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# Keramički nalazi brončanog i željeznog doba iz istraživanja Romualdove pećine 2014. godine

## Bronze Age and Iron Age pottery finds recovered during the 2014 excavation in Romuald's Cave

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*U sklopu projekta „Arheološka istraživanja kasnog pleistocena i ranog holocena na prostoru Limskog kanala – ARHEOLIM”, koji je financirala Hrvatska zaklada za znanost (projekt br. 7789), arheološka iskopavanja provedena su na nekoliko važnih pećinskih lokaliteta od kojih je jedan Romualdova pećina. Lokalitet je bio predmetom istraživanja znanstvenika od početka 20. st. zbog svoga istraživačkog potencijala. Arheološki su slojevi Romualdove pećine sadržavali materijal iz brončanog i željeznog doba. Iako su određeni podaci o materijalu prikazani u nekoliko ranijih radova, do sada je izostala detaljna objava. Ovaj rad donosi pregled keramičkog materijala iskopanog pri istraživanju u Romualdovoj pećini 2014. godine.*

**Ključne riječi:** ARHEOLIM, Romualdova pećina, keramika, rano brončano doba, srednje brončano doba, mlađe brončano doba, završno brončano doba, prvi stupanj željeznog doba

*Within the project “Archaeological Investigations into the Late Pleistocene and Early Holocene of the Lim Channel, Istria – ARCHAEO LIM”, financed by the Croatian Science Foundation (Project no. 7789), archaeological excavations have been undertaken at several important cave sites, including Romuald's Cave. Because of the research potential of the site, it has been investigated by scientists since the beginning of the 20<sup>th</sup> century. Archaeological layers identified in Romuald's Cave contained material dating to the Bronze and Iron ages. Although some information about these finds has already been published in several papers, a more detailed description has been lacking. This paper provides an overview of the pottery finds unearthed during the 2014 excavation in Romuald's Cave.*

**Key words:** ARCHAEO LIM, Romuald's Cave, pottery, Early Bronze Age, Middle Bronze Age, Late Bronze Age, Final Bronze Age, incipient Iron Age

## UVOD

Keramički materijal opisan u ovome radu produkt je arheoloških istraživanja u Romualdovoj pećini, smještenoj na istočnim obroncima Limskog kanala. Istraživanja su provedena tijekom srpnja 2014. godine u sklopu projekta „Arheološka istraživanja kasnog pleistocena i ranog holocena na prostoru Limskog kanala” Hrvatske zaklade za znanost.<sup>1</sup>

Prva istraživanja Romualdove pećine počela su već u 19. st., kada pećina postaje predmet proučavanja velikog broja znanstvenika.<sup>2</sup> Od najvećeg su značaja istraživanja M. Maleza tijekom kojih je pronađeno kameno oruđe iz razdoblja gornjeg paleolitika. U gornjim slojevima M. Maleza pronašao je i nešto keramičkih nalaza iz brončanog doba.<sup>3</sup>

Od novijih istraživanja valja istaknuti revizijsko istraživanje D. Komše iz 2007. godine.<sup>4</sup> Istraživanje je provedeno zbog prikupljanja različitih uzoraka i apsolutnog datiranja slojeva, a pri istraživanju je zabilježena prapovijesna keramika, kosti te kameni artefakti. Proučavanje Romualdove pećine nastavilo se u obliku sustavnih istraživanja u sklopu već spomenutog projekta Hrvatske zaklade za znanost pod vodstvom dr. sc. Ivora Jankovića.

Za keramički materijal opisan u ovome radu važne su sonde 2 i 3 (sl. 1). Sonda 2 otvorena je zbog čišćenja sonde iz istraživanja M. Maleza te u njoj nisu zabilježeni jasni stratigrafski odnosi, a sonda 3 otvorena je 2014. godine, u prednjoj pećinskoj dvorani s ciljem korelacije stratigrafskog slijeda.<sup>5</sup> U sondi 3 tijekom istraživanja 2014. godine zabilježeno je 14 slojeva, od kojih je prvih 5 moguće pripisati razdobljima brončanog i željeznog doba.<sup>6</sup> U slojevima 1 – 5 pronađeni su keramički i kosturni ostaci životinja koji su okvirno datirani u brončano i željezno

<sup>1</sup> Za detaljniji pregled, vidjeti Janković *et al.* 2016.

<sup>2</sup> Battaglia 1926; Gnirs 1925; Komšo 2003; 2008.

<sup>3</sup> Malez 1987.

<sup>4</sup> Komšo 2008.

<sup>5</sup> Janković *et al.* 2016, 8.

<sup>6</sup> Za detalje o stratigrafiji, vidjeti Janković *et al.* 2016, 9–10.

## INTRODUCTION

The pottery finds presented in this work were recovered during archaeological excavation in Romuald's Cave, located on the eastern slopes of the Lim Channel. The exploration took place in July 2014, as part of the Croatian Science Foundation's project "Archaeological Investigations into the Late Pleistocene and Early Holocene of the Lim Channel".<sup>1</sup>

Romuald's Cave was first investigated in the 19<sup>th</sup> century, when the cave attracted the interest of many scientists.<sup>2</sup> The most important excavation was carried out by M. Malez, and yielded stone tools dating to the Upper Palaeolithic. In the upper layers, Malez also found some pottery artefacts dating to the Bronze Age.<sup>3</sup>

As regards the most recent investigations, the 2007 revision excavation by D. Komšo is worth emphasizing.<sup>4</sup> The goal of the excavation was to collect various samples and determine absolute dates for individual layers, and during this excavation, prehistoric pottery, bones and stone artefacts were recovered. Romuald's Cave continued to be explored through systematic excavation carried out within the scope of the above-mentioned project of the Croatian Science Foundation, under the leadership of Ivor Janković.

The trenches relevant to the pottery finds presented in this paper are trenches 2 and 3 (Fig. 1). Trench 2 was opened with a view to cleaning an earlier trench dug by Malez; it contained no clear stratigraphy. In 2014, trench 3 was excavated in the front hall of the cave, with a view to correlating the stratigraphic sequence.<sup>5</sup> During the 2014 investigation, 14 layers were recorded in trench 3, five of them attributable to the Bronze and Iron Age periods.<sup>6</sup> In layers 1 – 5, potsherds and animal-bone remains were recovered, provisionally dated to the Bronze and Iron ages, as well as human skeletal remains from the Bronze Age.<sup>7</sup> The animal remains belong to the following species: badger (*Meles meles*), hare and/or

<sup>1</sup> For a detailed overview, see Janković *et al.* 2016.

<sup>2</sup> Battaglia 1926; Gnirs 1925; Komšo 2003; 2008.

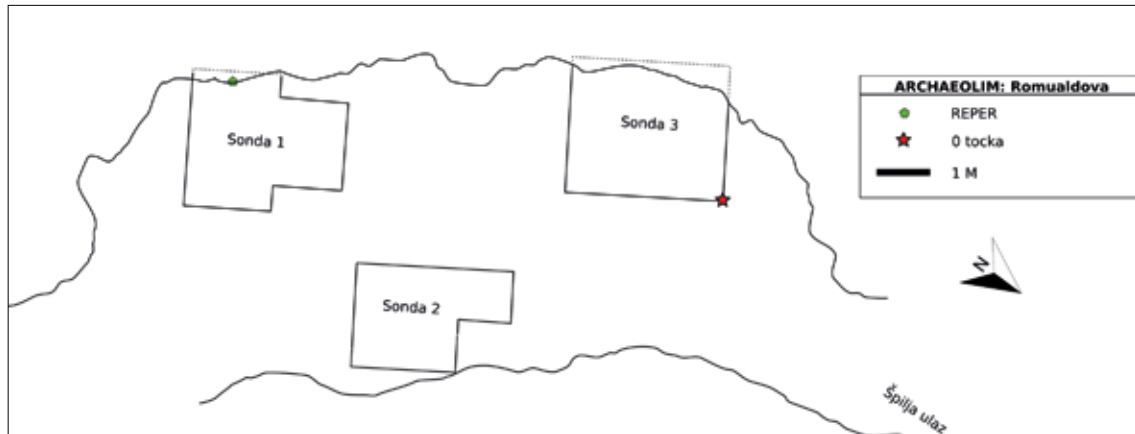
<sup>3</sup> Malez 1987.

<sup>4</sup> Komšo 2008.

<sup>5</sup> Janković *et al.* 2016, 8.

<sup>6</sup> For details on stratigraphy, see Janković *et al.* 2016, 9–10.

<sup>7</sup> Janković 2015; Janković, Ahern, Smith 2015; Janković, Mihelić, Ahern 2015; Janković *et al.* 2015; 2016.



Slika / Figure 1: Položaj sondi 2 i 3 unutar Romualdove pećine (izradio J. C. M. Ahern). / Position of trenches 2 and 3 within Romuald's Cave (made by J. C. M. Ahern).

doba te ljudski kosturni ostaci iz brončanog doba.<sup>7</sup> Životinjski ostaci pripadaju vrstama: jazavca (*Meles meles*), zeca i/ili kunića (*Lepus europeus / Oryctolagus cuniculus*), lisice (*Vulpes vulpes*) i domaće ovce (*Ovis aries*).<sup>8</sup> Ljudski su kosturni ostaci pripisani dvjema osobama: djetetu, vjerojatno mlađem od 5 godina, i odrasloj osobi, vjerojatno starijoj od 35 godina. Ostaci odrasle osobe, vjerojatno muškarca, iskorišteni su za radiometrijsko datiranje uz korištenje AMS metode kojom su datirani 3150 ± 46 godina prije sadašnjosti.<sup>9</sup>

Prvi su rezultati analize keramičkih ostataka upućivali na završno razdoblje srednjega brončanog doba, kasno brončano doba te početak starijega željeznog doba.<sup>10</sup> Nažalost, manjak jasnijih stratigrafskih i apsolutno kronoloških podataka onemogućio je detaljniju procjenu o fazama naseljavanja pećine kroz ova razdoblja.<sup>11</sup> Detaljna analiza keramičkih ostataka opisana u ovome radu teži rješavanju stratigrafskih i kronoloških problema.<sup>12</sup>

<sup>7</sup> Janković 2015; Janković, Ahern, Smith 2015; Janković, Mihelić, Ahern 2015; Janković *et al.* 2015; 2016.

<sup>8</sup> Janković 2016, 12.

<sup>9</sup> Janković *et al.* 2015; 2016.

<sup>10</sup> Janković *et al.* 2015.

<sup>11</sup> Janković *et al.* 2016, 11.

<sup>12</sup> U ovome je radu materijal svrstan u kronološke faze prema podjeli A. Cardarellija (1983.). Nazivi za određene kronološke faze prevedeni su u skladu s prijedlogom K. Buršić-Matijašić (1998, 33–34). Faza *Bronzo medio* prevedena je kao srednje brončano doba, *Bronzo recente* kao mlađe brončano doba, *Bronzo finale* kao završno brončano doba, a faza *Prima età del Ferro* kao prvi stupanj željeznog doba.

rabbit (*Lepus europeus / Oryctolagus cuniculus*), fox (*Vulpes vulpes*) and domestic sheep (*Ovis aries*).<sup>8</sup> The human skeletal remains have been attributed to two persons: a child, probably under 5 years of age, and an adult, probably over the age of 35. The remains of the adult, probably a male, have been used for radiometric dating using the AMS method, which has dated them to 3150 ± 46 BP.<sup>9</sup>

The first results of pottery analysis suggested their dating to the final period of the Middle Bronze Age, the Late Bronze Age and the beginning of the Early Iron Age.<sup>10</sup> Unfortunately, the lack of clear stratigraphic data and absolute chronology had made it impossible to estimate in more detail the various phases of inhabitation of the cave during these periods.<sup>11</sup> The detailed analysis of pottery finds provided in this work aims to resolve problems relating to stratigraphy and chronology.<sup>12</sup>

<sup>8</sup> Janković 2016, 12.

<sup>9</sup> Janković *et al.* 2015; 2016.

<sup>10</sup> Janković *et al.* 2015.

<sup>11</sup> Janković *et al.* 2016, 11.

<sup>12</sup> In this paper, the archaeological material is classified into chronological phases according to A. Cardarelli's classification (1983). The names of various chronological phases were originally translated into Croatian according to the proposal by K. Buršić-Matijašić (1998, 33–34). The *Bronzo medio* phase is here translated as the Middle Bronze Age, *Bronzo recente* as the Late Bronze Age, *Bronzo finale* as the Final Bronze Age, and the *Prima età del Ferro* phase as the incipient Iron Age.

## OPĆE ZNAČAJKE KERAMIČKOG MATERIJALA

Keramički materijal iz Romualdove pećine iznimno je fragmentiran, što je u velikom broju slučajeva onemogućilo, ili otežalo, detaljniju tipološku, a posljedično i kronološku analizu. Najbolje paralele za materijal pronađen pri istraživanju u Romualdovoj pećini pronađene su u materijalu iz Monkodonje<sup>13</sup> i Limske gradine.<sup>14</sup> Važno je spomenuti kako materijal s oba lokaliteta ima svoje vlastite probleme, što je dodatno otežalo rješavanje pitanja datacije nalaza. Primjerice, objava materijala pronađenog pri iskopavanju u Monkodonji<sup>15</sup> iz 1950-ih bila je otežana zbog izgubljenog dnevnika istraživanja, nejasnih iskopa prevelikih dubina te miješanja materijala iz različitih uništenih vrećica.<sup>16</sup> Objave novih istraživanja u Monkodonji u velikoj mjeri rješavaju probleme datiranja materijala s ovog lokaliteta, ali i bacaju novo svjetlo na kronologiju brončanog doba u Istri.<sup>17</sup> Za rješavanje kronoloških, a ponajviše tipoloških i terminoloških pitanja, djelomično je korišten i rad A. Cardarellija,<sup>18</sup> a koristili su ga i drugi autori.<sup>19</sup> Ipak, valja naglasiti kako je spomenuta publikacija u kontekstu novijih istraživanja velikim dijelom zastarjela te je treba uzeti s rezervom. Navedene publikacije odabrane su zbog svog volumena i značaja kako bi se uskladila terminologija i pojednostavilo razumijevanje građe. Kronološki i tipološki problemi naknadno su korigirani literaturom novijeg datuma.<sup>20</sup>

<sup>13</sup> Buršić-Matijašić 1998; Hellmuth Kramberger 2017a.

<sup>14</sup> Urem 2012.

<sup>15</sup> Nakon što je rad već predan na recenziju, objavljena je nova i hvalevrijedna monografija posvećena Monkodonji (Hellmuth Kramberger 2017a; 2017b) koja rješava velik broj tipoloških i kronoloških problema. Rezultati prezentirani u toj monografiji naknadno su uvršteni u okvire ovoga rada.

<sup>16</sup> Buršić-Matijašić 1998, 53–54.

<sup>17</sup> Hänsel, Mihovilić, Teržan 2015; Hellmuth Kramberger 2017a; 2017b.

<sup>18</sup> Cardarelli 1983.

<sup>19</sup> Buršić-Matijašić 1998; Urem 2012.

<sup>20</sup> Hänsel, Mihovilić, Teržan 1999; Hellmuth Kramberger 2017a.

## GENERAL FEATURES OF THE POTTERY

The pottery finds from Romuald's Cave are extremely fragmented, and in a large number of cases this made it very difficult, if not impossible, to analyse them in terms of their typology and, subsequently, also their chronology. The best parallels of the pottery finds recovered during the excavation of Romuald's Cave have been found among the archaeological material from Monkodonja<sup>13</sup> and the Limska Gradina hillfort.<sup>14</sup> It is worth mentioning that there are problems in relation to finds from both these sites, which additionally aggravated the issue of their dating. For example, the publication of the material discovered during the 1950s excavation at Monkodonja<sup>15</sup> was difficult because of the disappearance of the excavation journal, unclear trenches that were too deep, and the mixing together of finds from different bags that had been destroyed.<sup>16</sup> The publication of the results of recent excavations at Monkodonja have resolved, to a large extent, the issue of the dating of the material discovered at that site, and it has also thrown new light on the chronology of the Istrian Bronze Age.<sup>17</sup> We have made reference to the work of A. Cardarelli,<sup>18</sup> also used by some other authors,<sup>19</sup> when resolving chronological issues, and primarily typological and terminological issues. However, it is important to underline that, in the context of recent explorations, the above-mentioned publication is mostly outdated, and it should be treated with caution. The above-mentioned publications have been selected because of their volume and importance, with a view to harmonizing the terminology employed, and facilitating the comprehension of the subject under discussion. Chronological and typological issues were subsequently addressed through the usage of more recent literature.<sup>20</sup>

<sup>13</sup> Buršić-Matijašić 1998; Hellmuth Kramberger 2017a.

<sup>14</sup> Urem 2012.

<sup>15</sup> After the paper had been submitted for review, a praiseworthy new monograph on Monkodonja (Hellmuth Kramberger 2017a; 2017b) was published, which has resolved a large number of typological and chronological issues. The results presented in the monograph have been included subsequently in this paper.

<sup>16</sup> Buršić-Matijašić 1998, 53–54.

<sup>17</sup> Hänsel, Mihovilić, Teržan 2015; Hellmuth Kramberger 2017a; 2017b.

<sup>18</sup> Cardarelli 1983.

<sup>19</sup> Buršić-Matijašić 1998; Urem 2012.

<sup>20</sup> Hänsel, Mihovilić, Teržan 1999; Hellmuth Kramberger 2017a.

Ulomci keramike iz Romualdove pećine statistički su obrađeni na temelju fature te dijelova tijela. U radovima je ranijih autora<sup>21</sup> često isticano kako je keramika na lokalitetima, koji se u kronološko-prostornom okviru podudaraju s materijalom iz Romualdove pećine, većinom srednje fature<sup>22</sup> uz postojanje manjih količina izrazito grube i izrazito fine keramike.<sup>23</sup> To je posebno važno u objavi materijala s Limske gradine s obzirom na velik broj tipoloških paralela između materijala iz Romualdove pećine i materijala sa spomenutog lokaliteta.<sup>24</sup> Međutim, za potrebe ovog rada sama je fatura detaljnije razdvojena na nešto veći broj skupina. Izdvojene su četiri osnovne skupine:

a) Gruba smeđa – veže se uz keramičke posude debelih stijenki, uglavnom pithose. Iako je glina u ovom slučaju nekada i dobro pročišćena, kvaliteta pečenja vidljiva u presjeku i debljina stijenke pokazuju da se radi o gruboj keramici. Boja ulomaka posuda ove fature uglavnom se veže uz različite tonove smeđe boje.

b) Srednje gruba smeđa – ulomci srednje fature i stijenki srednje debljine. Veže se uglavnom uz lonce, zdjele i amfore. Može sadržavati veći ili manji broj inkluzija. Ulomci ove fature statistički su najčešći. Valja naglasiti kako je u sondi 2 zabilježeno i 6 ulomaka koji bi se mogli smatrati crnom inačicom ove fature, tj. srednje grubom crnom keramikom. Boja keramike ove fature varira od svijetlo smeđih do tamnosmeđih tonova, uz poneke crvenkasto-smeđe i narančasto-smeđe primjerke.

<sup>21</sup> Urem 2012, 72. S druge strane, K. Buršić-Matijašić (1998, 57) keramiku po fakturi dijeli samo na grubu i finu.

<sup>22</sup> Keramika je uglavnom smeđe boje, ali uvelike varira u tonovima. Javljuju se žute, svijetlosmeđe, tamnosmeđe, crno-smeđe, crvenkasto-smeđe, narančasto-smeđe i druge varijante, što ne čudi s obzirom na to da se uglavnom radi o srednje pečenoj keramici. Takva slika odgovara keramici s Limske gradine (Urem 2012, 72), ali i slici keramike s Monkodonje (Hellmuth Kramberger 2017a, 64–67).

<sup>23</sup> Detaljna je analiza materijala korištenog za izradu keramičkih posuda s Monkodonje donesena u najnovijoj objavi tog lokaliteta (Hellmuth Kramberger 2017a, 37-76) te će budućim radovima zasigurno pomoći u preciznijem definiranju same sirovine.

<sup>24</sup> Urem 2012, 72.

The potsherds from Romuald's Cave have been processed statistically according to their fabric and the part of the vessel they belonged to. Earlier authors<sup>21</sup> often emphasized that pottery deriving from sites which correspond to Romuald's Cave in terms of chronology and spatial location was mainly of a medium fabric,<sup>22</sup> with small quantities of exceptionally coarse, and also of exceptionally fine, pottery.<sup>23</sup> This information is particularly important when it comes to the published material from the Limska Gradina hillfort, given the high number of typological parallels between the finds from that site and those from Romuald's Cave.<sup>24</sup> However, for the purpose of this paper, the pottery fabric has been further classified into more groups. Thus we distinguish four basic groups:

a) coarse brown – associated with pottery with thick walls, mainly pithoi. In such cases, the clay can even be cleaned well, but the firing quality as revealed by cross-section and wall thickness indicates that this pottery is coarse. The colour of potsherds of such fabric is mainly brown, in various tones.

b) medium-coarse brown – potsherds of a medium fabric, with walls of a medium thickness. It is associated mainly with pots, bowls and amphorae. It can contain various quantities of inclusions. Potsherds of such fabric are statistically most frequent. It is worth mentioning that trench 2 contained 6 pottery fragments that could be considered to belong to a black variant of this fabric, i.e. medium-coarse black pottery. The colour of the pottery of such fabric varies between light-brown and dark-brown tones, with some reddish-brown and orange-brown specimens.

<sup>21</sup> Urem 2012, 72. On the other hand, when it comes to the fabric, K. Buršić-Matijašić (1998, 57) classifies pottery only into coarse and fine.

<sup>22</sup> Pottery is mostly brown in colour, but its tone can vary significantly. Thus, it can be yellow, light brown, dark brown, blackish-brown, reddish-brown, orange-brown and others, which is not surprising if we consider that this pottery is mainly medium-fired. The picture corresponds to the pottery from the Limska Gradina hillfort (Urem 2012, 72), and also to that from Monkodonja (Hellmuth Kramberger 2017a, 64–67).

<sup>23</sup> A detailed analysis of the material used for the production of pottery at Monkodonja is presented in the latest publication of the finds from the site (Hellmuth Kramberger 2017a, 37-76), which will undoubtedly be very helpful for a more precise definition of the raw material in future papers.

<sup>24</sup> Urem 2012, 72.

c) Pjeskovita smeđa – ulomci srednje fature s velikom količinom primjese sitno tucanog kamena koji djeluje gotovo kao pijesak. Pri otiranju prstom površina djeluje hrapavo pa se kod lošije pečenih primjerala skida s površine. Nije potpuno jasno radi li se o drugom izvoru gline ili o naknadnom dodavanju. Iako i ulomci srednje grube smeđe fature mogu sadržavati inkluzije usitnjenog kamena, razlika između ove dvije fature uočljiva je na dodir. Uz ulomke srednje grube smeđe fature radi se o statistički drugoj najbrojnijoj skupini. Tipološki odredljivi ulomci ove skupine uglavnom se vežu uz lonce, i to vjerojatno lonce za kuhanje, moguće zbog pojačane otpornosti na temperaturu zbog primjesa. O tome dodatno svjedoči i činjenica da su tragovi gorenja s donje strane dna poznati upravo kod dna ove fature (N-80; N-96, T. 4: 7).<sup>25</sup> D. Urem bilježi dodavanje tucanog kamena u glinu od koje su proizvedene neke od posuda, međutim, ne odvajava ovaj tip fature kao zasebnu skupinu.<sup>26</sup>

d) Fina – keramika ove fature obično se veže uz posude tanjih stijenki. Od tipova prevladavaju zdjele i šalice. Boja može biti sivo-bež, smeđa i crna. U svojoj objavi materijala s Monkodonje, K. Buršić-Matijašić navodi kako je većina fine keramike crne boje<sup>27</sup>, što se zapravo slaže s materijalom iz Romualdove pećine, gdje se i u slučaju smeđe fine keramike radi o keramici izrazito tamnosmeđih tonova.

Valja naglasiti da se kod posuda svih faktura pojavljuje glačanje površine, osim u slučaju pjeskovite smeđe. Glačanje se pojavljuje i s unutrašnje i s vanjske strane posude, što odgovara situaciji poznatoj s drugih lokaliteta.<sup>28</sup> Drugi oblici ukrašavanja također nisu rezervirani za neku određenu grupu, već slične načine ukrašavanja nalazimo na ulomcima različite fature.

<sup>25</sup> Svi dijagnostički ulomci pronađeni pri iskopavanju u Romualdovoj pećini nalaze se u katalogu na kraju rada.

<sup>26</sup> Urem 2012, 72.

<sup>27</sup> Buršić-Matijašić 1998, 57.

<sup>28</sup> Urem 2012, 72.

c) sandy brown – potsherds of a medium fabric, with a large quantity of inclusion consisting of finely crushed stone with an appearance similar to that of sand. Under the fingers, the surface seems rough, and in poorly-fired pieces, it crumbles. It is not entirely clear whether this clay originates from a different source, or whether the inclusion was subsequently added. Although pottery of the medium-coarse brown fabric can also contain crushed-stone inclusion, the difference between the two fabrics is noticeable to the touch. The pottery with this fabric makes up the second-most numerous group, following sherds of the medium-coarse brown fabric. The sherds in this group that could be analysed by type have been identified primarily as pots, probably cooking pots, possibly due to their greater resistance to heat resulting from the inclusions. This is additionally corroborated by the fact that traces of burning on the lower side of the vessel's bottom have been noticed precisely on the bottoms of such fabric (N-80; N-96, Pl. 4: 7).<sup>25</sup> Urem noted that crushed stone had been added to the clay used to produce some of the vessels, but she did not separate pottery of such fabric into a separate group.<sup>26</sup>

d) fine – pottery of such fabric is usually associated with vessels of thin walls. As regards the types, such pottery consists primarily of bowls and cups. The colour can be grey-beige, brown and black. In her publication of the material recovered at Monkodonja, K. Buršić-Matijašić wrote that the fine pottery was mostly black,<sup>27</sup> which corresponds to the material discovered in Romuald's Cave, where the fine brown pottery is actually very dark in its tone.

It should be emphasized that pottery of all fabrics have polished surfaces, except for those of the sandy brown fabric. The vessels' walls are polished on both inside and outside, which corresponds to the material recovered from other sites.<sup>28</sup> Other methods of decoration are not specific to a single group either; similar decoration has been found on potsherds of different fabrics.

<sup>25</sup> All diagnostic shards discovered during the excavation in Romuald's Cave are listed in the catalogue at the end of the paper.

<sup>26</sup> Urem 2012, 72.

<sup>27</sup> Buršić-Matijašić 1998, 57.

<sup>28</sup> Urem 2012, 72.

## REZULTATI STATISTIČKE ANALIZE

Sama statistika, kako na temelju fakture tako i na temelju dijelova tijela, urađena je odvojeno za sondu 2 i sondu 3. Preliminarni rezultati statističkih analiza sonde 3 već su ranije objavljeni,<sup>29</sup> dok su podaci vezani uz sondu 2 doneseni prvi put u ovom radu. Pri detaljnoj obradi keramičke građe iz sonde 3 uočeno je da brojevi pomalo odudaraju od broja prikazanoga u preliminarnom izvješću. Brojevi prikazani u ovome radu konačni su brojevi ovog istraživanja.

Statistička analiza bazira se na izračunu udjela broja pojedine skupine ulomaka u ukupnom broju ulomaka pronađenih unutar svake pojedine sonde. Također, zbog statističke relevantnosti, učinjena je i druga statistička analiza koja se bazira na udjelu mase svake pojedine skupine ulomaka u ukupnoj masi svih ulomaka pronađenih unutar svake pojedine sonde. Takav pristup korišten je zbog činjenice da je teško na isti način vrednovati broj ulomaka fine keramike i broj ulomaka grube keramike. Ulomci grube keramike obično su sačuvani u većim dimenzijama, debljih su stijenci te sadržavaju veći broj inkluzija.<sup>30</sup> Usporedba ukupnog udjela mase i broja pojedine skupine ulomaka omogućava bolji uvid u statističku zastupljenost svake pojedine skupine.

### Podjela prema fakturi

#### a) Sonda 2

Ukupni broj ulomaka keramike pronađenih u sondi 2 iznosio je 544. Od toga ukupnog broja podjela prema fakturi iznosila je brojčano i u postocima (sl. 2): gruba, smeđa faktura – 23 ulomka (4,2%); srednje gruba, smeđa faktura – 354 ulomka (65,1%); pjeskovita, smeđa – 119 ulomaka (21,9%); srednje gruba, crna – 6 ulomaka (1,1%); crna, fina – 29 ulomaka (5,3%); smeđa, fina

<sup>29</sup> Janković *et al.* 2015.

<sup>30</sup> Primjerice, teško je na isti način vrednovati debeli rub pithosa grube fakture i rub šalice tankih stijenci fine fakture iako je njihov broj zapravo jednak.

## RESULTS OF STATISTICAL ANALYSIS

Statistical analyses have been made separately for trench 2 and trench 3, on the basis of both the pottery fabric and the part of the vessel's body. The preliminary results of statistical analysis for trench 3 have been published previously,<sup>29</sup> while those for trench 2 are being presented for the first time in this paper. During the detailed processing of the pottery material discovered in trench 3, it was noticed that the numbers deviated slightly from those present in the preliminary report. The numbers presented in this paper are the final numbers relevant to this investigation.

The statistical analysis is based on the calculation of the proportion of potsherds of a particular group within the total number of potsherds recovered from a trench. Moreover, with a view to obtaining statistically relevant results, another statistical analysis has been made, based on the proportion of the mass of each group of potsherds in the total mass of all potsherds discovered in a trench. This approach was selected because of the fact that it would be difficult to attach the same importance to the number of sherds of fine pottery, and to the number of sherds of coarse pottery. Coarse pottery sherds are often preserved in larger pieces, their walls are thicker and they contain more inclusions.<sup>30</sup> A comparison of the total share of the mass of a certain group of potsherds and its number allows a better insight into the statistical representation of each group.

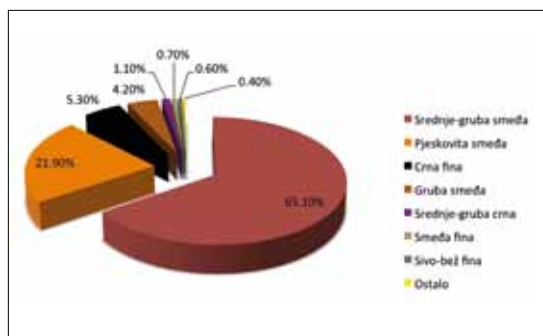
### Division by fabric

#### a) Trench 2

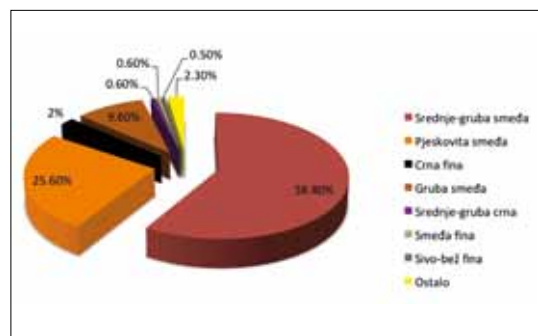
The total number of potsherds recovered from trench 2 is 544. The division of that number by fabric, in terms of both numbers and percentages, is as follows (Fig. 2): coarse brown fabric – 23 sherds (4.2%), medium-coarse brown fabric – 354 sherds (65.1%), sandy brown – 119 sherds (21.9%), medium-coarse black – 6 sherds (1.1%), fine black – 29 sherds (5.3%), fine brown – 4 sherds (0.7%), and fine grey-

<sup>29</sup> Janković *et al.* 2015.

<sup>30</sup> For example, it is difficult to attach the same importance to the thick rim of a pithos of a coarse fabric, and to the rim of a thin-walled cup, although they each make up one fragment.



Slika / Figure 2: Postoci brojčanog udjela određenih vrsta faktura u ukupnom broju ulomaka pronađenih u sondi 2 (izradio F. Franković). / Percentages, by numbers, of specific fabrics in the total number of potsherds recovered from trench 2 (made by F. Franković).



Slika / Figure 3: Postoci masenog udjela određenih vrsta faktura u ukupnoj masi ulomaka pronađenih u sondi 2 (izradio F. Franković). / Percentages, by mass, of specific fabrics in the total mass of potsherds recovered from trench 2 (made by F. Franković).

– 4 ulomka (0,7%) te sivo-bež, fina – 3 ulomka (0,6%). Ovdje valja spomenuti i 2 ulomka potpuno prekrivena kalcijevim karbonatom (0,4%) uslijed djelovanja špiljskih uvjeta te 1 ulomak narančaste boje i srednje fakture koji treba datirati u kasniji, vjerojatno rimski period. Primjerci rimske keramike pronađeni su i na obližnjoj Limskoj gradini.<sup>31</sup> Iz prikazanih je statističkih podataka moguće zaključiti da je najveći broj ulomaka (479 ili 88,1%) srednje grube fakture (smeđa, pjeskovita i crna), što odgovara rezultatima s drugih lokaliteta.<sup>32</sup>

U masenom smislu statistika izgleda malo drugačije, što ne čudi s obzirom na to da fina keramika ima tanje stijenke te se obično sačuva u manjim ulomcima nego keramika grube fakture. Zbog dva navedena faktora, maseni udio ulomaka grublje keramike bit će veći od udjela njihova broja. Ukupna je masa svih ulomaka iznosila 6135 g. Udjeli ulomaka pojedinih faktura iznosili su (sl. 3): gruba smeđa – 590 g (9,6%); srednje gruba, smeđa – 3609 g (58,8%); pjeskovita, smeđa – 1571 g (25,6%); srednje gruba, crna – 38 g (0,6%); crna, fina – 120 g (2%); smeđa, fina – 36 g (0,6%) te sivo-bež, fina – 31 g (0,5%). Masa ulomaka obloženih kalcijevim karbonatom i jednog ulomka narančaste boje iz kasnijeg perioda iznosi 140 g (2,3%).

<sup>31</sup> Urem 2012, 12.

<sup>32</sup> Urem 2012, 72.

beige – 3 sherds (0.6%). We should also mention two sherds completely covered in calcium carbonate (0.4%) as a result of cave conditions, and one orange sherd of a medium fabric, which should be dated to a later period, possibly Roman. Specimens of Roman pottery have also been found at the nearby Limska Gradina hillfort.<sup>31</sup> The statistical data presented allow the conclusion that the majority of pottery fragments (479, or 88.1%) are of the medium-coarse fabric (brown, sandy and black), which corresponds to the results of excavation at other sites.<sup>32</sup>

When it comes to the mass, the statistical picture is somewhat different, and this should not come as a surprise, given the fact that fine pottery has thin walls and is usually preserved in smaller fragments than the pottery of coarse fabric. Due to these two factors, the mass fraction of coarse potsherds is higher than the proportion of their number. The total mass of all sherds is 6135 g. The shares of the sherds of specific fabrics are as follows (Fig. 3): coarse brown – 590 g (9.6%), medium-coarse brown – 3609 g (58.8%), sandy brown – 1571 g (25.6%), medium-coarse black – 38 g (0.6%), fine black – 120 g (2%), fine brown – 36 g (0.6%), and fine grey-beige – 31 g (0.5%). The mass of the sherds covered in calcium carbonate and of the one orange sherd dating from a later period is 140 g (2.3%).

<sup>31</sup> Urem 2012, 12.

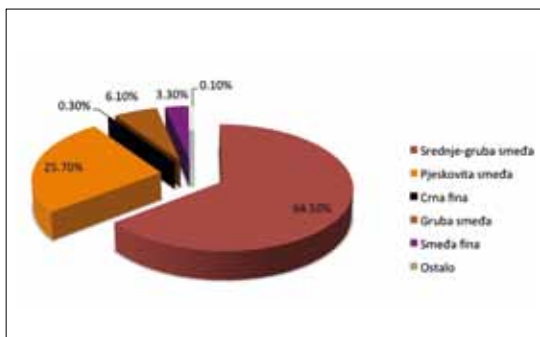
<sup>32</sup> Urem 2012, 72.



## b) Sonda 3

Unutar sonde 3 pronađena su ukupno 642 ulomka keramike. Od toga ukupnog broja, podjela prema fakturi iznosila je brojčano i u postocima (sl. 4): gruba, smeđa – 39 ulomaka (6,1%); srednje gruba, smeđa – 414 ulomaka (64,5%); pjeskovita, smeđa – 165 ulomaka (25,7%); crna fina – 2 ulomka (0,3%) te smeđa, fina – 21 ulomak (3,3%). Kao i u slučaju sonde 2, unutar sonde 3 pronađen je 1 ulomak (0,1%) narančaste keramike koji možda datira u kasniji period (rimski period?). Valja naglasiti da, iako se unutar ove sonde ističe veći broj fine keramike smeđe boje, dio je finih ulomaka smeđe boje zapravo iznimno tamne, gotovo crne boje. Ovi su ulomci odvojeni u dvije skupine prema fakturi zbog činjenice da se u slučaju ulomaka opisanih kao fine crne fature radi o specifičnim tankim, izrazio crnim ulomcima, obično uglačane ili polirane površine, izrađenima od dobro pročišćene gline. Keramika fine crne fature djeluje kao da je pečena na višim temperaturama od fine smeđe gline.

Ukupna masa svih ulomaka pronađenih unutar sonde 3 je 11.743 g. Udjeli ulomaka pojedinih faktura iznose (sl. 5): gruba, smeđa – 1151 g (9,8%); srednje gruba, smeđa – 7226 g (61,5%); pjeskovita, smeđa – 3255 g (27,7%); crna, fina – 5 g (0,1%); smeđa, fina – 94 g (0,8%), dok masa ulomka narančaste boje iznosi 12 g (0,1%).

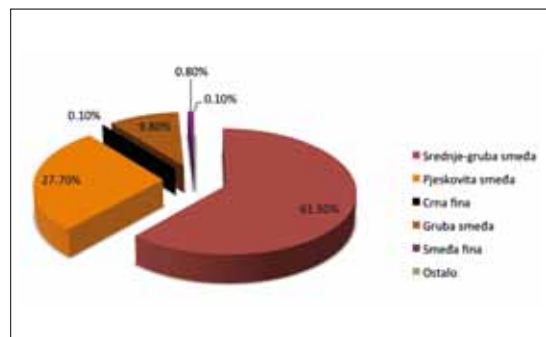


Slika / Figure 4: Postoci brojčanog udjela određenih vrsta faktura u ukupnom broju ulomaka pronađenih u sondi 3 (izradio F. Franković). / Percentages, by number, of specific fabrics in the total number of potsherds recovered from trench 3 (made by F. Franković).

## b) Trench 3

A total of 642 potsherds were found in trench 3. Of the total number, sherds of different fabrics are present in the following numbers and percentages (Fig. 4): coarse brown fabric – 39 sherds (6.1%), medium-coarse brown fabric – 414 sherds (64.5%), sandy brown – 165 sherds (25.7%), fine black – 2 sherds (0.3%), fine brown – 21 sherds (3.3%). As in trench 2, a sherd of orange pottery (0.1%) which could originate from a later period (Roman?) was found in trench 3, too. It is important to underline that, although this trench contained a higher number of fine brown potsherds, some of them are actually very dark, nearly black. These sherds have been separated into two groups according to the fabric, due to the fact that the sherds described as being of fine black fabric are specifically thin and prominently black, usually with smoothed or polished surface, made of well-cleaned clay. The pottery of fine black fabric appears as though it was fired at higher temperatures than that of fine brown fabric.

The total mass of all sherds discovered in trench 3 is 11743 g. The shares of the sherds of specific fabrics are as follows (Fig. 5): coarse brown – 1151 g (9.8%), medium-coarse brown – 7226 g (61.5%), sandy brown – 3255 g (27.7%), fine black – 5 g (0.1%), fine brown – 94 g (0.8%), while the mass of the orange sherd is 12 g (0.1%).



Slika / Figure 5: Postoci masenog udjela određenih vrsta faktura u ukupnoj masi ulomaka pronađenih u sondi 3 (izradio F. Franković). / Percentages, by mass, of specific fabrics in the total mass of potsherds recovered from trench 3 (made by F. Franković).

## Podjela prema dijelovima tijela

### a) Sonda 2

Od ukupnog broja 544 ulomka (sl. 6) očekivano su najbrojniji neukrašeni ulomci tijela posuda koji broje 497 ulomaka (91%). Od dijagnostičnih su ulomaka izdvojena 22 ulomka rubova (4%), 11 ulomaka dna (2%), 7 ručki (1,3%), 3 drške (0,5%), 2 plastične aplikacije (0,4%) te 2 ukrašena ulomka (0,4%), od kojih je jedan ukrašen urezivanjem, a drugi moguće bojenjem. Zasebno su izdvojena 2 ulomka (0,4%), obložena kalcijevim karbonatom uslijed djelovanja špiljskih procesa, kako ne bi izravno utjecali na statistiku (posebno na maseni udio).

Iako su drške i plastične aplikacije svrstane u dvije različite kategorije, valja naglasiti kako bi se jedan broj drški mogao smatrati i plastičnim aplikacijama. Spomenute primjerke u funkcionalnom smislu može se smatrati drškama, a prava atribucija zapravo ovisi o dimenzijama samih aplikacija. Veće bi se aplikacije mogle smatrati drškama, dok bi se manje mogle odrediti samo kao aplikacije. Dimenzije 3 dvojbena primjerka upravo su negdje između onoga što bi se jasno moglo, ili odrediti, ili otpisati kao drška. Svakako, valja naglasiti kako na slične probleme nailazimo i kod drugih autora, gdje se ponekad koristi izraz "aplikacija", a ponekad "drška" pa se čini da atribucija određene kategorije ovisi uglavnom o dimenzijama.<sup>33</sup>

Ovdje je važno napomenuti kako se u većeg broja dijagnostičkih ulomaka, posebice rubova i dna, radi o sitnim ulomcima bez jasno sačuvane profilacije, kod kojih nije bilo moguće detaljnije odrediti tip posude kojem pripadaju, a posljedično ni preciznije datirati pojedine ulomke. Zbog toga treba imati na umu da je stvarni broj ulomaka iskoristivih za detaljniju kulturno-kronološku analizu zapravo iznimno nizak.

Od ukupne mase ulomaka (sl. 7) iz sonde 2 (6135 g) na ulomke tijela posuda odlazi 5066 g (82,6%). Ostali podaci iznose: ulom-

<sup>33</sup> Vidjeti atribuciju potkovičastih aplikacija / drški kod Urem 2012.

## Division by parts of the body

### a) Trench 2

As could be expected, of the total number of 544 potsherds (Fig. 6), the most numerous were undecorated fragments of vessels' bodies; there were 497 such sherds (91%). Among the diagnostic potsherds, there are 22 rim fragments (4%), 11 bottom fragments (2%), 7 handles (1.3%), 3 handgrips (0.5%), 2 plastic appliques (0.4%), and 2 decorated sherds (0.4%), one of which is incised and the other possibly painted. There are also two sherds (0.4%) covered in calcium carbonate as a result of cave processes, which have been treated separately to avoid their direct impact on the statistics (especially the mass fraction).

Although the handgrips and plastic appliques have been separated into two categories, it is worth mentioning that some of the handgrips could be interpreted as plastic appliques. Functionally, they could be seen as handgrips, but their real attribution depends on the size of the appliques. Bigger appliques could be interpreted as handgrips, whereas smaller ones could be described just as appliques. The dimensions of three questionable specimens lie somewhere between what could clearly be categorized as a handgrip and what would be excluded from being one. It should be pointed out that similar problems have been encountered by other authors, too, and they sometimes use the term *applique*, and sometimes *handgrip*, and it seems that such attributions depend mainly on the size.<sup>33</sup>

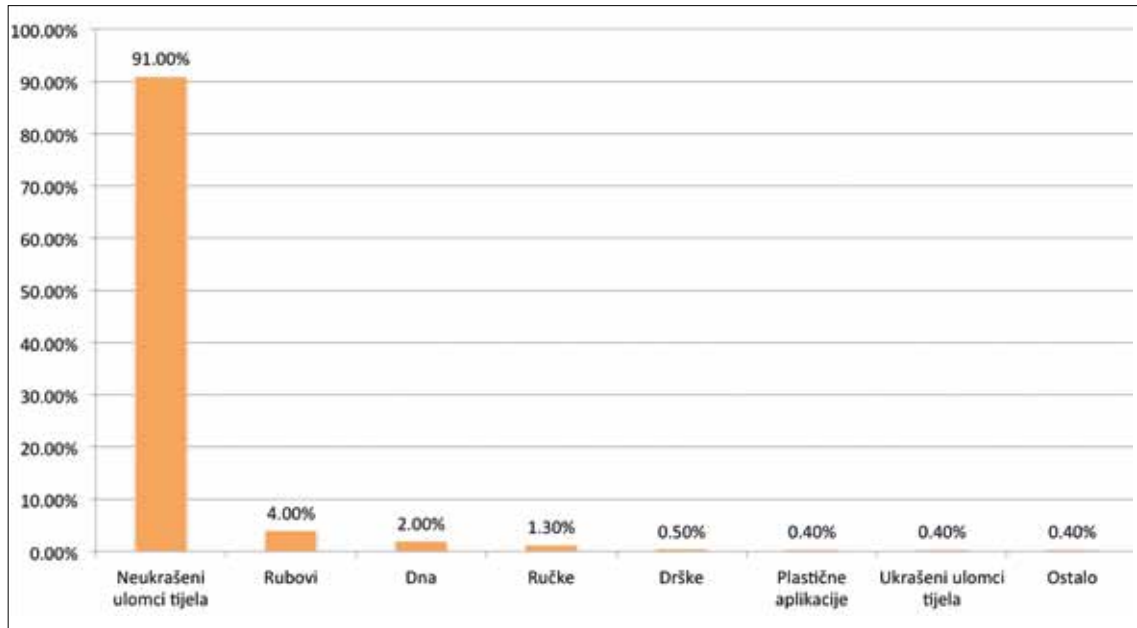
It is worth mentioning that many of the diagnostic potsherds, especially those belonging to rims and bottoms, are very small, and no clear profiles have been preserved, making it impossible to determine the type of the vessel they belonged to, and, subsequently, making it impossible to date those sherds with any precision. Therefore it is important to bear in mind that the real number of potsherds that can be used for a detailed cultural and chronological analysis is actually very low.

Of the total mass of sherds (Fig. 7) from trench 2 (6135 g), fragments of vessels' bodies make

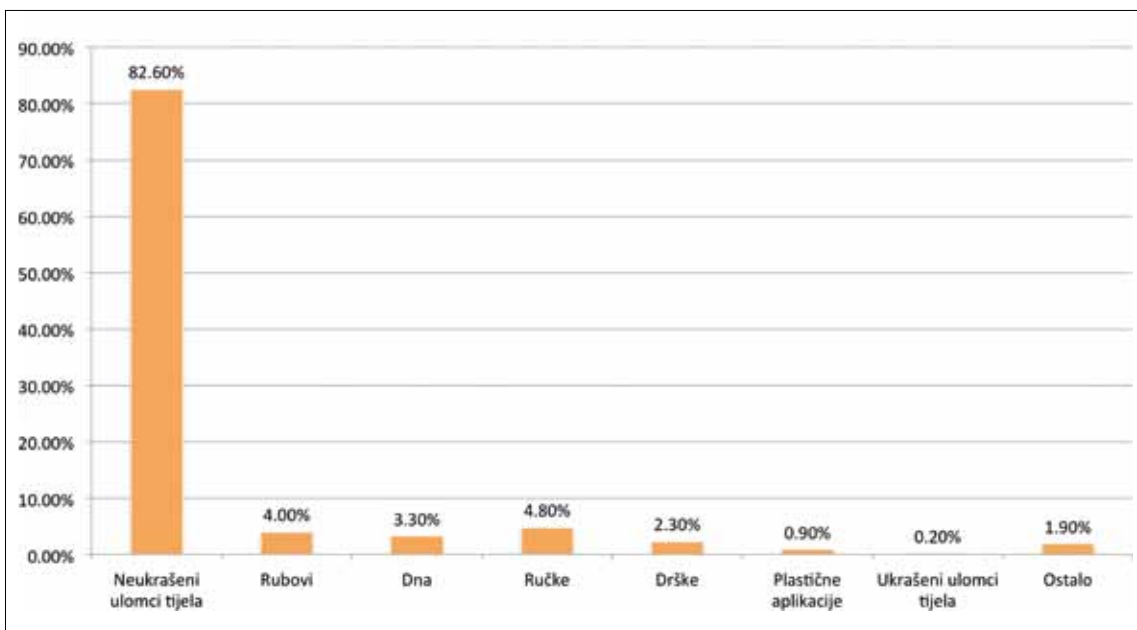
<sup>33</sup> See the attribution of horseshoe-shaped appliques / handgrips in Urem 2012.

ci rubova – 247 g (4%); ulomci dna – 204 g (3,3%); ručke – 293 g (4,8%); drške – 144 g (2,3%); plastične aplikacije – 54 g (0,9%); ukrašeni ulomci – 13 g (0,2%). Ulomci obloženi kalcijevim karbonatom težili su 114 g (1,9%).

up 5066 g (82.6%). The other sherds are: fragments of rims 247 g (4%), fragments of bottoms 204 g (3.3%), handles 293 g (4.8%), handgrips 144 g (2.3%), plastic appliques 54 g (0.9%) and decorated sherds 13 g (0.2%). The sherds covered in calcium carbonate weigh 114 g (1.9%).



Slika / Figure 6: Postoci brojčanog udjela određenih dijelova tijela posuda u ukupnom broju ulomaka pronađenih u sondi 2 (izradio F. Franković). / Percentages, by number, of specific parts of the vessel's body in the total number of potsherds recovered from trench 2 (made by F. Franković).



Slika / Figure 7: Postoci masenog udjela određenih dijelova tijela posuda u ukupnoj masi ulomaka pronađenih u sondi 2 (izradio F. Franković). / Percentages, by mass of specific parts of the vessel's body in the total mass of potsherds recovered from trench 2 (made by F. Franković).

## b) Sonda 3

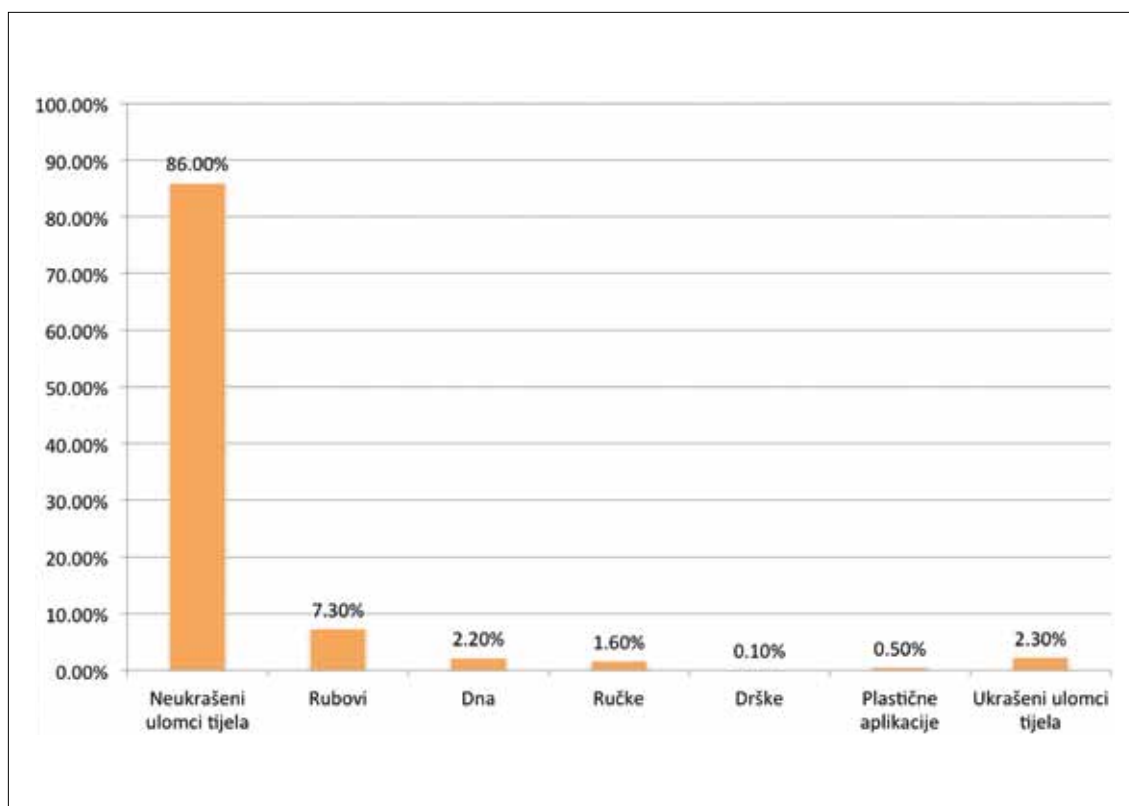
U sondi 3 udjeli u ukupnom broju od 642 ulomka iznosili su (sl. 8): ulomci tijela – 552 (86%); ulomci rubova – 47 (7,3%); ulomci dna – 14 (2,2%); ulomci ručki – 10 (1,6%); 1 drška (0,1%); 3 plastične aplikacije (0,5%); ukrašeni ulomci 15 (2,3%). Dva su primjerka plastičnih aplikacija (plastične trake) ukrašena utiskivanjem.

Što se udjela u ukupnoj masi od 11.743 g tiče, masa pojedinih skupina iznosila je (sl. 9): ulomci tijela – 9127 g (77,7%); ulomci ruba – 1150 g (9,8%); ulomci dna – 571 g (4,9%); ulomci ručki – 351 g (3%); drške – 93 g (0,8%); plastične aplikacije – 90 g (0,8%) te ukrašeni ulomci – 361 g (3,0%).

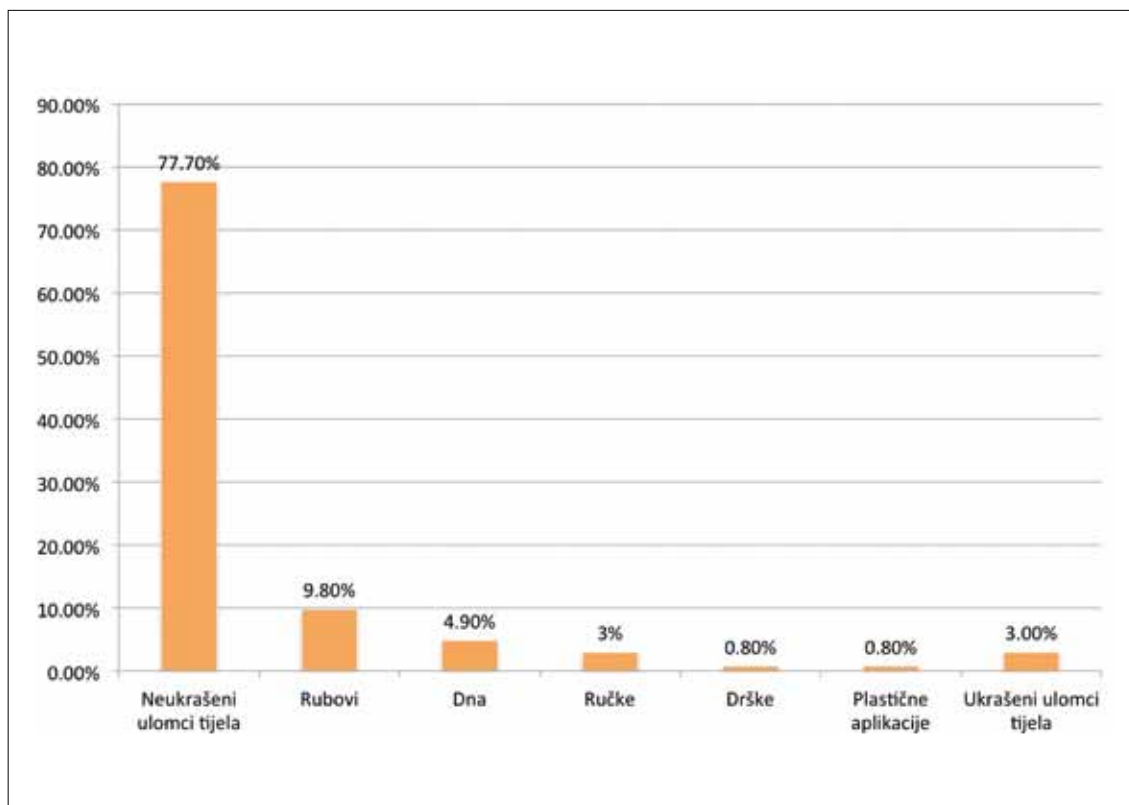
## b) Trench 3

In trench 3, of the total number of 642 potsherds (Fig. 8), there are 552 (86%) fragments of vessels' bodies, 47 rim fragments (7.3%), 14 bottom fragments (2.2%), 10 handle fragments (1.6%), 1 handgrip (0.1%), 3 plastic appliques (0.5%), and 15 decorated sherds (2.3%). Two plastic appliques (plastic bands) are decorated with impressions.

As for the fractions of the total mass of 11743 g, the masses of specific groups are as follows (Fig. 9): body fragments – 9127 g (77.7%), rim fragments – 1150 g (9.8%), bottom fragments – 571 g (4.9%), handle fragments – 351 g (3%), handgrips – 93 g (0.8%), plastic appliques – 90 g (0.8%), and decorated sherds – 361 g (3%).



Slika / Figure 8: Postoci brojčanog udjela određenih dijelova tijela posuda u ukupnom broju ulomaka pronađenih u sondi 3 (izradio F. Franković). / Percentages, by number, of specific parts of the vessel's body in the total number of potsherds recovered from trench 3 (made by F. Franković).



Slika / Figure 9: Postoci masenog udjela određenih dijelova tijela posuda u ukupnoj masi ulomaka pronađenih u sondi 3 (izradio F. Franković). / Percentages, by mass, of specific parts of the vessel's body in the total mass of potsherds recovered from trench 3 (made by F. Franković).

## DIJAGNOSTIČKI ULOMCI IZ SONDE 2

U svrhu standardizacije terminologije, velik dio nazivlja preuzet je iz radova D. Urem<sup>34</sup> i K. Buršić-Matijašić<sup>35</sup> kako bi se ujednačili nazivi za tipove pojedinih dijelova posuda, ali i same posude.<sup>36</sup> Ponovno valja istaknuti da kod velikog broja dijagnostičkih ulomaka, najčešće zbog njihovih dimenzija, profi-

<sup>34</sup> Urem 2012.

<sup>35</sup> Buršić-Matijašić 1998.

<sup>36</sup> Posljednja objava materijala iz Monkodonje teži standardizaciji nazivlja za pojedine tipove rubova i dna, ali i čitavih keramičkih oblika (Hellmuth Kramberger 2017a, 77–302). S obzirom na to da se radi o objavi baziranoj na velikoj količini materijala, u cilju standardizacije strukovnog nazivlja za određene keramičke oblike u brončanom dobu Istre preporučuje se upotreba spomenute monografije. Analiza keramičkog materijala iz Romualdove pećine završena je prije izlaska spomenute publikacije pa se doneseni pregled ne temelji u potpunosti na objavi materijala iz Monkodonje.

## DIAGNOSTIC POTSHERDS FROM TRENCH 2

In an attempt to standardize the terminology, many of the terms have been taken from works by Urem<sup>34</sup> and Buršić-Matijašić,<sup>35</sup> with a view to harmonizing the names of types of vessel body parts, and of vessels themselves.<sup>36</sup> It should be reiterated that the profiles have not been preserved well in a large number of diagnostic

<sup>34</sup> Urem 2012.

<sup>35</sup> Buršić-Matijašić 1998.

<sup>36</sup> The last publication dealing with the material discovered at Monkodonja aspired to standardize the terms employed not only for specific types of rims and bottoms, but also for integral pottery shapes (Hellmuth Kramberger 2017a, 77–302). Since this publication was based on a substantial quantity of material, the use of the monograph cited is recommended, with a view to standardizing the professional terminology for specific pottery shapes dating from the Istrian Bronze Age. The pottery material recovered from Romuald's Cave had been analysed before the monograph was published, and for this reason, the overview presented in this paper is not completely based on the published material from Monkodonja.

lacija nije dobro sačuvana pa nije bilo moguće detaljnije odrediti tip posude. Tipološka je analiza urađena u slučajevima gdje je to bilo moguće i radi se o manjini ulomaka koji se inače mogu smatrati dijagnostičkima.

### 1) Rubovi

Rubovi predstavljeni u ovome pregledu definirani su na temelju dvaju kriterija. Osnovni je kriterij odnos između smjera ruba posude i smjera stijenke posude (npr. ravan, izvučen, uvučen). Drugi je kriterij odnos debljine samog ruba prema debljini stijenke posude (npr. zadebljan, jednolik, sužen), ali i njegovo naknadno oblikovanje (npr. zaravnjen). Takva je obradu predložila K. Buršić-Matijašić u svrhu jasnijeg određenja samog tipa.<sup>37</sup> Dodatna kategorizacija može biti povezana s daljim tretmanom ruba u obliku ukrašavanja (urezivanja, inkrustacije, utiskivanja, pseudovrpčastog ukrašavanja).

U sondi 2 najbrojniji su izvučeni i ravni rubovi posuda. Neki od navedenih rubova imaju jasne paralele na lokalitetima, poput Monkodonje, Limske gradine i drugim lokalitetima na području Istre, ili pak odgovaraju tipovima posuda tipičnima za određene faze kako ih definira A. Cardarelli.<sup>38</sup>

Većina je izvučenih rubova iz sonde 2 jednolike debljine. Na temelju postojećih paralela valja izdvojiti nekoliko primjeraka. Izvučeni rub jednolike debljine (N-1, T. 5: 10) ima paralele u materijalu iz Monkodonje.<sup>39</sup> Ovaj rub nema posebnih obilježja, ali ga je na temelju paralela moguće nazvati loncem s glačanom površinom. Dva primjerka (N-4, T. 5: 7; N-20, T. 5: 6) izvučenih rubova, napravljenih od fine gline, crne su boje i polirane površine. Prema paralelama dostupnima kod Cardarellija, čini se da se radi o šalicama.<sup>40</sup> Vjerojatno je riječ o tipovima koje je moguće datirati u završno brončano doba II (1000. – 900. g. pr. Kr.), ali se pojavljuju i u

potsherds, mostly due to their size; therefore, it was not possible to determine the precise type of the vessel. Where it was possible, a typological analysis has been performed. Such was the case in a small number of potsherds that could be considered as diagnostic.

### 1) Rims

Rims contained in this overview have been identified on the basis of two criteria. The main criterion has been the relation between the direction of the vessel's rim and the direction of the vessel's wall (e.g. straight, everted, inverted). The second criterion has been the relation between the thickness of the rim and the thickness of the vessel's wall (e.g. thickened, uniform, thinned), and its additional shaping (e.g. flattened). This method of processing was suggested by Buršić-Matijašić in order to obtain a clearer identification of the type.<sup>37</sup> Additional categorization can be made with reference to subsequent decorative treatment of the rim (incisions, incrustation, impressions, pseudo-cord impressions).

In trench 2, everted and straight rims were the most numerous. For some of them, there are clear parallels at sites such as Monkodonja, Limska Gradina hillfort and other sites in Istria, or they correspond to vessel types characteristic of certain phases, as defined by Cardarelli.<sup>38</sup>

The thickness of most of the everted rims recovered from trench 2 is uniform. Based on the existing parallels, several finds should be singled out. Parallels for an everted rim of uniform thickness (N-1, Pl. 5: 10) can be found among the finds from Monkodonja.<sup>39</sup> This rim has no specific features, but on the basis of the parallels it can be described as a pot with polished surface. Two other specimens of everted rims (N-4, Pl. 5: 7; N-20, Pl. 5: 6) made of fine clay are black, and their surface is polished. Based on the parallels available in Cardarelli, it seems that they belonged to cups.<sup>40</sup> The relevant cup types can probably be dated to Final Bronze Age II (1000 – 900 BC), but they also appeared in the

<sup>37</sup> Buršić-Matijašić 1998, 59.

<sup>38</sup> Cardarelli 1983.

<sup>39</sup> Buršić-Matijašić 1998, 59; T. 4: 74–77.

<sup>40</sup> Cardarelli 1983, 101, T. 22: 60, 62, 67.

<sup>37</sup> Buršić-Matijašić 1998, 59.

<sup>38</sup> Cardarelli 1983.

<sup>39</sup> Buršić-Matijašić 1998, 59; Pl. 4: 74–77.

<sup>40</sup> Cardarelli 1983, 101, Pl. 22: 60, 62, 67.

prvome stupnju željeznog doba (900. – 800. g. pr. Kr.).<sup>41</sup> Zabilježen je i jedan primjerak izvučenoga suženog ruba amfore (N-25). Postoje i blago izvučeni rubovi bez jasne paralele (N-16; N-19). Na jednom je blago izvučenom rubu vidljivo utiskivanje prstom (N-26, T. 5: 2).<sup>42</sup> Sličan izvučeni rub, ukrašen utiskivanjem, pronađen je u Monkodonji<sup>43</sup>, što upućuje na dataciju u razvijeno rano ili stariju fazu srednjega brončanog doba.

Ravni su rubovi jednolike debljine česti (N-2, T. 5: 9; N-32; N-49; N-48, T. 5: 8). Dva od tih rubova (N-2, T. 5: 9; N-49) jednake su fature, kao i jedan izvučeni rub iz sonde 2 (N-1, T. 5: 10). Ulomci imaju uglačanu površinu, a vjerojatno se radi o loncima. Iste fature i obrade površine je i jedan ravan suženi rub (N-30). Jedan ravan jednoliki rub (N-32) vjerojatno je pithos, na što ukazuje i iznimno gruba faktura. Površina djeluje kao da je lagano uglačana, što bi se moglo povezati s drugim rubom grube fature i uglačane površine (N-5). Upečatljiv je i ulomak finoga ravnoga jednolikog ruba crne boje (N-48, T. 5: 8) koji je zbog njegove profilacije moguće povezati s tipom šalice koju Cardarelli datira u prvi stupanj željeznog doba.<sup>44</sup> Uz rub je vidljiva i perforirana rupica koja je prema tragovima na stijenci probušena nakon pečenja, tj. sekundarno. Ovakve perforacije pojavljuju se i na materijalu iz Monkodonje.<sup>45</sup> Prema novim rezultatima istraživanja na Monkodonji, čini se da većina materijala pripada fazama razvijenog ranog i starijoj fazi srednjega brončanog doba.<sup>46</sup> To pokazuje široko potencijalno datiranje ovakvih perforacija pa ih ne treba uzeti kao kronološki indikativne.

Kod jednoga ravnoga zadebljanog ruba (N-6), vrlo vjerojatno lonca, ispod ruba se pojavljuje kanelura, a paralelu je ponov-

incipient Iron Age (900 – 800 BC).<sup>41</sup> One everted and thinned amphora rim has also been found (N-25). For some of the slightly everted rims there are no clear parallels (N-16; N-19). Finger impressions are visible on one slightly everted rim (N-26, Pl. 5: 2).<sup>42</sup> A similar everted rim decorated with impressions has been discovered at Monkodonja,<sup>43</sup> suggesting it could be dated to the later Early Bronze Age, or the early phase of the Middle Bronze Age.

Rims of a uniform thickness have been found in great numbers (N-2, Pl. 5: 9; N-32; N-49; N-48, Pl. 5: 8). Two of them (N-2, Pl. 5: 9; N-49) are of the same fabric as an everted rim discovered in trench 2 (N-1, Pl. 5: 10). The surface of these sherds is polished, and they probably belonged to pots. A straight thinned rim shares the same fabric and surface treatment (N-30). A straight uniform rim (N-32) is probably part of a pithos, as suggested by its very coarse fabric. Its surface seems to be slightly polished, which could associate it with another rim of coarse fabric and polished surface (N-5). There is also a distinctive fragment of a fine, straight and uniform rim, black in colour (N-48, Pl. 5: 8). Due to its profile, it can be attributed to the type of cup Cardarelli has dated to the incipient Iron Age.<sup>44</sup> According to the traces on the wall, the small perforation visible near the rim was made after the firing, i.e. as a secondary treatment. Such perforations can be found on the finds from Monkodonja.<sup>45</sup> According to recent results of the excavation at Monkodonja, it would appear that the majority of the material recovered belongs to various phases of the Early Bronze Age and to the early phase of the Middle Bronze Age.<sup>46</sup> This indicates that there is a wide range of potential dates for such perforations, and because of that, they should not be considered as chronologically indicative.

<sup>41</sup> Cardarelli 1983, 100.

<sup>42</sup> Buršić-Matijašić (1998, 97), according to Čović (1983b, 239), claimed that there had been no finger impressions after the Middle Bronze Age.

<sup>43</sup> Hellmuth Kramberger 2017b, 126, Pl. 32: 4.

<sup>44</sup> Cardarelli 1983, 101, Pl. 22: 66.

<sup>45</sup> Buršić-Matijašić 1998, Pl. 20.

<sup>46</sup> Hänsel, Mihovilić, Teržan 2015; Hellmuth Kramberger 2017a, 340.

<sup>41</sup> Cardarelli 1983, 100.

<sup>42</sup> Buršić-Matijašić (1998, 97), prema Čoviću (1983b, 239), kaže da utiskivanja prstom nema nakon srednjega brončanog doba.

<sup>43</sup> Hellmuth Kramberger 2017b, 126, T. 32: 4.

<sup>44</sup> Cardarelli 1983, 101, T. 22: 66.

<sup>45</sup> Buršić-Matijašić 1998, T. 20.

<sup>46</sup> Hänsel, Mihovilić, Teržan 2015; Hellmuth Kramberger 2017a, 340.

no moguće pronaći na Monkodonji.<sup>47</sup> Zbog iznimno loše sačuvanosti, kod dijela ravnih rubova nije moguće donijeti detaljniji osvrt (N-14; N-15; N-22).<sup>48</sup>

U sondi 2 zabilježeno je i nekoliko uvučenih rubova, koji se uglavnom vežu uz zdjele. Prvi je rub uvučeni zaravnjeni rub, ukrašen urezivanjem na rubu (N-18, T. 5: 5).<sup>49</sup> Urezane su crte ispunjene inkrustacijom. Drugi je rub (N-27, T. 5: 3) moguće jasno odrediti kao rub konične zdjele s neprofiliranim rubom te izdvojenim i nenaglašenim ramenom, prema klasifikaciji (tip I.aI) D. Urem.<sup>50</sup> Treći uvučeni rub (N-29, T. 5: 4) također omogućuje detaljniju analizu. Riječ je o uvučenom i lagano zaravnjenom rubu zdjele koji je ukrašen pseudovrpčastim ukrasom. Svojim motivom i tehnikom ukrašavanja ovaj ulomak odgovara tipu zdjele koji Cardarelli datira u prvi stupanj željeznog doba.<sup>51</sup> Slične je datacije vjerojatno i uvučeni rub jednake debljine i crne boje, čija je površina ukrašena glačanjem (N-31). U kontekstu rubova valja spomenuti i jedan ulomak tijela dobro očuvane profilacije (N-23, T. 6: 2) koji omogućuje povlačenje paralele s tipom šalice koju Cardarelli datira u završno brončano doba II.<sup>52</sup>

## 2) Dna

Dna su podijeljena na osnovu dvaju kriterija. Prvi je kriterij oblik stajaće plohe (npr. ravno, prstenasto), a drugi je kriterij odnos, tj. prijelaz stajaće plohe prema vanjskoj stijenci posude (npr. običan prijelaz, prijelaz s blago naglašenom stajaćom plohom, prijelaz s naglašenom stajaćom plohom).

Većina je dna ravna, a među njima se brojčano ističu obična ravna dna. U sondi 2

<sup>47</sup> Buršić-Matijašić 1998, T. 1: 6.

<sup>48</sup> N-14, N-22 i N-45 imaju suženi rub, a N-15 jednolik.

<sup>49</sup> Za primjere ukrašavanja različitih tipova ruba utiskivanjem i urezivanjem, vidjeti paralele s Limske gradine kod Urem 2012, T. 41.

<sup>50</sup> Urem 2012, 74.

<sup>51</sup> Cardarelli 1983, 101, T. 22: 166–167.

<sup>52</sup> Cardarelli 1983, T. 22: 62.

In the case of a straight thickened rim (N-6), which probably belonged to a pot, there is a flute below the rim, and a parallel for such a rim can be found at Monkodonja.<sup>47</sup> For some of the straight rims, a more detailed description is impossible because of their poor state of preservation (N-14; N-15; N-22).<sup>48</sup>

Several inverted rims have also been found in trench 2; they are primarily attributed to bowls. The first among them is an inverted flattened rim decorated with incisions along its edge (N-18, Pl. 5: 5).<sup>49</sup> The incised lines are filled with incrustation. The second rim (N-27, Pl. 5: 3) can be clearly identified as the rim of a conical bowl with a non-profiled rim and a separate and unemphasized shoulder, according to Urem's classification (type I.aI).<sup>50</sup> The third inverted rim (N-29, Pl. 5: 4) also allows a more detailed analysis. This inverted and slightly flattened bowl rim is decorated with a pseudo-cord decoration. The motif and decoration technique on this sherd correspond to the type of bowl Cardarelli has dated to the incipient Iron Age.<sup>51</sup> An inverted black rim of uniform thickness with polished surface (N-31) probably shares the same dating. Within the context of rims, a fragment of a body should be mentioned (N-23, Pl. 6: 2) – its profile is well-preserved, and it can be compared to the type of cup Cardarelli has dated to Final Bronze Age II.<sup>52</sup>

## 2) Bottoms

Bottoms have been classified according to two criteria. The first is the shape of the standing surface (e.g. flat, ring-shaped), and the second criterion is the relation, that is, transition, between the standing surface and the external wall of the vessel (e.g. regular transition, transition with slightly emphasized standing surface, transition with emphasized standing surface).

<sup>47</sup> Buršić-Matijašić 1998, Pl. 1: 6.

<sup>48</sup> N-14, N-22 and N-45 have thinned rims, while N-15 has a uniform rim.

<sup>49</sup> For examples of impression and incision decoration on various types of rims, see parallels from the Limska Gradina hillfort in Urem 2012, Pl. 41.

<sup>50</sup> Urem 2012, 74.

<sup>51</sup> Cardarelli 1983, 101, Pl. 22: 166–167.

<sup>52</sup> Cardarelli 1983, Pl. 22: 62.



zabilježena su isključivo obična ravna dna koja ne omogućuju detaljniju analizu tipa posude kojem su pripadala (N-8; N-10; N-11; N-21; N-33; N-35; N-36; N-37; N-44). Jedino dno pronađeno u sondi 2, koje nije obično ravno dno, ono je na blago izraženoj prstenastoj nozi (N-28, T. 6: 3) proizvedeno od fine keramike crno-sive boje.

### 3) Ručke

U sondi 2 ukupno je pronađeno 7 ručki (N-3, T. 5: 11; N-7; N-13; N-17; N-39, T. 6: 5; N-46; N-47). Tome broju treba pridružiti i tri aplikacije (N-12, T. 6: 1; N-38, T. 6: 7; N-40) koje se u funkcionalnom smislu mogu smatrati drškama. Od ukupno 7 zabilježenih ručki, četiri su trakaste (N-7; N-17; N-46; N-47). Dijelove običnih trakastih ručki predstavljaju primjerci N-17 i N-47, dok primjerci N-7 i N-46 predstavljaju trakaste ručke s centralnim užljebljenjem zbog kojeg njihov presjek izgleda kao slovo B. Paralele pronalazimo u ručkama s Monkodonje<sup>53</sup> i Limske gradine.<sup>54</sup>

Uz trakaste pojavljuje se i jedan primjerak (N-3, T. 5: 11) koljenasto profilirane ručke, kako je naziva D. Urem,<sup>55</sup> trokutaste ručke sedlastog presjeka, kako je naziva K. Buršić-Matijašić<sup>56</sup>, ili trokutaste ručke s pločicom prema Hellmuth Kramberger.<sup>57</sup> Ovaj je tip ručke karakterističan za srednje brončano doba Istre i sjevernog Jadrana, ali se prvi put pojavljuje već na kraju ranoga brončanog doba.<sup>58</sup> Ručke ovoga tipa u različitim oblicima mogu se pojavljivati na različitim tipovima posuda.<sup>59</sup> Ovaj je primjerak iz Romualdove pećine vjerojatno moguće pripisati tipu pithosa za koji je ovakav tip ručke specifičan (pithos tipa V prema Hellmuth

The majority of bottoms are flat, and among them the greatest share consists of regular flat bottoms. In trench 2, only regular flat bottoms have been found, which do not allow a detailed analysis of the type of vessel they belonged to (N-8; N-10; N-11; N-21; N-33; N-35; N-36; N-37; N-44). The only bottom from trench 2 which is not a regular flat bottom is a bottom standing on a slightly emphasized ring-shaped foot (N-28, Pl. 6: 3), made of fine black-grey pottery.

### 3) Handles

A total of 7 handles have been recovered from trench 2 (N-3, Pl. 5: 11; N-7; N-13; N-17; N-39, Pl. 6: 5; N-46; N-47). In addition, there are three appliques (N-12, Pl. 6: 1; N-38, Pl. 6: 7; N-40) which in functional terms can be considered to be hand-grips. Of the total number of 7 handles, 4 are strap handles (N-7; N-17; N-46; N-47). Specimens N-17 and N-47 are parts of regular strap handles, while specimens N-7 and N-46 are strap handles with a central groove, resulting in a B-shaped cross-section. Parallels for such handles can be found at Monkodonja<sup>53</sup> and Limska Gradina hillfort.<sup>54</sup>

In addition to strap handles, the trench also contained one knee-shaped handle (N-3, Pl. 5: 11) as described by Urem,<sup>55</sup> triangular handle with a saddle-like cross-section as described by Buršić-Matijašić,<sup>56</sup> or a triangular handle with a plate according to Hellmuth Kramberger.<sup>57</sup> This handle type is characteristic of the Middle Bronze Age in the Istrian and Northern Adriatic, and it appeared for the first time as early as the end of the Early Bronze Age.<sup>58</sup> Different forms of such handles could be found on various types of vessels.<sup>59</sup> The one found in Romuald's Cave can probably be attributed to a pithos, of which this type of handle is characteristic (the pithos of type V according to Hellmuth Kramberger).<sup>60</sup>

<sup>53</sup> Buršić-Matijašić 1998, T. 22: 37; Hellmuth Kramberger 2017a, 243–244, Sl. 214.

<sup>54</sup> Urem 2012, T. 1: 4.

<sup>55</sup> Urem 2012, 93, T. 10: 8.

<sup>56</sup> Buršić-Matijašić 1998, 68.

<sup>57</sup> Hellmuth Kramberger 2017a, 244–248.

<sup>58</sup> Hänsel, Mihovilić, Teržan 1999, 85–89.

<sup>59</sup> Hellmuth Kramberger 2017a, 244–248.

<sup>53</sup> Buršić-Matijašić 1998, Pl. 22: 37; Hellmuth Kramberger 2017a, 243–244, Fig. 214.

<sup>54</sup> Urem 2012, Pl. 1: 4.

<sup>55</sup> Urem 2012, 93, Pl. 10: 8.

<sup>56</sup> Buršić-Matijašić 1998, 68.

<sup>57</sup> Hellmuth Kramberger 2017a, 244–248.

<sup>58</sup> Hänsel, Mihovilić, Teržan 1999, 85–89.

<sup>59</sup> Hellmuth Kramberger 2017a, 244–248.

<sup>60</sup> Hellmuth 2014, Fig. 4; Hellmuth Kramberger 2017a, 176–178, 401, Fig. 280b: 67.

Kramberger).<sup>60</sup> Zaobljenost unutrašnje stijenke također upućuje na to da se vjerojatno radi o ovom tipu posude. Pronađen je i jedan primjerak ručke O presjeka (N-13) i jedan primjerak robusne ručke D presjeka koja završava koljenom (N-39, T. 6: 5). Potonja ručka čini se dosta netipičnom, ali paralelu je moguće pronaći u jednoj ručki iz Monkodonje.<sup>61</sup>

#### 4) Aplikacije

Od aplikacija prije svega je potrebno spomenuti prethodno navedene aplikacije koje su funkcionalno mogle služiti kao drške. U statističkoj obradi sonde 2 spomenuto je da male dimenzije dovode u pitanje njihovu stvarnu ulogu drški, međutim, od svih primjeraka predstavljenih u ovom pregledu ovi primjerci najbolje odgovaraju definiciji drške (N-12, T. 6: 1; N-38, T. 6: 7; N-40). Plastična je aplikacija u obliku klina (N-12, T. 6: 1) zastupljena jednim primjerkom. Paralele je moguće pronaći na keramici iz Monkodonje,<sup>62</sup> ali u tome slučaju nije potpuno jasno radi li se samo o završecima potkovičastih plastičnih aplikacija ili o plastičnoj aplikaciji u obliku klina. Drugi primjerak, koji je okarakteriziran kao drška (N-40), vjerojatno je završetak potkovičaste drške, tj. aplikacije. Valja naglasiti da razlika između potkovičaste aplikacije i drške nije uvijek jasno određena<sup>63</sup> i da atribucija kategorije zapravo ovisi o dimenzijama aplikacije. Ovdje treba navesti i još jedan primjerak završetka potkovičaste aplikacije, također pronađen unutar sonde 2 (N-38, T. 6: 7). Potkovičaste aplikacije u različitim oblicima mogu se povezati s antropomornim načinom ukrašavanja posuda koji je karakterističan za istarske gradine u razvijenoj fazi ranog i starijoj fazi srednjega brončanog doba.<sup>64</sup>

<sup>60</sup> Hellmuth 2014, Sl. 4; Hellmuth Kramberger 2017a, 176–178, 401, Sl. 280b: 67.

<sup>61</sup> Buršić-Matijašić 1998, T. 17: 310.

<sup>62</sup> Buršić-Matijašić 1998, T. 43.

<sup>63</sup> Različita upotreba termina kod Urem 2012.

<sup>64</sup> Hellmuth 2012; 2015.

The roundness of the interior wall also indicates that it probably originates from a pithos. A handle with an O-shaped cross-section has also been found (N-13), as well as a robust handle of D-shaped cross-section which ends in a knee (N-39, Pl. 6: 5). The last of the handles mentioned appears rather uncharacteristic, but a parallel can be found in a handle discovered at Monkodonja.<sup>61</sup>

#### 4) Appliques

As regards applications, first of all there are those, mentioned above, which could serve the function of hand-grips. In the statistical analysis of trench 2, it has been mentioned that their small size poses questions over their real function as hand-grips, but of all the specimens presented in this overview, these correspond best to the function of hand-grips (N-12, Pl. 6: 1; N-38, Pl. 6: 7; N-40). A single plastic applique shaped like a wedge has been found (N-12, Pl. 6: 1), for which parallels can be seen in the pottery from Monkodonja,<sup>62</sup> but it is unclear whether these are actually ends of horseshoe-shaped plastic appliques or plastic appliques shaped like a wedge. The second sherd described as a hand-grip (N-40) is probably the end of a horseshoe-shaped hand-grip, or applique. It should be emphasized that the difference between a horseshoe applique and hand-grip is not always clear<sup>63</sup> and that the attribution to a category depends on the size of the applique. In this context, another specimen of the end of a horseshoe applique – also discovered in trench 2 – should be mentioned (N-38, Pl. 6: 7). Horseshoe appliques of various shapes can be associated with those anthropomorphic vessel decorations characteristic of Istrian hillforts in the advanced phase of the Early Bronze Age and the early phase of the Middle Bronze Age.<sup>64</sup>

<sup>61</sup> Buršić-Matijašić 1998, Pl. 17: 310.

<sup>62</sup> Buršić-Matijašić 1998, Pl. 43.

<sup>63</sup> The terms used in Urem 2012 differ.

<sup>64</sup> Hellmuth 2012; 2015.

Pronađena su i dva primjerka plastičnih traka (N-34; N-43, T. 6: 6), a paralele za neukrašenu (N-34) ponovno su vidljive na Monkodonji.<sup>65</sup> Primjerak (N-43, T. 6: 6) je ukrašen utiskivanjem prstiju s paralelama na Monkodonji<sup>66</sup> i Limskoj gradini.<sup>67</sup>

Spomenuti treba i ulomak ukrašen plitkim urezivanjem (N-42, T. 6: 4) u motivu riblje kosti koji upućuje na dataciju u završno brončano doba – prvi stupanj željeznoga doba.

### DIJAGNOSTIČKI ULOMCI IZ SONDE 3

#### 1) Rubovi

U sondi 3 najbrojniji su izvučeni i ravni rubovi. Od izvučenih je rubova velik broj onih koji, zbog manjka profilacije, ne nude veći broj informacija o krajnjem obliku posude. Spomenuti valja jače (N-91; N-108; N-116; N-126, T. 3: 1) i blaže izvučene jednolike rubove (N-70, T. 5: 1; N-71, T. 3: 7; N-84; N-92) bez jasnog tipa, blago izvučene rubove koji vjerojatno pripadaju zdjeli (N-111) i šalici (N-127) te jedan primjerak blago izvučenog ruba (N-69, T. 4: 13) koji podsjeća na zdjelu s mogućom datacijom u mlađe brončano doba.<sup>68</sup>

Od većih je grupa rubova potrebno istaknuti izvučene rubove amfora koji su zabilježeni u većem broju (N-52, T. 3: 10; N-65; N-109; N-112, T. 4: 4; N-117, T. 4: 6; N-125,<sup>69</sup> T. 3: 4). Amfore su poznate iz Limske gradine.<sup>70</sup> Drugu veću skupinu čine izvučeni rubovi lonaca s ukrašenim rubom (N-60, T. 4: 1; N-78 + N-83,<sup>71</sup> T. 3: 2; N-119, T. 4: 5; N-129, T. 3: 6). Rubovi su ukrašeni utiskivanjem prstom

<sup>65</sup> Buršić-Matijašić 1998, T. 41; T. 42.

<sup>66</sup> Buršić-Matijašić 1998, 90, T. 45; Hellmuth Kramberger 2017b, 98, T. 4: 5.

<sup>67</sup> Urem 2012, T. 3: 3, 8; T. 31: 2.

<sup>68</sup> Cardarelli 1983, 94–95, T. 19: 69.

<sup>69</sup> Ovaj je primjerak ukrašen s unutrašnje strane žljebljenim motivom koncentričnih kružnica. Za više detalja, vidjeti dio o ukrašenim ulomcima unutar sonde 3.

<sup>70</sup> Urem 2012, 82–83.

<sup>71</sup> Radi se o dva ulomka istog ruba koji se spajaju.

Two plastic straps have also been found (N-34; N-43, Pl. 6: 6). Parallels for the undecorated one (N-34) can be found at Monkodonja.<sup>65</sup> The decorated strap (N-43, Pl. 6: 6) is decorated with finger impressions, and parallels for such straps are present at Monkodonja<sup>66</sup> and Limska Gradina hillfort.<sup>67</sup>

Another sherd to be mentioned here is a fragment decorated with shallow fishbone-shaped incisions (N-42, Pl. 6: 4). The sherd suggests the site can be dated to the Final Bronze Age / incipient Iron Age period.

### DIAGNOSTIC POTSHERDS FROM TRENCH 3

#### 1) Rims

In trench 3, the most numerous rims were everted and straight. Among the everted rims, there are many that, due to a lack of profile, offer little information about the shape of the vessel. Some more everted (N-91; N-108; N-116; N-126, Pl. 3: 1) and less everted (N-70, Pl. 5: 1; N-71, Pl. 3: 7; N-84; N-92) uniform rims of unclear type can be mentioned, as well as slightly everted rims which could belong to a bowl (N-111) and a cup (N-127), and a slightly everted rim (N-69, Pl. 4: 13) reminiscent of bowls that could be dated to the Late Bronze Age.<sup>68</sup>

As regards numerous groups of rims, everted amphora rims should be mentioned, recovered in high numbers (N-52, Pl. 3: 10; N-65; N-109; N-112, Pl. 4: 4; N-117, Pl. 4: 6; N-125,<sup>69</sup> Pl. 3: 4). Amphorae have also been discovered at Limska Gradina hillfort.<sup>70</sup> The second large group consists of everted pot rims with decorated edges (N-60, Pl. 4: 1; N-78 + N-83,<sup>71</sup> Pl. 3: 2; N-119, Pl. 4: 5; N-129, Pl. 3: 6). These are decorated with finger impressions (N-60, Pl. 4: 1; N-119, Pl. 4:

<sup>65</sup> Buršić-Matijašić 1998, Pl. 41; Pl. 42.

<sup>66</sup> Buršić-Matijašić 1998, 90, Pl. 45; Hellmuth Kramberger 2017b, 98, Pl. 4: 5.

<sup>67</sup> Urem 2012, Pl. 3: 3, 8; Pl. 31: 2.

<sup>68</sup> Cardarelli 1983, 94–95, Pl. 19: 69.

<sup>69</sup> This shard is decorated on the inside with grooved concentric circles. For more details, see the section on decorated potshards in trench 3.

<sup>70</sup> Urem 2012, 82–83.

<sup>71</sup> These are two fragments of the same rim that can be adjoined.

(N-60, T. 4: 1; N-119, T. 4: 5; N-129,<sup>72</sup> T. 3: 6) i urezivanjem kosih paralelnih crta (N-78 + N-83, T. 3: 2).

Tri ulomka izvučenih rubova omogućuju da se odredi tip posude. Ulomak N-55 (T. 3: 9) izvučeni je rub koji se širi prema truhu. Najbolja je paralela lonac koji donosi Cardarelli te ga datira u mlađe brončano doba,<sup>73</sup> kao i slični lonac s gradine Sv. Duh pokraj Novigrada (S. Spirito di Cittanova).<sup>74</sup> Ulomak N-85 (T. 3: 3) lagano je izvučen i zaravnjen rub koji pripada pithosu, a ulomak N-122 primjerak je izvučenog ruba čiju paralelu nalazimo u materijalu iz Monkodonje.<sup>75</sup>

Ravni rubovi pojavljuju se u nekoliko varijanti. Mogu biti jednolike debljine (N-53; N-61, T. 4: 2; N-77; N-79; N-89; N-94; N-113; N-131),<sup>76</sup> zadebljani (N-66, T. 4: 12; N-67, T. 4: 11; N-73; N-118; N-135), suženi (N-68, T. 4: 14; N-74, T. 4: 3; N-137) i zaravnjeni (N-93). Od ukupnog broja ravnih rubova kod jako malog broja bilo je moguće pronaći odgovarajuće paralele, definirati tip posude ili ponuditi detaljnije informacije o dataciji. Valja izdvojiti ravni rub (N-61, T. 4: 2) s tragovima urezivanja, kakvi su zabilježeni i kod izvučenih rubova unutar iste sonde. Ovom ulomku valja pribrojiti i dva ulomka zadebljanog ruba, ukrašenog utiskivanjem (N-67, T. 4: 11; N-103). Ulomak ravnoga zadebljanog ruba lonca N-66 (T. 4: 12) sadrži i obrnuto okrenutu potkovičastu aplikaciju te je pjeskovito smeđe fature koja se može povezati s loncima (N-80; N-96, T. 4: 7). Dva ruba mogu se definirati kao zdjele (N-93; N-106), a valja im pridružiti ulomak blago suženoga ravnog ruba (N-68, T. 4: 14) koji paralelu ima u tipu zdjele koja se može datirati u početak mlađega brončanog doba.<sup>77</sup>

Uz velik broj izvučenih i ravnih rubova, u sondi 3 pronađeno je i nekoliko pojedinačnih primjeraka drugih tipova. Pronađen je

5; N-129,<sup>72</sup> Pl. 3: 6) and with incised parallel slanting lines (N-78 + N-83, Pl. 3: 2).

There are three fragments of everted rims which allow the vessel type to be identified. Potsherd N-55 (Pl. 3: 9) is an everted rim which widens towards the belly. The best parallels for this are a pot described by Cardarelli and dated to the Late Bronze Age,<sup>73</sup> and a similar pot from the S. Spirito di Cittanova hillfort.<sup>74</sup> Potsherd N-85 (Pl. 3: 3) is a slightly everted and flattened rim that belonged to a pithos, while N-122 is an example of an everted rim such as can be found among the material from Monkodonja.<sup>75</sup>

Straight rims come in several varieties. Their thickness can be uniform (N-53; N-61, Pl. 4: 2; N-77; N-79; N-89; N-94; N-113; N-131)<sup>76</sup>; they can be thickened (N-66, Pl. 4: 12; N-67, Pl. 4: 11; N-73; N-118; N-135), thinned (N-68, Pl. 4: 14; N-74, Pl. 4: 3; N-137) and flattened (N-93). Of the total number of straight rims, there are very few for which we can establish satisfactory parallels, identify the type of vessel they belonged to, or offer more detailed information as to their dating. A straight rim with traces of incising along the edges (N-61, Pl. 4: 2) should be mentioned; such traces have been recorded on everted rims discovered in the same trench. There are also two sherds of a thickened rim decorated with impressions (N-67, Pl. 4: 11; N-103). A sherd of straight thickened pot rim, N-66 (Pl. 4: 12), also features an inverted horse-shoe applique. Its sandy brown fabric allows its attribution to pots (N-80; N-96, Pl. 4: 7). Two of the rims can be identified as elements of bowls (N-93; N-106), and another fragment of a slightly thinned straight rim (N-68, Pl. 4: 14) has a parallel in a type of bowl that can be dated to the beginning of the Late Bronze Age.<sup>77</sup>

In addition to a great number of everted and straight rims, there were also several specimens of other types of rim in trench 3. Only one inverted and flattened rim (N-54, Pl. 3: 8) belonging to

<sup>72</sup> Utiskivanje na rubu nije tipično pa rub djeluje valovito.

<sup>73</sup> Cardarelli 1983, 94–95, T. 19: 76B.

<sup>74</sup> Cardarelli 1983, 108, 111, T. 27: 8.

<sup>75</sup> Buršić-Matijašić 1998, T. 1: 1, 2, 3.

<sup>76</sup> Ulomci N-53 i N-57 vjerojatno su lonci.

<sup>77</sup> Cardarelli 1983, 94–95, T. 19: 9.

<sup>72</sup> Impressions on the rim are not characteristic, and the rim appears wavy.

<sup>73</sup> Cardarelli 1983, 94–95, Pl. 19: 76B.

<sup>74</sup> Cardarelli 1983, 108, 111, Pl. 27: 8.

<sup>75</sup> Buršić-Matijašić 1998, Pl. 1: 1, 2, 3.

<sup>76</sup> Potshards N-53 and N-57 probably belonged to pots.

<sup>77</sup> Cardarelli 1983, 94–95, Pl. 19: 9.

i samo jedan primjerak (N-54, T. 3: 8) uvučenog i zaravnjenog ruba koji pripada zdjeli. Valja spomenuti i jedan prebačeni rub (N-63, T. 3: 5), ukrašen pseudovrpčastom dekoracijom koja ga datira u početak željeznog doba. Naposljetku, ovdje valja spomenuti i ulomak potencijalnog izljeva posude (N-123).

## 2) Dna

Kao i u slučaju sonde 2, gotovo sva dna iz sonde 3 su ravna (10 od 11 primjeraka). Najveći je broj običnih ravnih dna (N-50; N-90; N-96, T. 4: 7; N-104; N-110; N-136; N-138). Od običnih ravnih dna valja izdvojiti primjerak N-110, koji vjerojatno pripada tanjuru, i primjerak N-96 (T. 4: 7) s vidljivim tragovima gorenja s donje strane kod kojeg je moguće posude pjeskovite smeđe fakture izravno povezati s loncima za kuhanje (također, ulomak N-80).

Tu su i ravna dna s blago naglašenom stajanjem površinom (N-51; N-58, T. 4: 10; N-80) i ravna dna s jasno naglašenom stajanjem površinom (N-72, T. 4: 8; N-121). Ulomak N-59 jest ravno dno s izvučenom stajanjem površinom, a ulomak N-57 (T. 4: 9) jedini je primjer dna koje ne pripada skupini ravnih, već se radi o dnu na debeloj i izraženoj prstenastoj nozi.

## 3) Ručke

Među ručkama u sondi 3 opet su najbrojnije trakaste ručke (N-76; N-81; N-95; N-139). U 3 slučaja riječ je o spojevima trakastih ručki s tijelom posude (N-76; N-81; N-95), a jedan je od njih ukrašen glačanjem (N-76). Samo je jedan primjerak sačuvan gotovo u cijelosti (N-139). Paralele su jednake kao i u slučaju sonde 2, a zastupljene su u velikom broju na Monkodonji.<sup>78</sup>

S više od jednog primjerka zastupljene su još samo ručke O presjeka (N-124, T. 1: 14; N-130), dok su ostali tipovi zastupljeni sa po jednim primjerkom. Ističu se koljena-

<sup>78</sup> Buršić-Matijašić 1998, 72-73; Hellmuth Kramberger 2017a, 243-244, Sl. 214.

a bowl has been recovered. Another sherd to be mentioned here is a downward-pointing everted rim (N-63, Pl. 3: 5), decorated with pseudo-cord decoration dating it to the beginning of the Iron Age. Finally, one sherd also worth mentioning is a fragment of a potential spout (N-123).

## 2) Bottoms

As in the case of trench 2, almost all bottoms recovered from trench 3 are flat (10 out of 11 finds). The majority are regular flat bottoms (N-50; N-90; N-96, Pl. 4: 7; N-104; N-110; N-136; N-138). Among the regular flat bottoms, sherd N-110 should be singled out, as it probably belonged to a plate, and sherd N-96 (Pl. 4: 7), with visible traces of burning on the lower side, which allows the vessel of the sandy brown fabric to be identified as a cooking pot (and also sherd N-80).

There are also flat bottoms with slightly emphasized standing surface (N-51; N-58, Pl. 4: 10; N-80), and flat bottoms with clearly emphasized standing surface (N-72, Pl. 4: 8; N-121). Potsherd N-59 is a flat bottom with everted standing surface, while potsherd N-57 (Pl. 4: 9) is the only example of a bottom which is not flat, but rather a bottom standing on a thick and emphasized ring-shaped foot.

## 3) Handles

Among the handles recovered from trench 3, strap handles are the most numerous (N-76; N-81; N-95; N-139). Three of the sherds are actually joints of the strap handles to the vessels' bodies (N-76; N-81; N-95), one of which is decorated by polishing (N-76). There is only one handle which has been preserved almost entirely (N-139). The parallels for these finds are the same as in the case of trench 2, and they were present in large numbers at Monkodonja.<sup>78</sup>

The only other type of handle represented by more than one find are handles with an O-shaped cross-section (N-124, Pl. 1: 14; N-130),

<sup>78</sup> Buršić-Matijašić 1998, 72-73; Hellmuth Kramberger 2017a, 243-244, Fig. 214.

sto profilirana ručka (N-62; T. 2: 7), kakva je pronađena i unutar sonde 2, ručka tipa *cothon* (N-64, T. 1: 6) te ručka peterokutnog presjeka (N-98, T. 1: 6). Ručka tipa *cothon* datira se u rano željezno doba. Važno je spomenuti da su ručke peterokutnog presjeka pronađene na Limskoj gradini, gdje se datiraju u rano željezno doba.<sup>79</sup> Ručku peterokutnog presjeka s gradine kod Kaštela pokraj Buja (Castelliere di Castel Venere) prikazuje Cardarelli,<sup>80</sup> a premda se ne radi o identičnom tipu ručke, važno je napomenuti kako se i ovaj primjerak datira između 10. i 9/8. st. pr. Kr, tj. druge polovice završnoga brončanog doba i prvog stupnja željeznog doba.<sup>81</sup>

Jednim je primjerkom (N-75, T. 1: 9) zastupljena ručka trokutastog presjeka s paralelama na Gradini nad Limskim kanalom.<sup>82</sup> Primjerci s Gradine nad Limskim kanalom imaju znatno izraženiji trokutasti presjek, a bolju paralelu predstavljaju ručke s gradine Sv. Duh pokraj Novigrada (S. Spirito di Cittanova).<sup>83</sup> Ovaj je tip ručke moguće datirati na kraj mlađega brončanog doba i početak završnoga brončanog doba.<sup>84</sup> Primjerak dugmaste drške (N-101, T. 1: 1) nema jasnih paralela, a zbog dimenzija nije moguće potpuno jasno odrediti radi li se o dršci ili isključivo o dugmastoj aplikaciji.

#### 4) Aplikacije i ukrašeni ulomci

Iz sonde 3 potječe značajan broj ukrašenih ulomaka važnih za dataciju. Ulomci su ukrašeni različitim tehnikama, poput urezivanja, kaneliranja, pseudovrpčastog ukrasa te različitih oblika plastičnih aplikacija.

<sup>79</sup> Urem 2012, 14; T. 8: 12; T. 16: 13.

<sup>80</sup> Cardarelli 1983, 117, 32B: 17.

<sup>81</sup> Cardarelli 1983, 112.

<sup>82</sup> Urem 2012, 80, Prilog 3: 4B, 5; T. 5A: 1.

<sup>83</sup> Cardarelli 1983, 114, T. 29A: 9.

<sup>84</sup> Cardarelli 1983, 108.

while other types of handles are represented by only one find each. Among them, there is a knee-shaped handle (N-62; Pl. 2: 7) like the one found in trench 2, a *cothon*-type handle (N-64, Pl. 1: 6), and a handle with a pentagonal cross-section (N-98, Pl. 1: 6). The *cothon*-type handle has been dated to the Early Iron Age. It should be mentioned that handles with a pentagonal cross-section have been discovered at the Limska Gradina hillfort, where they have been dated to the Early Iron Age.<sup>79</sup> A handle with a pentagonal cross-section from the Castelliere di Castel Venere hillfort has been presented by Cardarelli,<sup>80</sup> and although this is not an identical type of handle, it is important to note that this find has also been dated to the period between the 10<sup>th</sup> and 9<sup>th</sup>/8<sup>th</sup> c. BC, that is, to the second half of the Final Bronze Age and the Incipient Iron Age.<sup>81</sup>

One handle with triangular cross-section (N-75, Pl. 1: 9) with parallels at the Limska Gradina hillfort has been found.<sup>82</sup> Specimens recovered from the Limska Gradina hillfort feature a much more pronounced triangular cross-section, so a better parallel is offered by the handles discovered at the S. Spirito di Cittanova hillfort.<sup>83</sup> This type of handle can be dated to the end of the Late Bronze Age and the beginning of the Final Bronze Age.<sup>84</sup> There are no clear parallels for a button-shaped hand-grip (N-101, Pl. 1: 1), and it is impossible, due to its size, to establish whether this was a hand-grip or only a button-shaped applique.

#### 4) Appliques and decorated sherds

A significant number of decorated potsherds relevant to the dating of the site have been recovered from trench 3. These sherds are decorated using various techniques, such as incising, fluting, pseudo-cord decoration, and plastic appliques of diverse shapes.

<sup>79</sup> Urem 2012, 14; Pl. 8: 12; Pl. 16: 13.

<sup>80</sup> Cardarelli 1983, 117, 32B: 17.

<sup>81</sup> Cardarelli 1983, 112.

<sup>82</sup> Urem 2012, 80, Annex 3: 4B, 5; Pl. 5A: 1.

<sup>83</sup> Cardarelli 1983, 114, Pl. 29A: 9.

<sup>84</sup> Cardarelli 1983, 108.

## a) Urezivanje

Urezivanje na stijenkama posuda pojavljuje se na materijalu u nekoliko varijanti koje se razlikuju u širini i dubini urezivanja te motivima. Dva primjerka N-56 (T. 1: 7) i N-97 (T. 1: 5) ukrašena su urezivanjem kratkih i dubokih linija po čitavoj vanjskoj površini posude. Iako se ova dva ulomka ne spajaju, boja vanjske i unutrašnje stijenke, tretman površine, debljina stijenke, vrsta i veličina inkluzija te izvedba motiva upućuju da se radi o ulomcima iste posude. Taj je zaključak iznimno važan zbog razumijevanja stratigrafskih odnosa unutar sonde 3 (vidjeti dalje u tekstu).

Tri preostala ulomka, ukrašena urezivanjem, važna su zbog datacije. Ulomak N-87 (T. 2: 4) ukrašen je plitkim urezivanjem. Na ulomku su vidljive kose linije koje se spajaju u vrhu. Zbog očuvanosti, nije jasno radi li se o cik-cak motivu ili motivu riblje kosti. U svakom slučaju, ovakav tip ukrašavanja, prema Cardarelliju, tipičan je za završno brončano doba – prvi stupanj željeznog doba.<sup>85</sup> Druga dva ulomka (N-88, T. 2: 5; N-99, T. 1: 3) ukrašena su istim načinom urezivanja, a motiv su ovoga puta paralelne ravne linije. I u ovome je slučaju datacija završno brončano doba – prvi stupanj željeznog doba.<sup>86</sup> Isti motivi ostaju u prvome stupnju željeznog doba i izvode se pseudovrpčastim ukrasom premda i urezivanje ostaje u upotrebi. Generalno se čini da se radi o ukrasu specifičnom za kraj završnoga brončanog doba i prvi stupanj željeznog doba.<sup>87</sup>

## b) Kaneliranje i žljebljenje

Kaneliranje se javlja na znatnom broju ulomaka, kao i u slučaju sonde 2. Ulomci N-82 (T. 1: 8), N-102 (T. 1: 4), N-107, N-113, N-114 (T. 1: 10) i N-115 (T. 1: 12) ukrašeni su plitkim i širokim kanelurama. U ovom slučaju ne radi se o izvođenju posebnih motiva kaneliranjem, već isključivo o kanelurama koje, uz dekorativnu, mogu imati i funkcionalnu ulogu.

<sup>85</sup> Cardarelli 1983, 98–99, T. 21: 141, 162.

<sup>86</sup> Cardarelli 1983, 98–99, T. 21: 138, 141.

<sup>87</sup> Cardarelli 1983, 110, 115, T. 30A, B.

## a) Incising

Several variants of incisions on the vessels' walls are present on the material recovered, varying among them in the width and depth of the incisions and in motif. Two sherds, N-56 (Pl. 1: 7) and N-97 (Pl. 1: 5), are decorated with short and deep incised lines all over the external surface of the vessel's wall. Although these two sherds cannot be adjoined, the colour of their internal and external surfaces, surface treatment, wall thickness, type and size of inclusions, and the rendering of motifs, suggest that they belonged to the same vessel. This conclusion is very important for our understanding of stratigraphic relations within trench 3 (which see below).

The remaining three sherds decorated with incising are important from the point of view of dating. Potsherd N-87 (Pl. 2: 4) is decorated with shallow incisions. The sherd features visible slanting lines that come together at the top. The poor state of preservation does not allow a clear position on whether this is a zig-zag motif or a fishbone motif. In any case, according to Cardarelli, this type of decoration is characteristic of the Final Bronze Age / incipient Iron Age.<sup>85</sup> Two other potsherds (N-88, Pl. 2: 5; N-99, Pl. 1: 3) are decorated with the same method of incising, but this time the motif consists of straight parallel lines. In this case, too, the sherd has been dated to the Final Bronze Age / incipient Iron Age.<sup>86</sup> The same motifs were present during the incipient Iron Age, when they were made using pseudocord technique, although incising also continued to be used. Overall, it seems that this type of decoration is characteristic of the end of the Final Bronze Age and the incipient Iron Age.<sup>87</sup>

## b) Fluting and grooving

Fluting is present on a significant number of potsherds, just as in trench 2. Sherds N-82 (Pl. 1: 8), N-102 (Pl. 1: 4), N-107, N-113, N-114 (Pl. 1: 10) and N-115 (Pl. 1: 12) are decorated with shallow and wide flutings. In this case, fluting was not employed to render any specific motif. Rather, all the flutes could have both decorative and functional purpose.

<sup>85</sup> Cardarelli 1983, 98–99, Pl. 21: 141, 162.

<sup>86</sup> Cardarelli 1983, 98–99, Pl. 21: 138, 141.

<sup>87</sup> Cardarelli 1983, 110, 115, Pl. 30A, B.

Tri su ulomka ukrašena tehnikom žljebljenja u motivu koncentričnih kružnica. Kod ulomka N-86 (T. 2: 1) tijelo je posude ukrašeno koncentričnim kružnicama s vanjske strane. Cardarelli datira žljebljene koncentrične kružnice s centralnom bradavicom u mlađe brončano doba i početak završnoga brončanog doba (1300. – 1000. g. pr. Kr.).<sup>88</sup> Najnovija objava keramičkog materijala iz Monkodonje jasno pokazuje zastupljenost ovog motiva već na prijelazu iz razvijene faze ranoga brončanog doba u stariju fazu srednjega brončanog doba.<sup>89</sup> Valja naglasiti kako ni jedan primjerak iz sonde 3 nema vidljive ostatke centralne bradavice, što i ne mora biti toliko neobično uzmu li se u obzir paralele iz Monkodonje kod kojih centralna bradavica također ne postoji.<sup>90</sup> Centralna bradavica na keramici generalno izostaje jer sličan slučaj nalazimo i kod potkovičastih aplikacija ispod kojih se ne pojavljuje, kao što je očekivano s obzirom na paralele s nekih drugih lokaliteta.<sup>91</sup>

Sličan ukras pronalazimo i na unutrašnjoj strani izvučenog ruba amfore (N-125, T. 3: 4). U ovom slučaju također ne postoji izražena centralna bradavica. Ulomcima N-86 (T. 2: 1) i N-125 (T. 3: 4) treba pridružiti i ulomak N-120 (T. 1: 11) s blago zakrivljenim, paralelno žljebljenim linijama, za koje nije potpuno jasno pripadaju li kružnicama ili ne. Međutim, sličnu paralelu pronalazimo i na Monkodonji.<sup>92</sup>

### c) Plastične aplikacije

Plastične aplikacije pronađene u sondi 3 pojavljuju se u nekoliko oblika. Ponovno, kao i u sondi 2, nalazimo potkovičaste aplikacije (N-100, T. 1: 2). Tu su i aplicirane plastične trake ukrašene utiskivanjem prstima (N-134, T. 1: 13) i utiskivanjem štapića<sup>93</sup> (N-132, T. 2: 2).

<sup>88</sup> Cardarelli 1983, 108, 114, T. 29A: 3, 4, 5.

<sup>89</sup> Hellmuth Kramberger 2017b, 106; T. 12: 11.

<sup>90</sup> Buršić-Matijašić 1998, T. 56.

<sup>91</sup> Buršić-Matijašić 1998, 97.

<sup>92</sup> Buršić-Matijašić 1998, T. 65: 849

<sup>93</sup> Prema postojećim paralelama ima široko datiranje (Cardarelli 1983, 110, 116, T. 31A: 4).

Three potsherds are decorated with grooved concentric circles. In the case of sherd N-86 (Pl. 2: 1), the body of the vessel is decorated on its external side with concentric circles. Cardarelli has dated grooved concentric circles with a central boss to the Late Bronze Age and the beginning of the Final Bronze Age (1300 – 1000 BC).<sup>88</sup> The most recent publication of the pottery finds from Monkodonja clearly shows that this motif had been present as early as the transition between the advanced phase of the Early Bronze Age and the late phase of the Middle Bronze Age.<sup>89</sup> It should be emphasized that none of the finds from trench 3 contains any visible trace of a central boss, which is not so unusual, given that parallel finds from Monkodonja feature no central boss, either.<sup>90</sup> Generally, the central boss is often missing in pottery. A similar case can be seen among horseshoe appliques, where there are no central bosses, although they could be expected, given the parallel finds discovered at some other sites.<sup>91</sup>

A similar decoration can also be found on the interior side of an everted amphora rim (N-125, Pl. 3: 4). In this case there is no pronounced central boss, either. In addition to potsherds N-86 (Pl. 2: 1) and N-125 (Pl. 3: 4), this group should also include potsherd N-120 (Pl. 1: 11), featuring slightly curved parallel grooved lines, for which it cannot be determined with certainty whether they belong to circles or not. A similar find has also been discovered at Monkodonja.<sup>92</sup>

### c) Plastic appliques

Plastic appliques discovered in trench 3 come in several shapes. As in trench 2, there are horseshoe-shaped appliques (N-100, Pl. 1: 2), and also applied plastic strips decorated with finger impressions (N-134, Pl. 1: 13) and impressions of a small rod<sup>93</sup> (N-132, Pl. 2: 2).

<sup>88</sup> Cardarelli 1983, 108, 114, Pl. 29A: 3, 4, 5.

<sup>89</sup> Hellmuth Kramberger 2017b, 106; Pl. 12: 11.

<sup>90</sup> Buršić-Matijašić 1998, Pl. 56.

<sup>91</sup> Buršić-Matijašić 1998, 97.

<sup>92</sup> Buršić-Matijašić 1998, Pl. 65: 849.

<sup>93</sup> On the basis of the available parallels, it can be dated to a broad period (Cardarelli 1983, 110, 116, Pl. 31A: 4).



#### d) Drugi oblici ukrašavanja

Od drugih oblika ukrašavanja pojavljuje se motiv ubadanja štapićem u obliku triju uzastopnih uboda kružnog oblika (N-128, T. 2: 3). Ovakav tip ubadanja pojavljuje se kod Cardarellija u završnome brončanom dobu II.<sup>94</sup> Međutim, Cardarelli donosi još dva lokaliteta na kojima se pojavljuje ovaj motiv. Na gradini Sv. Duh pokraj Novigrada (S. Spirito di Cittanova) ulomci s ovim ukrasom datiraju se između kraja mlađega brončanog doba i početka završnoga brončanog doba I,<sup>95</sup> dok se primjerak s Limske gradine<sup>96</sup> datira od mlađega brončanog do željeznog doba.<sup>97</sup> Spomenuti treba i ulomak ukrašen glačanjem (N-105) kod kojeg se glačanje pojavljuje s unutrašnje strane u obliku širokih paralelnih linija.

### PROBLEMI STRATIGRAFIJE I KRONOLOGIJE

#### a) Sonda 2

Već je u tekstu navedeno kako u sondi 2 ne postoji jasna stratigrafija budući da se radi o zapuni iz ranijih Malezovih istraživanja. Ipak, datiranje pojedinih ulomaka keramike može nam reći nešto o dataciji slojeva iz kojih je originalno potekao materijal. Mali broj ulomaka iskopanih u sondi 2 zapravo pruža detaljnije informacije o dataciji slojeva. Na najraniju dataciju upućuje nekoliko primjeraka. Plastične trake, ukrašene utiskivanjem prstima, K. Buršić-Matijašić datira u srednje brončano doba i prelazak u mlađe brončano doba,<sup>98</sup> a Cardarelli u prvi dio mlađega brončanog doba.<sup>99</sup> S obzirom na novu dataciju materijala iz Monkodonje, pretpostaviti treba raniju dataciju za primjerak iz sonde 2 te ga datirati između razvijene faze ranoga brončanog doba i starije faze srednjega brončanog doba. O toj data-

#### d) Other decoration techniques

Among other decoration techniques, there is puncturing with a small stick, with three successive punctures forming a circular shape (N-128, Pl. 2: 3). This type of puncturing can be found in Cardarelli's Final Bronze Age II.<sup>94</sup> However, Cardarelli cites two other sites where this motif has been found. At the S. Spirito di Cittanova hillfort, potsherds thus decorated have been dated to the period between the end of the Late Bronze Age and the beginning of Final Bronze Age I,<sup>95</sup> while the find from the Limska Gradina hillfort<sup>96</sup> has been dated to between the Late Bronze Age and the Iron Age.<sup>97</sup> A sherd decorated by polishing (N-105) should also be mentioned; polishing is present on the inside, in the shape of wide parallel lines.

### ISSUES PERTAINING TO STRATIGRAPHY AND CHRONOLOGY

#### a) Trench 2

It has been mentioned above that trench 2 contained no clear stratigraphy, given that it was dug in the filled-in earth resulting from an earlier excavation by Malez. Nonetheless, dating of individual sherds can tell us something about the dates of the layers from which the material originated. A small number of potsherds recovered from trench 2 actually provide detailed information about the dates of various layers. The earliest dates are indicated by several finds. The plastic straps decorated with finger impressions have been dated by Buršić-Matijašić to the Middle Bronze Age and to the turn of the Late Bronze Age,<sup>98</sup> and by Cardarelli to the first phase of the Late Bronze Age.<sup>99</sup> In view of the recent dating of the material from Monkodonja, we should assume that the earlier dates for the find from trench 2 are correct and thus date it to the period between the advanced phase of

<sup>94</sup> Cardarelli 1983, 100–101, T. 22: 171.

<sup>95</sup> Cardarelli 1983, 108, 114, T. 29A: 8.

<sup>96</sup> Vidjeti i Urem 2012, T. 9, 11.

<sup>97</sup> Cardarelli 1983, 110, 114, T. 29B: 17.

<sup>98</sup> Buršić-Matijašić 1998, 95.

<sup>99</sup> Cardarelli 1983, 94–95, T. 19: 35.

<sup>94</sup> Cardarelli 1983, 100–101, Pl. 22: 171.

<sup>95</sup> Cardarelli 1983, 108, 114, Pl. 29A: 8.

<sup>96</sup> See also Urem 2012, Pl. 9, 11.

<sup>97</sup> Cardarelli 1983, 110, 114, Pl. 29B: 17.

<sup>98</sup> Buršić-Matijašić 1998, 95.

<sup>99</sup> Cardarelli 1983, 94–95, Pl. 19: 35.

ciji svjedoči i koljenasto profilirana ručka (N-3, T. 5: 11) koja se prvi put pojavljuje u ranome brončanom dobu, a pronalazimo je u velikom broju na lokalitetu Monkodonja. Ovaj primjerak vjerojatno se veže uz pithos tipa V prema A. Hellmuth Kramberger.<sup>100</sup> Na spomenutu fazu vjerojatno upućuju i završeci potkovičastih aplikacija, pronađeni u sondi 2 (N-38, T. 6: 7; N-40, T. 6: 8). S obzirom na paralele na istočnoj obali Jadrana i na Balkanu, potkovičaste plastične aplikacije i ručke mogu se također široko datirati od ranoga brončanog doba pa do kasnoga brončanog doba.<sup>101</sup> Iako ih Cardarelli povezuje s mlađim brončanim dobom,<sup>102</sup> moguće ih je vezati uz tip posuda s antropomorfnom aplikacijom, specifičnima za razvijeno rano brončano doba i stariju fazu srednjega brončanog doba u Istri.<sup>103</sup>

Dva primjerka (N-4, T. 5: 7; N-20, T. 5: 6) rubova šalice upućuju na završno brončano doba II, a radi se o oblicima koji se pojavljuju i u prvom stupnju željeznog doba. Na završno brončano doba II mogao bi upućivati i ulomak tijela šalice (N-23, T. 6: 2), s jasno izraženom profilacijom.<sup>104</sup> Ulomak ruba šalice (N-48, T. 5: 8), prema Cardarelliju, moguće je datirati u prvi stupanj željeznog doba,<sup>105</sup> a u istu fazu treba svrstati i uvučeni rub zdjele sa pseudovrpčastim ukrasom<sup>106</sup> te drugi uvučeni rub (N-31) ukrašen glačanjem.

Prema keramici iz sonde 2 moguće je izdvojiti tri zasebna horizonta. S obzirom na velik broj paralela s lokaliteta Monkodonja, prvi horizont treba datirati u razdoblje između razvijenog ranog i starije faze srednjega brončanog doba (1850. – 1450. g. pr. Kr.). Drugi je horizont vjerojatno završno brončano doba (1150. – 900. g. pr. Kr.) koje je zastupljeno s tek malim brojem primje-

the Early Bronze Age and the late phase of the Middle Bronze Age. Such a dating is further evidenced by the knee-shaped handle (N-3, Pl. 5: 11), which appeared for the first time in the Early Bronze Age, and it has been recovered in large numbers from the Monkodonja site. This specimen probably derives from a pithos of type V according to Hellmuth Kramberger.<sup>100</sup> The ends of horseshoe-shaped appliques discovered in trench 2 (N-38, Pl. 6: 7; N-40, Pl. 6: 8) are probably also indicative of this phase. Given the parallels that exist on the eastern Adriatic coast and in the Balkans, horseshoe-shaped appliques and handles can be dated to a wide period ranging between the Early Bronze Age and the Late Bronze Age.<sup>101</sup> Although Cardarelli associates them with the Late Bronze Age,<sup>102</sup> they can also be associated with the type of vessels with anthropological applique that are characteristic of the advanced phase of the Early Bronze Age and the early phase of the Middle Bronze Age in Istria.<sup>103</sup>

Two cup rims (N-4, Pl. 5: 7; N-20, Pl. 5: 6) suggest their dating to Final Bronze Age II, but the same shapes appear in the incipient Iron Age, too. A fragment of the body of a cup with clear profiling (N-23, Pl. 6: 2) could also be dated to Final Bronze Age II.<sup>104</sup> A fragment of the rim of a cup (N-48, Pl. 5: 8) can be dated to the incipient Iron Age according to Cardarelli,<sup>105</sup> and an inverted bowl rim with a pseudo-cord decoration<sup>106</sup> and another inverted rim decorated by polishing (N-31) should be classified to the same phase.

Based on the pottery finds recovered from trench 2, we can distinguish among three separate horizons. In view of the great number of parallels from the site of Monkodonja, the first horizon should be dated to the period between the advanced Early Bronze Age and the early phase of the Middle Bronze Age (1850 – 1450 BC). The second horizon probably originates

<sup>100</sup> Hellmuth 2014, Sl. 4; Hellmuth Kramberger 2017a, 176–178, 401, Sl. 280b: 67.

<sup>101</sup> Vidjeti: Batović 1983, 363, sl. 24: 3; T. 51: 9; Čović 1983a, 127, 176, T. 13: 4, 21; Urem 2012, 95.

<sup>102</sup> Cardarelli 1983, 94–95, T. 19: 76b.

<sup>103</sup> Hellmuth 2012; 2015.

<sup>104</sup> Cardarelli 1983, 100–101, T. 22: 62.

<sup>105</sup> Cardarelli 1983, 100–101, T. 22: 66.

<sup>106</sup> Cardarelli 1983, T. 22: 166, 167.

<sup>100</sup> Hellmuth 2014, Fig. 4; Hellmuth Kramberger 2017a, 176–178, 401, Fig. 280b: 67.

<sup>101</sup> See Batović 1983, 363, Fig. 24: 3; Pl. 51: 9; Čović 1983a, 127, 176, Pl. 13: 4, 21; Urem 2012, 95.

<sup>102</sup> Cardarelli 1983, 94–95, Pl. 19: 76b.

<sup>103</sup> Hellmuth 2012; 2015.

<sup>104</sup> Cardarelli 1983, 100–101, Pl. 22: 62.

<sup>105</sup> Cardarelli 1983, 100–101, Pl. 22: 66.

<sup>106</sup> Cardarelli 1983, Pl. 22: 166, 167.

raka. Treći horizont predstavljaju ulomci prvog stupnja željeznog doba (900. – 800. g. pr. Kr.) koji su zastupljeni najvećim brojem dijagnostičkih ulomaka. Kako se većina ulomaka povezanih sa završnim brončanim dobom zapravo datira u njegovu drugu podfazu, tj. završno brončano doba II, te se većina tih oblika pojavljuje i kasnije u prvom stupnju željeznog doba, moguće je horizonte 2 i 3 spojiti u jedan te ih smatrati jednim horizontom završnoga brončanog doba II – prvog stupnja željeznog doba<sup>107</sup> s datacijom između 1000. i 800. g. pr. Kr.

### b) Sonda 3

Pri iskopavanju unutar sonde 3 iskopane su jedinice podijeljene u 5 slojeva. Iskopane slojeve ni prilikom iskopavanja nije bilo moguće jasno razlikovati zbog homogenosti zemlje. Analiza keramike iz otkopnih slojeva 1 – 5 pokazuje sličnu sliku. Nezavisna analiza keramičkih datuma i njezina usporedba sa stratigrafijom pokazala je poremećenost otkopnih slojeva.

Najraniju potencijalnu dataciju keramičkog materijala mogli bi pružiti primjerci žljebljenih koncentričnih kružnica (N-86, T. 2: 1; N-120, T. 1: 11; N-125, T. 3: 4) koje se na materijalu iz Monkodonje pojavljuju već između razvijene faze ranoga brončanog doba i starije faze srednjega brončanog doba.<sup>108</sup> Nešto su starija istraživanja svrstavala ove motive u srednje brončano doba<sup>109</sup> s mogućom zastupljenošću i u kasnijim razdobljima (mlađe brončano doba i početak završnoga brončanog doba).<sup>110</sup> Kao i u slučaju sonde 2, koljenasto profiliranu ručku (N-62, T. 2: 7) valja datirati u razdoblje između razvijenog ranog te starije faze srednjega brončanog doba u Istri. I u sondi 3, periodu između razvijenoga ranog brončanog doba i starije faze srednjega brončanog

from the Final Bronze Age (1150 – 900 BC) and is represented by just a small number of finds. The third horizon is represented by potsherds from the incipient Iron Age (900 – 800 BC), with the greatest number of diagnostic potsherds. In view of the fact that the majority of sherds associated with the Final Bronze Age have actually been dated to its second subphase, i.e. to Final Bronze Age II, and that most of these shapes can also be found later, in the incipient Iron Age, horizons 2 and 3 can be merged into one and treated as a single horizon of Final Bronze Age II / incipient Iron Age,<sup>107</sup> datable to between 1000 and 800 BC.

### b) Trench 3

During the excavation of trench 3, the excavated units were divided into 5 layers. During the dig, the layers could not be distinguished clearly due to the homogeneity of the soil. A similar picture has been obtained by the analysis of pottery finds recovered from excavated layers 1–5. An independent analysis of pottery dates and their comparison with the stratigraphy has revealed that the excavated layers had been disturbed.

The earliest potential dates for pottery finds could be provided by the sherds with grooved concentric circles (N-86, Pl. 2: 1; N-120, Pl. 1: 11; N-125, Pl. 3: 4), which in the Monkodonja material appeared as early as between the advanced phase of the Early Bronze Age and the early phase of the Middle Bronze Age.<sup>108</sup> Earlier research dated such motifs to the Middle Bronze Age,<sup>109</sup> with possible appearance in subsequent periods, too (in the Late Bronze Age and the beginning of the Final Bronze Age).<sup>110</sup> As in trench 2, the knee-shaped handle (N-62, Pl. 2: 7) should be dated to the period between the advanced Early Bronze Age and the early phase of the Middle Bronze Age in Istria. In trench 3, too, horseshoe-shaped appliques that could represent anthropomorphic decoration on vessels should be dated to the period between the

<sup>107</sup> Na ovu dataciju upućuje i ulomak ukrašen urezivanjem u motivu riblje kosti (N-42, T. 6: 4).

<sup>108</sup> Hellmuth Kramberger 2017b, 106; T. 12: 11.

<sup>109</sup> Cardarelli 1983, 109, T. 26: 10–12; Čović 1983b, 239; T. 35: 4; Buršić-Matijašić 1998, 102.

<sup>110</sup> Cardarelli 1983, 108, 114, T. 29A: 1, 3, 4, 5.

<sup>107</sup> Such dating is also indicated by the potshard decorated with incised fishbone motif (N-42, Pl. 6: 4).

<sup>108</sup> Hellmuth Kramberger 2017b, 106; Pl. 12: 11.

<sup>109</sup> Cardarelli 1983, 109, Pl. 26: 10–12; Čović 1983b, 239; Pl. 35: 4; Buršić-Matijašić 1998, 102.

<sup>110</sup> Cardarelli 1983, 108, 114, Pl. 29A: 1, 3, 4, 5.

doba treba pripisati potkovičaste aplikacije koje potencijalno predstavljaju antropomorfni ukras na posudama.<sup>111</sup>

U početak mlađega brončanog doba može se datirati rub zdjele N-68 (T. 4: 14). Dataciju u mlađe brončano doba sugerira i izvučeni rub lonca N-55 (T. 3: 9) kakav nalazimo na gradini Sv. Duh pokraj Novigrada.<sup>112</sup> U kraj mlađega brončanog doba možda je moguće datirati ručku trokutastog presjeka, a dataciju je moguće proširiti i na početak završnoga brončanog doba.<sup>113</sup> Budući da se velik dio ove atribucije, prema Cardarelliju, veže uz relativno zastarjele faze, datume treba uzeti s rezervom.

Ulomci s urezanim ravnim linijama i motivom riblje kosti (N-87, T. 2: 4; N-88, T. 2: 5; N-99, T. 1: 3) datiraju u završno brončano doba – prvi stupanj željeznoga doba,<sup>114</sup> a peterokutna drška također bi se mogla datirati između završnoga brončanog doba i prvog stupnja željeznog doba (1150. – 800. g. Pr. Kr.).<sup>115</sup> Uz početak ranoga željeznog doba veže se i ručka cothon tipa (N-64, T. 2: 6). U prvi stupanj željeznog doba treba datirati i prebačeni rub (N-63, T. 3: 5), ukrašen pseudovrpčastom dekoracijom.

Otkopni sloj 1 pokazuje potencijalnu dataciju u mlađe brončano doba (N-55, T. 3: 9), ali se ta datacija temelji samo na jednom ulomku. Zbog činjenice da datacija ulomka nije pouzdana i da se radi samo o jednom primjerku, treba se suzdržati od pokušaja jasnog datiranja ovog sloja. Također, treba navesti da se radi o površinskom sloju i da je moguća i kontaminacija čitavog sloja. Čitavi sloj 2 moguće je podijeliti u dvije razine. Gornja razina pokazuje širok raspon keramičkih datuma. Iako potkovičasta aplikacija (N-66, T. 4: 12) i koljenasto profilirana ručka upućuju na razvijeno rano brončano doba i stariju fazu srednjega brončanog doba, pronalazak ručke cothon tipa i ruba ukrašenog pseudovrpčastim ukrasom (N-

advanced Early Bronze Age and the early phase of the Middle Bronze Age.<sup>111</sup>

The bowl rim N-68 (Pl. 4: 14) can be dated to the beginning of the Late Bronze Age. Such dating, to the Late Bronze Age, is also suggested by the everted pot rim N-55 (Pl. 3: 9), such as has been found at the S. Spirito di Cittanova hillfort.<sup>112</sup> A handle with triangular cross-section could perhaps be dated to the end of the Late Bronze Age, but the dating could be extended to the beginning of the Final Bronze Age.<sup>113</sup> Since this attribution relies to a large extent on the relatively outdated phases according to Cardarelli, the dates should be taken with reservation.

Potsherds with incised straight lines and fish-bone motif (N-87, Pl. 2: 4; N-88, Pl. 2: 5; N-99, Pl. 1: 3) originate from the Final Bronze Age / incipient Iron Age,<sup>114</sup> and the pentagonal handle could also be dated to the period between the Final Bronze Age and the incipient Iron Age (1150 – 800 BC).<sup>115</sup> The *cothon*-type handle (N-64, Pl. 2: 6) is also associated with the beginning of the Early Iron Age. The downward-pointing everted rim decorated with pseudo-cord decoration (N-63, Pl. 3: 5) should also be dated to the incipient Iron Age.

Excavation layer 1 could potentially be dated to the Late Bronze Age (N-55, Pl. 3: 9), but the dating is based on only one potsherd. Due to the fact that the dating of the sherd is not reliable and that there is only one find, we should refrain from attempting to clearly date this layer. Furthermore, it should be noted that this was a surface layer, and as such it could be contaminated in its entirety. Layer 2 can be divided into two levels. The upper level contained a wide range of pottery dates. Although a horseshoe-shaped applique (N-66, Pl. 4: 12) and the knee-shaped handle are indicative of the advanced Early Bronze Age and the early phase of the Middle Bronze Age, the discovery of a handle of the *cothon* type and a rim decorated with pseudo-cord decoration (N-62, Pl. 2: 7; N-64, Pl. 2: 6; N-63, Pl. 3: 5) within the same quadrant suggests that

<sup>111</sup> Hellmuth 2012; 2015.

<sup>112</sup> Cardarelli 1983, 108, 111, T. 27B: 8.

<sup>113</sup> Cardarelli 1983, 108, 114, T. 29A: 9.

<sup>114</sup> Cardarelli 1983, 98–99, T. 21: 138, 141, 162.

<sup>115</sup> Cardarelli 1983, 112, 117, T. 32B: 17.

<sup>111</sup> Hellmuth 2012; 2015.

<sup>112</sup> Cardarelli 1983, 108, 111, Pl. 27B: 8.

<sup>113</sup> Cardarelli 1983, 108, 114, Pl. 29A: 9.

<sup>114</sup> Cardarelli 1983, 98–99, Pl. 21: 138, 141, 162.

<sup>115</sup> Cardarelli 1983, 112, 117, Pl. 32B: 17.

62, T. 2: 7; N-64, T. 2: 6; N-63, T. 3: 5) unutar istog kvadranta ukazuje na ispremiješanost ovog sloja te upućuje na široku dataciju između razvijenoga ranoga brončanog doba i prvog stupnja željeznog doba (1850. – 800. g. pr. Kr.). Sličnu situaciju pronalazimo i kod donje razine sloja 2, gdje ulomci ukrašeni žljebljenim koncentričnim kružnicama (N-86, T. 2: 1; N-120, T. 1: 11; N-125, T. 3: 4) ukazuju na raniji datum,<sup>116</sup> a ulomci N-87 (T. 2: 4) i N-88 (T. 2: 5), pronađeni u kvadrantu A3, upućuju na završno brončano doba – prvi stupanj željeznog doba. Dvije razine sloja 2 moguće je povezati preko dva spojiva ulomka (N-78 i N-83, T. 3: 2) istog ruba lonca koji su pronađeni u kvadrantu C3 gornje razine i kvadrantu B3 donje razine sloja 2.

Ispod sloja 2 nalazio se sloj koji je pri iskopavanju označen kao sloj 2 ili 3. Ovaj je sloj također moguće podijeliti na dvije iskopne razine, gornju i donju. Potkovičaste aplikacije unutar gornje razine upućivale bi na dataciju u razvijeno rano brončano doba ili stariju fazu srednjega brončanog doba, ali peterokutna ručka (N-98, T. 1: 6), pronađena unutar kvadranta B1 na istoj razini, upućuje na završno brončano doba – prvi stupanj željeznog doba. Međutim, puno je važniji ulomak N-97 (T. 1: 5), ukrašen urezanim kratkim vertikalnim crtama. Radi se o ulomku iste posude, kao i kod ulomka N-56 (T. 1: 7) (vidjeti prethodno u tekstu) koji je pronađen na samom vrhu sloja 1. Ova dva ulomka ukazuju na to da sve iskopne razine između površinskog sloja i gornje razine sloja 2/3 treba pripisati istoj depozicijskoj epizodi i da se zapravo radi o jednom sloju. Široki keramički datumi između slojeva 1 i 2/3 dodatno potvrđuju ispremiješanost slojeva.

Donja razina sloja 2/3 pokazuje datume između razvijenoga ranog i završnoga brončanog doba (N-120, T. 1: 11; N-125, T. 3: 4). Neposredno ispod tog sloja nalazi se sloj 4/5 u kojem je pronađen jedan ulomak (N-99, T. 1: 3) s datacijom u završno brončano

the layer had been disturbed and that possible dates fall within a wide range between the advanced Early Bronze Age and the incipient Iron Age (1850 – 800 BC). In the lower level of layer 2, the situation was similar: potsherds decorated with grooved concentric circles (N-86, Pl. 2: 1; N-120, Pl. 1: 11; N-125, Pl. 3: 4) are indicative of earlier dating,<sup>116</sup> and potsherds N-87 (Pl. 2: 4) and N-88 (Pl. 2: 5) recovered from quadrant A3 suggest dating to the Final Bronze Age / incipient Iron Age. The two levels of the layer can be linked together through two adjoining sherds (N-78 and N-83, Pl. 3: 2) of the same pot rim, discovered in quadrant C3 of the upper level, and quadrant B3 of the lower level, of layer 2.

Under layer 2, there was a layer which was marked as layer 2 or layer 3 during the excavation. This layer can also be divided into two excavation levels, the upper and lower levels. The horseshoe-shaped appliques found in the upper level would suggest dating to the advanced Early Bronze Age or the early phase of the Middle Bronze Age, but the pentagonal handle (N-98, Pl. 1: 6) discovered in quadrant B1 of the same level indicates dating to the Final Bronze Age / incipient Iron Age. However, potsherd N-97 (Pl. 1: 5), decorated with incised short vertical lines, is much more important. It belongs to the same vessel as sherd N-56 (Pl. 1: 7) (see above), found at the very top of layer 1. The two sherds suggest that all the excavated levels of the surface layer, and the upper levels of layer 2/3, should be attributed to the same deposition episode, and that they actually form a single layer. The wide range of pottery dates in layers 1 and 2/3 corroborate the view that the layers had been mixed together.

The lower level of layer 2/3 contained material dated to the period between the advanced Early Bronze Age and the Final Bronze Age (N-120, Pl. 1: 11; N-125, Pl. 3: 4). Immediately under this layer there was layer 4/5, which contained one potsherd (N-99, Pl. 1: 3) dated to the Final Bronze Age / incipient Iron Age. Given that in this case earlier layers are located above the later ones, which cannot be in an undisturbed stratigraphic sequence, the conclusion should

<sup>116</sup> Hellmuth Kramberger 2017a, 282–283; 2017b, 106, T. 12: 11.

<sup>116</sup> Hellmuth Kramberger 2017a, 282–283; 2017b, 106, Pl. 12: 11.

doba – prvi stupanj željeznog doba. Kako se u tom slučaju stariji slojevi nalaze iznad mlađih, što u neporemećenoj stratigrafskoj sekvenci nije moguće, valja zaključiti da unutar prvih 5 slojeva sonde 3 nema jasne stratigrafije.

Bez obzira na izostanak jasne stratigrafije, keramički materijal, kao i u slučaju sonde 2, može pružiti neke informacije o nekadašnjim slojevima. Dijagnostički ulomci široko se datiraju između razvijene faze ranoga brončanog i prvog stupnja željeznog doba (1850. – 800. g. pr. Kr.). S obzirom na velik broj paralela s materijalom iskopanim na lokalitetu Monkodonja, pretpostavlja se da se datacija jednog dijela materijala podudara s datacijom slojeva na samom lokalitetu. Prema posljednjim rezultatima istraživanja, faze najintenzivnijeg naseljavanja lokaliteta Monkodonja treba datirati u razdoblje između razvijenoga ranog i starije faze srednjega brončanog doba u Istri (1850. – 1450. g. pr. Kr.).<sup>117</sup> Sukladno tomu, najranije slojeve s keramičkim materijalom iz Romualdove pećine treba datirati u ovu fazu.

Dio materijala može se pripisati i prijelaznoj fazi s mlađeg na završno brončano doba (1200. – 1100. g. pr. Kr.) kako je definirao Cardarelli,<sup>118</sup> o čemu svjedoči i C<sup>14</sup> datum 3150 ± 46 godina prije sadašnjosti, dobiven iz ljudskih osteoloških ostataka.<sup>119</sup> Valja napomenuti da su i te kosti, pronađene u slojevima između 1 i 2/3, sigurno pronađene izvan njihova originalnog konteksta. U ranijim izvještajima navedeno je kako stratigrafski položaj ljudskih kosturnih ostataka, prisutni kosturni elementi i stanje očuvanosti pripisuju nalaze istome razdoblju.<sup>120</sup> Stratigrafski odnosi više se ne mogu uzeti kao valjani argument za ovu tvrdnju, ali nema razloga da se osteološke nalaze ne pripiše istom razdoblju i poveže s fazom mlađe – završno brončano doba. Nažalost, bez jasnijih stratigrafskih podataka, ili sa-

be drawn that there is no clear stratigraphy within the first 5 layers of trench 3.

Despite the fact that there is no clear stratigraphy, just as in trench 2, here too pottery material can offer some information about former layers. Diagnostic potsherds have been dated to a broad period between the advanced phase of the Early Bronze Age and the incipient Iron Age (1850 – 800 BC). In view of the large number of parallels with the material discovered at the site of Monkodonja, the assumption is warranted that dates of part of the material correspond to dates of the layers at the site itself. Based on the latest research results, phases of the most intensive settling of the site of Monkodonja should be dated to the period between the advanced Early Bronze Age and the early phase of the Middle Bronze Age in Istria (1850 – 450 BC).<sup>117</sup> Correspondingly, the earliest layers containing pottery in Romuald's Cave should be dated to this phase.

Some of the finds could perhaps be attributed to the transitional phase between the Late Bronze Age and the Final Bronze Age (1200 – 1100 BC), as defined by Cardarelli,<sup>118</sup> evidenced also by the C<sup>14</sup> date of 3150 ± 46 years before present, obtained from human osteological remains.<sup>119</sup> It should be mentioned that the bones, recovered from layers between 1 and 2/3, have certainly been found outside their original context. Earlier reports stated that the stratigraphic position of human skeletal remains, the skeletal elements present and their state of preservation, all attribute the finds to the same period.<sup>120</sup> The stratigraphic relations cannot be considered to be a valid argument for such a statement any longer, but there is no reason for the osteological finds not to be attributed to the same period and associated with the Late/Final Bronze Age. Unfortunately, without clear stratigraphic data or information about the original context of the human remains, it is impossible to establish whether the site was settled over a long period, or whether it was used for burial purposes during the abovementioned period.<sup>121</sup>

<sup>117</sup> Hänsel, Teržan, Mihovilić 2007; Hänsel, Mihovilić, Teržan 2015, 424–452; Hellmuth Kramberger 2017a, 340.

<sup>118</sup> Cardarelli 1983, 92.

<sup>119</sup> Janković *et al.* 2016, 12.

<sup>120</sup> Janković *et al.* 2016, 12.

<sup>117</sup> Hänsel, Teržan, Mihovilić 2007; Hänsel, Mihovilić, Teržan 2015, 424–452; Hellmuth Kramberger 2017a, 340.

<sup>118</sup> Cardarelli 1983, 92.

<sup>119</sup> Janković *et al.* 2016, 12.

<sup>120</sup> Janković *et al.* 2016, 12.

<sup>121</sup> Some potshards also suggest that the cave was inhabited

znanja o originalnom kontekstu ljudskih ostataka, nije moguće ustvrditi radi li se o dužem periodu nastanjanja ili o potencijalnom korištenju lokaliteta u pogrebne svrhe tijekom spomenutog perioda.<sup>121</sup>

Drugu jasno definiranu fazu predstavljali bi nalazi datirani u završno brončano doba II (1000. – 900. g. pr. Kr.) i prvi stupanj željeznog doba (900. – 800. g. pr. Kr.). S obzirom na to da većina materijala s ovom datacijom zapravo pokriva obje faze, ova je faza definirana kao završno brončano doba II – prvi stupanj željeznog doba (1000. – 800. g. pr. Kr.). Paralele između keramičkog materijala, pronađenog unutar obje sonde, ukazuje na to da su dvije spomenute faze, iako nisu zabilježene u zatvorenim slojevima, dovoljno zastupljene da se mogu smatrati fazama naseljavanja Romualdove pećine.

Naposljetku, valja spomenuti da neki ulomci imaju tragove recentnih lomova, ali njihov spoj nije pronađen. Većinom je riječ o ulomcima tijela posuda iz različitih slojeva sonde te je moguće da pri iskopavanju nisu prikupljeni. Postoji i mogućnost da se radi o ulomcima koji su se nalazili u profilu, da su pri iskopavanju prelomljeni te da se drugi dio ulomka i dalje nalazi u profilu. Međutim, recentni lomovi bez spoja potvrđeni su čak i u slučaju očitih dijagnostičkih ulomaka koji vjerojatno nisu previđeni pri iskopavanju (N-52, T. 3: 10). Ipak, radi se o jednom ulomku ruba amfore koji potječe iz čišćenja površinskog sloja te je moguće da nije prikupljen. Napomenuti treba i mogućnost da su ovi ulomci polomljeni prilikom ranijih istraživanja. Ova mogućnost i prethodno izneseni argumenti, potkrijepljeni dobivenom analizom keramičkih ostataka, ukazuju da se i u ovom slučaju možda radi slojevima uništenima ranijim istraživanjima u pećini. Svakako, napomenuti treba i životinjsku aktivnost zabilježenu u sondi 3 koja je zasigurno djelovala na stratigrafske odnose gornjih slojeva sonde 3.<sup>122</sup>

<sup>121</sup> Pojedini ulomci sugeriraju naseljavanje pećine u ovoj fazi. Međutim, radi se samo o sporadičnim primjercima čiju kronološku pripadnost nije moguće jasno odrediti.

<sup>122</sup> Vidjeti Janković *et al.* 2016, 9, 12.

The second clearly-defined phase consists of finds dated to Final Bronze Age II (1000 – 900 BC) and the incipient Iron Age (900 – 800 BC). In view of the fact that the majority of material dated to this period covers both phases, the period has been identified as the Final Bronze Age / incipient Iron Age period (1000 – 800 BC). Parallels among pottery material found in both trenches indicate that the two phases, although not recorded in closed layers, are represented sufficiently to be considered phases of settlement of Romuald's Cave.

Finally, it is worth mentioning that some sherds display traces of recent breakage, but the corresponding pieces have not been found. Those are mostly fragments of vessels' bodies recovered from various layers of the trench, which may have been omitted during the excavation. It is also possible that these sherds were found in the profile, that they were broken during the dig, and that the other part of the sherd is still in the profile. However, recent breakage with no corresponding pieces has been identified even in the cases of obvious diagnostic potsherds which could hardly have been omitted during the excavation (N-52, Pl. 3: 10). Still, this single fragment of amphora rim was discovered during the cleaning of the surface layer, and it is possible that the corresponding piece has not been collected. It is also possible that these sherds had been broken during earlier excavations. This possibility, together with arguments presented above and supported by the results obtained from analysis of the pottery remains indicate that, in this case, too, layers could have been disturbed by earlier investigations of the cave. The animal activity recorded in trench 3 should also be mentioned here, as it has definitely impacted the stratigraphic relations in the upper layers of trench 3.<sup>122</sup>

during this phase. However, these are only sporadic finds whose chronological attribution cannot be clearly established.

<sup>122</sup> See Janković *et al.* 2016, 9, 12.

## ZAKLJUČAK

Keramički materijal opisan u ovome pregledu jasno se uklapa u sliku brončanog i ranoga željeznog doba u Istri. Ovi nalazi posebno dobivaju na značaju u kontekstu rezultata novih istraživanja na području Istre, primarno s lokaliteta Monkodonja. Iako u slojevima brončanog i ranoga željeznog doba u Romualdovoj pećini nema jasnih stratigrafskih odnosa, prezentirani materijal važan je za poznavanje spomenutih razdoblja u Istri. Uzevši u obzir da je najveći broj paralela zabilježen na lokalitetima koji se nalaze u neposrednoj blizini Romualdove pećine, poput Limske gradine, nalazi bi mogli pomoći analizama keramičkog materijala i na mikroregionalnoj razini. S druge strane, brojne paralele na nešto širem području sjevernoga Jadrana jasno stavljaju horizonte naseljavanja Romualdove pećine u nešto širi kulturni kontekst.

## KATALOG

### Sonda 2

N-1: Ulomak izvučenoga jednolikog ruba sivo-bež boje i uglačane površine. Vrlo vjerojatno dio zdjele srednje grube fature. Visina 3,5, širina 4, debljina 0,8.<sup>123</sup>

N-2: Ulomak ravnoga jednolikog ruba sivo-bež boje, uglačanog s obje strane. Vrlo vjerojatno dio lonca. Visina 3,4, širina 3,9, debljina 0,9.

N-3: Koljenasto profilirana ručka crvenkasto-smeđe boje. Debljina 1,2, širina 7,8.

N-4: Ulomak blago izvučenoga jednolikog ruba crne boje. Glačanje vidljivo s unutrašnje i vanjske strane. Visina 2,1, širina 3,1, debljina 0,9.

N-5: Ulomak ravnoga jednolikog ruba pit-hosa grube fature. S vanjske strane smeđe boje, s unutrašnje smeđe, a u presjek je crn. Visina 2,7, širina 3,2, debljina 2,6.

N-6: Ulomak ravnoga zadebljanog ruba s dvije istaknute kanelure paralelne s rubom. Visina 2,9, širina 2,6, debljina 1,2.

<sup>123</sup> Sve su dimenzije izražene u centimetrima.

## CONCLUSION

The pottery finds presented in this overview clearly fit in to the picture of the Bronze Age and the Early Iron Age in Istria. These finds are particularly important within the context of recent investigations in Istria, primarily at the site of Monkodonja. Although in Romuald's Cave the layers originating from the Bronze and Early Iron ages contain no clear stratigraphy, the material presented is important for the understanding of these periods in Istria. In view of the fact that the largest number of parallels have been observed at sites located in the immediate vicinity of Romuald's Cave, such as the Limska Gradina hillfort, the material discovered can contribute to analyses of pottery at a micro-regional level. On the other hand, numerous parallels in the wider region of the northern Adriatic clearly set the horizons of the settlement of Romuald's Cave in a somewhat wider cultural context.

## CATALOGUE

### Trench 2

N-1: Fragment of an everted uniform rim of grey-beige colour, with polished surface. Most probably part of a bowl of the medium-coarse fabric. Height 3.5, width 4.0, thickness 0.8<sup>123</sup>

N-2: Fragment of a straight uniform rim of grey-beige colour, polished on both sides. Most probably part of a pot. Height 3.4, width 3.9, thickness 0.9

N-3: Knee-shaped handle of a reddish-brown colour. Thickness 1.2, width 7.8

N-4: Fragment of a slightly everted uniform rim of black colour. Polishing can be observed on both sides. Height 2.1, width 3.1, thickness 0.9

N-5: Fragment of a straight uniform rim of a pit-hos, of coarse fabric. On the outside it is brown, on the inside brown, and the cross-section is black. Height 2.7, width 3.2, thickness 2.6

N-6: Fragment of a straight thickened rim with two emphasized flutes parallel to the rim. Height 2.9, width 2.6, thickness 1.2

<sup>123</sup> All the dimensions are in centimetres.



N-7: Ulomak trakaste ručke crvenkasto-sive boje. Slično kao N-46. Duljina 4,2, širina 3,2, debljina 1,2.

N-8: Ulomak običnoga ravnog dna. Iznutra smeđe boje, a izvana crvene. Duljina 2,2, širina 1,7, debljina 1,0.

N-9: Ulomak tijela posude s prijelazom iz trbuha u vrat. Iznutra crvene boje, a izvana tamnosmeđe. Visina 5,1, širina 4,4, debljina 1,1.

N-10: Ulomak običnoga ravnog dna narančasto-smeđe boje. Dužina 3,9, širina 3,8, debljina 1,7.

N-11: Ulomak običnog ravnog dna tamnosmeđe boje. Dužina 3.1, širina 2.2, debljina 1.5

N-12: Ulomak tijela smeđe boje s klinastom plastičnom aplikacijom. Duljina 7,5, širina 5,6, debljina 1,4.

N-13: Ulomak odlomljene ručke O presjeka. Izvana smeđe boje, a iznutra crne. Duljina 3,9, širina 2,4, debljina 1,9.

N-14: Ulomak ravnoga suženog ruba crne boje i glačane površine. Visina 2,1, širina 2,0, debljina 1,3.

N-15: Ulomak ravnoga jednolikoga ruba tamnosmeđe boje. Visina 2,4, širina 2,4, debljina 0,8.

N-16: Ulomak izvučenoga jednolikog ruba tamnosmeđe boje. Visina 1,6, širina 2,4, debljina 0,8.

N-17: Ulomak trakaste ručke. S vanjske je strane tamnocrvene boje, a presjek je siv. Duljina 2,7, širina 1,9, debljina 0,8.

N-18: Ulomak uvučenoga zadebljanog ruba zdjele smeđe boje. Rub je zaravnjen i ukrašen urezivanjem. Urezane linije su na rubu ispunjene inkrustacijom. Visina 1,7, širina 1,4, debljina 0,8.

N-19: Ulomak lagano izvučenog zadebljanog ruba crvenkasto-smeđe boje. Visina 2,7, širina 2,0, debljina 0,5.

N-20: Ulomak izvučenoga jednolikog ruba crne boje. Površina je glačana s unutrašnje i vanjske strane. Visina 2,5, širina 3,5, debljina 0,9.

N-21 i N-44: Tri ulomka istoga običnoga

N-7: Fragment of a strap handle, of reddish-grey colour. Similar to N-46. Length 4.2, width 3.2, thickness 1.2

N-8: Fragment of a regular flat bottom, brown on the inside, and red on the outside. Length 2.2, width 1.7, thickness 1.0

N-9: Fragment of a vessel body, with the transition from the belly to the neck. Red on the inside, dark brown on the outside. Height 5.1, width 4.4, thickness 1.1

N-10: Fragment of an ordinary flat bottom of orange-brown colour. Length 3.9, width 3.8, thickness 1.7

N-11: Fragment of an ordinary flat bottom of dark-brown colour. Length 3.1, width 2.2, thickness 1.5

N-12: Fragment of a brown body with a wedge-shaped plastic applique. Length 7.5, width 5.6, thickness 1.4

N-13: Fragment of a broken-off handle with O-shaped cross-section. Brown on the outside, black on the inside. Length 3.9, width 2.4, thickness 1.9

N-14: Fragment of a black straight thinned rim, with polished surface. Height 2.1, width 2.0, thickness 1.3

N-15: Fragment of a straight uniform rim of dark-brown colour. Height 2.4, width 2.4, thickness 0.8

N-16: Fragment of an everted uniform rim of dark-brown colour. Height 1.6, width 2.4, thickness 0.8

N-17: Fragment of a strap handle. Dark red on the outside, grey in cross-section. Length 2.7, width 1.9, thickness 0.8

N-18: Fragment of an inverted thickened bowl rim of brown colour. The rim is flattened and decorated with incisions. The incised lines along the rim are filled with incrustation. Height 1.7, width 1.4, thickness 0.8

N-19: Fragment of a slightly everted thickened rim of reddish-brown colour. Height 2.7, width 2.0, thickness 0.5

N-20: Fragment of a black everted uniform rim. The surface is polished on both inside and outside. Height 2.5, width 3.5, thickness 0.9

N-21 and N-44: Three fragments of an ordi-

ravnog dna tamnosive boje. Dužina 6,8, širina 5,0, debljina 1,1.

N-22: Ulomak ravnog blago suženog ruba posude. S vanjske je strane narančasto-smeđe boje, a s unutarnje tamnosmeđe. Visina 2,6, širina 1,9, debljina 0,9.

N-23: Ulomak tijela posude crne boje s prelaskom trbuha u vrat. Visina 3,3, širina 2,3, debljina 0,6.

N-24: Polovica potencijalno sekundarno obrađenog ulomka keramike. Na vanjskim stranama crvene boje, u presjeku crne boje. Duljina 5,8, širina 3,0, debljina 1,1.

N-25: Ulomak suženoga izvučenog ruba amfore. Na površini je narančaste boje, a u presjeku sive. Duljina 2,9, širina 1,9, debljina 1,2.

N-26: Blago izvučeni jednoliki rub tamnosmeđe boje, s tragovima utiskivanja prstiju na rubu. Visina 3,6, širina 4,2, debljina 1,1.

N-27: Uvučeni suženi rub konične zdjele crne boje. Visina 2,6, širina 4,8, debljina 0,7.

N-28: Ulomak prstenastog dna tamnosmeđe boje. Prsten nije jako naglašen. Duljina 3,5, širina 3,4, debljina 0,5.

N-29: Ulomak uvučenog, jednolikog i zaravnjenog ruba kalotaste zdjele. Ukrašen je pseudovrpčastim ukrasom s vanjske strane, u obliku dvije paralelne linije koje teku uz sam rub i sa pseudovrpčastim motivom riblje kosti ispod njih. Ulomak je tamnosmeđe boje. Visina 2,7, širina 2,6, debljina 0,9.

N-30: Ulomak izvučenoga blago suženog ruba. Ulomak je sive boje. Visina 1,6, širina 1,3, debljina 0,5.

N-31: Ulomak izvučenoga jednolikog ruba. Ulomak je smeđe boje. Visina 1,4, širina 2,5, debljina 0,4.

N-32: Ulomak ravnoga jednolikog ruba pithosa. Smeđe je boje izvana i iznutra, a crnog presjeka. Visina 6,1, širina 6,3, debljina 1,5.

N-33: Ulomak običnoga ravnog dna. Iznutra i u presjeku crne boje, a izvana crvenkasto-crne. Visina 1,6, širina 3,3, debljina 1,1.

N-34: Ulomak tijela pithosa s ravnom plastičnom aplikacijom. Crvenkasto-smeđe boje na vanjskim stranama, a u presjeku

nary flat bottom of dark-grey colour. Length 6.8, width 5.0, thickness 1.1

N-22: Fragment of a straight, slightly thinned vessel rim. Orange-brown on the outside, dark brown on the inside. Height 2.6, width 1.9, thickness 0.9

N-23: Fragment of a black vessel body with the transition from the belly to the neck. Height 3.3, width 2.3, thickness 0.6

N-24: Half of a potentially secondarily-processed pottery sherd. Red on the outside, black in cross-section. Length 5.8, width 3.0, thickness 1.1

N-25: Fragment of a thinned everted amphora rim. The surface is orange, the cross-section grey. Length 2.9, width 1.9, thickness 1.2

N-26: Slightly everted uniform rim of dark-brown colour with traces of finger impressions on the rim. Height 3.6, width 4.2, thickness 1.1

N-27: Inverted thinned rim of a black conical bowl. Height 2.6, width 4.8, thickness 0.7

N-28: Fragment of a ring-shaped bottom of dark-brown colour. The ring is not particularly emphasized. Length 3.5, width 3.4, thickness 0.5

N-29: Fragment of the inverted, uniform and flattened rim of a hemispherical bowl. On the outside, it is decorated with pseudo-cord decoration forming two parallel lines along the rim itself, and a pseudo-cord fishbone motif underneath. The sherd is dark brown. Height 2.7, width 2.6, thickness 0.9

N-30: Fragment of a slightly thinned rim. The sherd is grey. Height 1.6, width 1.3, thickness 0.5

N-31: Fragment of an everted uniform rim. The sherd is brown. Height 1.4, width 2.5, thickness 0.4

N-32: Fragment of the straight uniform rim of a pithos. Brown on the outside and inside, with black cross-section. Height 6.1, width 6.3, thickness 1.5

N-33: Fragment of an ordinary flat bottom. Black on the inside and in cross-section, reddish-black on the outside. Height 1.6, width 3.3, thickness 1.1

N-34: Fragment of the body of a pithos, with a flat plastic applique. Reddish-brown on the outside, with black cross-section. Length 4.1, width 2.9, thickness 1.5

crn. Duljina 4,1, širina 2,9, debljina 1,5.

N-35: Ulomak običnoga ravnog dna. Na vanjskim stranama smeđe boje, a u presjeku crn. Visina 3,2, širina 4,5, debljina 1,1.

N-36: Ulomak običnoga ravnog dna. Na vanjskim stranama smeđe boje, a u presjeku crn. Visina 3,2, širina 5,6, debljina 1,0.

N-37: Ulomak običnoga ravnog dna. S vanjske je strane crne boje, a s unutarnje crvene. Boja presjeka je crna. Visina 2,2, širina 3,8, debljina 1,3.

N-38: Dio tijela posude s plastičnom aplikacijom. Vjerojatno je riječ o donjem kraju kraka potkovičaste aplikacije, tj. drške. S vanjske je strane ulomak crvene boje, a s unutrašnje i u presjeku crne. Duljina 4,3, širina 3,7, debljina 1,0.

N-39: Ulomak robusne ručke smeđe boje. Duljina 5,1, širina 3,2, debljina 2,0.

N-40: Ulomak tijela posude s plastičnom aplikacijom. Vjerojatno se radi o donjem dijelu potkovičaste aplikacije, tj. drške. Vanjska je boja crvenkasto-smeđa, unutarnja tamnosmeđa, a presjek je smeđe boje. Duljina 4,1, širina 6,1, debljina 1,3.

N-41: Ulomak tijela posude s tragovima bojenja crnom bojom. Boja je vanjske površine bež-smeđa, unutarnje crna, a boja presjeka crna. Širina 3,3, dužina 2,9, debljina 0,6.

N-42: Ulomak tijela posude s plitko urezanim motivom riblje kosti. Dužina 3,2, širina 2,9, debljina 0,4.

N-43: Ulomak tijela posude s plastičnom aplikacijom ukrašenom utiskivanjem prsta. Ulomak je smeđe boje. Duljina 4,9, širina 3,5, debljina 1,3.

N-45: Ulomak ravnoga suženog ruba. Crne je boje i grube fature. Visina 1,9, širina 1,9, debljina 1,4.

N-46: Ulomak trakaste ručke crvenkasto-sive boje. Vidljivo centralno užljebljenje. Sličan kao N-7. Duljina 3,0, širina 2,2, debljina 1,3.

N-47: Slabo očuvani ulomak trakaste ručke uglačane tamnosmeđe površine i sivog presjeka. Duljina 3,2, širina 2,4, debljina 1,1.

N-48: Ulomak ravnoga jednolikog ruba. Crne je boje. Površina je ulomka uglačana s

N-35: Fragment of an ordinary flat bottom. Brown on the outside, with black cross-section. Height 3.2, width 4.5, thickness 1.1

N-36: Fragment of an ordinary flat bottom. Brown on the outside, with black cross-section. Height 3.2, width 5.6, thickness 1.0

N-37: Fragment of an ordinary flat bottom. Black on the outside, red on the inside, with black cross-section. Height 2.2, width 3.8, thickness 1.3

N-38: Part of a vessel's body with a plastic applique. Possibly the lower part of one arm of a horseshoe-shaped applique, or a hand-grip. The sherd is red on the outside, and black on the inside and in cross-section. Length 4.3, width 3.7, thickness 1.0

N-39: Fragment of a robust brown handle. Length 5.1, width 3.2, thickness 2.0

N-40: Fragment of the body of a vessel, with a plastic applique. Possibly the lower part of a horseshoe-shaped applique, or a hand-grip. Reddish-brown on the outside, dark brown on the inside, with brown cross-section. Length 4.1, width 6.1, thickness 1.3

N-41: Fragment of the body of a vessel with traces of black paint. The outside surface is beige-brown in colour, the inside is black, with black cross-section. Length 2.9, width 3.3, thickness 0.6

N-42: Fragment of the body of a vessel with a fishbone motif rendered with shallow incisions. Length 3.2, width 2.9, thickness 0.4

N-43: Fragment of the body of a vessel with a plastic applique decorated with finger impressions. The sherd is brown. Length 4.9, width 3.5, thickness 1.3

N-45: Fragment of a straight thinned rim, black and of a coarse fabric. Height 1.9, width 1.9, thickness 1.4

N-46: Fragment of a reddish-grey strap handle. A central groove is clearly visible. Similar to N-7. Length 3.0, width 2.2, thickness 1.3

N-47: Poorly-preserved fragment of a strap handle, with polished dark-brown surface and grey cross-section. Length 3.2, width 2.4, thickness 1.1

N-48: Fragment of a straight uniform rim of black colour. The surface is polished on both in-

unutarnje i vanjske strane, a sam ulomak je perforiran nakon pečenja. Visina 3,3, širina 2,5, debljina 0,5.

N-49: Ulomak ravnoga jednolikog ruba. Boja je sivo-bež. Vjerojatno pripada loncu. Visina 2,5, širina 2,0, debljina 0,8.

### Sonda 3

N-50: Ulomak običnoga ravnog dna posude. Narančasto-smeđe boje izvana i u presjeku, a iznutra tamnosmeđe. Duljina 3,2, širina 3,1, debljina 0,9.

N-51: Ravno dno s blago naglašenom stajaćom površinom. Izvana i u presjeku smeđe boje, a iznutra crne. Visina 2,8, širina 3,8, debljina 1,7.

N-52: Izvučeni jednoliki rub amfore narančasto-smeđe boje izvana, a crne u presjeku. Duljina 4,7, širina 5,9, debljina 1,0.

N-53: Ulomak ravnog, jednolikog i zaravnjenog ruba. Vjerojatno pripada loncu. Tamnosmeđe boje izvana i iznutra, a u presjeku crn. Visina 4,6, širina 6,2, debljina 1,7.

N-54: Ulomak uvučenog, zadebljanog i zaravnjenog ruba zdjele crne boje. Visina 3,9, širina 5,5, debljina 0,8.

N-55: Ulomak izvučenoga suženog ruba lonca. Narančasto-smeđe boje s vanjskih strana, a crne boje u presjeku. Visina 6,0, širina 8,3, debljina 1,0.

N-56: Ulomak tijela ukrašen urezivanjem vertikalnih kratkih linija. Tamnosmeđe boje s crvenim mrljama na vanjskoj površini. U presjeku vidljive inkluzije kamena (oko 3 mm). Dio iste posude, kao i N-97, ali bez jasnog spoja. Duljina 6,6, širina 4,7, debljina 1,0.

N-57: Ulomak dna tamnosmeđe boje na debeloj prstenastoj nozi. Duljina 5,0, širina 3,3, debljina 1,9.

N-58: Ulomak ravnog dna, smeđe boje, s blago naglašenom stajaćom površinom. Duljina 9,4, širina 6,9, debljina 1,0.

N-59: Ulomak smeđeg dna s izvučenom stajaćom površinom. Duljina 4,9, širina 4,5, debljina 0,9.

side and outside, and the sherd was perforated after the firing. Length 3.3, width 2.5, thickness 0.5

N-49: Fragment of a straight uniform rim of grey-beige colour. Most probably belonged to a pot. Height 2.5, width 2.0, thickness 0.8

### Trench 3

N-50: Fragment of an ordinary flat bottom of a vessel. Orange-brown on the outside and in cross-section, and dark brown on the inside. Length 3.2, width 3.1, thickness 0.9

N-51: Flat bottom with a slightly emphasized standing surface. Brown on the outside and in cross-section, black on the inside. Height 2.8, width 3.8, thickness 1.7

N-52: Everted uniform amphora rim, orange-brown on the outside, with black cross-section. Length 4.7, width 5.9, thickness 1.0

N-53: Fragment of a flat, uniform and flattened rim. Probably part of a pot. Dark brown on the outside and inside, with black cross-section. Height 4.6, width 6.2, thickness 1.7

N-54: Fragment of an inverted, thickened and flattened rim of a black bowl. Height 3.9, width 5.5, thickness 0.8

N-55: Fragment of an everted thinned pot rim. Orange-brown on the outside, with black cross-section. Height 6.0, width 8.3, thickness 1.0

N-56: Fragment of a body decorated with incised vertical short lines. The outside surface is dark brown with red stains. The cross-section reveals stone inclusions (around 3 mm). Part of the same vessel as N-97, but not clearly adjoining. Length 6.6, width 4.7, thickness 1.0

N-57: Fragment of a dark-brown bottom on a thick ring-shaped foot. Length 5.0, width 3.3, thickness 1.9

N-58: Fragment of a flat brown bottom, with a slightly emphasized standing surface. Length 9.4, width 6.9, thickness 1.0

N-59: Fragment of a brown bottom with an everted standing surface. Length 4.9, width 4.5, thickness 0.9

N-60: Fragment of an everted uniform rim deco-

N-60: Ulomak izvučenoga jednolikog ruba ukrašenog utiskivanjem prstom. Izvana je crvene boje, a iznutra crne. Crne mrlje vidljive po vanjskoj strani. Presjek je taman. Visina 6,6, širina 7,3, debljina 1,1.

N-61: Ulomak ravnoga jednolikog ruba, smeđe boje, s tragovima urezivanja na rubu. Visina 3,7, širina 4,2, debljina 1,3.

N-62: Koljenasto profilirana ručka narančasto-bež boje. Visina 4,2, širina 7,9, debljina 1,2.

N-63: Ulomak prebačenog ruba posude crne boje. Rub je jednolik i ukrašen pseudovrpčastim ukrasom. Visina 1,3, širina 5,0, debljina 0,6.

N-64: Ulomak tijela posude crne boje s ručkom cothon tipa. Visina 7,3, širina 11,1, debljina 0,7.

N-65: Ulomak izvučenog jednolikog ruba amfore, smeđe boje. Visina 2,8, širina 5,4, debljina 0,9.

N-66: Ulomak ravnoga zadebljanog ruba lonca. Na tijelu ispod ruba vidljiva je potkovičasta aplikacija, ali obrnuto okrenuta, u obliku slova U. Vanjske površine su crvene boje, a presjek je crne. Visina 5,2, širina 6,0, debljina 1,2.

N-67: Ulomak ravnog zadebljanog ruba posude na kojem su vidljivi tragovi utiskivanja prstom. Izvana i iznutra je smeđe boje, a crnog presjeka. Visina 2,1, širina 2,6, debljina 1,0.

N-68: Ulomak ravnoga suženog ruba posude, vjerojatno zdjele. Crne je boje. Visina 5,2, širina 3,2, debljina 0,9.

N-69: Ulomak izvučenoga suženog ruba sive posude. Visina 3,1, širina 2,7, debljina 0,8.

N-70: Ulomak izvučenoga jednolikog i zavravnjenog ruba posude. Izvana je smeđe boje, a iznutra i u presjeku crne. Visina 2,6, širina 3,5, debljina 0,9.

N-71: Ulomak izvučenoga jednolikog i zavravnjenog ruba posude tamnosmeđe boje i uglačane površine. Visina 4,3, širina 4,5, debljina 0,9.

N-72: Ulomak ravnog dna s naglašenom

rated with finger impressions. Red on the outside, black on the inside. On the outside, there are black stains. The cross-section is dark. Height 6.6, width 7.3, thickness 1.1

N-61: Fragment of a straight uniform rim of brown colour, with traces of incisions on the rim. Height 3.7, width 4.2, thickness 1.3

N-62: Knee-shaped handle of orange-beige colour. Height 4.2, width 7.9, thickness 1.2

N-63: Fragment of the downward-pointing everted rim of a black vessel. The rim is uniform and decorated with pseudo-cord decoration. Height 1.3, width 5.0, thickness 0.6

N-64: Fragment of the body of a black vessel, with a handle of *cothon* type. Height 7.3, width 11.1, thickness 0.7

N-65: Fragment of an everted uniform amphora rim of brown colour. Height 2.8, width 5.4, thickness 0.9

N-66: Fragment of a straight thickened pot rim. A horseshoe-shaped applique is visible below the rim, but it is turned upside down, in a U shape. The outside surface is red, and the cross-section black. Height 5.2, width 6.0, thickness 1.2

N-67: Fragment of a straight thickened rim of a vessel, with visible traces of finger impressions. Brown on the inside and outside, with black cross-section. Height 2.1, width 2.6, thickness 1.0

N-68: Fragment of a straight thinned rim of a vessel, probably a bowl. The sherd is black. Height 5.2, width 3.2, thickness 0.9

N-69: Fragment of an everted thinned rim of a grey vessel. Height 3.1, width 2.7, thickness 0.8

N-70: Fragment of an everted, uniform and flattened rim of a vessel. Brown on the outside, black on the inside and in cross-section. Height 2.6, width 3.5, thickness 0.9

N-71: Fragment of an everted, uniform and flattened rim of a dark-brown vessel, with a polished surface. Height 4.3, width 4.5, thickness 0.9

N-72: Fragment of a brown flat bottom with an emphasized standing surface. Length 6.3, width 4.5, thickness 0.9

N-73: Fragment of a straight thinned rim of a

stajaćom površinom smeđe boje. Duljina 6,3, širina 4,5, debljina 0,9.

N-73: Ulomak ravnog suženog ruba posude. Izvana je bež boje, a iznutra tamno sive. Visina 3,8, širina 4,4, debljina 1,2

N-74: Ulomak ravnoga suženog ruba. Sivocrne je boje s obje strane te uglačanih površina. Visina 4,8, širina 3,2, debljina 1,1.

N-75: Ulomak ručke trokutastog presjeka. Crne je boje. Duljina 2,9, širina 2,1, debljina 1,4.

N-76: Ulomak tijela posude crvenkasto-crne boje s početkom trakaste ručke. Duljina 4,8, širina 2,7, debljina 0,5.

N-77: Ulomak ravnog, jednolikog i blago zaravnjenog ruba. Ulomak je smeđe boje. Visina 5,2, širina 3,8, debljina 2,0.

N-78 i N-83: Dva ulomka izvučenoga jednolikog ruba lonca. Rub je ukrašen urezivanjem. Crvenkasto-smeđe boje izvana, a crnog presjeka. Visina 5,1, širina 11,4, debljina 1,2.

N-79: Ulomak ravnoga jednolikog ruba posude smeđe boje. Visina 2,6, širina 4,3, debljina 0,8.

N-80: Gotovo čitavo obično ravno dno lonca s tragovima gorenja s donje strane. Iznutra narančaste boje, a izvana smeđe s tragovima gorenja. U presjeku je smeđe boje. Promjer dna 9,3, debljina 1,6.

N-81: Ulomak tijela posude s početkom trakaste ručke tamnosive boje. Duljina 3,3, širina 2,2, debljina 0,6.

N-82: Ulomak tijela posude sa širokim plitkim kanelurama. Smeđe boje izvana i u presjeku, a iznutra narančaste. Duljina 5,3, širina 4,1, debljina 0,9.

N-84: Ulomak blago izvučenoga jednolikog ruba narančasto-smeđe boje. Visina 2,8, širina 5,2, debljina 1,0.

N-85: Ulomak blago izvučenoga jednolikog i zaravnjenog ruba pithosa crne boje. Visina 6,4, širina 8,3, debljina 1,7.

N-86: Ulomak tijela posude s motivom kaneliranih koncentričnih kružnica s vanjske strane posude. Vanjska je strana crna, unutarnja crvenkasto-smeđa, a presjek crn. Širina 4,1, duljina 4,6, debljina 1,2.

vessel. Beige on the outside, dark grey on the inside. Height 3.8, width 4.4, thickness 1.2

N-74: Fragment of a straight thinned rim. Grey-black on both sides, with polished surfaces. Height 4.8, width 3.2, thickness 1.1

N-75: Fragment of a black handle with triangular cross-section. Length 2.9, width 2.1, thickness 1.4

N-76: Fragment of the reddish-black body of a vessel, with the initial segment of a strap handle. Length 4.8, width 2.7, thickness 0.5

N-77: Fragment of a straight, uniform and slightly flattened rim. The sherd is brown. Height 5.2, width 3.8, thickness 2.0

N-78 and N-83: Two fragments of an everted uniform pot rim. The rim is decorated with incisions. It is reddish-brown on the outside, with black cross-section. Height 5.1, width 11.4, thickness 1.2

N-79: Fragment of a straight uniform rim of a brown vessel. Height 2.6, width 4.3, thickness 0.8

N-80: An almost whole ordinary flat pot bottom, with traces of burning on the lower side. Orange on the inside, brown with traces of burning on the outside. The cross-section is brown. Bottom diameter 9.3, thickness 1.6

N-81: Fragment of the body of a vessel with the initial segment of a strap handle, of a dark-grey colour. Length 3.3, width 2.2, thickness 0.6

N-82: Fragment of the body of a vessel, with wide shallow fluting. Brown on the outside and in cross-section, orange on the inside. Length 5.3, width 4.1, thickness 0.9

N-84: Fragment of a slightly everted uniform rim of orange-brown colour. Height 2.8, width 5.2, thickness 1.0

N-85: Fragment of a slightly everted, uniform and flattened rim of a black pithos. Height 6.4, width 8.3, thickness 1.7

N-86: Fragment of the body of a vessel, decorated with fluted motif of concentric circles on the outside. The outside surface is black, the inside is reddish-brown, and the cross-section is black. Length 4.6, width 4.1, thickness 1.2

N-87: Fragment of the body of a black vessel, with incised fishbone motif. Length 3.1, width 2.6, thickness 0.4

N-87: Ulomak tijela posude crne boje s urezanim motivom riblje kosti. Duljina 3,1, širina 2,6, debljina 0,4.

N-88: Ulomak tijela posude crne boje s urezanim paralelnim ravnim crtama. Duljina 1,9, širina 1,8, debljina 0,4.

N-89: Ulomak uglačanog, blago izvučenoga jednolikog ruba. S vanjske strane je tamnonarančaste boje, a s unutarne i u presjeku tamnosive. Visina 2,4, širina 3,6, debljina 1,2.

N-90: Ulomak običnoga ravnog dna posude. S vanjske je strane crne boje, a s unutarne crvene. Presjek je crne boje. Dužina 6,5, širina 3,6, debljina 1,0.

N-91: Ulomak izvučenoga jednolikog i zaravnjenog ruba. Površina je s obje strane crvenkasto-smeđa. Visina 1,9, širina 3,0, debljina 0,7.

N-92: Ulomak blago izvučenoga, gotovo ravnog ruba. Rub je jednolik i ukrašen utiskivanjem. Crvenkasto-smeđe boje izvana, a iznutra i u presjeku crne. Visina 3,5, širina 2,7, debljina 0,6.

N-93: Ulomak izvučenoga jednolikog i zaravnjenog ruba zdjele crne boje. Visina 1,5, širina 1,5, debljina 0,7.

N-94: Ulomak ravnoga jednolikog i zaravnjenog ruba. Izvana smeđe boje, a iznutra crne. Visina 1,7, širina 2,0, debljina 0,9.

N-95: Početak trakaste ručke. Površina je crvenkasto-crne boje, a presjek je crne. Duljina 2,5, širina 2,8, debljina 1,2.

N-96: Ulomak običnoga ravnog dna posude s tragovima gorenja. Izvana je bež boje s tragovima gorenja, a iznutra crne. Presjek je bež boje. Duljina 8,1, širina 2,6, debljina 1,1.

N-97: Ulomak tijela ukrašen urezivanjem kratkih vertikalnih linija. Tamnosmeđe je boje. U presjeku vidljive inkluzije kamena (oko 3 mm). Dio iste posude, kao i N-56. Duljina 5,0, širina 3,4, debljina 1,0.

N-98: Dio ručke peterokutnog presjeka. Izvana je smeđe boje, a u presjeku crne. Površina je uglačana. Duljina 4,1, promjer 1,6.

N-99: Ulomak tijela posude crne boje s tragovima urezivanja u obliku ravnih linija. Duljina 2,0, širina 2,2, debljina 0,4.

N-88: Fragment of the body of a black vessel with incised parallel straight lines. Length 1.9, width 1.8, thickness 0.4

N-89: Fragment of a slightly inverted uniform polished rim. The outside surface is dark orange, and the inside and cross-section are dark grey. Height 2.4, width 3.6, thickness 1.2

N-90: Fragment of an ordinary flat bottom of a vessel. Its outside surface is black, and the inside red. The cross-section is black. Length 6.5, width 3.6, thickness 1.0

N-91: Fragment of an everted, uniform and flattened rim, reddish-brown on both sides. Height 1.9, width 3.0, thickness 0.7

N-92: Fragment of a slightly everted, nearly straight rim. The rim is uniform and decorated with impressions. It is reddish-brown on the outside, and black on the inside and in cross-section. Height 3.5, width 2.7, thickness 0.6

N-93: Fragment of an everted, uniform and flattened rim of a black bowl. Height 1.5, width 1.5, thickness 0.7

N-94: Fragment of a straight, uniform and flattened rim. Brown on the outside, and black on the inside. Height 1.7, width 2.0, thickness 0.9

N-95: The initial segment of a strap handle. The surface is reddish-black, and the cross-section black. Length 2.5, width 2.8, thickness 1.2

N-96: Fragment of an ordinary flat bottom of a vessel, with traces of burning. The outside surface is beige with traces of burning, and the inside is black. The cross-section is beige. Length 8.1, width 2.6, thickness 1.1

N-97: Fragment of a body decorated with incised vertical short lines. The sherd is dark brown. The cross-section reveals stone inclusions (around 3 mm). Part of the same vessel as N-56. Length 5.0, width 3.4, thickness 1.0

N-98: Part of a handle of pentagonal cross-section. The outside is brown, and the cross-section black. The surface is polished. Length 4.1, diameter 1.6

N-99: Fragment of the body of a black vessel, with traces of incised straight lines. Length 2.0, width 2.2, thickness 0.4

N-100: Fragment of the body of a brown vessel, with a horseshoe-shaped applique. Length 5.5, width 7.2, thickness 0.9

- N-100: Ulomak tijela posude smeđe boje s potkovičastom aplikacijom. Duljina 5,5, širina 7,2, debljina 0,9.
- N-101: Ulomak tijela posude s dugmastom aplikacijom (držskom). Izvana crvenkasto-smeđe boje, iznutra i u presjeku tamnosmeđe. Duljina 9,3, širina 5,9, debljina 1,1.
- N-102: Ulomak tijela posude smeđe boje s plitkim i širokim kanelurama. Duljina 9,4, širina 5,1, debljina 0,9.
- N-103: Ulomak ravnoga zadebljanog ruba ukrašenog utiskivanjem. Crvenkasto-smeđe boje izvana, a tamnosmeđe iznutra i u presjeku. Visina 2,9, širina 3,6, debljina 0,7.
- N-104: Obično ravno dno smeđe boje. Duljina 3,4, širina 5,2, debljina 0,9.
- N-105: Ulomak tijela posude s tragovima glačanja s unutrašnje strane. Glačanje je izvedeno u obliku širokih paralelnih linija. Duljina 6,9, širina 4,7, debljina 0,8.
- N-106: Ulomak ravnoga jednolikog ruba. Tamnosive je boje. Visina 1,6, širina 2,1, debljina 0,7.
- N-107: Ulomak tijela posude s iznimno plitkim kanelurama. Površina je uglačana. Crvenkasto-smeđe boje. Duljina 9,2, širina 7,9, debljina 0,7.
- N-108: Ulomak izvučenoga jednolikog ruba. Smeđe je boje. Visina 2,2, širina 2,4, debljina 0,6.
- N-109: Ulomak izvučenoga jednolikog ruba amfore. Izvana je smeđe boje, a iznutra tamnosmeđe s crvenkastim mrljama. U presjeku je smeđe boje. Visina 3,6, širina 4,8, debljina 0,8.
- N-110: Ulomak ravnog dna tanjura. Izvana i iznutra je crvene boje, a presjek je crn. Duljina 4,0, širina 4,2, debljina 1,1.
- N-111: Ulomak blago izvučenoga jednolikog ruba. S unutarne i vanjske strane je tamnosmeđe boje, a crnog presjeka. Visina 2,2, širina 2,2, debljina 1,0.
- N-112: Dva ulomka izvučenoga jednolikog ruba amfore. Izvana je narančaste boje, iznutra tamnosmeđe, a u presjeku crne. Duljina 4,4, širina 10,1, debljina 1,3.
- N-113: Ulomak ravnoga jednolikog ruba. Uglačane unutarne i vanjske površine. Boja
- N-101: Fragment of the body of a vessel with a button-shaped applique (hand-grip). Reddish-brown on the outside, dark brown on the inside and in cross-section. Length 9.3, width 5.9, thickness 1.1
- N-102: Fragment of the body of a brown vessel, with shallow and wide fluting. Length 9.4, width 5.1, thickness 0.9
- N-103: Fragment of a straight thickened rim decorated with impressions. The outside surface is reddish-brown, and the inside and cross-section are dark brown. Height 2.9, width 3.6, thickness 0.7
- N-104: An ordinary flat brown bottom. Length 3.4, width 5.2, thickness 0.9
- N-105: Fragment of the body of a vessel, with traces of polishing on the inside. The polishing is rendered as wide parallel lines. Length 6.9, width 4.7, thickness 0.8
- N-106: Fragment of a straight uniform rim. It is dark grey in colour. Height 1.6, width 2.1, thickness 0.7
- N-107: Fragment of the body of a vessel, with very shallow fluting. The surface is polished. Length 9.2, width 7.9, thickness 0.7
- N-108: Fragment of an everted uniform rim of brown colour. Height 2.2, width 2.4, thickness 0.6
- N-109: Fragment of an everted uniform amphora rim. It is brown on the outside, and dark brown with reddish stains on the inside. The cross-section is brown. Height 3.6, width 4.8, thickness 0.8
- N-110: Fragment of a flat plate bottom. Both the outside and inside surfaces are red, the cross-section is black. Length 4.0, width 4.2, thickness 1.1
- N-111: Fragment of a slightly everted uniform rim. It is dark brown on both the outside and the inside, with black cross-section. Height 2.2, width 2.2, thickness 1.0
- N-112: Two fragments of an everted uniform amphora rim. Orange on the outside, dark brown on the inside, with black cross-section. Length 4.4, width 10.1, thickness 1.3
- N-113: Fragment of a straight uniform rim. Both surfaces are polished, and of black-brown col-



je crno-smeđa. Visina 2,4, širina 2,7, debljina 1,2.

N-114: Ulomak tijela posude s plitkim i širokim kanelurama. Izvana je smeđe boje, a iznutra crne. Duljina 5,4, širina 4,3, debljina 0,9.

N-115: Ulomak tijela posude s plitkim i širokim kanelurama. Izvana bež-smeđe boje, a iznutra crne. Duljina 2,5, širina 2,3, debljina 0,9.

N-116: Ulomak izvučenoga jednolikog ruba. Tamnosive je boje. Visina 2,4, širina 2,2, debljina 0,5.

N-117: Ulomak izvučenoga jednolikog ruba. Smeđe je boje. Visina 3,7, širina 4,4, debljina 1,4.

N-118: Ulomak ravnog, blago zadebljanog ruba. Smeđe je boje. Visina 3,3, širina 2,1, debljina 1,0.

N-119: Ulomak izvučenoga jednolikog ruba smeđe boje. Rub je ukrašen utiskivanjem prstima. Visina 3,8, širina 5,3, debljina 0,8.

N-120: Ulomak tijela posude ukrašen kanelurama. Vidljiva blaga zakrivljenost kanelura te je vjerojatno riječ o kružnicama. Moguće je da pripada istoj posudi kao i N-86. Crne je boje izvana i u presjeku, a crvene iznutra. Duljina 4,7, širina 3,3, debljina 1,1.

N-121: Ulomak dna s izraženom stajaćom površinom. Duljina 3,4, širina 2,7, debljina 1,6.

N-122: Ulomak ruba. Orijehtacija je ruba ravna, ali je na samom vrhu izvučen horizontalno prema van. Ulomak je crvenkasto-crne boje. Visina 3,5, širina 3,4, debljina 1,4.

N-123: Ulomak izljeva posude smeđe boje. Duljina 5,1, širina 2,8, debljina 0,7.

N-124: Dva ulomka ručke O presjeka koja na rubovima prelazi u D presjek. Ručka je tamnosmeđe boje. Duljina 6,1, promjer 1,9.

N-125: Ulomak izvučenoga jednolikog ruba amfore s kaneliranim koncentričnim kružnicama. Ulomak je crne boje. Duljina 3,6, širina 4,9, debljina 1,2.

N-126: Ulomak izvučenoga jednolikog i blago zaravnjenog ruba, vjerojatno lonca ili pithosa. Narančaste je boje. Visina 5,9, širina 8,2, debljina 1,4.

our. Height 2.4, width 2.7, thickness 1.2

N-114: Fragment of the body of a vessel with shallow and wide fluting. Brown on the outside, black on the inside. Length 5.4, width 4.3, thickness 0.9

N-115: Fragment of the body of a vessel with shallow and wide fluting. Beige-brown on the outside, and black on the inside. Length 2.5, width 2.3, thickness 0.9

N-116: Fragment of an everted uniform rim, of dark-grey colour. Height 2.4, width 2.2, thickness 0.5

N-117: Fragment of an everted uniform rim, of brown colour. Height 3.7, width 4.4, thickness 1.4

N-118: Fragment of a straight, slightly thickened rim, of brown colour. Height 3.3, width 2.1, thickness 1.0

N-119: Fragment of an everted uniform rim of brown colour. The rim is decorated with finger impressions. Height 3.8, width 5.3, thickness 0.8

N-120: Fragment of the body of a vessel decorated with fluting. The fluting is slightly curved, so it may have formed circles. It could belong to the same vessel as N-86. Its outside and cross-section are black, and the inside is red. Length 4.7, width 3.3, thickness 1.1

N-121: Fragment of a bottom with an emphasized standing surface. Length 3.4, width 2.7, thickness 1.6

N-122: Fragment of a rim. The rim orientation is straight, but at the very top it is horizontally everted. The sherd is reddish-black. Height 3.5, width 3.4, thickness 1.4

N-123: Fragment of a spout of brown colour. Length 5.1, width 2.8, thickness 0.7

N-124: Two fragments of a handle with O-shaped cross-section, turning into D-shaped cross-section at the ends. The handle is dark brown. Length 6.1, diameter 1.9

N-125: Fragment of an everted uniform amphora rim with fluted concentric circles. The sherd is black. Length 0.7, width 4.9, thickness 1.2

N-126: Fragment of an everted, uniform and slightly flattened rim, probably belonging to a pot or pithos. The sherd is orange. Height 5.9, width 8.2, thickness 1.4

- N-127: Ulomak izvučenog, blago suženog ruba. Vjerojatno dio šalice crne boje. Visina 1,6, širina 1,3, debljina 0,7.
- N-128: Ulomak tijela posude ukrašen ubadanjem štapićem. Duljina 5,3, širina 4,0, debljina 1,1.
- N-129: Ulomak blago izvučenoga jednolikog ruba. Rub je oblikovan da djeluje blago valovito. Ulomak je tamnosmeđe boje. Visina 3,1, širina 4,0, debljina 0,6.
- N-130: Dio ručke O presjeka tamnosive boje. Na kraju prelazi u trakastu. Duljina 4,2, promjer 1,8.
- N-131: Ulomak ravnoga jednolikog i zaravnjenog ruba. Izvana je narančasto-smeđe boje, u presjeku sive, a iznutra tamnosmeđe. Visina 4,2, širina 2,6, debljina 0,7.
- N-132: Ulomak tijela posude s apliciranom plastičnom trakom i utiskivanjem štapićem na njoj. Ulomak je narančasto-smeđe boje izvana i u presjeku, a iznutra tamnosmeđe. Duljina 4,5, širina 5,3, debljina 0,9.
- N-133: Ulomak tijela posude sa širokim i plitkim kaneliranjem. Vanjska i unutarnja strana narančaste je boje, a presjek sive. Dužina 3,6, širina 3,4, debljina 0,8.
- N-134: Ulomak tijela s apliciranom plastičnom trakom ukrašenom utiskivanjem nokta. Visina 3,3, širina 3,5, debljina 0,8.
- N-135: Ulomak ravnog, blago zadebljanog ruba. Ulomak je smeđe boje. Visina 2,5, širina 3,4, debljina 0,8.
- N-136: Ulomak debelog ravnoga dna. U presjeku i iznutra je tamnosmeđe boje, a nešto svjetlije smeđe boje s vanjske strane. Duljina 6,6, širina 2,9, debljina 1,0.
- N-137: Mali ulomak ravnoga suženog ruba. Vjerojatno je dio zdjele tamnosive boje. Visina 1,7, širina 2,1, debljina 0,9.
- N-138: Ulomak običnoga ravnoga dna. Izvana i iznutra je narančasto-smeđe boje, a u presjeku crn. Slabo očuvan. Duljina 2,8, širina 2,7, debljina 1,7.
- N-139: Oštećena trakasta ručka. S vanjske strane narančasto-smeđe boje, a u presjeku tamnosmeđe. Duljina 4,6, širina 2,5, debljina 0,7.
- N-127: Fragment of an everted, slightly thinned rim. Probably part of a black cup. Height 1.6, width 1.3, thickness 0.7
- N-128: Fragment of the body of a vessel, decorated with impressions made with a small stick. Length 5.3, width 4.0, thickness 1.1
- N-129: Fragment of a slightly everted uniform rim. The rim is shaped in such a way that it appears slightly wavy. The sherd is dark brown. Height 3.1, width 4.0, thickness 0.6
- N-130: Part of a dark-brown handle with O-shaped cross-section. Towards the end, it turns into a strap handle. Length 4.2, diameter 1.8
- N-131: Fragment of a straight, uniform and flattened rim. It is orange-brown on the outside, dark brown on the inside, and the cross-section is grey. Height 4.2, width 2.6, thickness 0.7
- N-132: Fragment of the vessel of a body with applied plastic strap with stick impressions on the strap. The sherd is orange-brown on the outside and in cross-section, and dark brown on the inside. Length 4.5, width 5.3, thickness 0.9
- N-133: Fragment of the body of a vessel, with wide and shallow fluting. The outside and inside surfaces are orange, and the cross-section is grey. Length 3.6, width 3.4, thickness 0.8
- N-134: Fragment of a body with applied plastic strap, decorated with fingernail impressions. Height 3.3, width 3.5, thickness 0.8
- N-135: Fragment of a straight, slightly thickened rim. The sherd is brown. Height 2.5, width 3.4, thickness 0.8
- N-136: Fragment of a thick flat bottom. The cross-section and the inside are dark brown, and the outside somewhat lighter brown. Length 6.6, width 2.9, thickness 1.0
- N-137: Small fragment of a straight thinned rim. Possibly part of a dark-brown bowl. Height 1.7, width 2.1, thickness 0.9
- N-138: Fragment of an ordinary flat bottom. The outside and inside surfaces are orange-brown, and the cross-section is black. Poorly preserved. Length 2.8, width 2.7, thickness 1.7
- N-139: Damaged strap handle. It is orange-brown on the outside, with a dark brown cross-section. Length 4.6, width 2.5, thickness 0.7.

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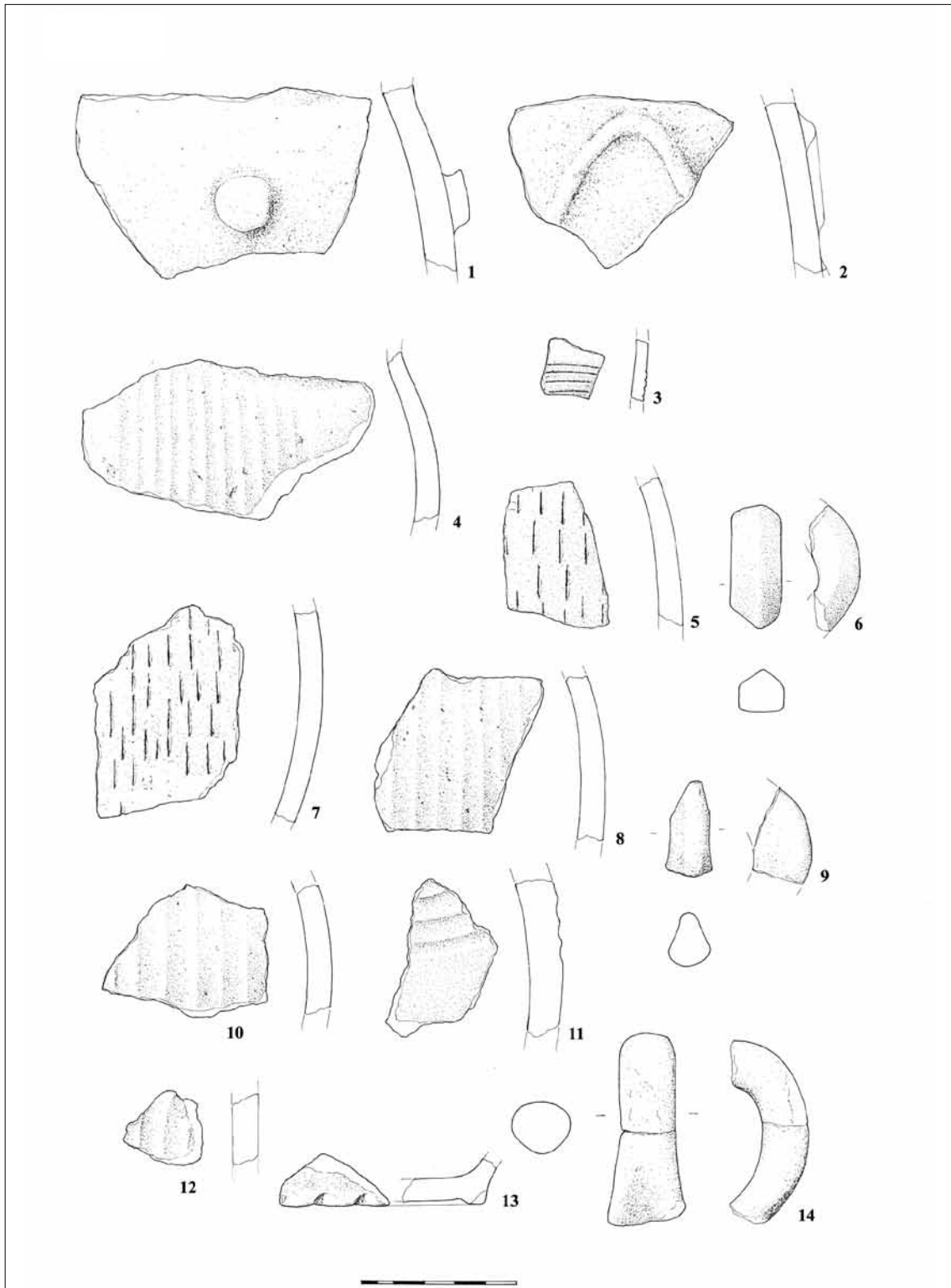


Tabla / Plate 1: 1 – Dugmasta aplikacija (N-101); 2 – Potkovičasta aplikacija (N-100); 3 – Urezivanje (N-99); 4 – Kaneliranje (N-102); 5 – Urezivanje (N-97); 6 – Ručka peterokutnog presjeka (N-98); 7 – Urezivanje (N-56); 8 – Kaneliranje (N-82); 9 – Ručka trokutastog presjeka (N-75); 10 – Kaneliranje (N-114); 11 – Žljebljenje (N-120); 12 – Kaneliranje (N-115); 13 – Aplikirana plastična traka ukrašena utiskivanjem nokta (N-134); 14 – Ručka (N-124) (izradila M. Galić).

/ 1. Button-shaped applique (N-101); 2. Horseshoe-shaped applique (N-100); 3. Incising (N-99); 4. Fluting (N-102); 5. Incising (N-97); 6. Handle with a pentagonal cross-section (N-98); 7. Incising (N-56); 8. Fluting (N-82); 9. Handle with a triangular cross-section (N-75); 10. Fluting (N-114); 11. Grooving (N-120); 12. Fluting (N-115); 13. Applied plastic strap decorated with fingernail impressions (N-134); 14. Handle (N-124) (made by M. Galić).

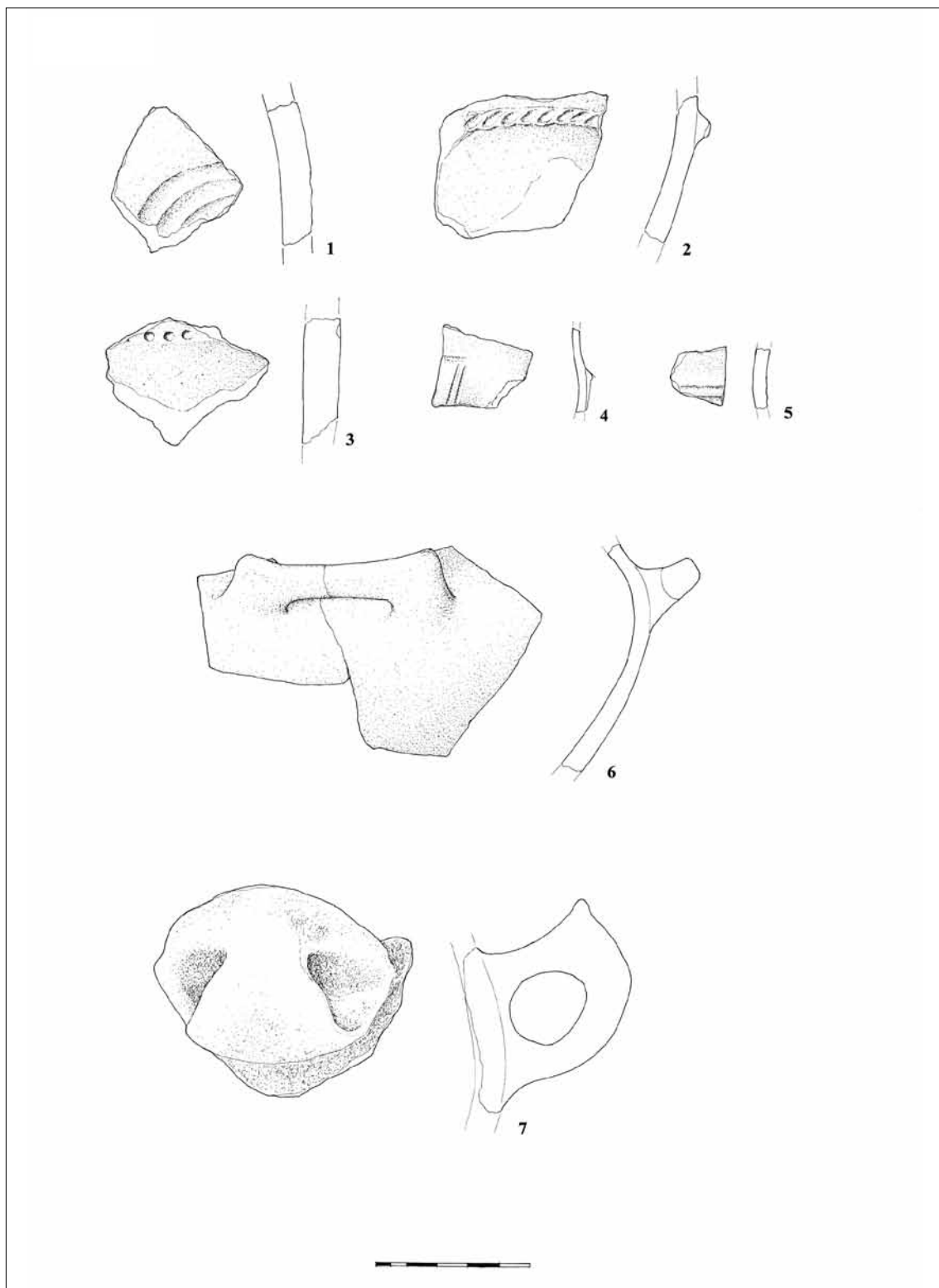


Tabla / Plate 2: 1 - Žljebljene koncentrične kružnice (N-86); 2 - Aplicirana plastična traka ukrašena utiskivanjem štapićem (N-132); 3 - Ubadanje (N-128); 4 - Urezivanje (motiv riblje kosti) (N-87); 5 - Urezivanje (N-88); 6 - Ručka cothon tipa (N-64); 7 - Koljenasto profilirana ručka (N-62). (izradila M. Galić). / 1. Grooved concentric circles (N-86); 2. Applied plastic strap decorated with impressions of a small stick (N-132); 3. Puncturing (N-128); 4. Incising (fishbone motif) (N-87); 5. Incising (N-88); 6. Handle of the *cothon* type (N-64); 7. Knee-shaped handle (N-62) (made by M. Galić).

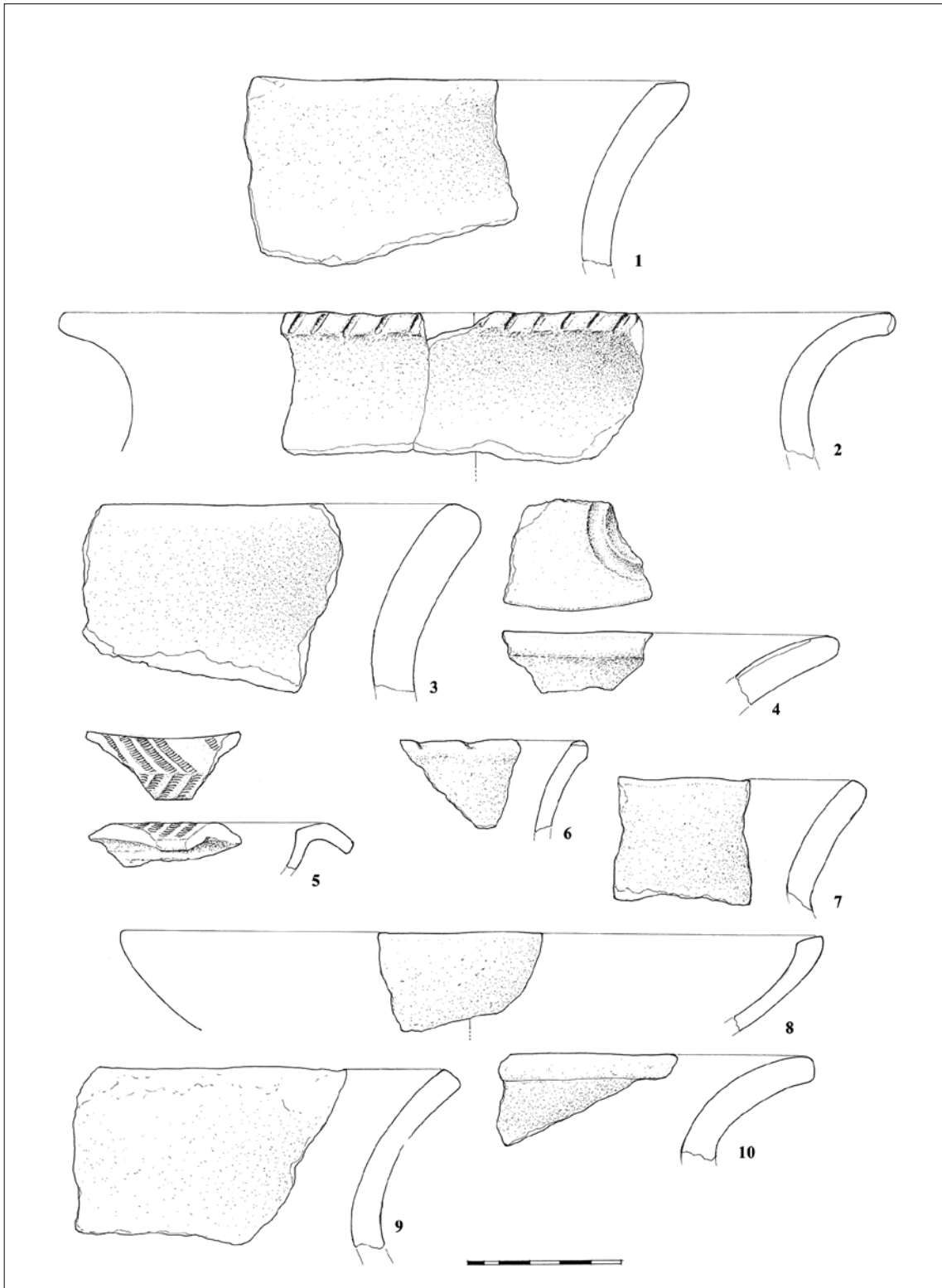


Tabla / Plate 3: 1 – Rub (N-126); 2 – Rub ukrašen urezivanjem (N-78 i N-83); 3 – Rub (N-85); 4 – Rub ukrašen motivom žljebljenih koncentričnih kružnica (N-125); 5 – Rub ukrašen pseudovrpčastim ukrasom (N-63); 6 – Rub (N-129); 7 – Rub (N-71); 8 – Rub (N-54); 9 – Rub (N-55); 10 – Rub (N-52) (izradila M. Galić). / 1. Rim (N-126); 2. Rim decorated with incisions (N-78 and N-83); 3. Rim (N-85); 4. Rim decorated with grooved motif of concentric circles (N-125); 5. Rim decorated with pseudo-cord decoration (N-63); 6. Rim (N-129); 7. Rim (N-71); 8. Rim (N-54); 9. Rim (N-55); 10. Rim (N-52) (made by M. Galić).

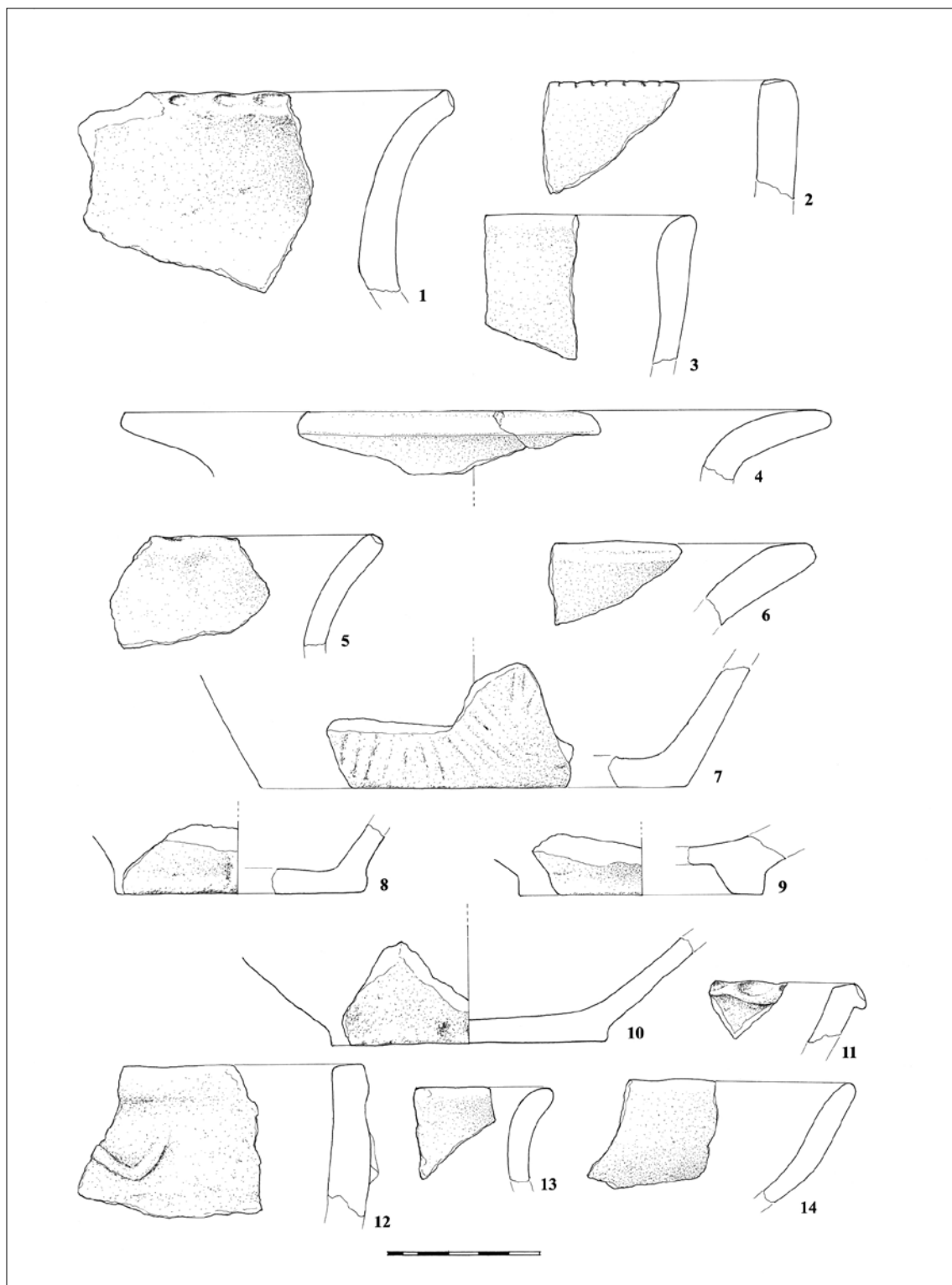


Tabla / Plate 4: 1 – Rub ukrašen utiskivanjem prstom (N-60); 2 – Rub ukrašen urezivanjem (N-61); 3 – Rub (N-74); 4 – Rub (N-112); 5 – Rub ukrašen utiskivanjem prstom (N-119); 6 – Rub (N-117); 7 – Dno (N-96); 8 – Dno (N-72); 9 – Dno na prstenastoj nozi (N-57); 10 – Dno (N-58); 11 – Rub ukrašen utiskivanjem prstom (N-67); 12 – Rub s potkovičastom aplikacijom (N-66); 13 – Rub (N-69); 14 – Rub (N-68) (izradila M. Galić). / 1. Rim decorated with finger impressions (N-60); 2. Rim decorated with incisions (N-61); 3. Rim (N-74); 4. Rim (N-112); 5. Rim decorated with finger impressions (N-119); 6. Rim (N-117); 7. Bottom (N-96); 8. Bottom (N-72); 9. Bottom on a ring-shaped foot (N-57); 10. Bottom (N-58); 11. Rim decorated with finger impressions (N-67); 12. Rim with a horseshoe-shaped applique (N-66); 13. Rim (N-69); 14. Rim (N-68) (made by M. Galić).



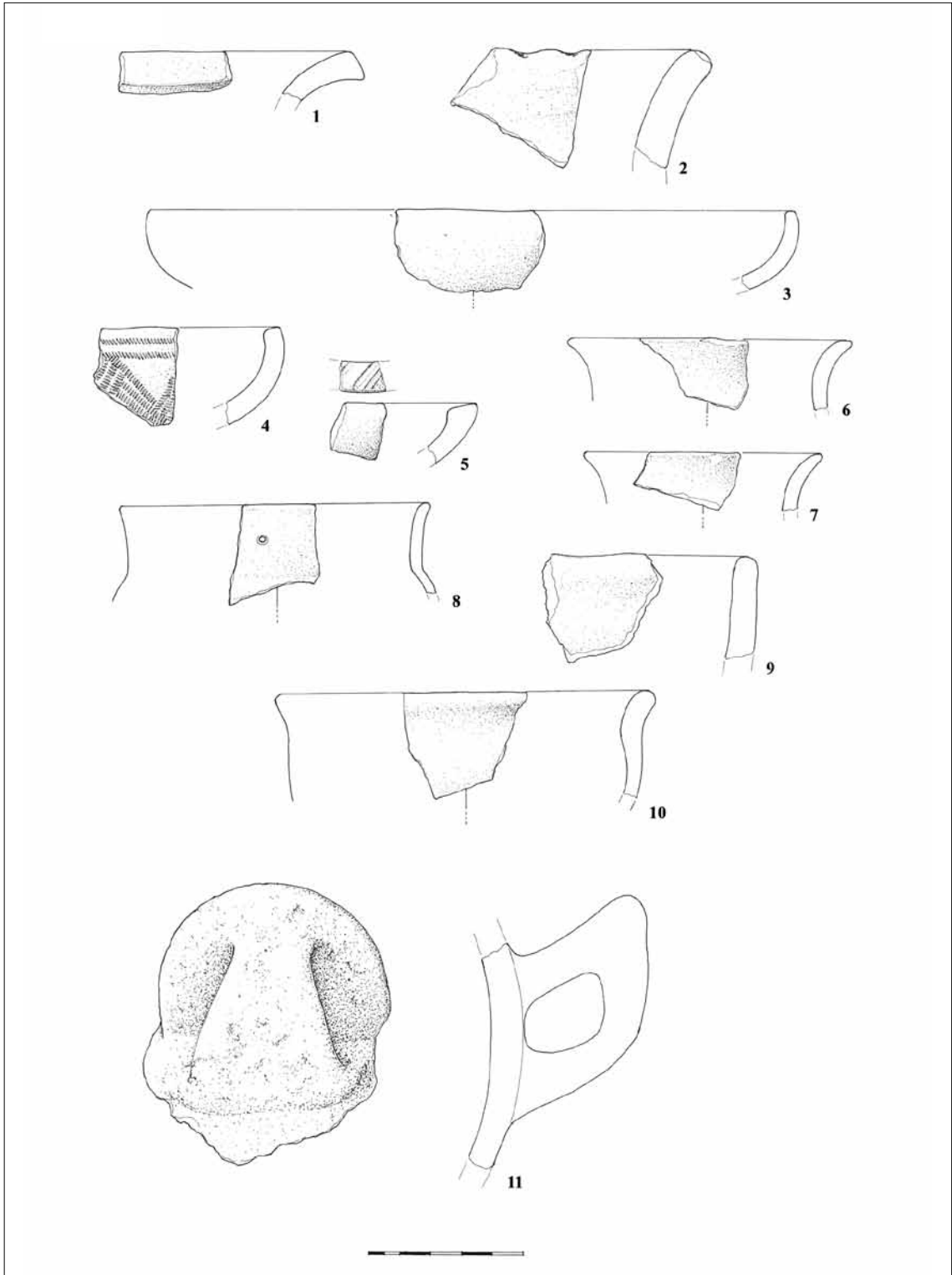


Tabla / Plate 5: 1 – Rub (N-70); 2 – Rub ukrašen utiskivanjem prstom (N-26); 3 – Rub (N-27); 4 – Rub ukrašen pseudovrpčastim ukrasom (N-29); 5 – Rub ukrašen urezivanjem i inkrustacijom (N-18); 6 – Rub (N-20); 7 – Rub (N-4); 8 – Rub s perforacijom (N-48); 9 – Rub (N-2); 10 – Rub (N-1); 11 – Koljenasto profilirana ručka (N-3) (izradila M. Galić). / 1. Rim (N-70); 2. Rim decorated with finger impressions (N-26); 3. Rim (N-27); 4. Rim decorated with pseudo-cord decoration (N-29); 5. Rim decorated with incisions and in crustation (N-18); 6. Rim (N-20); 7. Rim (N-4); 8. Rim with perforation (N-48); 9. Rim (N-2); 10. Rim (N-1); 11. Knee-shaped handle (N-3) (made by M. Galić).

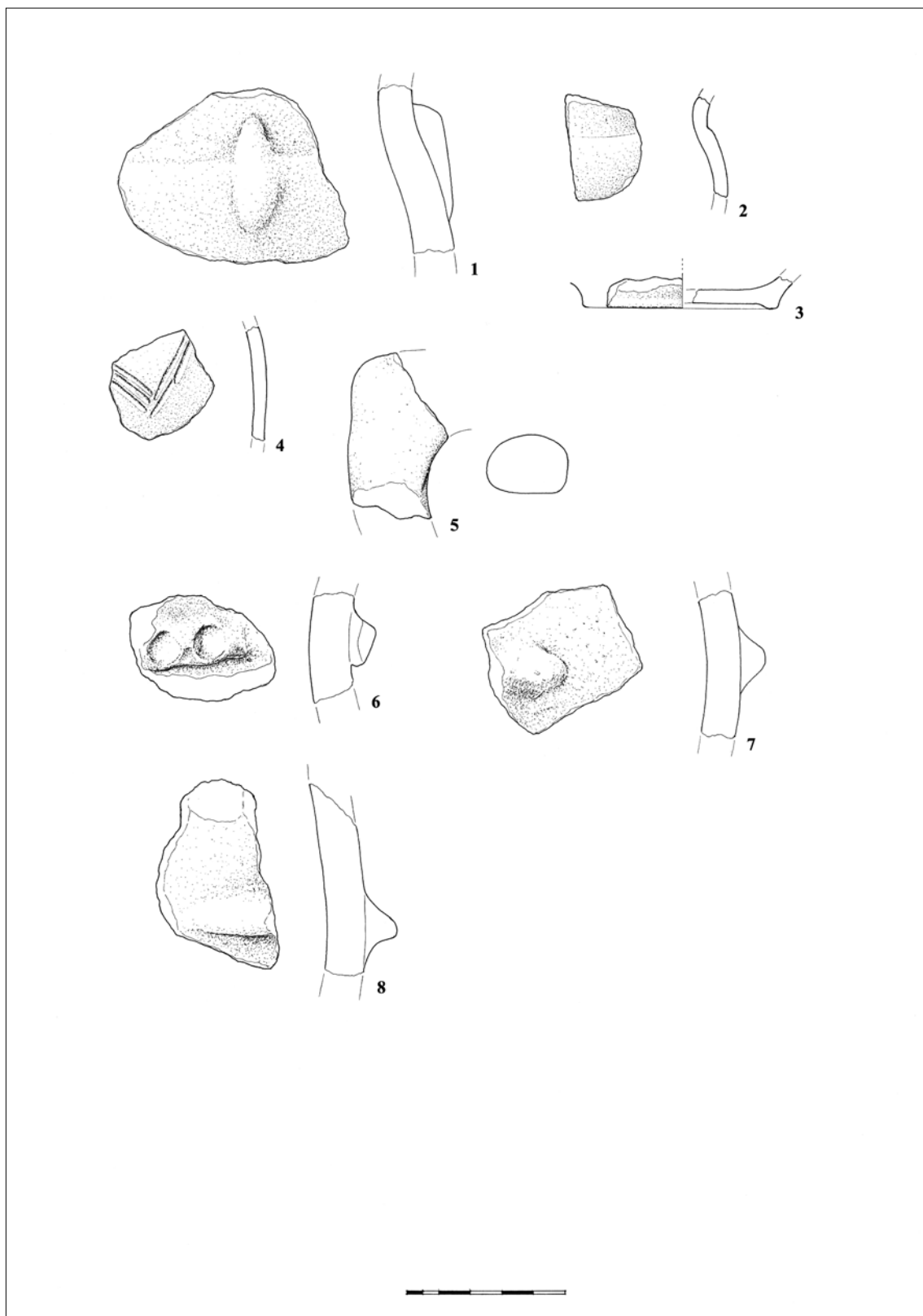


Tabla / Plate 6: 1 – Klinasta plastična aplikacija (N-12); 2 – Profilacija (N-23); 3 – Prstenasto dno (N-28); 4 – Urezivanje (N-42); 5 – Ručka (N-39); 6 – Plastična aplikacija ukrašena utiskivanjem prstom (N-43); 7 – Aplikacija (N-38); 8 – Aplikacija (N-40) (izradila M. Galić). / 1. Wedge-shaped plastic applique (N-12); 2. Profile (N-23); 3. Ring-shaped bottom (N-28); 4. Incising (N-42); 5. Handle (N-39); 6. Plastic applique decorated with finger impressions (N-43); 7. Applique (N-38); 8. Applique (N-40) (made by M. Galić).