Viktorjev spodmol, Pod Črmukljo in plano najdišče Dedkov trebež. V vseh so zastopani trapezi, ki so najštevilčnejši v Mali Triglavci. V Mali Triglavci in Viktorjevem spodmolu so zastopane podobne mikrokonice kot na nekaterih najdiščih Tržaškega Krasa. Zlasti ožji primerki mikrokonic tipološko ustrezajo sovterjenskim konicam (T. 5: 11–15; 6: 15–17) (cf. G.E.E.M. 1972). Krožni segmenti niso zastopani. V Viktorjevem spodmolu pred-

stratified Epigravettian and Early Mesolithic layers are Riparo di Biarzo in Natisone Valley, Italy (Guerreschi 1996) and Pupićina peć and Zala cave in Croatia (Komšo, Pellegatti 2007; Vukosavljević, Karavanić 2015a).[3] In Riparo di Biarzo, the Epigravettian layer contained backed and truncated bladelets and rare triangles. Based on the presence of microliths and geometric armatures in Final Epigravettian in northeastern Italy, Guerreschi (1984) considered the origin of Sauvetterian in northeastern Italy to be in the local tradition of Final Epigravettian. The question of the origin of the Mesolithic in Slovenia was pointed out by I. Turk (2004f), who sought alleged links between the Late Upper Palaeolithic and the Mesolithic mainly at two Upper Palaeolithic cave sites: Ciganska jama and Poljšiška cerkev (Brodar 1991; 1995). While Brodar (1991) assigned Ciganska jama to the Gravettian, he defined Poljšiška cerkev to the Late Glacial due to the absence of characteristic Mesolithic tool types and the presence of an alpine marmot (Brodar 1995: 16). At both sites, pronounced microlithization, comparable to that of the Mesolithic is observed, but no geometric armatures. The main connecting element between the Epigravettian and Mesolithic in Slovenia seems to be microlitization of tools and abrupt retouch. The break with the Palaeolithic is represented by the appearance of geometric microliths in the Mesolithic.[4] Frelih (1986: 33, n. 10) allows for the possibility that the occurrence of microlithic tools and circular and thumbnail endscrapers in the Poljšiška cerkev represents a transitional phase from the Epigravettian to the Early Mesolithic.

The Mesolithic sites of Slovenia, most of which are located in the western part of the country (Map 1), can be divided into three groups according to their geographical concentration. The first group consists of karst sites in southwestern Slovenia, among which Mala Triglavca, Viktorjev spodmol, Pod Črmukljo and open-air site Dedkov trebež stand out. Trapezes are present in all of them, most numerous in Mala Triglavca. In Mala Triglavca and Viktorjev spodmol similar micropoints are represented as in some sites of Trieste Karst. In particular, the slender micropoints cor-

3 Na Hrvaškem so plasti iz časa prehoda paleolitika v mezolitik ohranjene še v jami Vlakno na Dugem otoku (Vukosavljević et al. 2014).

4 Razlika s končnim paleolitikom je vidna tudi v velikem porastu termičnih poškodb na kamnitih artefaktih, kar še posebej velja za mezolitska najdišča jugozahodne Slovenije. Ali gre za namerno termično obdelavo surovine v procesu izdelave orodij, ali za naključno izpostavljenost ognju, ni jasno.

3 In Croatia, layers of the transition from the Palaeolithic to the Mesolithic are also preserved in the Vlakno cave on the island of Dugi otok (Vukosavljević et al. 2014).

4 The difference with the Late Upper Palaeolithic is also evident in the sharp increase in thermal damage to the stone artefacts, which is especially true for the Mesolithic sites in southwestern Slovenia. It is not clear whether this is a result of intentional heat treatment of the raw material during tool manufacture or accidental exposure to fire.

stavljajo posebno skupino bazalni odlomki klinic z dvojnim hrbtom, ki imajo izdelano izrobo ali pecelj (T. 6: 18–19). Za te klinice, ki bi bile lahko ostanki projektilov, v slovenskem mezolitiku in tudi širše ne najdemo ustrezne primerjave. Podobne, vendar večjih dimenzij poznamo z najdišč končnega paleolitika (Brodar 1991: T. 18: 34–35; 1995, T. 6: 18; cf. Vukosavljević, Karavanić 2017). Glede na število trapezov v starejšem in mlajšem kastelnovjenskem horizontu najdišča Riparo Gaban (severovzhodna Italija) (Kozlowski, Dalmeri 2000) bi Viktorjev spodmol lahko uvrstili v starejšo in Malo Triglavco v mlajšo kastelnovjensko fazo (pod pogojem, da večina trapezov v Mali Triglavci ni primešana iz neolitske plasti). Vendar je možno, da je v Viktorjevem spodmolu zastopana tudi sovterjenska faza, kar nakazujejo številne mikrokonice sovterjenskega tipa in radiokarbonska datacija morske školjke iz spodnjega dela stratigrafskega stolpca (nekalibrirana starost 9560 ± 60 BP, 1σ, Beta–184798) (Turk 2004g: tab. 1; Turk, Turk 2004b). Podobna situacija se kaže tudi v Mali Triglavci, kjer mikrolitska orodja, pridobljena med revizijo izkopanega sedimenta mezolitskega horizonta, nakazujejo obstoj sovterjenske in kastelnovjenske tehnološke tradicije. Na mezolitskih najdiščih Tržaškega Krasa, kjer je večinoma zastopana sovterjenska faza, sta obe mezolitski fazi zastopani v jamah Pejca na Sedlu (Grotta Benussi) in Stenašca (Grotta dell'Edera). V Stenašci sledi plasti s kastelnovjenskimi najdbami neolitska plast s keramiko skupine Vlaška, ki označuje začetek neolitika na Krasu (Cremonesi et al. 1984; Biagi et al. 2008). Izključno kastelnovjenska faza je bila prepoznana samo v jami Cavernetta della Trincea.

Drugo skupino predstavljajo gorska najdišča Zgornjega Posočja v Julijskih Alpah. Večinoma ležijo na prisojnih pašnih planinah z virom vode, na višinah med 900 in 1400 m (Turk 2006; 2007; Jamnik 2015). Največja koncentracija najdišč je na območju med Krnskim pogorjem in reko Sočo. Arheološka izkopavanja so prinesla na dan zgolj kamnite artefakte, ki so ležali v ilovnati plasti pod humusom. Ostanki lovskega plena, ognjišča in druge strukture zaenkrat niso bili odkriti. Plana gorska najdišča razlagamo kot sezonske lovske tabore. Glede na večinoma skromne koncentracije najdb sklepamo, da je šlo za kratkotrajne obiske manjših lovskih skupin. Po številu kamnitih najdb izstopa najdišče

respond typologically to Sauveterrian points (Pl. 5: 11–15; 6: 15–17) (cf. G.E.E.M. 1972). Lunates, which are generally very rare in Slovene Mesolithic, are not present. In Viktorjev spodmol, fragments of shouldered, double-backed bladelets stand out (Pl. 6: 18–19). In the Mesolithic sites of the region, we do not find a suitable comparison for such bladelets, which could be the remains of projectiles. Similar tools, but on larger supports, are known from the Late Upper Palaeolithic. (Brodar 1991: Pl. 18: 34–35; 1995, Pl. 6: 18; cf. Vukosavljević, Karavanić 2017). Considering the number of trapezes in the Early and Late Castelnovian level of the Riparo Gaban (northeastern Italy) (Kozlowski, Dalmeri 2000), Viktorjev spodmol could be placed in the Early and Mala Triglavca in the Late Castelnovian (assuming that the majority of trapezes in Mala Triglavca are not infiltrated from the Neolithic level). However, it is possible that the Sauveterrian phase is also represented in the Viktorjev spodmol, as indicated by micropoints of the Sauveterrian type and radiocarbon dating of the seashell from the lower part of the stratigraphic column (uncalibrated age 9560 ± 60 BP, 1σ, Beta–184798) (Turk 2004g: Tab. 1; Turk, Turk 2004b). A similar situation is observed in Mala Triglavca, where microlithic tools obtained during the revision of the excavated sediment of the Mesolithic level indicate the existence of the Sauveterrian and Castelnovian technological traditions. In the Mesolithic cave sites of the Trieste Karst, where the Sauveterrian phase is most represented, both Mesolithic phases are represented in Grotta Benussi and Grotta dell'Edera. In Grotta dell'Edera, the Castelnovian phase is followed by a Neolithic layer with Vlaška group pottery, marking the beginning of the Neolithic in the Karst (Cremonesi et al. 1984; Biagi et al. 2008). The exclusively Castelnovian phase was recognized only in the Cavernetta della Trincea.

The second group consists of the open-air mountain sites above the Upper Soča Valley in Julian Alps. These sites are mostly located on sunny mountain pastures near water sources, at altitudes between 900 and 1400 m a.s.l. (Turk 2006; 2007; Jamnik 2015). The highest concentration of sites is in the area between Krn Mountains and the Soča River. Archaeological excavations revealed only lithic artefacts, found in the clay layer covered by humus. The remains of hunting prey, hearths and other structures have not been discovered so far. The open-air mountain sites are interpreted as seasonal hunting camps.

Leskovca II, kjer je bila raziskana večja površina (8 m²). Zbrani litični inventar, pri katerem med retuširanimi orodji prevladujejo mikrolitske armature, velika količina segmentiranih klinic, manjših odbitkov in lusk, nakazuje, da gre za prostor, kjer so prazgodovinski lovci popravljali in izdelovali svojo lovsko opremo.

Domnevamo, da so v Zgornje Posočje mezolitske skupine prišle po dolini Nadiže iz vzhodne Furlanije, kjer je znanih več mezolitskih najdišč (Bressan 1984; Guerreschi 1998: sl. 6). To domnevo podpirajo najdbe orodij in jeder iz prodnikov sivkastega roženca, ki ga najdemo v strugi Nadiže in ki so ga uporabljali v Spodmolu pri Bjarču. Z namenom, da bi odkrili mezolitska najdišča v dolini Soče, smo med Kobaridom in Tolminom sondirali štiri jame oz. spodmole, vendar je bil rezultat negativen.[5] Kot možni vezni člen med gorskimi najdišči in dolino zaenkrat lahko izpostavimo samo večplastno najdišče Spodmol pri Bjarču v dolini Nadiže (Guerreschi 1996). Gorska najdišča Zgornjega Posočja se dobro vklapljajo v skupino gorskih mezolitskih najdišč severovzhodne Italije (Dolomiti, Karnijske Alpe). Trapezi, razen morda enega primerka (Jamnik 2015: sl. 3), v Julijskih Alpah niso zastopani. V dolini Soče je bil na poznoantični naselbini Tonovcov grad, poleg drugih kamnitih najdb, najden neenakokrak trapez, izdelan z mikrovbadalno tehniko (Turk 2011: sl. 6.1: 3). Najdbe trapezov so redke tudi v gorskih najdiščih italijanskih Dolomitov, kjer je večina najdišč opredeljena v sovterjen (Broglio, Lanzinger 1996; Broglio 2016). Zaradi majhnega vzorca diagnostičnih najdb in odsotnosti radiokarbonskih datacij je ožja kulturna umestitev planih gorskih najdišč v Zgornjem Posočju otežena. Vsaj za najdišči Gorenji Pretovč in Čadrg – Laze II na podlagi kamnitih najdb menimo, da pripadata sovterjenu, medtem ko bi najdišče Leskovca II lahko pripadalo epigravetjenu.

Tretjo skupino predstavljajo plana najdišča Ljubljanskega barja v osrednji Sloveniji, ki so nastala na robu nekdanjega postglacialnega jezera. Na Ljubljanskem barju izstopata mlajše (in starejše?) mezolitsko najdišče Breg pri Škofljici in starejše mezolitsko najdišče Zalog pri Verdu (Frelih 1986; Gaspari 2006a). Posebnost obeh najdišč je bogata koščena

Given mostly the modest concentration of finds, we conclude that these sites reflect short-term visits by smaller hunting groups. The Leskovca II site, where the larger area was excavated (8 m²), stands out for the number of lithic finds. The collected lithic assemblage, in which microlithic armatures predominate among the retouched tools, a large number of segmented bladelets, small flakes and chips, indicate that this was a place where prehistoric hunters maintained and produced their hunting equipment.

We assume that Mesolithic groups came to the Upper Soča Valley via the Natisone Valley from eastern Friuli (Italy), where several Mesolithic sites are known (Bressan 1984; Guerreschi 1998: Fig. 6). This assumption is supported by the finds of stone tools and cores made from cobbles of greyish chert found in the Natisone River and used in the Riparo di Biarzo. In order to discover Mesolithic sites in the Soča Valley, four caves and rock shelters between Kobarid and Tolmin were subjected to test excavation. None of them yielded archaeological finds.[5] So far, only Riparo di Biarzo in Natisone Valley (Guerreschi 1996) can be highlighted as a possible link between the mountain sites and the lowlands. The mountain sites above the Upper Soča Valley fit well into the group of Mesolithic mountain sites of northeastern Italy (Dolomites, Carnic Alps). Trapezes, with the possible exception of one specimen (Jamnik 2015: Fig. 3), are not represented in the Julian Alps. In the Soča Valley, in the Late Antique settlement of Tonovcov grad, among other lithic finds from the basal clay layer, a scalene trapeze was found, made by the microburin technique (Turk 2011: Fig. 6.1: 3). Trapezes are also rare in the mountain sites of the Italian Dolomites, where the majority of Mesolithic sites are assigned to the Sauveterrian (Broglio, Lanzinger 1996; Broglio 2016). Due to the small sample of diagnostic finds and the lack of radiocarbon dating, the more precise cultural definition of the open-air mountain sites above the Upper Soča Valley is difficult. At least for Gorenji Pretovč and Čadrg – Laze II we conclude, based on the stone artefacts, that they belong to the Sauveterrian, while Leskovca II could belong to the Epigravettian.

5 Sondiranja v dolini Soče so leta 2005 potekala v jami Podnjačk, Spodmolu I in Spodmolu II pri Idrskem ter v Spodmolu pri Kamnem. Vsi ti objekti ležijo v bližini reke Soče in so izoblikovani v konglomeratu. Sondiranje z negativnim izidom je istega leta potekalo še v Babji jami pri Ljubinju nad Baško grapo.

5 Test excavations in the Soča Valley took place in 2005 in Podnjačk cave, Spodmol I and Spodmol II near Idrsko and Spodmol near Kamno. All these caves/rock shelters are located near the Soča River and are formed in a conglomerate. Test excavation with negative result also took place in the same year in the Babja jama cave near Ljubinj above Baška grapa Valley.

industrija (T. 2: 1–5; 3: 1–2). Najdišče Zalog pri Verdu, kjer so bile najdbe zaradi vodne erozije pobrane v sekundarni legi in kjer je delež mikrolitskih armatur izredno nizek, raziskovalci razlagajo kot prostor, kjer so v jesenskem času razkosavali lovski plen in obdelovali jelenje rogovje (Gaspari, Kavur 2006: 202–203). Za potrebe teh opravil naj bi na najdišču izdelovali kamnita orodja, med katerimi pa so skoraj povsem odsotna vbadala. Izdelava koščenih orodij skupaj s prisotnostjo mikrolitskih armatur je izpričana na Bregu pri Škofljici. Odsotnost mikrovbadal in zastopanost trapezov brez lomne ploskve (*piquant trièdre*) na Bregu pri Škofljici kaže na drugačno tradicijo izdelave trapezov, kot je bila v kraških najdiščih Pod Črmukljo, Viktorjev spodmol in Mala Triglavca (cf. Turk 2004c). Dodatno se Breg pri Škofljici od najdišč kraške skupine jugozahodne Slovenije razlikuje po odsotnosti trikotnikov in klinic s hrbtom in poševno prečno retušo, medtem ko so krožni segmenti prisotni.

Petrološka mikroskopska analiza surovine, ki bi omogočila zanesljiveje ugotoviti njena izvorna območja, ni bila opravljena za nobeno najdišče. Vsi zaključki glede surovine so podani na podlagi makroskopskih opažanj in primerjav z znanimi nahajališči roženca v Sloveniji. Med surovino prevladujejo roženci lokalnega izvora, pogosto povprečne ali slabe kvalitete. Kvalitetni svetlosivi roženec, značilen za epigravetjenska najdišča, v mezolitiku ni zastopan. Zdi se, da kvalitetnejša surovina prevladuje na gorskih najdiščih Zgornjega Posočja, kamor so surovino v večjem delu transportirali iz doline. Kamena strela je bila najdena na Gorenjem Pretovču, Leskovci II, Viktorjevem spodmolu, Vrbičevem hribcu, Zalogu pri Verdu in na Belškem polju. Kamena strela se na severovzhodnih italijanskih najdiščih razlaga kot eksotična surovina, ki naj bi kazala na trgovske stike z območjem severno od apneniških Alp. Vendar v našem primeru na podlagi prisotnosti kamene strele ne moremo govoriti o obstoju trgovine na velike razdalje, saj so nahajališča kamene strele znana tudi v Sloveniji (Vidrih, Mikuž 1995: 134).

Navadni jelen (*Cervus elaphus*) in divja svinja (*Sus scrofa*) sta bila v mezolitiku na ozemlju današnje Slovenije glavni lovski plen (Pohar 1990; Toškan, Dirjec 2004: 150). Jelenje rogovje je v Mali Triglavci predstavljalo pomembno surovino za izdelavo orodij. Delež jelenjega rogovja zavzema v Mali Triglavci 82 % vseh ostankov

The third group is formed by the open-air sites of Ljubljansko barje in Central Slovenia, once located on the edge of a former post-glacial lake. In Ljubljansko barje, the Late (and Early?) Mesolithic site Breg pri Škofljici and the Early Mesolithic site Zalog pri Verdu stand out (Frelih 1986; Gaspari 2006a). The distinctive feature of both sites is rich osseous industry (Pl. 2: 1–5; 3: 1–2). Zalog pri Verdu, where the finds were collected in a secondary position due to water erosion and where the proportion of microlithic armatures is very low, is interpreted as a butchering site where antler processing took place in autumn (Gaspari, Kavur 2006: 202–203). It is assumed that stone tools for these tasks were made at this site, but interestingly, burins are almost completely absent. In Breg pri Škofljici, the production of osseous tools is attested together with microlithic armatures. The absence of microburins and the representation of trapezes without break surface (*piquant trièdre*) in Breg pri Škofljici indicate a different tradition of making trapezes than in the karst sites Pod Črmukljo, Viktorjev spodmol and Mala Triglavca (cf. Turk 2004c). Moreover, Breg pri Škofljici differs from the sites of the karst group in southwestern Slovenia by the absence of triangles and backed and truncated bladelets, while lunates are present.

Petrological microscopic analysis of the raw material, which would allow a more reliable determination of provenance, was not carried out for any site. All conclusions regarding the raw material are given based on macroscopic observations and comparisons with known outcrops in Slovenia. In general, the raw material is dominated by chert of local provenance, often of mediocre or poor quality. The high-quality light grey chert, characteristic of Epigravettian sites, is not represented in the Mesolithic sites. It seems that a higher quality raw material prevailed at the mountain sites of the Upper Soča Valley, where the raw material was mainly brought from the valley. Rock crystal was found in Gorenji Pretovč, Leskovca II, Viktorjev spodmol, Zalog pri Verdu, Belško polje and Vrbičev hribec. Rock crystal is considered an exotic raw material in northeastern Italian sites, which indicates trade contacts with the area north of the Limestone Alps. In our case, however, we cannot speak of the existence of long-distance trade, as rock crystal deposits are also known in Slovenia (Vidrih, Mikuž 1995: 134).

The red deer (*Cervus elaphus*) and the wild boar (*Sus scrofa*) were the main hunting prey in

jelena, v Viktorjevem spodmolu, kjer je izdelkov iz rogovja malo, pa 31 % (Turk et al. 2004: 202). V Mali Triglavci izstopa najdba bobra, katerega ostanki so znani tudi z mezolitskih najdišč Tržaškega Krasa (Cremonesi et al. 1984: 233). Bober ne sodi v suho kraško pokrajino. Najbliže primerno okolje za to vodno žival je bil lahko izvir Timava, dolina Glinščice in Reke. Od domačih živali lahko glede na zanesljiv kontekst mezolitsko pripadnost pripišemo le psu, odkritemu na Bregu pri Škofljici in v Viktorjevem spodmolu.

Večina ostankov lovskega plena kaže na gozdnato pokrajino. Ob koncu poznega glaciala je na ozemlju današnje Slovenije prevladoval bor. Z nastopom holocena so močno nazadovali iglavci in breza, medtem ko so se hitro širili elementi mešanega hrastovega gozda. *Quercetum mixtum* v borealu ni uspeval le v nižjih legah, temveč tudi v Julijskih Alpah na višini 1000 do 1500 m. Konec boreala se v nižjih in gorskih legah razširi bukev (Fagus), ki se ji v prvi polovici atlantika pridruži jelka (Abies). Od atlantika dalje je bil jelov-bukov gozd (*Abieti-Fagetum*) v raznih variantah dominantna gozdna vegetacija vse do danes (Šercelj 1996).

Dodaten vir prehrane so v mezolitiku predstavljali mehkužci. V Viktorjevem spodmolu in Mali Triglavci so bili to predvsem veliki vrtni polž (*Helix pomatia*) (Slapnik 2004; Mikuž, Turk 2004). Najdbe lupin morskih polžev (T. 8: 5–7), med katerimi prevladuje *Columbella rustica*, so v Sloveniji zaenkrat znane le s kraških najdišč. Lupine morskih polžev *Columbella rustica*, ki so jih uporabljali za okras, so na območju severnega Jadrana značilne predvsem za najdišča mlajšega mezolitika, ki ležijo blizu obale (Boschian 2003: 99; Cremonesi et al. 1984). *Columbella rustica* predstavlja na jugovzhodnem alpskem področju in vzhodnem Jadranu v starejšem in mlajšem mezolitiku najbolj razširjen osebni okras (Cristiani 2012; Cristiani et al. 2014; Cvitkušić et al. 2018; Vukosavljević, Karavanić 2015b; Komšo, Vukosavljević 2011). Vsi primerki iz slovenskih najdišč (Pod Črmukljo, Viktorjev spodmol, Mala Triglavca) so preluknjani. Kot nakit je služil tudi prevrtan grandl jelena iz Betalovega spodmola (Pohar, Josipovič 1992: T. 1: 5a–b) in dve majhni jagodi iz Male Triglavce (T. 8: 4).

Najdbe glasbenih instrumentov v mezolitiku so v primerjavi z mlajšim paleolitikom redke (Morley 2005). Iz Male Triglavce poznamo

the Slovene Mesolithic sites (Pohar 1990; Toškan, Dirjec 2004: 150). Antler was an important raw material for making tools in Mala Triglavca, where antler fragments account for 82% of all deer remains, while in Viktorjev spodmol, where antler products are few, the proportion is 31% (Turk et al. 2004: 202). In Mala Triglavca, the finding of a beaver is unusual. Moreover, its remains are also known from Mesolithic sites in Trieste Karst (Cremonesi et al. 1984: 233). The beaver does not belong to the dry karst landscape and its nearest suitable habitat could be the source of the Timav, the valley of the river Glinščica and Reka. Among the domestic animals, according to the secure context, the Mesolithic affiliation can be attributed only to the dog found in Breg pri Škofljici and Viktorjev spodmol.

Most of the remains of hunting prey indicate woodland. At the end of the Late Glacial pine predominated on the territory of present-day Slovenia. At the beginning of the Holocene, conifers and birch declined sharply, while elements of a mixed oak forest spread. *Quercetum mixtum* thrived in the Boreal not only at lower altitudes but also at Julian Alps at an altitude of 1000 to 1500 m a.s.l. At the end of the Boreal, beech (*Fagus*) also spread to the mountainous regions, joined by fir (*Abies*) in the first half of the Atlantic. From the Atlantic, the fir-beech forest (*Abieti-Fagetum*) is still the dominant forest vegetation in different variants (Šercelj 1996).

Molluscs were an additional source of food in the Mesolithic. In Viktorjev spodmol and Mala Triglavca these were mainly large garden snails (*Helix pomatia*) (Slapnik 2004; Mikuž, Turk 2004). Finds of marine snail shells (Pl. 8: 5–7), among which *Columbella rustica* predominates, are currently known in Slovenia only from the karst sites. Shells of *Columbella rustica*, used as decoration, are characteristic in the northern Adriatic region especially for coastal sites of Late Mesolithic (Boschian 2003: 99; Cremonesi et al. 1984). *Columbella rustica* represents the most widespread personal adornment in the southeastern Alpine region and the eastern Adriatic in the Early and Late Mesolithic (Cristiani 2012; Cristiani et al. 2014; Cvitkušić et al. 2018; Vukosavljević, Karavanić 2015b; Komšo, Vukosavljević 2011). All specimens from Slovenian sites (Pod Črmukljo, Viktorjev spodmol, Mala Triglavca) are perforated. A perforated deer tooth from Betalov spodmol (Pohar, Josipovič 1992: Pl. 1: 5a–b) and two stone microbeads from Mala Triglavca (Pl. 8: 4) also served as ornaments.

nekaj artefaktov, ki jih lahko interpretiramo kot glasbila. Tam je bil v mezolitskem horizontu najden koščen predmet v obliki ribice, ki bi lahko bil brnivka (T. 2: 7). Ena preluknjana prstnica jelena je bila najdena v neolitskem horizontu (T. 8: 1) in druga na meji med mezolitskim in neolitskim horizontom (T. 8: 2). Ti najdbi sta enaki kot preluknjane prstnice iz paleolitskih najdišč, kjer so običajno interpretirane kot žvižgalke (Dauvois 2005). Fragment preluknjane ptičje diafize, ki je lahko pripadal majhni piščali, je bil v Mali Triglavci najden med revizijo deponije izkopane mezolitske plasti (T. 8: 3). Ker je bila deponija delno pomešana z neolitsko plastjo, pripadnost mezolitiku ni zanesljiva.

Med najdbe, ki jih lahko povezujemo s simbolnimi dejanji mezolitskih lovcev in nabiralcev sodijo tudi kosi okre, odkriti na Bregu pri Škofljici, Vrbičevem hribcu, v Viktorjevemu spodmolu in Mali Triglavci. Kos alohtonega skrilavca z vrezi z Brega pri Škofljici (T. 8: 8) lahko razložimo kot umetniški izdelek, možno pa je tudi, da vrezi na robovih preprosto predstavljajo števne oznake.

Človeški ostanki so omejeni na posamezne izolirane najdbe. Lobanja odrasle ženske iz Zaloga pri Verdu sodi glede na radiokarbonsko datacijo v boreal. Mezolitsko pripadnost lobanje, ki je prvi potrjeni človeški ostanek iz predneolitskega obdobja v Sloveniji, dodatno nakazujejo antropometrični podatki (Hincak, Štefančič 2006). Iz Viktorjevega spodmola izvirajo mlečni zob in štiri prstnice subadultne osebe. Ali ti človeški ostanki izvirajo iz mezolitika ali mlajših prazgodovinskih obdobij, ni jasno. Enako velja za človeški mlečni zob iz Male Triglavce, najden med revizijo izkopanega mezolitskega sedimenta (Štamfelj, Turk 2004; Štamfelj et al. 2004).

Revizija izkopane mezolitske plasti Male Triglavce in novejša izkopavanja so pokazali, da je slika o slovenskem mezolitiku zaradi neustreznih izkopavalnih metod v preteklosti močno popačena. Zaradi različnih izkopavalnih metod in različno velikih raziskanih površin, so verodostojne primerjave med najdišči otežene. Fragmentarnemu poznavanju mezolitika Slovenije navkljub ima raziskovanje tega obdobja velik potencial. Nove verodostojne podatke, bodo lahko prinesle le interdisciplinarne terenske raziskave. Kot

Finds of musical instruments from the Mesolithic are rare compared to Upper Palaeolithic (Morley 2005). There are several artefacts from Mala Triglavca that can be interpreted as musical instruments. A bone artefact in the shape of a fish was found in the Mesolithic level, which can be interpreted as a bullroarer (Pl. 2: 7). A perforated deer phalange was found in the Neolithic level (Pl. 8: 1), the other at the boundary between the Mesolithic and Neolithic levels (Pl. 8: 2). These two finds are consistent with perforated phalanges from Palaeolithic sites, where they are usually interpreted as whistles (Dauvois 2005). A fragment of a perforated avian diaphysis, possibly belonging to a small flute, was found during a revision of the excavated Mesolithic layer in Mala Triglavca (Pl. 8: 3). As the backdirt was partially mixed with the Neolithic level, the Mesolithic affiliation is not certain.

Other finds that can be associated with the symbolic practices of Mesolithic hunter-gatherers include natural pigments such as ochre found in Breg pri Škofljici, Vrbičev hribec, Viktorjev spodmol and Mala Triglavca. An allochthonous piece of slate with parallel incisions from Breg pri Škofljici (Pl. 8: 8) could be interpreted as an artistic object, but it is also possible that incisions are simply counting marks.

Human remains are known only as isolated finds. The skull of an adult female from Zalog pri Verdu belongs to the Boreal according to radiocarbon dating, and its Mesolithic affiliation is further supported by anthropometric analysis (Hincak, Štefančič 2006). This skull is the first confirmed human remain older than the Neolithic in Slovenia. A deciduous tooth and four phalanges of a subadult individual were found in Viktorjev spodmol. Whether these human remains are from the Mesolithic or later periods is not clear. The same applies to the deciduous tooth from Mala Triglavca, which was found during the revision of the excavated Mesolithic sediment (Štamfelj, Turk 2004; Štamfelj et al. 2004).

The revision of the excavated Mesolithic layer of the Mala Triglavca and recent research have shown that the picture of the Mesolithic in Slovenia has been greatly distorted by improper excavation methods in the past. Different excavation methods and different sizes of excavated areas make credible comparisons between sites difficult. Despite the rudimentary knowledge of the Mesolithic in Slovenia, this period has great research potential. New reliable data can only be

še posebej zanimivo območje izpostavljamo Ljubljansko barje, saj obrežje holocenskega jezera na Ljubljanskem barju ni bilo privlačno za poselitev samo v eneolitiku in bronasti dobi, ko so tam cvetele koliščarske naselbine, temveč tudi v zgodnjem holocenu. Najdišče Breg pri Škofljici, kjer je bila odkrita hodna površina z ognjiščem, ohranjenimi ostanki favne in artefakti iz kosti in rogovja, ostaja v večji meri neraziskano. Med gorskimi najdišči Zgornjega Posočja kaže velik raziskovalni potencial najdišče Leskovca II in med kraškimi najdišči Viktorjev spodmol.

obtained through interdisciplinary field research. We highlight Ljubljansko barje as a particularly interesting area. The shores of the Holocene lake were attractive to prehistoric people not only in the Eneolithic and Bronze Age, when pile-dwelling settlements flourished there, but also in the Early Holocene. The site of Breg pri Škofljici, where a walking surface with a hearth was discovered, together with remains of hunted fauna and osseous artefacts remains largely unexplored. Among the mountain sites of the Upper Soča Valley, the Leskovca II is the most promising and in the group of karst sites Viktorjev spodmol.

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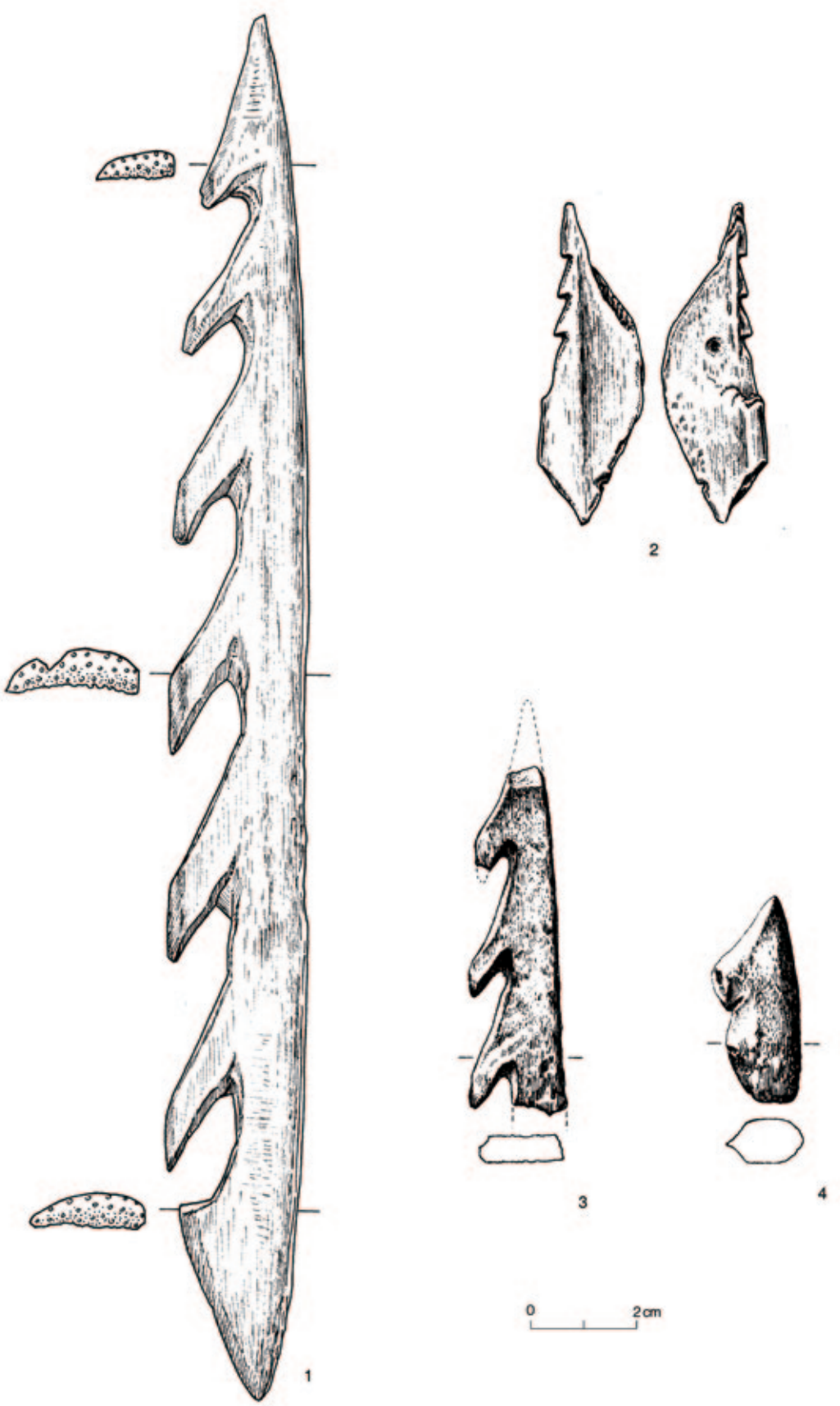
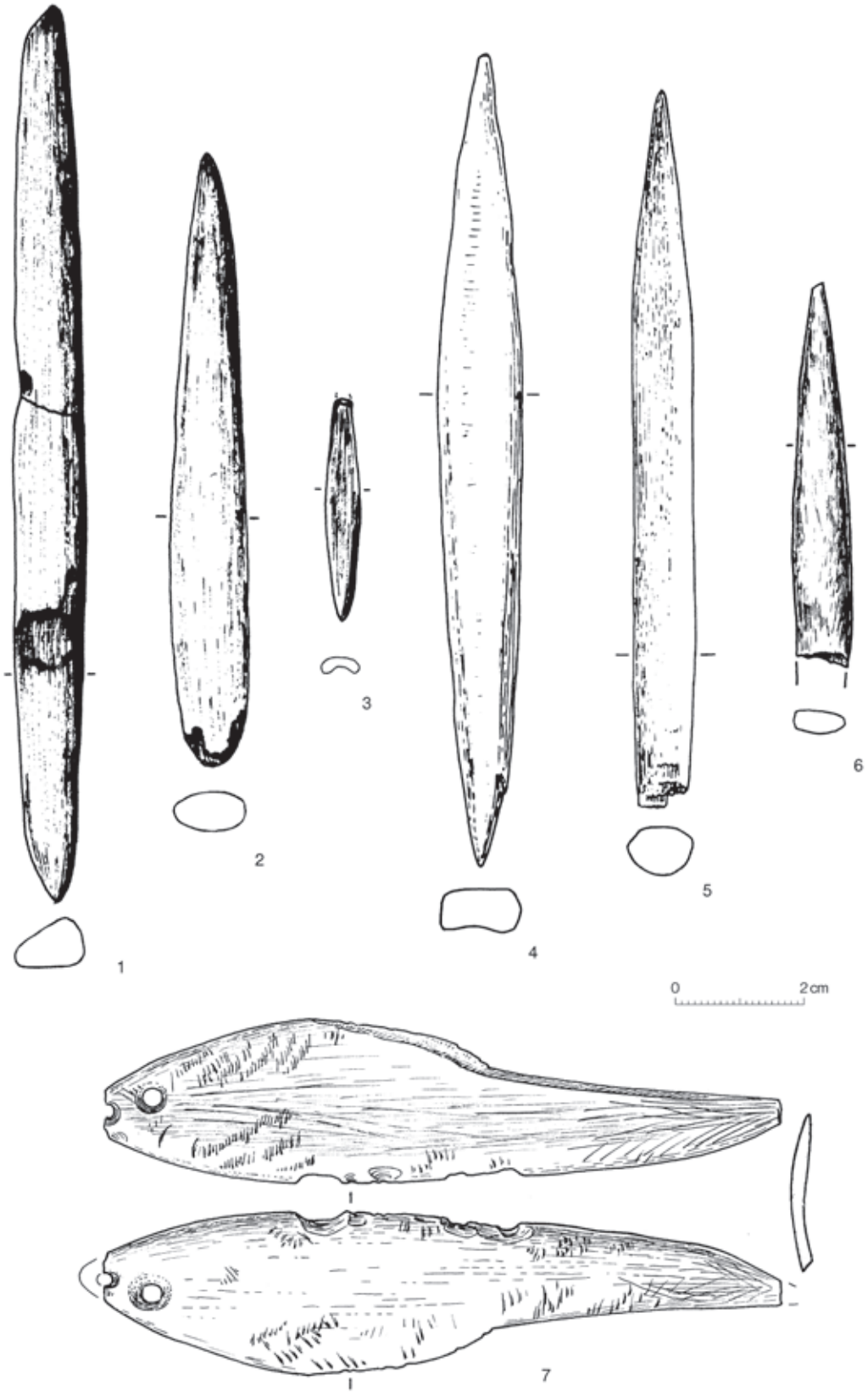
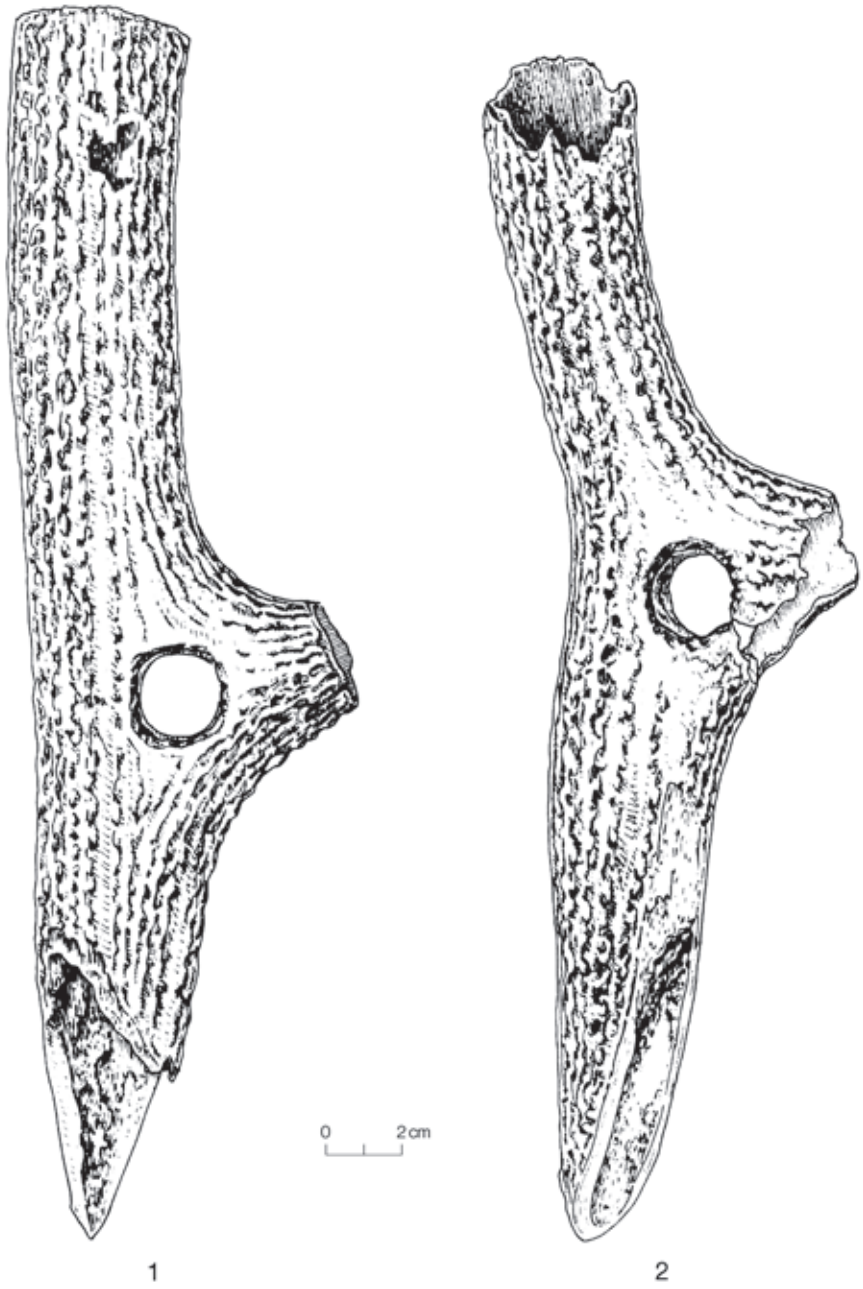


T. 1 — Harpune: 1 reka Ljubljanica; 2 Jamnikov spodmol; 3–4 Špehovka (po: Turk 2004a; Jamnik 1998; Brodar 2009)
Pl. 1 — Harpoons: 1 Ljubljanica River; 2 Jamnikov spodmol; 3–4 Špehovka (after: Turk 2004a; Jamnik 1998; Brodar 2009)

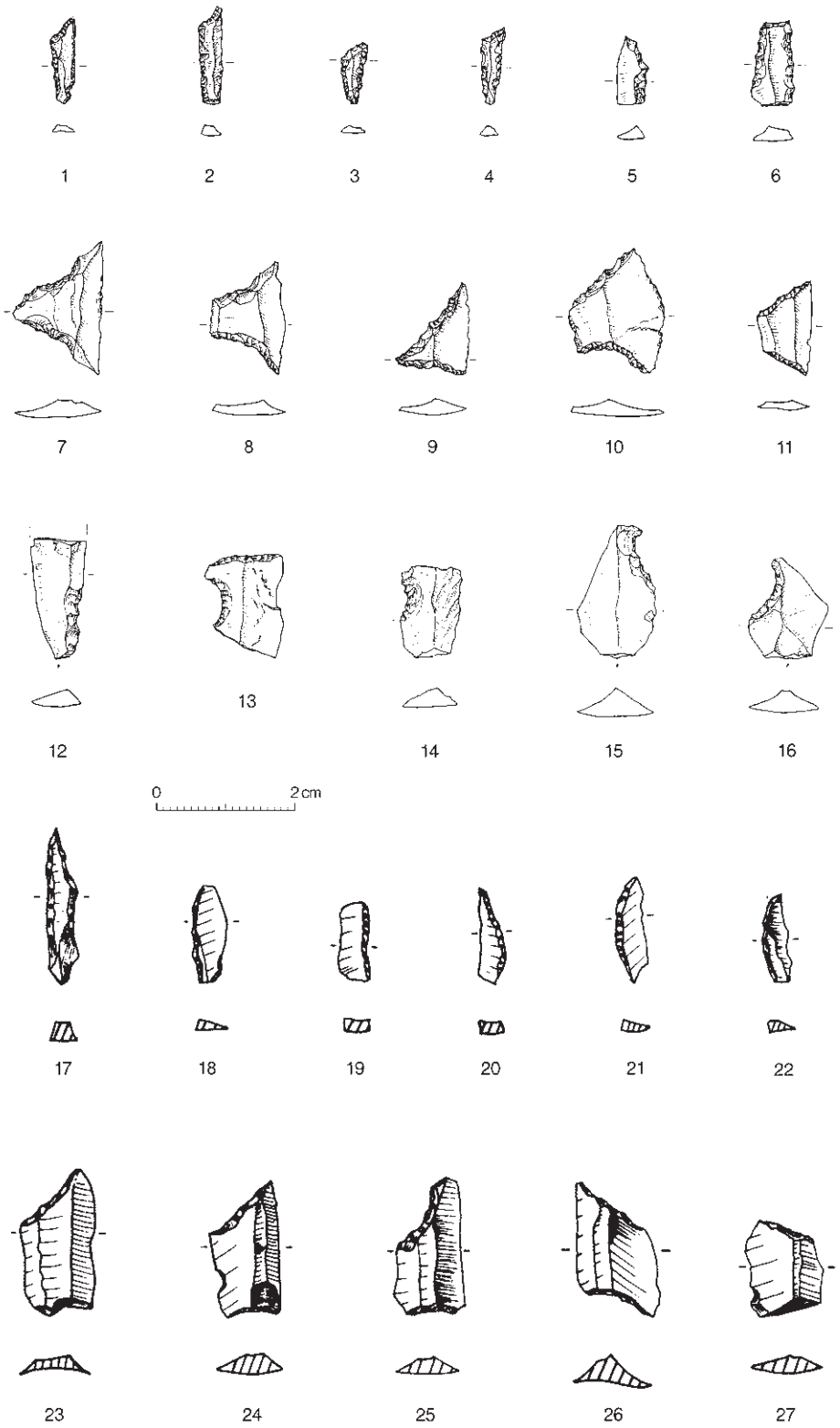


T. 2 — Koščene konice: 1–3 Breg pri Škofljici; 4–5 Zalog pri Verdu; 6 Mala Triglavca (po: Frelih 1986; Gaspari 2006a; Leben 1988); 7 brnivka, Mala Triglavca (po: Brodar 2009)

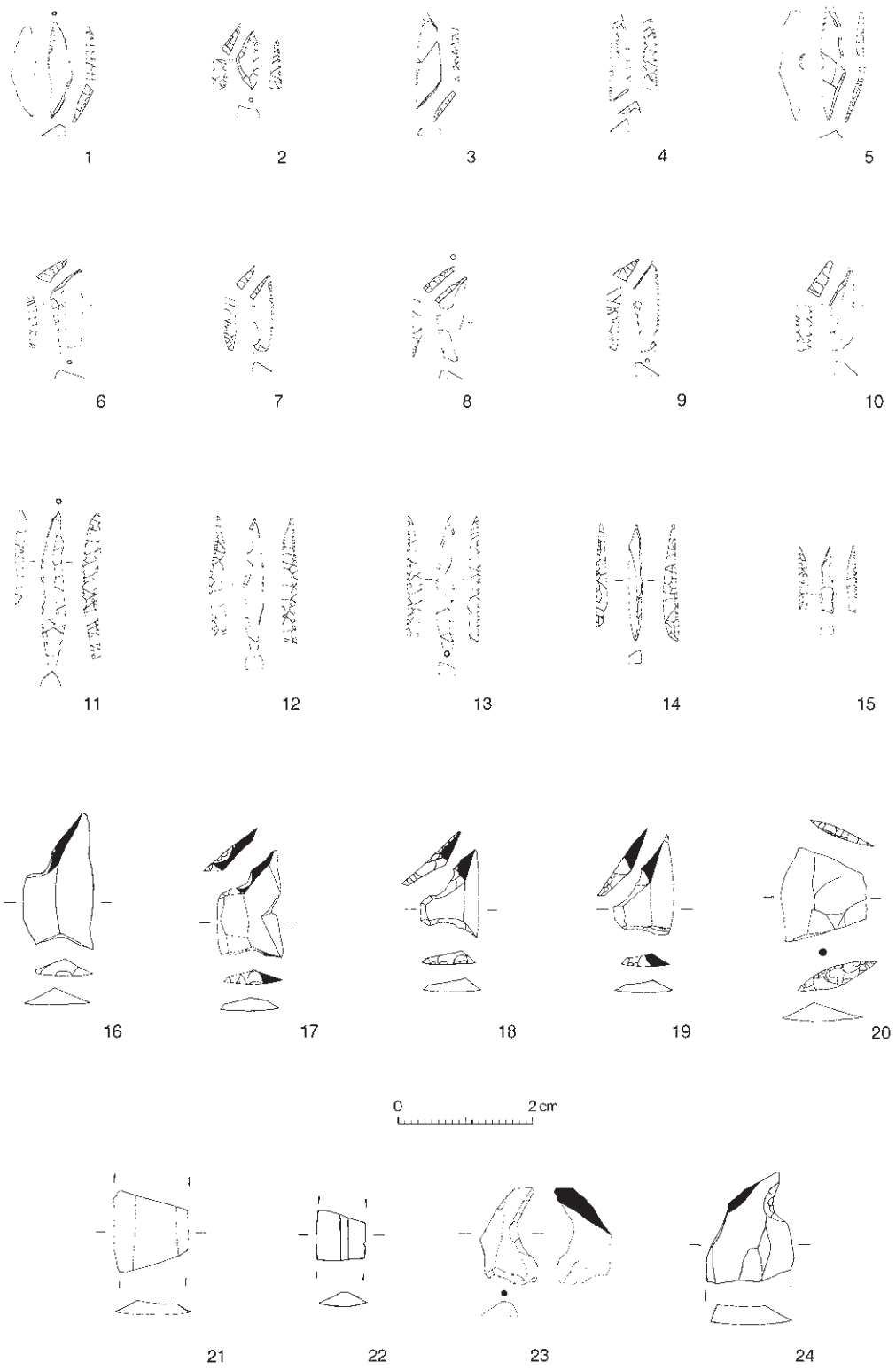
Pl. 2 — Osseous points: 1–3 Breg pri Škofljici; 4–5 Zalog pri Verdu; 6 Mala Triglavca (after: Frelih 1986; Gaspari 2006a; Leben 1988); 7 bullroarer, Mala Triglavca (after: Brodar 2009)



T. 3 — Zalog pri Verdu, orodji iz rogovja z luknjo (po: Gaspari 2006a)
Pl. 3 — Zalog pri Verdu, antler tools with a hole (after: Gaspari 2006a)

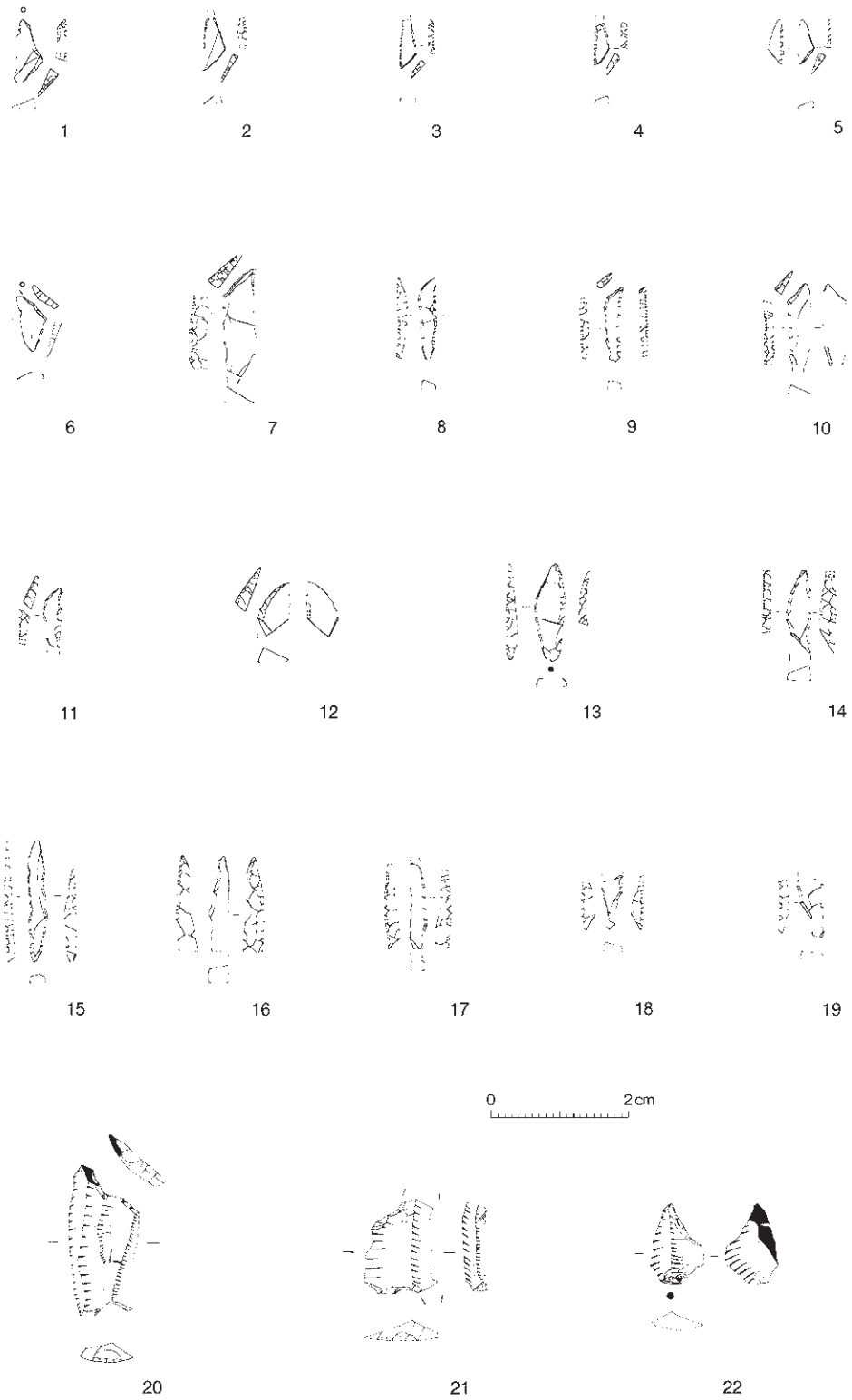


T. 4 — 1–16 Pod Črmukljo; 17–27 Breg pri Škofljici (po: Brodar 1992; Frelih 1986)
Pl. 4 — 1–16 Pod Črmukljo; 17–27 Breg pri Škofljici (after: Brodar 1992; Frelih 1986)



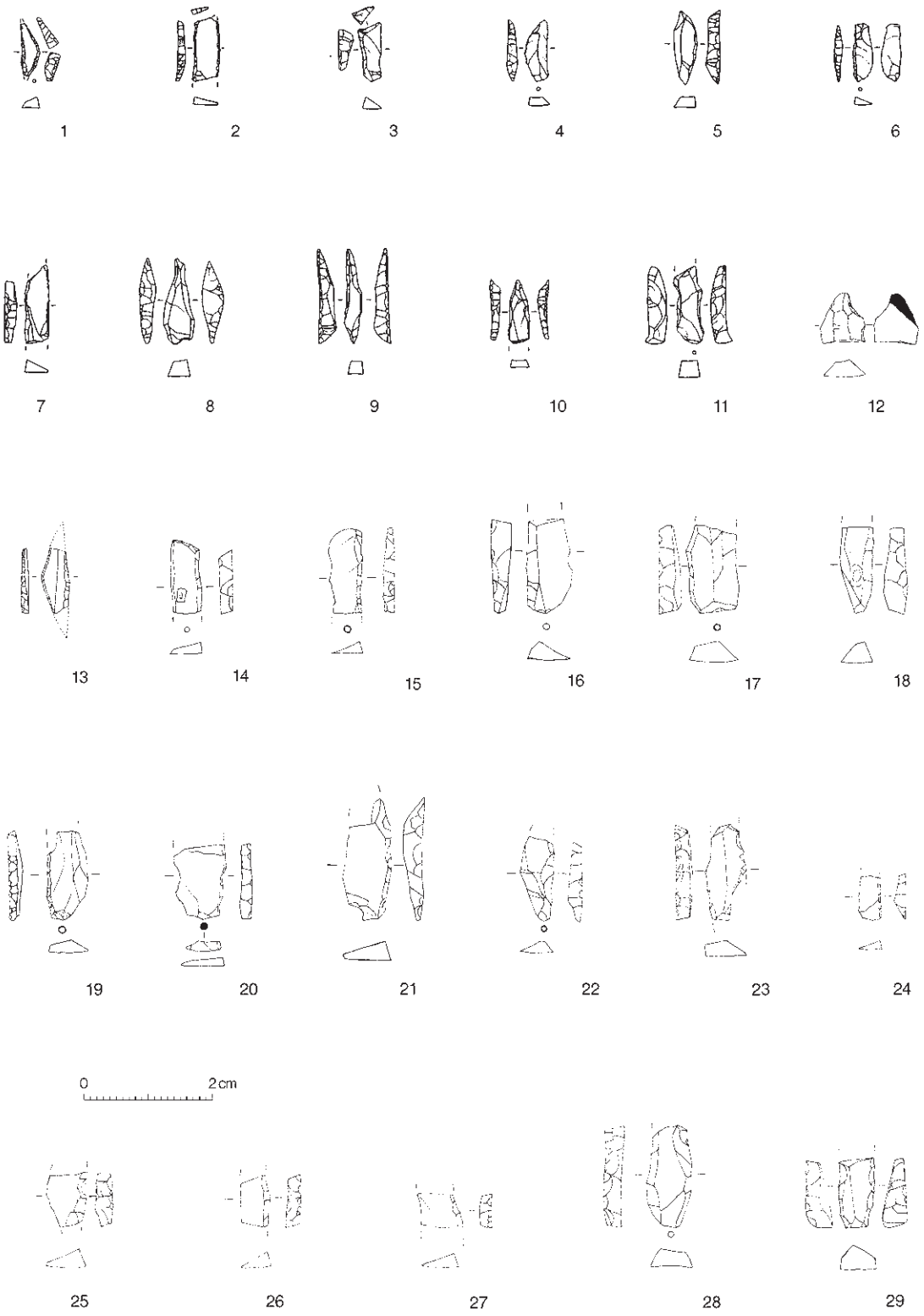
T. 5 — 1–24 Mala Triglavca. Artefakti, najdeni pri reviziji odkopane mezolitske plasti (po: Turk 2004a)

Pl. 5 — 1–24 Mala Triglavca. Artefacts found during revision of the excavated Mesolithic layer (after: Turk 2004a)



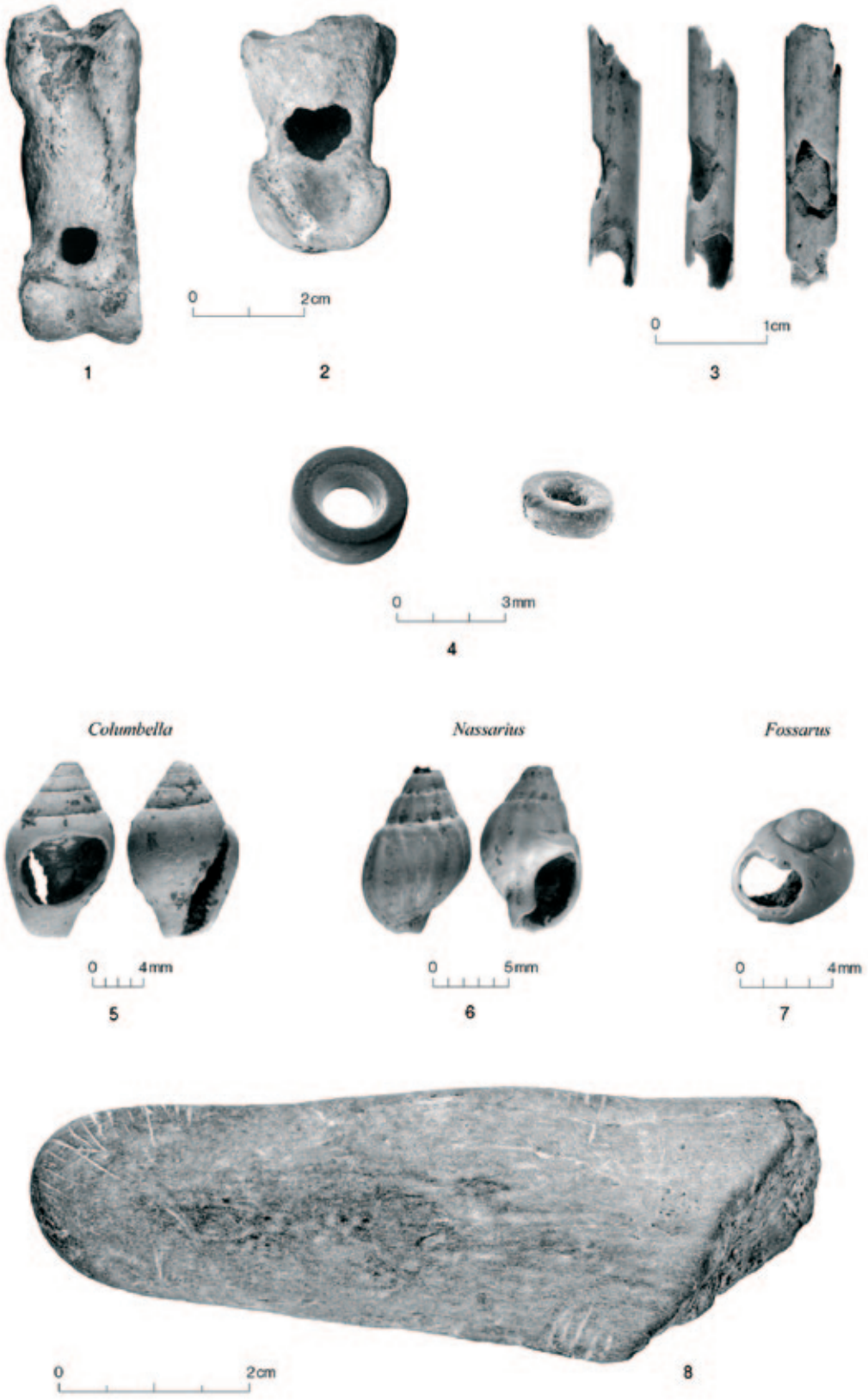
T. 6 — 1–22 Viktorjev spodmol. Artefakti, najdeni pri vzorčenju profila: 1, 6–11, 20–22. Artefakti, najdeni pri reviziji odkopanega sedimenta: 2–5, 12–19 (po: Turk 2004a)

Pl. 6 — 1–22 Viktorjev spodmol. Artefacts found during profile sampling: 1, 6–11, 20–22. Artefacts found during revision of the excavated sediment: 2–5, 12–19 (after Turk: 2004a)



T. 7 — 1–12 Gorenji Pretovč; 13–29 Leskovca II (po: Turk et al. 2005; Turk 2020)

Pl. 7 — 1–12 Gorenji Pretovč; 13–29 Leskovca II (after: Turk et al. 2005; Turk 2020)



T. 8 — Mala Triglavca: 1–2 preluknjani prstnici jelena; 3 preluknjana ptičja diafiza; 4 kamnite mikrojagodi; Viktorjev spodmol: 5–7 lupine morskih polžov; Breg pri Škofljici: 8 kamen z vrezi (po: Turk 2004a; Frelih 1986)

Pl. 8 — Mala Triglavca: 1–2 perforated deer phalanges; 3 perforated avian diaphysis; 4 stone microbeads; Viktorjev spodmol: 5–7 marine snail shells; Breg pri Škofljici: 8 stone with incisions (after: Turk 2004a; Frelih 1986)