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Kurilovec – Belinščica – A Bronze Age Settlement in the Turopolje Region

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U radu se predstavljaju rezultati arheoloških istraživanja provedenih na položaju Kurilovec–Belinščica gdje je 2006. godine provedeno zaštitno arheološko iskopavanje. Nalazište je smješteno u Turopolju, nizinskom dijelu uz rijeku Savu nedaleko od Zagreba. Iskopavanjem je istražena površina od 2500 m² te je otkriven dio naselja iz brončanog doba. Napravljena je analiza nalazišta i nalaza te su oni postavljeni u relativne i apsolutne kronološke okvire. Napravljena je statistička i tipološko-kronološka analiza keramičkog materijala te je ustanovljena posebna tipološka klasifikacija keramičkih posuda. Razmatranjem karakteristika nalaza i nalazišta te na osnovi rezultata radiokarbonskih analiza ustanovljeno je nekoliko vremenskih ciklusa u razvoju naselja. Položaj je naseljen od srednjega brončanog doba (Br B2/Br C – Br D), a na nalazištu je zabilježena i prostorno izdvojena faza koja je datirana u stupanj Ha A.

Ključne riječi: Kurilovec–Belinščica, brončano doba, grupa Virovitica, naselje, keramičke posude

This paper presents the results of rescue archaeological excavations conducted at Kurilovec–Belinščica in 2006. The site is located in the Turopolje region, in the lowland area along the Sava River near Zagreb. The excavations covered an area of 2500 m², and revealed a part of a Bronze Age settlement. An analysis of the site and finds was conducted according to the relative and absolute chronological framework. The statistical, typological and chronological analyses of pottery were done, and a special typological classification of pottery vessels was established. After examining the characteristics of the finds and the site, and based on the results of radiocarbon analysis, several time cycles in the development of the settlement were recognized. The position was settled from the Middle Bronze Age (Br B2/Br C – Br D), and the site also yielded a spatially segregated phase dated to the Ha A phase.

Key words: Kurilovec–Belinščica, the Bronze Age, the Virovitica group, settlement, pottery vessels

1. UVOD

Arheološko nalazište Kurilovec–Belinščica smješteno je istočno od autoceste Zagreb – Sisak, na sjecištu stare ceste Velika Gorica – Pokupsko – Kravarsko i željezničke pruge koja iz Zagreba vodi prema Sisku. Lokalitet se nalazi neposredno uz manji, danas zapušteni vodotok (potok Ramiščak) na 105 metara nadmorske visine. Kurilovec geografski pripada regiji Turopolja (središnja Hrvatska) koje je omeđeno prirodnim granicama: rijekom Savom i Medvednicom na sjeveru, sutokom rijeke Kupe u Savu na jugoistoku, Žumberačkom gorom na zapadu, dok sjeveroistočnu granicu čini glavni potolinski rasjed Zelina – Ivanić Grad (sl. 1). Na ovom je položaju[1] tijekom 2006. godine, na osno-

1 Istraživanje je provedeno između stacionaža 7+100.00 – 7+150.00, a nalazište je za potrebe arheološkog istraživanja označeno kao Velika Gorica – jug. Iskopavanja je provela tvrtka Kaducej d. o. o. i Geoarheo d.o.o. 2006. godine.

1. INTRODUCTION

The archaeological site of Kurilovec–Belinščica is situated east of the Zagreb – Sisak motorway, on the crossroads of the old Velika Gorica – Pokupsko – Kravarsko road and the train tracks leading from Zagreb to Sisak. The site is situated right next to a smaller, currently neglected watercourse (the Ramiščak stream) at an altitude of 105 meters. Geographically, Kurilovec lies in the Turopolje region (central Croatia) which is surrounded by natural borders: the Sava River and the Medvednica Mountain in the north, the confluence of the Kupa into the Sava River in the southeast, the Žumberak Mountain in the west, and the Zelina-Ivanić Grad boundary depression fault in the northeast (Fig. 1). In 2006, rescue archaeological excavations were conducted on 2540 m² at this position[1] based on the re-

1 The survey was done between chainages 7+100.00 – 7+150.00, and the site was named Velika Gorica – south for the purposes of the excavations. The excavations were conducted by Kaducej d.o.o. and Geoarheo d.o.o in 2006.

vi rezultata sustavnoga terenskog pregleda prve dionice autoceste Zagreb – Sisak, provedeno zaštitno arheološko iskopavanje koje je obuhvatilo površinu od 2540 m². Iskopavanjem su otkriveni ostaci naselja iz brončanodobnoga razdoblja s keramičkim materijalom karakterističnim za kulturnu grupu Virovitica,[2] a otkriven je i manji broj objekata koji sadrže ulomke keramičkih posuda latenskih i antičkih obilježja (Burmaz, Bugar 2006).

Rad se sastoji od nekoliko cjelina. Prvi dio predstavlja prikaz geografskih, gospodarskih i kulturno-povijesnih karakteristika Turopolja odnosno područja šire okolice nalazišta. U drugom dijelu prikazane su arheološke karakteristike nalazišta, provedena je njihova analiza i pokušaj interpretacije pojedinih naseobinskih struktura. Analiza nalaza uglavnom se odnosi na analizu keramičkog materijala s obzirom na količinu i relevantne kulturno-kronološke karakteristike. Detaljno je prikazana statistička i tipološko-kronološka analiza keramičkih posuda. Kroz analizu nalaza predstavljeni su i rezultati arheobotaničke i osteološke analize uzoraka. Posljednji dio rada odnosi se na vremenski i kulturološki aspekt nalazišta o kojem se raspravlja na osnovi rezultata provedenih analiza.

sults of a systematic field survey of the first part of the Zagreb – Sisak motorway. The excavations revealed the remains of a Bronze Age settlement with pottery material characteristic of the Virovitica group,[2] as well as a smaller number of structures containing fragments of pottery vessels with Late Iron Age and Roman characteristics (Burmaz, Bugar 2006).

The paper consists of several segments. The first part deals with geographical, economic, cultural and historical characteristics of the Turopolje region and the wider area around the site. In the second part, archaeological characteristics of the site are presented and analyzed, and are followed by an attempt at interpreting individual settlement structures. Find analysis mostly includes the analysis of pottery finds because of their quantity and relevant cultural and chronological characteristics. The statistical, typological and chronological analyses of pottery vessels have been presented in detail. The results of archaeobotanical and osteological sample analyses are also presented separately. The last segment deals with the chronological and cultural characteristics of the site, which are discussed based on the results of analyses.

Sl. 1 Položaj nalazišta Kurilovec–Belinščica
Fig. 1 The position of the site of Kurilovec–Belinščica

2 Srednje i početak kasnoga brončanog doba na području između rijeka Save i Drave obilježeno je dvjema arheološkim pojavama: grupa Virovitica, rasprostranjena u Podravini i gornjoj Posavini i grupa Barice-Gređani u srednjoj Posavini. Virovitičku je grupu definirala i izdvojila Ksenija Vinski-Gasparini (1973) u okviru srednjoeuropske kulture polja sa žarama koju dijeli u pet faza, a virovitičku je grupu izdvojila kao prvu fazu. Relativna kronologija virovitičke grupe načinjena je na osnovi keramičkih nalaza, a oblici posuda grupe Virovitica vežu se uz kasnu kulturu grobnih humaka Transdanubije odnosno stupnjeve Br C i Br D (Vinski-Gasparini 1973). Iako se keramički materijal s virovitičkih nekropola povezuje s oblicima Br C i Br D stupnjeva, metalni nalazi koji predstavljaju mnogo snažnije relativno kronološko uporište vežu se uz stupnjeve Br D i Ha A1. Na prostoru susjedne Slovenije kulturna grupa Virovitica od nedavno se u literaturi navodi kao horizont *Oloris-Podsmreka*, a na osnovi rezultata istraživanja provedenih na nizu radiokarbonskih apsolutnih datuma s toga područja pretpostavlja se trajanje horizonta od druge polovine 15. do 12. st. pr. Kr. što bi odgovaralo stupnjevima Br B2, Br C i Br D/HaA1 (Teržan, Črešnar 2014: 687).

2 The Middle and the beginning of the Late Bronze Age are marked by two archaeological phenomena on the territory between the Sava and Drava rivers: the Virovitica group, spread in the Podravina and upper Posavina regions, and the Barice-Gređani group, situated in the central Posavina region. The Virovitica group was recognized and defined by Ksenija Vinski-Gasparini (1973) in the context of the central European Urnfield culture which she divided into five phases, the Virovitica group being the first phase. The relative chronology of the Virovitica group is based on pottery finds, and the vessel forms of the Virovitica group are associated with the Late Tumulus culture of Transdanubia and the Br C and Br D phases (Vinski-Gasparini 1973). Although pottery finds from the Virovitica group graveyards are associated with forms present in the Br C and Br D phases, the metal finds, which represent a much stronger foothold for relative chronology, are associated with the Br D and Ha A1 phases. On the territory of neighboring Slovenia, the Virovitica group is, since recently, noted as the *Oloris-Podsmreka* phase. Based on the results of research done on series of radiocarbon dates from that region, the duration of this phase is assumed to be from around the second half of the 15th to the 12th cent. BC, which correlates with the Br B2, Br C and Br D/Ha A1 phases (Teržan, Črešnar 2014: 687).

2. GEOGRAFSKE, GOSPODARSKE I KULTURNO-POVIJESNE KARAKTERISTIKE ŠIRE OKOLICE NALAZIŠTA

Poznavanje i razumijevanje prostora nužno uključuje reljef i njegove karakteristike, ali i povijesno razumijevanje procesa razvoja koji su utjecali na osobine prostora kakvog nalazimo danas. Prostor Turopolja odnosno kulturno-povijesne mikroregije ukratko će se razmotriti kroz osnovne, manje-više nepromjenjive aspekte: reljef, geologiju, hidrologiju i gospodarstvo.[3] Iako je riječ o kulturno-povijesnoj mikroregiji, ona je omeđena prirodnim granicama, rijekama i pobrđima. U reljefnoj strukturi Turopolja, morfografski se izdvajaju dva osnovna tipa reljefa: to su savski, odnosno nizinski, te brdsko-brežuljkasti reljef koji obuhvaća pobrđa Vukomeričkih gorica. Nizinski dio Turopolja, u kojem se nalazi i lokalitet Kurilovec–Belinščica, dio je akumulacijsko-tektonske morfostrukture nizine Save koja predstavlja tipičan element reljefa u sklopu panonskog bazena. U širem smislu, turopoljski prostor nalazi se u panonskoj geografskoj regiji – u jugozapadnoj graničnoj zoni prema dinarskom području. U užem smislu, dio je zavale sjeverozapadne Hrvatske koju obilježava relativno složena reljefna struktura s dominacijom fluvijalno-akumulacijskih i fluvijalno-denundacijskih tipova reljefa.

Rijeka Sava značajan je geomorfološki, reljefni, ali i gospodarski čimbenik ovog područja u koji ona dolazi iz višeg i bržeg, planinskog toka donoseći, osobito za visokih vodostaja, velike količine šljunka. Kako se u nizinskom dijelu njezina toka zbog usporavanja talože obilne naplavine, njezino se korito izdiže do čak 5 metara iznad zaobalja, što omogućuje lako mijenjanje toka – meandriranje. Izdignuto korito i meandriranje uzrokuju često plavljenje posavskih nizina što je posebno izraženo u Turopolju i Lonjskom polju (Roglić 1974: 51; Riđanović 1974: 67–77). Oko savskih pritoka prilike su znatno drukčije te oni pripadaju niskim predjelima i donose uglavnom mulj. Zbog toga su njihova korita niža i ne mogu probiti u korito Save, pa neki pritoci dugo teku usporedo s njom (npr. Odra). Takav sitni mulj taloži se na naplavnim ravnicama i zbog toga se stvara nepropusni površinski sloj na kojem se zadržavaju padaline te lako dolazi do zabarivanja i stvaranja poloja (Roglić 1974: 51). Kao najčešći mikroreljefni oblici više razine poloja javljaju se grede i viši dijelovi riječnih otoka i ada, a unutar niže razine rukavci, mrtvaje, žile i fokovi. Riječ je dakle o izrazito močvarnom području, u kojem je sve donedavno osnovni gospodarski resurs[4] bio šumski pokrov, posebice šume hrasta lužnjaka, a glavnina tih šuma tvori i retenciju za regulaciju visokih voda rijeke Save. Ipak, u posljednjih stotinu godina provedene regulacije toka rijeke Save

3 Doktorska disertacija B. Fürst-Bjeliš (1996) pod naslovom *Historijsko-geografska analiza prostornog pojma tradicionalne regije Turopolja* predstavlja podlogu na osnovi koje se razmatra regija s više aspekata koje je autorica uspjela zajednički objediniti kroz pojam tradicija odnosno tradicionalna regija.

4 Humidna klima Turopolja i bogatstvo lužnjakovih šuma pružale su izvanredne uvjete za razvoj stočarstva, posebno ekstenzivnog svinjogojstva, kojem je isključivi preduvjet bila šumska ispaša (žirenje) svinja u šumama. Šume su i bogato stanište raznovrsne divljači te značajan izvor drvne građe i energent.

2. GEOGRAPHICAL, ECONOMIC AND CULTURAL–AND HISTORICAL CHARACTERISTICS OF THE WIDER AREA AROUND THE SITE

Understanding a certain area necessarily includes the landscape and its characteristics, but also historical developmental processes which affected the features of the area which are visible today. The Turopolje region, that is, cultural and historical micro-regions, will be discussed according to basic, more or less unchangeable aspects: landscape, geology, hydrology and economy.[3] Although it is a cultural and historical micro-region, it is an area surrounded by natural borders, rivers and foothills. The structure of the landscape of Turopolje can be morphographically divided into two types: the lowlands around the Sava River, and the hilly-highland areas which include the foothills of Vukomeričke Gorice. The lowland part of the Turopolje region, where the site of Kurilovec–Belinščica is situated, is part of the accumulation-tectonic morphostructure of the Sava River valley, a typical element of the Panonnian Basin landscape. In a wider sense, the Turopolje region is situated in the Panonnian geographical region - on the southwestern border of the Dinarides range. In a stricter sense, it is part of the northwestern Croatian Basin which is characterized by a relatively complex landscape structure dominated by fluvial-accumulation and fluvial-denundation types of landscapes.

The Sava River is an important geomorphological, landscape and economic factor of this region, seeing as it flows into the region from a higher and faster mountainous region and brings large amounts of gravel, especially when water levels are high. Due to the vast amount of alluvium deposited in the lowland part of its flow, the riverbed can be 5 meters above the coastline level, which makes changes in the river's flow – meandering, easier. The elevated riverbed, and its meandering, are often the source of floods in the Sava River lowland areas, especially in the Turopolje and Lonjsko Polje regions (Roglić 1974: 51; Riđanović 1974: 67–77). The circumstances are considerably different around the tributaries of the Sava River which are part of the lowlands, and mostly deposit mud. That is why their beds are lower and can never penetrate the bed of the Sava River, causing some tributaries to have a long parallel flow with the river (e.g. the Odra River). Such fine-grained mud is deposited on floodplains where it creates an impermeable surface layer that holds precipitation, which can easily lead to water logging and the creation of mudflats (Roglić 1974: 51). The most common micro-landscape forms which appear on the higher levels of mudflats are elevated parts of river islands and bars, and, on the lower levels, distributaries, dried out former river streams and backwaters. Therefore, this is a considerably swampy

3 B. Fürst-Bjeliš's doctoral dissertation (1996), entitled '*The historical and geographical analysis of the spatial concept of the traditional Turopolje region*', is the basis for studying this region from different standpoints which the author was able to unite through the term of tradition, that is, traditional region.

izmijenile su prirodni mehanizam njezinih voda, stoga je prostor turopoljske nizine, koji danas predstavlja područje povoljno za naseljavanje i agrarnu proizvodnju, u prošlosti bio okarakteriziran promjenjivim uvjetima uzrokovanim stalnim mijenama razine voda. U tim je uvjetima i poloj, iako potencijalno vrlo vrijedna i iskoristiva površina, također vrlo promjenjiva geomorfološka sredina. Stoga je i arheološka karta Turopolja donedavno bila relativno prazna, što je posljedica slabe istraženosti koja je vjerojatno uzrokovana pretpostavkom o „nepovoljnosti" toga močvarnog kraja za naseljavanje. U tom je smislu, ocjediti prostor terasne nizine, koji nikad nije izložen poplavama, uvijek je bio daleko povoljniji za sve oblike antropogenih aktivnosti (Fürst-Bjeliš 1996: 43). Ipak, manje uzvisine, koje se ponekad izdižu samo 20-ak cm u odnosu na okolno područje, u nizinskom dijelu Turopolja i u prošlosti su korištene za naseljavanje.[5] Povijesni i etnografski podaci o gospodarsko-kulturnim aspektima života, iz ne tako davne prošlosti, vrijedan su izvor informacija za bolje razumijevanje interakcije čovjeka i prirode u specifičnom krajoliku. Iako su se hidrološke te osobito kulturološke prilike u odnosu na daleku pretpovijest višestruko mijenjale, ovaj pregled ističe potencijal krajolika i značajan je za razmatranje šireg konteksta pri analizi arheoloških zapisa naseobinskog karaktera.

3. ANALIZA NALAZIŠTA KURILOVEC–BELINŠČICA

a. Analiza položaja arheološkog nalazišta

Na nalazištu Kurilovec–Belinščica prije arheološkog iskopavanja proveden je terenski pregled. Iako je tijekom terenskog pregleda prikupljena samo skromna količina pokretnoga arheološkog materijala te rezultati provedenog istraživanja nisu upućivali na prostor obilježen intenzivnijim ljudskim aktivnostima, iskopavanjem su otkriveni ostaci brončanodobnog naselja virovitičke grupe s izrazitijom distribucijom arheoloških tvorevina. Tijekom istraživanja na arheološkom je nalazištu utvrđena relativno jednostavna stratigrafija. Neposredno ispod sloja oranice na većem dijelu nalazišta definiran je arheološki sterilan, geološki sloj pjeskovite gline ispod kojeg se nalazi sloj šljunka, oba fluvijalnog podrijetla (Burmaz, Bugar 2006). Većina antropogenih tvorevina ukopana je u glinovito-pjeskovito te mjestimice šljunkovito tlo. Ostatke brončanodobnog naselja čine gusto raspoređeni kružni ukopi čiji promjer iznosi između 25 i 50 cm te se pretpostavlja da je riječ o ostacima rupa za stupove (sl. 4). Zabilježena je i mjestimična pojava nešto većih ukopa različitih oblika. Uglavnom su bili zapunjeni tlom svijetlosive boje u kojem je najčešće pronađena manja količina ulomaka keramičkih posu-

5 Ponešto o starim naseljima na prostoru Turopolja doznajemo iz zapisa Laszowskoga (1910): „Turopolje prekrito je većim dijelom oranicama na sjevero-zapadu, a šumama na jugu (vrhovlje) i jugo-istoku (Turopoljski lug). Kako je visinska razlika pojedinih mjesta u polju sasma neznatna, to se čitav kraj prikazuje silnom obradjenom nizinom, koju sa juga i istoka okružuju šume, sa zapada Vukomeričke gorice, a na sjever se nizina gubi pod goru Zagrebačku i Plješivicu. Tek tuj i tamo javlja se po koje selo na okupu, naokolo njega nešto drveća […] Oblik je turopoljskih sela većim dijelom okupljen. Uz glavne se ceste nalazi katšto i oblik dugoljat, i to poglavito u ravnini. U vrhovlju su sela porazmještena u grupama, a često i rasijana po gorskim slazovima."

region where, until recently, the basic economic resource[4] was of woodland origin, especially oak forests. The majority of those forests cause retention for the regulation of high water levels of the Sava River. However, the regulations of the flow of the Sava River implemented in the last hundred years have changed the natural mechanism of its waters, so that the Turopolje Basin, today a favorable region for settlement and agriculture, used to be a region characterized by mutable conditions caused by constant alteration in water levels. In these conditions, even mudflats, although potentially very valuable and usable surfaces, are a very mutable geomorphological area. The fact that the archaeological chart of the Turopolje region was, until recently, mostly empty, is a consequence of few research conducted in the area, probably due to the assumptions about the "adversity" for settling this swampy region. In that sense, the drainable area of the terrace plain which was never exposed to floods was always a far more suitable solution for all forms of anthropogenic activities (Fürst-Bjeliš 1996: 43). However, in the lowland parts of the Turopolje region, smaller elevations, which sometimes rise up only about 20 cm above the surrounding area, were settled in the past.[5] Historical and ethnographical data about the economic and cultural aspects of life from recent history are a valuable source of information for gaining a better insight into the interaction between man and nature in a specific landscape. Although the hydrological, and especially cultural circumstances have changed immensely in relation to the prehistory, this overview underlines the potential of this landscape, and is important for understanding the wider context when analyzing archaeological settlement-type data.

3. THE ANALYSIS OF THE KURILOVEC–BELINŠČICA SITE

a. The analysis of the location of the archaeological site

A field survey was conducted at the site of Kurilovec–Belinščica before the excavations. Although only a small amount of movable archaeological finds was collected, and the results of the survey did not definitively point to an area of intense human activities, the excavations revealed the remains of a Bronze Age settlement ascribed to

4 The humid climate of the Turopolje region and the wealth of oak forests provided exceptional conditions for the development of animal husbandry, especially extensive pig farming, the sole prerequisite of which is available forest grazing (acorn collecting) for pigs. Forests are also a rich habitat for many sorts of wildlife and an important source of lumber and energy.

5 The older settlements in the Turopolje region were described in the works of Laszowski (1910): „The Turopolje region is mostly covered by plowed fields in the northwest, and forests in the south (Vrhovlje) and southeast (Turopoljski lug). As the difference in the elevation of certain places in the field is completely inconsequential, the entire region is visible as large agricultural lowlands surrounded by forests in the south and the east, by the Vukomeričke Gorice in the west, and, in the north, the plain disappears under the mountain of Zagreb and Plješivica. Only here and there a group of villages surrounded by trees catches the eye … The villages in Turopolje are mostly grouped. In the valleys, the houses follow the main roads and the villages are elongated. In Vrhovlje, the villages are grouped and often scattered on the slopes of hills."

da, kućnog lijepa i kamenih riječnih oblutaka. U nekoliko jama otkrivena je izrazitija količina ulomaka keramičkih posuda te se one tumače kao ostave keramike.[6] Na osnovi distribucije i rasporeda većih jama i rupa za stupove može se zaključiti da je ovim istraživanjem otkriven manji dio brončanodobnog naselja. Naime, provedenim je istraživanjima utvrđeno da se naselje prostire na površini većoj od istražene, a lokalitet širi u smjeru zapada i sjeverozapada, te u znatno manjoj mjeri u smjeru sjevera (Burmaz, Bugar 2006). S obzirom na to da naselje nije u cijelosti istraženo te naseobinski raster nije sa sigurnošću utvrđen, nastavak istraživanja bio je usmjeren na prostorna geodetska mjerenja s ciljem izrade digitalnog modela reljefa.[7] Istraživanje je izvedeno s pretpostavkom da će utvrđena visinska odstupanja u reljefu upućivati na pojavu pojedinih tipova arheoloških tvorevina, ponajprije većih elemenata naselja kao što su opkop, nasip, ulaz u naselje i sl., te dati bolju osnovu za definiranje mogućih granica naselja (Kudelić et al. 2013: 191). Iz dobivenog modela reljefa vidljivo je da se uzvisina na kojoj se nalazi brončanodobno nalazište pruža u smjeru sjeveroistok – jugozapad na 105 metara nadmorske visine (sl. 2), Uzvisina pokazuje blagi pad prema jugozapadu, dok se njezin najviši dio nalazi sjeverozapadno od arheološki istraženog prostora. To je ujedno i područje na kojem se sa sigurnošću može pretpostaviti širenje naselja iako i drugi dijelovi uzvišenja predstavljaju prostor prikladan za korištenje. Sjeverozapadno od najvišeg dijela uzvišenja, bliže potoku Ramiščak, nalazi se prostor s nižim visinskim vrijednostima koje se javljaju na površini širine oko 12 metara te se u smjeru sjeveroistok – jugozapad pružaju u dužini od oko 100 metara. Za sada se pretpostavlja da je riječ o tragovima starog toka potoka čiji je današnji oblik vjerojatno rezultat novijih intervencija.[8]

Manja uzvisina na položaju Kurilovec–Belinščica bila je naseljena i u kasnijim razdobljima o čemu svjedoče arheološki ostaci iz antičkog razdoblja, ali i novog vijeka (Burmaz, Bugar 2006). Razlog za odabir toga položaja vjerojatno je i geološki povoljna podloga u odnosu na pretežno močvarni krajolik. Geološka podloga na lokalitetu utvrđena je na osnovi rova iskopanog uz sjeverni rub sonde, dužine 31,7 metara i dubine oko 2 metra (sl. 3).[9] Iz izvještaja (Burmaz, Bugar 2006) se doznaje da se na dubini od 2 metra nalazi sloj dobro graduiranih, zbijenih šljunaka zaobljenih zrna, pretežno vapnenačkog podrijetla, dok se iznad nalazi sloj jednako graduiranog, sitnozrnog, zbijenog pijeska. Slojevi su nastali u uvjetima plitke jezerske fluvijalne sredine. Na pijescima su taloženi nisko plastični prahovi teško gnječi-

6 Riječ je o manjim kružnim ukopima nađenim mjestimično na cijelom području istraživanja. Njihova je značajka izrazita količina specifično raspoređenoga keramičkog materijala te se sve češće razmatraju kao dio rituala (Palatova, Salaš 1998/99; 2002; Stapel 1999; Karavanić, Kudelić 2011; Kavur 2011; 2012).

7 Istraživanja su provedena suradnjom projekta Instituta za arheologiju *Geneza i razvoj brončanodobnih zajednica u sjevernoj Hrvatskoj* te arheološke tvrtke Kaducej d. o. o.

8 U sklopu projekta *Kurilovec-Belinščica – prapovijesno naselje,* u jesen 2015. godine Institut za arheologiju (dr. sc. Andreja Kudelić) proveo je geofizička mjerenja, a cilj istraživanja bio je utvrditi podrijetlo navedenih nižih visinskih vrijednosti. Geofizička mjerenja provela je tvrtka GeoArh d. o. o. iz Ljubljane, a analiza rezultata istraživanja je u tijeku.

9 Inženjersko geološku analizu napravio je dipl. ing. geol. Tomo Novosel (Burmaz, Bugar 2006).

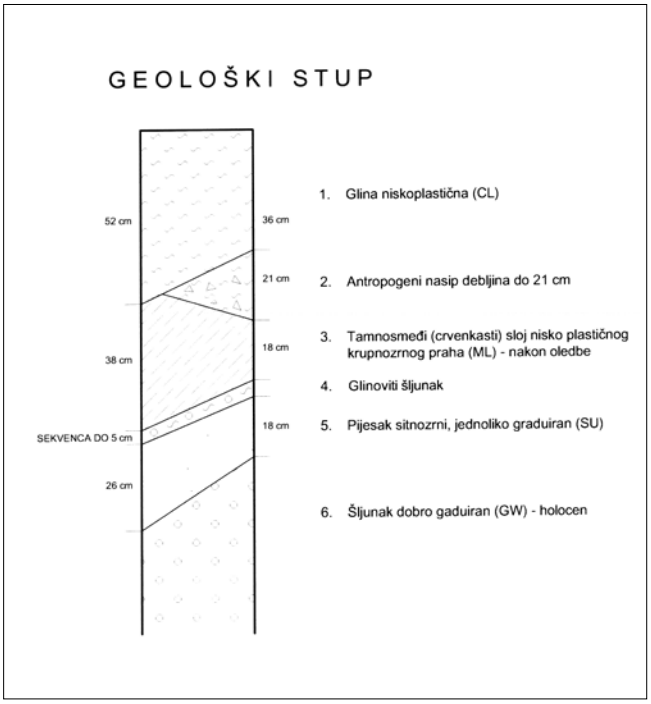
the Virovitica group. A relatively simple stratigraphy was established during the archaeological excavations. On a larger part of the site, a geological layer of sandy clay was defined immediately below the agricultural layer, and beneath it, a layer of gravel of fluvial origin (Burmaz, Bugar 2006). Most of the anthropogenic structures were dug into the sandy clay and occasionally gravelly soil. The remains of the Bronze Age settlement include densely distributed circular cuts with a diameter varying between 25 and 50 cm, and they probably represent the remains of holes for wooden posts which supported surface structures (Fig. 4). Somewhat larger cuts of different sizes also appear, and are mostly filled by light gray soil with small amounts of pottery fragments, daub and river pebbles. A larger amount of pottery fragments was discovered in a few pits which are interpreted as pottery depots.[6] Based on the distribution and the layout of archaeological cuts, it can be concluded that the excavations unearthed a smaller part of the Bronze Age settlement. Namely, based on the excavations, it was concluded that the settlement covers an area larger than the one researched, and that the site mostly extends to the west and northwest, and somewhat less to the north (Burmaz, Bugar 2006). Seeing as the settlement has not been completely excavated, and the habitational raster is not fully determined, the rest of the research focused on special geodetic surveys with the aim of creating a digital elevation model.[7] The surveys were made based on the assumption that the observed height deviations in the landscape would reveal individual types of archaeological features, primarily larger elements of a settlement, such as moats, mounds, and entrances, and that they would give a better basis for defining the possible borders of the settlement (Kudelić et al. 2013: 191). The produced model of the landscape reveals that the elevation where the Bronze Age site is situated extends in the direction of northeast – southwest at an altitude of 105 m above sea level (Fig. 2). The elevated position slightly drops towards the southwest, and its highest point is situated northwest of the excavated area. It is almost certain that this is the area where the settlement spreads, although other parts of this elevation are also suitable for habitation. Northwest of the highest point of the elevation, closer to the Ramiščak Stream, there is a lowered area with similar attitudes, covering a surface of around 12 meters and extending northeast – southwest for about 100 meters. For now, it is assumed that these are the remains of the old bed of the stream the contemporary shape of which is probably the result of more recent interventions.[8]

6 These are smaller circular cuts which appear over the entire area of excavation. Their main feature is a large amount of specifically arranged pottery material, and they are increasingly considered to be a part of ritual practice (Palatova, Salaš 1998/1999; 2002; Stapel 1999; Karavanić, Kudelić 2011; Kavur 2011; 2012).

7 The survey was conducted in association with the project of the Institute for Archaeology: "The genesis and development of Bronze Age communities in Northern Croatia", and the archaeological company Kaducej d.o.o.

8 In the autumn of 2015, the Institute of Archaeology (Andreja Kudelić, PhD) conducted geophysical surveying within the project entitled *Kurilovec-Belinščica - a prehistoric settlement,* with the goal of deter-

Sl. 2 Digitalni model reljefa – položaj nalazišta Kurilovec–Belinščica (izradio: D. Tresić Pavičić; podloga: HOK, DGU)
Fig. 2 A digital elevation model – the position of the site of Kurilovec–Belinščica (made by: D. Tresić Pavičić; background: HOK,DGU)



Sl. 3 Geološka podloga na nalazištu Kurilovec–Belinščica (Burmaz, Bugar 2006)
Fig. 3 The geological base at the site of Kurilovec–Belinščica (Burmaz, Bugar 2006)

The less elevated position at the site of Kurilovec–Belinščica was also settled in later periods, as confirmed by archaeological remains dated to the Late Roman period, but also the Modern Age (Burmaz, Bugar 2006). This position was probably selected due to its preferable geological base in relation to the mostly swampy landscape. The geological base of the site was determined by a test trench which was dug near the northern edge of the excavated area, (31.7 meters in length and around 2 meters in depth) (Fig. 3).[9] The report (Burmaz, Bugar 2006) states that there is a layer of finely graduated, compacted gravel composed of orbicular grains mostly of limestone origin at the depth of two meters, and a layer of equally graduated, small-grained, compacted sand above it. The layers were created in conditions of shallow lacustrine fluvial ambience. The sands are covered by slightly plastic, very hard dust of reddish dark brown color, and the dust is, in places, covered with sharp-edged fragments of an embankment of anthropogenic origin. Slightly plastic clays of a gray-brown color which originated from occasional flooding in shallow

mining the origin of the mentioned lowered altitudes. The geophysical surveys were done by GeoArh d.o.o. from Ljubljana, and the analysis of the results of the survey is in progress.

9 The engineering geological analysis was done by geologist Tomo Novosel (Burmaz, Bugar 2006).

voga konzistentnog stanja crvenkasto-tamnosmeđe boje, a na prahovima su samo mjestimično uočeni oštrobridi fragmenti nasipa antropogenog podrijetla. Kao pokrov javljaju se niske plastične gline sivosmeđe boje nastale povremenim plavljenjem u plitkim jezerskim odnosno barskim uvjetima koje su u plićim slojevima premetane poljoprivrednom aktivnošću.

Na osnovi analize geološke podloge, rezultata analize digitalnog modela reljefa te na osnovi distribucije arheoloških tvorevina može se zaključiti da je manja uzvisina (oko 105 m n. v.) na položaju Kurilovec–Belinščica u brončano doba, a vjerojatno i u kasnijim razdobljima, bila pogodna za stalniji boravak te se pretpostavlja da položaj nije bio izrazitije ugrožen sezonskim plavljenjima. Neposredna okolica nalazišta, osobito područje južno od njega, bilježi niže visinske vrijednosti (oko 104 m n. v.) što može biti pokazatelj da je naselje tijekom plavne sezone moglo biti okruženo vodama, a danas zapušteni vodotok mogao je biti značajan čimbenik u procesu otjecanja voda iz okolice.

b. Analiza arheoloških tvorevina na nalazištu (sl. 4)

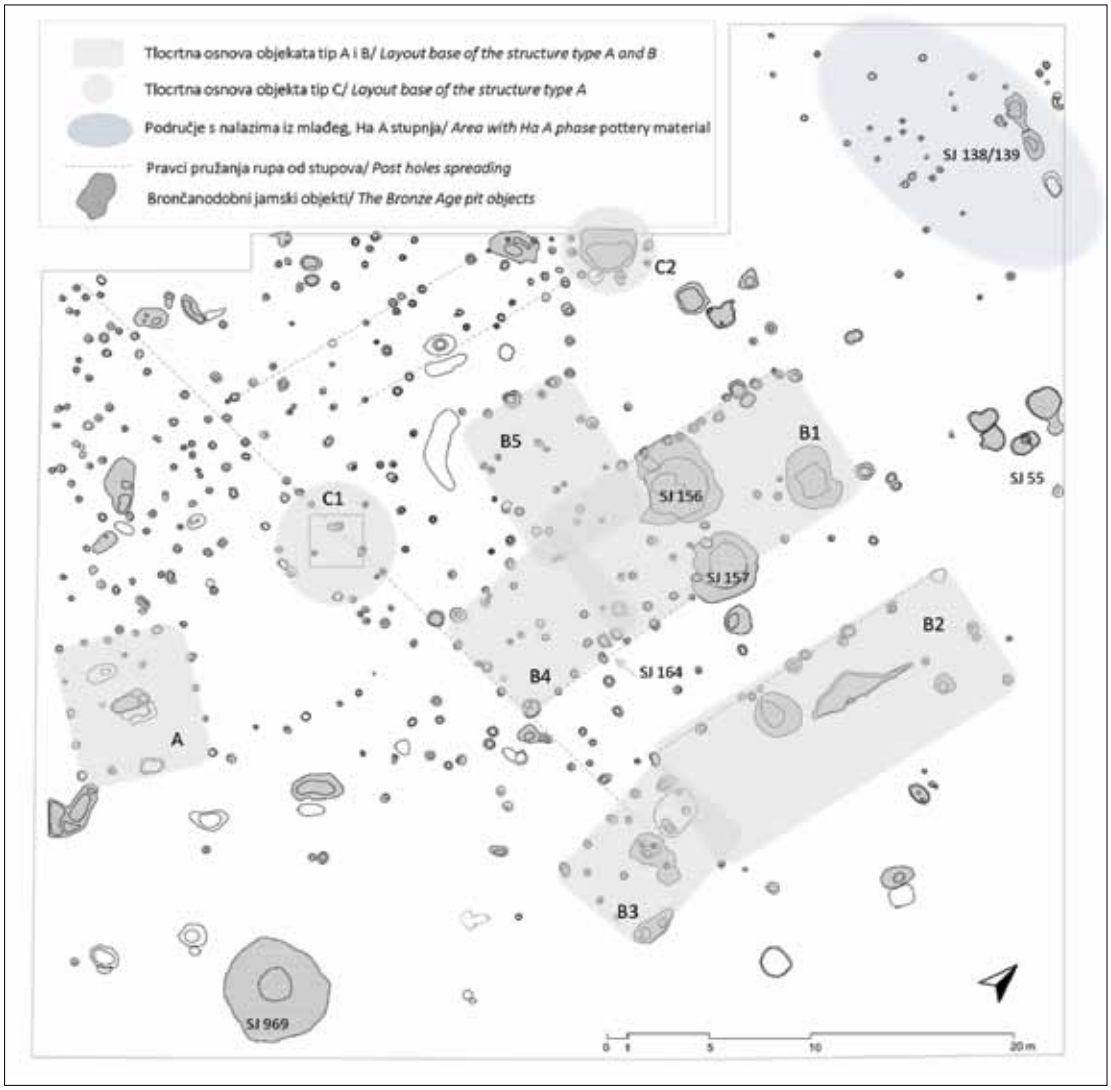
Tlocrt s ostacima naselja iz brončanog doba ukazuje na

lacustrine and uliginous conditions appear in sheets which were subsequently dragged into the shallow layers by agricultural activities.

Based on the analysis of the geological base, the results of digital elevation model analyses, and the distribution of archaeological features, it is possible to conclude that the less elevated position (about 105 m above sea level) at the site of Kurilovec–Belinščica was suitable for more permanent habitation during the Bronze Age, and probably in later periods, and it is assumed that the site was not distinctly endangered by seasonal floods. The immediate surroundings of the site, especially the area to the south, is marked by lower altitudes (about 104 m above sea level) which could mean that the settlement was surrounded by water during flooding seasons, and that today's dry waterbed could have been an important factor in the process of draining water from the surrounding area.

b. The analysis of archaeological features at the site (Fig. 4)

The layout of the Bronze Age settlement remains indi-



Sl. 4 Tlocrt površine s ostacima naselja iz brončanog doba i rekonstrukcija pojedinih objekata (izradili: A. Kudelić i Burmaz, Bugar 2006)

Fig. 4 The layout of the surface with remains of the Bronze Age settlement and a reconstruction of individual structures (made by: A. Kudelić and Burmaz, Bugar 2006)

relatiavno visok intenzitet korištenja toga prostora. Na nalazištu je zabilježen manji broj jama s antičkim keramičkim materijalom koje su oštetile dvije jame iz brončanog doba. Iako se mali broj brončanodobnih objekata preslojava, ni jedna rupa za stup nije oštećena kasnijim intervencijama (sl. 4).

Iskopavanjem su otkrivene i jame većih dimenzija relativno blizu jedna drugoj prosječne udaljenosti oko 2 metra. Riječ je o tri jame promjera između 3,5 i 4,5 metara te dubine između 0,5 i 0,7 metara. Zapunjene su s nekoliko zapuna sive boje, a u dva slučaja s neznatnom količinom keramičkih ulomaka. U zapuni treće jame koja je određena stratigrafskom jedinicom (SJ) 156 pronađeno je njih 1057 (17,7 kg). Osim ulomaka keramike, u jami se nalazila i velika količina kućnog lijepa odnosno dijelova podnice (20,4 kg). Za razliku od ostalih brončanodobnih tvorevina, jame (SJ) 156 i 157 presječene su manjim brončanodobnim ukopima koji odgovaraju nizu ukopa sličnih dimenzija i vjerojatno čine ostatke nadzemnih objekata. Na osnovi tipološko-kronološke analize keramičkog materijala ustanovljeno je da jama 156 sadrži ulomke starijih, srednjobrončanodobnih karakteristika koja upućuje na mogućnost starije faze korištenja ovog položaja. Manji broj tvorevina na nalazištu čine jame manjih dimenzija najvećeg promjera oko 2,5 metara, dok najveći broj pripada tzv. jamama za stupove promjera od 25 do 50 cm. Velik broj dokumentiranih rupa za stupove pruža dobar potencijal za rekonstrukciju tlocrtnih osnova nadzemnih objekata, međutim, njihov gust raspored onemogućuje dovoljno jasno definiranje pojedinih cjelina koje bi mogle biti pokazatelj izdvojenih domaćinstava odnosno objekata. Prilikom analize rasporeda tvorevina proveden je pokušaj definiranja tlocrtnih osnova objekata na nalazištu slijedom ovih kriterija: pravci pružanja rupa od stupova, dimenzije rupa za stupove (promjer/dubina), približna udaljenost između dva stupa ili više njih, pojava tzv. stupova u paru, ponavljanje jednakih dimenzija definiranih tlocrtnih osnova.

Na tlocrtu je primjetno da se rupe za stupove pružaju u dva pravca: sjever – jug i istok – zapad s blagim otklonom (sjeveroistok – jugozapad). Pravac pružanja rupa za stupove u smjeru istok – zapad, označen na tlocrtu, prelazi dužinu od 40 metara. Sjeverno od njega utvrđeno je nekoliko pravilnih nizova rupa za stupove koje se u smjeru sjever – jug pružaju u dužini i do 20 metara, dok južno takva pravilnost nije utvrđena, vjerojatno zbog granice istraženog prostora (sl. 4).

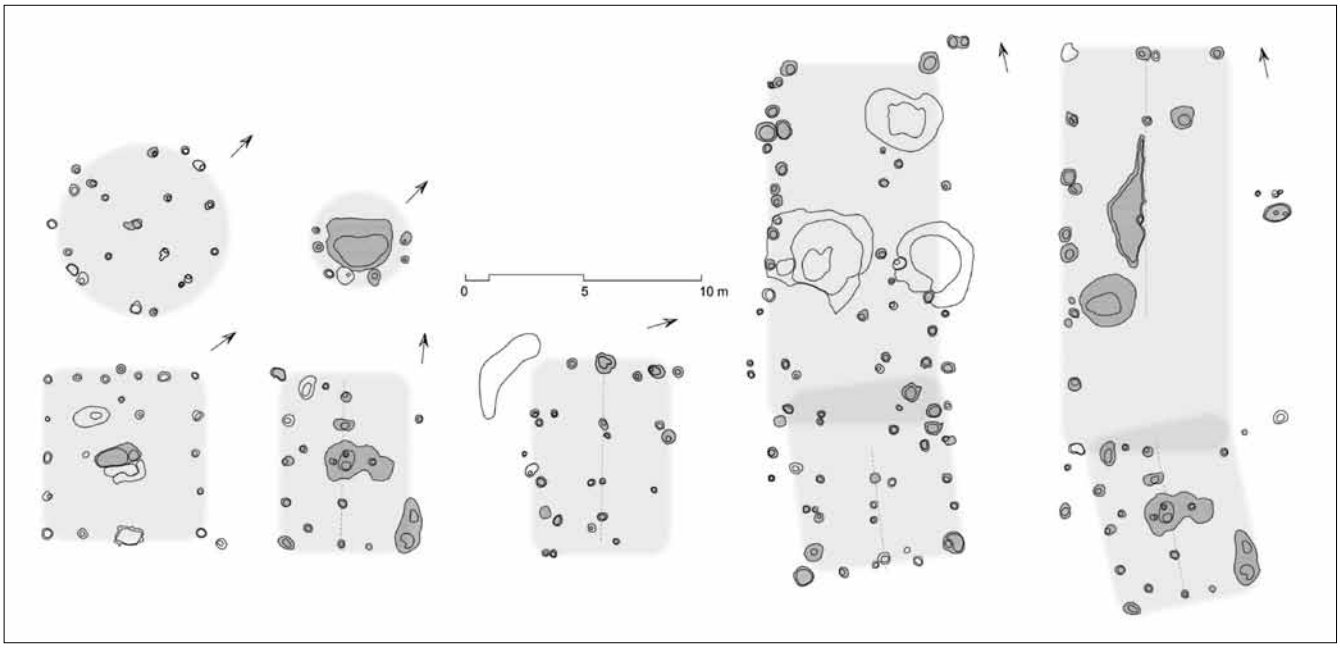
Na osnovi zadanih kriterija izdvojeno je nekoliko tipova objekata (sl. 5): kvadratni (A), pravokutni (B) i kružni (C). Prvoj skupini pripada objekt A utvrđen na južnom dijelu istražene površine, definiran još prilikom iskopavanja. Vrlo dobra očuvanost može biti posljedica položaja objekta na rubu naselja ili u kasnijim razdobljima taj prostor gubi odnosno mijenja namjenu stoga ostaci nisu znatnije oštećeni aktivnostima iz mlađeg razdoblja. Dimenzije kuće iznose 6 × 6,5 metara (A), a prosječna udaljenost između stupova iznosi od 1,2 do 1,6 metara. Na jugoistočnoj strani objekta stupova je manje stoga se pretpostavlja da je to mjesto ulaza u kuću. U središnjem prostoru otkriveni su

cates a relatively high intensity in utilizing this area. The site yielded a smaller number of pits with Roman pottery material which damaged two Bronze Age pits. Although a small number of Bronze Age structures overlap, not even one post hole was damaged by later interventions (Fig. 4).

Excavations also revealed pits of larger dimensions which are relatively close to each other, with an average distance of about 2 meters. These are three pits measuring between 3.5 and 4.5 meters in diameter, and between 0.5 and 0.7 meters in depth. The pits have several fills which are gray in color, and which, in two cases, contain very small amounts of pottery fragments. The fill of the third pit, defined as stratigraphic unit (SU) 156 yielded 1057 (17.7 kg) pottery fragments. Apart from them, the pit yielded a large amount of daub, that is, remains of floors (20.4 kg). Unlike other Bronze Age features, pits (SU) 156 and 157 are intersected by smaller Bronze Age cuts which match other cuts of similar dimensions and which probably were the remains of above-ground structures. Based on the typological and chronological analysis of pottery material, it was established that pit 156 contained material remains of older, Middle Bronze Age characteristics, which points to the possible existence of an older phase of utilizing this position. A smaller number of features at the site includes pits of smaller dimensions which measure up to 2.5 meters in diameter, and the largest number includes post holes which measure between 25 and 50 cm in diameter. The large number of documented post holes presents a good potential for reconstructing the layout bases of above-ground structures, but their dense distribution makes it difficult to clearly define individual units which could be an indicator of separate households, that is, structures. During the analysis of the layout of these features, there was an attempt to define the layout bases of structures at the site by following these criteria: the directions in which post holes spread; the dimensions of post holes (diameter/depth); the approximate distance between two or more post holes; the presence of, so called, double post holes; the repetition of equal dimensions of defined layout bases.

The layout shows that post holes spread in two directions, north – south and east – west with a slight inclination (northeast – southwest). Post holes spreading from east to west marked on the layout span over 40 meters in length. To the north of them, several regular lines of post holes were noted which span over 20 meters in length from north to south, while no such regularities were noted to the south, probably due to the borders of the excavated area (Fig. 4).

Based on the given criteria, several types of structures were defined (Fig. 5): square (A), rectangular (B) and round (C). The first group includes structure A, discovered on the southern part of the excavated area and defined during the excavations. The good state of preservation can be the result of the position of the structure at the edge of the settlement, or the fact that the area lost or changed its function in subsequent periods, so that the remains were not additionally damaged by activities from younger periods. The dimensions of the house are 6 x 6.5 meters (A),



Sl. 5 Tlocrtne osnove izdvojenih tipova objekata na nalazištu Kurilovec–Belinščica
Fig. 5 Layout bases of certain types of structures from the site of Kurilovec–Belinščica

ostaci pravilnog, plitkog ukopa s komadićima lijepa i riječnim oblutcima te je vjerojatno riječ o ostacima ognjišta. Tlocrtna osnova pravokutnog i izduženog oblika najčešća je pojava i u okviru drugih brončanodobnih naselja iz šire okolice nalazišta. Na osnovi ranije spomenutih pravaca koji se pružaju u smjeru sjever – jug izdvojena su dva objekta dimenzija 6,5 × 15 metara (B1 i B2). Na tri mjesta postoje pokazatelji preslojavanja nadzemnih objekta. Na rubnom, jugoistočnom dijelu naselja ističe se djelomično očuvana cjelina sastavljena od stupova postavljenih na udaljenosti od 1,7 metara (očuvana je samo zapadna strana). Objekt je sastavljen od više stupova koji tvore prostor dimenzija 5,2 × 8 metara i središnje osi koja nosi krovnu konstrukciju (B3). U tlocrtu se razabire preslojavanje i blagi otklon između objekata B2 i B3. Slična situacija vidljiva je i kod objekata B1 i B4, a dimenzije i orijentacija odgovaraju spomenutim objektima koji se nalaze otprilike 4 metra istočno. Treće preslojavanje vidljivo je u potpuno obrnutom smjeru, a tlocrtna osnova veličine 5,7 × 8 metara pruža se okomito na objekt B1. Osnovu kuće čini niz stupova u paru koji se nalaze na udaljenosti od 2,3 metra i zatvaraju prostor od 45 m^2 (B5). Kuća ima i središnju os sačinjenu također od stupova u paru raspoređenih na jednakoj udaljenosti. Sjeveroistočni ugao objekta uništio je antički ukop. Poseban tip objekta predstavljen je kružnim tlocrtnim osnovama (C) koje se u pravilu sastoje od stupova u paru te se javljaju u dvije varijante. Jednu predstavlja nadzemni objekt (C1) promjera 6 metara, dok je drugi djelomično ispod površine tla (C2). Od ostalih manje-više interpretativnih pojava u okviru naselja može se izdvojiti jama kružnog oblika, promjera 5 metara, koja se nalazi na južnoj strani istražene površine, na rubnom dijelu naselja. Jama je ukopana u geološke slojeve bogate šljunkom, a istražena je do dubine od 2,3 metra te se tumači kao bunar (SJ 969). Istraživanjem su

and the average distance between posts is varies from 1.2 to 1.6 meters. There are fewer posts on the southeastern side of the structure, so this is assumed to be the house entrance. The central area yielded the remains of a regular shallow cut with pieces of daub and river pebbles which are probably the remains of a hearth. The rectangular and elongated layout base is the most common occurrence in the context of other Bronze Age settlements in a wider area around the site. Based on the aforementioned directions of north – south, it was possible to define two structures measuring 6.5 x 15 meters (B1 and B2). Indicators of the inter-layering of above-ground structures are present in three places. On the border, southeastern part of the settlement, there is a partially preserved unit composed of posts which are 1.7 meters apart (only the western part is preserved). The structure consists of several posts which carry walls measuring 5.2 x 8 meters, and a central axis which carried the construction of the roof (B3). The layout reveals inter-layering and a slight deviation between structures B2 and B3. A similar situation is also visible with structures B1 and B4, and the dimensions and orientation resemble the mentioned structures which are situated approximately 4 meters to the east. The third inter-layering is visible in a completely opposite direction, and the layout base measuring 5.7 x 8 meters is perpendicular to structure B1. The base of the house consists of a series of pairs of posts which are 2.3 meters apart and which close an area of 45 m^2 (B5). The house also has a central axis composed of equidistant double post holes. The northeastern edge of the structure was destroyed by a cut dated to the Roman period. A special type of structure has circular layout bases (C), which are composed of pairs of posts and appear in two variants. One variant is presented by the above-ground structure (C1) measuring 6 meters in diameter, while the other is partially below ground (C2). Out of the other more or less interpretative features within this

dokumentirane tri zapune, a sadržavale su pretežno ulomke keramičkih posuda i riječne oblutke. Od ukupnog broja keramičkog materijala na lokalitetu u ovoj je jami pronađeno njih 27%, odnosno 1933 ulomka keramike (48 kg). Na krajnjem sjevernom dijelu istraženog prostora nalazi se skupina rupa za stupove i jedna dvostruka jama izduženog oblika koji su izdvojeni od glavnine brončanodobnih naseobinskih ostataka (sl. 4). U izduženoj dvostrukoj jami i rupi za stup koje su određene stratigrafskom jedinicom (SJ) 138/139 i 73 pronađeni su ulomci keramike s karakteristikama kasnijeg razdoblja i povezuju se sa stupnjem Ha A, a takvu dataciju potvrđuje i radiokarbonska analiza ugljena (sl. 12, tab. 1). Osim ovdje predstavljenih nepokretnih ostataka naseobinskog karaktera, u zapunama jama pronađeni su i ostaci arhitekture, a riječ je uglavnom o izgorenim zemljanim premazima zidova kuća, zemljanoj podnici te dijelovima ognjišta i peći kojih na nalazištu nije mnogo otkriveno. Kućni lijep pronađen je u malim količinama, amorfnog je oblika i vrlo usitnjen, dok je u dvije jame pronađeno nekoliko komada s očuvanim otiscima pruća. U kontekstu jame 156 pronađena je velika količina plosnatih keramičkih ulomaka koji su činili dio veće plohe s jedne strane zaglađene, a s druge se strane na površini nalaze otisci šljunka. Vjerojatno je riječ o dijelovima podnice ili ognjišta, međutim podnice i ognjišta *in situ* na nalazištu nisu pronađeni.

Na temelju iznesenih zapažanja može se zaključiti da je život u brončanodobnom naselju mogao imati nekoliko vremenskih ciklusa na osnovi presijecanja objekata te da se najmlađa faza izdvaja i prostorno.

Radiokarbonska analiza napravljena je na uzorcima ugljena iz nekoliko objekata (tab. 1) te nadopunjuje zapažanje da je život u brončanodobnom naselju mogao imati nekoliko vremenskih ciklusa koji se odražavaju i u rezultatima tipološko-kronološke analize keramičkih nalaza. Presijecanja brončanodobnih objekata upućuju na minimalno dvije faze života u naselju, odnosno nadzemni objekt B1 oštetio je starije, pretpostavlja se u to vrijeme već napuštene jamske objekte (SJ 156, 157). Na tlocrtu su vidljiva i preslojavanja nadzemnih objekata te manji otkloni u položaju pojedinih objekata odnosno nizova stupova, kao i jasno definirane tlocrtne osnove potpuno drugačije orijentacije (A1). Međutim, dva osnovna pravca u kojima se pružaju rupe od stupova kao i nezabilježena presijecanja manjih jama odnosno rupa za stupove pokazatelji su planske organizacije korištenog prostora. Velika gustoća rupa od stupova i prisutnost stupova u paru pokazatelji su određenih konstrukcijskih rješenja koja se mogu dovesti u vezu s izdizanjem objekata od razine tla, najčešće kao prevencije od sezonskih plavljenja. Takve pojave zabilježene su na mnogim pretpovijesnim nalazištima u zamočvarenim područjima (Bernabò Brea et al. 1997; Menotti 2004; Mlekuž et al. 2006; Velušček 2009). Iako se dovode u vezu s tzv. sojeničarskih tipom naselja na vodi, istraživanja govore da se jednaka konstrukcijska rješenja koriste i na povišenim suhim položajima (Menotti 2004; Mlekuž et al. 2006; Budja, Mlekuž 2008: 366). Ipak, pojedini elementi utvrđeni na nalazištu Kurilovec–Belinščica upućuju na izgradnju kuća na razini tla kao i na vjerojatnost izgradnje objekata izdignutih

settlement, a circular pit stands out, measuring 5 meters in diameter, which is situated on the southern part of the excavated area and the edge of the settlement. The pit is dug into geological layers which are rich in gravel, and was excavated to the depth of 2.3 meters and interpreted as a water well (SU 969). Three fills were documented during the excavations, and they mostly contained pottery vessel fragments and river pebbles. Out of the total number of pottery finds from the site, this pit yielded 27%, that is, 1933 pottery fragments (48 kg). At the northernmost part of the excavated area, there is a group of post holes and one elongated double pit which are segregated from most of the remains of this Bronze Age settlement (Fig. 4). The elongated double pit and post hole which were defined as (SU) 138/139 and 73 yielded pottery fragments with characteristics of later periods, notably the Ha A phase – a datation which is additionally confirmed by radiocarbon analyses of coal (Fig. 12, Tab. 1). Apart from the here presented non-movable remains of settlement character, the fills of pits also yielded architectural remains, mostly burnt out earthen wall coatings, earthen floors and parts of hearths and kilns the likes of which are not common at the site. Daub was discovered in smaller amounts, has an amorphous shape and is very fragmented, but two pits yielded several pieces with visible traces of wattle. Pit 156 yielded a large amount of flat pottery fragments which made up a larger surface which was smoothed on one side and had traces of imprinted pebbles on the other side. These are probably parts of a floor or a hearth which have, however, not been discovered *in situ* at the site.

Based on the stated observations, it can be concluded that life at this Bronze Age settlement could have occurred in several temporal cycles based on the inter-layering between structures, and that the youngest phase is also spatially segregated.

Radiocarbon analyses were conducted on coal samples taken from several pits (Tab. 1) which complement the observation that life in the Bronze Age settlement could have occurred in several time cycles which are also reflected in the results of typological and chronological analyses of pottery finds. The inter-layering of Bronze Age structures point to a minimum of two phases of life at the settlement, that is, the above-ground structure B1 damaged the older, presumably already abandoned, dugout structures (SU 156, 157). The layout shows the inter-layering of above-ground structures and smaller deviations in the position of certain structures, i.e. lines of post holes, as well as clearly defined layout bases of a completely different orientation (A1). However, the two basic directions in which post holes spread, as well as the non-existing inter-layering between smaller pits or post holes, are indicators of a planned-out organization of the utilized area. The high density of posts and presence of double post holes are an indicator of certain construction solutions linked to raising structures above ground level, most often as prevention from seasonal floods. Such occurrences were noted on many prehistoric sites in marshy areas (Bernabò Brea et al. 1997; Menotti 2004; Mlekuž et al. 2006; Velušček 2009) and, although they are connected to the, so called, stilt types of settlements on water, research reveals that the same construction schemes were used on elevated dry positions

od tla. Na osnovi provedenih istraživanja za sada nije moguće utvrditi je li riječ se o istodobnom korištenju objekata različitog tipa i dimenzija, no prema nekim istraživanjima takve su pojave uobičajene (Marzatico 2004: 90; Menotti 2004: 134). I dok navedene pretpostavke treba dodatno ispitati, zanimljive podatke daje usporedba nalazišta Kurilovec–Belinščica s dva nedavno istražena brončanodobna naselja iz iste regije. Neobjavljeno naselje na položaju Gornji Vukojevac (Dizdar 2011; 2012) također je sastavljeno od mnoštva stupova koji se pružaju u dugačkim pravilnim nizovima. S druge strane, na nalazištu Selnica Ščitarjevska utvrđeno je nekoliko grupiranih objekata dobro očuvanih tlocrtnih osnova, dimenzija 5,5 × 7,5 i 5,5 × 8 metara, koji odgovaraju objektima B3 i B4 s nalazišta u Kurilovcu i koji se na osnovi nekoliko redova gusto raspoređenih stupova u paru mogu tumačiti kao objekti izdignuti od tla (Kudelić 2015: 81). Stoga, s obzirom na karakteristike turopoljskog krajolika i sezonski pojačanog rizika od plavljenja, može se pretpostaviti da su za naseljavanje birani relativno sigurni, uzdignuti položaji te da su isti uvjeti mogli utjecati i na način izgradnje objekata. Bez obzira na iznesena zapažanja, cilj ovog rada nije definirati infrastrukturu naselja nego prikazati koliko je kompleksna slika jednog brončanodobnog naselja, s kojeg se keramički materijal u tek neznatnim količinama nalazio na površini oranice.

(Menotti 2004; Mlekuž et al. 2006; Budja, Mlekuž 2008: 366). However, certain elements observed at the site of Kurilovec–Belinščica indicate that houses were built on ground level, as well as to the possibility that some structures were elevated above ground. Based on the conducted research, so far it is not possible to determine if structures of different types and dimensions were used at the same time, but research has shown that such occurrences are common (Marzatico 2004: 90; Menotti 2004: 134). And, while the listed assumptions need to be additionally examined, interesting data is obtained through comparing the site of Kurilovec–Belinščica with two recently excavated Bronze Age settlements from the same region. The unpublished settlement from the position of Gornji Vukojevac (Dizdar 2011; 2012) is also composed of many posts which spread in long regular lines. On the other hand, the site of Selnica Ščitarjevska yielded several grouped structures with well-preserved layout bases, measuring 5.5 x 7.5 and 5.5 x 8 meters, which resemble structures B3 and B4 from the site in Kurilovec and which can, based on several rows of densely distributed double post holes, be interpreted as structures raised above ground level (Kudelić 2015: 81). Therefore, considering the characteristics of the landscape in the Turopolje region and the high risk of seasonal floods, it can be assumed that relatively safe, elevated positions were chosen for settling, and that the same conditions could have affected the way the structures were built. Regardless of the presented observations, the aim of this paper is not to define the infrastructure of the settlement, but to show how complex one Bronze Age settlement is, especially since it was only discovered by almost insignificant amounts of pottery material present on the surface of the field.

Stratigrafska jedinica/ *Stratigraphic unit*	Lab. br./Lab. num.	Konvencionalni karbonski datum/ *Conventional carbon date*	2 σ kalibrirani datum (95%)/*2 σ calibrated date*	Intercept of radiocarbon age with calibration on curve	1 σ kalibrirani datum (68%)/*1 σ calibrated date*
164	Beta-293842	3140±40 BP	1500-1370 (Cal BP 3440-3320) 1340-1320 (Cal BP 3290-3270)	1420 (Cal BP 3370)	1440-1400 (Cal BP 3390-3350)
970	Beta-293847	3050±40 BP	1410-1210 (Cal BP 3360-3160)	1360 (Cal BP 3310) 1350 (Cal BP 3300) 1310 (Cal BP 3260)	1390-1270 (Cal BP 3340-3220)
192	Beta-293841	2990±40 BP	1380-1330 (Cal BP 3330-3280 BP) 1330-1120 (Cal BP 3280-3060)	1260 (Cal BP 3210)	1300-1190 (Cal BP 3250-3140) 1140-1140 (Cal BP 3090-3090)
138	Beta-293834	2890±40 BP	1210-970 (Cal BP 3160-2920) 960-940 (Cal BP 2900-2890)	1050 (Cal BP 3000)	1120-1010 (Cal BP 3070-2960)

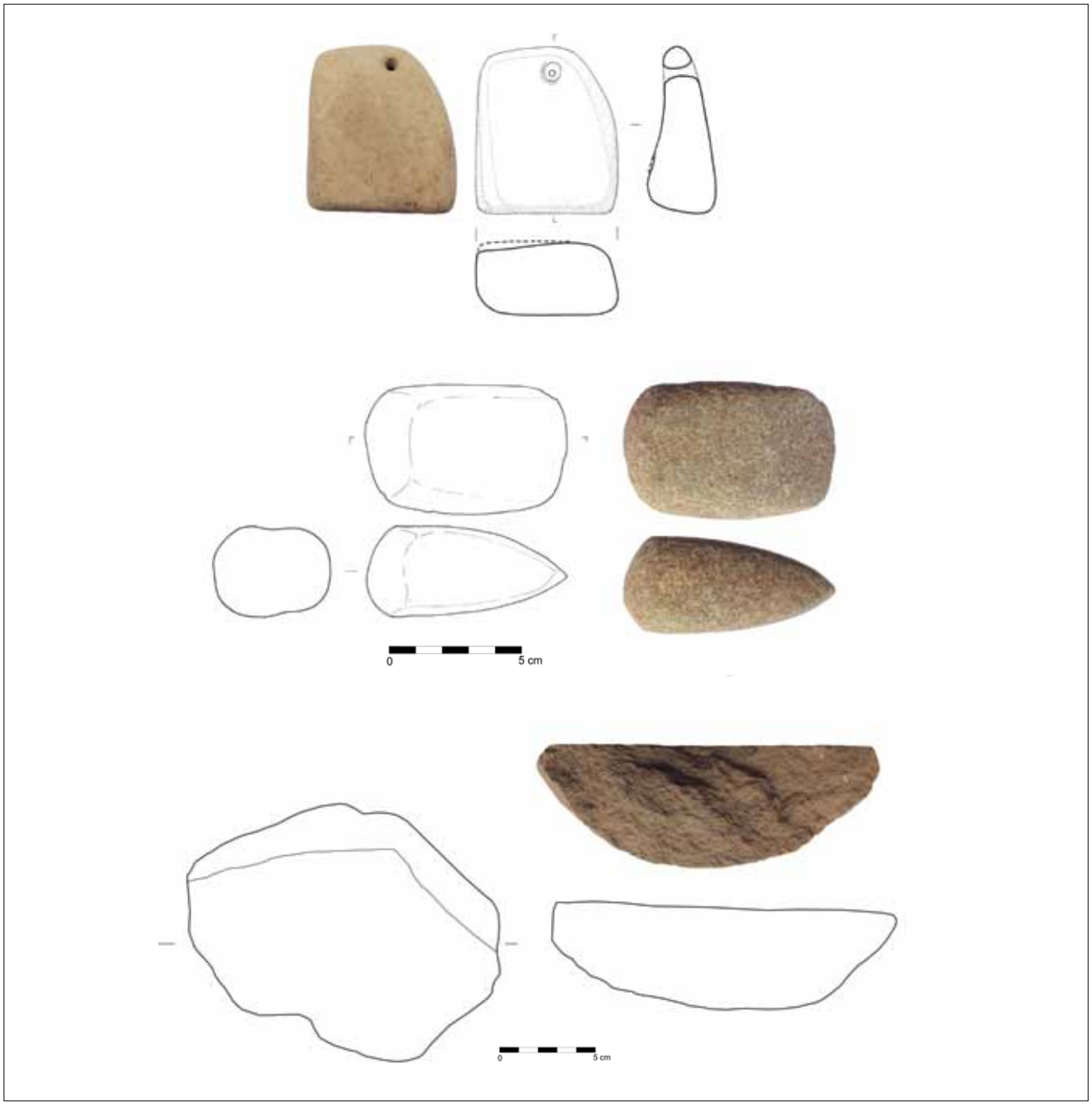
Tab. 1 Rezultati radiokarbonske analize ugljena s nalazišta Kurilovec–Belinščica
Tab. 1 The results of coal radiocarbon analysis from the site of Kurilovec–Belinščica

4. ANALIZA POKRETNIH NALAZA

Arheološke tvorevine na nalazištu Kurilovec–Belinščica uglavnom su sadržavale ulomke keramičkih posuda te mnogo rjeđe predmete načinjene od gline ili kamena. Na nalazištu je zabilježena relativno rijetka pojava predmeta koji se vezuju uz tkalačku djelatnost. Otkrivena su tri keramička utega i jedan plosnati keramički pršljenak. Predmeti napravljeni od kamena učestaliji su nalaz, a ovdje su izdvojeni: kamena sjekira, perforirani kameni predmet (brus), dijelovi žrvnja, kamena kružna ploča te nekoliko kamenih alatki (sl. 6). Najbrojniji nalazi jesu ulomci keramičkih posuda i manji broj cjelovitih keramičkih posuda na kojima

4. THE ANALYSIS OF MOVABLE FINDS

The archaeological features at the site of Kurilovec–Belinščica mostly contained fragments of pottery vessels and significantly less finds made out of clay or stone. The site yielded a relatively small amount of artifacts connected with weaving. Three pottery weights and one flat pottery spindle were found. Stone artifacts are a more



Sl. 6 Kameni predmeti: perforirani brus (SJ 29), sjekira (SJ 55), žrvanj (SJ 156)
Fig. 6 Stone artifacts: perforated whetstone (SU 29), axe (SU 55), grindstone (SU 156)

je provedena morfološka klasifikacija, statistička i tipološko-kronološka analiza. Ulomci keramičkih posuda podvrgnuti su i arheometrijskim analizama, makroskopskoj tehnološkoj analizi te analizi funkcije (Kudelić 2015; Kudelić et al. 2016), koje se dijelom još uvijek provode.[10] Međutim, u ovom radu bit će prikazani rezultati statističke analize, morfološka klasifikacija i tipološko-kronološka analiza keramičkih posuda. Keramičke posude kulturne grupe

10 U sklopu izrade doktorske disertacije pod naslovom *Tehnološki i socijalni aspekti keramičkih nalaza grupe Virovitica u sjeverozapadnoj Hrvatskoj i njihov arheološki kontekst* (Kudelić 2015), autorica rada je na keramičkom materijalu iz nekoliko brončanodobnih naselja provela arheometrijske analize i makroskopsku tehnološku analizu, a provedena je i serija eksperimentalnih istraživanja na tu temu.

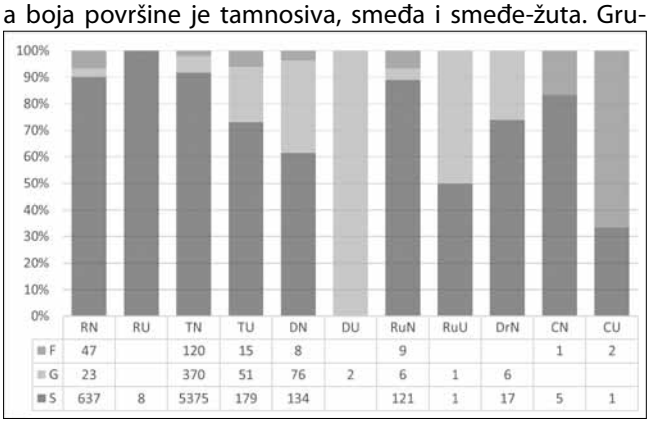
frequent find, including the following: a stone axe, a perforated stone artifact (whetstone), grindstone fragments, a circular stone tablet and several stone tools (Fig. 6). The most numerous finds are pottery vessel fragments and a smaller number of complete pottery vessels which have been morphologically classified, as well as statistically, typologically and chronologically analyzed. Archaeometric analyses, studies on production technology, and functional analyses were carried out on the pottery fragments (Kudelić 2015; Kudelić et al. 2016).[10] However, this paper

10 Within the scope of the doctoral dissertation entitled *The technological and social aspects of pottery finds of the Virovitica group in northwestern Croatia and their archaeological context* (Kudelić 2015), the author of the paper conducted archaeometric and macroscopic analyses on pot-

Virovitica napravljene su od relativno kvalitetnoga glinovitog materijala aluvijalnog podrijetla kojem je dodavana neutvrđena vrsta vrlo usitnjene primjese od organskog materijala i grog (usitnjena keramika). Posude su pečene na relativno niskim temperaturama u uvjetima redukcije i kratkotrajne oksidacije što se odrazilo na boju površine i presjeka keramičkih ulomaka.

a. Statistička analiza ulomaka keramičkih posuda

Na nalazištu su tijekom arheoloških iskopavanja prikupljena 7492 ulomka keramičkih posuda (248,5 kg), a statistički je analiziran cjelokupni materijal. Od ukupnog broja ulomaka spojeno je njih 277 te konačni zbroj ulomaka nakon spajanja iznosi 7215. Baza podataka oblikovana je u programu *Office Excel* i podijeljena je na tipološku i tehnološku bazu podataka. Prilikom obrade keramičkog materijala, na osnovi tehnoloških kriterija klasifikacije definiran makroskopskom analizom ulomaka, utvrđene su tri vrste keramičke strukture odnosno tri skupine keramičkog materijala: fina, prijelazna ili srednja i gruba keramička struktura. Osnovni kriterij bila je vrijednost debljine stijenke i količina primjesa u keramičkom uzorku.[11] Finoj keramičkoj strukturi (3%) pripadaju ulomci tankih stijenki debljine do 0,5 cm, zaglađene ili glačane površine te pretežno tamnosmeđe i sivo-smeđe boje površine. Srednjoj ili prijelaznoj keramičkoj strukturi (90%) pripada glavina ulomaka čija prosječna debljina stijenke iznosi od 0,5 do 1,2 cm. Površina ulomaka je zaglađena, neobrađena ili nahrapavljena, a boja površine je tamnosiva, smeđa i smeđe-žuta. Gru-



Graf 1 Prikaz cjelokupnog broja ulomaka keramičkih posuda i učestalost prema vrsti keramičke strukture i dijagnostičkom tipu ulomka (N – neukrašeni; U – ukrašeni; R – rub; T – tijelo posude; D – dno; Ru – ručka; Dr – drška; C – cjelovita posuda)

Graph 1 The representation of the total number of pottery fragments and frequencies based on the type of pottery fabric, and diagnostic type of fragment (N – undecorated; U – decorated; R – rim; T – vessel body; D – base; Ru – handle; Dr – lug handle; C – complete vessel)

11 Pretpostavljalo se da će ulomci debljih stijenki sadržavati veće količine primjesa i veća zrna groga, međutim se pokazalo da posude tankih stijenki i zaglađene površine ponekad sadrže velike količine primjesa. Zbog tih je razloga napravljena preciznija analiza strukture pomoću makrofotografija koje su napravljene *Dino Lite* digitalnim mikroskopom. Na taj način napravljena je analiza na odabranom uzorku te je na osnovi rezultata obrade makrofotografija ustanovljeno šest vrsta keramičkih struktura odnosno smjesa. Na osnovi rezultata obrade makrofotografija izdvojeni su uzorci za arheometrijske analize (Kudelić 2015; Kudelić et al. 2016).

presents the results of analyses which refer to statistics, morphological classification, and typological and chronological analyses of pottery vessels. Pottery vessels of the Virovitica cultural group were produced out of relatively high-quality clay material of alluvial origin tempered with undetermined kinds of highly chipped organic temper and grog (crushed pottery). The vessels were fired on relatively low temperatures in a reduction atmosphere followed by short firing in an oxidation atmosphere, which is visible in the color of the surface and the cross-section of pottery fragments.

a. The statistical analysis of pottery vessel fragments

During the archaeological excavations at the site, 7492 fragments of pottery were discovered (248.5 kg), and all of the material was statistically processed. Out of the total number, 277 fragments were pieced together, and the final number of fragments is 7215. The data base was made in *Office Excel*, and was divided into a typological and a technological data base. During the processing of the pottery, and based on the technological criteria of classification defined by macroscopic sample analysis, three kinds of pottery structure, that is, three groups of pottery were defined: fine, transitional or medium, and coarse pottery fabric. The basic criterion was the value of wall thickness and the amount of temper in the pottery sample.[11] Fine pottery structure (3%) includes fragments with thin walls - up to 0.5 cm thick, which have a smoothed or polished mostly dark brown and a dark gray surface. The medium or transitional pottery structure (90%) includes most of the samples the walls of which are between 0.5 and 1.2 cm thick. The surface of these fragments is smoothed, unprocessed or roughened, and their color is dark gray, brown and brown-yellow. The coarse structure (7%) includes fragments with walls thicker than 1 cm and with a mostly unprocessed or roughened brown and brown-yellow surface. All three pottery structures display the presence of grog in amounts between 3 and 40 %. In this manner, it was possible to obtain a preliminary insight into the type and state of the pottery material, and to determine the first technological variables. The statistical analysis showed the representation of certain groups of diagnostic pottery fragments (rim, body, base, handle, lug handle), which points to the usual relations of representation of archaeological pottery material discovered in settlements (Graph 1).

Out of the total number of samples, 57 % of the material was discovered in the fills of three cuts (Graph 2). The

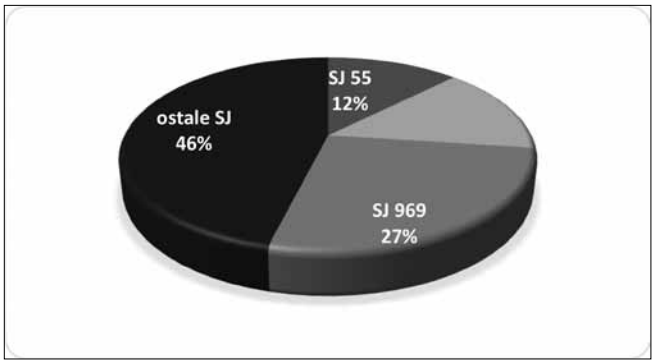
tery material from several Bronze Age settlements, as well as a series of experimental research on the subject.

11 It was assumed that fragments with thicker walls would contain larger amounts of temper and larger grains of grog, but it was established that vessels with thin walls and a smoothed surface also sometimes contain larger amounts of temper. That is why a more precise analysis of the structure was conducted based on macrophotographs taken by the *Dino Lite* digital microscope. By applying this method, analyses were conducted on a selected sample, and, based on the results of macrophotograph processing, 6 types of pottery fabric, i.e. clay pastes were defined. Based on the results of macrophotograph processing, samples were selected for archaeometric analyses (Kudelić 2015; Kudelić et al. 2016).

ba struktura (7%) pripada ulomcima čija debljina stijenke prelazi 1 cm, površina ulomaka uglavnom je neobrađena ili nahrapavljena, a boja površine je smeđa i smeđe-žuta. U sve tri keramičke strukture zabilježen je grog u količini od 3 do 40%. Na taj način dobiven je preliminarni uvid u vrstu i stanje keramičkog materijala, a utvrđene su i prve tehnološke varijable. Statističkom analizom utvrđena je zastupljenost pojedinih skupina dijagnostičkih ulomaka keramike (rub, tijelo, dno, ručka, drška) te ona upućuje na uobičajene odnose zastupljenosti arheološke keramičke građe otkrivene u ostacima naseobina (graf 1).

Od ukupnog broja ulomaka čak 57% materijala pronađeno je u zapunama triju ukopa (graf 2). Najveća količina keramike otkrivena je u objektu interpretiranom kao bunar (SJ 969), za kojim slijedi vjerojatno najstariji jamski objekt istražen na nalazištu (SJ 156) i manji ukop koji se tumači kao ostava keramike (SJ 55). Keramički ulomci vrlo su dobro očuvani, a nerijetko njihova veličina prelazi dimenzije 10 × 15 cm. Ulomci sličnih dimenzija i dijelovi cjelovitih posuda zabilježeni su u okviru manjih jama, a zbog količine, očuvanosti i rasporeda nalaza tumače se kao ostave keramike. U ostalim objektima ulomci keramike su vrlo usitnjeni kao i rijetki nalazi kućnog lijepa (2 × 3 – 3 × 6 cm).

Set podataka prikupljen obradom cjelokupnoga keramičkog materijala (graf 3) umanjen je za dijelove posuda koje ne sadrže morfološke elemente dovoljne za nastavak



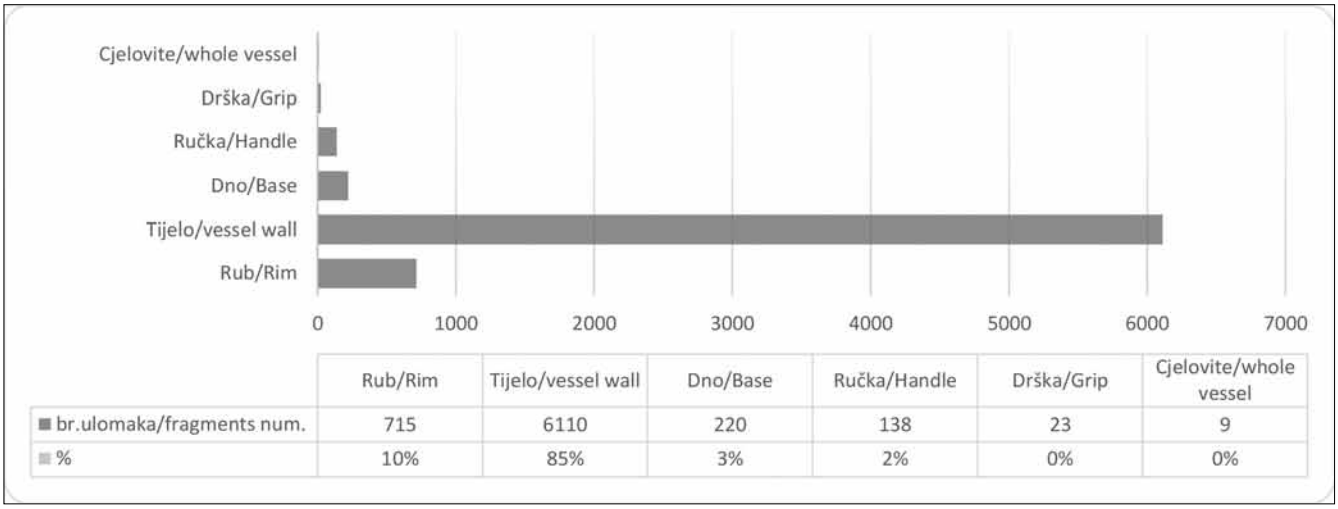
Graf 2 Omjer količine keramičkog materijala iz pojedinih stratigrafskih jedinica (SJ) 969, 156 i 55

Graph 2 The ratio of pottery material from individual stratigraphic units (SU) 969, 156 and 55

largest amount of pottery was found in a structure which was interpreted as a well (SU 969), followed by the probably oldest dugout structure at the site (SU 156), and a smaller cut which is interpreted as a pottery depot (SU 55). The pottery fragments are very well-preserved, and their size often exceeds 10 x 15 cm. Fragments of similar dimensions and parts of entire vessels were noted in smaller pits, and, due to the amount, state of preservation and find distribution, these are interpreted as pottery depots. Other structures yielded much chipped pottery fragments and occasional finds of daub (2 x 3 – 3 x 6 cm).

The dataset was reduced after all of the pottery material was processed (Graph 3) – vessel fragments which did not contain morphological elements sufficient for further classification were excluded. Hence, the number of fragments was reduced by non-decorated fragments of vessel walls (5865 fragments) which make up 81% of the total amount of material. The remaining pottery fragments, 19% (1360 fragments), are a group of diagnostic fragments which enter the processing in separate individual groups (Graph 4). Following the classification, the numerical representation of certain diagnostic groups (rim, base, handle, lug handle, and decorated fragments) and their variants were defined.

Rims are the most numerous group of diagnostic vessel parts, and the classification revealed five types, that is, five ways in which the potters shaped the rim of a vessel (Fig. 7). The statistical value is also expressed through the relation between the type of vessel and the type of rim (Graph 5). Bases were classified into 5 categories based on shape and profile of the lower part of the vessel: straight (36%) and rounded bases (14%), bases with a notable edge (45%), short foot (2%) and a taller foot (3%). Out of the total number of bases (220), it was possible to typologically classify 111 fragments (Fig. 8). Handles make up 10% of the total diagnostic material, and five types were defined: ribbon-like, ribbon-like with oval cross-sections, tunnel-like, X handles and handles with round cross-sections. Out of 140 handles, it was possible to typologically determine 84. Lug handles make up 2% of the total diagnostic material, and three types were defined: tongue-like lug handles with an



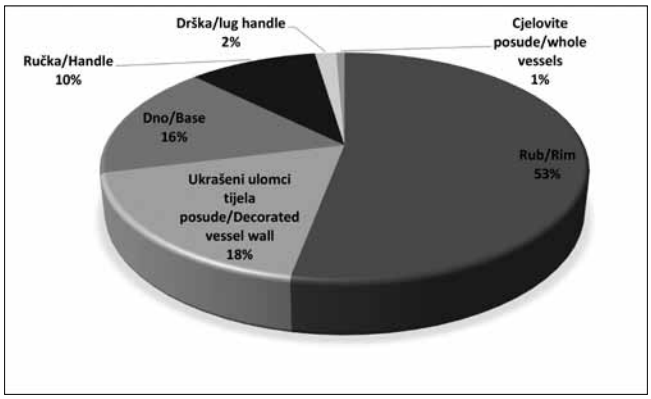
	Rub/Rim	Tijelo/vessel wall	Dno/Base	Ručka/Handle	Drška/Grip	Cjelovite/whole vessel
br.ulomaka/fragments num.	715	6110	220	138	23	9
%	10%	85%	3%	2%	0%	0%

Graf 3 Zastupljenost dijagnostičkih skupina ulomaka u odnosu na cjelokupan keramički materijal

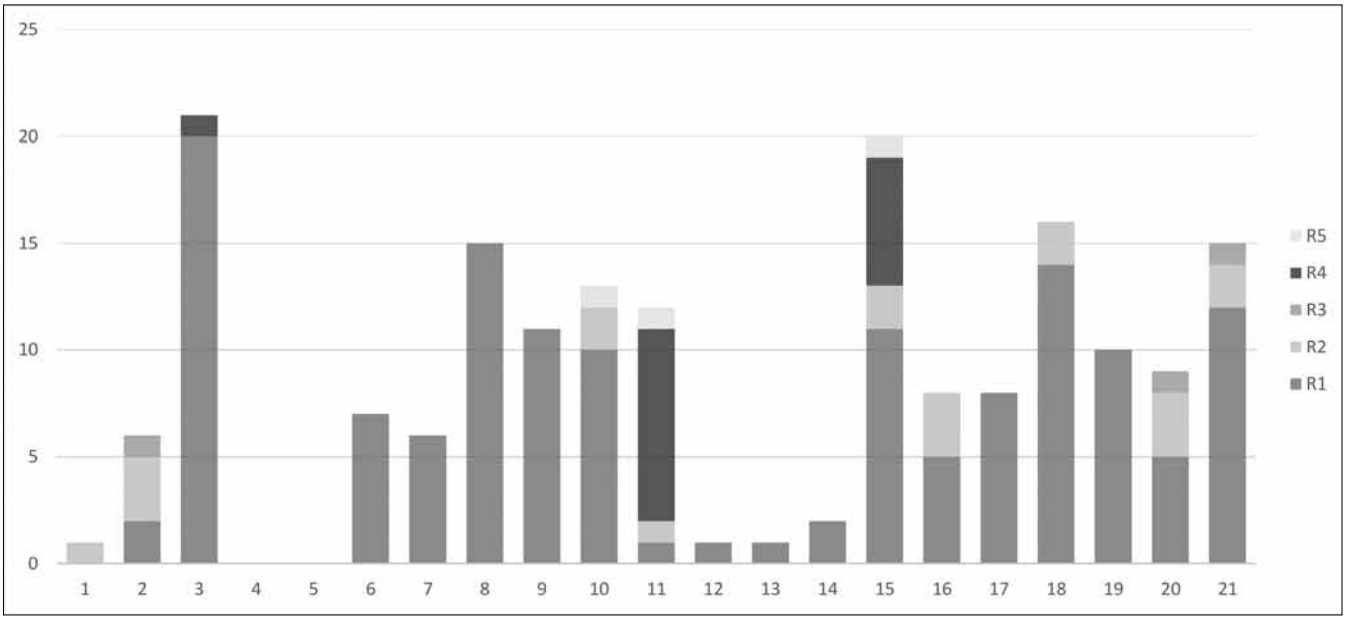
Graph 3 The representation of diagnostic groups of fragments in relation to the entire pottery material

klasifikacije. Stoga je broj ulomaka umanjen za neukrašene ulomke tijela posuda (5865 ulomaka) koji čine 81% cjelokupne građe. Preostali keramički ulomci, njih 19% (1360 ulomaka) predstavljaju skupinu dijagnostičkih ulomaka od kojih u postupak obrade zasebno ulaze pojedine skupine (graf 4). Nastavkom klasifikacije definirana je zastupljenost pojedinih dijagnostičkih skupina (rub, dno, ručka, drška, ukrašeni ulomci) i njihovih varijanti.

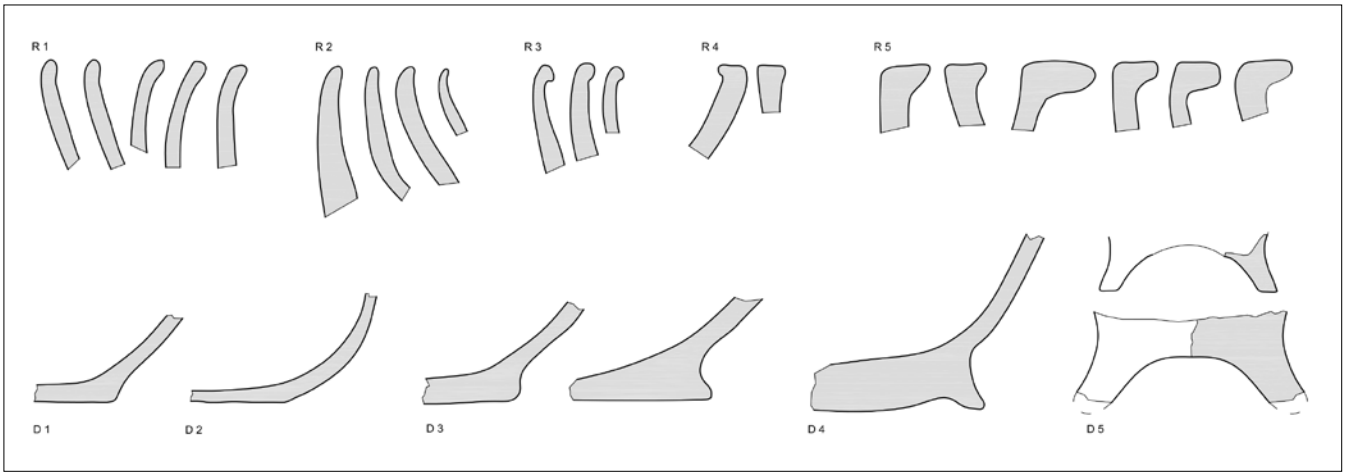
Rubovi predstavljaju najbrojniju skupinu dijagnostičkih dijelova posuda, a klasifikacijom je definirano pet tipova odnosno pet načina na koji je lončar oblikovao rub otvora posude (sl. 7). Statistička vrijednost iskazana je i u odnosu tip posude – vrsta ruba (graf 5). Dna su klasificirana u pet kategorija na osnovi oblika i obrisa donjeg dijela posude: ravna (36%) i zaobljena dna (14%), dna s istaknutim rubom (45%), niska noga (2%) i visoka noga (3%). Od ukupnog



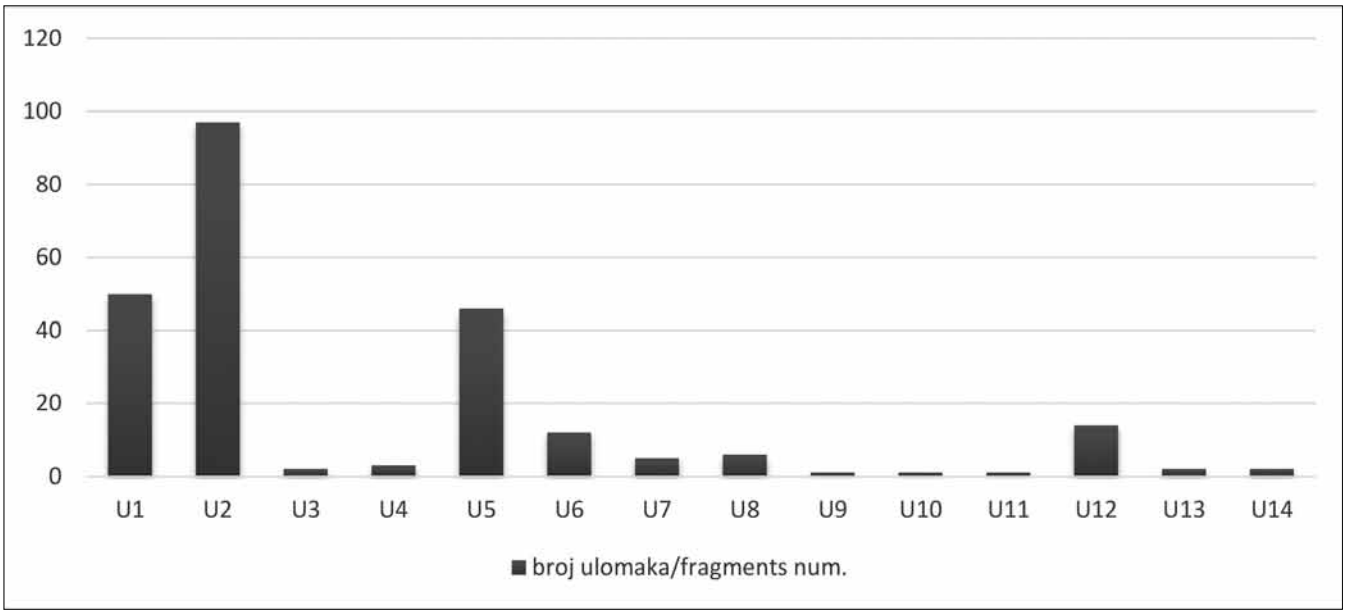
Graf 4 Zastupljenost dijagnostičkih ulomaka keramičkih posuda
Graph 4 The representation of diagnostic fragments of pottery vessels



Graf 5 Statistička vrijednost iskazana je i u odnosu tip posude – vrsta ruba
Graph 5 Statistical values expressed in relation to vessel type-type of rim



Sl. 7 Tipovi rubova (R1 – zaobljeni; R2 – šiljasti; R3 – zadebljani; R4 – horizontalno zaravnjeni; R5 – horizontalno izvučeni – T/P rub) i tipovi dna (D1 – ravno dno; D2 – zaobljeno; D3 – ravno i naglašeno; D4 – niska noga; D5 – visoka noga)
Fig. 7 Types of rims (R1 – rounded; R2 – pointy; R3 – thickened; R4 – horizontally straightened; R5 – horizontally elongated T/P rim) and types of bases (D1 – straight base; D2 – rounded; D3 – rounded and notable; D4 – short foot; D5 – tall foot)



Graf 6 Učestalost pojedinih tehnika i metoda ukrašavanja (U1 – aplicirana traka; U2 – aplicirana traka s otiskom prsta; U3 – aplicirana traka s otiskom oštrog predmeta; U4 – otisak prsta izravno na stijenku posude; U5 – aplicirana bradavica različitim tehnikama; U6 – omfalos aplikacije; U7 – jezičaste i ovalne aplikacije; U8 – urezivanje horizontalne linije; U9 – urezivanje motiva; U10 – otiskivanje kružića; U11 – otiskivanje trokuta; U12 – žlijebljenje; U13 – fasetiranje; U14 – barbotin)

Graph 6 The frequency of specific techniques and methods of decoration (U1 – applied ribbon; U2 – applied ribbon with finger impressing; U3 – applied ribbon with traces of a sharp object; U4 – finger impression on the vessel wall; U5 – applied warts made in different techniques; U6 – omphalos applications; U7 – tongue-like and oval applications; U8 – incised horizontal lines; U9 – incised motifs; U10 – circular imprinting; U11 – triangle imprinting; U12 – gouging; U13 – faceting; U14 – the barbotine technique)

broja dna (220) tipološki je bilo moguće klasificirati 111 ulomaka (sl. 8). Ručke predstavljaju 10% od cjelokupnoga dijagnostičkog materijala i definirano je pet tipova ručki: trakasta, trakasta ovalnog presjeka, tunelasta, X-ručka i ručka okruglog presjeka. Od 140 ručki, tipološki je bilo moguće odrediti njih 84. Drške predstavljaju 2% od cjelokupnoga dijagnostičkog materijala te su definirana tri tipa: jezičasta drška ovalnog presjeka, jezičasta profilirana drška i jezičasta ukrašena. Od 23 drške bilo je moguće tipološki odrediti njih 11.

Analizirano je 245 ulomaka keramike na kojima je prisutan ukras, bilo da je riječ o funkcionalnom ili dekorativnom tipu ukrasa. Međutim, podjela toga tipa nije statistički obrađena jer granicu između funkcionalnog i dekorativnog često nije moguće definirati (graf 6).

Ukrašavanje se uglavnom izvodilo u zoni tijela posude (96%), dok je ukrašavanje ruba otvora dokumentirano na osam ulomaka te samo jednom u zoni dna posude. Zabilježeno je osam tehnika ukrašavanja površine posuda: apliciranje, modeliranje, urezivanje, otiskivanje, žlijebljenje, fasetiranje i barbotin (sl. 8). Na površinu posude najčešće je aplicirana glinena traka postavljena u različitim smjerovima, a u traku je nerijetko utisnut prst ili tupi predmet. Primjenom navedene tehnike dobiveno je nekoliko motiva. Na površinu posude aplicirane su i različite vrste jednostrukih bradavica ili ovalnih aplikacija. Urezivanje i žlijebljenje zastupljeno je mnogo manje. Posebnu tehniku predstavlja otiskivanje specifičnog alata koji ostavlja motiv na površini posude poput trokuta i kružića, a takav način ukrašavanja posuda zabilježen je na samo dva ulomka.

oval cross-section, tongue-like profiled lug handles and decorated tongue-like lug handles. Out of the 23 lug handles, it was possible to typologically determine 11.

A total of 245 pottery fragments with decorations were analyzed, regardless of whether the decorations were functional or decorative. However, this division was not statistically processed because it is often impossible to define the line between functionality and decor (Graph 6).

Decorating was mostly done in the zone of the vessel body (96%), while decorating the rim was documented on eight fragments, and only one decoration was noted in the zone of the vessel base. Eight techniques of decorating vessel surfaces were recorded: applications, modeling, impressing, incising, grooving, faceting and the barbotine technique (Fig. 8). Vessel surfaces were most often decorated with applied clay ribbons are arranged in different directions and often have finger or blunt object imprints. The application of this technique resulted in several motifs. Vessel surfaces were also decorated by applying different kinds of single warts or oval applications. Incising and grooving are significantly less present. A special kind of decorative technique is the imprinting of specific tools which leave motifs like triangles and small circles on the vessel surface, and it was only noted on two fragments.

b. The typological classification of pottery vessels

The model for the typological classification of pottery is based on the works of two authors: A. O. Shepard (1956) and M. Horvat (1998). A system of wide classification based on symmetry, type of outline and proportion

Sl. 8 Tehnike i metode ukrašavanja posuda (izradila: A. Kudelić)
Fig. 8 Techniques and methods applied in pottery decorating (made by: A. Kudelić)

b. Tipološka klasifikacija keramičkih posuda

Model za tipološko klasificiranje keramike oblikovan je na osnovi radova dviju autorica: A. O. Shepard (1956) i M. Horvat (1998). Korišten je sustav široke klasifikacije koja se zasniva na simetriji, tipu obrisa, geometrijskom obliku i proporciji. Svi su odabrani kriteriji geometrijski i polaze od općeg k posebnom. Svrha takve klasifikacije jest utvrditi opću metodologiju za usporedbu oblika. Pri klasifikaciji su korišteni ulomci pojedinih dijelova posuda koji su sadržavali dovoljno elemenata potrebnih za klasifikaciju, kao i cjelovite te djelomično očuvane posude. Prilikom određivanja tipova posuda korišten je publicirani keramički materijal kulturne grupe Virovitica i Barice-Gređani[12] kako bi

12 Kulturna grupa Barice-Gređani istodobna je kulturna pojava, međutim prostorno je u vezi s područjem slavonske i bosanske Posavine, a genezu grupe Čović (1988) tumači na osnovi autohtonih elemenata ranoga brončanog doba koji se dalje razvijaju u srednjem brončanom dobu (Čović 1988; Minichreiter 1984). Grupa se relativno kronološki može podijeliti u dvije faze: prva bi pripadala razdoblju Br B, Br C i početku Br D, a druga Ha A1 stupnju odnosno fazi II kulture polja sa žarama. Oblici keramičkih posuda gotovo su identični oblicima kakvi se nalaze kao dio kulturne grupe Virovitica. Osnovnu razliku između dviju istodobnih kulturnih grupa, prema trenutačnom stanju istraživanja, predstavlja drugačiji običaj polaganja spaljenih ostataka pokojnika u grob. Osobitost kulturne skupine Barice-Gređani jest i iznimno bogatstvo područja nalazima metalnih ostava, a takvo stanje objašnjava se pretpostavkom o postojanju proizvodnih centara koji sirovinu crpe iz nedalekih bosanskih planina (Karavanić 2006).

was used. All of the selected criteria are geometrical and start from the general and move towards the specific. The purpose of this classification is to determine the general methodology for shape comparisons. In the classification, fragments of certain parts of vessels were used which contained enough elements necessary for the classification, as well as entire and partially preserved vessels. In determining vessels types, published material of the Virovitica and Barice-Gređani group was used[12] so that characteristic shapes could be more easily compared. Pottery vessels of the Virovitica cultural group are handmade, their shape is not completely symmetrical and there is a large variety of types. Hence, the geometrical approach to classifying

12 The Barice-Gređani cultural group is a contemporaneous cultural occurrence which is spatially connected to the area of the Slavonian and Bosnian Posavina region, and Čović (1988) explains the genesis of the group based on autochthonous elements of the Early Bronze Age which continue to develop into the Middle Bronze Age (Čović 1988; Minichreiter 1984). In the sense of relative chronology, the group can be divided into two phases: the first belonging to the Br B, Br C and the beginning of the Br D phase, and the second belonging to the Ha A1 phase. i.e. to the II phase of the Urnfield culture. Vessel forms are almost identical to those found in the Virovitica cultural group. The basic difference between the two contemporaneous groups, based on current research, is the different way of laying the incinerated deceased into the grave. The special feature of the Barice-Gređani group is the exceptional richness of the area and the large number of metal hoards, which is explained through the assumption of the existence of raw material production centers that draw raw materials from near-by Bosnian sources (Karavanić 2006).

se karakteristični oblici mogli jednostavnije uspoređivati. Keramičke posude kulturne grupe Virovitica izrađene su tehnikom ručnog modeliranja te njihov oblik nije potpuno simetričan, a raznolikost oblika je velika. Stoga geometrijski pristup klasifikaciji asimetričnih tipova posuda, gdje je svaka posuda svojevrsni unikat, kontrolira subjektivnost pri definiranju tipova. Cilj predložene tipologije jest subjektivnost svesti na minimum i kreirati tipologiju koja je prilagodljiva odnosno otvorenog je tipa te se može nadograđivati. Cilj je također u okviru klasifikacije prepoznati određene obrasce poput setova posuda, pojava pojedinih sekundarnih dijelova, specifičnih tehnoloških karakteristika i slično. Prilikom klasifikacije izdvojene su dvije osnovne tipološke skupine: zatvoreni tip posuda kojoj pripada 12 tipova i otvoreni tip posuda u okviru koje je definirano 9 tipova posuda. Posude zatvorenog tipa su one koje imaju najveću vrijednost promjera na trbuhu odnosno čiji je promjer otvora manji nego promjer trbuha. Otvoreni tip posuda su one kojima je otvor najširi dio posude. Takve tipološke skupine, izvedene iz promjera i oblika otvora, imaju široke funkcionalne implikacije. Na osnovi ovih kriterija mogu se klasificirati ulomci koji predstavljaju samo dio otvora posude odnosno rub. Cilj je takve klasifikacije dosljedno slijediti geometrijski definirana ograničenja prije prelaska u sferu oblika i obrisa. U skladu s time oblici posuda sastavljeni su od geometrijskih tijela, a njihove kombinacije čine varijante osnovnih tipova. Svaka posuda može biti sastavljena od jednog ili nekoliko geometrijskih tijela. U slučaju klasifikacije tipova keramike s nalazišta u Kurilovcu posudu čini jedan te najviše dva geometrijska tijela, npr.: kugla (K), vertikalni ili horizontalni elipsoid (Ev, Eh) i paraboloid (P). Kod pojedinih tipova gornji dio posude izveden je iz: uspravnog hiperboloida krnjeg stošca, obrnutog hiperboloida krnjeg stošca, hiperboloida, obrnutoga krnjeg stošca i uspravnog valjka. Za nalazište Kurilovec–Belinščica na taj način definiran je 21 tip posuda (T. 1–3). Na osnovi promjera otvora izdvojene su najmanje tri skupine. Veličini 1 (M – male posude) odgovaraju posude čiji promjer otvora iznosi između 6 i 13 cm; veličini 2 promjer otvora iznosi između 14 i 23 cm (S – posude srednjih dimenzija) i veličini 3 promjer iznosi između 24 i 39 cm (V – posude velikih dimenzija). Kriterij veličine od velikog je značenja za definiranje funkcionalnih naziva iz geometrijski utvrđenih tipova. Naime, funkcionalni su nazivi definirani za sve tipove posuda izvedene iz geometrijskih tijela, a pojedinim su tipovima, ovisno o veličini, pripisana i dva funkcionalna naziva. U tablicama koje slijede funkcionalni nazivi određeni su prema parametrima koji su djelomično preuzeti iz radova A. Shepard (1954: 216–217) i S. Vrdoljak (1995: 11).[13] Sekundarni dijelovi posuda (ručke, drške i no-

13 Lonac je posuda čija visina prelazi dimenzije najveće širine posude (tijelo: trbuh ili rame). Oblik lonca može imati karakteristike zatvorenog i otvorenog tipa posude. Posuda može i ne mora imati ručke ili drške i zabilježena je u svim veličinama. Zdjela je posuda otvorenog tipa, može biti plitka ili duboka, a promjer otvora predstavlja najveću širinu posude. Posuda je zabilježena u svim veličinama te može i ne mora imati ručke. Šalica je posuda malih dimenzija i prema geometrijskim parameterima uglavnom odgovara obliku zdjele, no može biti i zatvorenog tipa. Njezina je visina manja od promjera otvora ili najšireg dijela tijela posude i gotovo uvijek ima jednu ručku. Vrč je posuda zatvorenog tipa čiji je

asymmetrical types of vessels, where each vessel is unique, is controlled by the subjectivity of defining types. The aim of the suggested typology is to reduce the subjectivity to a minimum and to create a typology which can be adapted, i.e. is open and can be upgraded. The goal is also to recognize certain patterns within the scope of classification, such as sets of vessels, the appearance of distinctive secondary parts, specific technological characteristics and the like. The classification yielded two basic typological groups: closed vessel types which include 12 types, and open vessel types which include 9 defined types of vessels. Closed type vessels are those which have the largest diameter at the body, that is, those which have a smaller diameter at the rim than at the body. Open type vessels are those vessels which have the largest diameter at the rim. Such typological groups, based on the diameter and shape of the opening, have wider functional implications. Based on these criteria, it is possible to classify fragments which only represent a part of the vessel opening, i.e. the rim. The aim of such a classification is to consistently follow the geometrically defined limitations before moving on to the shape and profile. In accordance with this, vessel types were composed of geometrical shapes, and their combinations are variants of the basic types. Each vessel can be composed of one or several geometrical bodies. In the case of classifying pottery types from the site of Kurilovec, the vessels are composed of one, or two geometrical shapes at the most, e.g. a sphere (K), a vertical or horizontal ellipsoid (Ev, Eh) and a parabolic (P). In certain types, the upper part of the vessel is shaped out of: a vertical hyperboloid with a truncated cone, a reverse hyperboloid with a truncated cone, a hyperboloid, an inverted truncated cone and a vertical cylinder. By applying this approach, 21 types of vessels were defined at the site of Kurilovec–Belinščica (Pl. 1–3). Based on the opening diameter, at least three groups were established. Size 1 (M –small vessels) includes vessels with an opening diameter of between 6 and 13 cm; size 2 has an opening diameter between 14 and 23 cm (S – medium vessels), and size 3 has a diameter between 24 and 39 cm (V – large vessels). The criterion of size is of utmost importance for defining functional names from the geometrically defined types. Namely, functional names are defined for all types of vessels defined based on geometrical bodies, and certain types, depending on the size, have two functional names. The following tables include functional names defined based on parameters which were partially adapted from the works of A. Shepard (1954: 216–217) and S. Vrdoljak (1995: 11).[13] The secondary

13 A pot is a vessel which is taller than they are wide (body: widest part or shoulder). The shape of pots can have the characteristics of a closed and an open type of vessel. The vessel can but does not have to have a handles or handgrifs and was noted in all sizes. A bowl is an open type vessel which can be shallow or deep, and the diameter of the opening is the widest part of the vessel. The vessel was noted in all sizes and can, but does not have to have handles. A cup is a vessel of small dimensions and which, based on geometrical parameters, mostly resembles the shape of a bowl but can also appear as a closed type. Cups are shorter than they are wide at the opening or the widest part, and almost always have one handle. A jug is a closed type vessel with a diameter which is smaller than the vessel height. These vessels often have a pronounced and elongated neck and a maximum of two handles. The size of the vessel can vary from

	1	2	3	4	5	6
Tip/*Type*						
Skupina/*Group*	ZT	ZT	ZT	ZT	ZT	ZT
Veličina (broj posuda)/*Size (vessel number)*	S (2), V(1)	M(2), S(2), V(2)	M(11), S(16), V(14)	M(6), S(13), V(3)	M(2), S(6)	M(1), S(6), V(1)
Zastupljenost/*Presence*	1%	2%	16%	8%	3%	3%
Sekundarni dijelovi/*Secondary parts*	-	-	ručke/handles	ručke/handles	ručke/handles	ručke/handles
Ukras/*Decoration*	U1, U4, U8	U8, U14	U2, U6	U2, U5, U6	U5, U8	U5, U6
Obrada površine v/u* *Surface treatment*	NO, Z/NO, Z	NH, NO, Z/ NH, NO, Z	NO, NH, Z/Z	Z, NO/Z	Z, G/Z, G	Z/Z
Debljina stijenke (cm)/ *Wall thickness*	0,6	0,8–1,3	0,5–1,2	0,5–1	0,4–0,6	0,4–0,8
Funkcionalni naziv/ *Functional names*	zdjela/bowl	lonac/pot	lonac/pot	lonac/pot	šalica, zdjela/cup, bowl	šalica, zdjela

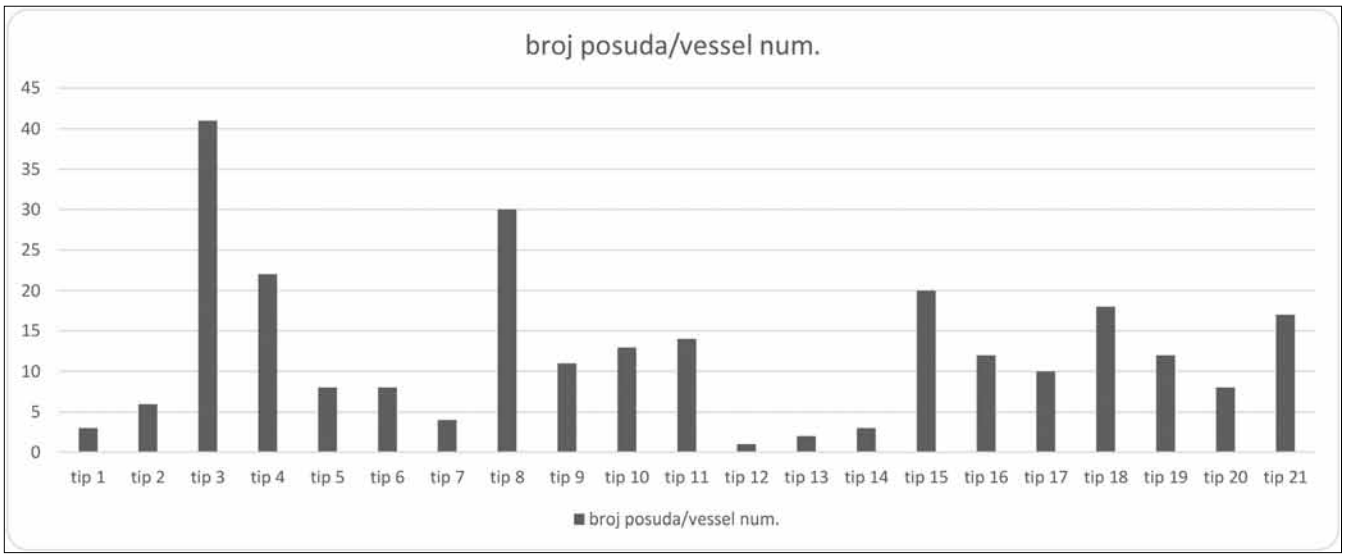
	7	8	9	10	11
Tip/*Type*					
Skupina/*Group*	ZT	ZT	ZT	ZT	ZT
Veličina/*Size*	S(2), V(2)	M(3), S(18), V(9)	M(5), S(6)	S(9), V(4)	S(14)
Zastupljenost/ *Presence*	2%	11%	4%	5%	5%
Sekundarni dijelovi/*Secondary parts*	ručka/handle	ručke/handles	ručka/handle	ručke i drške/handles	ručke i drške/handles
Ukras/*Decoration*	U8	U2, U6, U10, U14	U12	U2	U2
Obrada površine v/u* *Surface treatment*	Z/Z	Z, NO/Z	Z/Z	Z, NO/Z	Z, NO/Z
Debljina stijenke (cm)/ *Wall thickness*	0,6–0,7	0,5–1	0,6–0,8	0,5–1	0,7–1,2
Funkcionalni naziv/ *Functional names*	zdjela/bowl	lonac/pot	vrč/jug	lonac/pot	amfora/amphora

	12	13	14	15	16
Tip/*Type*					
Skupina/*Group*	ZT	OT	OT	OT	OT
Veličina/*Size*	V(2)	S(2)	M(2), V(1)	S(6), M(8), V(6)	S(3), M(8), V(1)
Zastupljenost/ *Presence*	0%	1%	1%	8%	5%
Sekundarni dijelovi/*Secondary parts*	-	-	-	ručke/handles	-
Ukras/*Decoration*	U13	U2	U5	U4, U6, U14	U1, U2
Obrada površine v/u* *Surface treatment*	Z/Z	Z, NO/Z	Z/Z	Z, NO, NH/Z	Z, NO, NH/Z
Debljina stijenke (cm)/ *Wall thickness*	0,7	0,6	0,5–0,8	0,5–1,2	0,7–1,3
Funkcionalni naziv/ *Functional names*	lonac/pot	zdjela/bowl	zdjela/bowl	zdjela/bowl	zdjela/bowl

	17	18	19	20	21
Tip/*Type*					
Skupina/*Group*	OT	OT	OT	OT	OT
Veličina/*Size*	S(1), M(7), V(2)	M(13), S(5)	V(12)	S(8)	M(4), S(10), V(3)
Zastupljenost/*Presence*	4%	7%	5%	3%	6%
Sekundarni dijelovi/*Secondary parts*	ručka/handle	ručka/handle	ručka/handle	ručka/handle	ručka/handle
Ukras/*Decoration*	U5	U6, U8	U6	U2	-
Obrada površine v/u* *Surface treatment*	Z/Z	Z/Z	Z/Z	NO, Z/Z	NO, NH, Z/Z
Debljina stijenke (cm)/ *Wall thickness*	0,4–1,2	0,4–1	0,6–0,9	0,8	0,5–1,2
Funkcionalni naziv/ *Functional names*	šalica, zdjela/cup, bowl	šalica/cup	zdjela/bowl	lonac/pot	šalica, zdjela/cup, bowl

Tab. 2 a–d Tipološka analiza keramičkih ulomaka s nalazišta Kurilovec–Belinščica

*Tab. 2 a–d The typological analysis of pottery fragments from the site of Kurilovec–Belinščica (ZT – zatvoreni tip posude/closed type vessel; OT – otvoreni tip posude/open type vessel; M – mala/small; S – srednja/medium; V – velika/large; Z – zaglađena/smoothed; NO –neobrađena/untreated; NH – nahrapavljena/roughened; *v/u – vanjska/unutarnja stijenka, outer/inner surface)*



Graf 7 Učestalost tipova posuda s nalazišta Kurilovec–Belinščica

Graph 7 The frequency of vessel types from the site of Kurilovec–Belinščica

ge) kao i modifikacija ruba otvora ne utječu na definiranje geometrijskih oblika (tipova) posuda jer nisu dio obrisa posude. Tipološka klasifikacija keramičkih posuda s nalazišta Kurilovec–Belinščica bit će prikazana tablično s osnovnim morfološkim, ali i pojedinim tehnološkim podacima (tab. 2). Nakon eliminacije onih dijelova posuda čije karakteristike ili očuvanost nisu omogućile pouzdano definiranje tipa, u postupak statističke obrade ušle su 254 posude (graf 7).

Na osnovi provedene klasifikacije tipova prikupljeni su podaci o broju tipološki različitih posuda na nalazištu i njihovim varijantama te su jasnije definirani varijabilni ele-

promjer otvora manji od visine posude. Posuda često ima naglašen i izdužen vrat te maksimalno dvije ručke. Veličina posude može biti mala do srednja. Amfora je posuda srednjih i velikih dimenzija, zatvorenog tipa, izduženog oblika, naglašenog vrata i suženog otvora te nerijetko izrazito zaobljenog tijela. Posuda može imati od dvije do četiri ručke.

parts of vessels (handles, lug handles and feet), as well as modifications on the rim do not affect the determination of geometrical forms (types) of vessels because they are not part of the vessel profile. The typological classification of pottery vessels from the site of Kurilovec–Belinščica will be presented in tables with the basic morphological, but also individual technological data (Tab. 2). After eliminating the parts of vessels with characteristics or state of preservation which does not allow for a definitive determination of types, the statistical analysis included 254 vessels (Graph 7).

Based on the conducted classification of types, data

small to medium. An amphora is a medium- and large-sized closed type vessel with an emphasized neck and a narrowed opening which often has a pronounced rounded body. These vessels can have between two and four handles.

menti među sličnim tipovima posuda. Takav pristup pruža dobre smjernice za analizu funkcije pojedinih posuda, a na taj način i razmatranje društvenih aspekata njihove uporabe. Prilikom klasifikacije keramičkih tipova s nalazišta u Kurilovcu bilježene su i njihove veličine, pa je tako rezultat analize pokazao da su neke posude izrađivane u nekoliko veličina, dok su pojedini tipovi bili izrađivani isključivo u jednoj (tab. 3).

was collected on the number of typologically different vessels and their variants established at the site, and variable elements were more clearly defined among similar vessel types. Such an approach provides good guidelines for analyzing the function of individual vessels, and, through it, for considering social aspects of their use. While conducting the classification of pottery types from the site of Kurilovec vessel sizes were also noted, and the results of the analysis revealed that some vessels were made in several sizes, while certain types were made in one size only (Tab. 3).

Tip/*Type*	1	2	3	4	5	6	7	8	9	9a	10	11	12	13	14	15	16	17	18	19	20	21
mala/*small*		.	**x**	**x**	x	.		x	x	.					.	x	x	.	**x**			x
srednja/*medium*	.	.	**x**	**x**	x	x	.	**x**	x		**x**	**x**		.		x	x	x	X		**x**	**x**
velika/*large*	.	.	**x**	x		.	.	**x**			x		.		.	x	.	.		**x**		x

Tab. 3 Učestalost veličina posuda prema definiranim tipovima (**x** – visoka zastupljenost; x – niska zastupljenost; . – vrlo niska zastupljenost)

*Tab. 3 The frequency of vessel size based on the defined types (**x** – high frequency; x – low frequency: . – very low frequency)*

Tip 1 i 2 predstavljaju posude jednostavnog oblika odnosno nemaju profilirano zaobljeno tijelo, a definirane su na osnovi jednoga geometrijskog tijela (kugla i elipsoid). Izrađivane su u gotovo svim veličinama; međutim, njihova je očuvanost uglavnom slaba.

Posude tip 3 su jednostavne posude zaobljenog tijela, blago suženog otvora, pronađene u tri veličine i najzastupljeniji su tip na nalazištu. Volumen malih posuda iznosi maksimalno 1 litru,[14] srednjih oko 4 litre, a volumen posuda velikih dimenzija iznosi u prosjeku 16 litara (najveći primjerci imaju kapacitet do 42 litre). Takav tip posude često se nalazi u funkciji žare u grobovima kulturne grupe Virovitica na nalazištima s područja Podravine: Virovitica, Sirova Katalena i Lepoglava (Vinski Gasparini 1973: T. 7: 1, 8: 1, 11: 1–5, 14: 1; Šimek 2003). Uglavnom je riječ o velikim posudama koje pretežno imaju ručke (tunelaste ili trakaste) na najširem dijelu zaobljenog tijela, a ponekad se na trbuhu nalazi aplicirana konična bradavica. Posude tip 4 su S-profilirane posude koje u osnovi pripadaju zatvorenom tipu posuda zbog suženog vrata i najvećeg promjera na mjestu trbuha. Posude se pronalaze u tri veličine, a zastupljenost takvih posuda također je vrlo visoka. Volumen malih posuda iznosi 0,7 litara, a volumen srednjih između 4 i 5 litara. Takve posude nerijetko su ukrašene apliciranim trakama s otiscima i bez otisaka prsta ili bradavičastim aplikacijama. Navedeni tipovi 3 i 4 najzastupljenije su posude na nalazištu u Kurilovcu, imaju zajedničke tehnološke karakteristike i volumen, a osnovna je razlika u oblikovanju zone otvora posuda. Posude tip 15 proizvodile se u tri veličine, a riječ je o jednostavnim plitkim posudama zaobljenog tijela koje ponekad imaju ukrašen rub. Ručke se nalaze ispod otvora posude iako nisu vrlo česta pojava. Osobito u sklopu naselja u Podravini, ovakve zdjele imaju zaravnjen ili horizontalno izvučen rub. U sklopu pogrebnog rituala takve posude, kao i posude tip 14, imaju funkciju poklopca žare (Vinski-Gasparini 1973; Šimek 2003).

Posude tip 8, 9, 10 i 11 pripadaju skupini posuda izduženog tijela, od kojih se tipovi 8, 10 i 11 najčešće javljaju u

Types 1 and 2 are vessels of simple shapes, that is, they do not have a profiled rounded body, and were defined based on one geometrical body (sphere and ellipsoid). These were made in almost all sizes, but they are mostly poorly preserved.

Type 3 are simple vessels with a rounded body, with a slightly narrowed opening, which were established in three sizes and are the most represented type at the site. The maximum volume of small vessels is 1 liter,[14] about 4 liters for medium, and about 16 liters on average for large vessels (the largest finds have a capacity of up to 42 liters). This type of vessel is often found in the function of an urn in the graves of the Virovitica cultural group on the sites from the Podravina region: Virovitica, Sirova Katalena and Lepoglava (Vinski Gasparini 1973: Pl. 7: 1, 8: 1, 11: 1–5, 14: 1; Šimek 2003). These are mostly large vessels with handles (tunnel- or ribbon-like) on the widest part of the rounded body, and sometimes have applied conical warts on the body. Type 4 vessels are vessels with an S-profiled body which fall into the category of closed vessels because of their narrowed necks and the largest diameter being at the body. These vessels were established in three sizes, and their representation is also very high. The volume of small vessels is 0.7 liters, and the volume of middle ones is between 4 and 5 liters. Such vessels are often decorated with applied ribbons with or without finger imprints or applied warts. The listed types 3 and 4 are the most represented vessels at the site in Kurilovec, they have common technological characteristics and volume, but the basic difference is in the shaping of the opening zone of the vessels. Type 15 is produced in three sizes, and includes simple shallow vessels with a rounded body and an occasionally decorated rim. Handles are placed under the opening,

14 Volumen posuda izračunat je pomoću formule: $r = \frac{r}{2}$; $V = x \cdot \pi (r_1^2 \cdot r_2^2 \cdot r_3^2)$ (Rice 1987: 220–222).

14 The volume of vessels was calculated by using the following formula: $r = \frac{r}{2}$; $V = x \cdot đ (r_1 1^{\dagger} 2 \cdot r_1 2^{\dagger} 2 \cdot r_1 3^{\dagger} 2)$ (Rice 1987: 220–222).

srednjoj veličini. Tip 8 i 10 imaju vrlo sličan obris, a osnovnu razliku predstavlja oblikovanje otvora te se one pronalaze u dvije veličine (srednja i velika). Posude tip 10 ponekad ispod ruba otvora imaju jednu ili dvije ručke. Ovdje valja izdvojiti dvije posude s nalazišta Podsmreka koje su pronađene kao grobni inventar, oblikom gotovo jednake, ali dimenzijama različite, ove posude prema navodu autorice predstavljaju svojevrsni keramički set (Murgelj 2014: 18). Oblik posuda s nalazišta Podsmreka i njihova veličina/volumen odgovaraju posudama iz Kurilovca koje su određene kao tip 8 odnosno tip 10. Tip 9 i 11 imaju suženi i izduženi vrat te vrlo često jednu ili dvije ručke smještene ispod ruba otvora. Za razliku od ostalih tipova, ove posude imaju naglašen ljevkast ili stožast vrat. Posude tip 11 pronađene su u samo jednoj veličini (srednja) iako pojedini primjerci prema vrijednosti volumena odgovaraju kapacitetu velikih posuda.[15] Prema tome, one se dijele na posude čiji volumen iznosi između 10 i 30 litara te posude volumena 2 do 3 litre. Posude manjeg volumena imaju jednu do najviše dvije ručke, a veće posude minimalno dvije ručke i to najčešće ispod oboda i/ili na trbuhu posude. Posude tip 11 i 8 na nalazištu u Kurilovcu pronađene su uglavnom u kontekstu bunara (SJ 969), a prema morfološkim karakteristikama svrstavaju se u posude za pohranu i prijenos tekućeg sadržaja. Posude tip 5, 6 i 17 oblikom su vrlo slične i najčešće su ukrašene različitim bradavičastim aplikacijama te osobito tzv. koničnom bradavicom koja je okružena žlijebom. Takve posude srednje veličine čest su prilog u grobovima virovitičke grupe te im se pripisuje posebno značenje u okviru pogrebnog rituala.

Tipovi 18, 19 i 20 na nalazištu u Kurilovcu pronađeni su isključivo u jednoj veličini, a definirani su oblikom, veličinom, volumenom i pojavom sekundarnih dijelova. Promjer otvora posuda tip 18 ne prelazi 13 centimetara, stoga one pripadaju skupini malih posuda otvorenog tipa te gotovo uvijek imaju ručku ispod otvora posude, a interpretiraju se kao šalice. Tip 19 su plitke posude široko razgrnutog otvora, a u donjem dijelu često ima dvije ili četiri nasuprotno postavljene ručke. Takva posuda ima važnu ulogu u obredu pokopavanja spaljenih ljudskih ostataka u okviru kulturne grupe Barice-Gređani (Minichreiter 1982/83). U praksi pogrebnog rituala virovitičke grupe takve posude koriste se za prekrivanje ostataka pokojnika, odnosno kao poklopac za žaru, što je vrlo srodno načinu uporabe takve zdjele pri ritusu koji se prakticirao na području Posavine. Na nalazištu u Kurilovcu tip 20 zastupljen je s čak osam posuda. Sve posude iz te skupine imaju slične geometrijske parametre i pronađene su u srednjoj veličini. Među ostalim posudama ističu se i ujednačenim volumenom (2,8–3 litre), prisutnošću sekundarnih dijelova (ručke i drške) i ujednačenom debljinom stijenke koja iznosi 0,8 cm. Najširi dio posuda jest otvor čiji promjer u prosjeku iznosi 19 cm, a prosječna visina posuda je 17,5 cm. Najveći broj sličnih posuda primijećen je na nalazištu Moravče pored Sesveta (Sokol 1996: Grob 1, 3, 8 i 9) gdje se takve posude koriste kao grobne žare, a dimenzijama i oblikom te sekundarnim dijelovima odgovaraju posudama iz naselja u Kurilovcu. Slični tipovi posuda nalaze se na nalazištima u široj okolici:

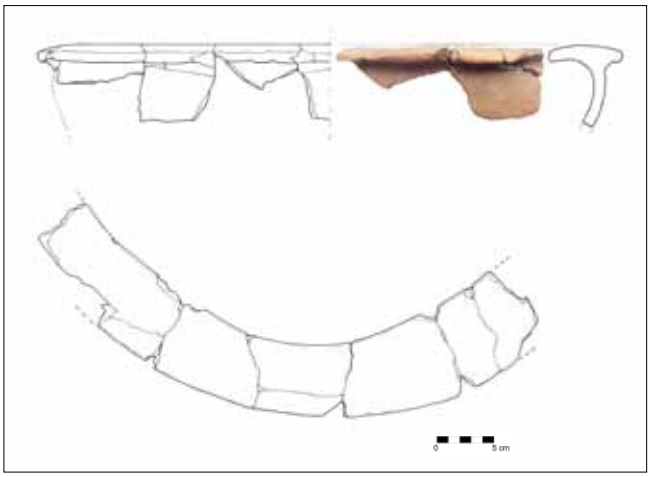
15 Veličina je određena promjerom otvora koji je kod posuda toga tipa malen u odnosu na tijelo odnosno volumen posude.

although they do not appear very often. Such bowls have a straightened or a horizontally elongated rim, especially within settlements in the Podravina region. When it comes to burial rituals, these, as well as type 14, have the function of urn lids (Vinski-Gasparini 1973; Šimek 2003).

Types 8, 9, 10 and 11 have an elongated body, and types 8, 10 and 11 most often appear in medium sizes. Types 8 and 10 have a very similar profile, and the basic difference is in the shape of the opening. These vessels appear in two sizes (medium and large). Type 10 sometimes has one or two handles below the rim. Here, it is necessary to point out two vessels from the site of Podsmreka which were part of a grave inventory, which have an almost identical shape, but differ in size, and which were, in the words of the author, a part of certain kind of pottery set (Murgelj 2014: 18). The shape of the vessels from the site of Podsmreka, as well as their size/volume resemble vessels from Kurilovec determined as type 8, that is, type 10. Types 9 and 11 have a narrowed elongated neck and often one or two handles placed below the opening. Unlike other types, these vessels have a notable funnel-like or conical neck. Type 11 was found only in one size (medium), although certain finds match the capacity of large vessels based on their volume.[15] Therefore, they are divided into vessels with a volume between 10 and 30 liters, and vessels with a volume between 2 and 3 liters. Vessels with smaller volumes have one or two handles, and larger vessels have a minimum of two handles, most often under the rim and/or on the body. Type 11 and 8 vessels were mostly found in water wells (SU 969) at the site of Kurilovec, and their morphological characteristics are connected to vessels for storing and transporting liquid contents. Types 5, 6 and 17 are very similar in shape, and are most often decorated with different applied warts, especially, so called, conical warts surrounded by a groove. Such medium-sized vessels are a common find in graves of the Virovitica group, and are ascribed a special meaning in the context of burial rituals.

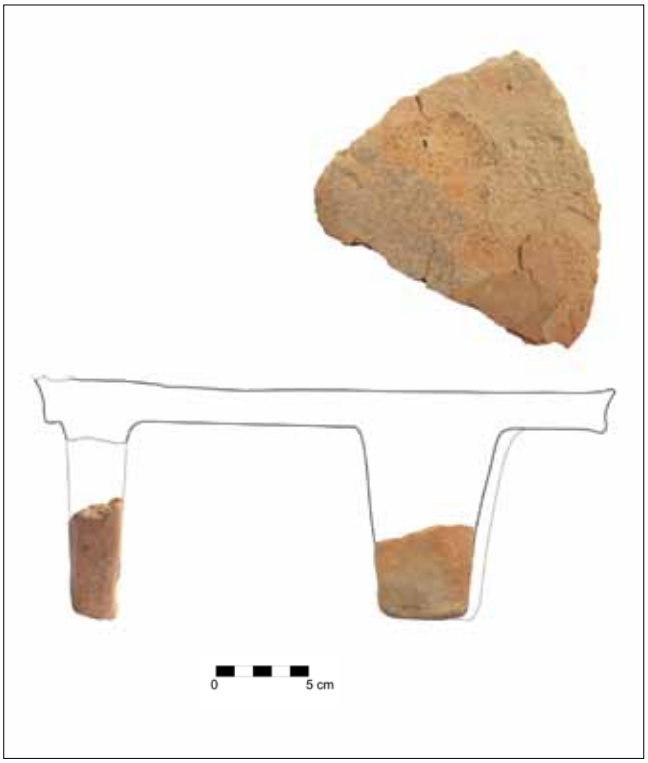
Types 18, 19 and 20 were exclusively found in one size at the site of Kurilovec, and are defined by their shape, size, volume and the presence of secondary parts. The diameter of the opening on type 18 vessels does not exceed 13 centimeters, so they are defined as small open vessel types which almost always have a handle below the opening, and are interpreted as cups. Type 19 includes shallow vessels with a wide opening, often with two or four oppositely placed handles. Such vessels play an important role in burying the incinerated remains of the deceased in the context of the Barice-Gređani cultural group (Minichreiter 1982/83). In the burial practices of the Virovitica group, such vessels are used to cover the remains of the deceased, that is, as urn lids, which is very similar to the way such bowls were used in burial rituals in the Posavina region. At the site of Kurilovec, type 20 is represented by 8 vessels. All of the vessels from this group have similar geometrical pa-

15 The size was determined based on the diameter of the opening which is, on this type of vessel, small in relation to the body, that is, the vessel volume.



Sl. 9 Fragment keramičkog predmeta iz SJ 55 (izradile: A. Kudelić i S. Čule)

Fig. 9 A fragment of a pottery artifact discovered in SU 55 (made by: A. Kudelić and S. Čule)



Sl. 10 Fragmentirani keramički tronožac iz SJ 156 (izradile: A. Kudelić i S. Čule)

Fig. 10 A fragmented pottery tripod from SU 156 (made by: A. Kudelić and S. Čule)

Ptuj-Potrčeva cesta (Jevremov 1988/89: Sl. 2/2), Nedelica pri Turnišču (Šavel, Sankovič 2013: 193), Šiman pri Gotovljah (Tomažić, Olić 2009: 20) i Podsmreka (Murgelj 2013: 25; 2014: T. 6/3). Posude tip 21 na nalazištu u Kurilovcu pronađene su u tri veličine, a njihov oblik interpretira se kao šalica ili zdjela što ovisi o njihovoj veličini i pojavi sekundarnih dijelova. Posude se ponekad izrađuju na niskoj ili visokoj nozi, a jedan takav fragmentirani primjerak pronađen je na nalazištu u Kurilovcu.

Na nalazištu su otkrivena i dva ulomka keramičkih predmeta koje prema morfološkim karakteristikama nije

rameters and were defined in medium size. Among other vessels, these stand out by their uniform volume (2.8–3 liters), the presence of secondary parts (handles and lug handles), and uniform wall thickness which is 0.8 cm. The widest part of these vessels is the opening which usually measures 19 cm in diameter, and their average height is 17.5 cm. The largest number of similar vessels was noted at the site of Moravče near Sesvete (Sokol 1996: grave 1, 3, 8 and 9) where such vessels were used as urns; they resemble the vessels from Kurilovec in dimensions, shapes and secondary parts. Similar types of vessels are found on sites in the wider area: Ptuj-Potrčeva cesta (Jevremov 1988/89: Fig. 2/2), Nedelica pri Turnišču (Šavel, Sankovič 2013: 193), Šiman pri Gotovljah (Tomažić, Olić 2009: 20) and Podsmreka (Murgelj 2013: 25; 2014: Pl. 6/3). At Kurilovec, type 21 was found in three sizes, and their shape is interpreted as a cup or a bowl, depending on their size and the presence of secondary parts. These vessels sometimes have a short or a tall foot, and one such fragmented example was found at the site of Kurilovec.

The site also yielded two fragments of pottery objects which could not be classified in accordance with the presented criteria based on their morphological characteristics. The first find is a rim fragment, presumably of a vessel with a 50 cm diameter (Fig. 9). The opening is horizontally elongated and has the shape of the letter T in the cross-section. The vessel walls go down from the opening and slightly curve to form a semicircular shape. The outer and inner surfaces are smoothed, dark gray and dark brown. The large size of the rim in relation to wall thickness and the present traces of wear on the surface of the horizontally elongated rim point to the possibility that the find was used upside-down. In that case, the rim is the base, that is, a kind of foot, which could have been damaged in constant contact with the surface under it. If it is a vessel rim, however, traces of wear could have been made by friction between a lid and the rim of the vessel. At the same time, it is possible that this is a part of a movable fireplace or a 'piranjoš' vessel, but no clear analogies have yet been discovered. There are no visible traces of burning on the walls of the finds, which are common for that kind of artifact. The second find is a well-preserved pottery tripod (Fig. 10). The diameter of the tripod plate is 32 cm, and its thickness is 1.8 cm. The plate is slightly concave, and the legs of the tripod are flat, rounded in cross-section, and vertically expand down from the plate. The upper surface is covered by a clay slip which is 2 mm thick. The tripod has traces of being used on fire. Similar finds were not discovered in the southwestern part of the Carpathian Basin, and the closest analogies appear on the territory of Istria and northern Italy where tripods are a very common find and are part of the regular inventory of households dated to the Middle and Late Bronze (Lonza 1984; Buršić Matijašić 1998). The tripod from Kurilovec does not fully match the shapes found on the mentioned territories, but it is a find of similar morphological and, probably the same, functional characteristics.

bilo moguće klasificirati prema predstavljenim kriterijima. Prvi predmet je ulomak otvora, pretpostavlja se, posude promjera 50 cm (sl. 9). Otvor je horizontalno izvučen i u presjeku ima oblik slova T. Stijenke tijela posude iz otvora se spuštaju i blago zakrivljuju u polukuglasti oblik. Vanjska i unutarnja stijenka su zaglađene, tamnosive i tamnosmeđe boje. Masivnost oboda u odnosu na debljinu stijenke te prisutni tragovi trošenja na površini horizontalno izvučenog ruba upućuju na mogućnost obrnutog položaja predmeta. U tom slučaju rub predstavlja postolje odnosno svojevrsnu nogu koja se mogla oštetiti u stalnom kontaktu s podlogom. Ako je ipak riječ o otvoru posude, tragovi trošenja mogli su nastati i trenjem poklopca o rub posude. Istodobno je moguće da se radi o dijelu prijenosnog ognjišta ili piranjoš posudi, međutim, izravne analogije za sada nisu pronađene. Ipak, na stijenkama predmeta nisu zabilježeni tragovi gorenja koji se obično pojavljuju na takvom tipu predmeta. Drugi je predmet vrlo dobro očuvan keramički tronožac (sl. 10). Promjer ploče tronošca iznosi 32 cm, a njezina debljina 1,8 cm. Ploča je blago konkavna, dok su noge tronošca plosnate i u presjeku zaobljene te se vertikalno spuštaju iz ploče. Gornja je ploha premazana glinenim premazom debljine 2 mm. Na tronoščU su vidljivi tragovi korištenja na vatri. Slični primjerci na prostoru jugozapadnog dijela Karpatske kotline nisu pronađeni, a najbliže analogije javljaju se na prostoru Istre i sjeverne Italije gdje su tronošci vrlo čest nalaz i pripadaju u redovan inventar domaćinstava iz razdoblja srednjeg i kasnoga brončanog doba (Lonza 1984; Buršić Matijašić 1998). Tronožac iz Kurilovca ne odgovara u potpunosti oblicima kakvi se nalaze na navedenom području, međutim, riječ je o predmetu sličnih morfoloških te vjerojatno jednakih funkcionalnih karakteristika.

c. Rezultati tipološko-kronološke analize keramičkih nalaza (T. 1–10)

U svrhu komparacije oblika posuda korištene su objave keramičkog materijala s područja današnjeg teritorija Austrije, zatim slovenske, hrvatske i bosanske Posavine te slovenske, mađarske i hrvatske Podravine. Tipološko-kronološka komparacijska analiza također je prikazana tablično (tab. 4). Za komparativnu tipološku analizu oblika korištene su objave keramičkih posuda iz naseobinskog konteksta, ali i iz grobnih cjelina u kojima je njihov oblik dobro očuvan. Većina nalaza i nalazišta koji su poslužili za usporedbu vremenski su određeni relativnom i/ili apsolutnom kronologijom (tab. 5). Najveći broj usporedivih keramičkih oblika pronađen je u sklopu brončanodobnih nalazišta Moravče pored Sesveta (Sokol 1996) i Podsmreka (Murgelj 2013; 2014) u slovenskoj Posavini te Oloris – Dolnji Lakoš (Dular et al. 2002) u slovenskoj Podravini.

Slijedi kulturno i kronološko razmatranje nalaza. Kao što je vidljivo iz tablice 4, velik dio keramičkih posuda s nalazišta Kurilovec–Belinščica oblikom odgovara nalazima s geografskih područja koja su navedena u tablici. Komparacija se prije svega oslanja na usporedbu oblika/obrisa posuda. Preciznije usporedbe razmatrane su kroz pojavu specifičnih ukrasa na posudama te kroz pojavu gotovo

c. The results of typological and chronological analyses of pottery (Pl. 1–10)

In order to compare vessel shapes, published material from today's territory of Austria, the Slovenian, Croatian and Bosnian Posavina region, and the Slovenian, Hungarian and Croatian Podravina region was used. The typological and chronological comparative analysis is also presented in table form (Tab. 4). For the comparative typological analysis of vessel shapes, published pottery vessels from settlements were used, as were those from grave units where the vessels are well-preserved. Most finds and sites which were used in these comparisons are temporally determined by relative and/or absolute chronology (Tab. 5). The largest number of similar pottery forms was found on the Bronze Age sites of Moravče near Sesvete (Sokol 1996) and Podsmreka (Murgelj 2013; 2014) in the Slovenian Posavina region, and Oloris – Dolnji Lakoš (Dular et al. 2002) in the Slovenian Podravina region.

Herein follows the cultural and chronological consideration of the finds. As shown by table 4, the shape of a large portion of pottery vessels from the site of Kurilovec–Belinščica resembles finds from the geographical areas listed in the table. The comparisons were mostly conducted in relation to vessel shapes/profiles. More precise comparisons are observed through the presence of specific decorations on vessels and through the emergence of almost identical (in shape, volume and decoration) vessels from individual sites. That is why this part of the paper brings individual analogies and indicators of cultural and chronological attributes.

The appearance of small triangular (up to 0.5 mm) and circular decorations (up to 0.4 mm) which are impressed into the surface of the vessel are connected to Middle Bronze Age traditions (Teržan 2010). At Kurilovec, such decorations appear on two fragments. Both were discovered in the same pit (SU 156) which probably belongs to the oldest phase of the settlement. The remaining forms of pottery vessels from the pit do not have morphological, technological or decorative elements which could be connected to the younger period and the Ha A phase. The pottery fragment with preserved decorations in the form of impressed triangles is small, so the motif created by the triangles is unclear. In the context of relative chronology, the end of the Middle and the beginning of the Late Bronze Age, the motif of impressed triangles appears on sites in the Posavina region: Šiman pri Gotovljah (Tomažić, Olić 2009: 30/92), and the Podravina region: Oloris-Dolnji Lakoš (Dular et al. 2002: 158), as well as in Styria on the sites of Groß St. Florian, Hörbing, and Kainach bei Wildon (Tiefengraber 2007: 103; Bernhard 2007: Pl. 2: 1; Gutjahr 2011: Pl. 15: 1). On most of these sites, such decorations are found on very fragmented parts of vessels, often imprinted on the surface of straightened vessel rims. In Styria, such a decorative technique was noted on better-preserved vessels, and the authors date the vessels to the Middle Bronze Age, that is, to the Br C2/D phase (Tiefengraber 2007: 103), and connect their appearance with influences from the central-European Tumulus culture. These types of decora-

Tip *Type*	slovenska/hrvatska/bosanska Posavina *Slovenian/Croatian/Bosnian Sava valley area*	slovenska/hrvatska/mađarska Podravina *Slovenian/Croatian/Hungarian Drava valley area*	Austrija (područje Štajerske i Koruške) *Austria (region of Styria and Carinthia)*
1	Podsmreka (Murgelj 2013: 31/672, 541)	Rabelčja vas (Strmčnik-Gulič 1988/89: T. 6/25) Oloris-Dolnji Lakoš (Dular et al. 2002: 145) Pod Kotom – sever pri Krogu (Kerman 2011: 38: G59, 61) Golinci-Ograd (Percan 2013: 156, 157) Hegykö-Kisér (Ilon 1998/99: T. 7/2)	Madstein (Tiefengraber 2011: Taf. 2/24, 27, 28) Kainach bei Wildon (Gutjahr 2011: Taf. 8/31) Lamperstäten, Hasreith (Heymans 2007: Taf. 4/27)
2	Podsmreka (Murgelj 2013: 29/500, 30/1020, 262)	Oloris-Dolnji Lakoš (Dular et al 2002: 145; T. 33/2) Pod Kotom – sever pri Krogu (Kerman 2011: 38/G59, 61) Sodolek (Kavur 2012: Fig. 7/3)	Strettweg (Tiefengraber 2007: Abb. 12/1) Horizont Vorwald-Hasreith (Tiefengraber 2007: Abb. 18) Hörbing bei Deutschlandsberg (Bernhard 2007: Taf. 3/2)
3	Žlebič (Puš 1988/89: T. 4/2, 3) Moravče-Sesvete (Sokol 1996: grob 2) Crno polje u Ljusini (Raunig 2010: T. V/4) Sječkovo (Ludajić 2010a: T. VI/3)	Rabelčja vas (Strmčnik-Gulič 1988/89: Tab. 3/5, 4/1) Ptuj-Potrčeva cesta (Jevremov 1988/89: sl. 11) Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/8) Drljanovac (Majnarić-Pandžić 1987: grob 11) Virovitica, Sirova Katalena (Vinski Gasparini 1973: Tab. 7, 11, 14/6) Lepoglava (Šimek 2003)	Vorwald (Schamberger 2007: Taf. 4/15, 17) Hörbing bei Deutschlandsberg (Bernhard 2007: Taf. 1/1, 2; 2/1, 2) Kainach bei Wildon (Gutjahr 2011: T. 2/1)
4	Podsmreka (Murgelj 2013: 27/L1, L2) Žlebič (Puš 1988/89: T. 2/3) Medvode (Leghissa 2014: 336, sl. 19.5/3)	Oloris-Dolnji Lakoš (Dular et al. 2002: 148: L1, L6) Nedelica pri Turnišču (Šavel, Sanković 2013) Pince – Pod Grunti (Kerman 2014: 46, sl. 1.14/2) Donji Miholjac-Prinčevac (Višnjić 2013: 3/1) Gomile pri Lenartu (Tomaž 2010: 51)	Gutjahr, Tiefengraber 2011. Freidorf im Sulmtal (Bernhard 2007: Taf. 5/1) Pitten (Hampl et al. 1981: T. 232/5)
5	Podsmreka (Murgelj 2013: L3/1) Šiman pri Gotovljah (Tomažić, Olić 2009: 26/8) Mačkovac-Crišnjevi (Karavanić et al. 2002: T. 3/1; 4/2) Medvode (Leghissa 2014: 336, sl. 19.5/4) Sječkovo (Ludajić 2010a: T. IV/2, 4)	Oloris-Dolnji Lakoš (Dular et al. 2002: 148: L6) Pod Kotom – sever pri Krogu (Kerman 2011: 31/161) Ptuj-Potrčeva cesta (Jevremov 1988/89: sl. 3/6) Virovitica, Sirova Katalena (Vinski Gasparini 1973: Tab. 11/7, 14/5) Ugod (Ilon 2014: T. 13/12) Nagydém-Középrépáspuszta (Ilon 1998/99: T. 5/8)	Freidorf im Sulmtal (Bernhard 2007: Taf. 4/1-3) Horizont Retznei-Freidorf 1 (Tiefengraber 2007: Abb. 15) Pitten (Hampl et al. 1981: T. 221, Grab 135; T. 228/1) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 8/9, 10, 12; Abb. 18/69)
6	Šiman pri Gotovljah (Tomažić, Olić 2009: 20/277, 276) Podsmreka (Murgelj 2013: L12) Žlebič (Puš 1988/89: T. 2: 2) Moravče-Sesvete (Sokol 1992:grob 7)	Oloris-Dolnji Lakoš (Dular et al. 2002: 149, L9) Nedelica pri Turnišču (Šavel, Sanković 2013: 31/648) Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/4) Donji Miholjac-Prinčevac (Višnjić 2013: T. 4/7) Drljanovac (Majnarić-Pandžić 1988: T. II, grob 4) Balatonmagyaród-Hídgvépuszta (Horváth 1994: T. 11, 12/1)	Hörbing bei Deutschlandsberg (Bernhard 2007: Taf. 1/4) Pitten (Hampl et al. 1981: T. 226, Grab 163/12, 13)
7	Podsmreka (Murgelj 2013: 24) Šiman pri Gotovljah (Tomažić, Olić 2009: 22/409) Moravče-Sesvete (Sokol 1992: sl. 18/2) Crno polje u Ljusini (Raunig 2010: T. IV/2)	Pod Kotom – sever pri Krogu (Kerman 2011: 40/287) Virovitica (Vinski Gasparini 1973: Tab. 8, 9) Donji Miholjac-Prinčevac (Višnjić 2013: 56)	Hörbing bei Deutschlandsberg (Bernhard 2007: Taf. 3/3)
8	Podsmreka (Murgelj 2013: 30, L 7,8,9) Šiman pri Gotovljah (Tomažić, Olić 2009: 20/156, 278) Medvode (Leghissa 2014: 336, sl. 19.5/2)	Oloris-Dolnji Lakoš (Dular et al. 2002: 148; L 2, 8, 11) Pod Kotom – sever pri Krogu (Kerman 2011: 38/181) Sirova Katalena (Vinski Gasparini 1973: Tab. 14/6)	Horizont Retznei-Freidorf 1 (Tiefengraber 2007: Abb. 15/6) Freidorf im Sulmtal (Bernhard 2007: Taf. 5/2)
9	Šiman pri Gotovljah (Tomažić, Olić 2009: 22/149, 38/611) Crno polje u Ljusini (Raunig 2010: T. III/5)	Pod Kotom – sever pri Krogu (Kerman 2011: 38: G211)	Hörbing bei Deutschlandsberg (Bernhard 2007: Taf. 2/3) Vorwald (Schamberger 2007: Taf. 12/74, 75)

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9a		Koszider Periode (Horváth 1994: T. 1/1-9) Ordacsehi (Kiss 2011: Fig. 4/2) Hatvan kultura (Kalicz 1984: Taf. LII/1, 2) Hegykö-Kisér (Ilon 1998/99: T. 8)	Mannersdorf am Leithagebirge (Neugebauer 1980: Abb.7/7) Pitten (Hampl et al. 1981: T. 208, Grab 59; T. 223, Grab 155; T. 227, Grab 163f) Franzhausen II (Neugebauer 1994: Abb. 8)
10	Podsmreka (Murgelj 2013: 27, 28, L2/4) Medvode (Leghissa 2014: 336, sl. 19.7/2) Šiman pri Gotovljah (Tomažić, Olić 2009: 20/242) Sječkovo (Ludajić 2010a: T. V/3)	Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/2, 9) Oloris-Dolnji Lakoš (Dular et al. 2002: 146, L1) Pod Kotom – sever pri Krogu (Kerman 2011: 31: 147, 153, 164) Donji Miholjac-Prinčevac (Višnjić 2013: Tab. 1/1) Gelsesziget (Horváth 1994: T. 5/6)	Freidorf im Sulmtal (Bernhard 2007: Taf. 7/5) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 14/48) Pitten (Hampl et al. 1981: T. 233, Grab 190; T. 234, Grab 193/9)
11	Podsmreka (Murgelj 2013: 35, 36/81) Šiman pri Gotovljah (Tomažić, Olić 2009: 20/241, 242) Žlebič (Puš 1988/89: T. 2/1; 7/2) Sjeverna Bosna (Ludajić 2010b: T. III/2)	Oloris-Dolnji Lakoš (Dular et al. 2002: 149) Rabelčja vas (Strmčnik-Gulič 1988/89: Tab. 1/1, 12) Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/6) Sodolek (Kavur 2012: Fig. 8/2) Golinci-Ograd (Percan 2013: 155) Gelsesziget (Horváth 1994: T. 5/7)	Horizont Vorwald-Hasreith (Tiefengraber 2007: Abb. 18) Freidorf im Sulmtal (Bernhard 2007: Taf. 7/3) Pitten (Hampl et al. 1981: T. 227, Grab 163e) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 13/40)
12	Dolina-Babine grede, Mačkovac-Crišnjevi (Kalafatić 2011: T. 72/5, 6)	Kalnik-Igrišče (Karavanić 2009: 158, 160)	Auswahl (Neugebauer 19994: Abb. 108)
13	Podsmreka (Murgelj 2013: 23, 26; S5, SK 7, 8) Gređani (Karavanić 2009: 53 prema Minichreiter 1982/83) Crno polje u Ljusini (Raunig 2010: T. II/3, 6)	Rabelčja vas (Strmčnik-Gulič 1988/89: Tab. 1/3, 4; 3/4) Rakitovica-Kraka (Pleština 2013: Tab. 6/2)	Lamperstäten, Hasreith (Heymans 2007: 156) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 18/76)
14	Šiman pri Gotovljah (Tomažić, Olić 2009: 24: 193, 413) Žlebič (Puš 1988/89: T. 3/2) Gređani (Karavanić 2009: 53 prema Minichreiter 1982/83) Sjeverna Bosna (Ludajić 2010b: T. I/6)	Oloris-Dolnji Lakoš (Dular et al. 2002: T. 18/7) Donji Miholjac-Prinčevac (Višnjić 2013: Tab. 5/5), Golinci-Ograd (Percan 2013: Tab. 6/1). Virovitica (Vinski Gasparini 1973: Tab. 7/4, 7; 10/1,2)	Lamperstäten, Hasreith (Heymans 2007: Taf. 2/10, 11) Pitten (Hampl et al. 1981: T. 239, Grab 63)
15	Podsmreka (Murgelj 2013: 22, 26; S 1, SK 7, 8) Šiman pri Gotovljah (Tomažić, Olić 2009: 24/44, 171, 247, 369) Sječkovo (Ludajić 2010a: T. IV/1)	Cerine VII (Kulenović 2004: T. 7/2) Oloris-Dolnji Lakoš (Dular et al. 2002: 151, 152; S 1, 2, 4, 6) Rabelčja vas (Strmčnik-Gulič 1988/89: 4/6) Sodolek (Kavur 2012: sl. 7/2) Pod Kotom – sever pri Krogu (Kerman 2011: 40/399) Nedelica pri Turnišču (Šavel, Sanković 2013: 35/815, 256, 83) Donji Miholjac-Prinčevac (Višnjić 2013: Tab. 5/4) Rakitovica-Kraka (Pleština 2013: T. 3/3) Kladare (Dizdar et al. 2011: 99) Ordacsehi (Kiss 2011: Fig. 4/10)	Lamperstäten, Hasreith (Heymans 2007: 156) Pichling (Tiefengraber 2007: Abb. 11) Pitten (Hampl et al. 1981: T. 226, Grab 163/14) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 16)
16	Podsmreka (Murgelj 2013: 29, 30, 36, 38; Sko 3, 2, L 6, 10, P4)	Oloris-Dolnji Lakoš (Dular et al. 2002: T. 60/1, 10; T. 52/9) Donji Miholjac-Prinčevac (Višnjić 2013: Tab.1/2) Golinci-Ograd (Percan 2013: Tab. 2/1) Virovitica (Vinski Gasparini 1973: Tab. 7/8,9; Tab. 10/9) Bakonyjákó Hügel III (Jankovits 1992b: Abb. 31/2, 7)	Horizont Vorwald-Hasreith (Tiefengraber 2007: Abb. 18) Pichling (Tiefengraber 2007: Abb. 10)

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17	Podsmreka (Murgelj 2013: L1, 3; 27, 28) Gređani (Karavanić 2009: 53 prema Minichreiter 1982/83) Sječkovo (Ludajić 2010a: T. I/2)	Oloris-Dolnji Lakoš (Dular et al. 2002: 156; Sk 4) Ptuj-Potrčeva cesta (Jevremov 1988/89: sl. 3/5) Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/3) Donji-Miholjac-Prinčevac (Višnjić 2013: Tab. 9/6) Kladare (Dizdar et al. 2011: 99) Rakitovica-Kraka (Pleština 2013: T. 10) Golinci-Ograd (Percan 2013: T. 7) Gelsesziget (Horváth 1994: T. 3/7, 8; 4/4, 5)	Freidorf im Sulmtal (Bernhard 2007: T. 4/2, 3) Horizont Retznei-Freidorf 1 (Tiefengraber 2007: Abb. 15) Lamperstäten, Hasreith (Heymans 2007: Taf. 1/5) Mannersdorf am Leithagebirge (Neugebauer 1980: Abb. 20/84)
18	Šiman pri Gotovljah (Tomažić, Olić 2009: 26/391) Mačkovac-Crišnjevi (Karavanić et al. 2002: T. 1/2) Sječkovo (Ludajić 2010a: T. IV/4)	Oloris-Dolnji Lakoš (Dular et al. 2002: 156; Sk 1, 2, 3) Sodolek (Kavur 2012: sl. 8/1) Pod Kotom – sever pri Krogu (Kerman 2011: 40/368) Nedelica pri Turnišču (Šavel, Sanković 2013: 35/261, 812, 562) Virovitica, Sirova Katalena (Vinski Gasparini 1973: Tab. 11/11) Donji Miholjac-Prinčevac (Višnjić 2013: T. 9) Rakitovica-Kraka (Pleština 2013: T. 1, 2, 11) Golinci-Ograd (Percan 2013: T. 7)	Vorvald (Schamberger 2007: Taf. 1, 2) Lamperstäten, Hasreith (Heymans 2007: Taf. 1/1, 2)
19	Šiman pri Gotovljah (Tomažić, Olić 2009: 55/13, 14) Gređani (Karavanić 2009: 53 prema Minichreiter 1982/83) Mačkovac-Crišnjevi (Karavanić et al. 2002: tip B6) Sjeverna Bosna (Ludajić 2010b: T. I/3)	Oloris-Dolnji Lakoš (Dular et al. 2002: 152; S10) Nedelica pri Turnišču (Šavel, Sanković 2013: 33/609) Pince – Pod Grunti (Kerman 2014: 45, sl. 1.12/1) Rakitovica-Kraka (Pleština 2013: 109) Donji Miholjac-Prinčevac (Višnjić 2013: 54) Balatonmagyaród-Hídgvépuszta (Horváth 1994: 10/2, 11/2)	Vorvald (Schamberger 2007: Taf. 8/34, 35)
20	Podsmreka (Murgelj 2014: Pl. 6/3) Moravče-Sesvete (Sokol 1996: sl. 4/3; 8/1; 15/2, 3) Gređani (Minichreiter 1982/83: T. 4/2)	Nedelica pri Turnišču (Šavel, Sanković 2013: 31/602); Brinjeva Gora (prema Dular et al. 2002: sl. 22/4); Ptuj-Potrčeva cesta (Jevremov 1988/89: sl. 2/2) Golinci-Ograd (Percan 2013: T. 1/1) Gelsesziget (Horváth 1994: T. 5/6); Farkasgyepű-Pöröserdő I, Bakonyjákó (Jankovits 1992a: Abb. 26/3; 45/1; 47/1; 63/4); Hegykö-Kisér (Ilon 1998/99: T. 7/3)	Pitten (Hampl et al. 1981: T. 214, Grab 104/7; T. 219, Grab 119/1; T. 222, Grab 137; T. 228/3; T. 229, Grab 170/12)
21	Podsmreka (Murgelj 2014: Pl. 4/9, 10) Šiman pri Gotovljah (Tomažić, Olić 2009: 26/228, 196) Gređani (Karavanić 2009: 53 prema Minichreiter 1982/83) Mačkovac-Crišnjevi (Karavanić et al. 2002: T. 1/8) Sječkovo (Ludajić 2010a: T. I/1)	Oloris-Dolnji Lakoš (Dular et al. 2002: 152, S 7, 8) Lepoglava (Šimek 2003: sl. 3) Ptuj-Potrčeva cesta (Jevremov 1988/89: sl. 3/2; 4/2) Nedelica pri Turnišču (Šavel, Sanković 2013: 33/465) Sodolek (Kavur 2012: sl. 7/1) Rakitovica-Kraka (Pleština 2013: T. 14) Golinci-Ograd (Percan 2013: T. 6/4) Gelsesziget (Horváth 1994: T. 4/6, 5/5) Ugod (Ilon 2014: T. 14/7); Farkasgyepű-Pöröserdő II (Jankovits 1992a: Abb. 31)	Freidorf im Sulmtal (Bernhard 2007: Taf. 6/2; 7/2) Pitten (Hampl et al. 1981: T. 222, Grab 135/14; T. 228/2)

Tab. 4 Komparativna analiza tipova posuda s nalazišta iz šire regije
Tab. 4 The comparative analysis of types from sites in the wider region

identičnih (oblikom, volumenom i ukrasom) posuda s pojedinih nalazišta. Stoga će u ovom dijelu teksta biti izdvojene pojedine analogije i pokazatelji kulturno-kronoloških atributa.

Pojava dekoracija u obliku trokuta malih dimenzija (do 0,5 mm) i kruga malih dimenzija (do 0,4 mm) otisnutih na površinu posude povezuje se s tradicijama srednjega brončanog doba (Teržan 2010). Takav ukras na nalazištu u Kurilovcu javlja se na dva ulomka. Oba su otkrivena u istoj jami (SJ 156) koja vjerojatno pripada najstarijoj fazi naselja.

tions, in the sense of their origins, were recently discussed by B. Teržan (2010: 154), who reinstates the fact that these are decorations which appear in the western Balkans from the Early Bronze Age (the Cetina and Glasinac cultures). She explains the appearance of decorations made by impressing straw-like tools into wet clay, such as were noted on vessels from the sites of Hörbing, Mannersdorf am Leithagebirge and Oloris – Dolnji Lakoš in a similar way (Bernhard 2007: Pl. 3: 3; Neugebauer 1980: Abb. 10: 27; Dular et al. 2002: 158). The surface of the vessel from Kurilovec has

Tip/*Type*	1	2	3	4	5	6	7	8	9	9a	10
Relativna kronologija/ *Relative chronology*											
Br B2										x	
Br C	x	x	x	x	x	x	x	x	x	x	x
Br D	x	x	x	x	x	x	x	x	x		x
Ha A1				x				x			x
%	1	2	16	8	3	3	2	11	4	0	5

Tip/*Type*	11	12	13	14	15	16	17	18	19	20	21
Relativna kronologija/ *Relative chronology*											
Br B2					x						
Br C	x		x	x	x	x	x	x	x	x	x
Br D	x		x	x	x	x	x	x	x	x	x
Ha A1	x	x		x		x	x	x	x		x
%	5	0	1	1	8	5	4	7	5	3	6

Tab. 5 Relativna kronološka analiza tipova posuda (% se odnosi na učestalost tipova na nalazištu Kurilovec–Belinščica)
Tab. 5 The analysis of vessel types based on relative chronology (% refers to the frequency of types at the site of Kurilovec–Belinščica)

Ostali oblici keramičkih posuda iz te jame ne sadrže morfološke, tehnološke ili dekorativne elemente koji se mogu povezati s mlađim razdobljem i stupnjem Ha A. Keramički ulomak s očuvanom dekoracijom u obliku otisnutih trokuta malih je dimenzija, stoga nije jasno kakav točno motiv čini niz trokuta. U kontekstu relativne kronologije, kraja srednjeg te početka kasnoga brončanog doba, motiv otisnutih trokuta pojavljuje se na keramici s nalazišta u Posavini: Šiman pri Gotovljah (Tomažić, Olić 2009: 30/92), i Podravini: Oloris – Dolnji Lakoš (Dular et al. 2002: 158), te u Štajerskoj na nalazištima Groß St. Florian, Hörbing i Kainach bei Wildon (Tiefengraber 2007: 103; Bernhard 2007: T. 2/1; Gutjahr 2011: T. 15/1). Na većini navedenih nalazišta takvi ukrasi nalaze se na vrlo fragmentiranim dijelovima posuda, često otisnuti na površini zaravnjenog ruba posude. Na prostoru Štajerske takva tehnika ukrašavanja zabilježena je na mnogo bolje očuvanim posudama, a autori posude datiraju u srednje brončano doba odnosno u stupanj Br C2/D (Tiefengraber 2007: 103) i povezuju tu pojavu s utjecajima srednjoeuropske kulture grobnih humaka. O takvom tipu dekoracije u smislu podrijetla nedavno je pisala B. Teržan (2010: 154) i podsjetila da je riječ o dekoraciji koja se na prostoru zapadnog Balkana pojavljuje još od ranoga brončanog doba (cetinska i glasinačka kultura). Na sličan način tumači se i pojava dekoracije izvedene tehnikom otiskivanja alata u obliku cjevčice u još vlažnu glinu kakva je zabilježena na posudama s nalazišta Hörbing, Mannersdorf am Leithagebirge, Oloris – Dolnji Lakoš (Bernhard 2007: T. 3: 3; Neugebauer 1980: sl. 10: 27; Dular et al. 2002: 158). Na površini posude s nalazišta u Kurilovcu, motiv kružića nalazi se uz *omfalos* aplikaciju, dok je na posudi u Štajerskoj ukras otisnut oko bradavičaste aplikacije. Nalazi sa štajerskih lokaliteta prema relativnoj kronologiji datiraju se u stupanj Br B, a kulturološki se dovode u vezu sa stupnjem Mistelbach-Regelsbrunn odnosno s kulturom grobnih humaka (Neugebauer 1980: 173; 1984: 145). Otisci kružića zabilježeni su i na keramici s nalazišta Mačkovac u hrvatskoj Posavini (Karavanić et al. 2002: T. 3: 5)

Rezultati statističke analize zastupljenosti dekoracija na posudama u Kurilovcu upućuju na relativno nisku zastupljenost ulomaka s urezanim motivima. Ipak, izdvajaju se tri ulomka koja vjerojatno pripadaju dvjema različitim posudama ukrašenim urezanim motivom sastavljenim od dvije paralelne linije između kojih se nalaze vertikalne i lagano zakošene linije. Svi ulomci nađeni su u istoj zapuni bunara (SJ 969) koji je datirana u 14. st. pr. Kr. (tab. 1). Najsličniji način ukrašavanja površine posuda zabilježen je u zapadnoj Mađarskoj na nalazištu Gelsesziget (Horváth 1994: 226, T. 5: 7) koje se datira u stupanj Br C te u Štajerskoj na nalazištu Hörbing bei Deutschlandsberg (Bernhard 2007: T. 1: 1) koji prema apsolutnoj kronologiji pripada 14. st. pr. Kr. (Tiefengraber 2007: 98, 102, sl. 16). Iako su motivi na posudama s oba navedena nalazišta očuvani u cijelosti i kombinirani s motivima visećih trokuta ispunjenih kosim linijama, oni su za sada najbliža analogija nalazima s nalazišta u Kurilovcu. U istom kontekstu pronađeno je nekoliko ulomaka ukrašenih paralelnim linijama izvedenim tehnika circular motif next to an *omphalos* application, and the vessel from Styria has decorations imprinted around an applied wart. The finds from Styrian sites are dated to the Br B phase based on relative chronology, and are culturally linked to the Mistelbach-Regelsbrunn phase, that is, to the Tumulus culture (Neugebauer 1980: 173; Neugebauer 1984: 145). Circular imprints were also noted on pottery from the site of Mačkovac in the Croatian Posavina region (Karavanić et al. 2002: Pl. 3: 5)

The results of the statistical analysis vessel decorations from Kurilovec point to a relatively small frequency of fragments with incised motifs. However, three fragments stand out. They were probably parts of two vessels decorated with incised motifs composed of two parallel lines with vertical and slightly slanted shorter lines in between. All of the fragments were discovered in the same fill of a well (SU 969), dated to the 14th cent. BC (Tab. 1). The most similar way of decorating the surface of vessels was noted in western Hungary, at the site of Gelsesziget (Horváth 1994: 226, Pl. 5: 7) which is dated to the Br C phase, and in Styria, at the site of Hörbing bei Deutschlandsberg (Bernhard 2007: Pl. 1: 1) which was, based on absolute chronology, dated to the 14th cent. BC (Tiefengraber 2007: 98, 102, Abb. 16). Even though motifs on vessels from both sites are completely preserved and appear in combination with hanging triangle motifs filled with slanted lines, they are so far the closes analogy for the finds from Kurilovec. The same context also yielded several fragments decorated with grooved parallel lines which are not preserved well enough for making direct comparisons.

The site of Kurilovec–Belinščica yielded a relatively high frequency of the, so called, conical wart encircled by a groove. Such warts are usually wrongly described and defined because the technique of their production is ignored. Namely, experimental research has shown that it is a technique of applying with the aid of molds which remain imprinted as a regular circular groove around the completely symmetrical conical application (Kudelić 2015: 245). Hence, when processing pottery fragments and classifying decorations, it is necessary to distinguish between the technique of modeling and applying them by using a mold. At the site of Kurilovec, the diameter of such conical applications is 2.2 cm on average, and wart thickness, that is, the depth of the mold used to apply them is 0.7 cm. The diameter of the largest conical application is 5 cm, and its thickness is 1 cm. Fragments of vessels decorated in this manner were found in the fill of a pit, designated stratigraphic unit (SU) 156, which, based on stratigraphy analysis, points to the oldest phase of the settlement. Conical applications were also found in a well (SU 969) and certain post holes (SU 158 and 164). Such decorations are found on types 4, 5, 6 and 17. Precisely this type of conical warts is of special cultural, i.e. chronological importance, as recently repeated by B. Teržan, who connects them to Middle Bronze Age traditions (Teržan 2010: 157). Such kinds of decorations were noted in the wider area of the Carpathian Basin, but also in the western Balkans and along the Adriatic coast[16] from the Early Bronze Age. K. Mihovilić con-

16 One such example is a partially preserved vessel from the site of Gropi–Stari Guran in Istria which is decorated by the technique of ap-

kom žlijebljenja, međutim, njihova očuvanost ne dopušta izravnu usporedbu.

Na nalazištu Kurilovec–Belinščica zabilježena je relativno visoka učestalost tzv. konične bradavice okružene žlijebom. Takve se bradavice obično pogrešno opisuju i definiraju jer se zanemaruje tehnika njihove izrade. Naime, eksperimentalna istraživanja pokazala su da je riječ o tehnici apliciranja pomoću kalupa čiji krajevi ostaju otisnuti u obliku pravilnoga kružnog žlijeba oko potpuno simetrične konične aplikacije (Kudelić 2015: 245). Stoga kod obrade keramičkih ulomaka i klasifikacije dekoracija valja razlikovati tehniku modeliranja bradavice od tehnike apliciranja pomoću kalupa. Na nalazištu u Kurilovcu promjer takvih koničnih aplikacija iznosi u prosjeku 2,2 cm, a debljina bradavice odnosno dubina kalupa pomoću kojeg je aplicirana 0,7 cm. Promjer najveće konične aplikacije iznosi 5 cm, a debljina 1 cm. Ulomci posuda ukrašeni na takav način pronađeni su u zapuni jame određene stratigrafskom jedinicom (SJ) 156 koja prema analizi stratigrafije upućuje na najstariju fazu naselja. Konične aplikacije pronađene su i u bunaru (SJ 969) te u pojedinim rupama od stupova (SJ 158 i 164). Takav ukras nalazi se na posudama tip 4, 5, 6 i 17. Upravo takav tip koničnih bradavica ima poseban kulturološki odnosno kronološki značaj na što je B. Teržan nedavno ponovno upozorila dovodeći je u vezu sa srednjobrončanodobnim tradicijama (Teržan 2010: 157). Takav oblik dekoracije zabilježen je na širem prostoru Karpatske kotline, ali i na prostoru zapadnog Balkana te uz obale Jadrana[16] još od ranoga brončanog doba. K. Mihovilić takav tip dekoracije dovodi u vezu s cetinskom kulturom na području sjeverne Dalmacije (Mihovilić 2007: 08: 43–46, tab. 13). Na prostoru Štajerske pojava konične aplikacije na nalazištu Freidorf 1 datira se u 16. i 15. st. pr. Kr. odnosno u stupnjeve Br B2 i Br C1 (Teržan 2010: 158; Tiefengraber 2007: 97; Bernhard 2007: Taf. 4: 3). Upravo takav tip posude (tip 4, 5, 6 i 17), način ukrašavanja i položaj aplikacije pojavljuju se u okviru kulturne grupe Virovitica odnosno grupe Barice–Gređani u slavonskoj te dijelu bosanske Posavine i zadržavaju se do početka kasnoga brončanog doba. Konične aplikacije izrađene pomoću kalupa najbrojnije su na nalazištu Moravče pored Sesveta (Sokol 1996: sl. 5: 2; 9: 1,4; 12: 2; 15: 1), a po jedan primjerak pronađen je na nalazištima Mačkovac (Karavanić et al. 2002: T.3: 1), Sječkovo (Ludajić 2010a: T. VI: 7), Sirova Katalena (Vinski Gasparini 1973: T. 14: 1) te na području istočne Hrvatske na nalazištu Ivanovci Gorjanski–Palanka (Kudelić 2011: T. 2: 3). Na području slovenske Posavine i Podravine u okviru horizonta Oloris–Podsmreka na nekoliko nalazišta (Podsmreka, Medvode, Kamna Gorica, Ig, Oloris, Brinjeva gora, Ptuj, Žlebič) zabilježene su konične aplikacije (Murgelj 2014: Pl. 3: 5, 4: 1,2; Leghissa 2014: 336;

16 Jedan takav primjer je i nalaz djelomično sačuvane posude na lokalitetu Gropi–Stari Guran u Istri koja je ukrašena tehnikom apliciranja koničnih bradavica pomoću kalupa (Mihovilić 2007/08: 73). Na površinu posude kuglastog oblika kakav se povezuje s tradicijama ranog i početka srednjega brončanog doba Istre, apliciran je niz koničnih bradavica. Bradavice su izrađene od vrlo vlažne glinene smjese zbog koje je izvedba na neki način neuredna. S obzirom na to da sličan način izrade nije zabilježen na tom prostoru, a koliko mi je poznato ni šire, ovaj nalaz predstavlja svojevrsni unikat.

necting these kinds of decorations with the Cetina culture in northern Dalmatia (Mihovilić 2007: 08: 43–46, Tab. 13). On the territory of Styria, the appearance of conical applications on the site of Freidorf 1 is dated to the 16th and 15th cent. BC, that is, to phases Br B2 and Br C1 (Teržan 2010: 158; Tiefengraber 2007: 97; Bernhard 2007: Pl. 4: 3). Precisely this type of vessel (type 4, 5, 6 and 17) – kinds of decorations and the position of applications, appears in the context of the Virovitica cultural group, that is, in the Barice-Gređani group in the Slavonian and part of the Bosnian Posavina region where they stay in use until the beginning of the Late Bronze Age. Conical applications made by using a mold are most numerous at the site of Moravče near Sesvete (Sokol 1996: Fig. 5: 2; 9: 1,4; 12: 2; 15: 1), and individual examples were found at Mačkovac (Karavanić et al. 2002: Pl. 3: 1), Sječkovo (Ludajić 2010a: Pl. VI: 7), Sirova Katalena (Vinski Gasparini 1973: Pl. 14: 1), and in eastern Croatia at the site of Ivanovci Gorjanski – Palanka (Kudelić 2011: Pl. 2: 3). The territory of the Slovenian Posavina and Podravina regions yielded conical applications (Murgelj 2014: Pl. 3: 5, 4: 1, 2; Leghissa 2014: 336, Turk, Svetličič 2014: 359–361, Fig. 21.6: 1; 21.7; Draksler 2014: 421, Fig. 23.2.4: 38, 39; Dular et al. 2002: Fig. 11: O11; Pahič 1981 after Dular et al. 2002: 176; Jevremov 1988: 89; Puš 1988: 89: Pl. 3: 4) which were found on several sites ascribed to the Podsmreka-Oloris phase (Podsmreka, Medvode, Kamna Gorica, Ig, Oloris, Brinjeva Gora, Ptuj, Žlebič). According to the current state of research, conical applications have been found in context with finds which are not younger than the Br D phase, and individual, more-precisely dated finds link these types of decoration to the Br B2 and Br C phases. Finds from the site of Kurilovec–Belinščica were also not found in context with younger pottery forms, and the results of the radiocarbon analysis of coal from structures (SU 164 and 969) which yielded such decorations date them to the 15th and 14th cent. BC. Another significant indicator for an early datation which is frequently mentioned in papers are vessel rims which have a 'T' or 'P' shape in the cross-section. Out of the total number of rims from Kurilovec, 9% are straightened, and 2% have a 'T' or a 'P' cross-section. Their presence is not exclusively connected to the oldest structures at the site, but, based on the comparative analysis of rims and vessel types, it can be said that rims shaped in this manner are mostly found on type 11, and somewhat less on type 15 vessels (Graph 5). Most vessels classified as type 11 were found in the, so called, well (SU 969) dated to the 14th cent. BC. The typological classification helped define type 9a, a variant of type 9 (Fig. 11). Seeing as only one vessel of this type was defined at the site, and that its form is not characteristic of the Virovitica cultural group on the territory of the Podravina and Posavina regions, it was not included into the statistical analysis. It is a vessel of smaller dimensions with a cylindrical neck and a rounded lowered body with a ribbed surface. The vessel has a ribbon-like

plying conical warts with the help of casts (Mihovilić 2007: 08: 73). The spherical shape of the vessel, connected to traditions of the Early and the beginning of the Middle Bronze Age in Istria, has a series of applied conical warts. The warts are made out of very wet clay paste which is why they appear messy. Seeing as a similar way of production was not noted in the area, and wider, this find is quite unique.

Turk, Svetličič 2014: 359–361, sl. 21.6: 1; 21.7; Draksler 2014: 421, sl. 23.2.4: 38, 39; Dular et al. 2002: sl. 11: O11; Pahič 1981 prema Dular et al. 2002: 176; Jevremov 1988: 89; Puš 1988: 89: T. 3: 4). Prema trenutačnom stanju istraživanja, konične aplikacije pronađene su u kontekstu s nalazima koji nisu mlađi od stupnja Br D, a pojedini pobliže datirani primjerci dovode ovaj tip ukrasa u vezu sa stupnjem Br B2 i Br C. Primjerci s nalazišta Kurilovec–Belinščica također nisu pronađeni zajedno s keramičkim oblicima iz mlađih stupnjeva, a rezultat radiokarbonske analize ugljena iz objekata (SJ 164 i 969) u kojima su takvi ukrasi pronađeni datira ih u 15. i 14. st. pr. Kr. Još je jedan pokazatelj rane datacije značajan i više puta spominjan u literaturi, a riječ je o rubovima otvora posuda koji u presjeku imaju oblik slova T ili P. Na nalazištu u Kurilovcu od ukupnog broja rubova 9% pripada zaravnjenim rubovima, a njih 2% ima u presjeku oblik slova "T" ili "P". Njihova pojava nije isključivo vezana uz najstarije objekte na nalazištu, međutim, na osnovi analize odnosa rubova i tipova posuda može se zaključiti da tako oblikovan rub većinom imaju posude tip 11 te u manjoj mjeri tip 15 (graf 5). Veći dio posuda koje su klasificirane kao tip 11 pronađene su u tzv. bunaru (SJ 969) koji je datiran u 14. st. pr. Kr. Tipološkom klasifikacijom definiran je i izdvojen tip 9a, odnosno varijanta izvedena iz tipa 9 (sl. 11). S obzirom na to da je na nalazištu ustanovljena samo jedna posuda toga tipa čiji oblik nije karakterističan za kulturnu grupu Virovitica na prostoru Podravine i Posavine, ona nije ušla u statističku obradu. Riječ je o posudi malih dimenzija, izduženoga cilindričnog vrata i zaobljenog i spljoštenog tijela narebrene površine. Posuda ima trakastu ručku s rebrom po sredini koja izlazi iz otvora posude i završava na ramenu odnosno trbuhu posude. Vrčić je djelomično očuvan iako je vjerojatno neoštećen smješten u kontekst u kojem je nađen. Razlog slabe očuvanosti vrlo je porozna struktura keramike koja je posljedica niskih temperatura pečenja i veće količine organskih primjesa u glinenovitoj smjesi. Vrčić je otkriven u kontekstu keramičke ostave, položen na bok, na vrh skupine keramičkih ulomaka te predstavlja jedinu cjelovitu posudu iz jame. Morfološke karakteristike dovode posudu u vezu sa starijom fazom kulture grobnih humaka odnosno stupnjem Mistelbach-Regelsbrunn koji relativno kronološki pripada stupnju Br B (Neugebauer 1980: sl. 6–7; 1994: 146–147).

Ovdje valja spomenuti vrlo malu količinu keramičkih nalaza iz izdvojene skupine objekata smještenih u sjevernom dijelu istraženog prostora. U dvostrukoj jami izduženog oblika (SJ 138/139) pronađena je mala količina keramičkih nalaza, ali se karakteristikama znatno razlikuju od ostalih nalaza iz naselja (sl. 12). U jami su pronađena tri ulomka koji pripadaju otvoru posude s čije su unutarnje strane vidljive tzv. horizontalne fasete. Osim toga, u istoj je jami pronađen dio šalice, tankih stijenki, oštro profiliranog tijela i tamnosive boje površine, a takvi oblici u preostalom dijelu naselja nisu zabilježeni. U rupi od stupa (SJ 73) u okviru iste skupine objekata pronađena su samo dva ulomka keramike od čega jedan predstavlja ulomak uvučenog ruba zdjele ukrašen kosim kanelirama. Naime, prema već navedenim argumentima za dataciju ove izolirane handle with a central rib, which connects the rim and the shoulder, i.e. the body of the vessel. This small jug is partially preserved, but it was probably whole when placed into the context in which it was found. The reason for its poor preservation is its highly porous structure which is the result of low firing temperatures and larger amounts of organic temper in the clay paste. The jug was found in the context of a pottery depot, lying on the side on top of a collection of pottery fragments, and is the only complete vessel from this pit. The morphological features link this vessel to the older Tumulus culture, that is, to the Mistelbach-Regelsbrunn phase which is relatively dated to the Br B phase (Neugebauer 1980: Abb. 6–7; Neugebauer 1994: 146–147).

At this point, it is important to mention a very small amount of pottery finds from a group of structures situated in the northern part of the excavated area. An elongated double pit (SU 138/139) yielded a small amount of pottery finds which have characteristics which are significantly different from other finds from the settlement (Fig. 12). The pit yielded 3 fragments of vessel rims which have, so called, horizontal facets. Apart from that, the same pit yielded a dark gray fragment of a cup with thin walls and a sharply profiled body, a form which was not noted in the rest of the settlement. A post hole (SU 73) found among the same group of structures yielded only two pottery fragments, one of which is an inward-facing rim of a bowl decorated with slanted cannelures. Namely, the above stated points speak in favor of dating this isolated group of structures to the Ha A phase, and typological and stylistic characteristics of pottery fragments speak in favor of this assumption.

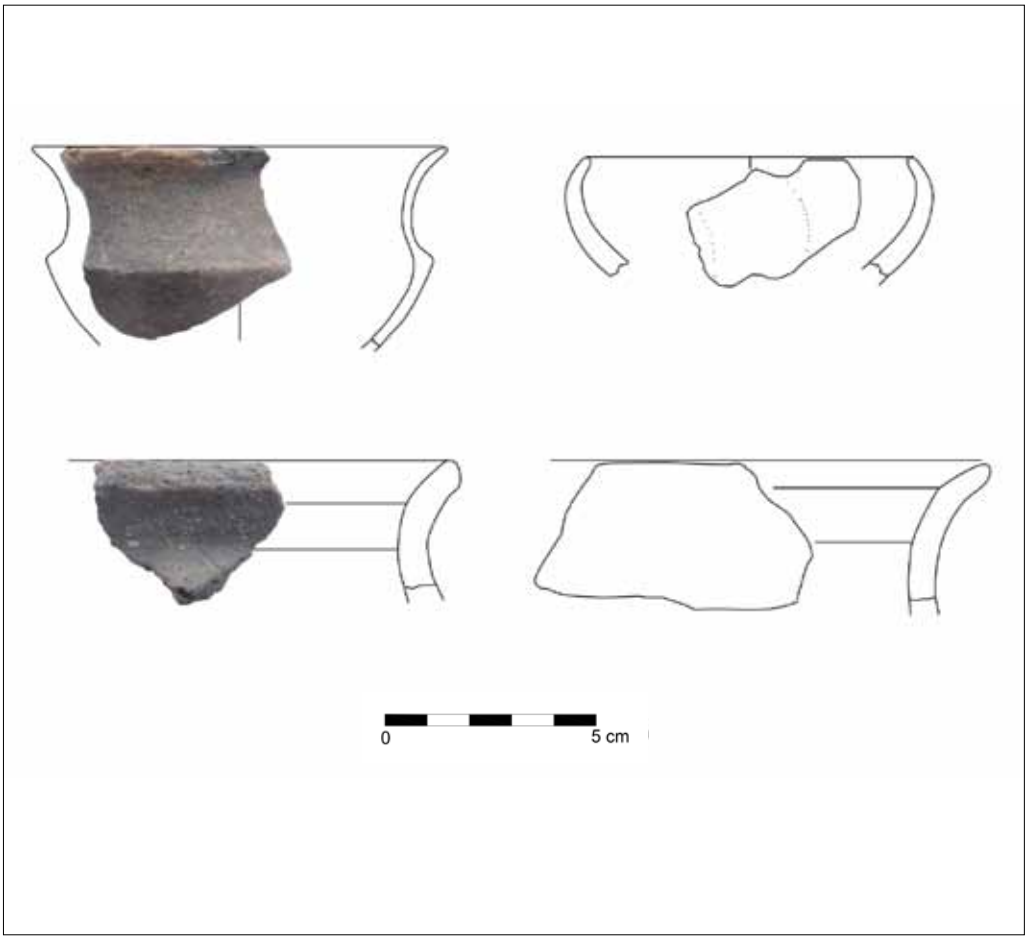
d.The results of analyses of animal osteological and archaeobotanical remains

Animal bones were found in relatively small amounts, but the analysis of animal bones and dental remains from the site of Kurilovec–Belinščica allows for estimating the representation of individual species of animals at this Bronze Age settlement.[17] The graphic depiction (Graph 8) of the results of the analysis shows that large ruminants are the most numerous (*Ruminantia*) – deer (*Cervus elaphus, L.*), aurochs (*Bos primigenius, Boj.*) or bovid (*Bos taurus, L.*) with 56%, followed by pigs (*Sus sp.*) with 22% and groups of small ruminants – sheep (*Ovis aries, L.*) or goats (*Capra hircus, L.*) with 16% (Burmaz, Bugar 2006).

Based on the results of the conducted analyses, it can be said that aurochs and pigs are the most represented domesticated species, along with small ruminants. Hunting was also detected as present. Considering the humble amount of osteological material found at the site, the results of osteological analyses conducted on finds from Mačkovac (Karavanić et al. 2002) complete data on the general state of economic activities of populations which shared the same marshy terrain along the Sava River. Downstream, on the site of Mačkovac, bone analysis revealed the domination of domestic animals (92.8 %) from

17 The analysis of animal and dental remains from the site of Velika Gorica – south was conducted by Zdravka Hincak, PhD (Burmaz, Bugar 2006).

Sl. 11 Posuda tip 9a iz SJ 55 (izradile: A. Kudelić i S. Čule)
Fig. 11 Type 9a vessel from SU 55 (made by: A. Kudelić and S. Čule)



Sl. 12 Keramički materijal s karakteristikama stupnja Ha A pronađen u SJ 138/139 i 73
Fig. 12 Pottery material with characteristics of the Ha A phase found in SU 138/139 and 73

skupine objekata u stupanj Ha A, tipološke i stilske karakteristike ulomaka keramičkih posuda to potvrđuju.

d. Rezultati analize animalni osteoloških ostataka i arheobotaničkih uzoraka

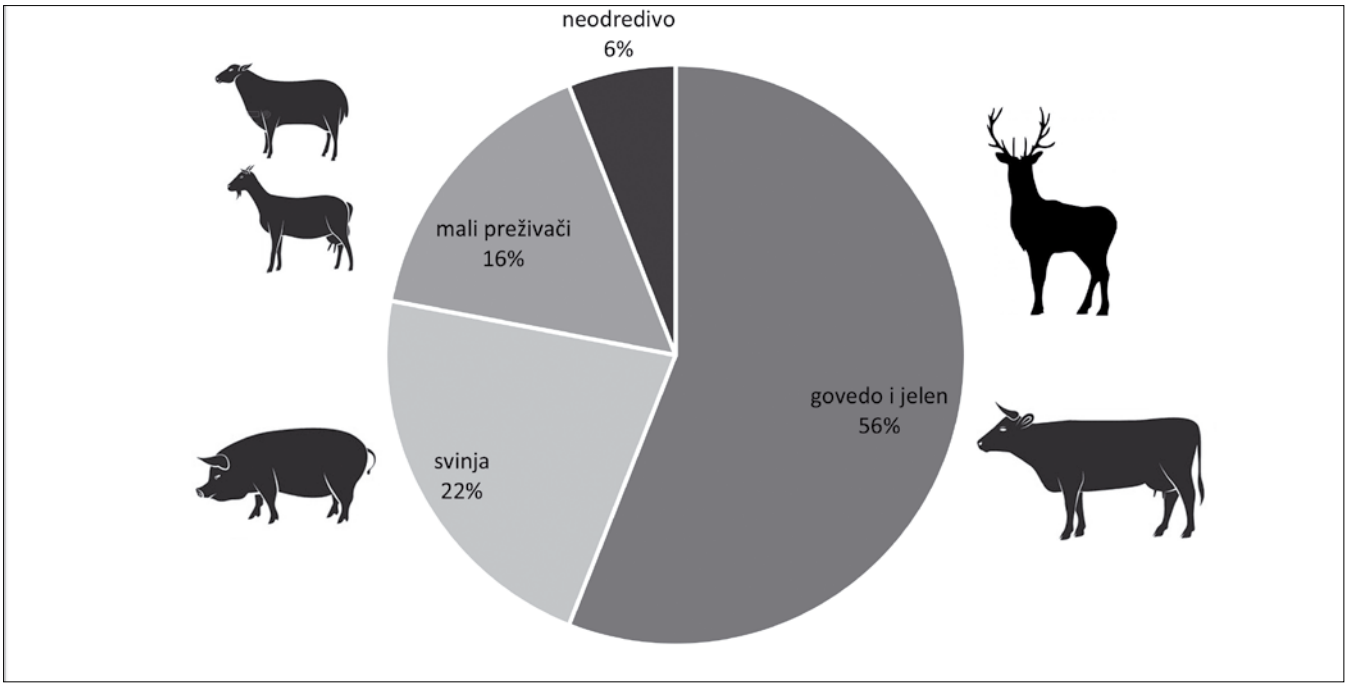
Kosti životinja pronađene su u relativno maloj količini, no ipak analizom animalnih koštanih i dentalnih ostataka s nalazišta Kurilovec–Belinščica omogućena je procjena zastupljenosti pojedinih životinjskih vrsta u brončanodobnom naselju.[17] Na grafičkom prikazu (graf 8) rezultata analize najveća je zastupljenost velikih preživača (*Ruminantia*), jelena (*Cervus elaphus, L.*), pragoveda (*Bos primigenius, Boj.*) ili goveda (*Bos taurus, L.*) sa 56%, svinje (*Sus sp.*) sa 22% i grupe malih preživača – ovaca (*Ovis aries, L.*) ili koza (*Capra hircus, L.*) zastupljenih sa 16% (Burmaz, Bugar 2006).

Prema rezultatima provedenih analiza, može se zaključiti da su pragoveda i svinje najzastupljenija domesticirana vrsta uz male preživače. Lov je također bio zastupljen. S obzirom na skromnu količinu osteološkog materijala pronađenog na nalazištu podaci iz analize osteološkog materijala s nalazišta Mačkovac (Karavanić et al. 2002) upotpunjuju podatke o općem stanju gospodarskih aktivnosti stanovništva koje dijeli isti močvarni kraj uz rijeku Savu. Nizvodno, na nalazištu Mačkovac analiza kostiju pokazala je dominaciju domaćih životinja (92,8%) iz grupe stoke (domaće govedo, koza-ovca, svinja), tj. ekonomski iskoristivih životinja za različite ljudske potrebe i djelatnosti. Utvrđena je prisutnost svih dobnih grupa domaćeg goveda (od infantilnih do senilnih, a nađeno je i nešto ostataka fetalne jedinke), što pokazuje da je ono korišteno kao radna i prehrambena životinja. Od divljih životinja koje nisu u izravnoj

17 Analizu animalnih i dentalnih ostataka s nalazišta Velika Gorica – jug provela je dr .sc. Zdravka Hincak (Burmaz, Bugar 2006).

the group of cattle (bovine, goat-sheep, pig), i.e. economically exploitable animals which could be used for different human needs and activities. The presence of all age groups of domesticated bovines was established (from infantile to senile, as well as some fetal remains), which point to the fact that these were used both as working animals and food. Out of the wild animals which do not directly associate with man, remains of wolves and jackals were found, as well as remains of fish which point to fishing activities. The authors also mention scarce remains of birds, that is, northern pintail and mallard (Karavanić et al. 2002: 54–55). The domination of large ruminants, but also pigs, is significant not only from the perspective of providing working animals and a source of food for man, but also because these animals had a definitive role in preserving the natural balance of the marshy landscape which is also the place where these species are easy to keep and breed.

During the archaeological excavations at the site of Kurilovec, flotation in two fractions: 0.5 and 1 mm was conducted with soil from several larger pits. A total of 25 archaeobotanical samples were analyzed, and a total of 201 plant macrofossils were isolated, 44 of which were carbonized.[18] Out of the recovered carbonized macrofossils, most remains are of lamb's quarters (*Chenopodium album*). This is a common weed which was also recovered from the samples preserved in a non-carbonized state (recent contamination), so it is not excluded that the carbonized remains could also be traces of recent weed burning. The other carbonized remains are represented in small numbers or individually: Cornelian cherry (*Cornus mas*),



Graf 8 Rezultat analize animalnih osteoloških ostataka s nalazišta Kurilovec–Belinščica
Graph 8 The results of animal osteological remains from the site of Kurilovec–Belinščica

18 The archaeobotanical analysis of samples was conducted by Renata Šoštarić, PhD, and Josipa Broz from the Department of Biology (Division of Botany with the Botanical Gardens) of the Faculty of Science of the University in Zagreb. The text is taken from the preliminary report on the archaeobotanical analyses of samples from the site of Velika Gorica – south (Šoštarić, Broz 2013).

interakciji s čovjekom, prisutni su vuk i čagalj, a pronađeni su i ostaci riba što upućuje na prisutnost ribolova. Autori donose i oskudne nalaze ptica odnosno prisutnost patke lastarke i divlje patke (Karavanić et al. 2002: 54–55). Dominacija velikih preživača odnosno pragoveda, ali i svinja značajna je ne samo iz perspektive radne životinje i izvora hrane za čovjeka nego one imaju odlučujuću ulogu u održavanju prirodne ravnoteže močvarnog krajolika, a upravo je takav krajolik pogodan za njihov uzgoj.

Na nalazištu u Kurilovcu prilikom arheoloških iskopavanja ispirana je zemlja iz nekoliko većih jama, flotirana u dvije frakcije: 0,5 i 1 mm. Analizirano je ukupno 25 arheobotaničkih uzoraka i izoliran je ukupno 201 biljni makrofosil, od čega je 44 karboniziranih.[18] Od nađenih karboniziranih makrofosila najveći dio čine ostaci bijele lobode (*Chenopodium album*). To je česta korovna vrsta, koja je u uzorcima zastupljena i u nekarboniziranom obliku (recentna kontaminacija), pa nije isključeno da i karbonizirani nalazi potječu od recentnog paljenja korova. Ostali karbonizirani nalazi zastupljeni su malobrojnim ili pojedinačnim nalazima: drijenak (*Cornus mas*), vjerojatno obični ječam (cf. *Hordeum vulgare*), abdovina (*Sambucus ebulus*), ljubica (*Viola* sp.) i usnača (*Lamiacea*). S obzirom na staništa na kojima se pojavljuju navedene svojte, i njihovi karbonizirani ostaci mogu biti posljedica recentnog paljenja korova i drvenastih biljaka koje zarastaju zapuštena poljoprivredna zemljišta. Među nalazima se ističe nalaz drijenka (*Cornus mas*) koji nije tipična ruderalna ni korovna biljka. Termofilna je svojta, te se pojavljuje u sastavu toplih i sunčanih rubova šuma, šuma i šibljaka. Često se pojavljuje u arheološkim slojevima od ranih prapovijesnih razdoblja, jer su se plodovi koristili u prehrani – svježi ili za spravljanje vina, sirupa i marmelada (Šoštarić, Broz 2013). Ovakav rezultat analize pripisat će se stanju i količini uzoraka te kontaminaciji prilikom njihove obrade pa nije moguće na osnovi rezultata analiza govoriti o niskoj zastupljenosti kultiviranih biljaka ni o niskoj razini uzgoja ratarskih kultura.

5. ZAKLJUČNA RAZMATRANJA

Rezultati istraživanja nalazišta na položaju Kurilovec–Belinščica omogućili su znanstveno utemeljeno razmatranje kronološkog i kulturološkog položaja naselja iz srednjeg i početka kasnoga brončanog doba na području središnje Hrvatske koje se na osnovi prostornog smještaja lokaliteta i fizičkih karakteristika keramičkog materijala pripisuje kulturnoj grupi Virovitica. Analiza rezultata tih istraživanja pridonosi i razumijevanju životnog ciklusa i gospodarskog potencijala brončanodobnog naselja u okviru specifičnog krajolika te pruža uvid u prostornu organizaciju nizinskog tipa naselja u močvarno-plavnom području. Početak ljudskih aktivnosti na položaju Kurilovec–Belinščica, na osnovi tipološko-kronološke analize keprobably barley (cf. *Hordeum vulgare*), danewort (*Sambucus ebulus*), violet (*Viola* sp.) and finds from the mint family (*Lamiacea*). Considering habitats where the mentioned species appear, their carbonized remains could also be the result of recent burning of weeds and tree-like plants which grow in abandoned agricultural areas. The find of Cornelian cherry (*Cornus mas*) stands out because this is not a typical ruderal or weed species. It is a termophile taxon and appears on warm and sunny forest edges, forests and shrubberies. It often appears in archaeological layers from the earliest periods of prehistory because its fruit was used as food – fresh or to produce syrups and marmalades (Šoštarić, Broz 2013). This kind of analysis result is ascribed to the amount of samples and the contamination which occurred during their processing, so it is impossible to discuss the low representation of domesticated plants or the low level of growing cash crops based on the results.

5. CONCLUDING REMARKS

The results of excavations at the Kurilovec–Belinščica position allow for a scientifically based consideration of the chronological and cultural position of settlements from the Middle and the beginning of the Late Bronze Age on the territory of central Croatia which can, based on the spatial distribution of sites and the physical characteristics of pottery material, be ascribed to the Virovitica cultural group. The analysis of the results of these analyses contributes to the understanding of the life cycle and the economic potential of Bronze Age settlements within a specific landscape, and gives insight into the spatial organization of lowland types of settlements in a marshy frequently flooded area. The beginning of human activities at the position of Kurilovec–Belinščica, based on the typological and chronological analysis of pottery fragments, is set in the Middle Bronze Age, that is, to the 15th cent. BC. The stratigraphic relations, pottery analysis and the results of radiocarbon analyses of coal samples are a good indicator of the approximate time of settlement formation which occurred sometime during the second half of the 15th cent. BC. The settlement developed on a slightly elevated position on a drained geological base in the middle of a marshy terrain with changing conditions caused by constantly changing water levels. During the 14th cent. BC, the remains of an older settlement display increased human activity which can be seen as the second phase in the life cycle of the Bronze Age settlement. The increased intensity in the development of similar settlements in this period is also visible at the sites of Podsmreka, Sodolek and Oloris.[19] The site of Podsmreka is, based on absolute

18 Arheobotaničku analizu uzoraka napravile su dr. sc. Renata Šoštarić i Josipa Broz s Biološkog odsjeka (Botanički zavod s Botaničkim vrtom) Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu. Tekst je preuzet iz preliminarnog izvještaja arheobotaničke analize uzoraka s lokaliteta Velika Gorica – jug (Šoštarić, Broz 2013).

19 Based on the results of radiocarbon analyses and absolute dates mostly collected from the area of Slovenia, but also Croatia, the synthesis-monograph entitled "*Absolute dating of the Bronze and Iron Ages in Slovenia*" was published, and contains, apart from absolute dates, individual sites, and, in it, the existing chronologically dislocated cultural groups were organized in a temporal continuity (Teržan, Črešnar 2014). The goal was to conduct the largest possible number of radiocarbon analyses on different organic samples from well-defined contexts, which could be relatively chronologically and culturally determined. The authors name the Virovitica cultural group as Oloris-Podsmreka and conclude, based on a series of radiocarbon dates collected from settlements researched during the last decade on the territory of Slovenia and partially Croatia, that the beginning of settlement occurred at the end of the 16th and in the

ramičkih ulomaka, postavlja se u srednje brončano doba, odnosno 15. st. pr. Kr. Stratigrafski odnosi, analiza keramike i rezultati radiokarbonske analize uzoraka ugljena dobar su pokazatelj približnog vremena osnutka naseobine koje se dogodilo otprilike u drugoj polovini 15. st. pr. Kr. Naselje se razvijalo na blagom uzvišenju na ocjeditoj geološkoj podlozi usred močvarnog terena s promjenjivim uvjetima uzrokovanim stalnim mijenama razine voda. Tijekom 14. st. pr. Kr. na ostacima starije naseobine zabilježena je pojačana ljudska aktivnost što predstavlja svojevrsnu drugu fazu u životnom ciklusu brončanodobnog naselja. Pojačani intenzitet u razvoju sličnih naselja u tom razdoblju vidljiv je i na nalazištima Podsmreka, Sodolek i Oloris.[19] Nalazište Podsmreka, prema apsolutnim datumima i morfološkim karakteristikama keramičkog materijala, najbliskije je ostacima iz Kurilovca. Kontekst nalaza upućuje na slične društvene obrasce deponiranja keramike u tzv. ostave keramike, a slično se može pretpostaviti i za nalazište Sodolek (Kavur 2011; 2012). Na nalazištu Kurilovec–Belinščica jama koja se tumači kao keramička ostava (SJ 55) datirana je u početak 13. st. pr. Kr. i to na osnovi radiokarbonske analize ugljena te na temelju karakteristika keramičkog materijala. Ipak, u jami je nađena posuda koja nema paralele u okviru materijalnih ostataka kulturne grupe Virovitica i dovodi se u vezu s posudama srednjobrončanodobnih kultura npr. kulturom grobnih humaka na području Štajerske i zapadne Transdanubije (kraj 16. i 15. st. pr. Kr.). Taj iznimno značajan nalaz vjerojatno predstavlja ritualno polaganje relikta prošlosti te može upućivati na prisutnu svijest stanovnika naselja o podrijetlu i precima, no puno značenje toga postupka više ne možemo u cijelosti razumjeti. U 13. st. pr. Kr. naseobina je vrlo vjerojatno napuštena ili se intenzitet aktivnosti izrazitije smanjio. Potvrda za takve pretpostavke jest izostanak specifičnih elemenata koji se vezuju uz utjecaj stila Baierdorf-Velatice i stupanj Ha A, poput pojedinih oblika posuda (npr. oblici šalica) ili načina njihova oblikovanja i ukrašavanja (kaneliranje i fasetiranje). Međutim, na nalazištu Kurilovec–Belinščica istraženo je nekoliko jama s keramičkim materijalom koji ima obilježja stupnja Ha A (sl. 12), a radiokarbonskom analizom ugljena veća jama (SJ 192) iz te skupine datirana je u 11. st. pr. Kr. Iako je otkriveno tek nekoliko objekata iz ovog razdoblja, oni nisu podignuti

19 Na osnovi rezultata radiokarbonskih analiza i apsolutnih datuma koji su prikupljeni pretežno s prostora Slovenije, ali i Hrvatske, napravljena je sintezna monografija pod naslovom *Absolutno datiranje bronaste in železne dobe na Slovenskem* u kojoj su osim apsolutnih datuma obrađena i pojedina nalazišta, a postojeće kronološki dislocirane kulturne grupe postavljene u vremenski kontinuitet (Teržan, Črešnar 2014). Cilj je bio iz sigurnog konteksta prikupiti što veći broj radiokarbonskih analiza uzoraka različitih organskih ostataka koji su se mogli relativno kronološki i kulturološki odrediti. Autori kulturnu grupu Virovitica nazivaju horizont Oloris-Podsmreka i na osnovi niza radiokarbonskih apsolutnih datuma koji su prikupljeni iz naselja koja su istražena tijekom posljednjeg desetljeća na prostoru Slovenije i djelomično Hrvatske zaključuju da se početak naseljavanja dogodio krajem 16. i u drugoj polovini 15. st. pr. Kr., dok je najveći intenzitet naseljavanja bio u drugoj polovini 15. do kraja 13. st. pr. Kr. Utjecaji ovog horizonta zamiru u prvoj polovini 12. st. pr. Kr. (Teržan, Črešnar 2014: 687). Prema rezultatima tih istraživanja, keramički materijal s karakteristikama grupe Virovitica zadržava se vrlo dugo razdoblje, od kraja stupnja Br B2, tijekom Br C do kraja Br D stupnja, te zamire s promjenama koje su obilježile stupanj Ha A1.

dates and the morphological characteristics of pottery, most similar to the remains from Kurilovec. The context of finds points to similar social patterns of pottery deposition – the, so called, pottery depots, and a similar occurrence can be assumed for the site of Sodolek (Kavur 2011; 2012). At the site of Kurilovec–Belinščica, the pit which is interpreted as a pottery depot (SU 55) is dated to the beginning of the 13th cent. based on radiocarbon analysis of coal, and on the characteristics of the pottery material. However, the pit also yielded a vessel which does not have parallels within the scope of the pottery material of the Virovitica cultural group, and which can be linked to vessels of the Middle Bronze Age eg. Tumulus culture on the territory of Styria and western Transdanubia (the end of the 16th and the 15th cent. BC). This exceptionally important find is an example of ritualistically depositing relics of the past and can be an indicator of the presence of awareness among the inhabitants of the settlement about their origin and ancestry, but the full meaning of this process cannot be fully understood. In the 13th cent. BC, the settlement was probably abandoned, or the intensity of activity was notably reduced. The confirmation for such assumptions is the absence of specific elements which are connected to the Baierdorf-Velatice style and the Ha A phase, such as certain vessel types (e.g. types of cups) or the way they were shaped and decorated (cannelures and faceting). However, the site of Kurilovec–Belinščica yielded several pits with pottery material with Ha A phase characteristics (Fig. 12), and the radiocarbon analysis of coal from a larger pit (SU 192) from this group was dated to the 11th cent. BC. Although only several structures from this period were discovered, they were not erected on the excavated remains of the older settlement, but more to the north, right next to them.

The largest amount of similar vessel types and decorations was found in the context of the Virovitica cultural group, which especially refers to the site of Moravče near Sesevete, but also to sites from the Podravina region. In the Slovenian Posavina region, at the site of Podsmreka, and, to a smaller extent, at individual sites in the same region (Medvode, Kamna gorica), as well as on sites from the Pomuravlje and Slovenian Podravina region (Oloris near Dolnji Lakoš), numerous analogies were noted in the framework of the contemporaneous Oloris–Podsmreka phase. In the Slavonian and Bosnian Posavina region, that is, on the territory of the Barice-Gređani cultural group, numerous similar vessel types were noted. In that sense, the sites from the said area share certain similarities in shaping and decorating pottery vessels, so it can be assumed that this is a unique area where the same (very similar) pottery tradition is present throughout a long period of time. However, the fragments of pottery vessels dated to the oldest phase

second half of the 15th cent. BC, and that the largest intensity of settlement occurred between the second half of the 15th and the end of the 13th cent. BC. The influences of this phase got lost in the first half of the 12th cent. BC (Teržan, Črešnar 2014: 687). Based on the results of these excavations, the pottery material with characteristics of the Virovitica group was present for a very long period of time, from the end of the Br B2, including the Br C and until the end of the Br D phase, and fade away with the changes which marked the Ha A1 phase.

na istraženim ostacima starijeg naselja, nego sjeverno, neposredno uz njih.

Najviše sličnih oblika posuda i načina njihova dekoriranja pronađeno je u okviru nalazišta kulturne grupe Virovitica, a to se osobito odnosi na nalazište Moravče pored Sesveta, ali i na nalazišta s područja Podravine. U slovenskoj Posavini na nalazištu Podsmreka te u manjoj mjeri na pojedinim lokalitetima iz iste regije (Medvode, Kamna Gorica), kao i na nalazištima s područja Pomuravlja i slovenske Podravine (Oloris pored Dolnjeg Lakoša) također su zabilježene brojne analogije, ali u okviru istodobnog horizonta Oloris–Podsmreka. U slavonskoj i bosanskoj Posavini odnosno na području kulturne grupe Barice–Gređani također su zabilježeni brojni slični oblici posuda. U tom smislu nalazišta s navedenog područja dijele izrazitu sličnosti u oblikovanju i ukrašavanju keramičkih posuda, stoga se može pretpostaviti da je riječ o jedinstvenom prostoru na kojem se kroz dugo razdoblje zadržava jednaka (vrlo slična) lončarska tradicija. Međutim, ulomci keramičkih posuda datirani u najstariju fazu kulturne grupe Virovitica sadrže stilske elemente kakvi se nalaze na keramičkim posudama s područja zapadne Transdanubije i Austrije i pripadaju tzv. kulturi grobnih humaka. S druge strane, izravna povezanost nalazišta Kurilovec–Belinščica s nalazištima u slovenskoj Posavini upućuje i na mogućnost veza iz smjera sjevernog Jadrana, Italije i Istre (Gabrovec 1983; Lonza 1984; Bernabò Brea et al. 1997; Buršić Matijašić 1998; Forenbaher et al. 2006; Forenbaher, Keiser 2006), a dokaz je takvih kulturoloških kontakata, osim pojedinih oblika posuda, pojava keramičkog tronošca, koliko mi je poznato do sada na ovom prostoru nezabilježenog nalaza.

Ovdje prezentirani rezultati istraživanja nalazišta Kurilovec–Belinščica predstavljaju dobro polazište za nastavak kulturno-kronološkog razmatranja naseobinskih ostataka, obrazaca naseljavanja i korištenja prostora kao i dinamike društvenih zbivanja na prostoru Posavine odnosno Turopolja u razdoblju srednjeg i početku kasnoga brončanog doba.

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of the Virovitica cultural group display stylistic elements like those which can be found on pottery vessels from the territory of western Transdanubia and Austria, and which belong to the, so called, Tumulus culture. On the other hand, the direct connection of the Kurilovec–Belinščica site with sites in the Slovenian Posavina region also point to the possible relations with the northern Adriatic, Italy and Istria (Gabrovec 1983; Lonza 1984; Bernabò Brea et al. 1997; Buršić Matijašić 1998; Forenbaher et al. 2006; Forenbaher, Keiser 2006). These cultural contacts are attested to, apart from certain vessel types, by the presence of pottery tripods which have, so far, not been found on this territory.

The herein presented results of the excavations at Kurilovec–Belinščica are a good starting point for continuing cultural and chronological studies of settlement remains, settlement patterns and space utilization, as well as the dynamics of social occurrences in the Posavina, that is, the Turopolje region in the Middle and at the beginning of the Late Bronze Age.

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LITERATURA / BIBLIOGRAPHY

Bernabò Brea, M., Cardarelli, A., Cremaschi, M. 1997, *La Terramare*, Foro Boario, Modena.

Bernhard, A. 2007, Ausgewählte Bronzezeitliche Funde aus Hörbing bei Deutschlandsberg und Freidorf im Sulmtal, Weststmk, in: *Studien zur Mittel- und Spätbronzezeit am Rande der Südostalpen*, Tiefengraber G. (ed.), Verlag Dr. Rudolf Habelt, Bonn, 205–230.

Budja, M., Mlekuž, D. 2008, Poplavna ravnica Ižice in prazgodovinska kolišča, *Arheološki vestnik*, Vol. 59, 359–370.

Burmaz, J., Bugar, A. 2006, *Izvještaj o rezultatima zaštitnih arheoloških istraživanja na lokalitetu Velika Gorica – jug*, Zagreb.

Buršić Matijašić, K. 1998, *Gradina Monkodonja*, Monografije i katalozi 9, Arheološki muzej Istre, Pula.

Čović, B. 1988, Barice-Gređani – kulturna grupa, in: *Arheološki leksikon Bosne i Hercegovine I*, Čović B. (ed.), Zemaljski muzej Bosne i Hercegovine, Sarajevo, 21–23.

Dizdar, M., Ložnjak Dizdar, D., Mihelić, S. 2011, *Starija faza faza kulture polja sa žarama u sjevernoj Hrvatskoj – novi izazovi*, Osijek.

Dizdar, M., Tonc, A., Ložnjak Dizdar, D. 2011, Zaštitna istraživanja nalazišta AN 6 Gornji Vukojevac na trasi auto-ceste Zagreb – Sisak, dionica Velika Gorica jug – Lekenik, *Annales Instituti Archeologici*, Vol. VII, 61–64.

Dizdar, M., Tonc, A. 2012, Zaštitno istraživanje nalazišta AN 6 Gornji Vukojevac na trasi autoceste Zagreb-Sisak u 2011. godini, *Annales Instituti Archeologici*, Vol. VIII, 85–89.

Draksler, M. 2014, Ig, in: *Absolutno datiranje bronaste in železne dobe na Slovenskem*, Teržan B., Črešnar M. (eds.), Katalogi in monografije 40, Ljubljana, 417–426.

Dular, J., Šavel, I., Tecco Hvala, S. 2002, *Bronastodobno naselje Oloris pri Dolnjem Lakošu*, Opera Instituti archaeologici Sloveniae 5, Ljubljana.

Dular, J. 2011, Zur Datierung der bronzezeitlichen Siedlung Oloris bei Dolnji Lakoš, *Arheološki vestnik*, Vol. 62, 111–130.

Forenbaher, S., Rajić-Šikanjić, P., Miracle, T.P. 2006, Lončarija iz Vele peći kod Vranje (Istra), *Histria archaeologica*, Vol. 37, 5–46.

Forenbaher, S., Keiser, T. 2006, *Prehistoric herders of northern Istria: the archaeology of Pupićina cave / Pretpovijesni stočari sjeverne Istre: arheologija Pupićine peći*, Miracle P. T., Forenbaher S. (eds.), Monografije i katalozi 14, Arheološki muzej Istre, Pula.

Fürst-Bjeliš, B. 1996, *Historijsko-geografska analiza prostornog pojma tradicionallne regije Turopolja*, PhD thesis, Zagreb.

Gabrovec, S. 1983, Jugoistočnoalpska regija, in: *Praistorija jugoslavenskih zemalja. IV: bronzano doba*, Benac A. (ed.), Sarajevo, 21–96.

Gutjahr, C. 2011, Mittel- bis spätbronzezeitliche Siedlung auf der Trasse der Koralmbahn, Weststeiermark (Österreich), in: *Beiträge zur Mittel- und Spätbronzezeit sowie zur Urnenfelderzeit am Rande der Südostalpen*, Gutjahr C., Tiefengraber G. (eds.), Arbeitsgemeinschaft Symposium Tagung Kongress 15, Verlag Marie Leidorf, Rahden, 141–206.

Gutjahr, C., Tiefengraber, G. (eds.), 2011, *Beiträge zur Mittel- und Spätbronzezeit sowie zur Urnenfelderzeit am Rande der Südostalpen*, Arbeitsgemeinschaft Symposium Tagung Kongress 15, Verlag Marie Leidorf, Rahden.

Hampl, F., Kerchler, H., Benkovsky-Pivovarova, Z. 1981, *Das mittelbronzezeitliche Gräberfeld von Pitten in Niederösterreich. Band 1: Fundbericht und Tafeln*, Mitteilungen der Prähistorischen Kommission 19–20, Wien.

Heymans, H. 2007, Die Mittel- und Spätbronzezeit im gleinztal, in: *Studien zur Mittel- und Spätbronzezeit am Rande der Südostalpen*, Tiefengraber G. (ed.), Verlag Dr. Rudolf Habelt, Bonn, 143–162.

Horvat, M. 1999, T*ipologija keramike, tipologija lončenine, keramični arhiv*, Razprave Filozofske fakultete, Ljubljana.

Horváth, L. 1994, Adatok Délnyugat-Dunántúl késobronzkorának történetéhez, in: Die Fragen der Bronzezeit. Archäologische Konferenz des Komitates Zala und Niederösterreichs III, Keszthely, 1992, *Zalai Múzeum*, Vol. 5, 219–235.

Ilon, G. 1998/99, A bronzkori Hallomsíros kultúra temetkezései Nagydém-Középrépáspusztán és a Hegykői edénydepot, *Savaria*, Vol. 24/3, 239–276.

Ilon, G. 2014, Der Anfang der Urnenfelderzeit (Bz D) im Bakonygebirge (Ungarn), in: *The beginning of the Late Bronze Age between the Eastern Alps and the Danube*, Proceedings of the International conference in Osijek, 2011, Zbornik Instituta za arheologiju 1, Zagreb, 101–178.

Jankovits, K. 1992a, Spätebronzezeitliche Hügelgräber in der Bakony-Gegend, *Acta archaeologica Academiae Scientiarum Hungaricae*, Vol. XLIV/1, 3–81.

Jankovits, K. 1992b, Spätebronzezeitliche Hügelgräber von Bakonyjákó, *Acta archaeologica Academiae Scientiarum Hungaricae*, Vol. XLIV/1–4, 261–343.

Jevremov, B. 1988/89, Grobovi z začetka kulture žarnih grobišč iz Ptuja, *Arheološki vestnik,* Vol. 39–40, 171–180.

Kalicz, N. 1984, Hatvan kultur, in: *Kulture ranog bronzanog doba Karpatskog basena i severnog Balkana*, Tasić N. (ed.), Beograd, 191–218.

Karavanić, S. 2006, Prerada i proizvodnja metala u naselju Mačkovac-Crišnjevi (Nova Gradiška), *Prilozi Instituta za arheologiju u Zagrebu*, Vol. 23, 29–52.

Karavanić, S. 2009, *The Urnfield Culture in Continental Croatia*, BAR International Series 2036, Oxford.

Karavanić, S., Kudelić, A. 2011, Ostava keramike s lokaliteta Kalnik-Igrišče II, *Prilozi Instituta za arheologiju u Zagrebu*, Vol. 28, 5–30.

Karavanić, S., Mihaljević, M., Kalafatić, H. 2002, Naselje Mačkovac-Crišanj kao prilog poznavanju početaka kulture polja sa žarama u slavonskoj Posavini, *Pilozi Instituta za arheologiju u Zagrebu*, Vol. 19, 47–62.

Kavur, B. 2011, This is how we do it. The pottery depot from Sodolek an external memory storage device, in: *Beiträge zur Mittel- und Spätbronzezeit sowie zur Urnenfelderzeit am Rande der Südostalpen*, Gutjahr C., Tiefengraber G. (eds.), Arbeitsgemeinschaft Symposium Tagung Kongress 15, Verlag Marie Leidorf, Rahden, 81–88.

Kavur, B. 2012, Još jedno nalazište s prijelaza srednjeg u kasno brončano doba, *Prilozi Instituta za arheologiju u Zagrebu*, Vol. 29, 71–88.

Kerman, B. 2011, Die spätbronzezeitliche Siedlung Pod Grunti – Pince (Slowenien), in: *Beitrage zur Mittel- und Spätbronzezeit sowie zur Urnenfelderzeit am Rande der Südostalpen*, Gutjahr C., Tiefengraber G. (eds.), Arbeitsgemeinschaft Symposium Tagung Kongress 15, Verlag Marie Leidorf, Rahden, 89–100.

Kiss, V. 2011, Settlement of the Tumulus Culture at Ordacsehi (Hungary), in: *Beitrage zur Mittel- und Spätbronzezeit sowie zur Urnenfelderzeit am Rande der Südostalpen*, Gutjahr C., Tiefengraber G. (eds.), Arbeitsgemeinschaft Symposium Tagung Kongress 15, Verlag Marie Leidorf, Rahden, 101–108.

Kudelić, A. 2011. Keramički nalazi iz brončanodobnog naselja s lokaliteta Ivanovci Gorjanski – Palanka, *Vjesnik Arheološkog muzeja u Zagrebu*, Vol. 44/1, 17–44.

Kudelić, A. 2015, *Tehnološki i socijalni aspekti keramičkih nalaza grupe Virovitica u sjeverozapadnoj Hrvatskoj i njihov arheološki kontekst / Technological and social aspects of the Virovitica group pottery finds in northwest Croatia and their archaeological context*, PhD thesis, University of Zagreb, Zagreb.

Kudelić, A., Mileusnić, M., Grzunov, A. 2016, Archaeometry and comparative analysis of the bronze age pottery from Turopolje and Podravina region, *Opuscula archaeologica*, Vol. 39 (u tisku / forthcoming).

Kudelić, A., Sirovica, F., Tresić Pavičić, D. 2013, Dokumentiranje reljefnih značajki položaja Kurilovec–Belinščica tijekom 2011 i 2012. godine, *Annales Instituti Archaeologici*, Vol. IX, 190–194.

Kulenović, I. 2004, Arheološka istraživanja na naselju Cerine VII, *Podravski zbornik*, Vol. 30, 315–328.

Laszowski, E. 1910, *Povijest plemenite općine Turopolja nekoć Zagrebačko polje*, Zagreb.

Leghissa, E. 2014, Medvode, in: *Absolutno datiranje bronaste in železne dobe na Slovenskem*, Teržan B., Črešnar M. (eds.), Katalogi in monografije 40, Ljubljana, 333–343.

Lonza, B. 1984, *La ceramica del castelliere degli Elleri*, Trieste.

Ludajić, N. 2010a, Sječkovo, *Glasnik Zemaljskog muzeja Bosne i Hercegovine u Sarajevu* Vol. 52 (2011), 115–140.

Ludajić, N. 2010b, Statističko-tipološka analiza keramike kulturne grupe Barice-Gređani na području sjeverne Bosne, *Glasnik Zemaljskog muzeja Bosne i Hercegovine u Sarajevu*, Vol. 52 (2011), 263–276.

Majnarić-Pandžić, N. 1987, Drljanovac, kasnobrončanodobna žarna nekropola, *Arheološki pregled* za 1986., 56–57.

Marzatico, F. 2004, 150 years of lake-dwelling research in northern Italy

in: *Living on the Lake in Prehistoric Europe*, Menotti F. (ed.), Routledge, London–New York, 83–97.

Menotti, F. 2004, *Living on the Lake in Prehistoric Europe*, Routledge, Taylor & Francis e- Library, London–New York.

Mihovilić, K. 2007/2008, Gropi – Stari Guran/Analiza prapovijesne keramike, *Histria Archaeologica*, Vol. 38–39, 37–78.

Minichreiter, K. 1982/83, Pregled istraživanja nekropola grupe „Gređani" u Slavoniji, *Anali Zavoda za znanstveni rad u Osijeku,* Vol. 2, 7–121.

Minichreiter, K. 1984, Brončanodobne nekropole s paljevinskim grobovima grupe Gređani u Slavoniji. Arheološka istraživanja u istočnoj Slavoniji i Baranji, *Izdanja Hrvatskog arheološkog društva*, Vol. 9, 91–107.

Mlekuž, D., Budja, M., Ogrinc, N. 2006, Complex settlement and the landscape dynamic of the Iščica floodplain (Ljubljana Marshes, Slovenia), *Documenta Praehistorica*, Vol. XXXIII, 253–271.

Murgelj, I. 2013, *Podsmreka pri Višnji Gori*, Arheologija na avtocestah Slovenije 42, Ljubljana.

Murgelj, I. 2014, The beginning of the Virovitica cultural group in Dolenjska – The example of Podsmreka 2, in: *The beginning of the Late Bronze Age between the Eastern Alps and the Danube*, Proceedings of the International conference in Osijek, 2011, Zbornik Instituta za arheologiju 1, Zagreb, 17–28.

Neugebauer, J. W. 1980, Fundmaterialien aus der ältesten Stufe der Hügelgräberbronzezeit aus dem Raume von Mannersdorf am Leithagebirge, *Fundberichte aus Österreich*, Vol. 19, 157–202.

Neugebauer, J. W. 1994, *Bronzezeit in Ostösterreich*, Verlag Niederössterreichisches Pressehaus, Wien.

Pahič, S. 1981, Brinjeva gora 1953, *Arheološki vestnik,* Vol. 32, 71–143.

Palatova, H., Salaš, M. 1998/99, Bronze- und urnenfelderzeitliche Gefäßdepotfunde in Mähren, *Archäologie Österreichs*, Vol. 9–10 (Sonderausgabe), 103–114.

Palatova, H., Salaš, M. 2002, *Depoty keramických nádob doby bronzové na Moravé a v sousedních zemích*, Pravěk Supplementum 9, Brno.

Percan, T. 2013, Kasnobrončanodobno naselje Golinci–Ograd, in: *Nove arheološke spoznaje o Donjoj Podravini*, Višnjić J. (ed.), Hrvatski restauratorski zavod, Zagreb, 127–164.

Plestenjak, A. 2010, *Gorice pri Turnišču*, Arheologija na avtocestah Slovenije, Ljubljana.

Pleština, I. 2013, Kasnobrončanodobno naselje i novovjekovno nalazište – Rakitovica – Kraka, in: *Nove arheološke spoznaje o Donjoj Podravini*, Višnjić J. (ed.), Hrvatski restauratorski zavod, Zagreb, 83–126.

Puš, I. 1988/89, Bronastodobna naselbina pri Žlebiču, *Arheološki vestnik*, Vol. 39–40, 345–366.

Raunig, B. 2010, Crno polje u Ljusini – područje Bihaća (Pounje), *Glasnik Zemaljskog muzeja Bosne i Hercegovine u Sarajevu*, Vol. 52 (2011), 13–34.

Rice, P. M. 1987, *Pottery Analysis: A source book*, The University of Chicago Press, Chicago–London.

Riđanović, J. 1974, *Obilježja prirodne osnove*, in: *Geografija SR Hrvatske*, vol. 1, *Središnja Hrvatska*, Cvitanović A. (ed.), Školska knjiga, Zagreb, 67–76.

Roglić, J. 1974, *Obilježja prirodne osnove*, in: *Geografija SR Hrvatske*, vol. 1, *Središnja Hrvatska*, Cvitanović A. (ed.), Školska knjiga, Zagreb, 44–60, 77–92.

Shepard, A. O. 1954, *Ceramics for the archaeologist*, Carnegie Institution of Washington.

Sokol, V. 1996, Nekropola kulture žarnih polja u Moravču kod Sesveta. Arheološka istraživanja u Zagrebu i zagrebačkoj regiji I, *Izdanja Hrvatskog arheološkog društva*, Vol. 17, 29–36.

Stapel, A. 1999, *Bronzezeitliche Deponierungen im Siedlungsbereich*, Tübinger Schriften zur Ur und Frühgeschichtlichen Archäologie 3, Waxmann, Münster.

Strmčnik-Gulič, M. 1988/89, Bronastodobni naselitveni kompleks v Rebelčji Vasi na Ptuju, *Arheološki vestnik*, Vol. 39–40, 147–170.

Šavel, I., Sankovič, S. 2010, *Za Raščico pri Krogu*, Ljubljana.

Šavel, I. 1996, Kulturni vplivi v prazgodovini v pokrajini ob Muri, in: *Ljudje ob Muri*, Balažic J., Vandor L. (eds.), Murska Sobota, 13–37.

Šimek, M. 2003, Grob kasnog brončanog doba iz Lepoglave, *Opuscula archaeologica*, Vol. 27, 151–156.

Šoštarić, R., Broz, J. 2013, *Arheobotanička analiza nalaza iz lokaliteta Velika Gorica – jug 2006*, preliminarni izvještaj, Zagreb.

Teržan, B. 2010, Diskusijski prispevek o srednji bronasti dobi v Prekmurju, *Zbornik Soboškega muzeja*, Vol. 15, 151–169.

Teržan, B., Črešnar, M. 2014, *Absolutno datiranje bronaste in železne dobe na Slovenskem*, Katalogi in monografije 40, Ljubljana.

Tiefengraber, G. 2007, Zum Stand der Erforschung der Mittel- und Spätbronzezeit in der Steiermark, in: *Studien zur Mittel- und Spätbronzezeit am Rande der Südostalpen*, Tiefengraber G. (ed.), Verlag Dr. Rudolf Habelt, Bonn, 67–113.

Tomaž, A. 2010, *Gomile pri Lenartu v Slovenskih goricah*, Arheologija na avtocestah Slovenije, Ljubljana.

Tomažić, S., Olić, S. 2009, *Šiman pri Gotovljah*, Arheologija na avtocestah Slovenije, Ljubljana.

Turk, P., Svetličić, V. 2014, Kamna gorica pri Ljubljani, in: *Absolutno datiranje bronaste in železne dobe na Slovenskem*, Teržan B., Črešnar M. (eds.), Katalogi in monografije 40, Ljubljana, 355–361.

Velušček, A. 2004, Ljubljansko barje v dobi kolišč, in: *Zgodovina v šoli – Novejši arheološki izsledki na Slovenskem*, Vol. XIII/1–2, 11–21.

Vinski-Gasparini K. 1973, *Kultura polja sa žarama u sjevernoj Hrvatskoj*, Zadar.

Višnjić, J. 2013, Kasnobrončanodobno i srednjovjekovno naselje, Donji Miholjc – Prinčevac, in: *Nove arheološke spoznaje o Donjoj Podravini*, Višnjić J. (ed.), Hrvatski restauratorski zavod, Zagreb, 13–62.

Vrdoljak, S. 1995, Tipološka klasifikacija kasnobrončanodobne keramike s lokaliteta Kalnik-Igrišče (SZ Hrvatska), *Opuscula archaeologica*, Vol. 18, 7–81.

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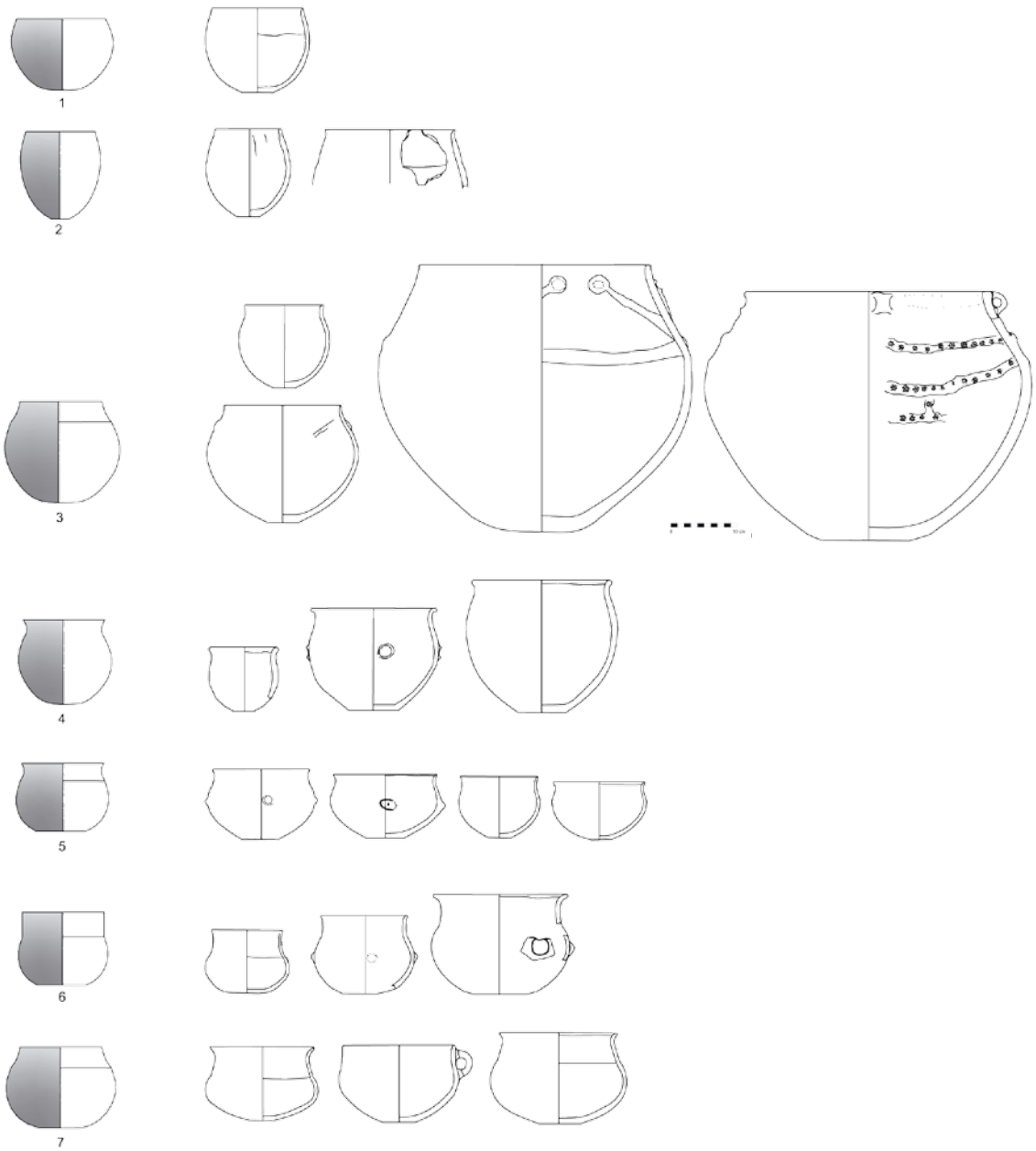

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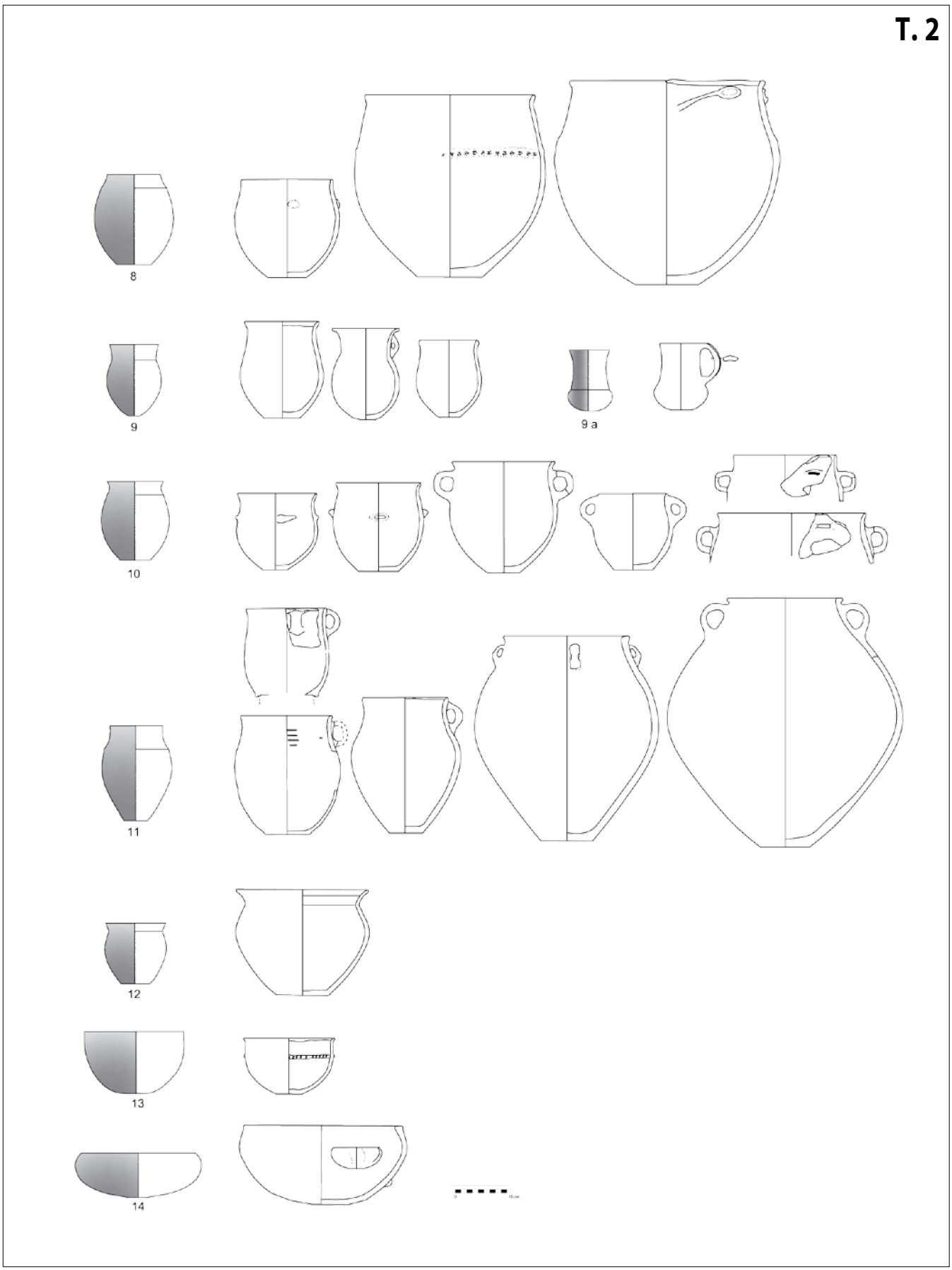

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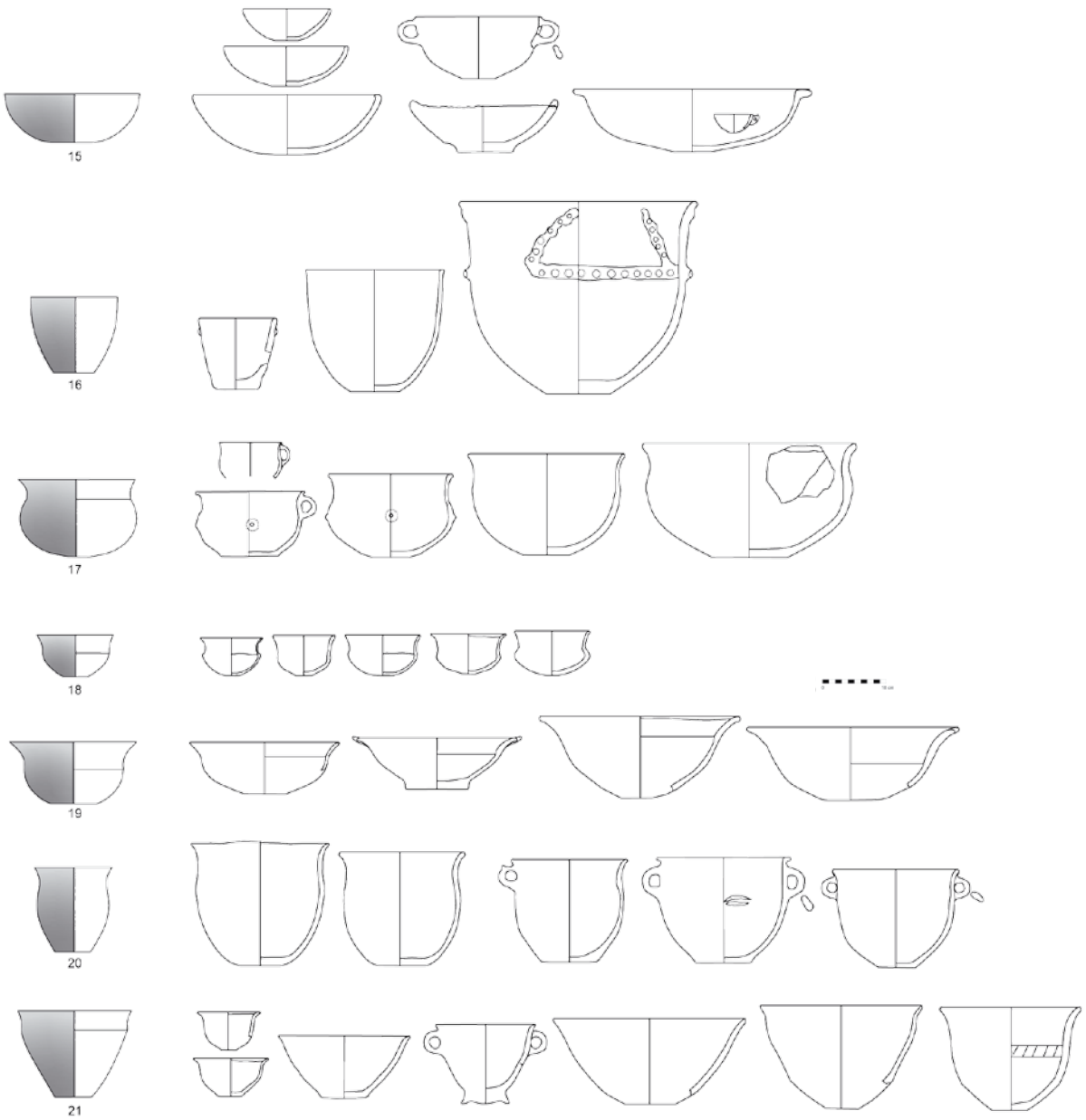

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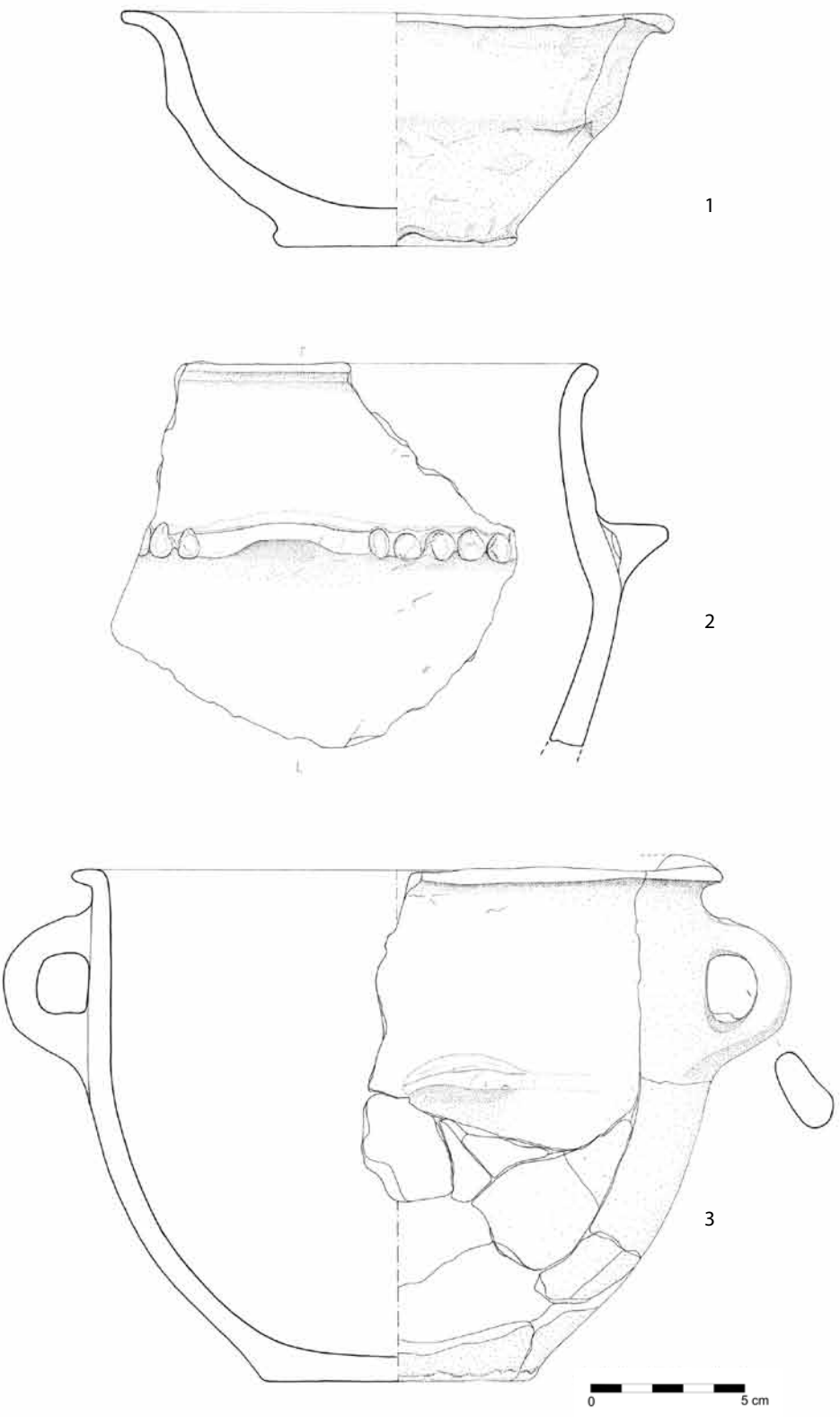

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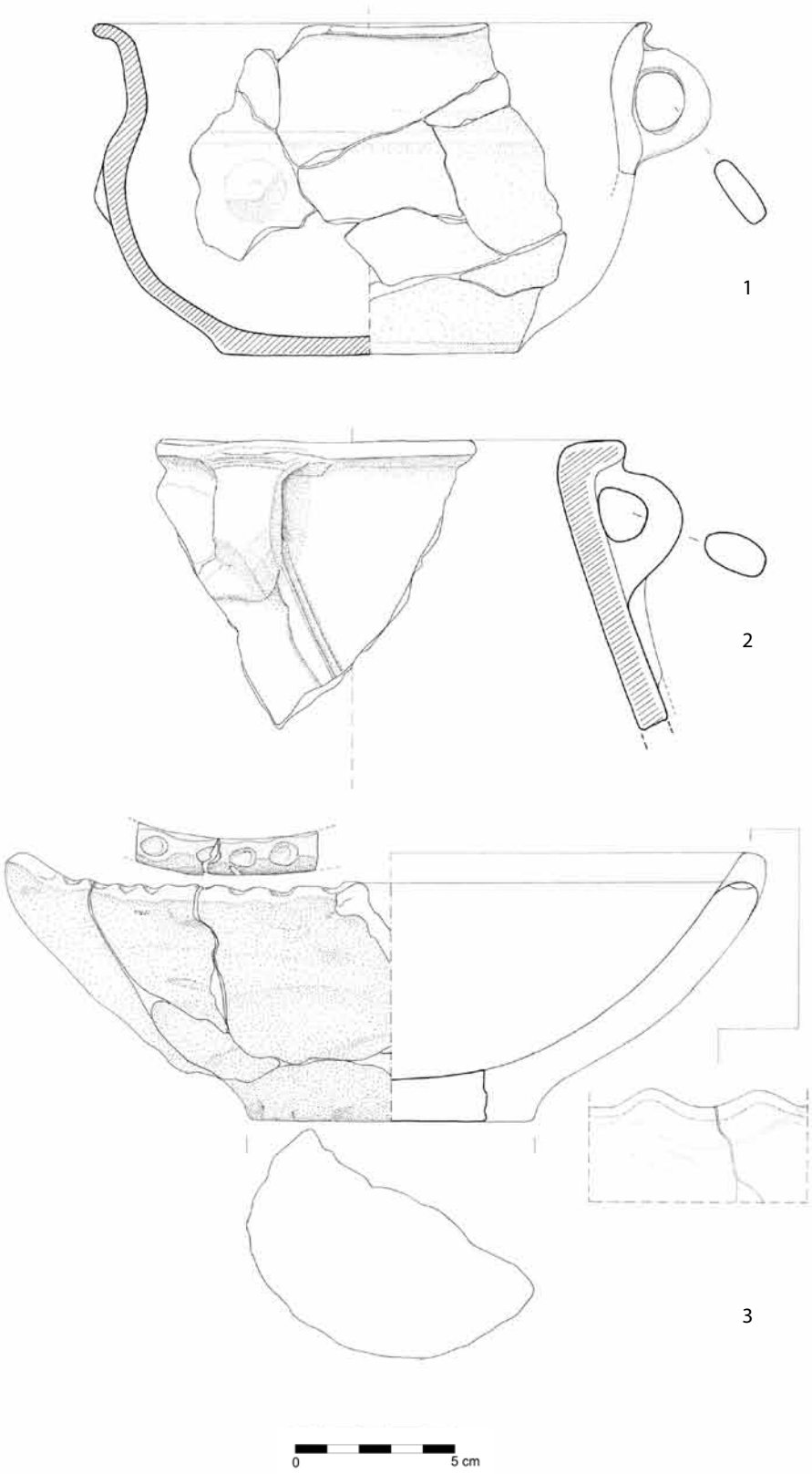

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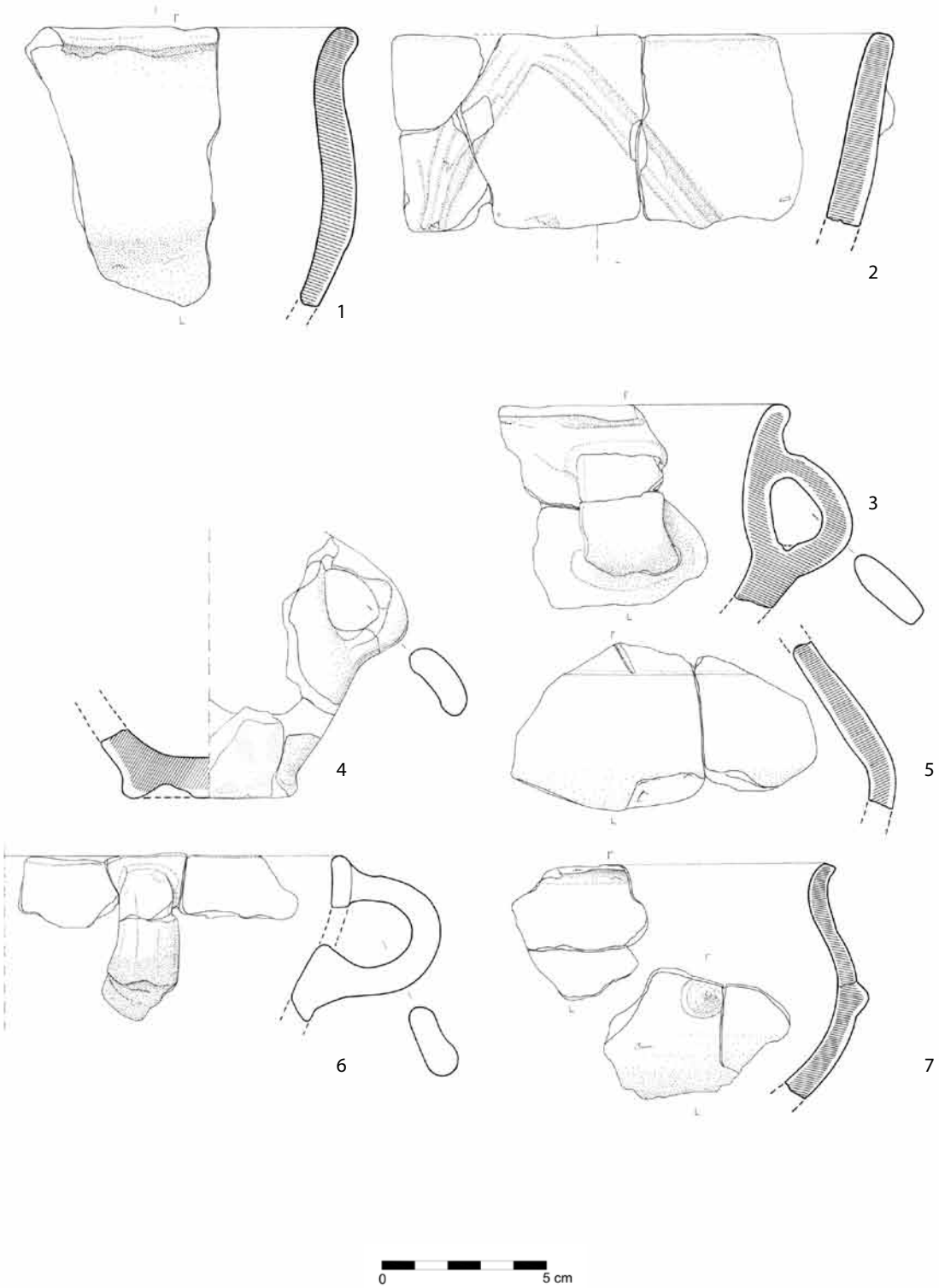

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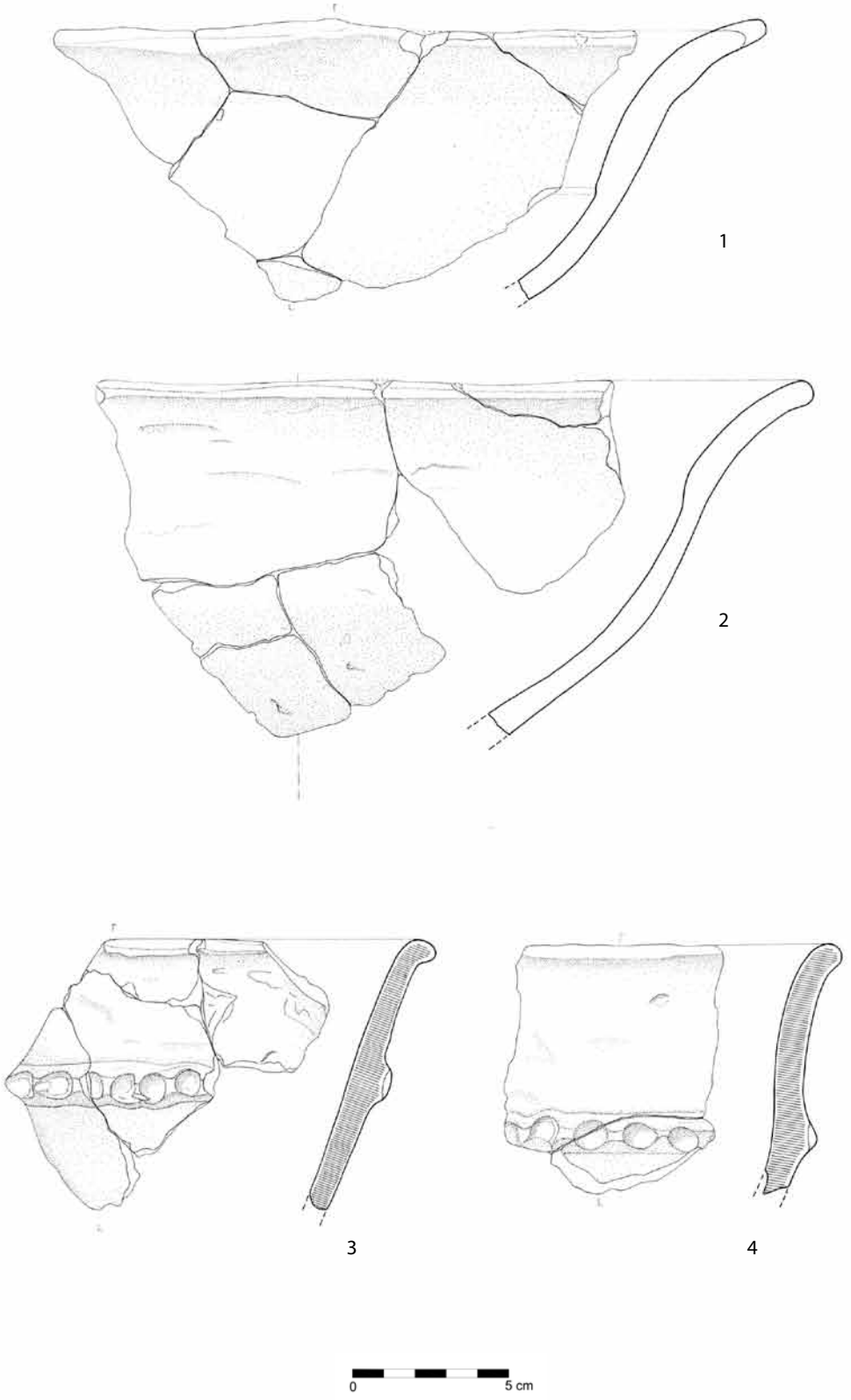

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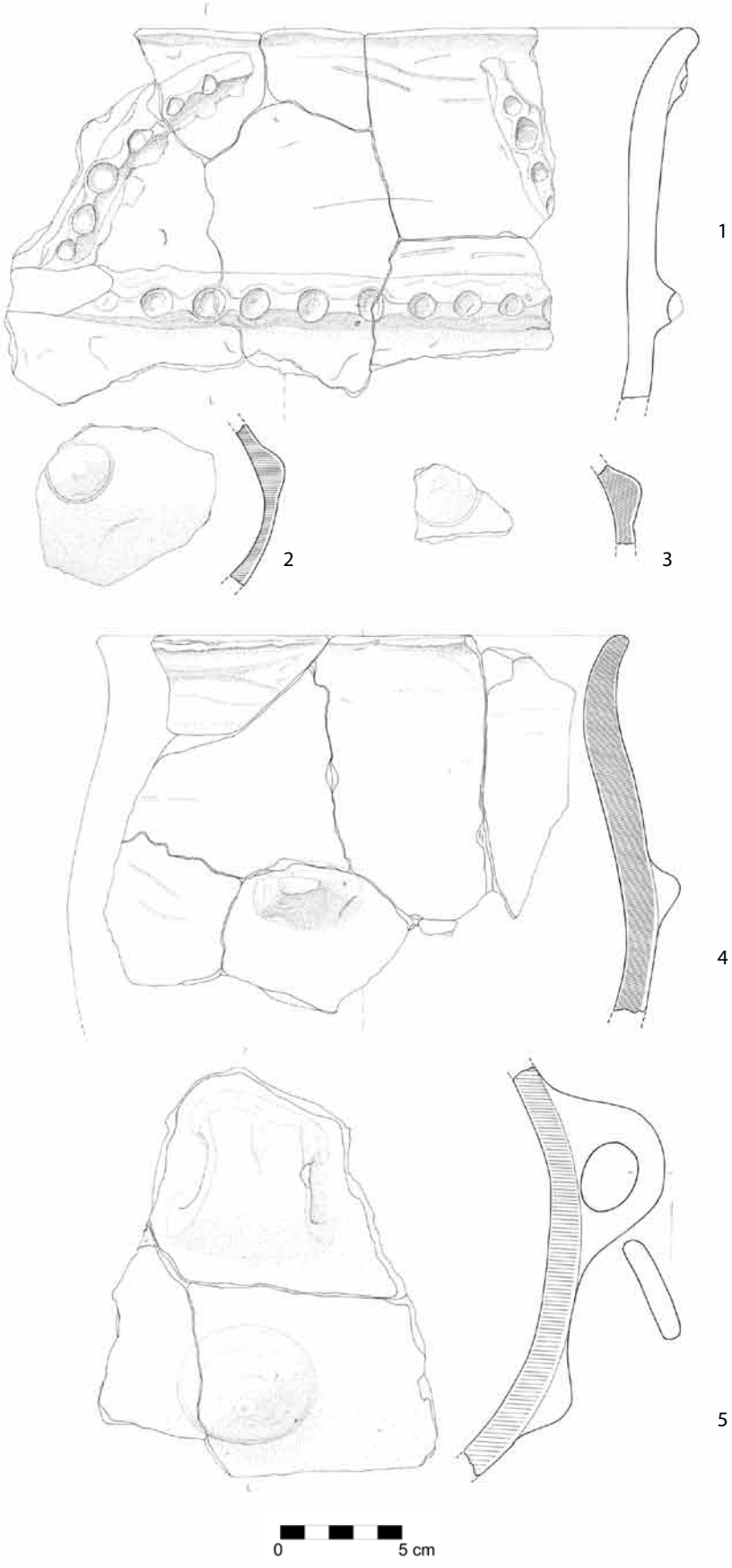

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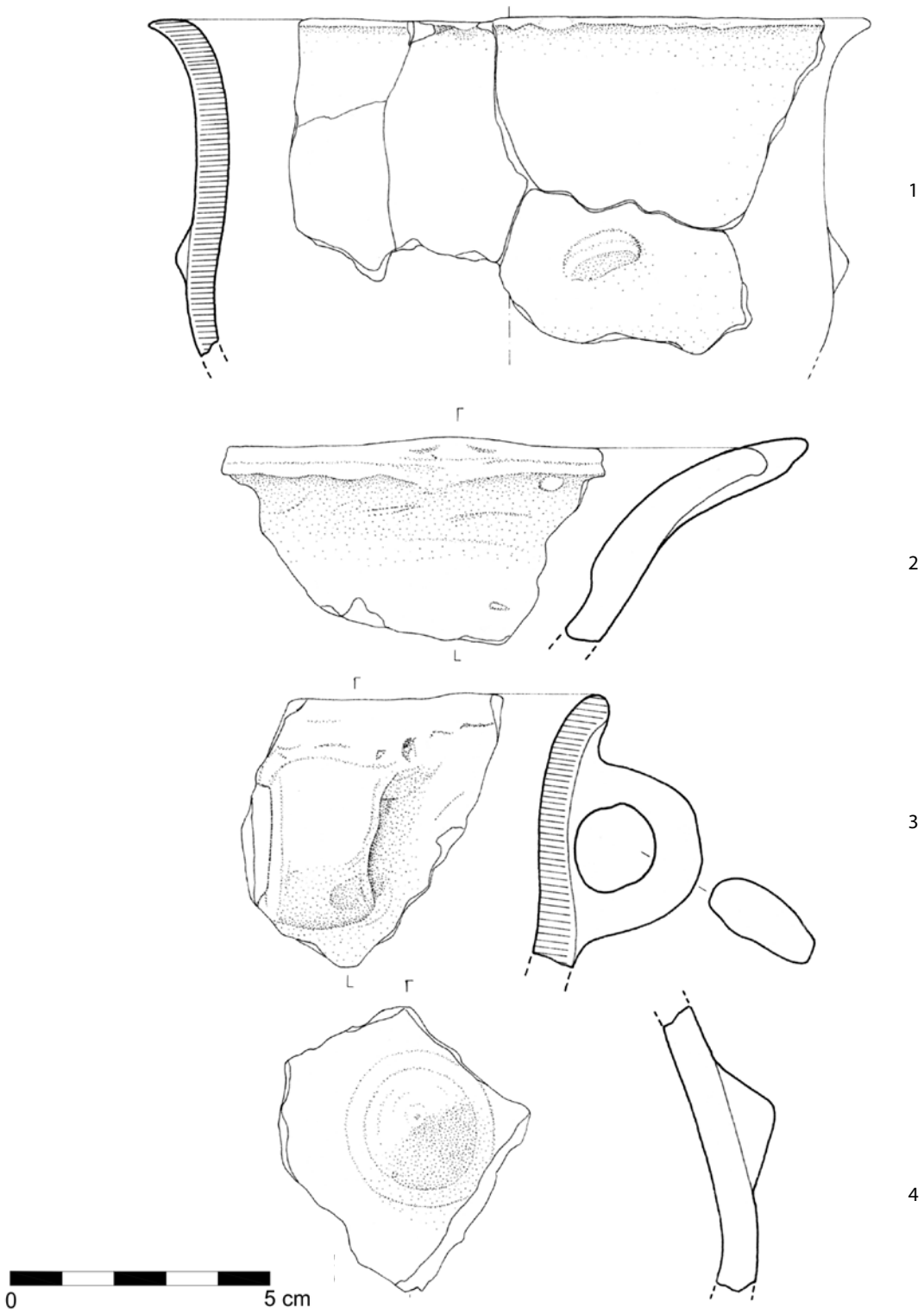

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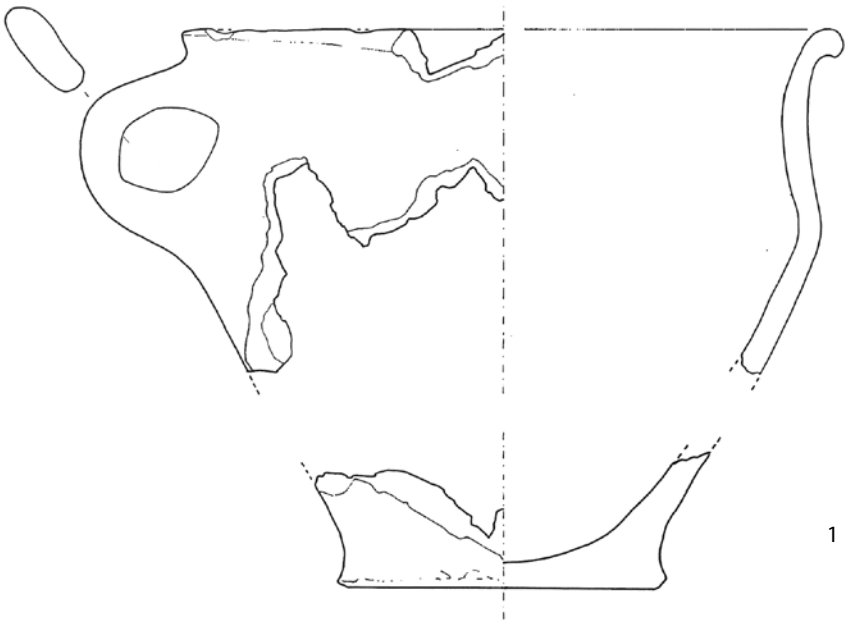

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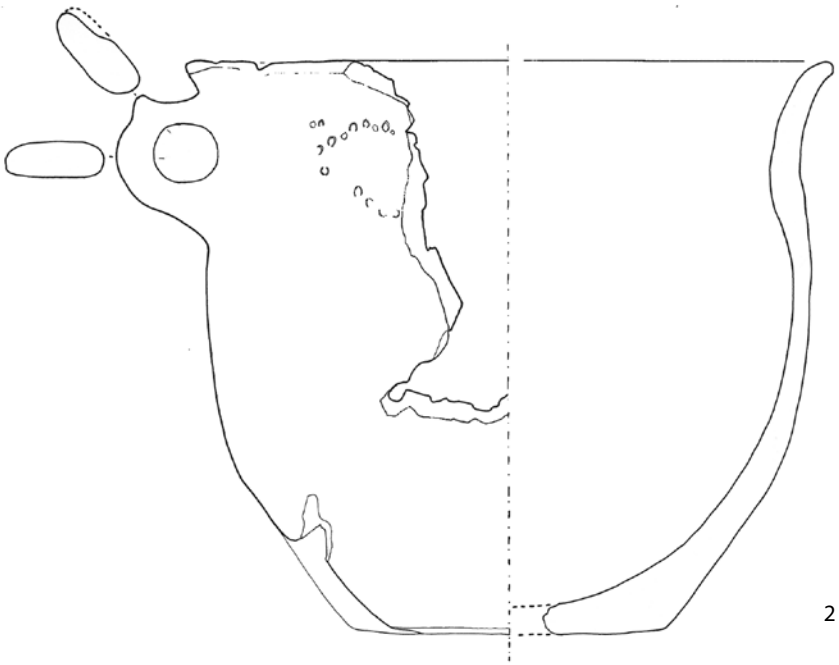
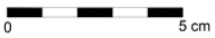


2



T. 10 SJ 55 (1–2) Kurilovec–Belinščica (izradila: S. Čule)
Pl. 10 SU 55 (1–2) Kurilovec–Belinščica (made by: S. Čule)