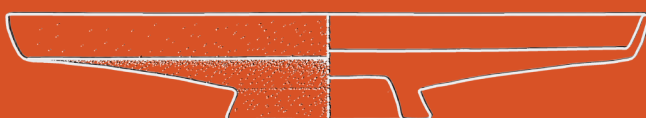


Istraživačke studije iz podvodne arheologije 3
Studies in underwater archaeology 3

Brodolomi kod rta Uljeva - The shipwrecks at Cape Uljeva

Rimski brodolomi kod rta Uljeva blizu Ližnjana, Hrvatska. Podvodna arheološka istraživanja 2012. - 2016.
Roman shipwrecks at Cape Uljeva near Ližnjan, Croatia. Underwater Archaeological Research 2012 - 2016.



Luka Bekić

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The shipwrecks at Cape Uljeva

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Valovi pri jakoj buri na rtu Uljeva / Waves during stormy Bora at Cape Uljeva (foto: L. Bekić)

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Položaj i topografija

Rt Uljeva se nalazi blizu mjesta Ližnjan, na sjeverozapadnom dijelu Hrvatske. Ližnjan je smješten na krajnje južnom dijelu istarskog poluotoka, s time da je njegov pristup moru orijentiran više na istočnu obalu Istre. Za potrebe pomorstva, današnja luka smještena je u prostranoj uvali Kuje, koja je uglavnom dobra, a djelomično, ovisno o smjeru vjetra i odlična zaštita od vjetrova.

Današnje pristanište nalazi se na jugozapadu uvale i zaštićeno je manjim valobranom prema sjeveroistoku. Bez tog valobrana, ovaj položaj bi bio izložen valovima od bure. Ovu luku koriste mjesni, ali i gostujući ribari, a ima mjesta i za dvadesetak manjih brodicea.

Prirodni zaklon od svih vjetrova daje tek jugoistočni dio uvale Kuje (*Porto Cuie*), koji danas koriste tek poneke manje brodice na mrtvom vezu i usputni jedriličari, jer nema dobro uređenog pristaništa i prilazne ceste. Upravo je ovo mjesto nekada bila glavna luka u uvali. Tijekom višegodišnjih podvodnih istraživanja, na ovom mjestu pronađeni su tragovi sidrenja brojnih brodova iz antičkog, srednjovjekovnog i novovjekovnog doba (Bekić, Surić 2015, 14; Surić, Bekić 2016, 26, 27).

Sigurnost luke Kuje bila je vrlo važna i u antičko doba, jer je krajnje južni dio Istre vrlo opasan zbog karakterističnog jugoistočnog (*jugo*) i sjeveroistočnog (*bura*) vjetra. Mada je *jugo* vrlo opasan vjetar za pomorce, na ovom mjestu je *bura* mnogo opasnija, jer se vrlo brzo razvija do pune snage i brzo stvara valove. Kvarnerski kanal je jedno od mjesta na Jadranu gdje su udari bure najžešći. Pomorci koji su plovili uz istočnu obalu Istre, ili joj prilazili s južne strane između otoka Cresa i Istre bi u slučaju nevremena mogli pokušati potražiti zaklon u uvali Kuje.

Na južnoj strani prolaza u uvalu Kuje nalazi se rt Uljeva (*Punta Uliva*), a ispred njega prostrani hridinasti teren dimenzije oko 70 x 200 metara. Bezbrojne stijene se ovdje s dubine od 5 metra uzdižu, a ponegdje dolaze i do samo pola metra ispod površine, što znači da je u antičko doba

Position and Topography

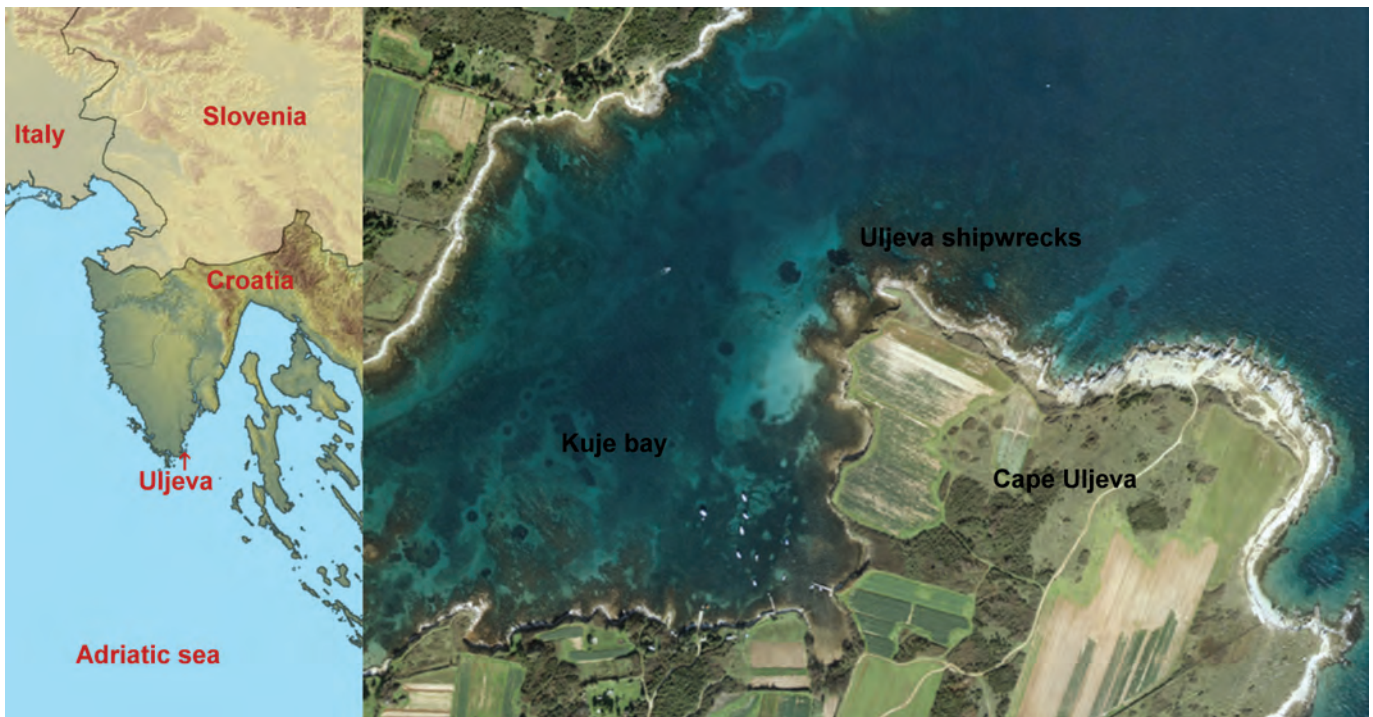
Uljeva is a cape (Croatian: *rt*) lying near the small town of Ližnjan on Croatia's northwestern seaboard. The town is situated near the southern extremity of the Istrian peninsula and its approach to the sea lies more to the peninsula's eastern shore. For its maritime access the current harbour is located in a broad cove named Kuje, offering for the most part good and in areas excellent protection from the prevailing winds.

The current dock is situated to the southwest side of the cove and is protected by a small northeast-facing breakwater. Absent this breakwater, the position would be exposed to the north-easterly *bura*-driven waves. The harbour is used by the local and visiting fishers and offers space for a further twenty or so smaller watercraft.

Natural shelter from all winds, however, is only to be found in the southeast end of Kuje Cove (*Porto Cuie*), now used by only a few small boats on laid-up berth and passing yachters as it lacks a proper dock and access road. This was once the location of the chief harbour in the cove. Multinational underwater investigation of the site has revealed traces of the anchoring of many ships in the antique, medieval and post-medieval periods (Bekić, Surić 2015, 14; Surić, Bekić 2016, 26, 27).

The safety offered by Kuje Cove was of critical importance in the antique period given that the southernmost extremity of Istria was exposed to the very perilous south-easterly (*jugo*) and north-easterly (*bura*) wind. And while the *jugo* always poses a great threat to mariners, here the *bura* is the more treacherous wind, appearing abruptly in its full force and quickly producing waves. The Kvarner channel is one of the locations on the Adriatic that sees the most frequent gusts of the *bura*. Mariners plying the waters off the eastern Istrian shore, or approaching it from the south between Cres island and the Istrian mainland could, in the event of a storm, try to make for the safe haven offered by Kuje Cove.

To the south side of the entrance to Kuje Cove lies Cape Uljeva (*Punta Uliva*), and facing it an expansive rocky terrain



1. Položaj rta Uljeva i istarskog poluotoka unutar Hrvatske / The position of Cape Uljeva and the Istrian peninsula in Croatia (Google Earth)

prosječna dubina bila od oko metar do dva. Ove hridi su tako ometale sigurno uplovljavanje u luku, posebice u slučaju snažnih refula bure, koji brodove bacaju upravo na te hridi. Duž cijele obale rta Uljeva, pronašli smo barem četiri različitih ostataka brodoloma, a moguće je da ih ima i više.

Što se tiče kopnenih antičkih nalazišta, ranorimskih nalaza može se pronaći na sjevernoj obali uvale Kuje, kod crkvice Sv. Marije, gdje se s obzirom na ruševine i gromače vjerojatno nalazila rimska vila rustica (Matijašić 1988, 34). Istraživanja rimske vile obavljena su 1995. g. prilikom obnove postojeće crkvice. Tada je otkriven raster zidova i lijepo ukrašen kasnoantički mozaik, koji je i danas vidljiv ispod staklenog poda u crkvici. Ladanjska vila je bila opremljena i termalnim sklopom, a sudeći prema mozaiku i nalazima datira se u kasnu antiku, točnije 5. st. Vjerojatno je upravo u 5. st. preuređena u starokršćansku crkvu (Ujčić, Percan 1996, 8, 9, 10). Na tim ruševinama kasnije je, u 17. st., sagrađena crkva Majka Božja od Kuj. Moguće da se tu nalazila i srednjovjekovna crkva Sv. Tome od Kuja (Ujčić, Percan 1996, 3, 10). U neposrednoj blizini tog položaja, u moru se mogu pronaći ulomci amfora i drugog rimskog posuđa.¹

covering some seventy by two hundred metres. Countless rocks rise here from a depth of five metres, at places rising to just half a metre below the surface, meaning that in the antiquity period the average depth was about one to two metres. These rocks thus hindered safe navigation into the harbour, especially when the bura blew in strong gusts, which would throw ships against them. Along the length of the shore of Cape Uljeva we have identified at least four separate wrecks, and there may be more.

With regard to the land antique sites, we see early Roman finds on the northern shore of Kuje Cove, near the small church dedicated to St Mary, where the ruins and loose rubble wall point to the possible remains of a Roman *villa rustica* (Matijašić 1988, 34). A roman villa was investigated in 1995 during the renovation of the existing small church. This revealed the grid of walls and the nicely decorated late antique mosaic, now visible beneath the glass floor of the church. This countryside villa was equipped with a thermal complex (*balneum*) and is dated, based on the mosaic and finds, to the late antiquity, more precisely to the fifth century. It is likely that it was, in fact, converted to an early Christian church in the fifth century (Ujčić, Percan 1996, 8, 9, 10). A small church, dedicated to the Mother of God of Kuj, was built atop these ruins in the seventeenth century. This is also the possible site of a medieval church dedicated to St Thomas of Kuj (Ujčić, Percan 1996, 3, 10). In the sea in immediate vicinity of this position we find amphorae sherds and other Roman ware.¹

¹ Osamdesetih godina prošlog stoljeća osobno sam roneći u plitkom moru u blizini vile naišao na ulomke zdjelice rane terre sigillate, Lamboglia 2 amfore, ali i dio LRA 2 amfore.

¹ In the 1980s while diving in the shallow waters of the sea near the villa I came across sherds from an early terra sigillata small bowl, Lamboglia 2 amphorae, and part of an LRA 2 amphora.

Neki antički nalazi pronađeni su i na južnim obalama prostrane uvale Kuje, na položaju Gromače (*Gramaci*), mada tu nisu vršena istraživanja. Prilikom podvodnih pregleda otkriveni su i tragovi potopljenog kamenog pristaništa, koje bi moglo potjecati iz antičkog, ali i kasnijih doba.

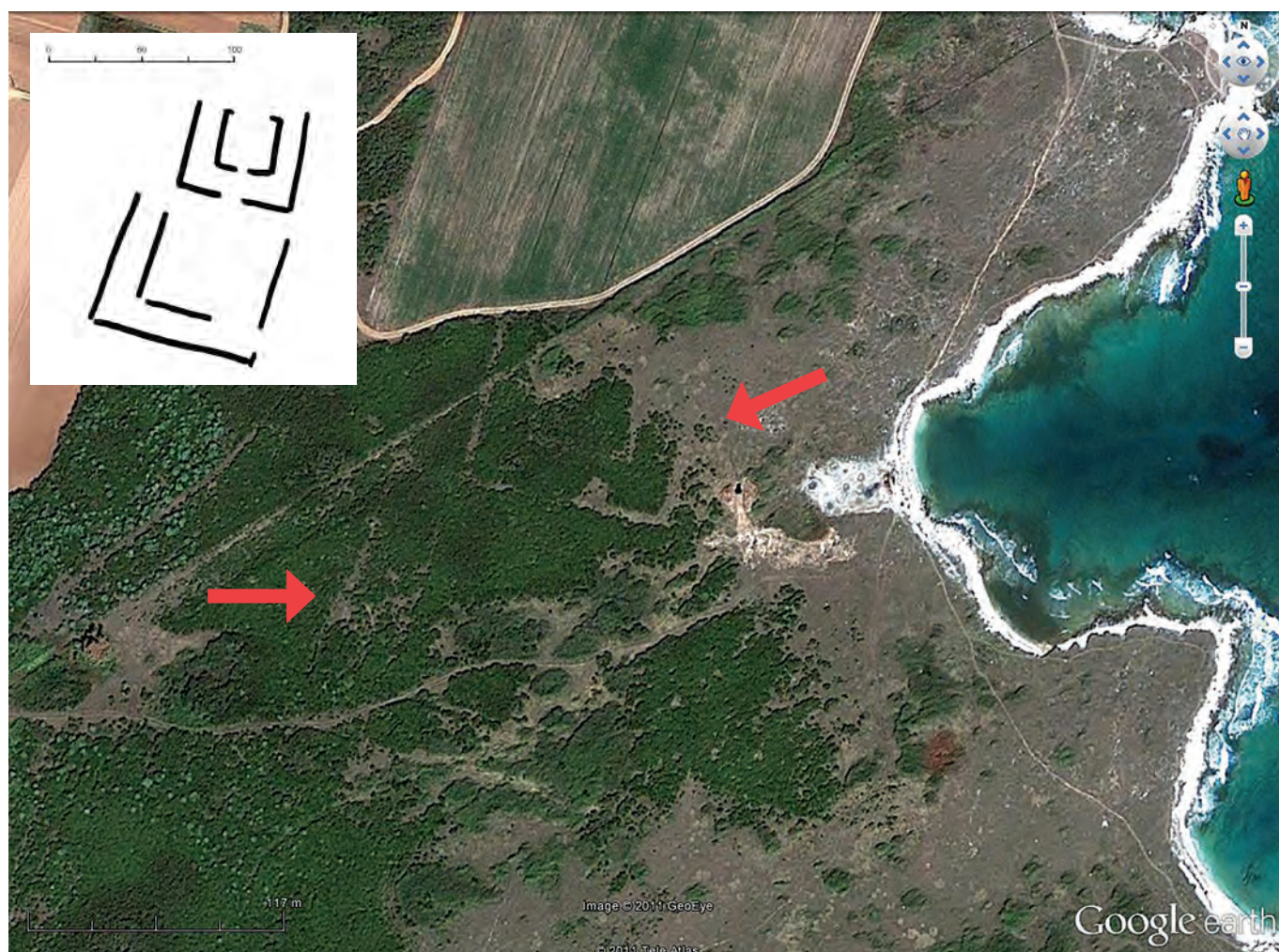
Također, tijekom novijih istraživanja zamijećeni su tragovi postojanja većeg građevinskog sklopa na južnom dijelu rta Uljeva, u blizini močvare Lakošaše (*Palude Lacosase*). Sudeći po rasteru zidova koji se naziru na zračnim snimkama, vrlo vjerojatno je riječ o većem antičkom gospodarsko - stambenom sklopu, zasada neotkrivenoj villi rustici. Blizina močvarnog područja ukazuje na postojanje izvora slatke vode u blizini.

Postojanje nekoliko vila na priobalnom dijelu Ližnjanštine ne bi trebalo čuditi s obzirom kako su ovdje vrlo prostrana polja s kvalitetnom zemljom za zemljoradnju. Ta polja obrađuju se i danas, a uglavnom se uzgaja kupus, paprika, rajčice, lubenice, dinje, krumpir i slično. Vrlo

Some antique finds were, however, also found on the south shore of the broad Kuje Cove at the Gromače (*Gramaci*) position, but no archaeological investigation has been made here. Traces of a submerged masonry dock were identified in the course of underwater surveying that may be of antique or later origin.

Also observed in the course of recent investigative work were traces of the presence of a large architectural complex at the south end of Cape Uljeva, near the Lakošaše marsh (*Palude Lacosase*). Judging by the layout of the walls of which we see indications in the aerial images it is very likely that this was the large antique period production/residential complex of an as yet unidentified *villa rustica*. The proximity of a marsh indicates the presence of a nearby source of fresh water.

The presence of a number of villas on the coastal area of the Ližnjan environs is not unexpected given the very expansive fields here with quality agricultural soil. These fields are



2. Jasno vidljiv raster zidova dosada nepoznate ville rustice na rtu Uljeva- Lakošaše / The clearly visible grid of walls of an as yet unidentified villa rustica on Cape Uljeva-Lakošaše (Google Earth)

vjerojatno je poljoprivredna proizvodnja i u antičko doba ovdje bila vrlo razvijena. Za očekivati je stoga i dosta gust mjesni pomorski promet u antičko doba na prostoru Ližnjanštine.

cultivated to this day, producing for the most part cabbage, sweet peppers, tomatoes, watermelons, cantaloupes, potatoes and similar crops. It is very likely that agricultural production was highly developed here in the antique period. To be expected, therefore, is a high level of maritime traffic in the Ližnjan area in this period.

Povijest istraživanja i metodologija

Nalazište rimskih amfora na pličini rta Uljeva bilo je poznato mještanima duže vrijeme, a ližnjanski mladići su šezdesetih i sedamdesetih godina prošlog stoljeća na ovom mjestu pronalazili dijelove amfora. Sudeći po fotografijama sačuvanih iz tog doba, na nalazištu su se mogli naći i vrlo dobro očuvani ulomci.² Gornji dijelovi amfora na ovim crno-bijelim slikama pripadaju tipu Lamboglia 2, pa je sigurno da potječu s položaja Uljeva A. Razvojem turizma, šire područje uvale Kuje i rta Uljeva postalo je odredište za brojne turiste, pa se raznošenje ostataka amfora nastavilo.



The History and Methodology of Investigation

That there is a site of Roman amphorae in the shallows off Cape Uljeva has been known to the locals for some time, with youth from Ližnjan finding amphorae sherds at the site in the 1960s and 1970s. Judging from photographs taken then, very well preserved fragments could be found at the site.² The upper portions of amphorae in these black and white images are of the Lamboglia 2 form, from which we know that they were extracted from the Uljeva A position. With the development of the tourism industry the broader area of Kuje Cove and Cape Uljeva became a much-frequented destination and the removal of amphorae sherds continued.



3. a, b. Ližnjanac Aldo Grbin i njegovi drugovi su šezdesetih godina na Uljevi A pronalazili dobro očuvane ulomke amfora / In the 1960s Ližnjan native Aldo Grbin and his companions found well preserved amphorae sherds at the Uljeva A position (foto: A. Grbin)

Tijekom posljednjeg desetljeća provedeno je više podvodnih arheoloških pretraživanja ovog prostora (Bekić 2012a, 2012b, 2012c, 2013a, 2013b, 2014). Prvo rekognosciranje istarskog podmorja na kojem se organizirano pretraživao rt Uljeva bilo je 2008. g. Tada su Igor Miholjek i Luka Bekić napravili prvi službeni uviđaj (Miholjek 2009, 310). Zahvaljujući tome, naredne godine organizirano je prvo probno sondiranje na položaju Uljeva A kako bi se dobio uvid u potencijal nalazišta. Tom prilikom je sonda, postavljena u samo središte nalazišta, iznjedrila velik broj ulomaka finije keramike i grublje izrađenih keramičkih lonaca (Mihajlović, Čule 2010, 344). Ova

A number of underwater archaeological surveys have been conducted in the area over the past decade (Bekić 2012a, 2012b, 2012c, 2013a, 2013b, 2014). The first archaeological reconnaissance of the Istrian waters that saw an organised survey of the waters off Cape Uljeva was performed in 2008. The effort saw Igor Miholjek and Luka Bekić perform the first official on-site examination (Miholjek 2009, 310). Thanks to this work the following year saw the first exploratory trenching at the Uljeva A position aimed at ascertaining the site's potential. The trench, located at the centre of the site, yielded a large number of sherds of fine pottery and ceramic pots of coarse make (Mihajlović, Čule 2010, 344). This trenching

² Na podacima i slikama iz šezdesetih godina zahvaljujem gospodinu Aldi Grbinu. Osobno sam nalazište prvi puta posjetio ranih osamdesetih, a do tada je većina zanimljivih nalaza već bila odnesena.

² I wish to thank Mr Aldo Grbin for the data and photographs from the 1960s. I visited the site for the first time in the early 1980s, and by then most of the artefacts of interest had been removed.

sondiranja su pokazala da je ispod gomile ulomaka trbuha amfora, u procijepima stijena moguće naći i zanimljive ulomke keramike.

Naredne dvije godine na Uljevi je vršen samo pregled šireg terena rta. Rezultat ovih pretraživanja, koje su provodili Luka Bekić i Mladen Pešić, bio je preciznije definiran opseg nalazišta Uljeva B, kao i prikupljeni prvi datacijski značajniji nalazi koji pripadaju tom brodolomu (Bekić 2011, 380; 2012b, 364).

Kroz ovih nekoliko godina ustanovljeno je kako se na hridima rta Uljeva nalaze ostaci bar dva rimska brodoloma. Kao prvo, Uljeva A, brodolom koji se može okvirno datirati ranorimsko doba i zatim Uljeva B, iz kasnorimskog doba. Udaljenost između ova dva položaja iznosi oko stotinu metara i između njih nema arheoloških nalaza. S obzirom na dugotrajno odnošenje i pljačku arheoloških ostataka, ali i tisućljetno djelovanje valova, na dnu su na obje lokacije preostali samo vrlo usitnjeni ostaci tereta ovih brodoloma. Ti ostaci nalaze se u škrapama i rupama između hridi, i pokrivaju, ovisno o brodolomu, prostor od 2000 do 3000 m². Najuočljiviji brodolom je Uljeva A, jer su na njemu sačuvani vrlo brojni ostaci trbuha masivnih ranorimskih amfora, dok se brodolom Uljeva B površinski prepoznaje samo po manjim ulomcima crvenih amfora u škrapama.

Realno gledajući, oba brodoloma su bila gotovo potpuno devastirana i za klasičnu arheološku znanost naizgled „izgubljena”. No da li je to uistinu tako? Pitanje da li se iz devastiranog brodoloma na kojem nema više niti jednog cjelovitog predmeta i niti jednog dijela broda mogu donijeti bilo kakvi zaključci jest zapravo svojevrsan izazov. Također, znajući da je na Jadranu sve više brodoloma u dubinama ispod 50 metara značajno opljačkano može se predvidjeti kako će se u budućnosti istraživanja provoditi i na takvim, uništenim nalazištima. Stoga je možda već sazrijelo vrijeme da se isprobaju metodologije koje bi iz ovakvih nalazišta izvukle zanimljive podatke, koji se u prvi mah od njih niti ne očekuju.

Drugi faktor koji nas je potaknuo da ovdje ipak započnemo istraživanja je razmjerno jednostavan logistički pristup. Riječ je o nalazištu blizu naselja, pristaništa, nedaleko od obale. Također, s obzirom da je riječ o nevelikim dubinama - od 2 do 6 metara, u arheološkoj ekipi mogli su sudjelovati i manje iskusni ronionci. To je nalazište na taj način bilo pogodno za edukaciju mladih podvodnih arheologa, koje je MCPA Zadar započeo provoditi zajedno s UNESCO-vim uredom u Veneciji. Nakon što je Općina Ližnjan financijski poduprla ovaj projekt, i nakon svih pripremnih radova, 2012. g. započeta su sustavna arheološka istraživanja ova dva brodoloma.

Strategija arheoloških istraživanja morala je biti adaptirana radu na plitkom hridinastom terenu, s vrlo razasutim teretom, što je tehnički vrlo drugačije od klasičnih

work demonstrated that potsherds of greater interest could be recovered beneath the heap of amphorae belly sherds in the crevices between rocks.

The following two years saw only surveys of the broader terrain of the cape. The results of these surveys, performed by Luka Bekić and Mladen Pešić, was a more precise identification of the scope of the Uljeva B site, and the recovery of the first chronologically diagnostic finds from this wreck (Bekić 2011, 380; 2012b, 364).

Over these few years we learned that there were the remains of at least two Roman wrecks on the rocks off Cape Uljeva. The first, Uljeva A, is a wreck that can be dated roughly to the early Roman period, while Uljeva B is a late Roman wreck. The distance between these two positions is about a hundred metres and there are no archaeological finds between them. Given the long period of the removal and looting of archaeological remains and over a thousand years of wave activity, we see only very highly fragmented remains of the cargos on the seabed at both wreck sites. We find these remains in the crevices and hollows between the rocks covering, depending on the wreck in question, from two to three thousand square metres. Uljeva A is the most clearly evident of the wrecks, with preserved very numerous belly sherds from massive early Roman amphorae, while the Uljeva B wreck is evident on the seabed surface only by small sherds of red amphorae among the crevices.

Realistically, both wrecks were almost entirely devastated and in terms of classic archaeological study to all appearances “lost”. But is this in fact the case? The question of whether any conclusions at all can be drawn from a devastated wreck, offering not a single complete artefact and not a single preserved portion of the ship’s structure, is, in fact, a challenge of sorts. Further, knowing that there is a growing number of wrecks in the Adriatic at depths of less than fifty metres that have seen significant looting we can foresee that investigation will in the future also be performed at these devastated sites. We are likely already in a time when methodologies should be tested aimed at extracting data of interest from sites of this kind, where they would otherwise be initially unexpected.

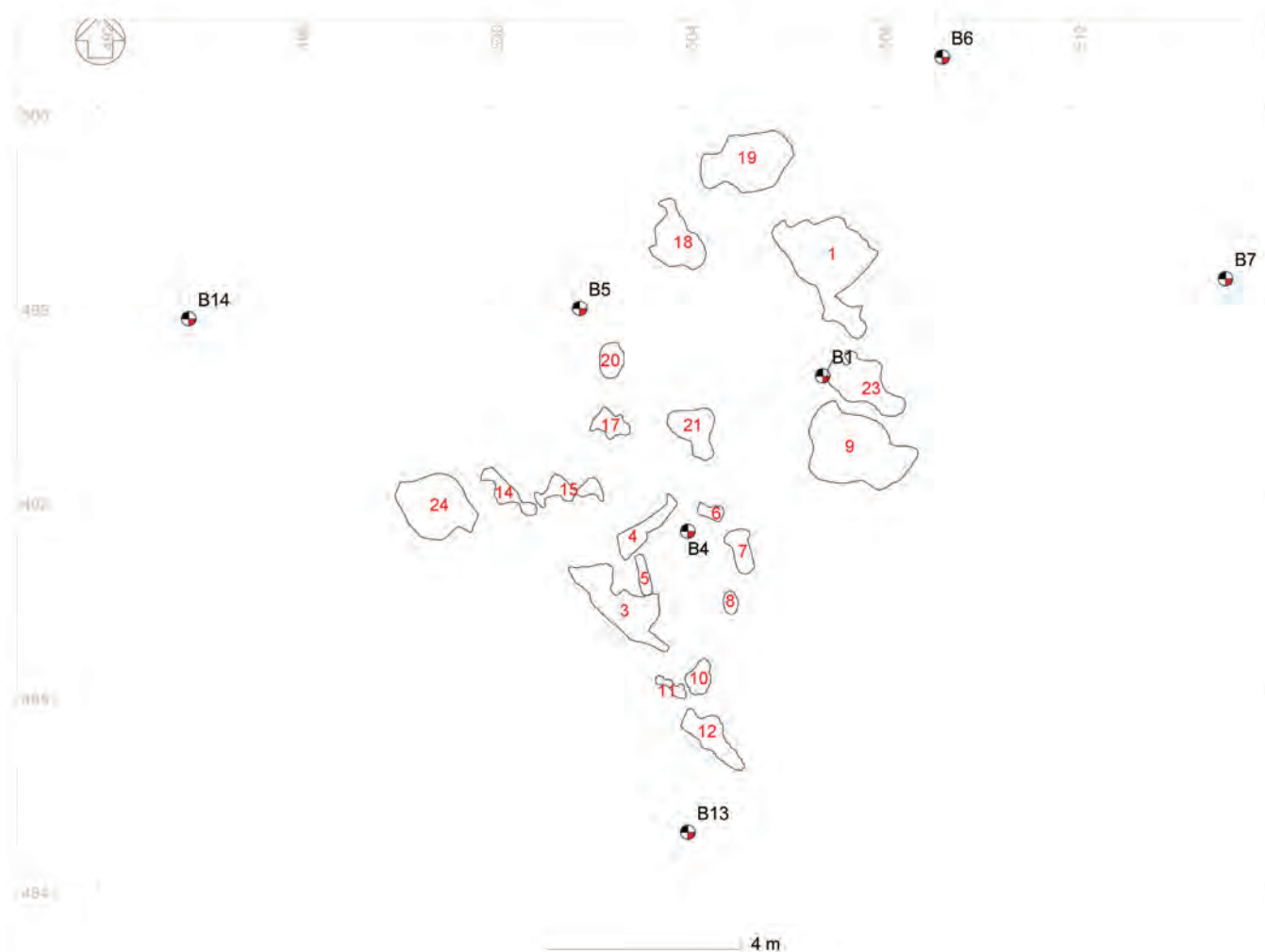
The other factor that encouraged us to launch an investigative effort here is the relatively straightforward logistical aspects of our access to the site. It is located near a settlement and docking facilities and not far from the shoreline. Further, given the shallow depths of from two to six metres, the archaeological crew could involve the participation of less experienced divers. This made the site suitable for the training of young underwater archaeologists, which the Zadar-based International Centre for Underwater Archaeology (ICUA) has begun providing, working with the UNESCO office in Venice. With funding support secured through the Ližnjan municipal government, and following the preparatory work, 2012 saw the launch of systematic archaeological investigation of these two shipwrecks.



4. Između hridi na položaju Uljeva A vidljivi su brojni ulomci razbijenih amfora / Numerous sherds of broken amphorae are visible between the rocks at the Uljeva A position (foto: I. Miholjek)

istraživanja kompaktno sačuvanim brodoloma, na dubljem pješčanom tlu. Stoga je adaptirana strategija kojom bi se pokrilo cjelokupno nalazište i valjano dokumentirali nalazi. Prvo je postavljena fiksna mreža točaka za izmjere. Na svakom nalazištu fiksnu je mrežu činilo trideset točaka na razdaljinama od oko pet do deset metara. Kako bi bile vidljivije ronionicima, i da se omogući pravilno razvlačenje metara u traci, postavljene su na najviše kote podvodnih hridi. Tehnički, to su masivni željezni čavli s prikvačenom oznakom koji su bili zabijeni u stijenu. Vremenom se pokazalo kako su valovi ovdje prejak, jer su oznake redovno izbacivali iz stijena. Stoga su kasnije čavli zabetonirani u procijepe, što ih je učinilo mnogo otpornijim na razorne valove. Na osnovu međusobne izmjere tih čavala načinjeno je mrežište za daljnju dokumentaciju. Unutar mrežišta započelo se s ucrtavanjem svake pojedine škrabe koja je sadržavala arheološke nalaze. Izmjere su unošene u program „Site Recorder“ u kojem se počeo izrađivati plan nalazišta. Svaka pojedina škrapa dobila je svoju stratigrafsku oznaku, pa su započela iskopavanja svake od tih cjelina.

The archaeological investigation strategy had to be adapted to work in shallow rocky terrain, with highly dispersed cargo, which in terms of technique departs broadly from classic investigation of a compactly preserved wreck on a deeper sandy sea bottom. We thus adapted a strategy that would cover the whole of the site and properly document the finds. The first step was to install a fixed grid of points for measurement, about thirty points at each site, set at distances of about five to ten metres. To make them visible to divers and to provide for the proper use of a tape measure, they were installed at the highest elevations on the underwater rocks. In terms of the technical aspects these are large iron spikes with attached labels hammered into the rock. Over time it became evident that the waves here are too strong for this method, with the labelled spikes often dislodged from the rocks. The spikes were for this reason subsequently cemented into fissures, rendering them much more resistant to the destructive force of the waves. Measurements taken of the positions of these spikes were used to form a grid for further documentation. Within this grid the investigators began by drawing in every crevice that contained archaeological finds. The measurements taken were logged in the Site Recorder software application in which we began creating a plan of the site. Every crevice was assigned a stratigraphic designation, followed by the start of excavation at each of these contexts.



5. Započeti nacrt nalazišta Uljeva B u Site Recorderu / A plan of the Uljeva B site is created in the Site Recorder software application (M. Pešić)

S obzirom da u površinskom sloju oba nalazišta među vidljivim ulomcima više nije bilo moguće prikupiti bilo kakve zanimljivije i tipološki određive nalaze, jedina nada je bila da će se takvi pronaći zakopani dublje ispod sedimenta u procjepima između stijena. Iskopavanje je provedeno uz pomoć vodene pumpe koja je bila smještena na brodici iznad nalazišta. Tijekom iskopavanja, iz svake cjeline, škrabe, ronioci su vadili sve pokretne nalaze koje su uočili. Posebno se pazilo da se svaki procijep među stijenama isprazni od sedimenta u potpunosti, do žive stijene. Upravo u najskrivenijim dijelovima pronađeni su najzanimljiviji i najbolje očuvani nalazi. Svi su u košarama podizani na brodicu, gdje je drugi tim brojao i vagao prikupljene nalaze, ali i radio njihovu primarnu dokumentaciju i selekciju. Na liste su zapisivani i svi podaci o zastupljenom broju određenih elemenata pronađenih u svakoj cjelini, poput ukupne težine ulomaka amfora, broja ručaka ili šiljaka amfora, metalnih čavala itd. Svi tipološki određivi ulomci pakirani su za daljnju obradu u laboratoriju. Oni su nakon konzervatorsko - restauratorskog procesa nacrtani i fotografirani te tipološki i statistički obrađeni.

Given that there was no success in recovering any typologically diagnostic artefacts of greater interest among the visible sherds in the surface layer at both sites, our only hope was that finds of this kind would be found buried deeper in the sediment in the fissures between rocks. Excavation was assisted by a water pump installed on a boat above the site. The excavation saw divers extract all observed artefacts from each context/fissure. Particular care was made that every one of the fissures between the rocks was emptied of all sediment, down to the bedrock. Finds with the highest level of preservation and of greatest research interest were, in fact, recovered from the most hidden recesses. They were all raised to the boat in baskets where a second team counted and weighed the recovered artefacts and carried out primary documentation and selection. Data was logged on lists concerning the numerical incidence of the elements recovered from each context, including the total weight of the amphorae sherds, the number of amphorae handles and spikes, metal nails and so forth. All typologically diagnostic sherds were packed for further laboratory processing. Following the conservation-restoration process they were drawn, photographed, analysed by typology, and statistically analysed.

Cilj ovakvog pristupa je da se u konačnici kartiraju svi nalazi prema svojem položaju u škrapama, kako bi se dobio uvid u disperziju tereta na dnu, u nadi da bi to moglo pridonijeti saznanju o veličini broda i njegovoj orijentaciji na morskom dnu. Također, izbrojani su ključni elementi amfora kako bi se saznao minimalni mogući broj amfora koji je činio teret broda. Osim po broju ručaka ili šiljaka, do minimalnog broja moglo bi se doći i putem konačnog zbroja svih izvaganih ulomaka amfora. Svi ovi podaci su zapisivani tijekom pet godina istraživanja kako bi se vidjelo da li se iz njih mogu izvući neka dalekosežnija saznanja o brodolomu. Ovaj pristup istraživanju devastiranih nalazišta jest eksperimentalan, a koliko je uspješan pokazati će ova knjiga.

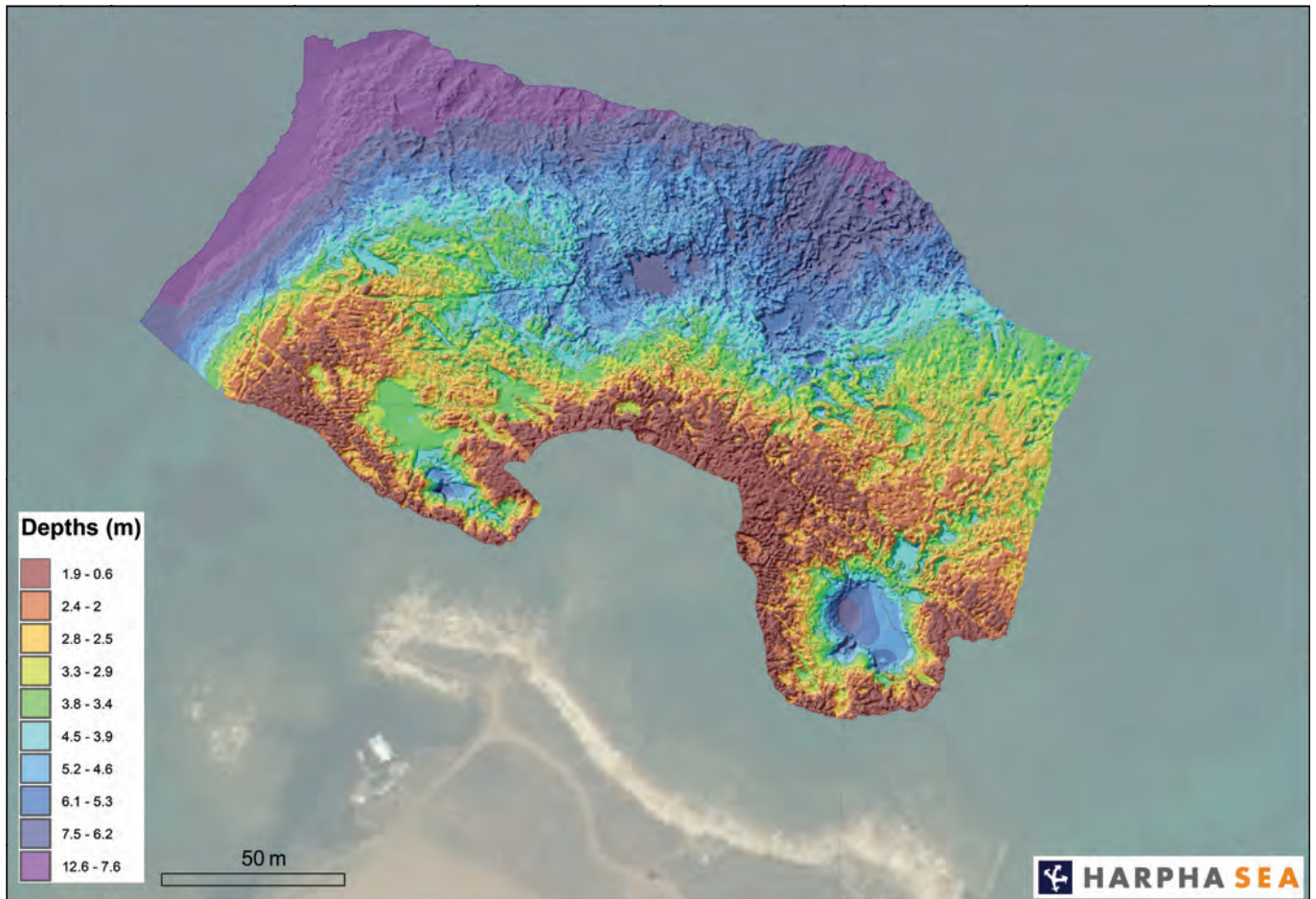
Tijekom nekoliko kampanja istraživanja s vrlo ograničenim sredstvima i sveukupno malim brojem urona, ustanovili smo da je najveći problem istraživanja ovog nalazišta u zadovoljavajućoj brzini i preciznosti ucrtavanja brojnih škrapa. Precizno dokumentiranje njihovih točnih položaja je naprosto zahtijevalo previše vremena. Stoga je prvom prilikom,

The objective of this approach was a final product that would map out all finds in terms of their position in the various crevices, providing insight into the dispersion of the cargo on the seabed in the hope that this would contribute to our understanding of the size of the relevant vessel and its alignment on the seabed. Key amphorae elements were also counted to ascertain the minimum possible number of amphorae in a ship's cargo. A minimum number could, besides from the number of handles and spikes, also be calculated from a final tally of all weighed amphorae sherds. All of this data was recorded over the five years of investigation with the aim of seeing if it might be possible to draw from them some more far-reaching insight concerning the wrecks. This approach to the investigation of devastated sites is experimental—this book aims to demonstrate in what measure it was successful.

In the course of a number of investigative campaigns, with very limited funding and an overall small number of dives, we found that the greatest challenge facing us at this site was in achieving a satisfactory speed and precision in drawing in the



6. Iskopavanje pomoću vodene pumpe na hridima položaja Uljeva B / Water pump assisted excavation at the rocks of the Uljeva B position (foto: L. Bekić)



7. Batimetrijska mapa hridi na rtu Uljeva / A bathymetric map of the rocks off Cape Uljeva (Harpha Sea)

kada je projekt konačno dobio vrlo važnu financijsku pomoć Ministarstva kulture RH, pokrenuta akcija digitalnog snimanja morskog dna. To je obavljeno u suradnji sa slovenskom tvrtkom Harpha Sea, koja je posjedovala potrebnu opremu i iskustvo u izradi batimetrijskih karata pod morem koje mogu poslužiti za mapiranje podvodnih arheoloških nalazišta. Tako je pomoću gumenjaka koji je mogao ploviti iznad plitkih hridi Uljeve i *multibeam* tehnologije izrađena precizna batimetrijska karta cijelog područja. Ova nova karta dna je zapravo uštedila mnoge sate i sate podvodnog mjerenja i ucrtavanja pojedinačnih škrapa, te je oslobodila ronilački tim za brže i efektivnije iskopavanje u budućim kampanjama.

Tijekom ovih godina iskopavanja, pronađeni su ostaci još dva do tada neuočena brodoloma na rtu Uljeva, koji su nazvani Uljeva C i Uljeva D. Ostaci brodoloma Uljeva C prepoznaju se po brojnim opekama koje leže između visokih stijena uz obalu. Istraživanjem je zaključeno kako ovaj brodolom potječe iz ranog novog vijeka (Bekić 2013b, 2013b, 2014a). Zadnji je pronađen brodolom Uljeva D, koji se nalazi nekoliko stotina metara istočnije od ova tri (Bekić, Surić 2015, 13, sl.14,

numerous crevices. The precise documentation of their exact positions was simply overly time-consuming. Consequently, and at the first available opportunity—when the project finally won critical funding through the Croatian culture ministry—we moved forward with a campaign to digitally image the seabed. In this effort we worked with the Harpha Sea company out of neighbouring Slovenia, which had the necessary equipment and experience in bathymetric mapping of sea bottom that can be used on underwater archaeological sites. Using an inflatable boat that could safely navigate the shallow rocks at Uljeva, equipped with multibeam sonar technology, we were able to produce a precise bathymetric map of the entire area. This new map of the seabed saved numerous working hours of underwater measurement and drawing of individual crevices, and freed up the diving crews for speedier and more effective excavation in future campaigns.

During the years of excavation, we discovered the remains of another two previously unknown wrecks at Cape Uljeva, designated Uljeva C and Uljeva D. The remains of the Uljeva C wreck are visible as numerous bricks lying between the tall rocks near the shore. The investigation concluded that this wreck was post-medieval (Bekić 2013b, 2013b, 2014a). The last of the identified wrecks is Uljeva D, located several hundred metres to the east of the other three (Bekić, Surić 2015, 13, Fig. 14, 15). It is visible as tegulae and imbrices densely scattered over a small

15). Prepoznaje se po gusto rasipanim tegulama i imbreksima na manjem području. Ovaj brodolom zasada nije arheološki istražen, ali je jasno da potječe iz rimskog doba. Još dalje nalazi se brodolom na hridi Sika, koji zasada nije istraživan, ali sudeći prema površinskim nalazima pripada u ranorimsko vrijeme. Svi ovi brodolomi oko i na samom rtu Uljeva svjedoče o opasnosti ovog mjesta za moreplovce.

TERENSKJE EKIPE OD 2009. - 2016. G.

Prva arheološka ekipa, koja je provodila pregled terena i probno sondiranje, bila je uglavnom sastavljena od djelatnika Hrvatskog restauratorskog zavoda te vanjskih suradnika. Kasnije, 2012. godine, kada je došlo do osnivanja Međunarodnog centra za podvodnu arheologiju u Zadru i prelaska djelatnika u tu novu ustanovu, na Uljevi se počinju provoditi sustavna arheološka istraživanja i tečajevi podvodne arheologije. Voditelj istraživanja bio je Luka Bekić, a njegov zamjenik Mladen Pešić. Sve do 2016. g., istraživanja su provodili djelatnici MCPA Zadar zajedno s vanjskim suradnicima i brojnim studentima i mladim arheolozima iz različitih zemalja. Među njima bilo je i iskusnijih kolega poput Mirana Eriča, ali i mladih podvodnih arheologa na samom početku svoje karijere.

area. This wreck has yet to be archaeologically investigated, but is clearly of Roman provenance. Even further on is the wreck at the Sika rock—also yet to be investigated, the surface finds point to an early Roman origin. All these shipwrecks around and just off Cape Uljeva bear witness to the danger this area posed to mariners.

THE FIELD CREWS: 2009 TO 2016

The first archaeological field crew conducting surveys of the terrain and exploratory trenching was comprised largely of Croatian Conservation Institute staff and outside associates. Systematic archaeological investigation and the staging of underwater archaeology courses at Uljeva followed in 2012 as one of the fruits of the founding of the International Centre for Underwater Archaeology in Zadar and the transfer of staff to this new institution. I had the honour of taking on the role of field director, ably assisted by deputy field director Mladen Pešić. The investigation was conducted through to 2016 by ICUA Zadar staff, joined by outside associates and numerous students and up-and-coming archaeologists from a broad range of countries. Among them were more experienced colleagues, people like Miran Erič, and younger archaeologists just getting a start in their careers.



8. Ekipa iz 2009. g.; s lijeva Pavle Dugonjić, Anita Dugonjić, Suzana Čule, Vesna Zmaić, Luka Bekić, Igor Mihajlović, Igor Miholjek / The 2009 crew (left to right): Pavle Dugonjić, Anita Dugonjić, Suzana Čule, Vesna Zmaić, Luka Bekić, Igor Mihajlović, Igor Miholjek (foto: I. Miholjek)



9. Ekpa 2012.
g: s lijeva
Mladen Pešić,
Nemanja
Čavlović, Anita
Jelić, Mariglen
Meshini,
Rok Kovačić,
Borjana
Lutzkanova,
Borna
Krstulović, Anna
Demetriou,
Luka Bekić
/ The 2012
crew (left to
right): Mladen
Pešić, Nemanja
Čavlović, Anita
Jelić, Mariglen
Meshini,
Rok Kovačić,
Borjana
Lutzkanova,
Borna
Krstulović, Anna
Demetriou,
Luka Bekić
(foto:
L. Bekić)

10. Ekpa 2013.
g: s lijeva Luka
Bekić, Miran
Erić, Maria
Alexandrou,
Sarita
Karpuzova,
Maria Ktori,
Anita Jelić,
Marina Šimičić,
Mladen Pešić
/ The 2013
crew (left to
right): Luka
Bekić, Miran
Erić, Maria
Alexandrou,
Sarita
Karpuzova,
Maria Ktori,
Anita Jelić,
Marina Šimičić,
Mladen Pešić
(foto:
L. Bekić)





11. Ekipa 2014. g: s lijeva Nikola Paskali, Darko Kovačević, Miran Erič, Aleksandar Sajdl, Melanie Münzner, Luka Bekić, Roko Surić, Jelena Čelebić, Marina Šimičić, Zdravka Georgieva, Valentina Todoroska, Mladen Pešić / The 2014 crew (left to right): Nikola Paskali, Darko Kovačević, Miran Erič, Aleksandar Sajdl, Melanie Münzner, Luka Bekić, Roko Surić, Jelena Čelebić, Marina Šimičić, Zdravka Georgieva, Valentina Todoroska, Mladen Pešić (foto: N. Lazarević)

12. Ekipa 2015. g: s lijeva Ahmed Al-Siyabi, Roko Surić, Marina Šimičić, Jelena Čelebić, Veronika Zeržánová, Bartolomiej Grzywniak, Barbora Machová, čuče: Luka Bekić, Mladen Pešić / The 2015 crew (left to right): Ahmed Al-Siyabi, Roko Surić, Marina Šimičić, Jelena Čelebić, Veronika Zeržánová, Bartolomiej Grzywniak, Barbora Machová; (lower row): Luka Bekić, Mladen Pešić (foto: M. Pešić)





13. Ekpa 2016. g: s lijeva Luka Bekić, ribari Dalibor i Nino Kostešić, Maja Kaleb, Sara Čorković, Mladen Pešić, Ahmed Al-Siyaabi, čuče Roko Surić, Nicole Schoute, Robert De Hoop / The 2016 crew (left to right): Luka Bekić, fishers Dalibor and Nino Kostešić, Maja Kaleb, Sara Čorković, Mladen Pešić, Ahmed Al-Siyaabi; (lower row): Roko Surić, Nicole Schoute, Robert De Hoop (foto: L. Bekić)

Uljeva A

OPIS

Položaj Uljeva A nalazi se pedesetak metara od obale, sjeverno od zapadnog kraka rta Uljeva, na samom ulazu u Kuje. Ovdje podmorske stijene dopiru do dva metra ispod današnje površine, ali većina morskog dna je na dubini od 4 do 6 metara. Na oko dvije tisuće kvadratnih metara rasprostiru se brojni ulomci amfora, gusto naslagani između šiljatih stijena. S obzirom na tu veliku količinu ulomaka amfora, ovaj položaj je lako uočljiv i već desetljećima poznat domaćim ljudima, pa i turistima.

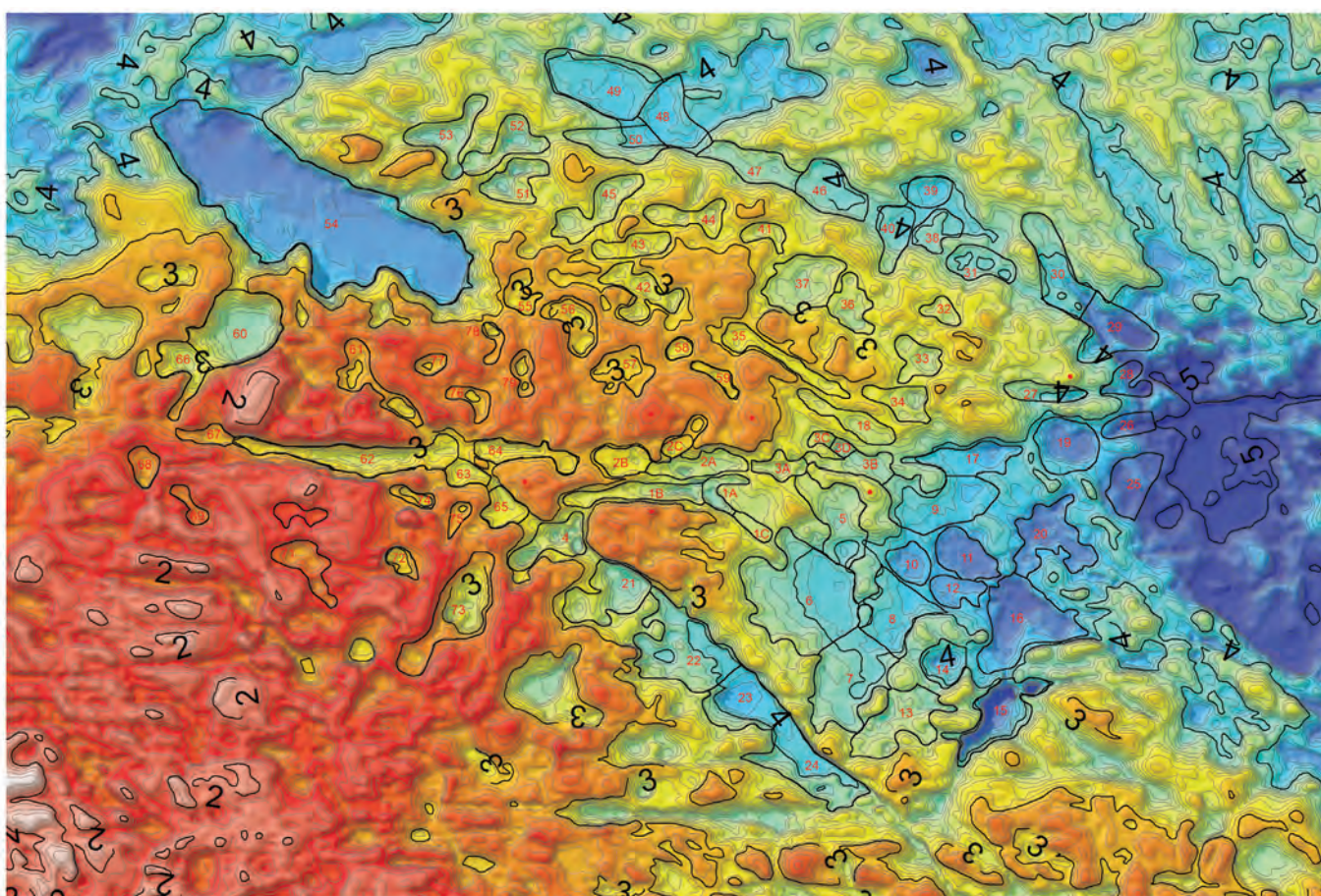
Upravo na ovom položaju započeta su prva arheološka sondiranja 2009. g. Iskopavanja su nastavljena i narednih godina, 2012., 2013., 2014., 2015. te 2016., ali u ograničenom opsegu. Od početaka istraživanja radilo se na kartiranju svih jama koje sadrže arheološke nalaze, kako bi se došlo do točnog područja na kojem su razasuti dijelovi ovog brodoloma. Sveukupno je zabilježena čak 71 jama koja sadrži površinski vidljive arheološke nalaze (Sl. 14).

Uljeva A

DESCRIPTION

The Uljeva A position lies some fifty metres off the shoreline, to the north of the western arm of Cape Uljeva, at the mouth of Kuje Cove. Here the submerged rocks rise to two metres below the present-day sea surface, but most of the seabed lies at a depth of from four to six metres. Numerous amphorae sherds, densely piled between the jagged rocks, are scattered over an area of some two thousand square metres. Given the massive quantity of amphorae sherds this position is readily visible and has been known to locals and visiting tourists for decades.

It was here that the first archaeological trenching was launched back in 2009. Excavation work continued in 2012, 2013, 2014, 2015 and 2016, but in limited scope. From the start of the investigative effort work was done on mapping out all the pits containing archaeological finds in order to ascertain the exact area over which parts of this wreck were scattered. In all we registered seventy-one pits containing visible surface archaeological finds (Fig. 14).



14. Jame označene brojevima na podlozi batimetrijske karte / The pits, numbered, overlaid on a bathymetric map (Harpha sea, L. Bekić)

Tijekom nekoliko kampanja na Uljevi A je istraženo 26 cjelina / jama, a poneki nalazi prikupljeni su iz jama koje nisu u potpunosti istražene. U njima je ukupno pronađeno: 5481 ulomaka amfora što iznosi 2480,1 kilograma amfora. Od toga je 92 ulomaka grla ili oboda, 87 čepova, 152 ulomaka ručki i 62 ulomaka šiljaka amfora. Uz amfore pronađeno je i 326 ulomaka keramike u težini od 9,1 kilograma te 20 ostalih predmeta poput stakla, metala itd. u ukupnoj težini od 1,9 kilograma.

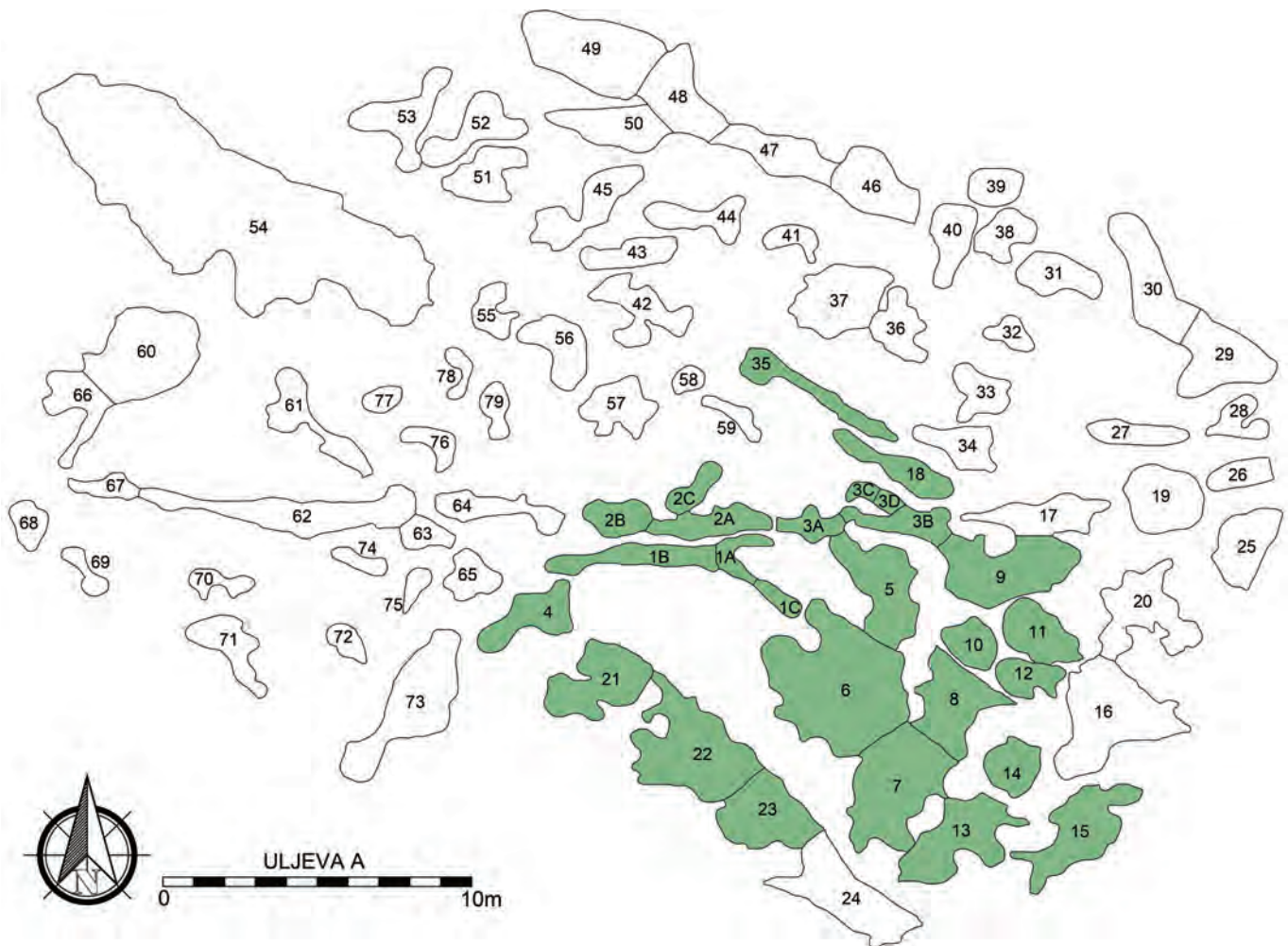
Twenty-six contexts/pits were investigated over the course of several campaigns at Uljeva A, with some artefacts collected from pits that were not fully investigated. They yielded a total of 5481 amphorae sherds for a total amphora find weight of 2480.1 kilograms. Of that 92 are neck and rim sherds, 87 are stoppers/seals, 152 are handle sherds, and 62 are amphorae spike sherds. Besides the amphorae the effort collected 326 other potsherds weighing 9.1 kilograms, and twenty other artefacts of glass, metal and so forth weighing a total of 1.9 kilograms.

PIT	PIT NO.	TOTAL WEIGHT (kg)	AMPHORA WEIGHT (kg)	AMPHORA NUMBER	AMPHORA BOTTOM	AMPHORA LID	AMPHORA HANDLE	AMPHORA RIM	CERAMICS WEIGHT (kg)	CERAMICS NUMBER	OTHER WEIGHT (kg)	OTHER	GLASS
A1	1A	34,8	34,0	108			2		5,974	197	0,103	7	
	1B	83,4	78	246	2		8	2					
	1C	28,5	27,7	104	5	1	3	4					
A2	2A	44,4	44,2	173	2	4	4		0,424	11			
	2B	25,7	25,5	80	1		3	2					
	2C	15,0	13,6	48			4	3					
A3	3A	36,7	36,7	142	1		5	3					
	3B	117,5	117,4	247		5	7	3					
	3C	41,5	41,5	65	1	2	2						
	3D	68,1	68,1	104	1	2		1					
A4	4	222,1	221,8	413	7	1	12	4	0,133	7			
A5	5	42,4	42,4	91		2		1	0	0			
A6	6	467,5	463,9	974	5	8	20	11	0,639	23	0,014	1	
A7	7	90,6	90,6	212			3	1	0,108	5			
A8	8	96,6	96,6	282	1		8	2	0,111	18	0,192	1	
A9	9	332,5	332,5	577	4	15	16	8					
A10	10	171,8	171,8	264			2						
A11	11	206,8	206,4	373	5	3	7	3	0,072	4			
A12	12	65,5	65,5	159	2	3	4	2	0,188	10			
A13	13	1,3	1,3	8									
A14	14	8,5	8,5	14	1								
A15	15	2,7	2,7	17	1		4	3					
A18	18	93,6	93,6	342	5	4	9	7	0,318	6			
A21	21	26,5	24,7	38	1	1	2		0,582	31	0,256	2	
A22	22	36,4	35,6	64	1		6	2	0,113	6			
A23	23	43,1	41,3	52	1		7	1	0,013	1	0,055	2	
A35	35	75,2	74,6	236	2	5	6		0,134	2	0,067	4	
COLLECT.	COLLECT.	8	7,8	15	1	5		10	0,21	1			
SURFACE	SURFACE	12,9	11,8	33	12	26	8	19	0,105	4	1,24	4	2
TOTAL		2499,6	2480,1	5481	62	87	152	92	9,124	326	1,927	21	2

15. Tablica s nalazima prikupljenim po jamama / A table showing the finds per pit (M. Kaleb)

Na karti nalazišta ucrtana je 71 jama koje sadrže značajniji broj nalaza. Tijekom pet kampanja istraživanja iskopano je 26 jama (Sl. 16), a s obzirom na gustoću nalaza može se reći da je to otprilike trećina nalazišta. Istražene jame izgledale su potencijalno najdublje i s najviše nalaza.

Indicated on the site map are seventy-one pits that contained a significant number of finds. Twenty-six pits (Fig. 16) were excavated in the course of five investigative campaigns and, from the density of finds, we can conclude that this accounts for about one third of the site. The investigated pits were those that appeared to be the deepest and could yield the greatest quantity of finds.



16. Položajni nacrt svih jama s površinski vidljivim nalazima i označene istražene jame / A plan of the positions of all the pits with finds visible on the surface, with investigated pits indicated (R. Surić, M. Kaleb)

TERET

Amfore

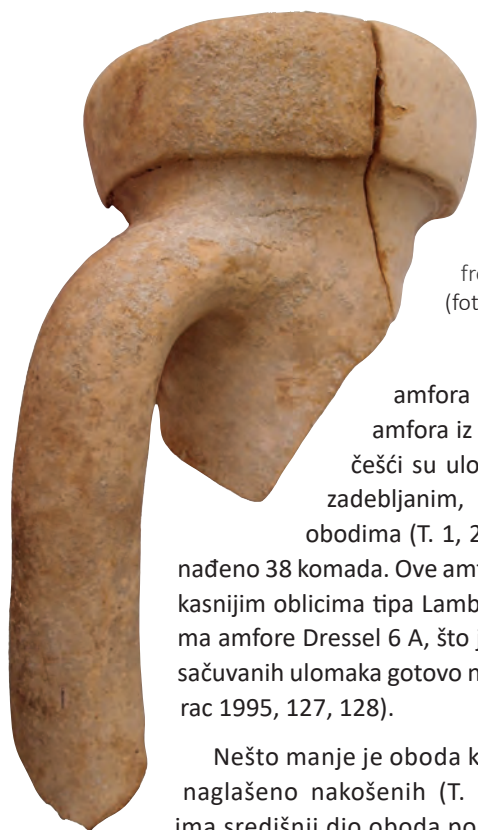
Teret broda koji je potonuo na položaju Uljeva A očito je sadržavao najvećim dijelom amfore tipa Lamboglia 2 i vjerojatno poneke tipa Dressel 6A. Za sada je to teško sa sigurnošću zaključiti jer je tipološki odredivih nalaza premalo za konačni zaključak. Na dnu leže uglavnom tipološki neodredivi dijelovi trbuha amfora i tek mjestimično se pronađe po koji manji ulomak grla amfore. Kako je amfora Lamboglia 2 predšasnik amfore Dressel 6A, imaju mnoge zajedničke karakteristike, pa ih je teško raspoznati ako nisu cjelovite. Oba tipa amfora korišteni su za prijevoz vina. Po svemu sudeći riječ je o teretu iz prijelaznog doba kada je trajao razvoj amfora Lamboglia 2 u Dressel 6A, a očito je kako je u teretu bilo miješano zastupljeno više inačica ovih amfora. To prijelazno razdoblje je bilo u drugoj polovini 1. st. pr. Kr. (Starac 1995, 140), a brodolom Uljeva A datira se u sredinu 1. st. pr. Kr. i prema ostalim nalazima.

Neki karakteristični ulomci ovih amfora prikazani su na tablama 1. - 6. Uočljiv je velik broj različitih profila oboda ili šiljaka

THE CARGO

Amphorae

Amphorae of the Lamboglia 2 form, and likely some of the Dressel 6A form, clearly made up the bulk of the cargo of the vessel that sank at the Uljeva A position. No certain determinations have been drawn as to the typological distribution because the quantity of typologically diagnostic artefacts is too low to serve as the grounds for a final conclusion. Lying on the seabed are for the most part typologically non-diagnostic belly portions of amphorae, and we see only sporadic finds of small amphorae neck sherds. Given that the Lamboglia 2 form was the precursor to the Dressel 6A form amphora, they share many common characteristics, making them difficult to distinguish when not whole. Both forms were used for the transport of wine. From all the indicators this cargo was from a transitional phase in the development of the Dressel 6A out of the Lamboglia 2 amphora, and it is evident that the cargo included a mix of multiple versions of these amphorae. This transition phase occurred in the second half of the first century BCE (Starac 1995, 140), with the Uljeva A wreck date of the mid-first century BCE also grounded in the other recovered artefacts.



17. Tipični ulomak gornjeg dijela amfore (kat. 1) tipa Lamboglia 2 s položaja Uljeva A / A typical sherd from the upper portion of an amphora (cat. 1) of the Lamboglia 2 form from the Uljeva A position (foto: L. Bekić)

amfora pa je očito riječ o skupu amfora iz različitih radionica. Najčešći su ulomci oboda sa kratkim i zadebljanim, okomito postavljenim obodima (T. 1, 2: kat. 1-12), njih je pronađeno 38 komada. Ove amfore mogu pripadati bilo kasnijim oblicima tipa Lamboglia 2 ili ranijim oblicima amfore Dressel 6 A, što je na osnovu ovako loše sačuvanih ulomaka gotovo nemoguće zaključiti (Starac 1995, 127, 128).

Nešto manje je oboda koji su tanji i prema van naglašeno nakošenih (T. 3: kat. 15-20). Većina ima središnji dio oboda ponešto ulegnut, a gornji ili donji kraj trakastog oboda ponekad je dodatno naglašen. Na nekolicini primjeraka se upravo na sredini oboda s vanjske strane nalaze ostatci radioničkih pečata (kat. 15, 16, 17, 18). Oni su nažalost nečitljivi jer su svi ulomci izlizani od djelovanja valova. Ulomaka sa značajnije ljevasto nakošenim trakastim obodom pronađeno je 16 komada i njih se može pripisati amforama Dressel 6 A.³ U literaturi se ovakvi obodi pripisuju varijantama Dressel 6 A (rt Pelegrin B, Bekić, Royal 2016, 278, Fig. 8; zatim Hutovo blato - Desilo, Zmaić, Miholjek 2013, 179, T. 1: privatna zbirka 1 i 2) ili Lamboglia 2 (Split, Cambi 1991 Sl. 1, Sl. 2).



18. Ulomak oboda amfore (kat. 16) s radioničkim pečatom, Dressel 6 A, s položaja Uljeva A / An amphora rim sherd (cat. 16) with the maker's mark, Dressel 6A, from the Uljeva A position (foto: L. Bekić)

Some of the characteristic sherds of these amphorae are shown in Plates 1 through 6. We see a significant number of diverse rim profiles and amphora spikes, from which it is evident that this is an assemblage of amphorae manufactured in various workshops. Most of the rim sherds exhibit short, thick and upright rims (T. 1, 2: cat. 1–12): 38 such sherds were recovered. These amphorae may be of the later variants of the Lamboglia 2 form or early variants of the Dressel 6A form, which is almost impossible to conclusively conclude on the basis of sherds of this poor level of preservation (Starac 1995, 127, 128).

There are somewhat fewer thinner and prominently everted rims (T. 3: cat. 15–20). Most have a somewhat depressed rim centre, with the upper or lower portion of the strap-like rim occasionally additionally emphasised. On some specimens we see, precisely at the midpoint of the rim, on the outer side, the remnants of the maker's mark (cat. 15, 16, 17, 18). They are, unfortunately, unreadable, as all of the sherds are worn by wave action. Sixteen specimens were found with prominently funnel-shaped everted and strap-like rims, and they can be attributed to amphorae of the Dressel 6A form.³ In the literature these rims are attributed to variants of the Dressel 6A form (Cape Pelegrin B, Bekić, Royal 2016, 278, Fig. 8; also Hutovo Blato-Desilo, Zmaić, Miholjek 2013, 179, T. 1: private collection 1 and 2) or of the Lamboglia 2 form (Split, Cambi 1991 Fig. 1, Fig. 2).

Along with the rim sherds we also see preserved parts of amphorae shoulders (cat. 23, 24, 25) from which we see that the handle sits on the shoulder and that there is a sharp transition from the shoulder to the belly of the vessel. The sharp, emphasised transition is characteristic of the Lamboglia 2 form, while the Dressel 6A has a much gentler transition (Kysela, Olmer 2014, 178). From the belly sherd under catalogue no. 24 and the base sherds under catalogue nos. 27 and 30 we see that the amphorae had their centre of gravity, i.e. their broadest part, low on the vessel nearer to the base.

The handles are oval in section, as seen in catalogue nos. 23 and 25 (32 specimens counted), or round in section as seen in catalogue nos. 1 or 26 (26 pieces). In general, the Lamboglia 2 form is described as having oval handles, while the Dressel 6A for the most part has handles that are round in section (Kysela, Olmer 2014, 178). The spikes of this group are also diverse. They are massive at the root (cat. 27, 30) and terminate with a rounded and narrower point (cat. 28, 31) which at times has a prominent broadening near

³ Valja primjetiti kako su obodi kat. 15-20 prilično slični obodima jajastih amfora pripisanim produkciji iz Apanija (Brindisi) međutim, one uglavnom imaju utisnuti utor po sredini trakastog oboda i ručke su postavljene gotovo do oboda (Pallazo 1989). Datiraju se u isto razdoblje kao i Lamboglia 2 (Caravale, Toffoletti 2008, 106).

³ It is noteworthy that the rims listed under catalogue nos. 15 to 20 are quite similar to the rims of ovoid amphorae attributed to Apani production (Brindisi), however, they usually have an impressed groove along the middle of the strap handle, and have their handles set almost at the rim (Pallazo 1989). They are dated to the same period as the Lamboglia 2 form (Caravale, Toffoletti 2008, 106).

Osim oboda, sačuvani su i pojedinačni dijelovi ramena amfora (kat. 23, 24, 25) iz kojih je vidljiv dosjed ručke na rame i oštrim prekidom prijelaz iz ramena u trbuh amfore. Oštri, naglašeni prekid karakterističan je za Lamboglia 2 amfore dok se kod Dressel 6A tipa taj prijelaz blaže naglašava (Kysela, Olmer 2014, 178). Iz ulomka trbuha kat. 24 te ulomaka dna kat. 27 i 30 vidljivo je kako su amfore imale težište, odnosno najširi dio više ili manje nisko, u donjem dijelu tijela.

Ručke su ovalnog presjeka kao kat. 23, 25 (izbrojano 32 primjerka) ili okruglastog kao kat. 1 ili 26 (26 komada). Generalno se tipovima Lamboglia 2 pripisuju ovalne ručke dok Dressel 6 A uglavnom imaju okrugle presjeka ručki (Kysela, Olmer 2014, 178). Šiljci ove skupine su također raznovrsni. Masivni su u korijenu (kat. 27, 30), a završavaju oblim i užim šiljkom (kat. 28, 31) koji ponekad ima naglašeno proširenje pred kraj (kat. 29, 32, 33). Ovo naglašeno proširenje karakteristično je za Lamboglia 2 amfore i kod Dressel 6A tipa se više ne javlja.

Boja gline kod ove prve skupine amfora je uglavnom žućkasta ali ima i narančastih i crvenkastih ulomaka. I fature su također prilično raznovrsne.

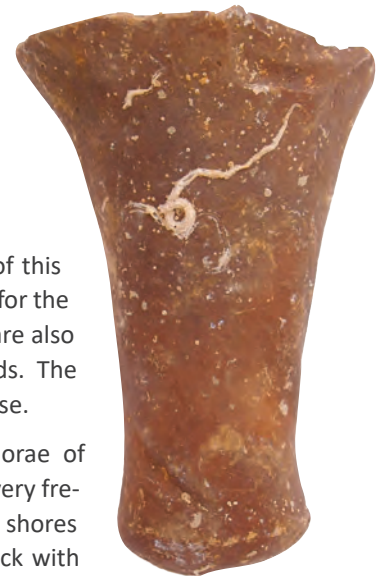
Brodolomi sa amforama tipa Lamboglia 2 su vrlo česti uz istočne obale Jadrana. Brodolom s raznim varijantama amfora ovog tipa djelomično je istražen kod rta Glavina na Rabu (Dautova Ruševljanin 1975). Tu su zabilježene mnoge varijacije okomitih zadebljanih oboda (Dautova Ruševljanin 1975, T. 2: a, b, c) kao i na Uljevi A, ali i više onih starijih s obodom koji je širi u donjem dijelu (Dautova Ruševljanin 1975, T. 1: a, b). Uz nedostatak oboda koji imaju više ljevkastih oblika oboda koje bi se mogle pripisati razvoju u oblik Dressel 6 A, očito je da su amfore s rta Glavine nešto ranije. Još južnije je istražen brodolom na pličini Čavlin u Murterskom moru, gdje je pronađeno 59 amfora tipa Lamboglia 2 (Miholjek 2009) s vrlo sličnim karakteristikama i koji se datira u drugu polovinu 1. st. pr. Kr. Kod rta Veli porat na otoku Šćedru istraženi su ostaci devastiranog brodoloma koji je prevezio amfore Lamboglia 2, a čini se i Dressel 6A (Orlić, Jurišić 1993, sl. 20, T. 10: 1-6). Također je sličan i brodolom kod rta Pelegrina B blizu Dubrovnika, koji ima varijante amfora Lamboglia 2 koje su vrlo bliske amforama Dressel 6A (Bekić, Royal 2016, 278, Fig. 8).

No, u Hrvatskoj postoje desetine brodoloma koje su imale za glavni teret ovaj tip amfora (Jurišić 2000, 6) ili čak stotinjak (Radić-Rossi 2001, 228), pa na ovom mjestu nije moguće sve pojedinačno navesti. Mada većina njih nije istražena ili objavljena, uglavnom se može zaključiti kako je riječ o trgovačkim brodovima koji su prevozili od nekoliko desetina do nekoliko stotina amfora Lamboglia 2 te ponekad i pojedinačne druge tipove amfora.

Prilikom kopnenog istraživanja u četvrti sv. Teodora u Puli pronađeno je preko dvije tisuće amfora tipa Lamboglia 2 kao i prelaznih varijanti prema tipu Dressel 6A (Starac 2007, 2008, 2009). Zastupljeni su gotovo svi oblici oboda (Starac 2008, T. I.-VI.) kao i na Uljevi A, s izuzetkom oblika kat. 15-20, koji su vjerojatno nešto mlađi. Amfore su kao depozit u Puli postavljene

the extremity (cat. 29, 32, 33). This prominent thickening is characteristic of Lamboglia 2 amphorae and is no longer found among the Dressel 6A form.

19. Šiljak amfore (kat. 32)
Lamboglia 2 s Uljeve A / A
Lamboglia 2 amphora spike
(cat. 32) from Uljeva A (foto:
L. Bekić)



The colour of the clay of this first group of amphorae is for the most part buff, but there are also orange and reddish sherds. The fabrics are also quite diverse.

Shipwrecks with amphorae of the Lamboglia 2 form are very frequent along the eastern shores of the Adriatic Sea. A wreck with variants of this amphora form has been partially investigated at the Cape Glavina site off Rab island (Dautova Ruševljanin 1975). Numerous variations of upright thickened rims were recorded at this site (Dautova Ruševljanin 1975, T. 2: a, b, c), as they were at Uljeva A, along with many older variants where the lower end of the rim is broader (Dautova Ruševljanin 1975, T. 1: a, b). Given the absence of rims with a more funnel-like form that could be attributed to the transition to the Dressel 6A form it is evident that the amphorae at Cape Glavina are of earlier make. Further to the south we have the investigated wreck at the Čavlin shallows (*pličina Čavlin*) in the Murter Sea (*Murtersko more*, lying between the Šibenik and Zadar archipelagos), where 59 amphorae of the Lamboglia 2 form were found (Miholjek 2009) with very similar characteristics, dated to the second half of the first century BCE. The devastated wreck of a ship transporting a cargo of Lamboglia 2 and what appear to be Dressel 6A amphorae has been investigated at Cape Veli Porat on Šćedro island (Orlić, Jurišić 1993, Fig. 20, T. 10: 1–6). Also similar is a wreck at the Cape Pelegrin B site near Dubrovnik where we see variants of the Lamboglia 2 form that are very similar to the Dressel 6A amphora form (Bekić, Royal 2016, 278, Fig. 8).

There are dozens of wrecks in Croatia of ships whose cargo was predominately made up of this amphorae form (Jurišić 2000, 6), perhaps even about a hundred (Radić-Rossi 2001, 228), such that we cannot here enumerate them all. And while most have not been investigated or published, we can broadly conclude that these were merchant ships that transported from several dozen to several hundred Lamboglia 2 amphorae and occasionally other individual amphorae types.

u kratkom razdoblju, u trećoj četvrtini 1. st. pr. Kr., neposredno po osnutku rimske kolonije Pole (46–45. g. pr. Kr.) (Starac 2009, 386), dakle možda samo desetljeće ranije nego što je brod sa sličnim teretom potonuo na položaju Uljeva A.

Radioničko porijeklo amfora tipa Lamboglia 2 i Dressel 6A s Uljeve se u ovom momentu ne može odrediti. Očito je riječ o različitim inačicama koje sudeći po načinu izrade i primjesama glini potječu iz više radionica. U ovom razdoblju, poznat je niz radionica koje su proizvodile ove tipove na istočnoj obali Italije pa vjerojatno od tamo potječu i amfore s ovog brodoloma (Cipriano, Mazzocchin 2017, fig. 2, 3).

Pojedinačne amfore

Još četiri izdvojena ulomka oboda po svemu sudeći pripadaju Lamboglia 2 amforama (kat. 14, 22), ali ranijim inačicama. Oni imaju obode trokutastog presjeka, a indikativno je da se kosina vanjskog dijela oboda širi prema dolje.

Ovakav profil oboda imaju kasne grčko-italske amfore (Caravale, Toffoletti 2008, 97), koje se datiraju u kraj 3. st. pr. Kr. do sredine 2. st. pr. Kr. Valja naglasiti kako i Dressel 1A tip, ili klasa 3 prema Peacocku i Williamsu posjeduje slične profile oboda (Peacock, Williams 1986, 86; Caravale, Toffoletti 2008, 98, 99). Ove su se proizvodile od kasnog 2. do kraja 1. st. pr. Kr. najčešće u Kampaniji, Etruriji i Laciju (Peacock, Williams 1986, 86–88).

Raniji tipovi Lamboglia 2 amfora također su imali takav profil, isto naslijeđen od grčko-italskog tipa amfora. Slične obode imaju i amfore Lamboglia 2 s brodoloma kod Velike Svitnje na Visu, a datiraju se na početak 1. st. pr. Kr. (Cambi 1991, 64, Sl. 5). Prema navodu A. Starac prijelaz iz trokutastih, kosih, dolje širih oboda u trakaste, ravno okomite obode kod tipa Lamboglia 2 dogodio se otprilike između 110. - 90. g. pr. Kr. (Starac 1995, 126, 127). U svakom slučaju riječ je o ranijem tipološkom obilježju pa je upitno pripadaju li ti ulomci brodolomu Uljeva A.



20.
Obod
starije
varijante
amfore
(kat. 22)
Lamboglia 2
s trokutastim
obodom /
The triangular rim
(cat. 22) of an older
variant of the Lamboglia
2 amphora
(foto: L. Bekić)

Over two thousand Lamboglia 2 form amphorae were discovered in the course of land archaeological investigation at the Sveti Teodor quarter site in Pula, along with variants showing the transitional development to the Dressel 6A form (Starac 2007, 2008, 2009). Almost all the rim forms found at Uljeva A are represented (Starac 2008, T. I–VI) with the exception of those under catalogue nos. 15 to 20, which are likely of more recent make. The amphorae were deposited in Pula over a short period of time in the third quarter of the first century BCE, immediately following the founding of the Roman colony at Pula (46–45 BCE) (Starac 2009, 386), that is to say perhaps just a decade prior to the wreck of the ship at the Uljeva A site.

We cannot yet offer a certain conclusion as to the workshop (*figlina*) of origin of the Lamboglia 2 and Dressel 6A amphora at Uljeva. Clearly these are variants that, judging from the method of production and the temper in the clay, were manufactured in multiple workshops. There are a number of workshops on the eastern shores of Italy from this period of which we know that manufactured these forms, and it is likely that the amphorae at this wreck were of this provenance (Cipriano, Mazzocchin 2017, figs. 2, 3).

Individual Amphorae

Another four isolated rim sherds appear to be of the Lamboglia 2 form (cat. 14, 22), but of earlier variants. The rims are triangular in section, and it is indicative that the slope of the outer face of the rim broadens downwards.

This is the rim profile shared by late Greco-Italic amphorae (Caravale, Toffoletti 2008, 97), which are dated to the period from the late third century BCE to the mid-second century BCE. It is worth noting that the Dressel 1A form and the Peacock & Williams Class 3 form have similar rim profiles (Peacock, Williams 1986, 86; Caravale, Toffoletti 2008, 98, 99). These amphorae were manufactured from the late second to the end of the first century BCE, most often in Campania, Etruria and Latium (Peacock, Williams 1986, 86–88).

Earlier variants of the Lamboglia 2 amphora also shared this profile, also inherited from the Greco-Italic amphora type. We see similar rims on the Lamboglia 2 amphorae recovered from a wreck at the Velika Svitnja site off Vis island and dated to the beginning of the first century BCE (Cambi 1991, 64, Fig. 5). A. Starac notes that the transition from triangular, sloped and downward broadened rims to upright strap rims of the Lamboglia 2 form occurred sometime between 110 and 90 BCE (Starac 1995, 126, 127). These are, certainly, an earlier typological characteristic and, consequently, the attribution of these sherds to the Uljeva A wreck is not a resolved matter.

An unusual amphora neck with a prominent rim (cat. 34) shows similarities with the Augustan amphora type found

Neobično grlo amfore s naglašenim obodom (kat. 34) liči na „Augustejske amfore“ pronađene u Halternu (Lamboglia 1955, 55, f.24) ili na kasnije hispanske proizvode iz pokrajine Baetica, poput tipova Beltran 68, Dressel 12 ili Keay 19 (Bertoldi 2012, 40, 50, 58).

Gornji dijelovi amfora kat. 37, 38 i 39 pripadaju amforama tipa Portorecanati ili „ljevkastog grla“ (Bertoldi 2012, 115). Kako su sjevernojadranskog porijekla, u Hrvatskoj su čest nalaz, a datiraju se od početka 1. do sredine 3. st. (Starac 1995, 145).

Na kraju, ostaju nepoznati tipovi amfora, kat. 35 s naglašeno trokutastim obodom slična tipu Puppit T700 (Bertoldi 2012, 176), te kat. 36, koja nalikuje obodu amfore forme Ostia VI 107 s početka 2. st. kakva je zabilježena u Ostiji (Rizzo 2014, 174, T. 15:107).

Šiljak amfore jarko crvene gline (kat. 40) zasigurno pripada tipu Spatheion dok ručka kat. 41 vjerojatno pripada zasad nepoznatom tipu amfore.⁴ Nepoznatim amforama pripadaju i dva naredna šiljka, kat. 42 i 43.

Čepovi amfora

Uz amfore pronađeno je i mnoštvo različitih keramičkih čepova za amfore (*opercula*), od kojih mnogi imaju i oznake u reljefu. Tijekom naših istraživanja pronađeno je 87 čepova amfora, ali kada se zbroje i ostali poznati komadi⁵ dolazimo do broja od čak 103 čepova. S obzirom na broj pronađenih čepova, i najbrojnije amfore na ovom nalazištu, jasno je da su pripadali amforama Lamboglia 2 (ili Dressel 6A). Da se takvi čepovi najčešće nalaze u kontekstu s amforama ovih tipova poznato je i s brojnih drugih nalazišta (Zmaić 2010, sl. 12; Orlić, Jurišić 1993, T. 10; Cipriano, Mazzocchin 2013, 97; Buora 2013, 28; Šuta 2013, 111, 112).

Na Uljevi A zastupljeno je nekoliko tipova čepova prema načinu izrade. Tako postoje čepovi koji su izrađeni prostoručno (kat. 65) te oni dvodijelnog kalupa (kat. 45, 47, 48, 49, 59, 60, 61 i dr.) ili iz jednodijelnog kalupa (kat. 46, 50, 51, 52, 53, 55, 56, 57, 58 i dr.). Nije pronađen niti jedan koji bi bio izrađen vrtnjom na kolu ili odlamanjem od stijenke trbuha amfore.

Reljefni ukrasi na čepovima potječu ili od rada s dvodijelnim kalupom, ili češće namjerno, utiskivanjem gline u kalup koji ima unaprijed urezane geometrijske ili slovne oznake. To inače mogu biti cijela imena, pojedina slova i

at Haltern (Lamboglia 1955, 55, f. 24) or the later Hispanic products from the Baetica province, such as the Beltrán 68, Dressel 12 or Keay 19 forms (Bertoldi 2012, 40, 50, 58).

The amphora upper portions under catalogue nos. 37, 38 and 39 are of the Porto Recanati form with its distinctive funnel-shaped neck (Bertoldi 2012, 115). As a northern Adriatic product this form is a frequent find in Croatia, dated from the beginning of the first through to the mid-third century (Starac 1995, 145).

The sherd under catalogue no. 35, with a prominent triangular rim similar to the Puppit T700 form (Bertoldi 2012, 176) is of an unidentified amphora type. Also of unknown form is the piece under catalogue no. 36, with a rim reminiscent of the Ostia VI 107 form from the early second century found at Ostia (Rizzo 2014, 174, T. 15: 107).

An amphora spike of bright red clay (cat. 40) is certainly of the Spatheion form, while the handle under catalogue no. 41 is likely from a currently unknown amphora type.⁴ The two following spikes (cat. 42, 43) are from unknown amphora forms.

Amphorae Stoppers

Found along with the amphorae were an abundance of various ceramic amphora stoppers (*opercula*), many of which bear ciphers in relief (stamped impressions). In the course of our investigations were recovered 87 such amphora stoppers, but when including other known pieces⁵ we come to a figure of 103 stoppers. Given the number of stoppers found, and the most frequent amphorae forms at this site, they were clearly from the Lamboglia 2 (or Dressel 6A) amphorae. That stoppers of this kind are most often found in a context shared with amphorae of these types is known to us from numerous other sites (Zmaić 2010, Fig. 12; Orlić, Jurišić 1993, T. 10; Cipriano, Mazzocchin 2013, 97; Buora 2013, 28; Šuta 2013, 111, 112).

At Uljeva A we see, in terms of manufacture method, a number of stopper types. There are handmade stoppers (cat. 65), those made using a two-part mould (cat. 45, 47, 48, 49, 59, 60, 61 and others), and those made using a single part mould (cat. 46, 50, 51, 52, 53, 55, 56, 57, 58 and others). Wheel thrown stoppers and those made out of fragments of amphorae bellies were not found.

Relief designs on stoppers are created either when using a two-part mould or, more frequently, by pressing clay into a mould with incised geometric or alphabetic symbols. These may be full names, individual letters and graphemes,

⁴ Moguće da su ova dva nalaza greškom pripisani položaju Uljeva A, jer su oba čest nalaz na položaju Uljeva B.

⁵ Ližnjanc Masimo Cvek posjeduje 6 komada čepova s ovog nalazišta (sl. 22), a osobno sam kao srednjoškolac našao 10 komada koje sam svojedobno darovao Arheološkom muzeju Istre u Puli. Nažalost ti čepovi se trenutno ne mogu pronaći u depoima muzeja, pa nisu bili dostupni za obradu.

⁴ It is possible that these two artefacts were mistakenly attributed to the Uljeva A site, as both are frequent finds at the Uljeva B site.

⁵ Ližnjan resident Masimo Cvek is in possession of six stoppers from this site (Fig. 22). As a secondary school pupil, I found ten fragments, which I later donated to the Archaeological Museum of Istria in Pula. Unfortunately, these stoppers have not, for the moment, been located in the museum depot and were not, therefore, available for analysis.



21. a-f. Neki čepovi amfora iz arheoloških istraživanja / Some of the amphorae stoppers found in the course of the archaeological investigations (foto: L. Bekić)

grafemi, simboli i razni prikazi (trozubac, sidro) ili čisto geometrijski uzorci (crte, trokuti, krugovi). Mada je na Uljevi A zastupljeno oko dvadesetak različitih reljefnih dekoracija čepova, neke se od njih ponavljaju u više primjeraka. Uglavnom su zastupljene oznake u vidu slova, krugova ili spleta crta.

Korištenje različitih kombinacija reljefnih oznaka na čepovima amfora je u širem Jadranskom prostoru toliko rašireno da je gotovo nemoguće pronaći iste oznake na dva nalazišta.⁶ Pitanje dekodiranja ovih oznaka još uvijek je daleko od rješenja. U literaturi se navode različite pretpostavke, ali uglavnom se svode na to da su oznake povezane s radionicama. Prve naznake rješavanja ovog pitanja se javljaju kod čepova koji sadrže cijelo ili djelomično ime. Tako je na jednom čepu iz Aquileje zabilježen tekst SABDA FECIT što ukazuje da je taj čep izradio neki Sabda. Autori napominju da se ta imena u središnjoj Italiji spominju u kontekstu robova ili libertina pa je moguće da je Sabda

symbols and various images (trident, anchor) or purely geometric patterns (lines, triangles, circles). Although there are some twenty different stopper relief designs present at Uljeva A, some are repeated on multiple specimens. The most prevalent are markings comprised of letters, circles or a combination of lines.

The use of various combinations of relief designs on amphora stoppers is so widespread in the broader Adriatic area that it is to all intents and purposes impossible to find the same ciphers at two sites.⁶ The issue of deciphering these markings remains far removed from any consistent resolution. We see a number of hypotheses in the literature, but for the most part they boil down to associating the markings with workshops. We see the first indicators pointing to a solution to this question in stoppers with complete or partial names. Thus, on a stopper found at Aquileia we read the inscription SABDA FECIT, indicating that the stopper was made by a person named Sabda. The authors note that these

⁶ Na primjer, cijeli poseban broj talijanskog godišnjaka *Quaderni Friulani di Archeologia* bio je posvećen toj temi (XXII/XXIII - 2012/2013).

⁶ An entire special issue of the Italian annual publication *Quaderni Friulani di Archeologia* was dedicated to this topic (XXII/XXIII - 2012/2013).

radio u radionici na tim poslovima (Maggi 2013, 49). Slično je zabilježeno i u drugim slučajevima.

Uvjerljive paralele čepova s Uljeve sa stotinama dosada objavljenih s drugih nalazišta u Jadranskom prostoru gotovo nema. Čep sa tri slova PXV (?) (kat. 53) ima po sadržaju svoju analogiju jednom čepu iz Aquileje, ali raspored i oblik ukazuje kako nije riječ o istom kalupu (Dobрева, Luise 2013, Fig. 7:45). U Aquileji i Resniku zabilježeni su čepovi sa slovom M (Maggi 2013, 52, Fig. 6; Šuta 2013, T. 9:3), a isto slovo nalazi se i na čepu s Uljeve, kat. 54. No sudeći po veličini slova i istaknutom tragu dvodijelnog kalupa, očito nije riječ o istom čepu. Stoga nam čepovi s Uljeve A, na trenutnoj razini poznavanja njihovih oznaka, na žalost ne mogu više reći o njihovom porijeklu.

names are mentioned in central Italia in the context of slaves or freedmen, such that it is possible that a certain Sabda was engaged in this work in a workshop (Maggi 2013, 49). We see a similar pattern in other cases.

There are practically no convincing parallels to the stoppers found at Uljeva in the hundreds of previously published examples from other Adriatic sites. A stopper bearing three letters, PXV (?), listed under catalogue no. 53 has by its content an analogue in a stopper found in Aquileia, but the distribution and form points to the two not being made from the same mould (Dobрева, Luise 2013, Fig. 7: 45). Stoppers bearing the letter M have been recovered at Aquileia and Resnik (Maggi 2013, 52, Fig. 6; Šuta 2013, T. 9: 3), and we see the same letter on a stopper found at Uljeva (cat. 54). Judging by the size of the letter and the prominent trace of a two-part mould, however, these are clearly not stoppers of a shared origin. The stoppers recovered at the Uljeva A site, therefore cannot, at the current level of our understanding of their markings, tell us more concerning their provenance.



22. a-f. Neki čepovi amfora iz zbirke Massimo Cvek / Some of the amphora stoppers from the collection held by Massimo Cvek (foto: L. Bekić)

Posuđe

Uz brojne ulomke amfora, u istraženim jamama otkriveno je i barem 30 različitih oblika drugog posuđa. To su uglavnom lonci za kuhanje, ali pronađeni su i pojedinačni vrčevi, zdjelice, tanjuri, pladnjevi i drugo stolno i luksuznije posuđe.

Velik i dubok tanjur ili zdjela pronađena je u dijelovima i kasnije resturirana (sl. 23, kat. 68).⁷ Obod joj je trokutastog presjeka, i izbačen na vanjskoj strani. Na jednom mjestu je prekinut, kao da je tu bio izljev.



23. Detalj velike zdjele (kat. 68) / A detail of a large bowl (cat. 68)
(foto: L. Bekić)

Vrlo je važan nalaz velikog pladnja (kat. 69) s pečatnim ukrasima stilizirane palmete u središnjem polju. Riječ je o pladnju keramičke skupine *Eastern Sigillata A ware*, koja se proizvodila u Kilikiji, Antiohiji i Siriji od sredine 2. do kraja 1. st. pr. Kr. (Kavvadias 2012, 169). Pripada formi 3 (T. 1:8). Pladanj s Uljeve A isti je kao primjerci s poznatog brodoloma Anthykitera, koji se datira u sredinu 1. st. pr. Kr i pripada kasnijim primjercima ESA posuđa. Takvi pladnjevi karakteristični su po ukrašavanju pečatima u vidu palmete i kotačićem (ruletiranje) kao što je to i na našem primjerku (sl. 24).

Također je kod mlađih primjeraka ove skupine posuđa karakteristično nanošenje slabijeg crvenkastog ili narančastog preljeva (slip), koji se neravnomjerno nanosi preko posude i lako skida (Kavvadias 2012, 169, kat. 180, 181, 188...). Na pladnju s Uljeve A ostaci ovog preljeva vidljivi su samo na par mjesta (sl. 25).

Nalaz ovog pladnja jedan je od ključnih indikatora za dataciju broda na položaju Uljeva A u vrijeme oko 50. g. pr. Kr. U Hrvatskoj su nalazi posuđa *Eastern Sigillata A ware* razmjerno rijetki. Čak 50 ESA posuda pronađeno je na brodolomu s teretom Lamboglia 2 / Dressel 6A amfora kod Velog porta na otoku Šćedro (Jurišić 2000, 28; Orlić, Jurišić 1993, 161, 162). Jedna zdjela i plitica pronađeni su na brodolomu iz sredine 1. st. pr. Kr. na Grebenima kod Silbe (Glušćević 2009, 82, fig. 19,

⁷ Pronađeno je više ulomaka ove zdjele, ali je samo jedan iskorišten u rekonstrukciji. Sve restauracije keramičkih predmeta obavljene su u konzervatorsko-restauratorskoj radionici MCPA u Zadru.

Vessels

Discovered in the investigated pits along with the numerous amphorae sherds were at least thirty different forms of other ware. These are predominantly cooking pots, but the effort also recovered individual specimens of jugs, bowls, dishes, platters and other tableware and luxury ware.

A large and deep dish or bowl was found in fragments and later restored (Fig. 23, cat. 68).⁷ The rim is triangular in section and everted. There is a gap at one point, perhaps for pouring.

The artefact listed under catalogue no. 69, a large platter, is a very significant find: it bears a stamped decoration in the form of a stylised palmette in the central field. This platter is of the Eastern Sigillata A family of ware that was manufactured in Cilicia, Antioch and Syria from the mid second to the end of the first century BCE (Kavvadias 2012, 169). It is of the ESA 3 form (T. 1: 8). The platter from Uljeva A is the same as specimens taken from the well-known Antikythera wreck, dated to the mid-first century BCE, and is of the later examples of ESA ware. These platters are characterised by the stamped palmette and rouletted decorations as seen on our specimen (Fig. 24).

Also characteristic among more recent examples of this group is the application of a modest reddish or orange slip, applied unevenly to the vessel and easily removed (Kavvadias 2012, 169, cat. 180, 181, 188 etc.). On the Uljeva A platter residual slip is visible only in a few places (Fig. 25).

The find of this platter is one of the key indicators for the dating of the wreck at the Uljeva A position to the period around 50 BCE. In Croatia finds of Eastern Sigillata A ware are relatively rare. As many as fifty ESA vessels were discovered at the site of the wreck of a ship carrying a cargo of Lamboglia 2/Dressel 6A amphorae off Veli Porat on Šćedro island (Jurišić 2000, 28; Orlić, Jurišić 1993, 161, 162). A bowl and a platter were discovered at the site of a mid-first century BCE wreck at the Grebeni site off Silba island (Glušćević 2009, 82, Figs. 19, 20). A very similar platter and bowl were found at the Čavlin rocks accompanying a cargo of Lamboglia 2 amphorae, although it is not clear if they are of ESA or Italic manufacture (Miholjek 2009, 2, 3).

It is difficult to say if any of the other sherds are from ware of this group given the highly fragmented nature of the sherds or the significant damage sustained to their surfaces. Nevertheless, an unusual jug rim sherd (cat. 82) is reminiscent of the ESA *lagynos* flagon form and, as such, could be attributable to the 102 form (Hayes 1985, 43, T. IX: 3; Opdebeeck 2003, 57, Fig. 29) dated to the first century BCE. There are also a number of jug bases or

⁷ Multiple sherds from this bowl were found, but only one was used in the reconstruction. All restorations of ceramic artefacts were done at the conservation and restoration workshop of ICUA Zadar.



24. Ukrasi palmeta u središnjem dijelu pladnja (kat. 69) /
The palmette decorations at the centre of the platter (cat. 69)
(foto: L. Bekić)



25. Ostaci preljeva očuvani oko stope pladnja (kat. 69) /
Residual slip preserved around the foot of the platter (cat. 69)
(foto: L. Bekić)

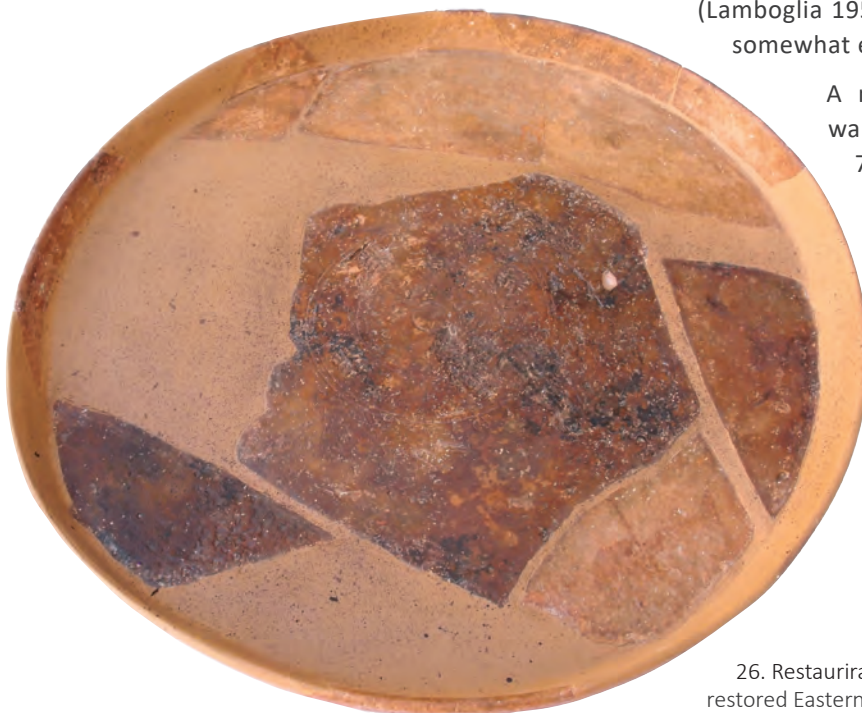
20). Na hridi Čavlin, uz teret amfora tipa Lamboglia 2 pronađen je jedan vrlo sličan pladanj i zdjelica, ali nije jasno radi li se o ESA ili italskoj proizvodnji (Miholjek 2009, 2, 3).

Da li još poneki ulomak pripada ovoj keramičkoj skupini teško je reći zbog toga što su ostali ulomci mali ili su im površine vrlo oštećene. Ipak, neobičan obod vrča (kat. 82) podsjeća na *lagynos* oblik ESA i kao takav mogao bi se pripisati formi 102 (Hayes 1985, 43, T. IX: 3; Opdebeeck 2003, 57, Fig. 29) koji se datiraju 1. st. pr. Kr. Također, postoji još nekoliko dna vrčeva ili zdjela sa stopama koje bi mogle odgovarati ESA vrčevima, poput kat. 75 i nekih drugih, ali takvo određenje je nesigurno.

bowls with feet that may correspond to ESA jugs, like the piece listed under catalogue no. 75 and a few others, but any such identification is uncertain.

Similar and contemporaneous is fine Campana ware, and we see platters of similar form in this group (e.g. form 7, Lamboglia 1952, 148). A shallow bowl on a foot (cat. 104) with two impressed lines below an upright, gently tapered rim, is also classified in Lamboglia's typology as Campana B form 1a (Lamboglia 1952, 7, 21). This ware is dated for the most part to the first century BCE. Two similar bowls were found at the Caceres el Viejo site (Ulbert 1984, 245, T. 43. 520, 521).

Also possibly from Campana ware is a sherd from a black-gloss bowl (cat. 97). It is similar in shape to form 27 (Lamboglia 1952, 176), although these shapes are dated somewhat earlier.



26. Restaurirani *Eastern Sigillata A* ware pladanj, kat. 69 / The restored *Eastern Sigillata A* ware platter (cat. 69) (foto: L. Bekić)

A number of sherds were found of thick-walled jugs, likely with a single handle (cat. 70, 71, 72, 73, 74) which may have been used to serve beverages. The upper (cat. 71) and lower portion (cat. 72) are likely from the same jug, with both having been recovered from the same pit, AJ 22. The jugs listed under catalogue nos. 76, 78, 77 differ somewhat. The walls are thinner, the neck more elongated, and there is a characteristic thickening under the rim and on the neck. The jug listed under catalogue no. 79 has similar thickened areas, but on an entirely upright



27. Detalj plitke zdjelice na stopi s donje strane (kat. 104) / A detail of the bottom of a shallow bowl on a foot (cat. 104) (foto: L. Bekić)

Slična i istovremena je fina kampanska keramika, pa se pladnjevi sličnog oblika javljaju i u toj skupini (npr. forma 7, Lamboglia 1952, 148). Također, plitka zdjelica na stopi (kat. 104) s dvije utisnute crte ispod uspravnog, blago šiljatog oboda, prema tipologiji Lamboglie pripada keramičkom posuđu skupine Campana B i to formi 1a (Lamboglia 1952, 7, 21). Ovo posuđe se datira uglavnom u 1. st. pr. Kr. Slične dvije zdjelice pronađene su na nalazištu Caceres el Viejo (Ulbert 1984, 245, T. 43., 520, 521).

Kampanskoj keramici bi možda pripadao i ulomak zdjele (kat. 97) s crnim premazom. On sliči oblicima forme 27 (Lamboglia 1952, 176) ali se ti oblici datiraju nešto ranije.

Pronađeno je i više ulomaka vrčeva s debljim stijenka, vjerojatno s jednom ručkom (kat. 70, 71, 72, 73, 74) koji su možda služili za serviranje pića. Gornji (kat. 71) i donji dio vrča (kat. 72) najvjerojatnije pripadaju istom vrču, a oba dijela su pronađena u istoj jami, AJ 22. Nešto drugačiji su vrčevi kat. 76, 78, 77. Stijenke su im tanje, vrat izduženiji, a pod obodom i na vratu postoje karakteristična zadebljanja. Slična zadebljanja, ali na sasvim uspravnom vratu ima vrč kat. 79. Nešto manji vrč (kat. 81) ima traku ručku postavljenu na rame.

Za dva masivna dna, kat. 75 i kat. 83, nije jasno pripadaju li vrčevima ili možda nekim amforama ravnog dna.

Među nalazima je zastupljeno više ulomaka lonaca za kuhanje grube fature, s brojnim primjesama sitnih kamenčića, ali izrađenih kvalitetno i ravnomjerno (kat. 84–95). Lonci i njima pripadajući poklopci (kat. 89, 90) očito pripadaju jednoj radionici i vjerojatno su služili posadi broda za kuhanje hrane. Oblici i faktura su nepoznati na

neck. A somewhat smaller jug (cat. 81) has a strap handle set on the shoulder.

It is unclear whether two massive base sherds (cat. 75 and cat. 83) are from jugs or perhaps flat-bottomed amphorae.

Represented among the finds are a number of sherds of cooking pots of coarse fabric with abundant temper of fine-grained pebbles, but of good quality and uniform manufacture (cat. 84–95). The pots and their lids (cat. 89, 90) were clearly the product of a single workshop and likely used by the ship's crew in food preparation. Both the forms and fabric are unknown on the eastern Adriatic coast, which would point to a foreign crew manning this ship. The greater quantity of this ware indicates that it was part of the standard inventory of the ship's galley, while individual luxurious items were procured outside the ship's home territory.

The provenance of these pots is western Italia, more precisely the Po River area. These are pots with a pebble temper that renders them more resistant to high temperatures and as such suitable for cooking food (*"olle ad impasto refrattario"*). An upper portion of one such pot, quite similar to the piece listed under catalogue no. 48 at Ližnjan, was recovered at Štalenški Vrh (Magdalensberg) and is dated to the first Augustan period (Schindler Kaudelka, Mantovani 2018, 337, T. 6–49). We see a version with a sharp strap rim, similar to our sherd catalogue no. 94, found in the Modena area (Tesa di Mirandola; Corti, Tarpini 2012, Fig. 2: 4–5) also having its provenance in the same workshops to the north of the Po River. The pottery is most frequent in the basin of the Po River basin, and is dated from the second half of the first century BCE to the mid-first century (Corti, Tarpini 2012, 133).

One sherd could, by its form, be from an Italic sigillata bowl (cat. 98). These small bowls are attributed to variant 1 of form XXI (Pucci 1985, 389, T. CXXVI: 3). Their earliest appearance is pre-12 BCE and they are frequent in the Augustan period.



28. a, b. Vrč sa ručkom okruglog presjeka koja se uzdiže iznad oboda (kat. 70) i sličan vrč s trakastom ručkom (kat. 81) / A jug with handle of round section rising above the rim (cat. 70) and a similar jug with a strap handle (cat. 81) (foto: L. Bekić)

istočnoj jadranskoj obali pa sudeći po tome ukazuju na stranu posadu broda. Veći broj ovog posuđa ukazuje da je to bio standardni inventar brodske kuhinje, dok su pojedinačni luksurniji predmeti bili nabavljeni izvan matičnog područja broda.

Izvor ovih lonaca je zapadna Italija, točnije padsko područje. To su lonci s primjesama kamenčića koji ih čine otpornim na više temperature i tako pogodnim za kuhanje hrane (tzv. „olle ad impasto refrattario“). Jedan gornji dio takvog lonca, prilično sličan ližnjanskom kat. 48, pronađen je na Štalenskem vrhu (Magdalensberg) i datira se u prvo augustejsko doba (Schindler Kaudelka, Mantovani 2018, 337, T: 6-49). Inačica s oštrijim, trakastim obodom, poput kat. 94, pronalazi se u Modenskom području (Tesa di Mirandola; Corti, Tarpini 2012, fig. 2: 4-5) i također potječe iz istih radionica sjeverno od rijeke Po. Ova keramika najčešća je u porječju rijeke Po, a datira se od druge polovine 1. st. pr. Kr. do sredine 1. st. (Corti, Tarpini 2012, 133).

Jedan ulomak bi po svom obliku mogao pripadati italjskoj sigilatnoj zdjelici (kat. 98). Takve zdjelice pripisuju se formi XXI, inačici 1 (Pucci 1985, 389, T. CXXVI: 3). Najranije se javljaju prije 12. g. pr. Kr. i česte su u augustejskom dobu.

Also recovered was a sherd from a small jug (cat. 99) of a section characteristic of ware used to hold *garum* and various other variants of fish-based sauces (*hallex*, *oliva*, *cepa*). These vessels are also referred to as *pots du Latium* (“pots from Latium”); they are considered to have spread from Latium, and are dated based on stratigraphic indicators to the first century BCE (Djau, Piques, Botte, 2014, Pl. 1).

A sherd from the body of a small pot with a barbotine decoration in the form of two series of points between which lines are incised is of pottery of fine manufacture (cat. 100). This sherd is from the thin-walled (*pareti sottili*) group, but we cannot confidently identify its specific form. By its decoration and the curvature of the body it might be a small pot of the 1/92 type, dated to the second half of the first century BCE (Ricci 1985, 263, T. CXXXIX: 5).

A number of sherds were found of pottery entirely in the form of a large phallus (cat. 102, 101, 103 and others). The reconstruction of a complete vessel was not successful, but we do have preserved indicative sherds. They are made of well refined clay, with thin walls and details emphasised in relief. The vessel was clearly hollow and of closed form, such that this was most likely a one-off large format oil lamp.



This find is very important as it shows that the deity Priapus, depicted in the iconography as a man with a large phallus, was also a protector of seamen. In Greek mythology Priapus (Πρίαπος) was a minor rustic deity, protector of livestock, fruit trees, gardens and so forth. It is, however, also thought that Priapus was a patron of mariners and merchants, in particular of merchant sailors. Thus on at least three wrecks (Pisa E, Planier A, Rhine) we see finds that depict him or his symbols (Neilson 2002, 248), and there is also numerous textual and iconographic evidence in support of this hypothesis.



29. a, b. Kuhinjski lonac grube fature kat. 84 i uvećana fatura / A cooking pot of coarse fabric (cat. 84); the magnified fabric (foto: L. Bekić)

Također je pronađen ulomak vrčića (kat. 99) s presjekom karakterističnim za posude u kojima se držao *Garum* i razne varijante drugih umaka (*Hallex*, *Oliva*, *Cepa*) izrađenih na bazi riba. Ovakvi lonci nazivaju se i *Pots du Latium* i smatra se da su se proširili iz Lacija, a sukladno stratigrafskim pokazateljima datiraju se u 1. st. pr. Kr. (Djau, Piques, Botte, 2014, Pl. 1).

Keramici fine izrade pripada ulomak tijela lončića sa barbotinskim ukrasom u vidu dva niza točkica između kojih su urezane crte (kat. 100). Ovaj ulomak pripada tzv. skupini „tanke stijenke“ (*pareti sottili*), ali je teško odrediti kojem obliku. Po ukrasu, a i po zakrivljenosti tijela možda je riječ o lončiću poput tipa 1/92 koji se datira u drugu polovinu 1. st. pr. Kr (Ricci 1985, 263, T. CXXXIX: 5).

Pronađeno je više ulomaka keramičke posude koja je u cijelosti bila u obliku velikog falusa (kat. 102, 101, 103 i drugi). Nažalost, rekonstrukcija cijele posude nije moguća u potpunosti, ali su sačuvani indikativni ulomci. Oni su izrađeni od dobro pročišćene gline, tankih stijenki, s reljefno naglašenim detaljima. Posuda je očito bila šuplja i zatvorenog oblika pa je najvjerojatnije riječ o unikatno izrađenoj velikoj uljanici.



30. Ulomak oboda sigilatne zdjelice kat. 98 / Rim sherd of a sigillata bowl (cat. 98) (foto: L. Bekić)

This means that, with the Uljeva A find, the number of instances of the depiction of Priapus at wreck sites stands at four at least, with a further two finds we could tentatively add: oil lamps in the form of clay statues of Priapus with a large phallus found at sea. One was brought up by a fishing net off Cape Škuljica on Krk island (Dugonjić 2010, 220, 221, Figs. 22–24) and it is not known if it was from a wreck or had been simply thrown overboard.⁸ The second was also found on the seabed

⁸ Fisher Ivo Barbalić of Nova Baška found it in his net off the cape. It was restored by Martina Čurković Madiraca at the CCI (now ICUA) workshop, and a facsimile has been fabricated (Dugonjić 2010, Neveščanin 2009).

Ovaj nalaz vrlo je važan, jer pokazuje kako je božanstvo Prijap, koji se u ikonografiji prikazuje kao čovjek s velikim falusom, bio i zaštitnik pomoraca. U grčkoj mitologiji, *Priapus* (Πρίαπος) je bio manje rustikalno božanstvo, čuvar stoke, voćaka i vrtova itd. No također se smatra kako je Prijap bio zaštitnik pomoraca i trgovaca, posebice trgovaca koji plove. Tako su na barem tri brodoloma (*Pisa E*, *Planier A*, *Rhine*) zabilježeni nalazi prikaza njega i njegovog simbola (Neilson 2002, 248), a postoje i brojni tekstualni te ikonografski dokazi koji podupiru tu tezu.

Prisutnost prikaza Prijapa na brodolomima sada s Uljevom A iznosi barem četiri, a uvjetno bi se mogala dodati i još dva nalaza. To su uljanice u obliku glinenog kipa Prijapa s velikim falusom, pronađene u moru. Jedna je izvučena je iz ribarske mreže kod rta Škuljica na Krku (Dugonjić 2010, 220, 221, Sl. 22-24) i nažalost nije poznato da li je pripadala nekom brodolomu ili je samo bačena s broda u more.⁸ Isto tako je i druga pronađena na dnu mora kod Makarske, a nalazi se u privatnoj zbirci (Cambi 2002, 197, Sl. 304). Ove dvije slične uljanice očito imaju veze s pomorcima, jer su nađene u moru daleko od obale.⁹

Zanimljiv keramički ulomak je i kat. 105, koji predstavlja dio cijevi s rupama poput cjedila, te cjevčica (kat. 106) koja je očito bila aplicirana na nekoj posudi. Oba ulomka mogli su pripadati nekom od brojnih oblika *guttusa*, zatvorene manje posude s cjedilom i izduženim cjevastim izljevom. Kao namjena tih posuda navodi se lijevanje ulja kroz sito ili korištenje kao bočica za bebe. Mada paralele za *gutusse* s ovakvim detaljima postoje,¹⁰ ovi ulomci su premali da bi se mogli sa sigurnošću pripisati nekom određenom obliku. U Hrvatskoj je na istovremenom brodolomu već pronađen jedan *guttus*, kod Velog porta na Šćedru (Orlić, Jurišić 1993, T. 6:1).

Mala glinena kugla sa središnjom rupom (kat. 107) pripadala je utegu za mrežu, kakvi su poznati i iz rimskog doba, a imaju i usporedbe na podvodnim nalazištima rimskog doba u Hrvatskoj (Rovinj - Veštar, Bekić, Višnjjić, Pešić, Bloier 2011, 23, 24; Rovinj - Veli Piruzi, Fiederling 2019, 109, T. 24).

⁸ Ribar Ivo Barbalić iz Nove Baške ga je izvadio mrežom kod rta, a restaurirala ga je Martina Čurković Madiraca u radionici HRZ-a (sada MCPA Zadar) te je izrađena njegova kopija (Dugonjić 2010, Neveščanin 2009).

⁹ Tu bi se možda mogao spomenuti i još jedan nalaz, a to je dio keramičke uljanice u vidu ljudske figure s velikim falusom nađenim u rimskim slojevima na pučinskom otoku Palagruža (Kirigin, Miše, Barbarić 2010, Sl.9:8). Također i uljanica koja asocira na oblik falusa s brodoloma kod rta Plavac na Zlarinu (Vrsalović 2011, 211, s.132-3).

¹⁰ Na primjer *guttus* iz Ustice na Siciliji, u Arheološkom muzeju u Palermu. (www.siciliafan.it/salinas-ustica-26-luglio-2014)

31. Trakasta ručka i obod manjeg vrča kat. 99 / A strap handle and the rim of a small jug (cat. 99) (foto: L. Bekić)



near Makarska and is now held in a private collection (Cambi 2002, 197, Fig. 304). These two similar oil lamps are clearly associated with seamen as they were found at sea far from shore.⁹

The sherd listed under catalogue no. 105 is another interesting piece, a portion of a tube with strainer holes, as is a small tube (cat. 106) that clearly had been applied to a vessel. Both pieces may have been from any of the many forms of the *guttus*, a small closed vessel with a strainer and an elongated tubular spout. These vessels are posited to have been used for pouring wine through a sieve or as a bottle for infants. Although there are parallels for *guttus* vessels with details like these,¹⁰ these sherds are too small to be confidently attributed to a given form. A *guttus* has already been found in Croatia at a contemporaneous wreck site off Veli Porat on Šćedro island (Orlić, Jurišić 1993, T. 6:1).

A small clay fishing net sinker with a centrally placed hole (cat. 107) is of a kind known to us from the Roman period and has parallels at Roman period underwater sites in Croatia (Rovinj-Veštar, Bekić, Višnjjić, Pešić, Bloier 2011, 23, 24; Rovinj-Veli Piruzi, Fiederling 2019, 109, T. 24).

32. Ulomak posude "a pareti sottili" s barbotinskim ukrasom, kat. 100 / Sherd from an "a pareti sottili" vessel with barbotine decoration (cat. 100) (foto: L. Bekić)



⁹ Here we could cite another find, that of a portion of a ceramic oil lamp in the form of a human figure with an enlarged phallus found in the Roman period layers on the open sea island of Palagruža (Kirigin, Miše, Barbarić 2010, Fig. 9:8). Another phallic-like oil lamp was recovered from a wreck off Cape Plavac on Zlarin island (Vrsalović 2011, 211, s. 132-3).

¹⁰ For example, the *guttus* from Ustica near Sicily, at the archaeological museum in Palermo. (www.siciliafan.it/salinas-ustica-26-luglio-2014)



33. a-c. Neki ulomci uljanice u obliku falusa kat. 101-103 / Sherds from a phallic oil lamp (cat. 101–103) (foto: L. Bekić)

Ostali predmeti

Od ostalih upotrebni predmeta posade izdvaja stakleno dno jedne veće četvrtaste boce (kat. 108). Na osnovu ovog dna nije moguće više reći nego da je vjerojatno pripadala čestim četvrtastim bocama. Vjerojatno odgovara formama 50 ili 51 po Isingsu, a te boce se pojavljuju od sredine 1. st. pr. Kr. (Isings 1957, 63-69). Drugi ulomak stakla je četvrtastog oblika i bezbojan, poput prozorskog stakla (kat. 109). Mada su Rimljani poznavali izradu četvrtastog prozorskog stakla, takvo je obično zbog načina izrade bilo nejednake površine i zaobljenih i zadebljanih rubova,¹¹ što nisu karakteristike koje se primjećuju na ovom ulomku, pa vjerojatno ne pripada ovom brodolomu.

Na mjestu brodoloma pronađeno je i više ribarskih utega od zamotane olovne trake. Jedan je pronađen u jami AJ6, dok ih je četiri pronađeno zajedno u jami AJ 35. S obzirom kako su dva od njih nađeni razmotani, očito su ovi utezi bili spremljeni za neku buduću upotrebu, jer nisu bili omotani oko uzice.

Ovakvi olovni utezi su razmjerno čest nalaz u rimskom kontekstima. Oni su izrađeni lijevanjem olova u kalupe čime se dobila tanja olovna ploča, koja se potom rezala u pločice željene veličine. Te pločice savijale bi se oko užeta na razmacima prema potrebi. Pronađeni su u rimskim lukama (Rovinj - Veštar, Bekić 2014, 139, kat. 27-28) i na brodolomima (Šćedro - Veli porat, Orlić, Jurišić 1993, T. 2: 6,7,10; Rovinj - Veli Piruzi, Fiederling 2019, 19, T. 1: kat. 2). U istom obliku i namjeni pronalazi ih se i na širem sredozemnom prostoru (Galili, Rosen, Sharvit 2002, 187, Fig.7).

Mali kameni kvadrat (kat. 116) sa utorima zapravo je ribarski uteg. Slični su pronađeni u Izraelu, a klasificirani su u skupinu kamenih utega S.2 (Galili, Rosen, Sharvit 2002, fig. 2, 184, 195). Za njih autori navode kako su u uporabi još od brončanog doba, a da se sudeći po njihovim dimenzijama

Other Artefacts

Notable among the other implements used by the crew is the glass base of a large square bottle (cat. 108). All that we can conclude from this base fragment is that it was likely part of one of the frequent types of square bottles. It likely corresponds with Isings' form 50 or 51, bottles that appeared from the mid-first century BCE (Isings 1957, 63–69). A second glass fragment is of square form and colourless, like window pane glass (cat. 109). Although the Romans did know how to manufacture square window glass, its method of fabrication meant that it usually lacked a uniform surface and had rounded and thickened edges,¹¹ which are not characteristics seen on this fragment, such that it is probably not associated with this wreck.

A number of fishing sinkers (weights) of rolled strips of lead were found at the wreck site. One was found in pit AJ6 and a further four together in pit AJ35. Given that two were found not rolled it is clear that these sinkers were set aside for future use and not yet rolled around a line.

Lead sinkers of this kind are relatively frequent finds in Roman contexts. They were made by casting lead into a mould to produce a thin lead plate that was then cut into smaller plates of the desired size. These small plates would be crimped around a line and spaced as required. These have been found in Roman period harbours (Rovinj-Veštar, Bekić 2014, 139, cat. 27–28) and wrecks (Šćedro-Veli Porat, Orlić, Jurišić 1993, T. 2: 6, 7, 10; Rovinj-Veli Piruzi, Fiederling 2019, 19, T. 1: cat. 2). They are found with the same form and purpose in the broader Mediterranean area (Galili, Rosen, Sharvit 2002, 187, Fig. 7).

A small stone square (cat. 116) with grooves is also a fishing sinker. Similar sinkers have been recovered in Israel, and have been classified in the S2 group of stone sinkers (Galili, Rosen, Sharvit 2002, Fig. 2, 184, 195). Of these the cited authors state that they have been in use from as far back as the

¹¹ Poput ulomaka prozorskog stakla pronađenog na brodolomu Porticcio A iz sredine 3. st. (Alfonsi 2014, 74).

¹¹ As does a fragment of window glass recovered from the mid-third century Porticcio A wreck (Alfonsi 2014, 74).

može zaključiti da li su bili upotrebljavani za otežavanje mreža ili udice. Primjerak s Uljeve, s obzirom na skromne dimenzije, vjerojatno je služio za udicu. U svakom slučaju ovo je prvi takav nalaz kamenog ribarskog utega u Hrvatskoj.

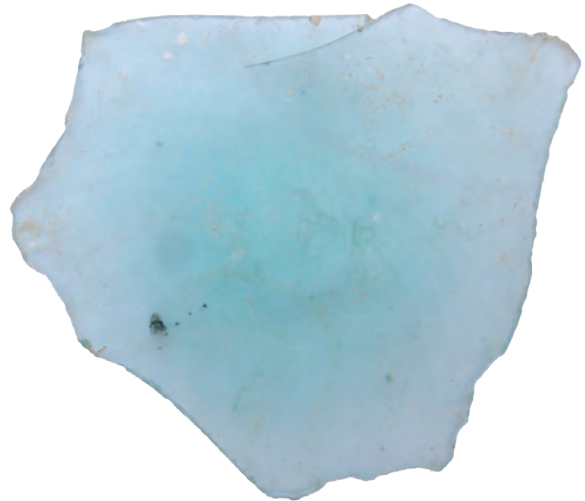
Osim olovnih utega za konop ili mrežu, pronađen je još jedan masivniji olovni predmet (kat. 115). Piramidalnog je oblika, visine oko 5 cm. Nema sačuvane rupe za provlačenje konopca, a na široj od dvije uže strane vidljivo je udubljenje. Nejasna je namjena ovog predmeta. U slučaju da je imao rupu za konopac mogao je služiti kao uteg za ribolovni alat ili dubinomjer.

Na rimskom brodolomu kod Mahdie u Tunisu, koji datira u 1. st. pr. Kr., pronađene su dvije skupine sličnih olovnih piramidalnih predmeta, jedni veći, a drugi manji. Veći imaju na širem dijelu rupu u kojima je bio zabijen drveni štap. Manji imaju razrez na vrhu užeg dijela (Päffgen, Zanier 1994, 125, 126, kat. 49, 50). Autori nisu sigurni čemu su ti piramidalni predmeti služili ali pretpostavljaju da su to utezi za mreže. S obzirom na udubljenje, postoji i mogućnost da se radi o umanjenom dubinomjeru, međutim i kao takav također je morao imati rupu za provlačenje konopa. Dubinomjeri sličnog oblika i dimenzija, ali s rupom za konop, pronađeni su u Izraelu (Galili, Rosen 2015, 58, 59, fig. 24). Na kraju, moguće je riječ o olovnom čepu koji mogao služiti kao zakrpa u drvenoj oplati broda, mada za to nema analogija.



35. Piramidalni olovni predmet s utorom (kat. 115), nepoznate namjene / A pyramidal lead artefact with a groove (cat. 115) of unknown purpose (foto: L. Bekić)

Kako su svi ti predmeti pronađeni pojedinačno, najvjerojatnije je riječ o brodskoj opremi ili vlasništvu pojedinih članova posade.



34. Dno četvrtaste boce kat. 108 / The base of a square bottle (cat. 108) (foto: L. Bekić)

Bronze Age and that their dimensions point to their having been used to sink nets or hooks. A specimen from Uljeva, given its modest size, was likely used for a hook. Whatever the case, this is the first such find in Croatia of a stone fishing sinker.

Besides the lead sinkers for fishing lines or nets, another more massive lead artefact was recovered (cat. 115). Of pyramidal form, it stands at about five centimetres. There are no preserved perforations through which a line might be drawn, and on the broader of the two narrower sides we see a depression. The purpose of this artefact is unclear. If it had a perforation for a line it might have served as a sinker for fishing gear or a sounding line/lead.

Two groups of similar pyramidal lead artefacts were recovered from a Roman period wreck at Mahdia in Tunisia dated to the first century BCE, one larger of artefacts, the other of smaller artefacts. The larger artefacts have a hole at the broader portion into which a wooden rod was jammed. The smaller pieces have an incision at the top of the narrow portion (Päffgen, Zanier 1994, 125, 126, cat. 49, 50). The cited authors drew no hard conclusions as to the purpose of these pyramidal artefacts but did posit that they may have served as net sinkers. The presence of a depression may point to these having been small sized sounding leads, but even as such it would have required a perforation through which to draw a line. Sounding leads of similar size and form, but with a perforation for a line, have been recovered in Israel (Galili, Rosen 2015, 58, 59, Fig. 24). A final possibility we could posit is that these were lead plugs used to patch up the hull planking of a ship, although there are no analogous examples.

As all of these artefacts were found individually, they are most likely part of the ship's gear or the property of members of its crew.

DATAČIJA I ZAKLJUČAK

Prema pronađenim nalazima, brodolom Uljeva A može se datirati u 1. st. pr. Kr., i to otprilike u sredinu stoljeća, ili desetljeće kasnije (Sl. 36). Osim najbrojnijih amfora, za koje se može smatrati da su bile osnovni teret broda, u prilog toj datačiji govori i nekoliko različitih tipova posuđa, čija se uporaba ili završava oko sredine 1. st. pr. Kr. ili započinje. Pojedinačni ulomci fine stolne i grube kuhinjske keramike koju je koristila posada svjedoče kako je brod plovio na cijelom Jadranskom prostoru, a vjerojatno i do Grčke. Njegova matična luka vjerojatno se nalazi negdje u porječju rijeke Po, sudeći po porijeklu brojnog vatrostalnog kuhinjskog posuđa koje je svakodnevno upotrebljavala posada. Lako je moguće da je i teret u amforama potjecao iz plodne Padske doline. Amfore Lamboglia 2 / Dressel 6A u to doba su korištene kako bi se vino iz sjeverne Italije prevozilo na istok, za potrebe kolonista u novim provincijama (Jurišić 2000, 50).

Sudeći po najvećem broju zastupljenih amfora Lamboglia 2 (Dressel 6A) i velikom broju pripadajućih čepova može se zaključiti kako je brod kao primarni teret prevozio amfore koje su bile napunjene vinom. Lako je moguće da je brod zbog svoje natovarenosti ili čak pretovara izgubio potrebne manevarske sposobnosti te se zbog nagle bure nasukao na hridi rta Uljeva. Raspored ulomaka najveći je u jugoistočnom dijelu područja Uljeva A (Sl. 37), međutim one su rasprostranjene po čitavom naznačenom području, u svih 71 jama. Malo je vjerojatno da su značajno mijenjale položaj jednom kada su zdrobljene upale u podmorske jame, pa se iz toga može naslutiti kako je brod mogao biti najviše dvadesetak metara dugačak.

O broju amfora koje je prevozio može se pokušati naslutiti iz prikupljenih ulomaka (Sl. 15). Ukupna težina ulomaka

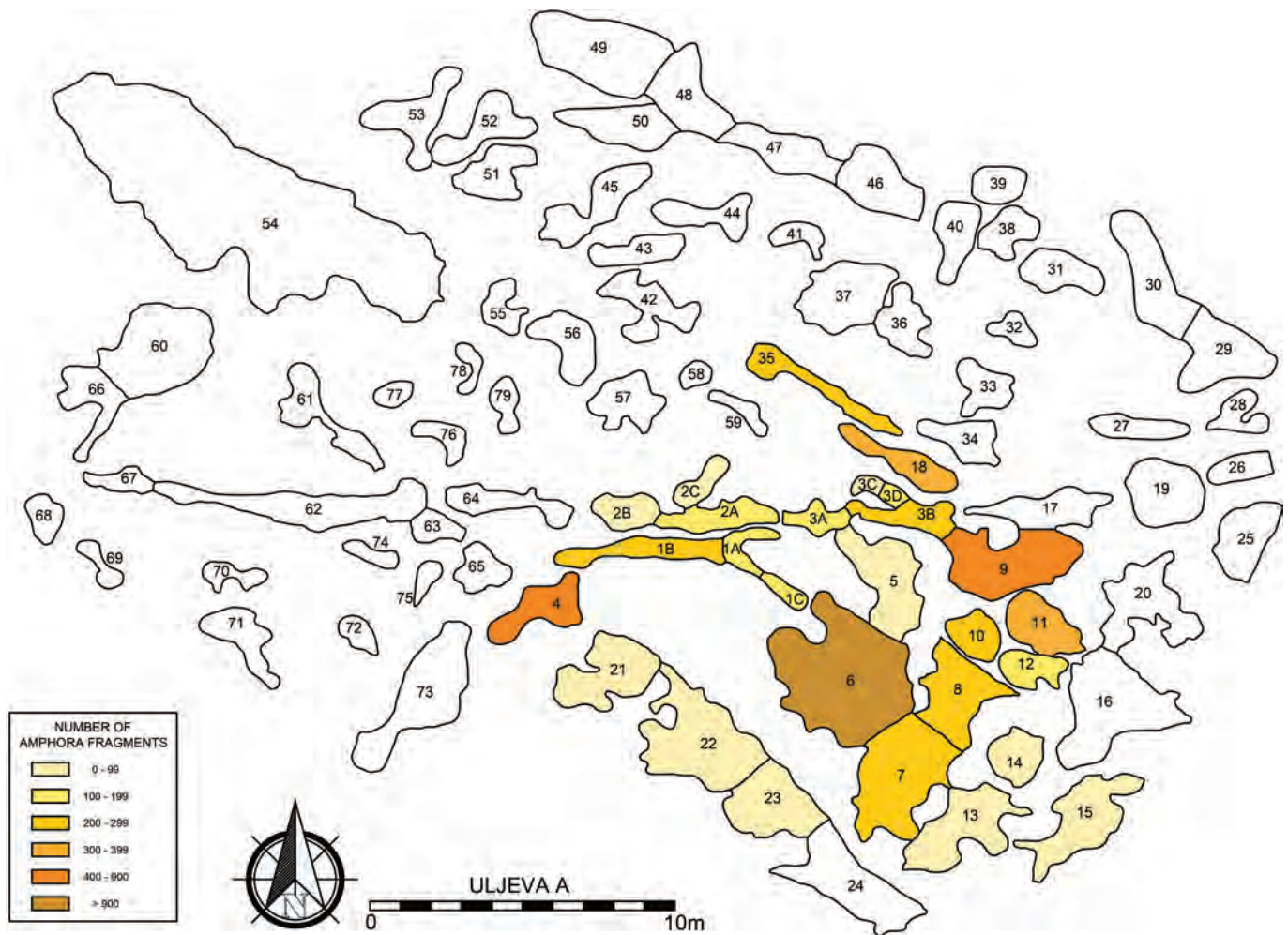
DATING AND CONCLUSION

Based on the recovered artefacts the Uljeva A wreck can be dated to the first century BCE, at about the midpoint of the century, perhaps a decade later (Fig. 36). Besides the numerically predominant amphorae, which we can consider to have constituted the bulk of this ship's cargo, also supporting this date are several different types of ware, the use of which ends or begins around the mid-first century BCE. Some sherds of fine table ware and coarse cooking ware utilised by the crew testify to the ship having navigated the whole of the Adriatic sphere, and likely even into mainland Greek waters. From the provenance of the numerous fire-proof cooking ware used daily by the crew its home port was likely somewhere on the Po River. It is also quite possible that the contents of the amphorae cargo also originated from the fertile valley of the Po River. At the time the Lamboglia 2 / Dressel 6A amphorae were used to transport wine from the north of Italia to the markets of the east for the needs of the colonists in the new provinces (Jurišić 2000, 50).

Judging from the most prevalent amphora form, the Lamboglia 2 (Dressel 6A) type, and the great number of associated stoppers, we can conclude that the primary cargo of this ship were amphorae containing wine. It is quite possible that the load of the cargo, perhaps even the overloading of cargo, caused the vessel to lose the necessary manoeuvrability which, in the face of the abrupt rise of the *bura* wind, led to it running aground on the rocks off Cape Uljeva. The distribution of sherds is most dense in the southeast section of the Uljeva A area (Fig. 37), but they are scattered across the whole of the indicated area, in all 71 pits. It is highly unlikely that they significantly shifted position once they had fragmented

↓ AMPHORAE	150	125	100	75	50	25	25	50	75	100	125	150	175	Number
Lamboglia II early type														4
Lamboglia II late type														48
Dressel 6A														17
Portorecanati														10
Eastern Sigillata A platter														1
Campana B 1A bowl														1
"Refratario" pots														35
Sigillata form XXI/1														1
Pots du Latium														1
Pareti sottili form 1/92														1
↑ OTHER	150	125	100	75	50	25	25	50	75	100	125	150	175	Number

36. Tablica tipološki odredivih nalaza s njihovim količinama i predložen datum brodoloma / A table of typologically diagnostic artefacts with quantities and the proposed date of the wreck (L. Bekić)



37. Raspored broja ulomaka amfora po istraženim jamama /
The numerical distribution of amphorae sherds by investigated pit
(M. Kaleb)

amfora iznosi 2480 kilograma, a ako jedna prazna amfora teži 27 kg, to je barem 91 amfora.¹² Ako se uzme u obzir razmjer pljačke i neistraženi dijelovi nalazišta, onda bi broj mogao biti dvostruk ili trostruk. Osim same težine ulomaka amfora, svjedoci broja pojedinačnih amfora su i njihovi šiljci, kojih ima 62, te čepovi amfora kojih je evidentirano 103. Grla, obodi i ručke amfora nisu pogodni za određivanje minimalnog broja zastupljenih primjeraka jer je teško odrediti njihov pojedinačni broj, a i najviše su izloženi pljački neodgovornih pojedinaca. Brod koji potonuo na Uljevi A imao je tako najmanje stotinjak punih amfora kao osnovni teret, a vrlo vjerojatno dvostruko više.

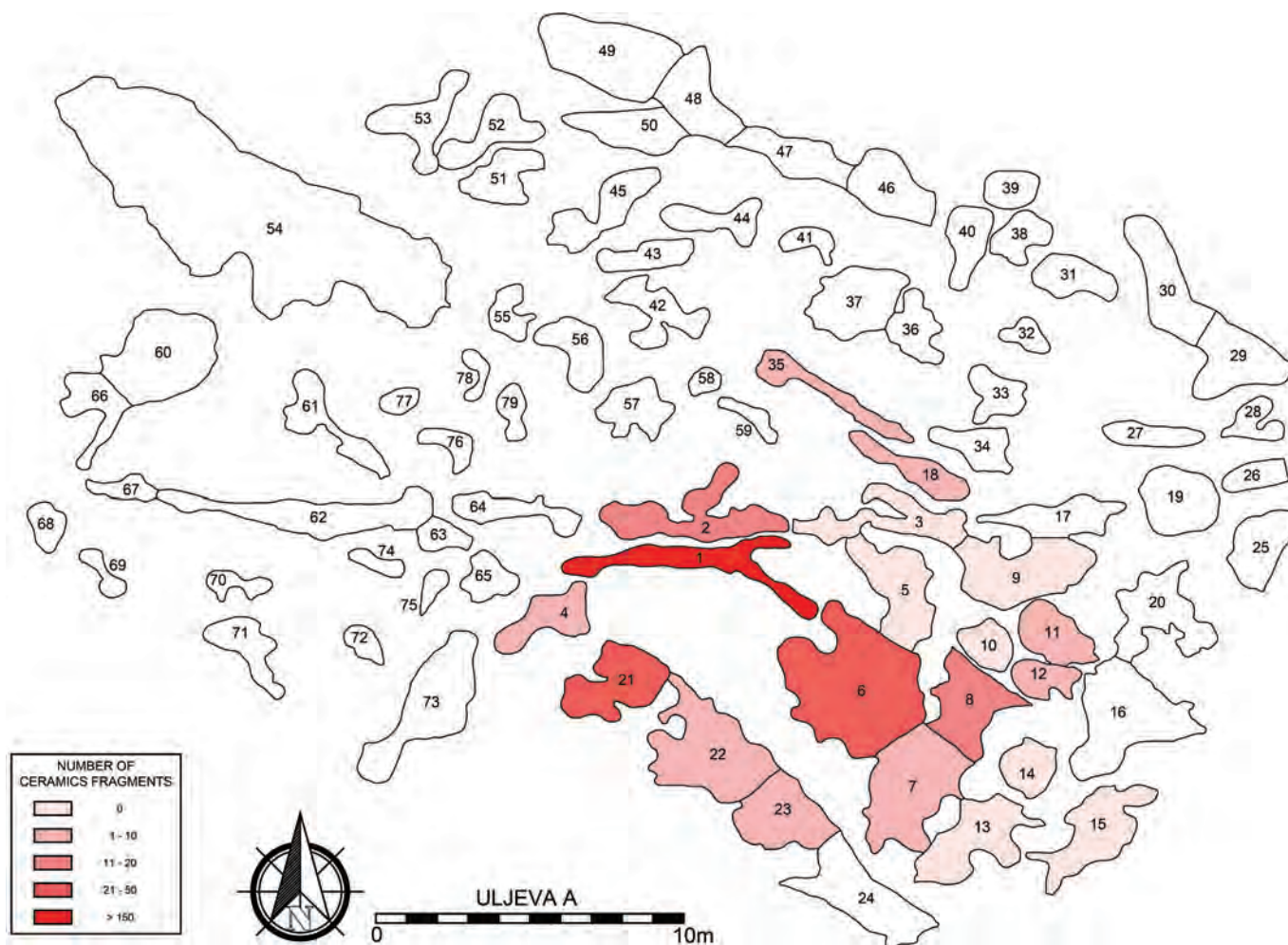
Na hridi Čavlin kod Murtera istražen je brodolom s tereotom 59 amfora Lamboglia 2, iz istog razdoblja kao Uljeva A. Na osnovu ostataka drvene brodske konstrukcije zaključeno

and dropped into the submarine cavities, from which we can infer that the ship would have been no more than twenty metres in length.

We can surmise the number of amphorae it transported based on the collected sherds (Fig. 15). The total weight of the amphorae sherds is 2,480 kilograms, and if one empty amphora weighs 27 kilograms, that would make at least 91 amphorae.¹² If we take into consideration the scale of the looting and uninvestigated parts of the site, that figure would be doubled or tripled. Besides the weight of the sherds alone, another testament to the number of amphorae in question are their spikes, of which there are 62, and stoppers, of which we have identified 103. The necks, rims and handles are not suitable for a determination of the minimum number of represented specimens due to the difficulty in ascertaining the individual number, and because they are most exposed to looting by irresponsible persons. The ship that sank at the Uljeva A site thus carried at least a hundred full amphorae as its primary cargo, and very likely twice that figure.

¹² Težina amfore Lamboglia 2 i Dressel 6A s nalazišta Rt Pelegrin B iznosi 35 kg.

¹² The weight of the Lamboglia 2 and Dressel 6A amphorae recovered at the Rt Pelegrin B site is 35 kilograms.



je da je riječ o 15 metarskom brodu (Miholjek 2009). Kod Lastova su zabilježena tri brodoloma s teretom Lamboglia 2 amfora. Prvi brodolom kod Donjih školja površinski broji preko sto amfora, drugi kod Baškog rata stotinjak amfora te treći kod otočića Lukovca pedesetak čitavih primjeraka (Radić-Rossi 2001, 229, 230, Sl. 2, 4, 5). Nije jasno u kojoj mjeri su ovi brodolomi opljačkani. Još južnije, kod Dubrovnika, otkrivena su dva netaknuta brodoloma s teretima Lamboglia 2 / Dressel 6A amfora, koji u površinskom sloju imaju preko 50 (rt Pelegrin B) i manje od 50 amfora (rt Sv. Petar B) (Bekić, Royal 2016, 277-280). Oba nalazišta nisu iskopavana pa je vjerojatno na njima veći broj amfora.

Kod nas je najveći brod s teretom ranih Lamboglia 2 amfora onaj pronađen kod Vele Svitnje, koji se procjenjuje na dužinu od 20 metara i ukupnu težinu od 32 tone s teretom (Jurišić 2000, 8).¹³ Ukupno su izvađene 634 amfore (Vrsalović 2001, 120) s ovog neopljačanog brodoloma. Ipak smatra se da je većina brodova s takvim teretom u to doba bila prilično

38. Raspored broja ulomaka kuhinjske i stolne keramike po istraženim jamama / The numerical distribution of cooking ware and table ware sherds by investigated pit (M. Kaleb)

A shipwreck dated to the same period as Uljeva A was investigated at the rocks off Čavlin island near Murter island with a cargo of 59 Lamboglia 2 amphorae. Based on the remains of the wooden ship's structure it was concluded that this was the wreck of a fifteen-metre-long ship (Miholjek 2009). Three wrecks have been identified off Lastovo island with cargos of Lamboglia 2 amphorae. The first of these wrecks, at the Donji Škoji group of islets, numbers over a hundred amphora on the surface, the second wreck at Baški Rat a hundred amphorae, and the third off the islet of Lukovac had some fifty intact specimens (Radić-Rossi 2001, 229, 230, Figs. 2, 4, 5). It is not clear to what extent these wrecks suffered looting. Further to the south near Dubrovnik two undisturbed wrecks were identified with cargos of Lamboglia 2 / Dressel 6A amphorae that present over fifty (Cape Pelegrin B) and under fifty (Cape Sveti Petar B) amphorae at the surface layer (Bekić, Royal 2016, 277-280). Neither of these sites

¹³ Orlić i Jurišić navode mogućnost da je brod koji je potonuo s teretom Lamboglia 2 / Dressel 6A amfora kod Velog porta na Šćedru mogao biti dug između 18 i 24 m. To bi mu dalo tonažu od 100 do 150 tona što bi omogućilo prijevoz oko 2500 punih amfora (Orlić, Jurišić 1993, 176).

manja (Jurišić 2000, 8), vjerojatno najčešće između 50 i 200 amfora, sudeći po navedenim primjerima.

Sudeći po rasporedu jama koje sadrže vidljive nalaze, očito je brod zapeo na stijenama dubine 2.5 metra, a potom su valovi polomili konstrukciju broda i razbacali nalaze u nešto dublje prostore, do 4 i maksimalno 5 metara (npr. jame J 25-29). S obzirom na velik broj ulomaka kuhinjskog i stolnog posuđa koje je pronađeno u jamama J1, 1A i 1B (Sl. 38), očito se ovdje rasula brodska kuhinja, uz koju je bila spremljena i osobna imovina posade. Na žalost nije moguće utvrditi orijentaciju broda kod potonuća na osnovu istraženog područja i analizirane dokumentacije.

have been excavated such that it is likely that they have a greater number of amphorae.

The largest shipwreck discovered in Croatian waters with a cargo of early Lamboglia 2 amphorae is the one located at the Vela Svitnja site, estimated to have been a ship of twenty metres with an overall weight of 32 tonnes including the cargo (Jurišić 2000, 8).¹³ In all 634 amphorae were extracted (Vrsalović 2001, 120) from this undisturbed wreck site. It is, however, held that the majority of ships carrying cargo of this kind in this period were significantly smaller (Jurišić 2000, 8), likely and most often between fifty and 200 amphorae, judging from the cited examples.

Judging from the distribution of pits containing visible finds it is clear that the ship ran aground on rocks at a depth of 2.5 metres, whereupon the waves broke the ship and scattered the artefacts into the somewhat deeper areas of four and at most five metres depth (e.g. pits J 25–29). Given the large number of sherds of cooking ware and table ware found in pits J1, 1A and 1B (Fig. 38), it is evident that the ship's galley, next to which the crew's personal effects were stowed, broke up here. The orientation of the ship as it sank cannot, unfortunately, be ascertained on the basis of the investigated area and the analysed documentation.

¹³ Orlić and Jurišić have proposed the possibility that the ship that sank with a cargo of Lamboglia 2 / Dressel 6A amphorae at Veli Porat on Šćedro island may have been from 18 to 24 metres long. That would give it a tonnage of from 100 to 150, which would allow it to transport about 2,500 full amphorae (Orlić, Jurišić 1993, 176).

KATALOG NALAZA ULJEVA A

1. Gornji dio amfore. Slučajni nalaz. Glina žute boje.
2. Dio oboda amfore. AJ 31. Glina žute boje.
3. Dio oboda amfore. Slučajni nalaz. Glina žute boje.
4. Dio oboda amfore. Slučajni nalaz. Glina žute boje.
5. Dio oboda amfore. Slučajni nalaz. Glina svijetlo crvene boje.
6. Dio oboda amfore. Slučajni nalaz. Glina žute boje.
7. Dio oboda amfore. Slučajni nalaz. Glina žute boje.
8. Dio oboda amfore. AJ 6. Glina žute boje, s primjesama crvenih mrvica.
9. Dio oboda amfore. Slučajni nalaz. Glina žute do smeđe boje.
10. Dio oboda amfore. AJ 2C. Glina narančaste boje.
11. Dio oboda amfore. AJ 9. Glina žute boje.
12. Dio oboda amfore. AJ 11. Glina žute boje.
13. Dio oboda amfore. AJ 9. Glina žute boje.
14. Dio oboda amfore. Slučajni nalaz. Glina žute boje.
15. Dio oboda amfore s tragom pečata. AJ 46. Glina žute boje.
16. Dio oboda amfore s tragom pečata. AJ 16. Glina žute boje, tvrde fakture.
17. Dio oboda amfore s tragom pečata. AJ 52. Glina crvene boje.
18. Dio oboda amfore s tragom pečata. AJ 3B. Glina žute boje.
19. Dio oboda amfore. AJ 30. Glina narančaste boje.
20. Dio oboda amfore. Slučajni nalaz. Glina narančaste boje.
21. Dio oboda amfore. AJ 3B. Glina žute boje.
22. Dio oboda amfore. Slučajni nalaz. Glina svijetlo žute boje.
23. Dio grla i ramena amfore. AJ 32. Glina žute boje.
24. Dio ramena i trbuha amfore. AJ 3C. Glina žute boje.
25. Dio ramena amfore. Slučajni nalaz. Glina žute boje.
26. Ručka amfore. AJ 1B. Glina crvene boje.
27. Donji dio amfore. AJ 1B. Glina žute boje.
28. Šiljak amfore. AJ 1C. Glina žute boje.
29. Šiljak amfore. Slučajni nalaz. Glina žute do svijetlo smeđe boje.
30. Donji dio amfore. AJ 9. Glina žute boje.
31. Šiljak amfore. AJ 14. Glina žute boje.
32. Šiljak amfore. Slučajni nalaz. Glina svijetlo smeđe boje.
33. Šiljak amfore. AJ 1C. Glina žute boje.
34. Dio oboda amfore. Slučajni nalaz. Glina crvene boje.
35. Dio oboda amfore. AJ 3A. Glina crvene boje.
36. Dio oboda amfore. Slučajni nalaz. Glina tamno crvene boje, zrnate fakture.

CATALOGUE OF ARTEFACTS COLLECTED AT ULJEVA A

1. Amphora upper portion. Chance find. Yellow clay.
2. Amphora rim sherd. AJ 31. Yellow clay.
3. Amphora rim sherd. Chance find. Yellow clay.
4. Amphora rim sherd. Chance find. Yellow clay.
5. Amphora rim sherd. Chance find. Light red clay.
6. Amphora rim sherd. Chance find. Yellow clay.
7. Amphora rim sherd. Chance find. Yellow clay.
8. Amphora rim sherd. AJ 6. Yellow clay, with temper of red grains.
9. Amphora rim sherd. Chance find. Yellow to brown clay.
10. Amphora rim sherd. AJ 2C. Orange clay.
11. Amphora rim sherd. AJ 9. Yellow clay.
12. Amphora rim sherd. AJ 11. Yellow clay.
13. Amphora rim sherd. AJ 9. Yellow clay.
14. Amphora rim sherd. Chance find. Yellow clay.
15. Amphora rim sherd with traces of a stamp. AJ 46. Yellow clay.
16. Amphora rim sherd with traces of a stamp. AJ 16. Yellow clay, hard fabric.
17. Amphora rim sherd with traces of a stamp. AJ 52. Red clay.
18. Amphora rim sherd with traces of a stamp. AJ 3B. Yellow clay.
19. Amphora rim sherd. AJ 30. Orange clay.
20. Amphora rim sherd. Chance find. Orange clay.
21. Amphora rim sherd. AJ 3B. Yellow clay.
22. Amphora rim sherd. Chance find. Light yellow clay.
23. Amphora neck and shoulder portion. AJ 32. Yellow clay.
24. Amphora shoulder and belly portion. AJ 3C. Yellow clay.
25. Amphora shoulder portion. Chance find. Yellow clay.
26. Amphora handle. AJ 1B. Red clay.
27. Amphora lower portion. AJ 1B. Yellow clay.
28. Amphora spike. AJ 1C. Yellow clay.
29. Amphora spike. Chance find. Yellow to light brown clay.
30. Amphora lower portion. AJ 9. Yellow clay.
31. Amphora spike. AJ 14. Yellow clay.
32. Amphora spike. Chance find. Light brown clay.
33. Amphora spike. AJ 1C. Yellow clay.
34. Amphora rim sherd. Chance find. Red clay.
35. Amphora rim sherd. AJ 3A. Red clay.
36. Amphora rim sherd. Chance find. Dark red clay, grainy fabric.
37. Amphora rim sherd. AJ 11. Red clay.

37. Dio oboda amfore. AJ 11. Glina crvene boje.
38. Dio oboda amfore. AJ 6. Glina narančaste boje.
39. Dio oboda amfore. Slučajni nalaz. Glina crvene boje.
40. Šiljak amfore. Slučajni nalaz. Glina crvene boje.
41. Ručka amfore. Slučajni nalaz. Glina svijetlo smeđe boje.
42. Šiljak amfore. AJ 6. Glina narančaste boje.
43. Šiljak amfore. Slučajni nalaz. Glina crvene boje.
44. Čep amfore. AJ 18. Glina smeđe boje.
45. Čep amfore. Slučajni nalaz. Glina narančaste i crvenkaste boje.
46. Čep amfore. AJ 19. Glina crvene boje.
47. Čep amfore. AJ 6. Glina žute boje.
48. Čep amfore. Slučajni nalaz. Glina tamno žute boje, meke fakture.
49. Čep amfore. AJ 35. Glina narančaste boje.
50. Čep amfore. AJ 35. Glina žute boje.
51. Čep amfore. Slučajni nalaz. Glina žute boje.
52. Čep amfore. AJ 18. Glina smeđe boje.
53. Čep amfore. Slučajni nalaz. Glina žute boje.
54. Čep amfore. AJ 1. Glina žute boje.
55. Čep amfore. AJ 6. Glina žute boje.
56. Čep amfore. Slučajni nalaz. Glina žute boje.
57. Čep amfore. AJ 6. Glina narančaste boje.
58. Čep amfore. AJ 6. Glina žute boje.
59. Čep amfore. Slučajni nalaz. Glina narančaste i crvenkaste boje.
60. Čep amfore. AJ 6. Glina žute boje.
61. Čep amfore. AJ 6. Glina žute boje.
62. Čep amfore. Slučajni nalaz. Glina tamno narančaste boje.
63. Čep amfore. AJ 5. Glina žute boje.
64. Čep amfore. Slučajni nalaz. Glina narančaste boje, tvrde fakture.
65. Čep amfore. Slučajni nalaz. Glina žute boje, nepravilne izrade.
66. Čep amfore. Slučajni nalaz. Glina crvene boje.
67. Čep amfore. Slučajni nalaz. Glina žute boje.
68. Velika rekonstruirana zdjela. AJ 1A. Glina žute boje.
69. Veliki restaurirani pladanj tipa ESA. AJ 1A. Glina žute boje.
70. Gornji dio vrča. AJ 1A. Glina žute boje.
71. Gornji dio vrča. AJ 22. Glina žute boje.
72. Donji dio vrča. AJ 22. Glina žute boje.
73. Donji dio vrča. AJ 22. Glina žute boje.
74. Donji dio vrča. AJ 3B. Glina žute boje.
75. Donji dio vrča. AJ 1A. Glina žute boje.
76. Dio oboda vrča. AJ 22. Glina žute boje.
38. Amphora rim sherd. AJ 6. Orange clay.
39. Amphora rim sherd. Chance find. Red clay.
40. Amphora spike. Chance find. Red clay.
41. Amphora handle. Chance find. Light brown clay.
42. Amphora spike. AJ 6. Orange clay.
43. Amphora spike. Chance find. Red clay.
44. Amphora stopper/seal. AJ 18. Brown clay.
45. Amphora stopper/seal. Chance find. Orange and reddish clay.
46. Amphora stopper/seal. AJ 19. Red clay.
47. Amphora stopper/seal. AJ 6. Yellow clay.
48. Amphora stopper/seal. Chance find. Dark yellow clay, soft fabric.
49. Amphora stopper/seal. AJ 35. Orange clay.
50. Amphora stopper/seal. AJ 35. Yellow clay.
51. Amphora stopper/seal. Chance find. Yellow clay.
52. Amphora stopper/seal. AJ 18. Brown clay.
53. Amphora stopper/seal. Chance find. Yellow clay.
54. Amphora stopper/seal. AJ 1. Yellow clay.
55. Amphora stopper/seal. AJ 6. Yellow clay.
56. Amphora stopper/seal. Chance find. Yellow clay.
57. Amphora stopper/seal. AJ 6. Orange clay.
58. Amphora stopper/seal. AJ 6. Yellow clay.
59. Amphora stopper/seal. Chance find. Orange and reddish clay.
60. Amphora stopper/seal. AJ 6. Yellow clay.
61. Amphora stopper/seal. AJ 6. Yellow clay.
62. Amphora stopper/seal. Chance find. Dark orange clay.
63. Amphora stopper/seal. AJ 5. Yellow clay.
64. Amphora stopper/seal. Chance find. Orange clay, hard fabric.
65. Amphora stopper/seal. Chance find. Yellow clay, fabrication lacking uniformity.
66. Amphora stopper/seal. Chance find. Red clay.
67. Amphora stopper/seal. Chance find. Yellow clay.
68. A large reconstructed bowl. AJ 1A. Yellow clay.
69. A large restored ESA type platter. AJ 1A. Yellow clay.
70. Jug upper portion. AJ 1A. Yellow clay.
71. Jug upper portion. AJ 22. Yellow clay.
72. Jug lower portion. AJ 22. Yellow clay.
73. Jug lower portion. AJ 22. Yellow clay.
74. Jug lower portion. AJ 3B. Yellow clay.
75. Jug lower portion. AJ 1A. Yellow clay.
76. Jug rim sherd. AJ 22. Yellow clay.

77. Dio oboda vrča. AJ 6. Glina svijetlo smeđe boje.
78. Gornji dio vrča. AJ 18. Glina crvene boje.
79. Dio oboda vrča. Slučajni nalaz. Glina svijetlo smeđe boje.
80. Dio oboda vrča. AJ 6. Glina žute boje, dobro pročišćena.
81. Gornji dio vrča. AJ 6. Glina narančaste boje.
82. Dio oboda vrča. AJ 54. Glina crvene boje.
83. Donji dio vrča. AJ 22. Glina žute boje.
84. Restaurirani lonac. AJ 1A. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
85. Donji dio lonca. AJ 1. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
86. Donji dio lonca. AJ 21. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
87. Donji dio lonca. AJ 1. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
88. Donji dio lonca. AJ 1. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
89. Dio poklopca lonca. AJ 11. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
90. Dio poklopca lonca. AJ 7. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
91. Dio oboda lonca. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
92. Dio oboda lonca. AJ 18. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
93. Gornji dio lonca. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
94. Dio oboda lonca. AJ 1. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
95. Dio oboda lonca. Glina crvenkaste boje, s puno primjesa raznih kamenčića.
96. Dio oboda vrča. Glina žute boje.
97. Dio ruba tanjura ili zdjelice. Glina crne boje sa smeđim premazom.
98. Dio oboda sigilatne zdjelice. AJ 6. Glina narančaste boje, s crvenim premazom.
99. Gornji dio vrča. AJ 1. Glina žućkaste boje, pročišćene fature.
100. Dio trbuha posude tankih stijenki s barbotinskim ukrasom. AJ 6. Glina narančaste boje.
101. Dio reljefne uljanice u obliku falusa. AJ 1. Glina narančaste boje.
102. Dio reljefne uljanice u obliku falusa. AJ 1. Glina narančaste boje.
103. Dio reljefne uljanice u obliku falusa. AJ 1. Glina narančaste boje.
104. Restaurirana zdjela. Glina narančaste boje s primjesama crnih kamenčića. AJ 1A.
77. Jug rim sherd. AJ 6. Light brown clay.
78. Jug upper portion. AJ 18. Red clay.
79. Jug rim sherd. Chance find. Light brown clay.
80. Jug rim sherd. AJ 6. Yellow clay, well refined.
81. Jug upper portion. AJ 6. Orange clay.
82. Jug rim sherd. AJ 54. Red clay.
83. Jug lower portion. AJ 22. Yellow clay.
84. A restored pot. AJ 1A. Reddish clay, with abundant temper of varied pebbles.
85. Pot lower portion. AJ 1. Reddish clay, with abundant temper of varied pebbles.
86. Pot lower portion. AJ 21. Reddish clay, with abundant temper of varied pebbles.
87. Pot lower portion. AJ 1. Reddish clay, with abundant temper of varied pebbles.
88. Pot lower portion. AJ 1. Reddish clay, with abundant temper of varied pebbles.
89. Pot lid sherd. AJ 11. Reddish clay, with abundant temper of varied pebbles.
90. Pot lid sherd. AJ 7. Reddish clay, with abundant temper of varied pebbles.
91. Pot rim sherd. Reddish clay, with abundant temper of varied pebbles.
92. Pot rim sherd. AJ 18. Reddish clay, with abundant temper of varied pebbles.
93. Upper portion of a pot. Reddish clay, with abundant temper of varied pebbles.
94. Pot rim sherd. AJ 1. Reddish clay, with abundant temper of varied pebbles.
95. Pot rim sherd. Reddish clay, with abundant temper of varied pebbles.
96. Jug rim sherd. Yellow clay.
97. Portion of the rim of a plate or small bowl. Black clay with brown slip.
98. Portion of the rim of a small sigillata bowl. AJ 6. Orange clay with red slip.
99. Jug upper portion. AJ 1. Buff clay, refined fabric.
100. Portion of the belly of a thin-walled vessel with barbotine decoration. AJ 6. Orange clay.
101. Portion of an oil lamp, relief, phallic. AJ 1. Orange clay.
102. Portion of an oil lamp, relief, phallic. AJ 1. Orange clay.
103. Portion of an oil lamp, relief, phallic. AJ 1. Orange clay.
104. A restored bowl. Orange clay with temper of black pebbles. AJ 1A.

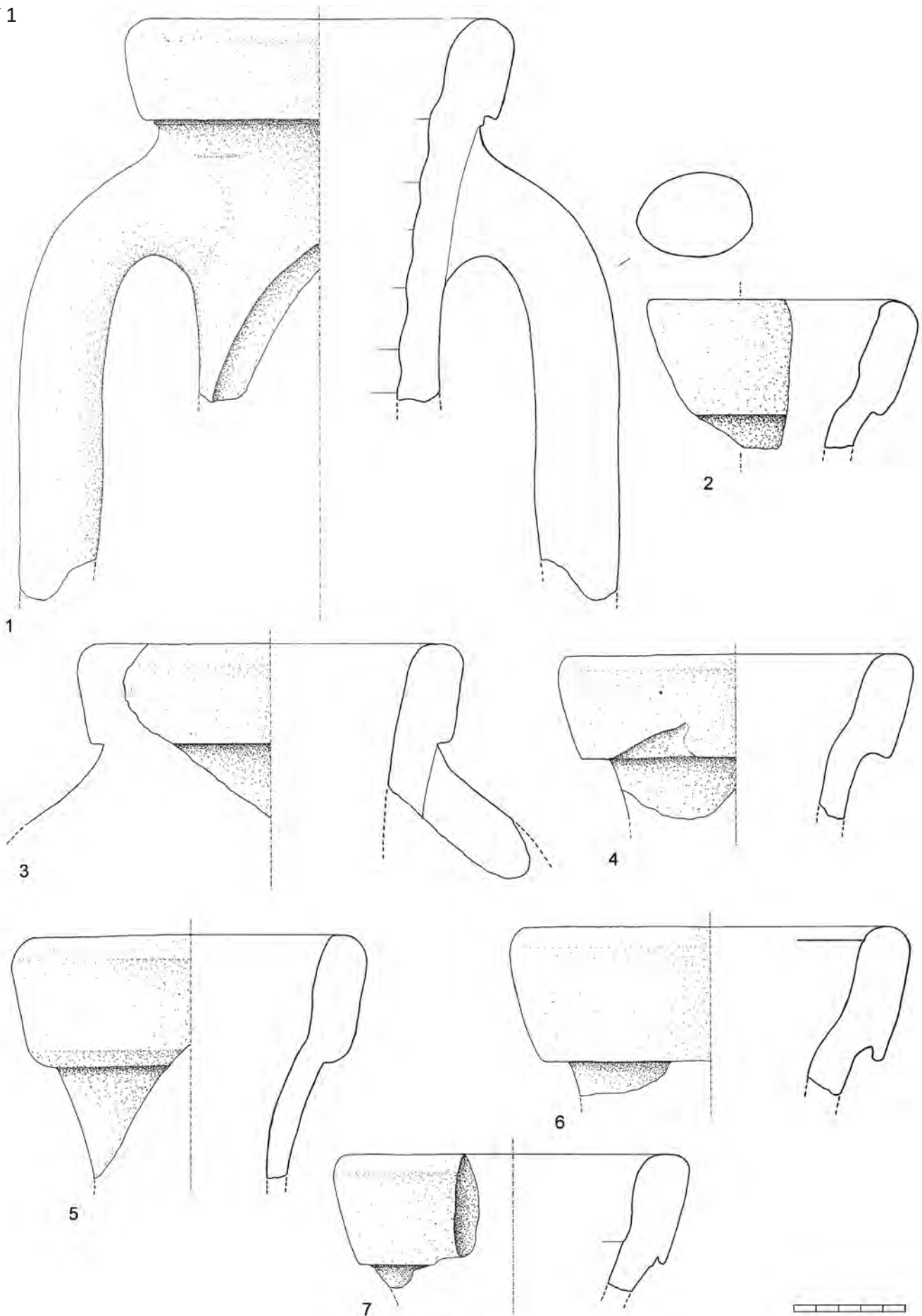
105. Dio grla posude sa sitom. AJ 1A+B. Glina žute boje.
106. Dio keramičke cjevčice. AJ 1A+B. Glina žute boje.
107. Keramički uteg. AJ 46. Glina žute boje.
108. Dno staklene boce zelenkaste boje. AJ 46.
109. Dio ravnog bezbojnog stakla. Slučajni nalaz.
110. Uteg od zamotane olovne trake. AJ 6.
111. Uteg od zamotane olovne trake. AJ 35.
112. Uteg od zamotane olovne trake. AJ 35.
113. Uteg od zamotane olovne trake. AJ 35.
114. Uteg od zamotane olovne trake. AJ 35.
115. Olovni uteg ili dubinomjer. AJ 8.
116. Kvadratni kameni uteg s utorima za uzicu. AJ 21.

T. 1-16, Table, Uljeva A (crteži: L. Bekić)

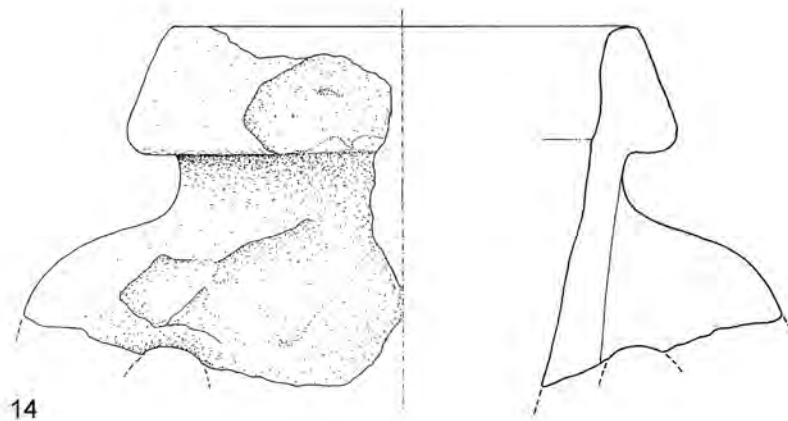
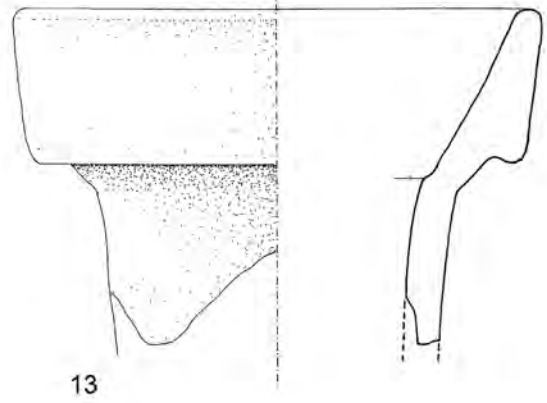
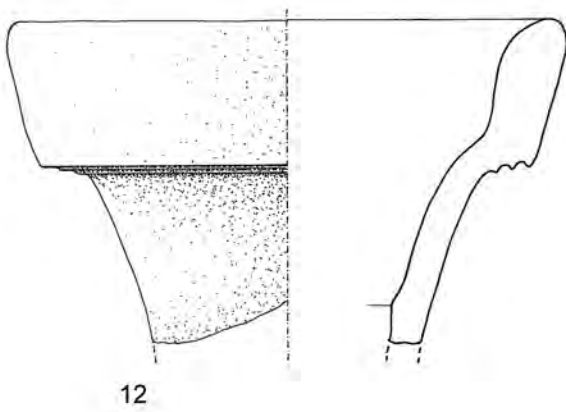
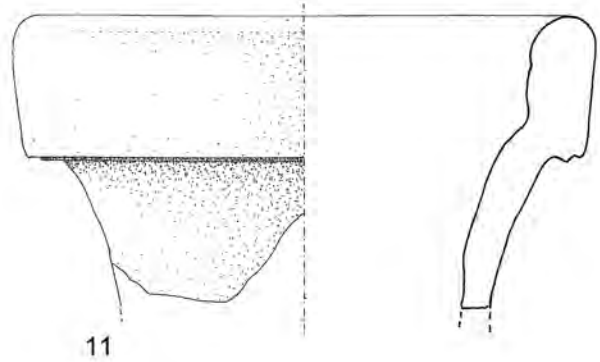
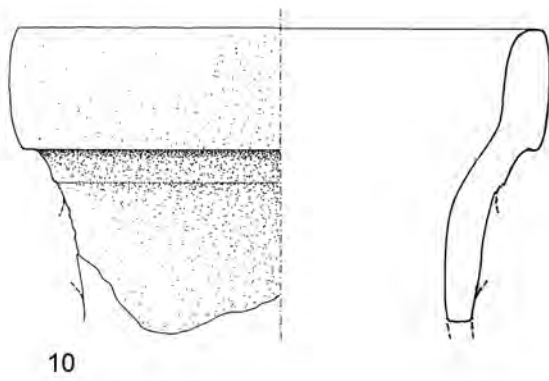
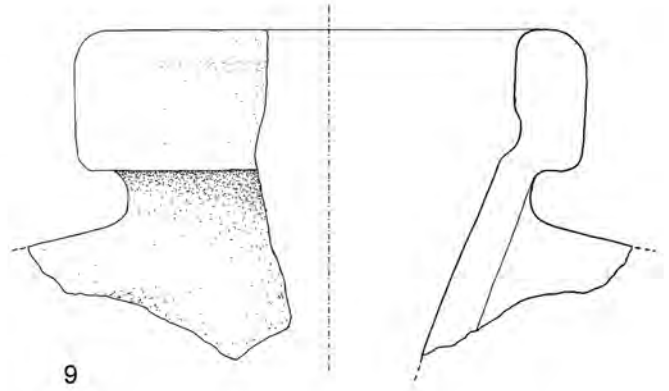
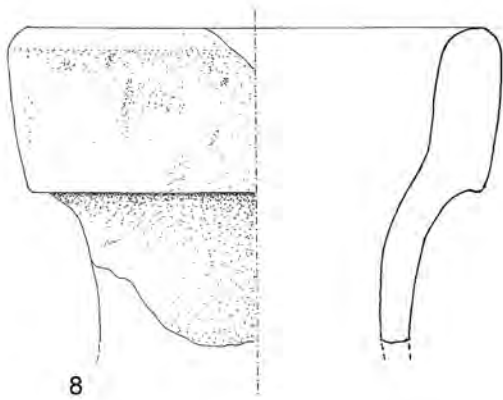
105. Portion of the neck of a vessel with strainer. AJ 1A+B. Yellow clay.
106. Portion of a small ceramic tube. AJ 1A+B. Yellow clay.
107. Ceramic sinker. AJ 46. Yellow clay.
108. Base of a glass bottle, greenish colour. AJ 46.
109. Portion of flat colourless glass. Chance find.
110. Sinker made of wrapped lead strip. AJ 6.
111. Sinker made of wrapped lead strip. AJ 35.
112. Sinker made of wrapped lead strip. AJ 35.
113. Sinker made of wrapped lead strip. AJ 35.
114. Sinker made of wrapped lead strip. AJ 35.
115. Lead sinker or sounding lead. AJ 8.
116. Square stone sinker with grooves for a line. AJ 21.

T. 1–16, Plates, Uljeva A (drawings by: L. Bekić)

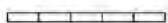
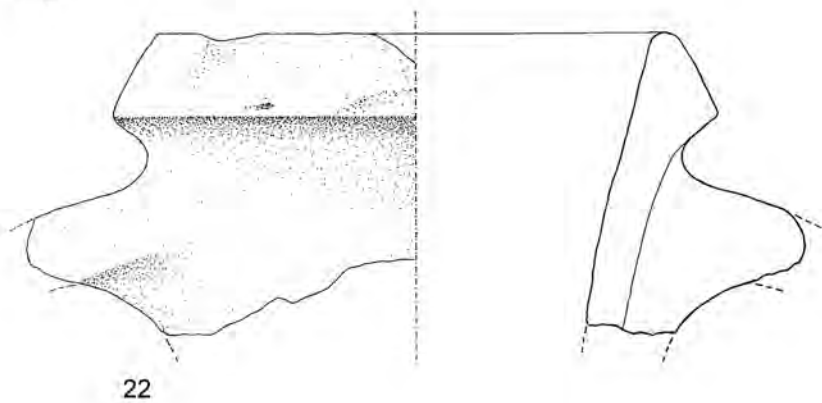
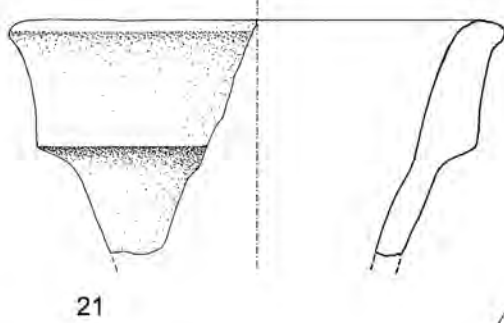
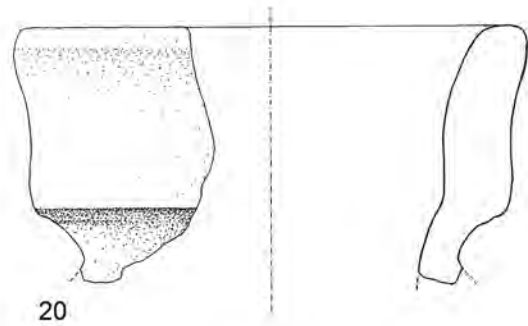
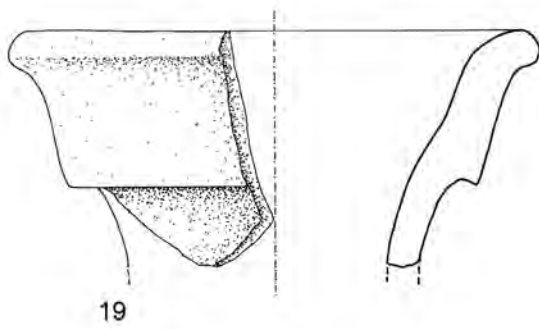
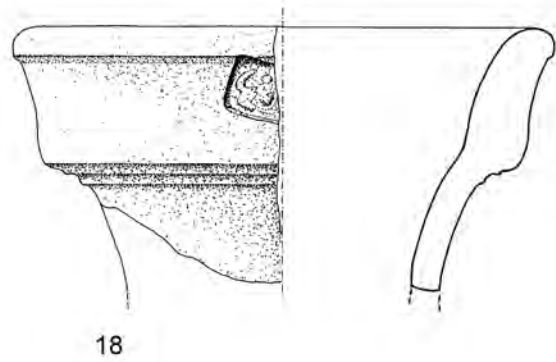
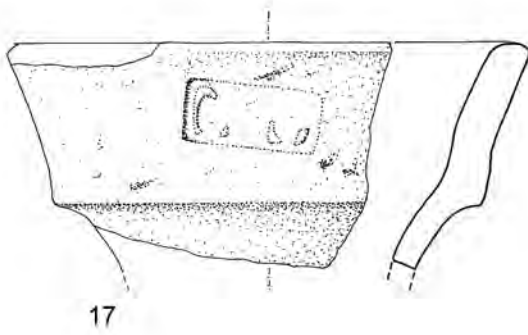
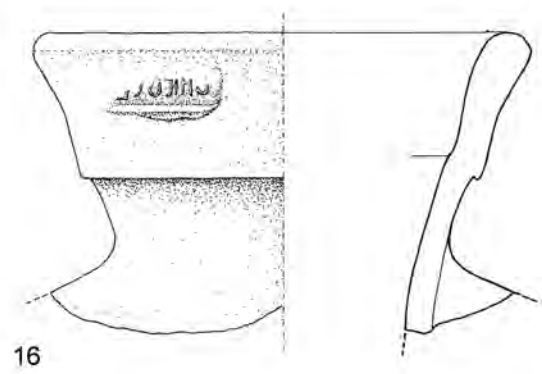
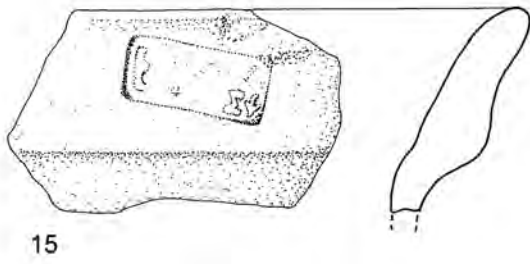
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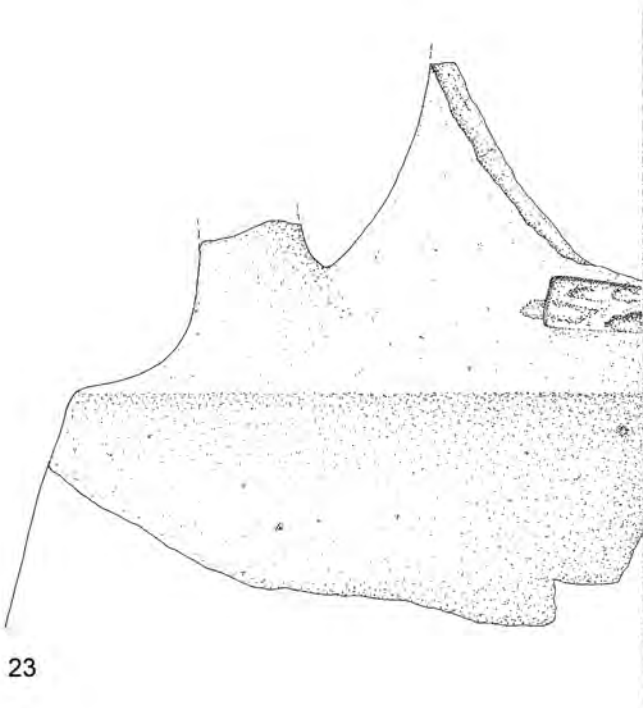
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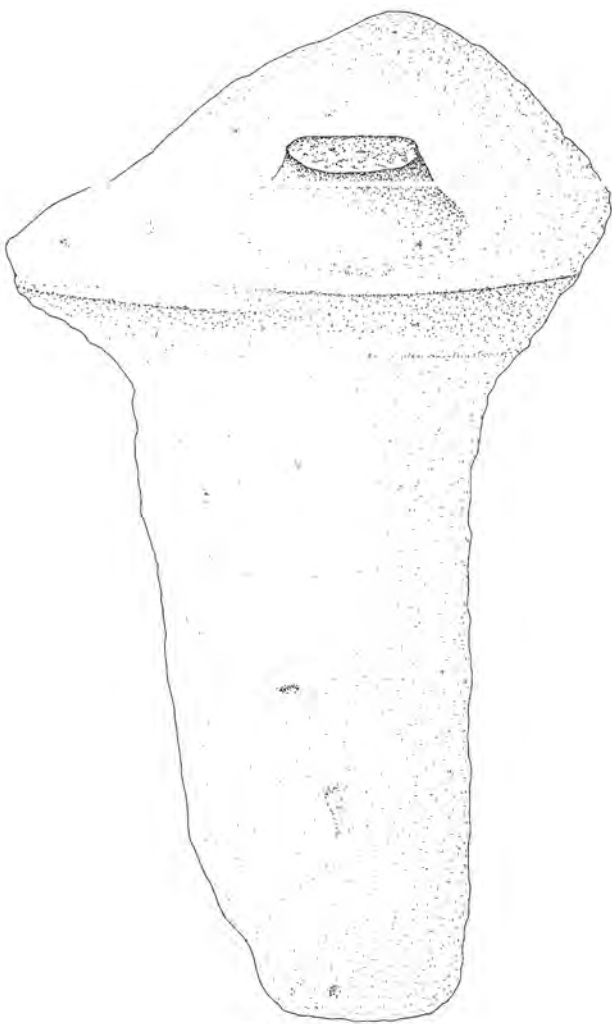
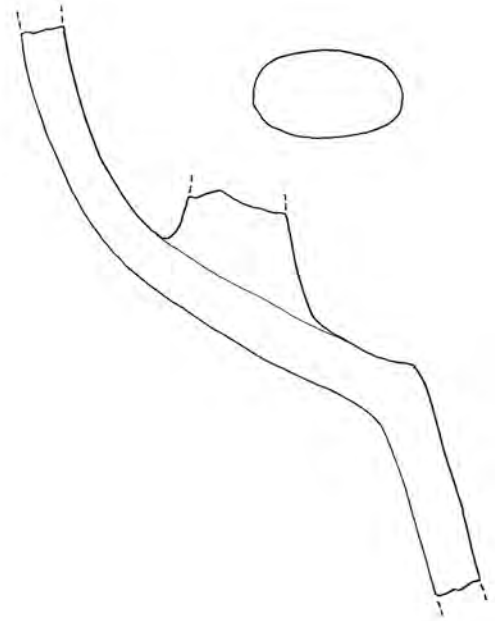
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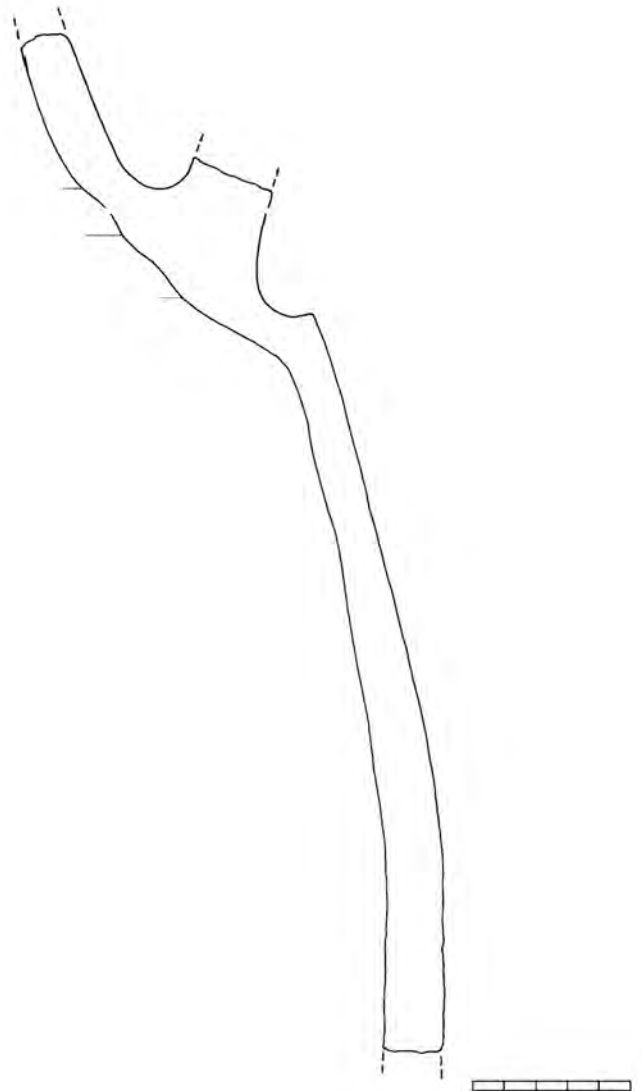
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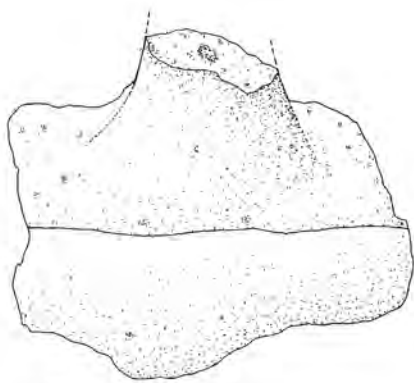
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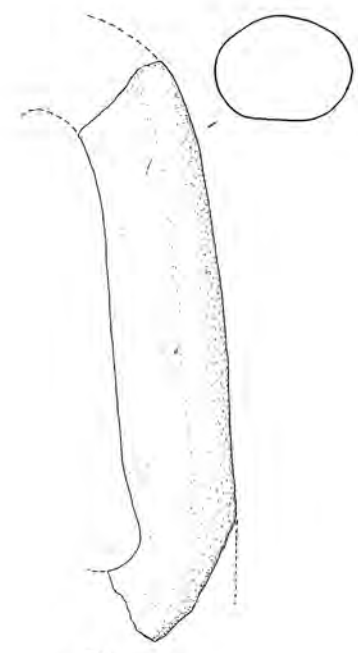
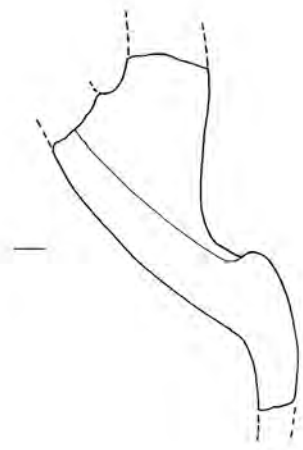
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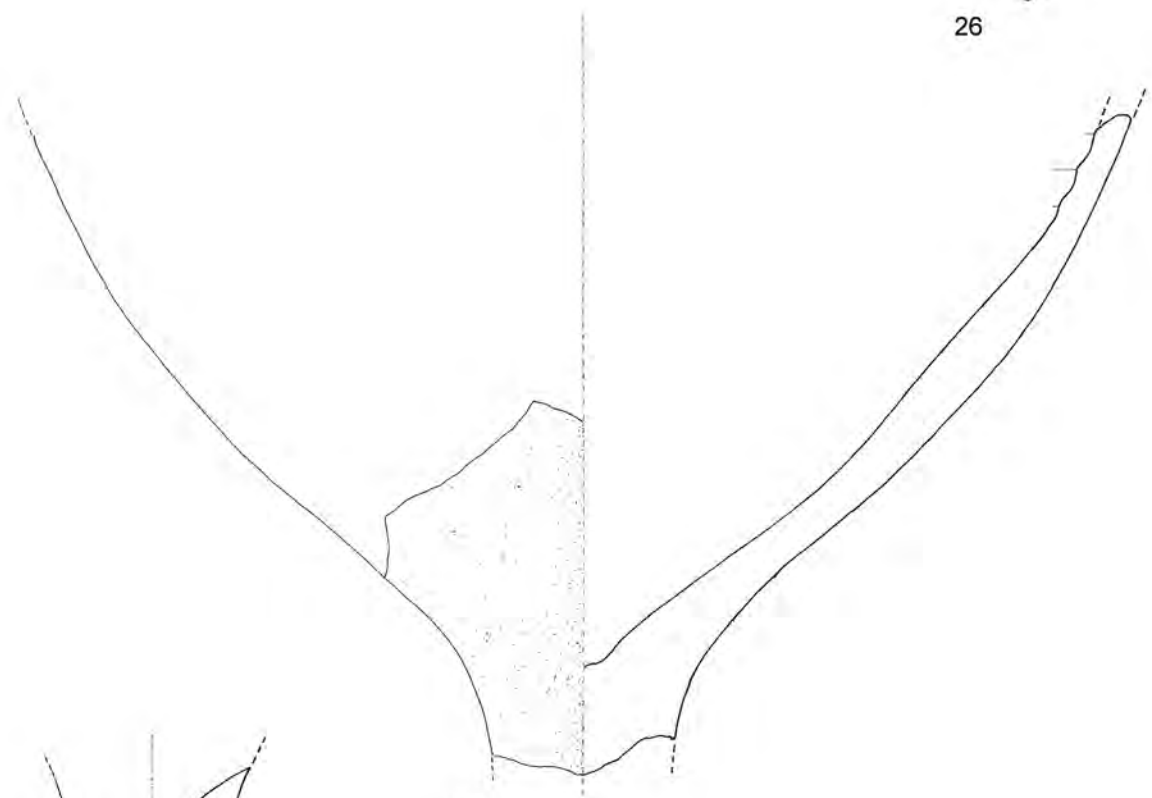
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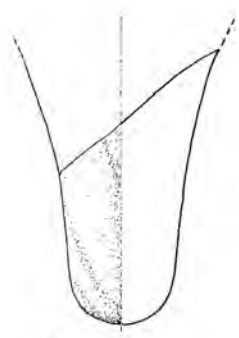
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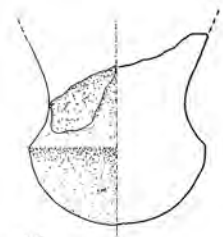
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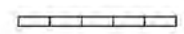
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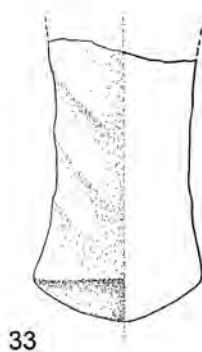
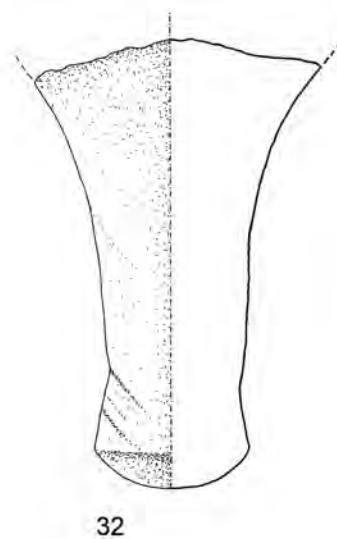
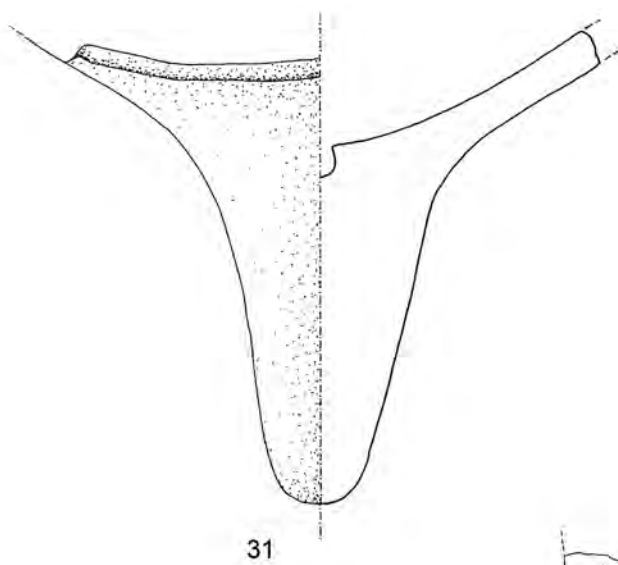
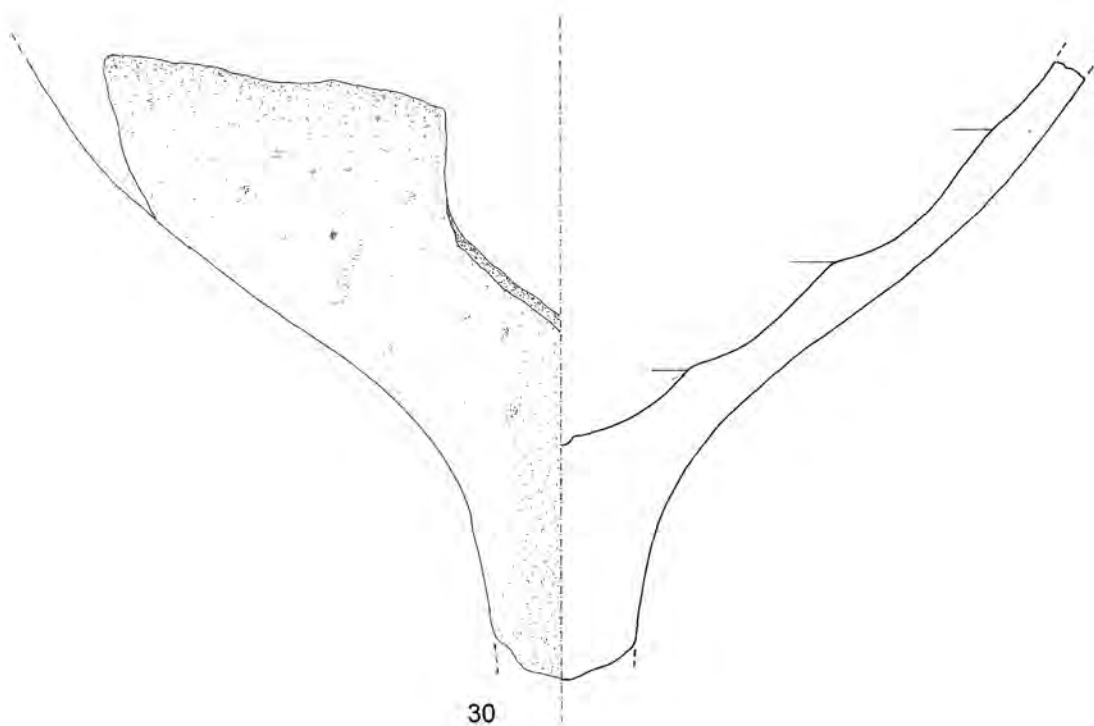


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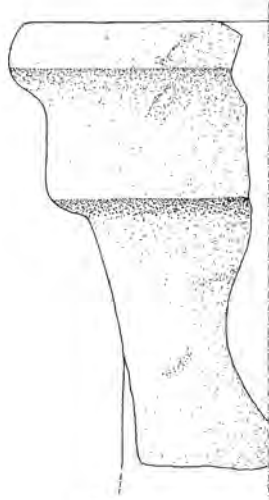


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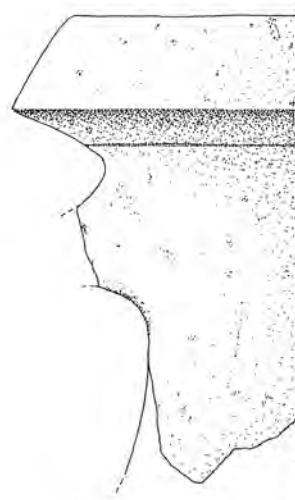
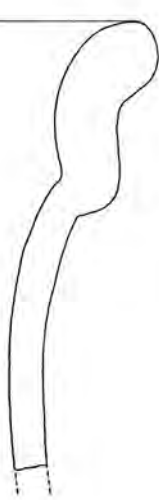




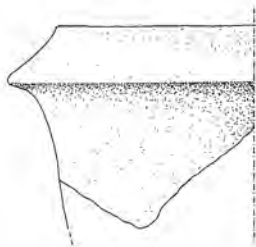
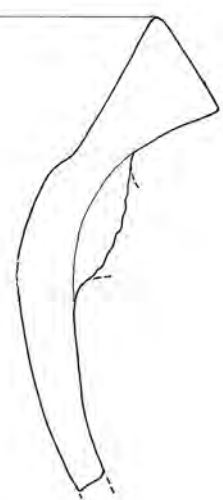
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34



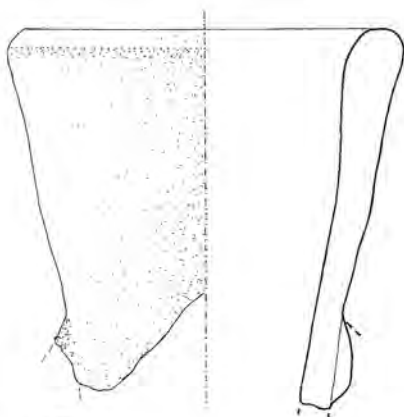
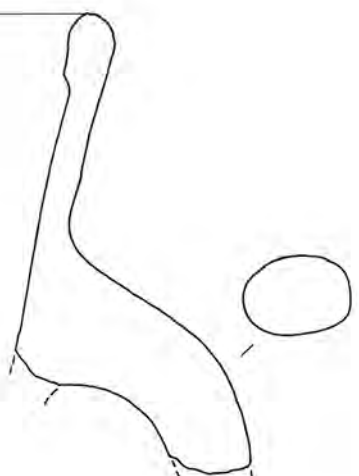
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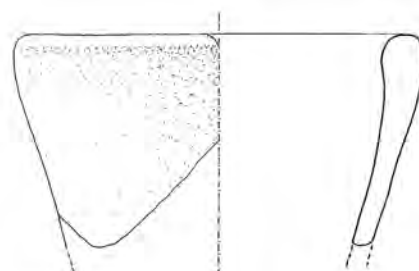
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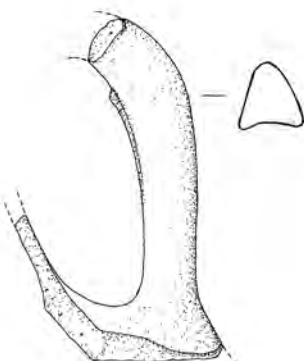
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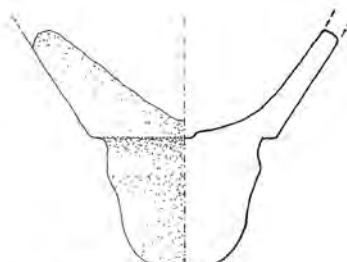
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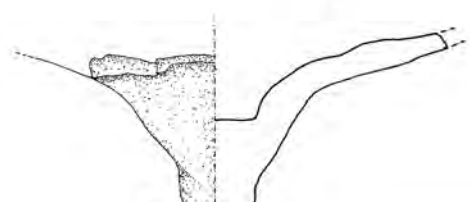
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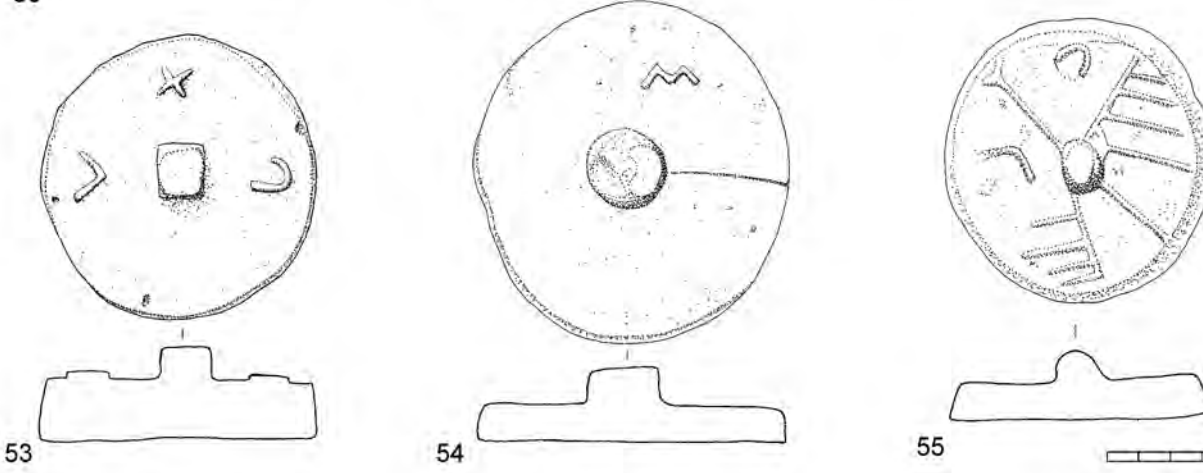
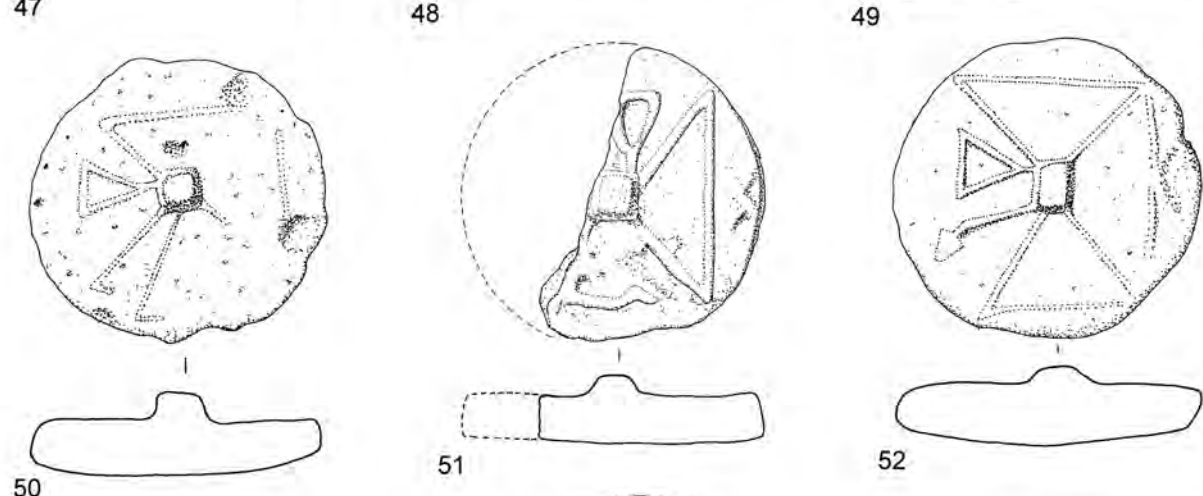
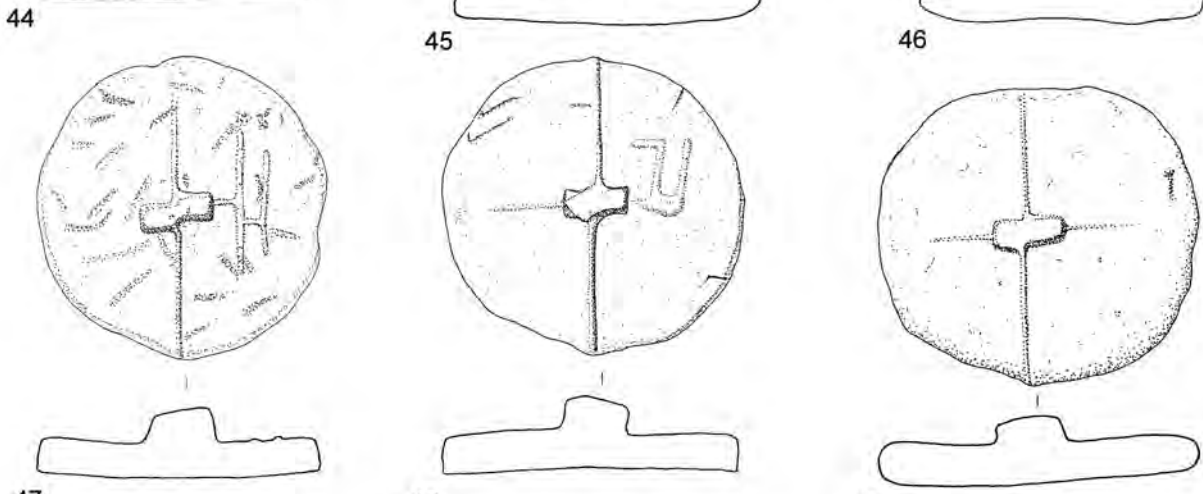
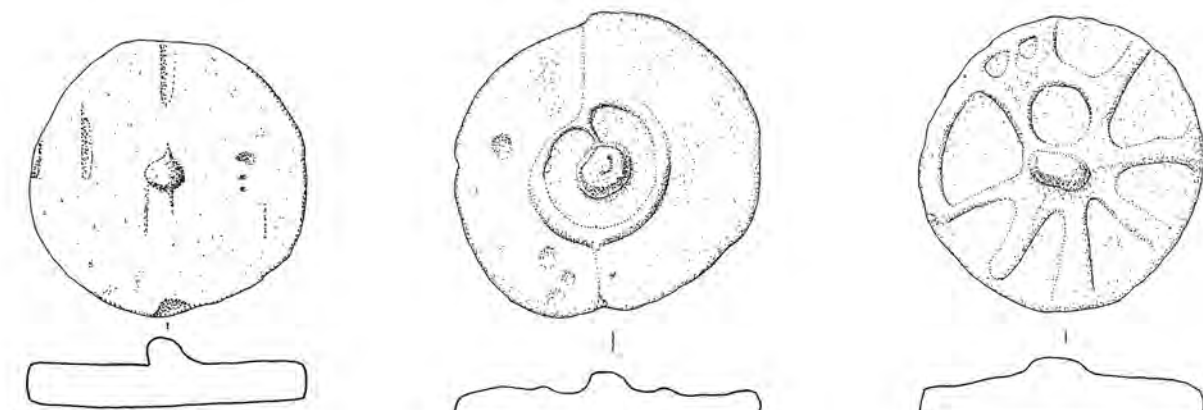


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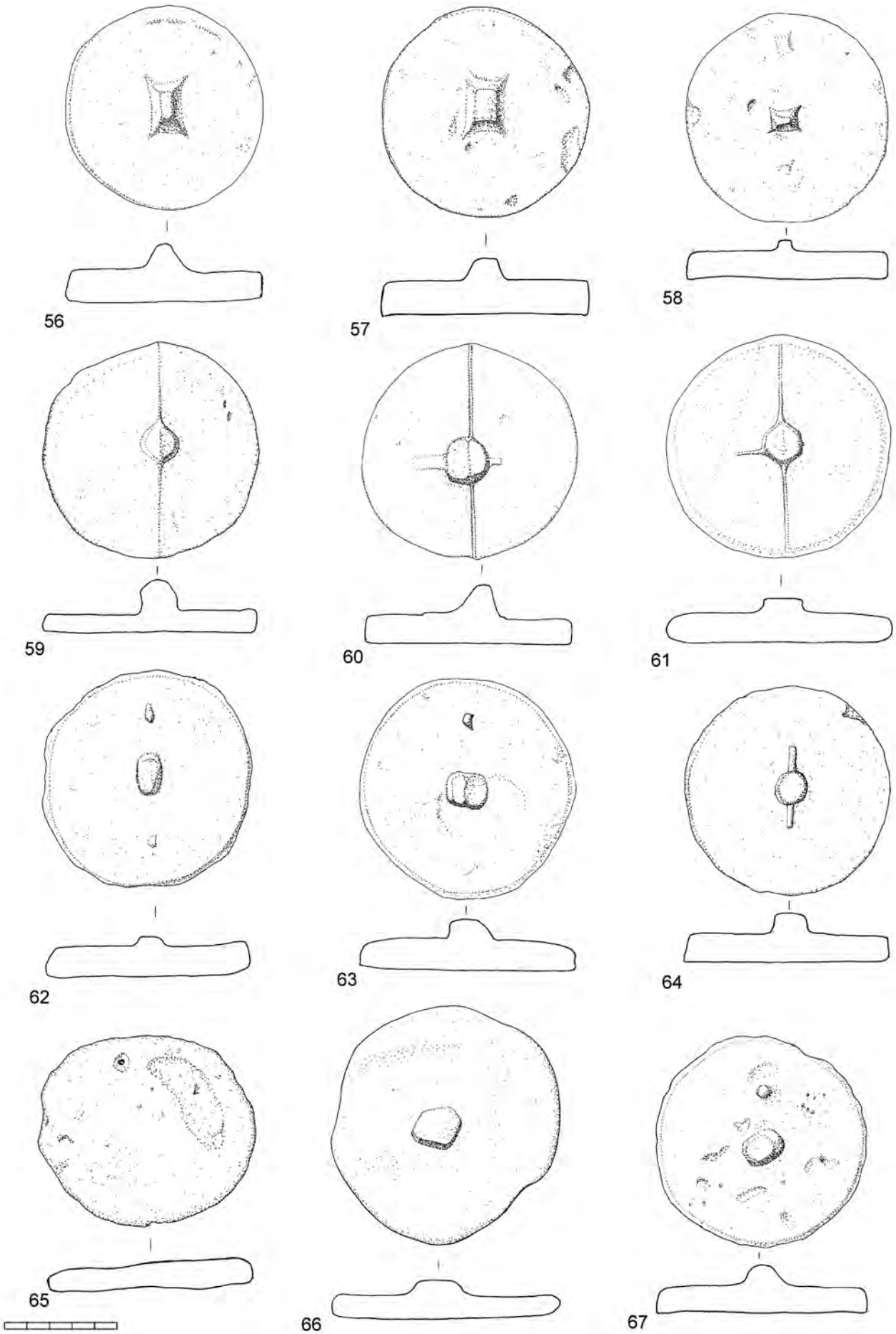


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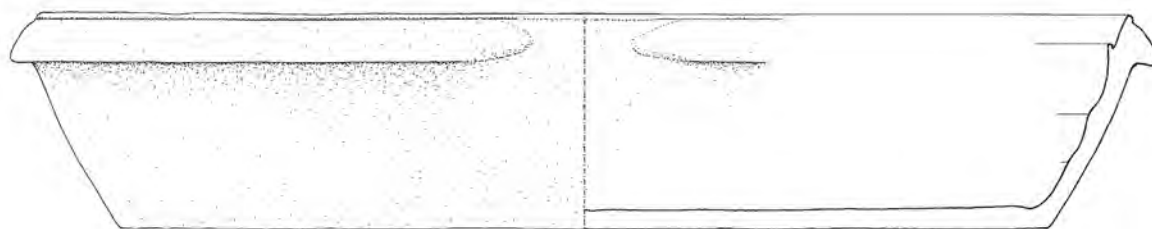




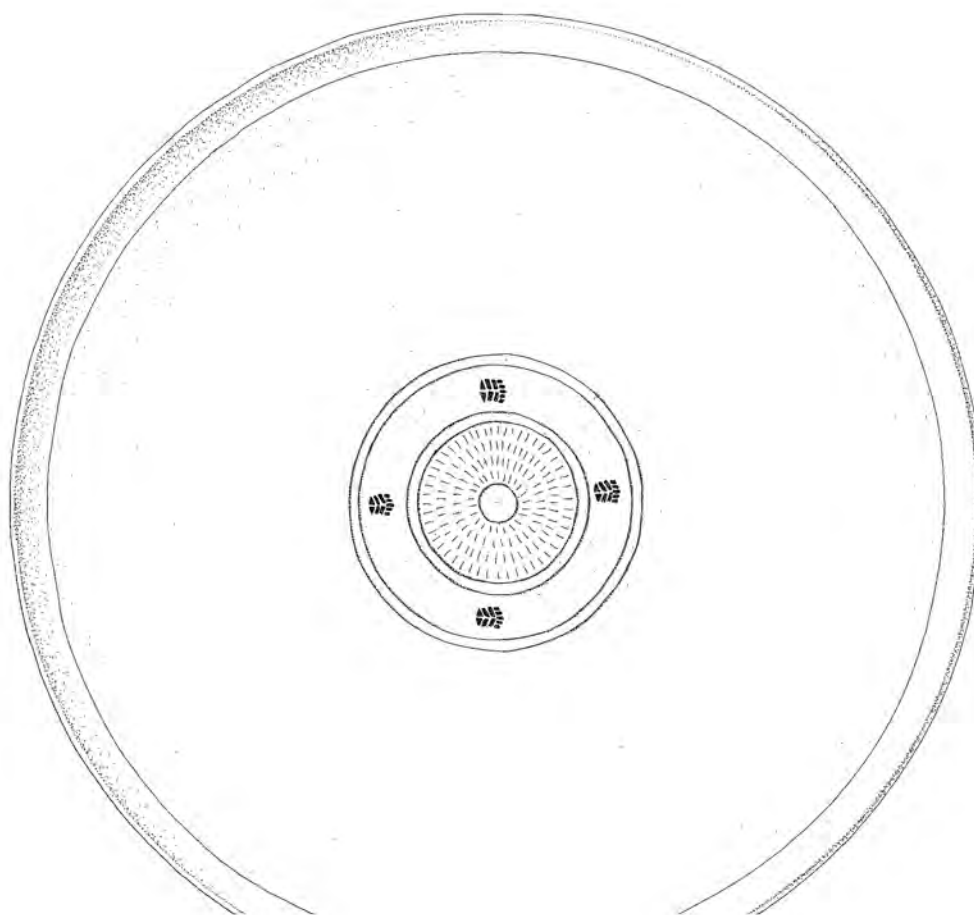
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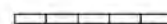
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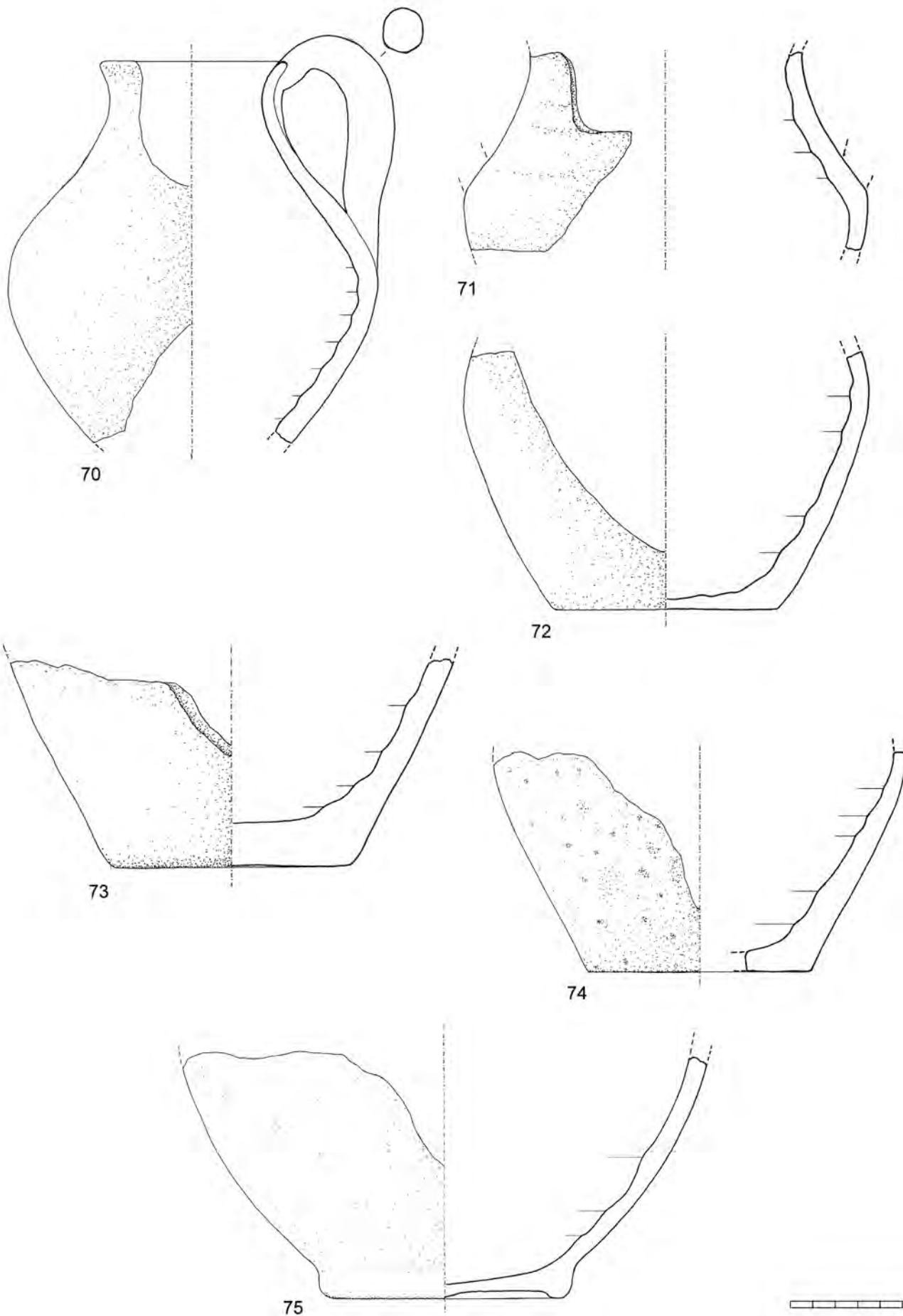
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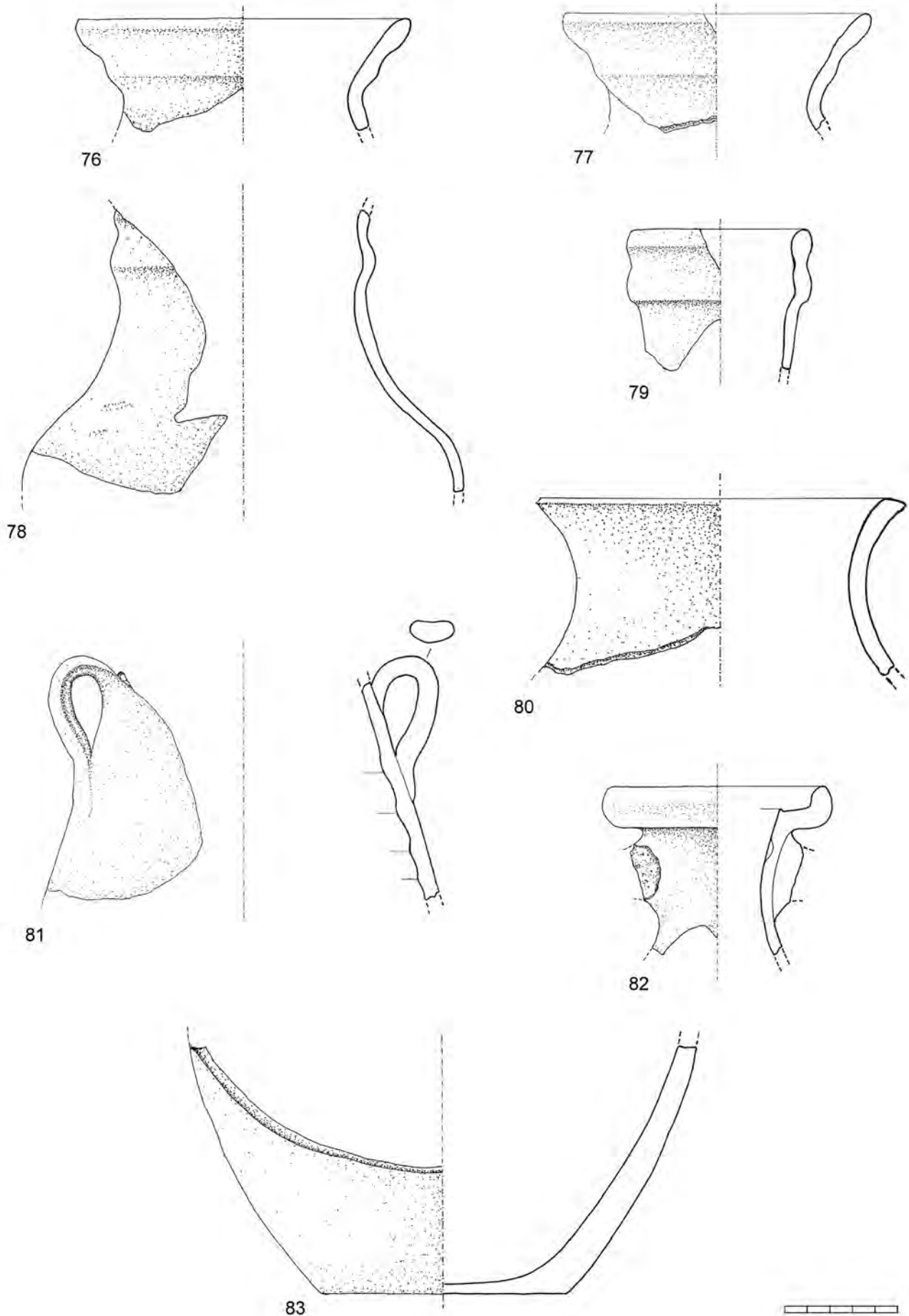
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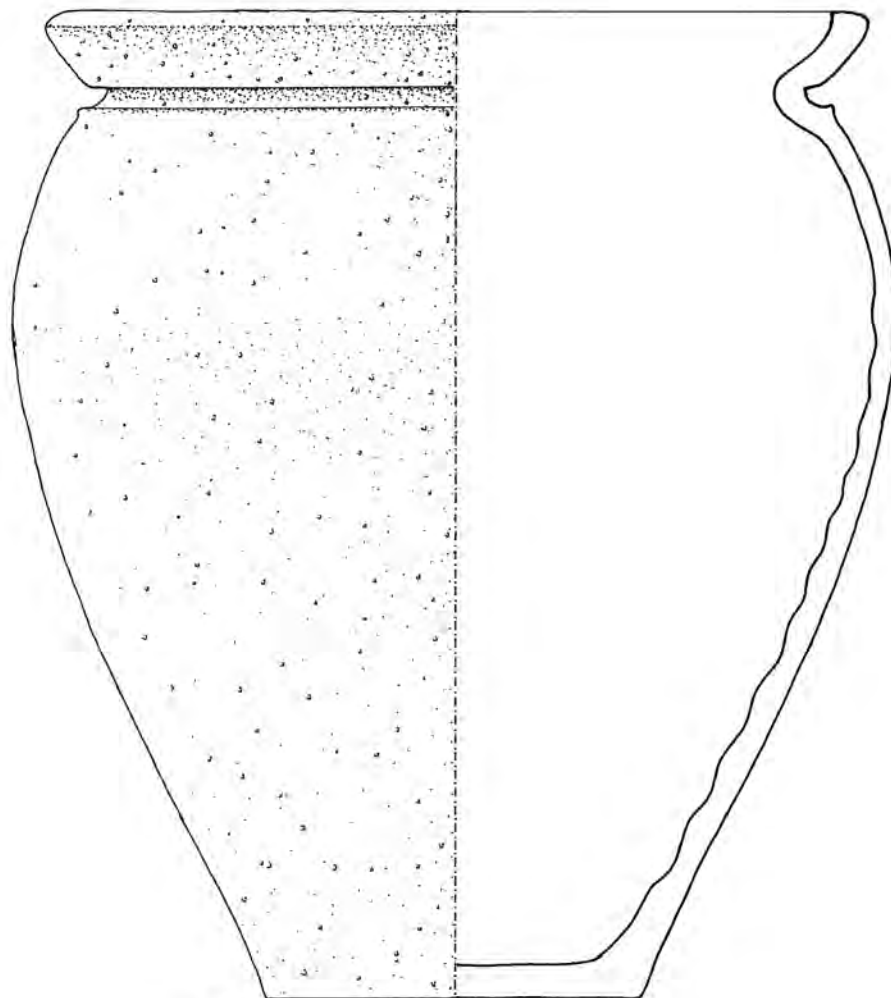
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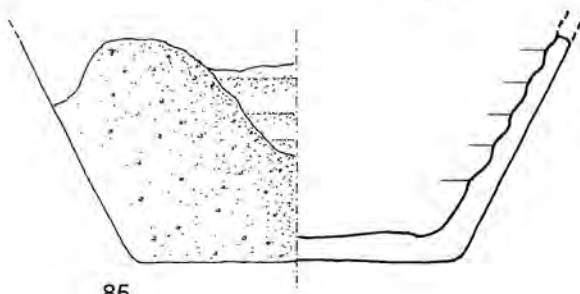
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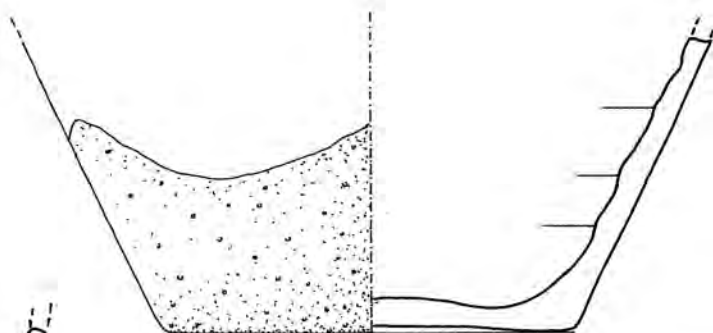
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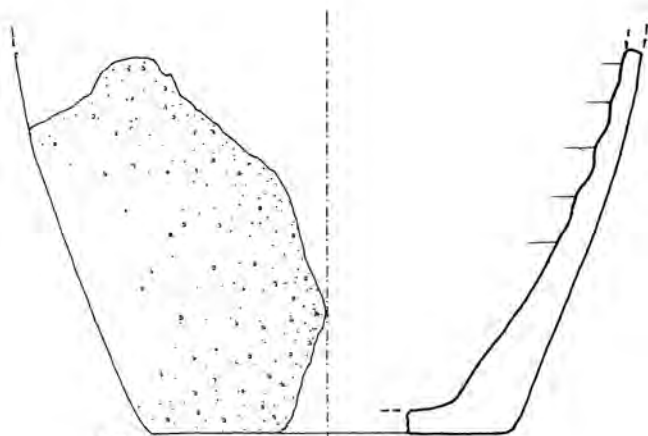
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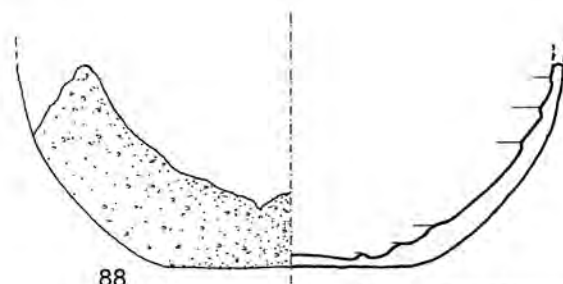
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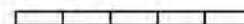
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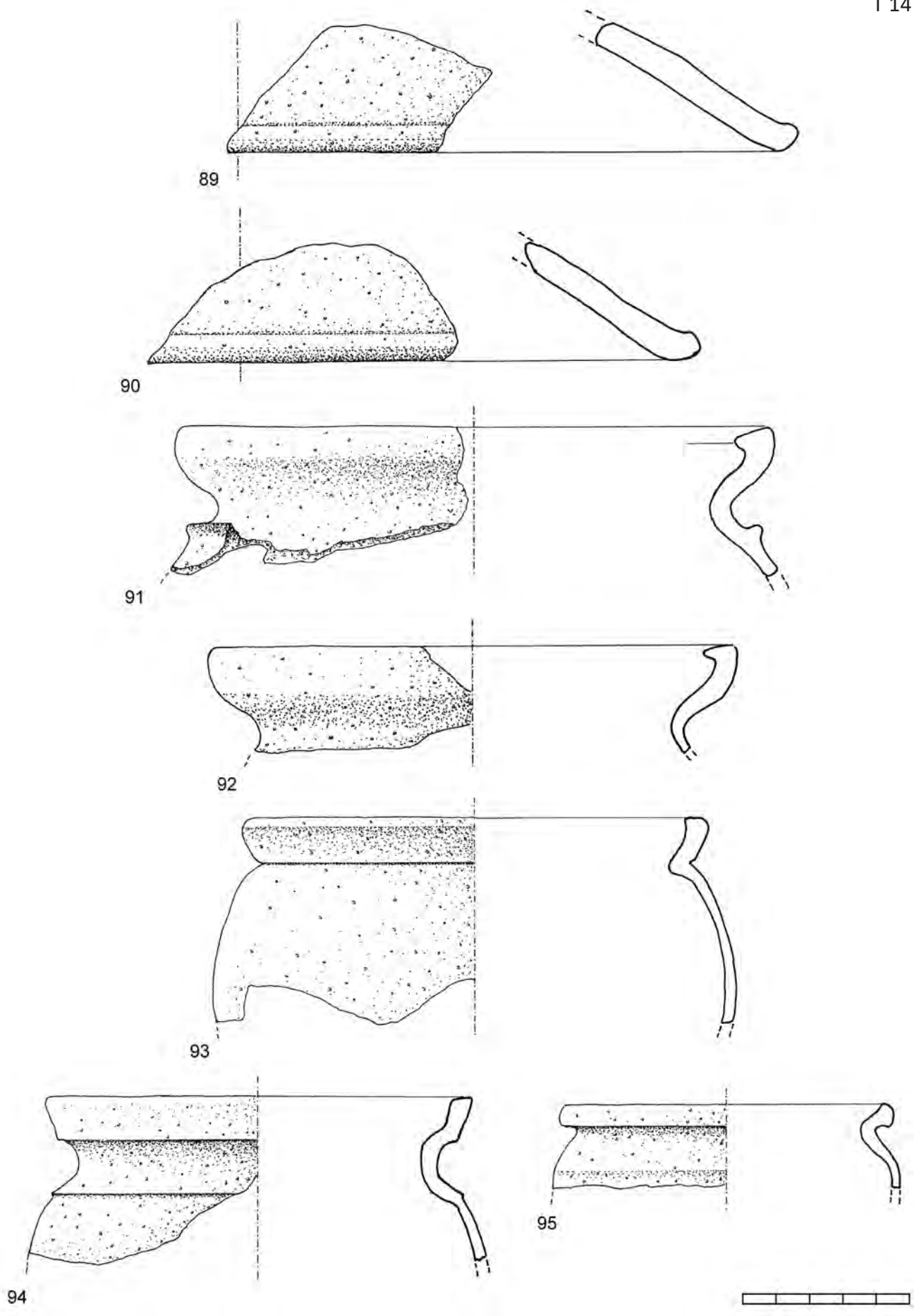
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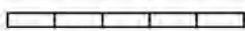
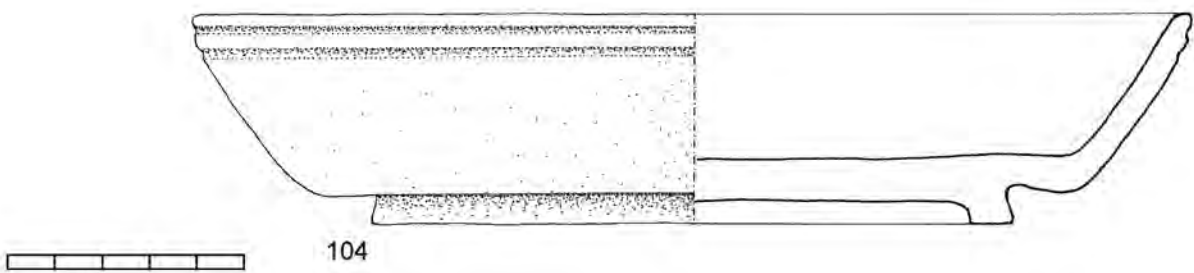
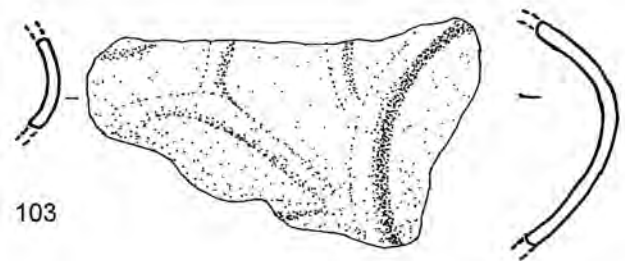
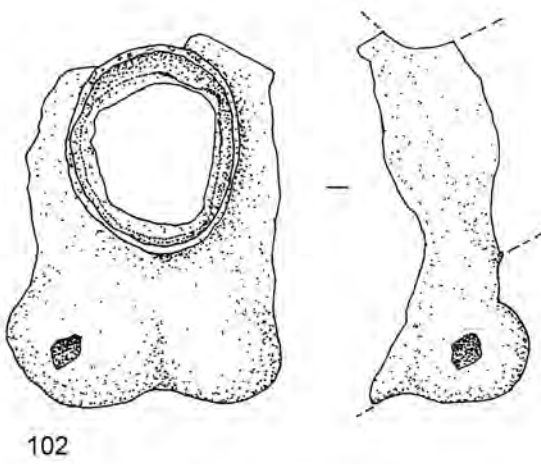
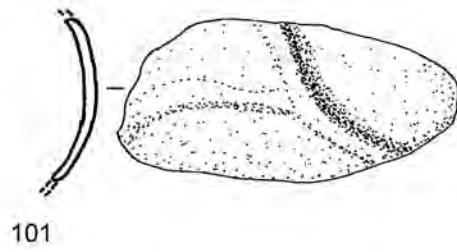
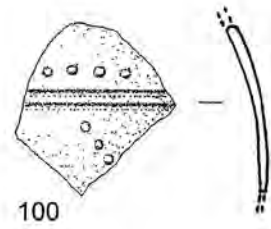
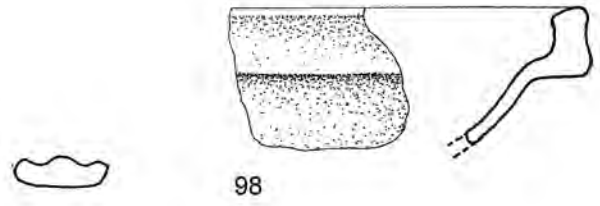
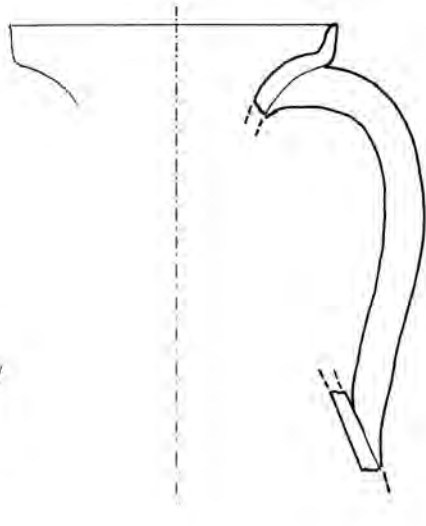
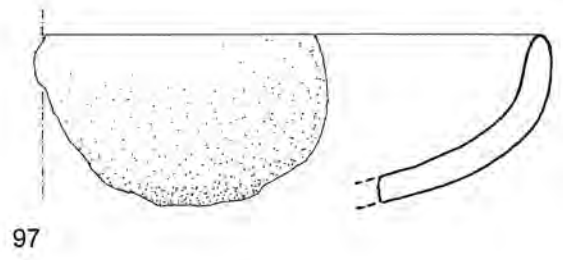
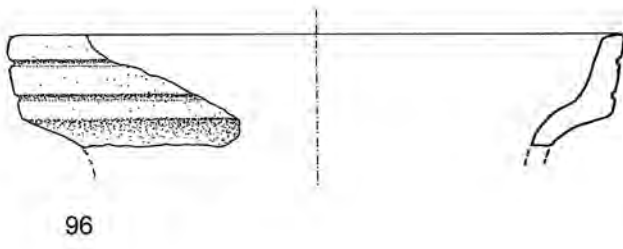
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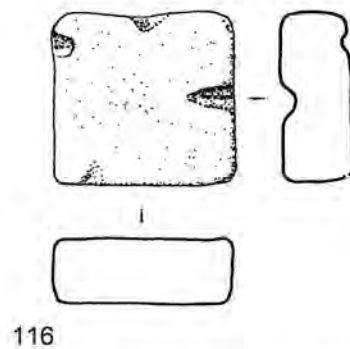
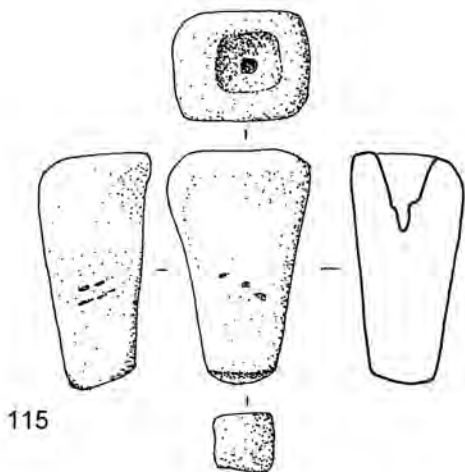
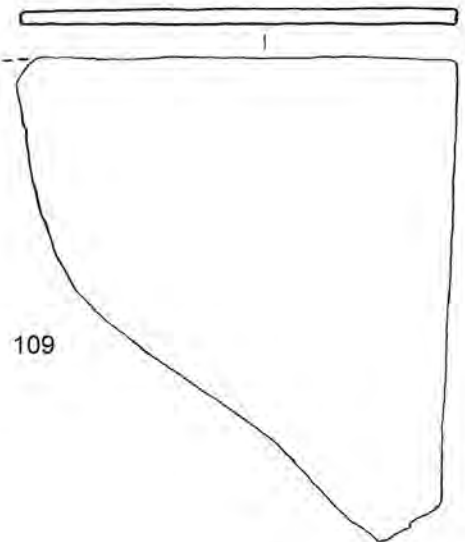
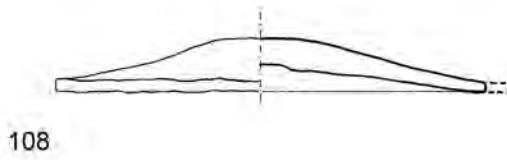
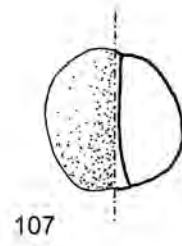
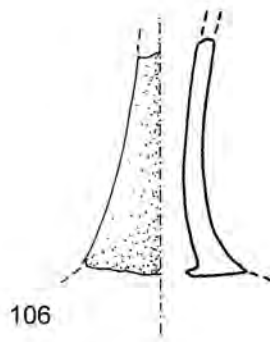
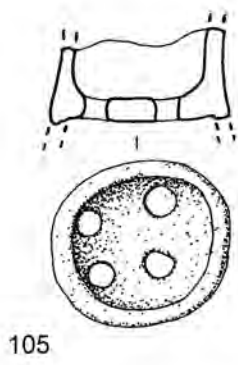
T 14



T 15



T 16



Uljeva B

OPIS

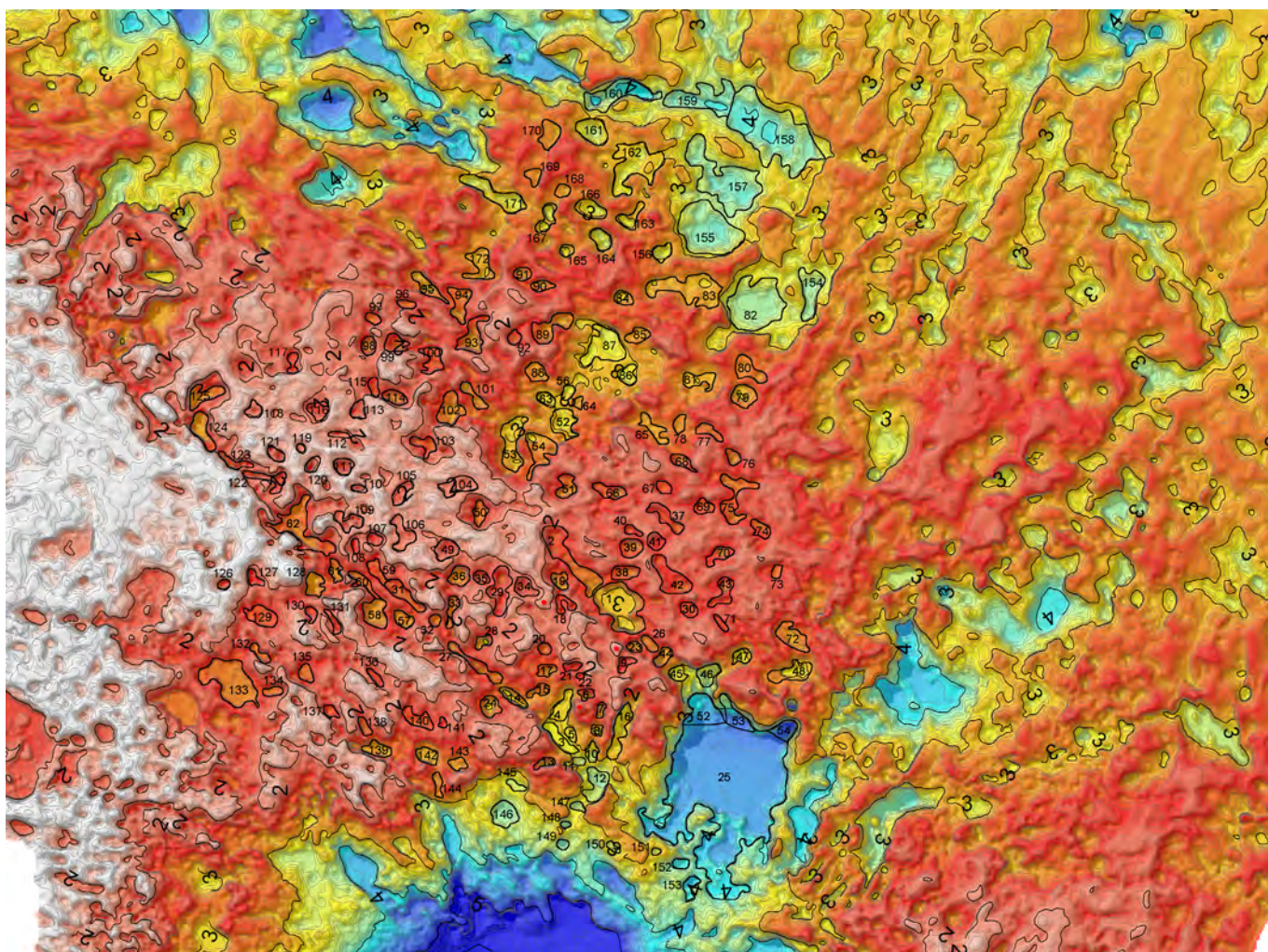
Položaj nalazišta Uljeva B nalazi se oko 70 metara od obale, također sjeverno od zapadnog kraka rta Uljeva. Udaljen je oko stotinjak metara od položaja Uljeva A. Na Uljevi B nema većih ulomaka amfora na površini, ali i ovo mjesto je moguće uočiti zahvaljujući brojnim sitnim keramičkim ulomcima narančaste i crvene boje. Ulomci na površini vrlo su izlizani djelovanjem valova, međutim u škrapama i dubljim usjecima moguće je pronaći i bolje sačuvane ulomke. Morsko dno je ovdje kamenito i pojedine stijene dosežu do metar i pola ispod današnje morske površine. Većinom su stijene na dva metra dubine, a usjeci na tri metra (sl. 39 a). Položaj na kojem se pronalaze brojni ulomci keramike i amfora prostire se na preko tri tisuće metara kvadratnih. Činjenica da je ovo nalazište razvučenije od Uljeve A treba opravdati manjom dubinom i većoj izloženosti valovima.

Nakon početnog prikupljanja nalaza 2009. i 2011. g., prva sondiranja na ovom položaju započeta su 2012. i nastavljena

Uljeva B

DESCRIPTION

The Uljeva B site lies about seventy metres offshore, again to the north of the western arm of Cape Uljeva. It lies about one hundred metres from the Uljeva A position. At Uljeva B we do not see amphorae sherds of any significant size on the surface, but here too the site is clearly visible thanks to the numerous highly fragmented orange and red potsherds. The surface sherds are highly worn due to marine action; in the crevices and deep fissures, however, we do see potsherds in a better state of preservation. The seabed is rocky here and some of the rocks rise to a metre and a half below the current level of the sea surface. Most of the rocks peak at a depth of two metres, with the fissures dropping to a depth of three metres (Fig. 39 a). The position, where we find numerous sherds of amphorae and other pottery, stretches across three thousand square metres. We can attribute the fact that this site is more broadly dispersed than Uljeva A by the lesser depth and, consequently, greater exposure to wave action.



39. a. Jame označene brojevima na podlozi batimetrijske karte / The pits, numbered, overlaid on a bathymetric map (Harpha sea, L. Bekić)



39. b. Položajni nacrt jama s površinski vidljivim nalazima i označene istražene jame / A plan of the positions of the pits with finds visible on the surface, with investigated pits indicated (R. Surić, M. Kaleb)

PIT NO.	TOTAL WEIGHT (kg)	AMPHORA WEIGHT (kg)	AMPHORA NUMBER	AMPHORA BOTTOM	AMPHORA LID	AMPHORA HANDLE	AMPHORA RIM	CERAMICS WEIGHT (kg)	CERAMICS NUMBER	OTHER WEIGHT (kg)	OTHER NUMBER	BALLAST WEIGHT	BALLAST	GLASS
BJ 1	50,0	39,0	486	4	2	7	11	1,740	171	0,022	4	3,350	3	3
BJ 2	3,6	3,1	32	1		1	3	0,369	38		1			
BJ 3	40,4	29,9	262	4		16	8	1,649	88	0,016	1			
BJ 4	4,0	3,9	74	1		2	4	0,210	26					
BJ 6	4,5	4,0	10	1				0,960	4					
BJ 7	0,0													
BJ 8	0,0													
BJ 9	1,7	1,6	9					0,143	7					
BJ 10	2,5	2,0	12					0,427	48					
BJ 11	3,0	2,7	22	2		3	1	0,321	30					
BJ 12	5,5	5,4	39	3		1	1	0,201	24	0,606	1			
BJ 13	0,1	0,1	6					0,006	1					
BJ 14	22,5	17,4	132	1		8	10	3,658	284					
BJ 15	0,3	0,3	1											
BJ 16	2,7	0,5	3			1		0,098	6					
BJ 17	1,0	0,4	11					0,269	29					
BJ 18	0,3	0,3	4											
BJ 19	12,0	9,0	68		1		3	2,017	146					
BJ 20	0,3							0,311	81					
BJ 21	0,7	0,7	4					0,010	2					
BJ 22	1,7	1,7	8				1							
BJ 23	6,4	4,7	39	2				0,665	82					
BJ 24	0,4	0,3	12			1	1	1,046	69					
BJ 25	75,6	59,5	441	2	1	19	8	1,901	136	0,016	1	1,839	1	
BJ 26	3,5	2,2	23				2	0,415	38					
BJ 27	31,8	26,1	173	1		4	1	0,636	180			0,823	1	
BJ 28	4,7	1,8	11					1,975	293					
BJ 30	0,9	0,6	13					0,216	25					
BJ 31	15,9	13,1	128	1		3	1	0,162	11					
BJ 32	11,0	9,5	69					1,165	101					
BJ 33	13,2	11,1	156	1		2	1	1,338	179					
BJ 42	0,2	0,2	2	1		1								
BJ 44	0,6	0,4	6			1	1	0,054	10	0,006	?			
BJ 45	4,3	2,2	12			1		0,125	9					
BJ 46	2,8	1,2	13					0,125	18					
BJ 47	2,8	1,1	7					0,087	16					
BJ 52	15,9	14,9	123	1		2		1,059	131					
BJ 53	4,1	4,0	9			1	1	0,270	16			2,072	1	
BJ 54	15,7	12,5	50	1		2		0,215	14					
BJ 55	42,9	36,3	369	7		10	3	3,814	328					
BJ 56	7,0	4,9	56	1				0,607	73					
BJ 58	13,7	10,5	147	1		6	1	0,080	8					
BJ 59	8,7	4,4	60	3		5	2	0,664	41					
SURFACE	5,7	5,5	28	12		12	7	1,226	72	0,219	3	0,371	2	
COLLECT.	13,5	8,6	23	8	1	7	7	0,24	1					
TOTAL	458,1	357,6	3153	59	5	116	78	30,474	2836	0,885	11	8,455	8	3

40. Tablica s nalazima prikupljenim po jamama / A table showing finds as collected per pit (M. Kaleb)

su 2014., 2015. i 2016. g. I na ovom nalazištu se radilo na sličan način kao i na Uljevi A. Svaka jama i udubina koja je sadržavala nalaze, iskopavala se zasebno i tako jedna za drugom. Sveukupno je izbrojano 172 jama u kojima se nalaze gušće koncentracije nalaza. Na Uljevi B je dosada u cijelosti istraženo 44 jama / cjelina, ali pojedini manji broj nalaza pronađen je u jamama koje nisu do kraja istražene (sl. 39 b). Sveukupno je u jamama pronađeno preko četiri stotine kilograma nalaza. Među njima se nalazilo 3153 ulomaka amfora u težini od 357,6 kilograma. Od toga je bilo razlučeno 77 ulomaka grla ili oboda, 5 čepova, 116 ulomaka ručki i 59 ulomaka šiljaka amfora. Ulomci sitnijeg keramičkog posuđa su zasebno izbrojani i izvagani. Pronađeno je čak 2836 ulomaka, u ukupnoj težini od 30,5 kg (sl. 40). Osim ulomaka amfora i kuhinjskog posuđa pronađeni su čavli, tegule, staklo, dio žrvnja, balastno kamenje i ostalo. Može se reći kako je ovim istraživanjem u šest kampanja iskopana samo četvrtina jama koje sadrže nalaze.

The initial gathering of finds in 2009 and 2011 was followed in 2012 with the first trenching at this site, continued in 2014, 2015 and 2016. The method applied here was largely consistent with the procedures used at Uljeva A. Every pit and cavity that contained artefacts was excavated separately and in succession. In all there were 172 pits counted with denser concentrations of finds. To date 44 pits/contexts have been fully excavated at Uljeva B, with individual smaller quantities of artefacts found in pits that have not been fully excavated (Fig. 39 b). In all over four hundred kilograms of artefacts were recovered in the pits. Among these were 3153 amphorae sherds weighing 357.6 kilograms. Among these sherds 77 neck and rim sherds, five stoppers/seals, 116 handle sherds, and 59 amphora spikes were identified. The sherds of more fragmented ware were separately counted and weighed. 2836 sherds were recovered with a total weight of 30.5 kilograms (Fig. 40). Found along with the amphorae and cooking ware sherds were nails, tegulae, glass, part of a quern, ballast stones and other artefacts. These six campaigns saw the excavation of only a quarter of the pits containing finds.

TERET

Amfore

Mada amfora nije pronađeno mnogo, očito da su one bile dio tereta broda. Amfore su prilično raznovrsne, a zasada se može identificirati nekoliko ključnih tipova.

To su Keay 3B, poznati i kao *Africana Piccolo* ili *Africana 1B*, od kojih je pronađeno više gornjih dijelova (kat. 117 - 123 te još dvadesetak ulomaka oboda). Pretpostavlja se da su ove amfore nastavak proizvodnje tipa Keay 3A tijekom kasnog 3., tijekom 4. te do prve polovine 5. st., a porijeklo im je Byzacena u Tunisu (Keay 1984, 100-109, Fig. 38-40). Kod Bonifaya je najbliži primjerak iz Nabaoul-a, a on ih određuje u skupinu *Africana 1*, kao kasnije inačice svog tipa 21 i datira u drugu polovinu 3. i 4. st. (Bonifay 2004, 107, Fig. 56-8). Očito je da i među amforama Keay 3B s Uljeve postoje manje razlike u obodima, te vjerojatno potječu iz bar dvije različite radionice. Inačica kat. 123 je nešto manja nego ostale. Mada nisu pronađene cjelovite, ovim tipovima prema fakturi i obliku pripadaju šiljci kat. 124-126 što je sukladno i analogijama (Keay 1984, Fig. 41:6).



41. a, b. Amfore tipa *Africana 1B*, lijevo kat. 117, desno kat. 118. / *Africana 1B* form amphorae (left: cat. 117; right: cat. 118) (foto: L. Bekić)

Pronađen je i jedan veći dio amfore tipa Keay 39 (kat. 153), koje se datiraju u 4. i do polovine 5. st. (Keay 1984, 250, fig. 107-1), a također su porijeklom iz Tunisa. Bonifay povezuje tipove Keay 3B *similis* i Keay 39 u tip 34 i datira ih u kraj 4. i početak 5. st. (Bonifay 2004, 129, Fig. 70). Kasnije se ovaj tip amfora bolje rasčlanjuje, datira u 5. st. i proziva Sidi Jdidi

THE CARGO

Amphorae

Although not many amphorae were found, it is clear that they were part of the ship's cargo. The amphorae are quite diverse, with a few key types identified so far.

These are the Keay 3B form, also known as the *Africana Piccolo* or *Africana 1B* form, of which we recovered multiple upper portions (cat. 117–123 and a further twenty or so rim sherds). It is held that these amphorae are a variant of the production of the Keay 3A form in the late third, the fourth, and the first half of the fifth centuries. They originated in Byzacena in Tunisia (Keay 1984, 100–109, Figs. 38–40). In Bonifay the most similar specimen is from Nabaoul, and he classifies them in the *Africana 1* group, as a later variant of his type 21 and dates it to the second half of the third and the fourth century (Bonifay 2004, 107, Figs. 56–8). There are also clearly minor differences in the rims among the Keay 3B amphorae at Uljeva, meaning they probably originated from at least two workshops. The variant listed under catalogue no. 123 is somewhat smaller than the others. Although not

found intact, the amphorae spikes listed under catalogue nos. 124–126, by their fabric and form, are of these types, which is also consistent with the analogies (Keay 1984, Fig. 41:6).

Also found was a large portion of a Keay 39 form amphora (cat. 153), also of Tunisian provenance, with this type dated



42. a, b. Grlo i šiljak amfore tipa Keay 39 (Kat 153, 164) / Neck and spike of a Keay 39 form amphora (cats. 153, 164) (foto: L. Bekić)

4B (Mukai 2016, 11, Fig. 2: 4; Bonifay, Capelli, Moliner 2011, 240, 241, Fig. 5: 9; Fig. 6: 9). Ovom tipu amfore mogao bi pripadati i šiljak kat. 164. Ove amfore su rijetke, i ovo je prvi primjerak zabilježen na Jadranu (Pešić 2019, 219).

Vrlo velik broj ulomaka pripada amforama tipa Spatheion. To su gornji dijelovi s nekoliko inačica oboda i ručki kat. 127 - 138 te pripadajući izduženi šiljci kat. 139 - 146. Ove amfore nastavak su razvoja tipa Keay 25C koje se datiraju uglavnom u rano 4. st. (Keay 1984, 194, Fig. 78). Bonifay navedene amfore ubraja u tip 29 i datira na kraj 4. i početak 5. st. (Bonifay 2004, 122, fig. 65-1). No iz njih se postepeno tijekom 5. st. razvija novi tip amfora, Keay 26 (Keay 1984, 212, Fig. 90, 91) ili češće poznate kao Spatheion amfore. Mada se ponekad teško razlikuju jer su srodne (Keay 1984, 212) uglavnom su Spatheion amfore manje nego Keay 25. Također, češće se javlja tip prevješene oboda te su ručke kraće i priljubljenije uz vrat što su značajke koje se primjećuju i na ulomcima s Uljeve B. Razlika je i u šiljku koji je kod



43. Gornji dio Spatheion amfore (kat. 127) / Upper portion of the Spatheion amphora (cat. 127) (foto: L. Bekić)



to the fourth and first half of the fifth century (Keay 1984, 250, Fig. 107-1). Bonifay combines the Keay 3B *similis* and Keay 39 types into the type 34 and dates them to the late fourth and early fifth century (Bonifay 2004, 129, Fig. 70). Later this amphora type is better articulated, dated to the fifth century and designated as the Sidi Jdi-

di 4B form (Mukai 2016, 11, Fig. 2: 4; Bonifay, Capelli, Moliner 2011, 240, 241, Fig. 5: 9; Fig. 6: 9). Possibly also from this amphora type is the spike listed under catalogue no. 164. These amphorae are rare and this is the first specimen recorded in the Adriatic (Pešić 2019, 219).

A great number of the sherds are from Spatheion type amphorae. These include upper portions with several rim and handle variants (cat. 127-138) and the attendant elongated spikes (cats. 139-146). These amphorae are a continuation in the development of the Keay 25C form, dated largely to the early fourth century (Keay 1984, 194, Fig. 78). Bonifay counts them among the 29 type and dates them to the late fourth and early fifth century (Bonifay 2004, 122, Fig. 65-1). A new type, the Keay 26, is, however, gradually developed from them in the course of the fifth century (Keay 1984, 212, Fig. 90, 91) better known as the Spatheion amphora. And while differentiation is at times difficult given their similarity (Keay 1984, 212), the Spatheion type is generally smaller than the Keay 25. Furthermore, the type with hanging lip is more frequent, with shorter handles closer to the neck, which are the characteristics evident in the sherds from Uljeva B. The spike is also different: on the Spatheion type it is quite elongated and often has a modest broadening at its terminus (cat. 139-146).

The first variant of the Spatheion amphora (Bonifay type 31) is dated to the first half and middle of the fifth century, and the second (Bonifay type 32) to the late fifth and sixth century. There are also miniature Spatheion amphorae that appear in the seventh century (Bonifay 2005, 125, 127). The specimens from Uljeva B can, then, be attributed to the first half of the fifth century.

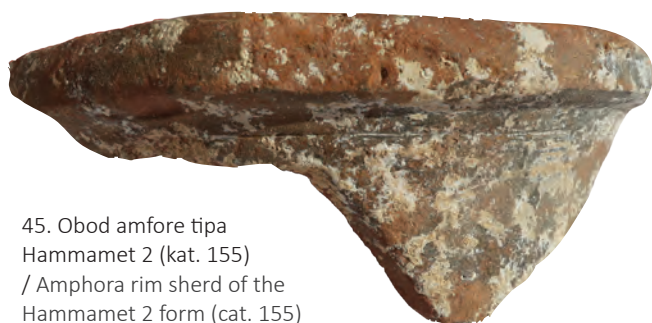
Although these amphorae are a very frequent find in the Adriatic and the Mediterranean in general, the Dramont E wreck, with Keay 25 and multiple variants of Spatheion amphorae (Santamaria 1995, Fig. 36-38; Pl. VI-VIII), is particularly significant as clearly having occurred at a time when there was a transition from one type to the other, namely in the second quarter of the fifth century.

Spatheion amfora sasvim izduljen, često s malo naglašenim proširenjem na njegovom kraju (kat. 139- 146).

Prve inačice amfore Spatheion (Bonifay tip 31) datiraju se u prvu polovinu i sredinu 5. st., a druge (Bonifay tip 32) u kasno 5. i 6. st. dok postoje i minijaturne Spatheion amfore koje se javljaju u 7. st. (Bonifay 2005, 125, 127). Primjerci s Uljeve B mogli bi se dakle pripisati prvoj polovini 5. st.

Mada su ove amfore vrlo čest nalaz na Jadranu i Sredozemlju općenito, vrlo je znakovit brodolom Dramont E, na kojem se nalaze amfore Keay 25 ali i Spatheion amfore u više inačica (Santamaria 1995, Fig. 36-38; Pl. VI-VIII). Brodolom se dogodio očito u vrijeme kada se odvijala tranzicija iz jednog tipa u drugi, odnosno u drugoj četvrtini 5. st.

Nađeno je više ulomaka koji se mogu pripisati široko rasprostranjenom tipu Late Roman 1A amfora (Caravale, Toffoletti 2008, 97, 162) porijeklom sa sredozemnih obala Bliskog istoka. Ovdje su ilustrirana četiri gornja dijela (kat. 147, 148, 149, 150), ali ulomaka ima više. Ovi primjerci nisu identični, ali po svojim obilježjima svi pripadaju ranijoj inačici ovog tipa, LRA1A. Ta obilježja su prvenstveno uže grlo, šire postavljene ručke, često s utorom po dužini (Pieri 1998, 98, 99, Fig. 2, 2012, Fig. 2.3). Ova amfora datira se u kasno 4. st. te u cijelo 5. st. (Opait 2010, 1017) čime se uklapa u vremenski raspon dosada opisanih amfora.



45. Obod amfore tipa Hammamet 2 (kat. 155) / Amphora rim sherd of the Hammamet 2 form (cat. 155) (foto: L. Bekić)

Pojedinačne amfore

Uz ove postoje i ulomci drugih amfora porijeklom iz sjeverne Afrike. Jedan ulomak (kat. 154) pripada tuniskim amforama Keay 59 (Keay 1984, 301, 303, Fig. 130, 131) koje su se proizvodile na jugu *Byzacene* i datiraju od kraja 4. do polovine 5. st. (Bonifay 2004, 132, 474, Fig. 71).

Vrlo sličan je drugi ulomak (kat. 155) koji bi pripadao tipu poznatim kao Hammamet 2, proizvođenim u istoimenom zaljevu (Bonifay 2004, 93, 474, Fig. 50). Njih Bonifay datira od 3. do 5. st. Ovaj obod vjerojatno pripada tipovima D i možda E koji se datiraju u kraj. 4. i cijelo 5. st. (Mukai 2016, 11, Fig. 3:1-5).

Mada su ove dvije amfore slične kod oboda, velika razlika je u ručkama koje su kod Keay 59 veće i postavljene na grlo amfore, dok su kod Hammamet 2 amfora one manje i



44. Ulomak oboda i ručke amfore tipa Late Roman 1 (kat. 127). / Rim and handle sherd from a Late Roman 1 form amphora (cat. 127) (foto: L. Bekić)

Multiple sherds were recovered that can be attributed to the widely disseminated Late Roman 1A amphora form (Caravale, Toffoletti 2008, 97, 162), originating from the Mediterranean shores of the Middle East. Four upper portions are illustrated here (cat. 147, 148, 149, 150), but there are more sherds. These specimens are not identical, but by their characteristics are all of the earlier variant of this type, LRA1A. These characteristics are primarily a narrower neck and more broadly set handles, often with a groove along their length (Pieri 1998, 98, 99, Fig. 2, 2012, Fig. 2.3). This amphora is dated to the late fourth century and the whole of the fifth (Opait 2010, 1017), consistent with the dating range of the previously described amphorae.

Individual Amphorae

Besides the above detailed, there were sherds from other amphorae types of northern African provenance. One such sherd (cat. 154) is from a Tunisian amphora of the Keay 59 form (Keay 1984, 301, 303, Figs. 130, 131) manufactured in the south of Byzacena and dated from the end of the fourth to the mid-fifth century (Bonifay 2004, 132, 474, Fig. 71).

Another sherd (cat. 155) also exhibits great similarity and would be of the type known as Hammamet 2, manufactured in the eponymous bay (Bonifay 2004, 93, 474, Fig. 50). Bonifay dates this type to the third to fifth century. This rim sherd is likely of the D type, perhaps the E type, dated to the late fourth and the whole of the fifth century (Mukai 2016, 11, Fig. 3: 1–5).

Although these two amphorae have similar rims, there is a great difference in the handles, which are larger on the Keay 59 form and set on the neck of the amphora, and smaller and set quite a bit lower on the elongated belly of the Hammamet 2 type amphora. A handle of precisely this kind was recovered (cat. 170) and it would constitute further evidence of the presence of the Hammamet 2 form at Uljeva B (Bonifay 2004, 93, 474, Fig. 50).

An upright thickened rim with a characteristic depression near the lip (cat. 156) is likely of the Africana 2B

postavljene dosta niže, na izduženi trbuh amfore. Upravo takva jedna ručkica je pronađena (kat. 170) te bi ona bila dodatni dokaz za prisutnost tipa Hammamet 2 na Uljevi B (Bonifay 2004, 93, 474, Fig. 50).

Okomito zadebljan obod s karakterističnim udubljenjem pred vrh (kat. 156) vjerojatno pripada amforama tipa Africana 2B „pseudotripolitana” (Bertoldi 2012, 181). One su se proizvodile u Byzaceni u 3. st. (Bonifay 2004, 114, Fig. 59). Donekle slični su i obodi više ulomaka amfora (kat. 157), ali bez karakterističnog utora pod vrhom oboda.

Zaobljen obod amfore kat. 158 možda pripada sličnim obodima amfore tipa Ostia 59 koje se datiraju u 1. st., a potječu iz Byzacene (Bertoldi 2012, 177).

Teško je odrediti tipološku pripadnost niza šiljaka amfora. Tako zadebljani kratki šiljak (kat. 161) možda pripada amfori Keay 35 (Santamaria 1995, 52, Pl.III), izduženiji šiljci (kat. 162 i 163) možda pripadaju tipu Keay 59 kakav je ovdje zastupljen (kat. 154) (Bonifay 2004, Fig. 71:1).

Neobičan šiljak amfore s prstenastim proširenjem (kat. 165) naliči šiljcima amfora tipa Almagro 50 koje su se proizvodile u Luzitaniji u 3. i 4. st. (Bertoldi 2012, 64) ali i šiljcima „kasnoknidske” amfore Mau 38 koja se proizvodila u Knidu od 1. do 3. st. (Bertoldi 2012, 140).

Nekoliko ulomaka šiljaka, grla i ručki amfora ne može se niti približno odrediti (kat. 166, 167, 168, 169, 173).

Nađena je kratka, pločasta i široka ručka koja na sebi nosi jedan slabo čitljiv pečat. Na pečatu se naziru tri slova, GAZ ili HAZ (kat. 171). Sličan pečat sa tekstom GAZ (GAS) poznat je s amfore Keay 7 (Africana IID) koja potječe iz Tunisa (Vidal 2007, 223, Fig. 6) i datira se od ranog 4. do sredine 5. st. (Keay 1984, 123). No faktura ove ručke ne nalikuje onima sjevernoafričke izrade.



46. Dio kratke pločaste ručke (kat. 171) sa slabo čitljivim pečatom / Portion of a short tabular handle (cat. 171) with a poorly readable stamped marking (foto: L. Bekić)

U jami 24 pronađeno je grlo amfore (kat. 172) koje sliči rodskim tipovima. Te amfore datiraju od kasnog 2. do sredine 1. st. pr. Kr., a proizvodile su se na otoku Rodu u južnom Egejskom moru. Vrlo slične amfore pronađene su na brodolomu kod otoka Capraia, Italija (Atauz, Holt, Bartoli, Gambogi, 2011, 6, Fig. 6). Postoje i donekle slične kasnorodske amfore

“pseudo-Tripolitana” variant (Bertoldi 2012, 181). These were produced in Byzacena in the third century (Bonifay 2004, 114, Fig. 59). Somewhat similar are rims of a number of amphorae sherds (cat. 157), but lacking the characteristic groove under the lip of the rim.

A rounded amphora rim sherd (cat. 158) may be from similar rims of the Ostia 59 form, dated to the first century, and also originating from Byzacena (Bertoldi 2012, 177).

For a number of amphorae spikes a typological determination is difficult. Thus, a thickened short spike (cat. 161) may be from a Keay 35 amphora (Santamaria 1995, 52, Pl. III), while more elongated spikes (cat. 162, 163) may be from the Keay 59 type already found here (cat. 154) (Bonifay 2004, Fig. 71:1).

An unusual amphora spike with an annular thickening (cat. 165) is similar to the Almagro 50 form amphorae manufactured in Hispania Lusitana in the third and fourth century (Bertoldi 2012, 64) and to spikes of the Late Knidian Mau 38 amphorae manufactured in Knidos from the first to third century (Bertoldi 2012, 140).

For a number of amphorae spikes, necks and handles we cannot propose an even approximate identification (cat. 166, 167, 168, 169, 173).

A short, tabular and broad handle was recovered bearing a poorly readable stamped marking. We can make out three letters of the stamped cipher: either GAZ or HAZ (cat. 171). A similar stamped marking with the cipher GAZ (GAS) is found on a Keay 7 (Africana IID) amphora originating from Tunisia (Vidal 2007, 223, Fig. 6) and dated from the early fourth to the mid-fifth century (Keay 1984, 123). The fabric of these handles does not, however, resemble those of North African make.

An amphora neck (cat. 172) recovered from pit 24 is reminiscent of the Rhodian types. These amphorae are dated from the late second to mid-first century BCE and were manufactured on the island of Rhodes in the south of the Aegean Sea. Very similar amphorae were found at a wreck off the Italian island of Capraia (Atauz, Holt, Bartoli, Gambogi, 2011, 6, Fig. 6). There are also somewhat similar late Rhodian amphorae dated from the end of the first century BCE to the early second century (Caravale, Toffoletti 2008, 164), and late Knidian amphorae manufactured from the first to the third century (Bertoldi 2012, 140). In these cases, the amphora would be dated too early to be from the wreck at Uljeva B. The third possibility is that the amphora listed under catalogue no. 172 is of the Kapitän 1 form that originates from Aegean workshops and is dated from the late second to the fourth century (Caravale, Toffoletti 2008, 167).

The upper portion of the amphora listed under catalogue no. 174 is certainly of the northern Adriatic Porto Recanati or “funnel necked” type (Bertoldi 2012, 115). They are quite

koje se datiraju od kraja 1. st. pr. Kr. do početka 2. st. (Caravale, Toffoletti 2008, 164) i kasnoknidske koje se proizvode od 1. do 3. st. (Bertoldi 2012, 140). U tim slučajevima amfora bi bila pre-rano datirana da bi pripadala brodolomu Uljeva B. Treća mogućnost je da amfora kat. 172 pripada tipu Kapitän 1, koje potječu iz radionica na Egejskom moru i koje datiraju od kraja 2. do 4. st. (Caravale, Toffoletti 2008, 167).

Gornji dio amfore kat. 174 zasigurno pripada sjevernojadranskoj amfori tipa Portorecanati ili „ljevkastog otvora“ (Bertoldi 2012, 115). Kod nas su dosta česte i datiraju se od početka 1. do sredine 3. st. (Starac 1995, 145).

Nekoliko ulomaka amfora pripada dosta starijim tipovima. Na jugoistočnom dijelu položaja Uljeva B (u i oko J 25) pronađeno je više ulomaka amfora koje se mogu pripisati ranijim inačicama tipa Lamboglia 2. Njih karakteriziraju trokutasti profili oboda, sa širim, izbačenim donjim dijelom (kat. 176, 175, 177, 182, 183). One se uglavnom datiraju u drugu polovinu 2. st. pr. kr. te na sam početak 1. st. pr. Kr. (Starac 1995, 127). Kod nas su pronađene npr. na brodolomu Vela Svitnja na Visu (Cambi 1991, Sl. 5).

Na nalazištu Uljeva B je pronađeno samo nekoliko čepova amfora, točnije njih četiri (kat. 178, 179, 180, 181). Međusobno nalikuju i nisu izrađeni u kalupu već prostoručno. Drška je napravljena nabiranjem mokre gline prije pečenja i to u izduženom obliku. Vrlo slični čepovi pronađeni su na Marzamemi II brodolomu iz 6. st., gdje se smatra da su bili u amforama tipa LRA 1 i LRA 2 (Leidwanger, Tusa 2015, 109, Fig. 6).

Veći broj različitih amfora na jednom brodolomu nije neobičan. Na brodolomu Porticcio A iz sredine 3. st. teret se sastojao od 18 prepoznatih i 8 nepoznatih tipova, no preko 50 posto amfora moglo se odrediti u dva glavna tipa (Alfonsi 2014, 39). Na brodu potonulom kod Levanza u 4. st. zabilježeno je samo 9 tipova amfora, a na njemu se vjerojatno prevozilo uglavnom žito (Royal, Tusa 2012, t. 6, 47). Na vremenski najbližijem brodolomu Dramont E, iz početka 5. st., pronađeno je dvadesetak tipova i podtipova amfora od kojih je desetak pojedinačnih primjeraka (Santamaria 1995). Na Uljevi B osnovni teret u amforama se prevezio u desetak tipova i podtipova amfora, a drugih desetak su pojedinačni ulomci. Neki pojedinačni ulomci vjerojatno ne pripadaju ovom brodolomu, posebice skupina ulomaka ranih Lamboglia 2 amfora.



47. Dio amfore nepoznatog tipa (kat. 172), vjerojatno grčkog porijekla / Portion of an amphora of unknown type (cat. 172), likely of Greek provenance (foto: L. Bekić)

frequent in Croatia and are dated from the early first to mid-third century (Starac 1995, 145).

Several amphorae sherds are from much older types. At the southeast end of the Uljeva B position (in and around J 25) we recovered multiple amphorae sherds that can be attributed to earlier variants of the Lamboglia 2 form. They are characterised by a rim that is triangular in section, with a broader, protruding lower portion (cat. 176, 175, 177, 182, 183). They are dated for the most part to the second half of the second century BCE and to the early first century BCE (Starac 1995, 127). They have previously been recovered in Croatia, for example at the Vela Svitnja wreck site off Vis island (Cambi 1991, Fig. 5).

Only four amphorae stoppers/seals were found at the site (cat. 178, 179, 180, 181). They are all similar and handmade rather than mould made. The stopper handle was formed by drawing up the wet clay into an elongated form prior to firing. Very similar stoppers were recovered at the sixth century Marzamemi II wreck site and have been attributed to LRA 1 and LRA 2 amphorae (Leidwanger, Tusa 2015, 109, Fig. 6).

A greater number of diverse amphorae at a single wreck site is not unusual. At the mid-third century Porticcio A wreck site the cargo was comprised of eighteen identified and eight unidentified types, but over fifty per cent of the amphorae could be attributed to two primary forms (Alfonsi 2014, 39). Only nine amphorae types were identified at the site of a ship that sank at Levanza in the fourth century, but grain likely the constituted the bulk of this ship's cargo (Royal, Tusa 2012, t. 6, 47). Some twenty amphorae types and sub-types, some ten of which were individual specimens, were found at the site of the early fifth century Dramont E wreck, the closest in terms of date to our wreck (Santamaria 1995). At Uljeva B the primary amphorae-packaged cargo was transported in some ten types and sub-types, while the other about ten were indicated by individual sherds. It is likely that some of these individual sherds are not from this wreck, in particular a group of sherds of early Lamboglia 2 amphorae.

Posuđe

Na Uljevi B očito je nastradao i brodski teret veće količine kuhinjskog posuđa. Po cijelom prostoru ove pličine razasute su tisuće ulomaka manjih posuda. Uglavnom su to mali, srednji i veliki trbušasti ili bikonični lonci s razvraćenim obodom te pripadajući poklopci. Uz lonce se pronalaze i zdjele raznih veličina. Svo ovo brojno posuđe, sudeći po oblicima i izradi, pripada radionicama s područja Egejskog mora (poznato i kao *Aegean Coarse Ware*) i zasigurno je bilo namijenjeno daljnjoj prodaji na sjevernom Jadranu.

Kod nas se ova keramika često nalazi na različitim tipovima nalazišta na Jadranskoj obali i zaleđu. Značajni su nalazi u rimskim lukama i pristaništima (Pakoštane - Janice, Parica 2008; Zaton, Taras 2014; Rovinj - Veštar, Pešić 2014), grobljima (Baška - Sv. Marko, Bekić, Višnjčić 2008; Rodik - Pod jezerom, Istenič 1988; Ljubljana, Istenič, Schneider 2000) ili u naseljima (Hruščica, Ljubljana, Istenič, Schneider 2000).

Za nas je posebno važno kako je pronađeno i nekoliko brodoloma sa sličnim teretom.¹⁴ Kao prvo je to Sveti Ivan kod Vignja na Pelješcu (Vrsalović 2011, 117-119; Jurišić 2000, 74; Radaljčac 2017). Kod Sv. Ivana pronađene su veće kaserole s poklopcima, razni trbušasti lonci s poklopcima, razne zdjele te tave s prihvatom za ručku (Vrsalović 2011, T. 39-41; Jurišić 2000, fig. 30-36).

Drugo važno nalazište je Izmetište na Sv. Klimentu kod Paklinskih otoka (Ilakovac 1968; Vrsalović 2011, 116; Jurišić 2000, 32, 33, 65). Na Izmetištu su pronađeni gotovo isti trbušasti lonci, poklopci, zdjele s raširenim obodom i tave s prihvatom za ručku (Vrsalović 2011, T. 43; Jurišić 2000, Fig. 23-29; Radaljčac 2017).

Treći brodolom s teretom Egejske grube keramike se nalazi kod Nerezina, ali nije detaljnije objavljen (Istenič, Schneider 2000). U Pomorskom i povijesnom muzeju Hrvatskog primorja u Rijeci čuvaju se brojni primjerci ovog tipa keramike. Na Nerezinama su zastupljene veće i manje kaserole s bikoničnim tijelom (Istenič, Schneider 2000, Fig. 4: 1, 3) i trbušasti lonci različitih veličina i profila oboda (Istenič, Schneider 2000, Fig. 4: 2, 5, Fig. 5: 1). Tu su i pripadajući poklopci te zdjele za kuhanje i tave za prženje (Istenič, Schneider 2000, Fig. 5: 1-4).

Nalazišta se u literaturi uglavnom datiraju u drugu polovinu 1. st. ili 2. st. Ovakvo posuđe je i kao djelomičan teret bilo zastupljeno na brodolomima Maharac i Veliki Škoj na Mljetu (Jurišić 2000, 35, 37) koji se datiraju u 2. i 3. st. Sumirajući, uz Sv. Ivan, Izmetište, Nerezine, Maharac i Veli Škoj (Jurišić 2000, 37, 38) na Uljevi B je položaj šestog brodoloma na Jadranu koji je kao dio tereta prevezio Egejsku grubu keramiku.

¹⁴ Vrsalović i drugi autori navode veći broj podvodnih nalaza ovog tipa keramike, ali nejasno je i nedovoljno objavljeno podataka o tome na kojim je brodolomima ova keramika bila u funkciji tereta, odnosno robe za daljnju prodaju (Vrsalović 2011, 207; Radaljčac 2017, Sl.10).

Vessels

The cargo of the ship that came to grief at the Uljeva B position clearly included a significant quantity of cooking ware. We see thousands of sherds from ware of smaller formats scattered across the breadth of these shallows. For the most part these are small, mid-sized and larger globular or biconical pots with everted rims and the attendant lids. Besides the pots we also see bowls of various sizes. All of these many vessels, judging by their form and fabrication, originate from Aegean workshops (*Aegean Coarse Ware*) and were certainly intended for further sale in the northern Adriatic.

In Croatia this pottery is a frequent find at a variety of sites along the Adriatic coast and its hinterland. Significant sites include Roman harbours and docks (Pakoštane-Janice, Parica 2008; Zaton, Taras 2014; Rovinj-Veštar, Pešić 2014), cemeteries (Baška-Sveti Marko, Bekić, Višnjčić 2008; Rodik-Pod jezerom, Istenič 1988; Ljubljana, Istenič, Schneider 2000) and settlements (Hruščica, Ljubljana, Istenič, Schneider 2000).

Particularly important to us is the fact that a number of wrecks have also been discovered with similar cargos.¹⁴ First among these is the Sveti Ivan wreck off Viganj on the Pelješac peninsula (Vrsalović 2011, 117-119; Jurišić 2000, 74; Radaljčac 2017). Large casseroles with lids, various globular pots with lids, and various bowls and pans with handle sockets were recovered at the Sveti Ivan site (Vrsalović 2011, T. 39-41; Jurišić 2000, Figs. 30-36).

The second important site is Izmetište on the island of Sveti Klement in the Paklinski island group (Ilakovac 1968; Vrsalović 2011, 116; Jurišić 2000, 32, 33, 65). Almost identical globular pots, lids, bowls with flared rims and pans with handle sockets were found at the Izmetište site (Vrsalović 2011, T. 43; Jurišić 2000, Figs. 23-29; Radaljčac 2017).

The third wreck of a ship carrying a cargo of Aegean Coarse Ware is situated near Nerezine, but has not been published in any greater detail (Istenič, Schneider 2000). Numerous specimens of this type of pottery are kept at the Maritime and History Museum of the Croatian Littoral in Rijeka. Represented at the Nerezine site are large and small biconical casseroles (Istenič, Schneider 2000, Fig. 4: 1, 3), and globular pots of various sizes and rim profiles (Istenič, Schneider 2000, Fig. 4: 2, 5, Fig. 5: 1). We also see the attendant lids, cooking bowls, and frying pans (Istenič, Schneider 2000, Fig. 5: 1-4).

In the literature the sites are dated for the most part to the second half of the first century or to the second century. Ware of this kind is also represented as forming a part of the cargo at the Maharac and Veli Škoj wreck sites off Mljet island (Jurišić 2000, 35, 37), dated to the second and third century.

¹⁴ Vrsalović and other authors cite a significant number of underwater finds of this type of pottery, but the data concerning which of these wrecked ships carried this pottery as cargo for further sale is both unclear and insufficiently published (Vrsalović 2011, 207; Radaljčac 2017, Fig. 10).

Na području Egejskog mora pronađen je jedan brodolom s teretom kuhinjskog posuđa ove vrste (Kourkoumelis, Micha 2002, 22) i to na južnom dijelu kod otoka Syrna. Tu se nalaze brojni trbušasti lonci sa prema gore razvraćenim obodima s vodoravno narebrenim tijelom, lonci s bikoničnim trbuhom od kojih neki imaju i sasvim uspravan obod (Kourkoumelis, Micha 2002, Fig. 6, 7), ali i vrčevi kakvi na Uljevi nisu zastupljeni. Brodolom Smyrna II datira se u 2. st. (Kourkoumelis, Micha 2002, 25).

Na Uljevi B nije pronađen velik broj sačuvanih predmeta kao na Sv. Ivanu i Izmetištu, međutim, pronađen je dosta raznovrsniji teret. Tako je prepoznato preko 10 tipova lonaca i kaserola, nekoliko tipova poklopaca i čepova, više tipova pladnjeva, tanjura, zdjela i tava. Nažalost, ulomci su usitnjeni i često izlizani djelovanjem valova, pa se mnogi ne mogu točnije odrediti u određenu skupinu. Iz istog razloga ne može se jasno odrediti točan broj zastupljenih tipova, već samo aproksimativno izračunati udjele količina ulomaka u određenim skupinama.

Prva skupina su zdjele (kaserole) bikoničnog tijela, s koso prema gore razvraćenim obodom i malim ručicama (T. 27, kat. 184-189). Pronađeno je 30 ulomaka koji bi mogli odgovarati ovoj skupini. Među njima postoje razlike u dimenzijama, ali većinom im je promjer otvora između 15 i 20 cm. Sličnog oblika i dimenzija (13-26 cm) zabilježene su i posudena nalazištu Izmetište (Ilakovac 1968, T. IV. 1755, 1740), a mnogo ih je pronađeno i kod Sv. Ivana (Radaljac 2017, kat. 5-27.), promjera od 13 do 28 cm. Po klasifikaciji J. W. Hayes-a, one pripadaju kaserolama tipa Knossos 2 (Hayes 1983, Fig. 7: 81-89) koje se mogu datirati u sredinu 2. st.

Zatim postoji skupina trbušastih lonaca, bez izraženog bikoniteta, a također s koso prema gore razvraćenim obodom i malim ručicama (T. 28-29, kat. 191-204). Među navedenima postoji više dimenzija. U skupini najvećih su oni s promjerom otvora oko 14-23 cm (oko 49 ulomaka) ali najčešći su lonci

To sum up: Uljeva B is—with Sveti Ivan, Izmetište, Nerezine, Maharac and Veli Škoj (Jurišić 2000, 37, 38)—the sixth Adriatic wreck of a ship transporting a cargo that included Aegean Coarse Ware.

One wreck has been discovered off the southern Aegean island of Syrna with a cargo of cooking ware of this kind (Kourkoumelis, Micha 2002, 22). Here we also have numerous globular pots with upwardly sloped everted rims and horizontally ribbed bodies, pots with biconical bellies, some of which have an entirely upright rim (Kourkoumelis, Micha 2002, Fig. 6, 7), and jugs the likes of which are not represented at Uljeva. The Smyrna II wreck is dated to the second century (Kourkoumelis, Micha 2002, 25).

And while the number of artefacts recovered at Uljeva is not as great as that found at Sveti Ivan and at Izmetište, the diversity of the cargo is quite a bit greater. Thus, we have identified over ten types of pots and casseroles, several types of lids and stoppers, and multiple types of platters, dishes, bowls and pans. The sherds, are unfortunately, highly fragmented and often worn by wave action, such that many cannot with a greater level of confidence be attributed to a specific group. It is for the same reason that we cannot clearly determine an exact number of represented types and only offer an approximate calculation of the proportion of sherds attributable to a given group.

The first group is comprised of biconical bowls (casseroles) with upward slanted everted rims and small handles (T. 27, cat. 184–189). Thirty sherds were recovered that may be attributable to this group. There are among them difference in dimensions, but for the most part the diameter of the mouth ranges from 15 to 20 cm. Of similar form and size (13–26 cm), they have also been recorded at the Izmetište site (Ilakovac 1968, T. IV. 1755, 1740), and many have been found at Sveti Ivan (Radaljac 2017, cat. 5–27), with diameters ranging from 13 to 28 cm. In the classification proposed by J. W. Hayes



48. a, b. Gornji dijelovi manjih trbušastih lonaca (kat. 225, 226). / Upper portions of small globular pots (cat. 225, 226) (foto: L. Bekić)

srednje veličine s promjerom otvora od 14 do 16 cm (oko 240 ulomaka). Postoji i skupina manjih lončića s promjerom otvora od 10 do 13 cm (T. 32, kat. 224-227), a takvima se može pripisati oko 18 ulomaka. Ovim skupinama trbušastih lonaca moglo bi se pripisati još desetine pronađenih ulomaka, ali za njih je teško ustanoviti kojoj dimenziji su pripadali. Neobično je da se u skupini trbušastih lonaca na Uljevi B rijetko pojavljuju primjerci s blago naglašenim vodoravnim crtama na širem dijelu (kao npr. kat. 193, 195, 196) mada je to vrlo česta značajka na loncima ovog tipa na ostalim nalazištima.

Tipološki, sve su to kuhinjski lonci tipa Knossos 2 (Hayes 1983, Fig. 5: 58-63) koji se mogu datirati oko sredine 2. st.

Trbušasti lonci srednjih i manjih dimenzija postoje i u inačicama s drugačijim završetkom oboda. Neke inačice imaju vrat s naglašenim prijelazom u rame i kraće trokutaste obode usmjerene prema dolje (kat. 205, 207, 210, oko 27 ulomaka). Druge pak nemaju naglašen prijelaz iz vrata i imaju malo duže, trakaste obode usmjerene prema dolje (kat. 208, 209, 211, oko 26 ulomaka).

Kuhinjski lonci kat. 205, 207 i 210 vjerojatno pripadaju tipu Knossos 2 (Hayes 1983, Fig. 5: 56-57), a možda i još poneki s trokutastim obodima usmjerenim prema dolje, a predložena datacija je prije sredine 2. st. No ulomci kuhinjskih lonaca s prema dolje usmjerenim trakastim obodima, poput kat. 208, 209, 211 nalikuju Knossos tipu 3 kuhinjskih lonaca koji bi se već datirali u 3. st. (Hayes 1983, Fig. 7: 90).

Neki mali lonci pak imaju sasvim kratak obod, uglavnom vodoravno odrezan (kat. 217, 218, 219). Takvi su uglavnom manjih dimenzija i ima ih oko 32 komada, a na nekim ulomcima su vidljive ručnice. Oni pripadaju tipu malih lonaca za kuhanje Knossos 4 (Hayes 1983, Fig. 6: 67-71).

Oko pet ulomaka pripada skupini sa sasvim uspravno uzdignutim obodima (kat. 222, 223). Oni su vjerojatno dijelovi kaserola s bikoničnim tijelom (Hayes 1983, Fig. 7: 79).

Trbušasti lonci s na gore razvraćenim obodom i ručnicama, dimenzija otvora 12-13 cm postoje i na nalazištu Izmetište (Ilakovac 1968, T. III. 1746). Kod Sv. Ivana pronađeni su slični lonci u promjerima otvora od 14 do 20 cm (Radaljic 2017, kat. 28.-32.).

Uz navedene inačice trbušastih lonaca pronalaze se i poneki pojedinačno sačuvani ulomci s drugačijim oblicima oboda za koje nije posve jasno kojoj vrsti bi pripadali (kat. 216, 212, 214, 213, 216, 221).

Loncima Egejske grube keramike pripadaju i poklopci s nepravilo izvedenom drškom na vrhu. Ulomaka manjih inačica poklopaca (kat. 239, 240, 241, 242) pronađeno je 21, a većih (kat. 243) oko 16 ulomaka. Ovim poklopcima pripadaju rubovi sasvim blago naglašenog oboda (kat. 236, 237, 238). Brojni poklopci raznih dimenzija nađeni su i na Izmetištu (Ilakovac 1968, T. IV. 1750, 1720) te na Sv. Ivanu gdje imaju od 12 do 25 cm promjera (Radaljic 2017, kat. 51-59). Za sada je nejasno

they fall under the Knossos 2 type casserole (Hayes 1983, Fig. 7: 81-89) dated to the mid-second century.

The following group is comprised of globular pots, without emphasised biconcavity, also with upwardly sloped everted rims and small handles (T. 28-29, cat. 191-204). Among these we see multiple sizes. The largest have a mouth diameter ranging from about 14-23 cm (about 49 sherds), but most of the pots are mid-sized with mouths having a diameter of from 14-16 cm (about 240 sherds). There is also a group of smaller pots with mouth diameters ranging from 10-13 cm (T. 32, cat. 224-227), to which we can attribute about 18 sherds. Tens of other recovered sherds could be attributed to these groups of globular pots, but the size of the vessel they came from is difficult to ascertain. What is unusual about the group of globular pots at Uljeva B is the rarity of the specimens with slightly emphasised horizontal lines on the broader part (e.g. cat. 193, 195, 196) in spite of this being a very frequent characteristic of pots of this type at other sites.

In terms of the typology, these are all pots of the Knossos 2 type (Hayes 1983, Fig. 5: 58-63) which can be dated to around the mid-second century. There are also medium sized and small globular pots in variants with differing rim terminations. Some variants had a neck with an emphasised transition to the shoulder and shorter downward pointing triangular rims (cat. 205, 207, 210; about 27 sherds). Others do not have an emphasised transition from the neck and have somewhat longer, downward pointing strap-like rims (cat. 208, 209, 211; about 26 sherds).

The cooking pots listed under catalogue nos. 205, 207 and 210 are likely of the Knossos 2 type (Hayes 1983, Fig. 5: 56-57), as are, possibly, some other pieces with downward pointing triangular rims, with the proposed date putting them in the mid-second century. The cooking pots with downward pointing strap-like rims, such as those listed under catalogue



49. Varijacija lonca s obodom usmjerenim nadolje (kat. 207) / Variants of pots with downward pointing rims (cat. 207) (foto: L. Bekić)

50. Lonac s trokutastim profilom oboda (kat. 215) / A pot with a rim of triangular section (cat. 215) (foto: L. Bekić)

kakvim poklopcima pripadaju rubovi kat. 234 i 235.

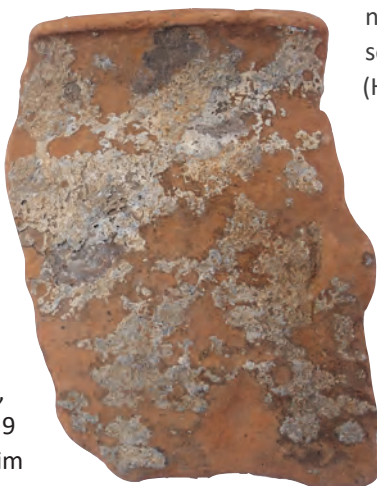
Sačuvana dna Egejske grube keramike ilustrirana su na tabli 34. Nađeni su u tri glavne inačice, a promjera su oko 3 cm. Ponajprije su to dna s oblim, postepenim širenjem prema trbuhu (kat. 245, 246, 247, 248) kojih je prepoznato oko 9 ulomaka. Oni bi pripadali trbušastim, oblim loncima s prema gore u koso razvraćenim obodom. Zatim su nađena slična dna ali s naglašenim prijelazom iz dna u trbuh (kat. 250, 252, 254, 256, 258). Njih je sačuvano oko 14 komada. Ovakva dna karakteristična su za lončiče s jednom ručkom i gotovo uspravno uzdignutim obodom (npr. Radaljac 2017, kat. 44–50) ali ovakve varijante gornjeg dijela lonca na Uljevi B nisu zabilježene. Obje varijacije dna, promjera oko 3 cm, zabilježene su i na lončićima na nalazištu Izmetište (Ilakovac 1968, T. II. 1758, 1724, 1742).

Uz dna lonaca prisutna je i skupina malo većih dna (5–6 cm) koja imaju konkavno uzdignuti donji dio (kat. 251, 253, 255, 257). Njih ima oko šest komada. Ova dna mogla bi pripadati vrčevima Egejske grube keramike. Slično dno (kat. 251) postoji na vrču s nalazišta Izmetište (Ilakovac 1968, T. III. 1749). Nekom vrču vjerojatno pripada i dno kat. 249., ali nejasno kakvom.

Važan dio tereta Egejske grube keramike bile su i plitke zdjele sa širokim vodoravnim obodom, njih sveukupno 72 ulomka. Pronađene su u raznim stupnjevima očuvanosti (kat. 259, 260, 261, 262, 263, 265) s promjerima otvora oko 20 cm. Na nalazištu Izmetište ovakve zdjele (plitice) su promjera između 28 i 34 cm (Ilakovac 1968, T. IV. 1764, T. V. 1762). Plitke zdjele sa vodoravno razvraćenim širokim obodom zabilježene



51. Dno posude s konkavno uzdignutim dnom (kat. 253), možda od vrča / The base of a vessel with a concave bottom face (cat. 253), possibly a jug (foto: L. Bekić)



nos. 208, 209 and 211 are reminiscent of the Knossos 3 type cooking pots, dated to the third century (Hayes 1983, Fig. 7: 90).

Some small pots exhibit quite short rims, mostly flat-topped (cat. 217, 218, 219). These are for the most part of smaller size and are represented by some 32 sherds, with small handles visible on some. They are of the Knossos 4 small cooking pot type (Hayes 1983, Fig. 6: 67–71).

Some five sherds are from the group of entirely upright rims (cat. 222, 223). These are likely part of biconical casseroles (Hayes 1983, Fig. 7: 79).

We also see globular pots with upward sloping everted rims and small handles, with mouth diameters of from 12 to 13 cm, at the Izmetište site (Ilakovac 1968, T. III. 1746). Similar pots were found at the Sveti Ivan site with mouth diameters of from 14 to 20 cm (Radaljac 2017, cat. 28–32). Found along with the mentioned variants of globular pots are individual preserved sherds with differing rim forms for which it is not entirely clear to what type of ware they are from (cat. 216, 212, 214, 213, 216, 221).

Also of the Aegean Coarse Ware group are lids with irregular handles at their peak. Twenty-one sherds were found from smaller lid variants (cat. 239, 240, 241, 242) and about 16 from larger lids (cat. 243). It is to these lids that we can attribute very slightly emphasised rims (cat. 236, 237, 238). Numerous lids of various sizes were also recovered at the Izmetište site (Ilakovac 1968, T. IV. 1750, 1720) and at the Sveti Ivan site, where their diameter ranges from 12 to 25 cm (Radaljac 2017, cat. 51–59). It is unclear to what type of lids the edge sherds listed under catalogue nos. 234 and 235 belong.

The preserved bases of Aegean Coarse Ware are illustrated on Plate 34. Three dominant variants were found, with diameters of around three centimetres. The first is a base with a gradual and rounded widening towards the belly of the vessel (cat. 245, 246, 247, 248) of which about nine sherds were identified. These would be from globular, rounded pots with upwardly sloped everted rims. The following finds are of similar bases, but with an emphasised transition from the base to the belly of the vessel (cat. 250, 252, 254, 256, 258). About 14 such pieces are preserved. Bases of this kind are characteristic of small single-handled pots with almost entirely upright rims (e.g. Radaljac 2017, cat. 44–50) but these variants of the upper portion of pots have not been registered at Uljeva B. Both base variations, with diameters of about three centimetres, have also been found at small pots at the Izmetište site (Ilakovac 1968, T. II. 1758, 1724, 1742).

Present along with these pot bases is a group of somewhat larger bases (5–6 cm) with a concave bottom face (cat.

52. Drška tave (kat. 277) s utorom za drveni nastavak / Wooden pan handle socket (cat. 277) (foto: L. Bekić)



su i na Sv. Ivanu, a promjeri otvora su od 22 do 38 cm (Radaljac 2017, kat. 38-42).

Takve zdjele brojne su i u Knosu, u svim tim varijacijama nagiba pločastog oboda i uvrštavaju se u skupinu „posuđa za kuhanje” Knossos tip 2 (Hayes 1983, Fig. 9: 103-109), a datiraju u 2. i 3. st.

Među rjeđe oblike Egejske grube keramike mogu se pripisati i tave s drškom, odnosno nasadom za drvenu dršku. Promjer otvora je od 25 do 30 cm, a pronađeno je 29 ulomaka sveukupno. Neki ulomci su sačuvani bez drške (kat. 270, 271, 272) dok neki imaju dršku ili su drške pronađene odvojene (kat. 273, 274, 275, 277). I na Izmetištu je pronađena tava promjera otvora 35 cm s drškom za nasad (Ilakovac 1968, T. V. 1763). Na Sv. Ivanu pronađeno je više tava raznih dimenzija. Promjeri otvora variraju od 29-35 cm (Radaljac 2017, kat. 33-36.). Tave za prženje s utorom za dršku pojavljuju se u Knosu i postavljaju se u skupinu „posuđa za kuhanje” Knossos tip 1 (Hayes 1983, Fig. 9: 99-102), a datiraju u 2. i 3. st.

Za lonce Egejske grube keramike inače je tipično da su im na trbusima izražene vodoravne crte ili čak plitka rebra, kao tragovi izrade. Na nalazištu Uljeva B, ta osobina je minimalno izražena i pronađeno je samo par desetaka ulomaka koji nose takve odlike (npr. kat. 193, 195, 196, 207, 215, 230). Nekoliko ulomaka keramike također ima vodoravne crte (kat. 229) ili plitka vodoravna rebra (kat. 231) ali ovi ulomci se ne mogu pripisati Egejskoj gruboj keramici.

Ostali ulomci posuđa

Vrlo su neobične velike posude sa ravnim dnom koje su na Uljevi B pronađene u 5 primjeraka (kat. 159, 160). Moguće je da pripadaju skupini velikih posuda „bassins” kako se nazivaju u stručnoj literaturi. No, na svim ulomcima ovakvih velikih posuda s Uljeve B postoje ukrasi nepravilno okomito izvedenih crta, utisnutih u još mokru glinu (sl. 53). Ova karakteristika nije još zabilježena u literaturi pa se tako ne može navesti neka točnija paralela. U fakturi posuda se površinski vide mali zaobljeni kvarcni kamenčići, tipični za primjese sjevernoafričkog putinjskog pijeska u glini, pa se i ove posude mogu pripisati teretu s tog područja.

251, 253, 255, 257). There are about six of these. These bases could be attributed to Aegean Coarse Ware jugs. A similar base (cat. 251) is also seen on a jug recovered at the Izmetište site (Ilakovac 1968, T. III. 1749). The base portion listed under catalogue no. 249 is also likely from a jug, but its precise form is unclear.

An important part of the cargo of Aegean Coarse Ware were shallow bowls with broad ledge rims, of which 72 sherds were recovered. They were found in various levels of preservation (cat. 259, 260, 261, 262, 263, 265) and with mouth diameters of about 20 cm. At the Izmetište site these kinds of bowls (platters) have a diameter of between 28 and 34 cm (Ilakovac 1968, T. IV. 1764, T. V. 1762). Shallow bowls with broad everted horizontal ledge rims have also been registered at the Sveti Ivan site with mouth diameters ranging from 22 to 38 cm (Radaljac 2017, cat. 38-42).

Bowls of this kind are numerous at Knossos in all of these variations of slope of the ledge rim; they are numbered among the Knossos 2 type cooking ware (Hayes 1983, Fig. 9: 103-109) and dated to the second and third century.

Among finds attributable to rarer forms of Aegean Coarse Ware are pans with handles, or sockets for wooden handles. The mouth diameter ranges from 25 to 30 cm, and a total of 29 sherds were recovered. Some sherds were preserved without handles (cat. 270, 271, 272) while others have a handle, or a handle was recovered separately (cat. 273, 274, 275, 277). A pan was also found at the Izmetište site with a 35 cm mouth diameter and a handle socket (Ilakovac 1968, T.V. 1763). Multiple pans of varying sizes were recovered at the Sveti Ivan site. The mouth diameters vary from 29 to 35 cm (Radaljac 2017, cat. 33-36). We see frying pans with handle sockets in Knossos, categorised as Knossos 1 type cooking ware (Hayes 1983, Fig. 9: 99-102) and dated to the second and third century.

Typical of Aegean Coarse Ware pots are emphasised horizontal lines or even shallow ribs on the belly as traces of fabrication. At the Uljeva B site this characteristic is minimally present and found on only a few dozen sherds bearing this trait (e.g. cat. 193, 195, 196, 207, 215, 230). Several other potsherds also have horizontal lines (cat. 229) or shallow horizontal ribs (cat. 231) but these cannot be attributed to Aegean Coarse Ware.

Other Potsherds

Five specimens were found at Uljeva B of very unusual large flat-bottomed vessels (cat. 159, 160). These may be from the group of large ware referred to in the specialist literature as basins. All of the sherds of these large vessels recovered at Uljeva B, however, bear a decoration of irregular vertical lines, impressed into the wet clay (Fig. 53). This characteristic has not been recorded in the literature and we cannot cite any



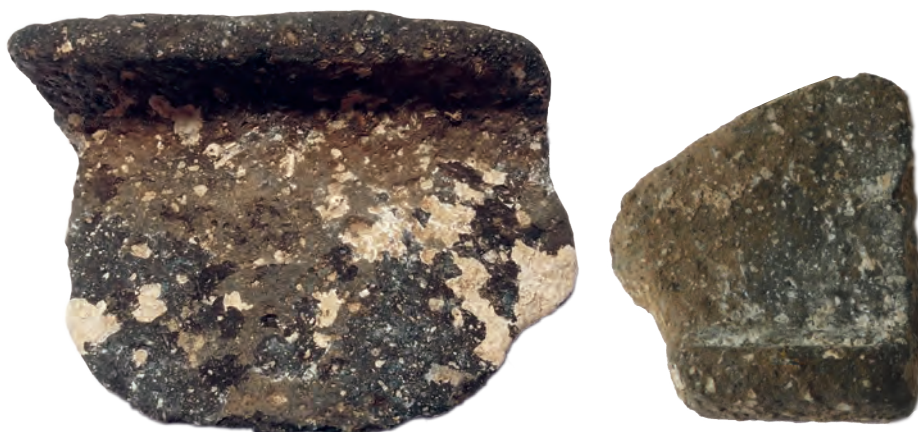
53. Donji dio velike posude (kat. 159) s ravnim dnom i okomitim urezima / Lower portion of a large flat-bottomed vessel (cat. 159) with vertical incisions (foto: L. Bekić)

Za obod lonca (kat. 220) crne boje, s mnogo primjesa drobljenog vapnenca, može se zaključiti kako pripada lokalnoj proizvodnji sjevernojadranskog prostora. Takvi lonci pronalazeni su na mnogim priobalnim nalazištima sjevernog Jadrana ali u predalpskom prostoru, posebice u Noriku. Zbog toga se u stručnoj literaturi ova skupina posuđa naziva *Südostalpinen Gebrauchskeramik* ili *Hauskeramik* (Bierbrauer 1987, 1988). Ovom loncu mogao je pripadati i poklopac, kojem je sačuvan obod (kat. 232). Po fakturi i tipološkim osobinama i on pripada skupini Južnoalpske kuhinjske keramike. Najbliže usporedbe nalazimo u Veštru (Bekić 2014d, kat. 18, 19; kat. 59). Po istim pokazateljima ovoj skupini keramike pripada i dno lonca (kat. 244) s neobičnim četvrtastim utorom na donjem dijelu.

U neodređene ulomke keramike mogu se pripisati dijelovi trbuha lonca ili vrča s izraženim vodoravnim crtama (kat. 229) i vodoravnim rebrastim izbočinama (kat. 231). Također je vrlo

close parallels. In the fabric of the ware we see on the surface small-grained rounded quartz pebbles, typical of a temper of North African desert sand in the clay body, such that we can also attribute this ware to cargo transported from this region.

Of a black coloured pot rim sherd (cat. 220) with abundant temper of crushed limestone, we can conclude that it is of local northern Adriatic production. Pots of this kinds have been found at many northern Adriatic coastal sites and in the Prealps (the Alpine foothills), especially in Noricum. In the specialist literature we see this group referred to as *Südostalpinen Gebrauchskeramik* or *Hauskeramik* (Bierbrauer 1987, 1988). A preserved rim sherd (cat. 232) may be from this pot's lid. In terms of fabric and typological characteristics it too is of the southern Alpine cooking ware group. We find the closest analogues at the Veštar site (Bekić 2014d, cat. 18, 19; cat. 59). Based on the same indicators a pot base sherd (cat. 244) with an unusual square groove on the bottom is also from this group of pottery.



54. a, b. Obod lonca i poklopca Južnoalpske kuhinjske keramike (kat. 220, 232) / Rim sherds of a pot and lid of southern Alpine cooking ware (cat. 220, 232) (foto: L. Bekić)



55. a, b. Ulomci posuda s vodoravno postavljenim oblim ručkama- drškama (kat. 267, 268) / Sherds of vessels with horizontal rounded (tab) handles (cat. 267, 268) (foto: L. Bekić)



neobičan obod zdjele kat. 264. Ona nalikuje sjevernoafričkim kaserolama tipa Fulford 1 koje se pronalaze u kontekstima 5. st. (Mukai 2016, 150, Fig. 102: 20). Na ulomku s Uljeve vidljivo je oštećenje na obodu koje svojim karakteristikama ukazuje kako je na obod bila priljepljena neka drška. Takve drške nisu rijetke na sjevernoafričkim kaserolama 5. st.

Gruboj proizvodnji pripadaju i vodoravne ručke koje su se nalazile negdje na prijelazu iz trbuha u rame posude (kat. 266, 267, 269). Po fakturi ne sliče ostalim nalazima s Uljeve B, ali prema primjesama vrlo vjerojatno su afričkog porijekla. Moguće je da pripadaju grubom afričkom posuđu i to cilindričnim kaserolama (*marmites cylindriques*) forme forme Sidi Jdidi 2B (Bonifay 2004, Fig. 172), ali takvi oblici se datiraju prekasno u usporedbi s većinom nalaza s položaja Uljeva B. Mada postoje rijetki primjeri iz konteksta datiranih u 5. st. (Mukai 2016, 160, Fig. 106: 14; Fig. 111: 29-31) većina ih se datira u 6. pa i 7. st. (Bonifay 2004, 309).

Možda najvažniji oblik keramike na Uljevi B su dosta slabo sačuvani dijelovi zdjele koja se može pripisati afričkoj sigilati odnosno tzv. *african red slip ware* (kat. 278). To je zdjela s naglašenim trokutastim obodom usmjerenim prema dolje i naznačenim utorom na unutrašnjosti oboda. Ova zdjela pripada tipu Hayes 61B (Hayes 1972, 107) i posebno je važna jer se razmjerno pravilno datira, u prvu polovinu 5. st.



56. Unutarnji dio oboda zdjele Hayes 61B (kat. 278) s karakterističnim utorom / The interior face of the rim of the Hayes 61B bowl (cat. 278) with the characteristic groove (foto: L. Bekić)

The indeterminate potsherds include parts of a pot or jug with emphasised horizontal lines (cat. 229) and horizontal ribbed prominences (cat. 231). Also very unusual is a bowl rim sherd listed under catalogue no. 264. It is reminiscent of North African casseroles of the Fulford 1 type found in fifth century contexts (Mukai 2016, 150, Fig. 102: 20). On the Uljeva sherd there is visible damage on the rim that points to a handle of some sort having been attached to the rim. Handles of this kind are not rare on fifth century North African casseroles.

Also of coarse manufacture are horizontal handles situated somewhere at the transition from the belly to the shoulder of the vessel (cat. 266, 267, 269). In terms of fabric they do not resemble the other artefacts recovered at Uljeva B, but based on the inclusions (temper) they are very likely of African provenance. They may be of coarse African ware, specifically the cylindrical casseroles (*marmites cylindriques*) of the Sidi Jdidi 2B form (Bonifay 2004, Fig 172), but these forms are dated far too late in comparison with the bulk of the finds recovered at the Uljeva B position. And while there are rare specimens in fifth century contexts (Mukai 2016, 160, Fig. 106: 14; Fig. 111: 29-31) most are dated to the sixth and even the seventh century (Bonifay 2004, 309).

Perhaps the most important pottery form present at Uljeva B is represented by quite poorly preserved parts of a bowl that are attributable to African sigillata, i.e. African Red Slip ware (cat. 278). This is a bowl with a prominent downward pointing rim of triangular section and a slight groove on the interior face of the rim. This bowl is of the Hayes 61B type (Hayes 1972, 107) and is particularly important because it is relatively uniformly dated to the first half of the fifth century.



57. a, b, c. Ulomci tri različite čaše ali istog tipa, Isings 96a (kat. 279, 280, 281) / Fragments of three different beakers, all of the Isings 96a form (cat. 279, 280, 281) (foto: L. Bekić)

Ostali predmeti

Od opreme koja je pripadala posadi i brodu, sačuvani su ulomci tri različite staklene čaše poluloptastog oblika sa zarezanim obodom (kat. 279, 280, 281). Ovakve čaše, određene kao Isings forma 96a, datiraju se od kasnog 3. st, a najčešće se pojavljuju kroz cijelo 4. st., pa do početka 5. st. (Isings 1957, 113, 114).

Okrugli keramički pločasti predmet s rupom u sredini (kat. 282) je uteg za ribarsku mrežu. Oni su dobro poznati iz rimskog doba, a poznate su paralele iz ranog i kasnog antičkog doba (Rovinj - Veštar, Bekić, Višnjić, Pešić, Bloier 2011, 23, 24; Rovinj - Veli Piruzi, Fiederling 2019, 109, T. 24).

Od olupine broda ostali su samo pojedini željezni i brončani čavli (kat. 283, 284, 286, 287, 288), koji su preostali od uništene drvene brodske konstrukcije.

Valjkasti olovni predmet možda je služio kao plomba za rupu u drvenoj oplati broda (kat. 285). Na njoj je zamjetan zarez na dnu, kako bi se površina valjka proširila i koji se udaranjem po vrhu (vidljivo udubljenje) prilagođavao rupi. Na taj način moglo se postići savršeno prijanjanje olovne plombe obliku rupe.

Nađen je jedan dio zavijene i probušene brončane šipke nepoznate namjene (kat. 289), možda dijela brodske opreme. Moguća uporaba ovog predmeta je kod pričvršćivanja prečke sidra, poput sustava koji je otkriven na sačuvanom

Other Artefacts

Preserved from the effects of the crew and the ship's inventory are fragments of three different glass beakers of hemispherical form with cracked-off rim edges (cat. 279, 280, 281). These beakers, classified as the Isings 96a form, are dated from the late third century, and appear most frequently throughout the whole of the fourth and into the early fifth century (Isings 1957, 113, 114).

A round and flat ceramic object with a perforation at the centre (cat. 282) is a fishing net sinker. They are well known to us from the Roman period and we know of parallels from the early and late antique periods (Rovinj-Veštar, Bekić, Višnjić, Pešić, Bloier 2011, 23, 24; Rovinj-Veli Piruzi, Fiederling 2019, 109, T. 24).

Preserved from the wreck of the ship we have only individual iron and bronze nails (cat. 283, 284, 286, 287, 288) as the remains of the destroyed wooden structure of the ship.

A cylindrical lead artefact possibly served to seal holes in the ship's wooden hull planking (cat. 285). There is a noticeable incision at its base used to expand the surface of the cylinder such that it fills a hole when struck at its top (visible depression). This allowed for a perfect fit of the lead seal to the shape of the hole.

Also recovered was part of a bent and perforated bronze rod of unknown purpose (cat. 289) that may have been part of



58. Željezni i brončani čavao brodske konstrukcije (kat. 284, 287) / Iron and bronze nails from the ship's structure (cat. 284, 287) (foto: L. Bekić)



59. a, b. Olovni predmet nejasne namjene (kat. 285) / A lead artefact of uncertain purpose (cat. 285) (foto: L. Bekić)

sidru brodoloma Ma`agan Michael u Izraelu koji se datira oko 400 g. pr. Kr. (Rosslof 1991; Galili, Rosen 2006, 99). Tamo je na drveno tijelo sidra pomoću osovine¹⁵ s rascjepkom (*cotter pin*) pričvršćena prečka za otežavanje (Rosslof 1991, Fig. 2; Galili, Rosen 2006, Fig. 3). Brončani predmet s Uljeve B bi prema tome mogao biti osovina s rupom u koju ide manja rascjepka. Očito da je osovina s Uljeve pukla na dva ključna mjesta - u rupi za rascjepku te na mjestu gdje se trebala nalaziti glava osovine, na suprotnoj strani.

Posada je za pripremu hrane koristila i žrvanj od tvrdog rupičastog tamnosivog kamena, vjerojatno vulkanske lave (kat. 290). S obzirom na izbočen, konveksni oblik, očito je riječ o donjem dijelu, ili podlozi žrvnja. Žrvanj je gotovo obavezan dio opreme broda pa ga tako nalazimo na ranorimskim ali i kasnorimskim brodovima, poput nalaza s brodoloma Dramont E iz sredine 5. st. (Santamaria 1995, 101, Fig. 119, 120).

Na položaju Uljeva B pronađeno je i nekoliko ulomaka tegula. Jedna je klasičnog oblika (kat. 291) dok ulomak druge ima neobično svijeni rub (kat. 292). Tegule se inače učestalo pronalaze na rimskim brodolomima i to obično nekoliko komada. U tom slučaju može se zamisliti kako su imale neku funkciju na brodu, bilo da su pokrivale drveni zapovjedni most ili služile kao pokretno ognjište. Pronađena je i jedna klasična rimska opeka tipa „*spicatum*” (kat. 293).

Brodskoj „opremi” može se pripisati i desetak komada balastnog kamena. Kamen je tamnozeleno boje, s bijelim tanjim proslojnim crtama (sl. 61). U prosjeku je težine 2 kile, izduženog oblika i zaobljene površine, očito erozijom uzorokovanom vodom. Izrađene su petrografske analize na tri primjerka ova kamena i svi su uzorci određeni kao gnajs i biotitni gnajs (Kovačić, Cvetko Tešović, Petrinc 2019). Ova metamorfna stijena ne nalazi se u prirodnim ležištima na istočnojadranskoj obali, a najbliži mogući izvori su Italija, Albanija i Grčka. U obliku velikih oblutica na obali mora, biotitni gnajs može se pronaći, na primjer, na obalama otoka vulkanskog podrijetla

the ship’s inventory. One possible use for this artefact was in securing anchor stocks, like the system discovered on the preserved anchor of the Ma`agan Michael wreck in Israel, dated to about 400 BCE (Rosslof 1991; Galili, Rosen 2006, 99). In that case the stock used to weigh down the anchor was secured to the wooden body of the anchor with a shaft¹⁵ and split (or cotter) pin (Rosslof 1991, Fig. 2; Galili, Rosen 2006, Fig. 3). The bronze artefact found at Uljeva B would in that case serve as the shaft, with a perforation through which a split pin would be inserted and fixed in place. It is evident that the Uljeva shaft broke at two key points: at the point of perforation and at the place on the opposite end where the head of the shaft would have been.

In preparing food the ship’s crew also availed itself of a quern of hard vesicular dark grey stone, likely of volcanic origin (cat. 290). Given the convex form this is evidently the lower stationary quern stone. A quern was a practically essential part of a ship’s inventory and we find it on early Roman and late Roman ships such as the mid-fifth century Dramont E wreck (Santamaria 1995, 101, Figs. 119, 120).

A few tegulae sherds were recovered at the Uljeva B position. One is of the classic form (cat. 291) while the sherd from another has an unusual curved edge (cat. 292). Tegulae are frequently recovered from Roman period wrecks, usually numbering a few pieces. One can imagine the possible function they served on a ship, perhaps to cover the wooden command bridge or as a mobile hearth. Also found was a classic Roman brick of the *spicatum* type (cat. 293).

Also attributable to the ship’s “inventory” are some ten ballast stones. The stones are dark green, with thin white veins (Fig. 61). They weight two kilograms on the average, with elongated form and rounded surfaces, clearly caused by water erosion. Three petrographic analyses were performed of these stones and all samples were identified as gneiss and biotitic gneiss (Kovačić, Cvetko Tešović, Petrinc 2019). This metamorphic rock is not found in natural deposits on the eastern Adriatic coast, with the closest possible sources being in Italy, Albania and Greece. Biotitic gneiss is found



60. Masivni brončani predmet nepoznate namjene (kat. 289) / A massive bronze artefact of unknown purpose (cat. 289) (foto: L. Bekić)

¹⁵ Na sidru s brodoloma Ma`agan Michael tijelo, prečka i osovina rascjepke su drveni (Rosslof 1991, 225), ali ideja stezanja ova dva elementa zajedno na upravo taj način je znakovita za naš slučaj.

¹⁵ In the case of the anchor at the Ma`agan Michael wreck the body, stock and pin shaft are wooden (Rosslof 1991, 225), but the idea of clamping these two elements together in this manner is significant to our case.



61. Nekoliko tipičnih oblutaka balasta, od stijena metamorfnog porijekla / Several typical ballast stones of metamorphic rock (foto: L. Bekić)

Alicudi, sjeverno od Sicilije. No bilo koji takav položaj na potezu od sjeverne Afrike do Istre mogao bi odgovarati kao mjesto prikupljanja ovog balasta.

DATAČIJA I ZAKLJUČAK

Kako bi se preciznije datirao brodolom izrađena je tablica s tipološki dobro odredivim ulomcima (sl. 62). Ulomci amfora Lamboglia 2 su svojom datacijom prije 1. st. pr. Kr. neusporedivi sa svim ostalim nađenim na položaju Uljeva B. Nadalje, prema citiranoj literaturi, slični i isti oblici egejskog grubog posuđa, koja se ističe kao trgovački teret na Uljevi B, datiraju se uglavnom u rano i srednje rimsko doba, od 1. do 3. st. (Ilakovac 1968; Hayes 1983, 1997; Radaljčac 2017).

Međutim, nekoliko jasno određenih tipova amfora s položaja Uljeva B može se datirati tek od kraja 4. st., pa sve do sredine 5. st. To po udjelu vrijedi za čak tri četvrtine ukupnog broja amfora, a ako se izuzmu ulomci ranih Lamboglia 2, onda se preko 90 % svih amfora može datirati u kraj 4. i početak 5. st. Ulomci Jugoistočnoalpske kuhinjske keramike datiraju od 4. do 6. st., a staklene čaše datiraju u 4. i 5. st. Najpreciznije

in the form of cobbles on the seashores, for example, of the volcanic island of Alicudi to the north of Sicily. However, any such location anywhere from North Africa to Istria could be the site at which this ballast was collected.

DATING AND CONCLUSION

In order to arrive at a more precise dating of the wreck a table was produced plotting the high value typologically diagnostic sherds (Fig. 62). With their pre-first century BCE date, the sherds of Lamboglia 2 amphorae are inconsistent with all other amphorae at the Uljeva B position. Furthermore, according to the cited literature, similar and identical forms of Aegean Coarse Ware, which is prominent as the commercial cargo at Uljeva B, are dated for the most part to the early and middle Roman period, from the first to the third centuries (Ilakovac 1968; Hayes 1983, 1997; Radaljčac 2017).

Several clearly defined amphorae types recovered at the Uljeva B site, however, can be dated only from the end of the fourth century and to the mid-fifth century. In terms of the relative amount, this would account for three quarters of the total number of amphorae, and, if we exclude the early Lamboglia 2 sherds, then over 90 per cent of all amphorae can be dated to the late fourth and the early fifth century. The sherds of southern Alpine cooking ware are dated from the fourth to sixth centuries, and the glass beakers to the fourth and fifth. The most

je datiran ulomak afričke sigilate (*African red slip ware*) tipa Hayes 61 koji datira u početak 5. st. Po tome, na položaju Uljeva B mogla su potonuti dva broda, jedan s teretom Egejske grube keramike otprilike u 2. st. i jedan s teretom amfora i ostalog početkom 5. st. Međutim, na nalazištu nema drugih nalaza koji bi se sa sigurnošću mogli pripisati 2. ili 3. st. kada se proizvodila Egejska gruba keramika.

Prema nekim novijim objavama, Egejska gruba keramika nije se prestala proizvoditi u 3. st., već je se u neznatno izmijenjenim oblicima proizvodila i dalje (Jurišić 2000, 35). Po tome se ne može isključiti i kasnija datacija tog tereta s Uljeve B u 4. ili 5. st. Tako npr. Carsana i Del Vecchio navode kako se trbušasti lonci, često s vodoravnim crtama ili rebrima na trbuhu, ručicama i s prema gore razvrćenim obodima proizvode i dalje tijekom 4. i 5. st. (Carsana, Del Vecchio 2010, 461, 462). Oni su i dalje proizvođeni u Egeji ali i kao kopije u drugim dijelovima rimskog carstva. Tako egejski originali kuhinjskog posuđa i njihove lokalne kopije kruže i u Španjolskoj čak u 6. st. (Reynolds 2015). Ako se prihvati datacija Egejske grube keramike s položaja Uljeva B u kasnu antiku, onda bi većina ovih nalaza mogli pripadati jedinstvenom događaju, brodolomu koji se ovdje dogodio sredinom prve polovine 5. st.

U svakom slučaju, teret Egejske grube keramike, čija se količina s obzirom na dosada pronađene ulomke i područje rasprostiranja na morskom dnu, može ugrubo procijeniti na više tisuća komada kaserola, lonaca, poklopaca, zdjela i tava. Ovaj teret bio je namijenjen nekom većem odredištu, možda antičkoj luci Tarsatica (Rijeka) odakle je mogao biti transportiran u unutrašnjost, sve do Norika, kako je svojedobno pretpostavila J. Istenič (Istenič 2000, 107).

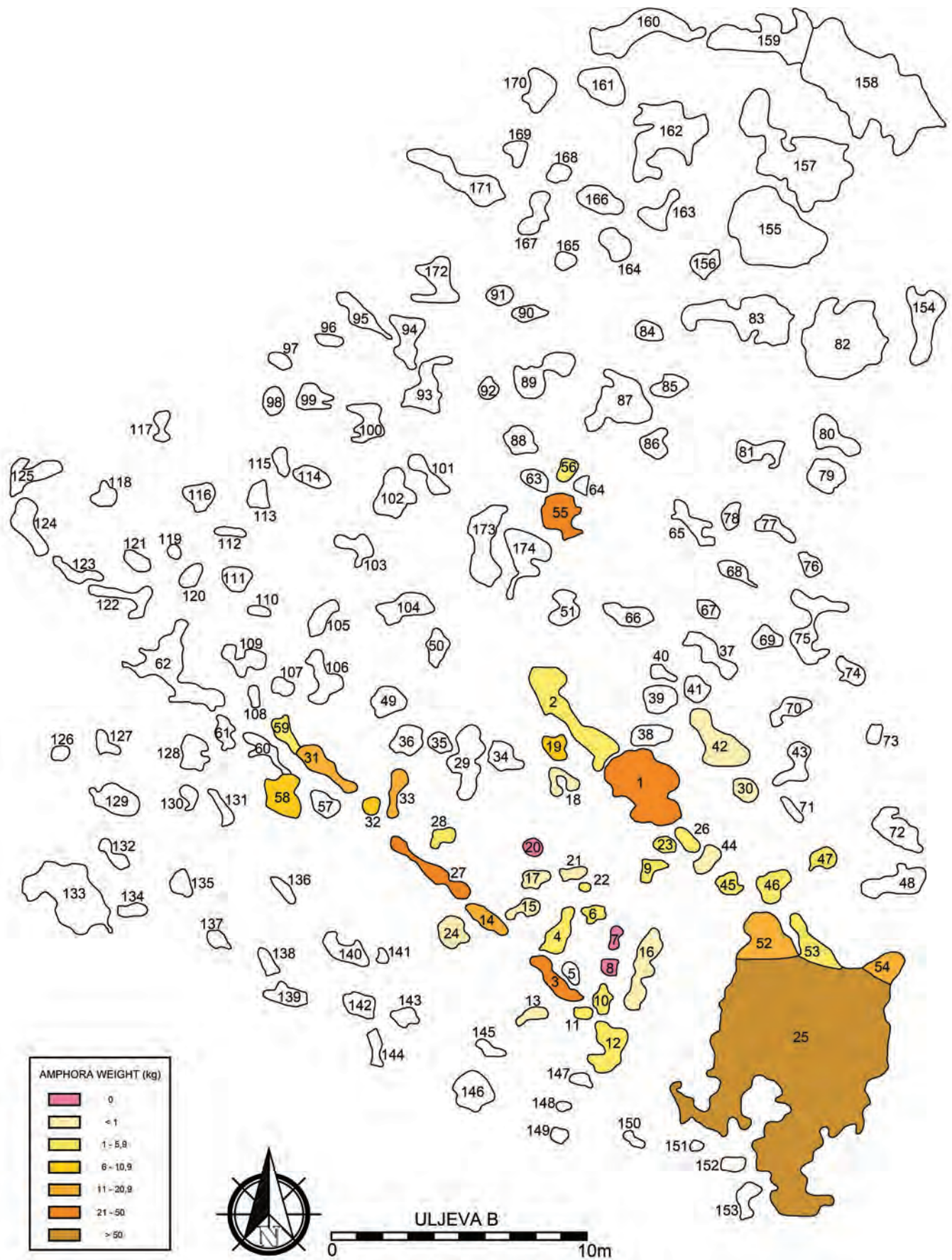
precise dating is available for the Hayes form 61 African sigillata (African Red Slip) ware and puts it in the beginning of the fifth century. Two ships may, then, have been wrecked at the Uljeva B position: one transporting a cargo of Aegean Coarse Ware in or around the second century; and another with a cargo of amphorae and other goods in the early fifth century. There are, however, no other finds at the site that could confidently be attributed to either the second or third century, the period that saw production of Aegean Coarse Ware.

Some recent publications have proposed that production of Aegean Coarse Ware did not cease in the third century, positing, rather, that its manufacture continued in marginally altered forms (Jurišić 2000, 35). In this case we cannot rule out a later date for this part of the cargo at Uljeva B, putting it in the fourth or fifth century. Thus, for example, Carsana and Del Vecchio assert that globular pots, often with horizontal lines or ribs at the belly of the vessel, small handles, and upward sloping everted rims continued to be manufactured in the course of the fourth and fifth centuries (Carsana, Del Vecchio 2010, 461, 462). They continued to be produced both in the Aegean, and elsewhere across the Roman empire as imitations. Thus, original Aegean cooking ware and its local imitations were in circulation even in Spain as late as in the sixth century (Reynolds 2015). If we accept a dating of the Aegean Coarse Ware at the Uljeva B position that puts it in the late antiquity, then the majority of these finds would be from a single event, a wreck that occurred here in the middle of the first half of the fifth century.

In any event the quantity of the cargo of Aegean Coarse Ware can be roughly estimated from the sherds found to date and the area of seabed across which they are scattered as

↓ AMPHORAE	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	Number
Lamboglia II early type																				30
Portorecanati																				1
Africana IIB Pseudotripolitana																				2
Keay 3B/ Africana 1B																				40
Keay 26/ Spatheion 31																				77
Late Roman Amphora 1A																				13
Keay 39 / Sidi Jdidi 4B																				2
Keay 59																				1
Hammamet II																				1
Southern Alpine cooking ware																				2
Hayes sigillata form 61B																				1
Isings glass form 96a																				3
AECW biconical casseroles																				30
AECW 2 globular pots																				307
AECW 3 globular Knossos 2																				27
AECW 3 globular Knossos 3																				26
AECW 3 globular Knossos 4																				32
AECW 4 pot lids																				37
AECW 5 bowls																				72
AECW 6 pans																				30
↑ OTHER	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	Number

62. Tablica tipološki odredivih nalaza s njihovim količinama i predložen datum brodoloma / A table of typologically diagnostic artefacts with quantities and the proposed dates of the wrecks (L. Bekić)



63. Raspored težine ulomaka amfora po istraženim jamama / The weight distribution of amphorae sherds by investigated pit (M. Kaleb)

Od dosada objavljenih primjera Brod Dramont E je najsličniji po teretu koji je prevozio. Na njemu se nalaze amfore amfore Keay 25 ali i Spatheion amfore u više inačica (Santamaria 1995, Fig. 36-38; Pl. VI-VIII) te amfore Sidi Jdidi 4B (Santamaria 1995, 42, Fig. 31). Također su pronađene ARS zdjele tipa Hayes 61B (Santamaria 1995, 79, Pl. X). Brodolom Dramont E se na osnovu numizmatičkih nalaza datira od 425. do 455. g. (Santamaria 1995, 191-192) odnosno u doba kada Vandali pokušavaju ojačati trgovinu sjevernoafričkom robom. Treba spomenuti i brodolom kod hridi Piruzi blizu Rovinja (Fiederling 2019), koji se također datira u početak 5. st. te ima neke sjevernoafričke amfore i druge nalaze koji su zastupljeni i na Uljevi B.

Očito je da većina amfora s Uljeve B potječe iz radionica u Tunisu, ali neki ulomci ukazuju na bliskoistočno porijeklo, kao LRA1 amfore koje bi mogle potjecati iz Kilikije ili Antohije. Ova činjenica ne isključuje mogućnost da je brod otplovio iz Tunisa u malu Aziju gdje je ukrcao te amfore, ali vjerojatnije ih je nabavio u nekoj od velikih luka gdje su se miješale trgovačke rute.

Sudeći po balastnom kamenu tipa biotitnog gnajsa, brod je u nekom trenu pristao na obalu gdje se mogu prikupiti metamorfne stijene, vulkanskog porijekla. To je vjerojatno učinjeno nakon što je dio robe iskrcan, pa je posada kamenjem nadomjestila izgublenu težinu u potpalublju. Takvih mjesta ima u južnoj Italiji, Albaniji i Grčkoj, što pak sve može odgovarati ruti ovog broda.

Što se tiče dimenzija broda, to je vrlo teško odrediti. Brojanjem i vaganjem ulomaka dolazimo do skromnih podataka (sl. 40). Težina ulomaka svih mjerenih amfora je 357,6 kg. S obzirom kako je riječ o vrlo različitim tipovima amfora, nije moguće točnije odrediti očekivanu težinu jedne amfore. Ako uzmemo neki prosječni broj od 20 kg, onda je to riječ o dvadesetak amfora. Na osnovu šiljaka amfora može se zaključiti kako je na njemu bilo barem 59 amfora, što je već realniji broj. Ako se uzmu u obzir neistražena područja i pljačka, možda je broj dvostruk ili trostruk. Razmjerno mali broj amfora koji je pronađen na nalazištu može se opravdati time da je brod prevozio uglavnom robu koja vremenom nestaje bez traga, poput žita. Da li je i teret keramičkog posuđa tipa AECW bio roba ovog broda ne može se za sada zaključiti.

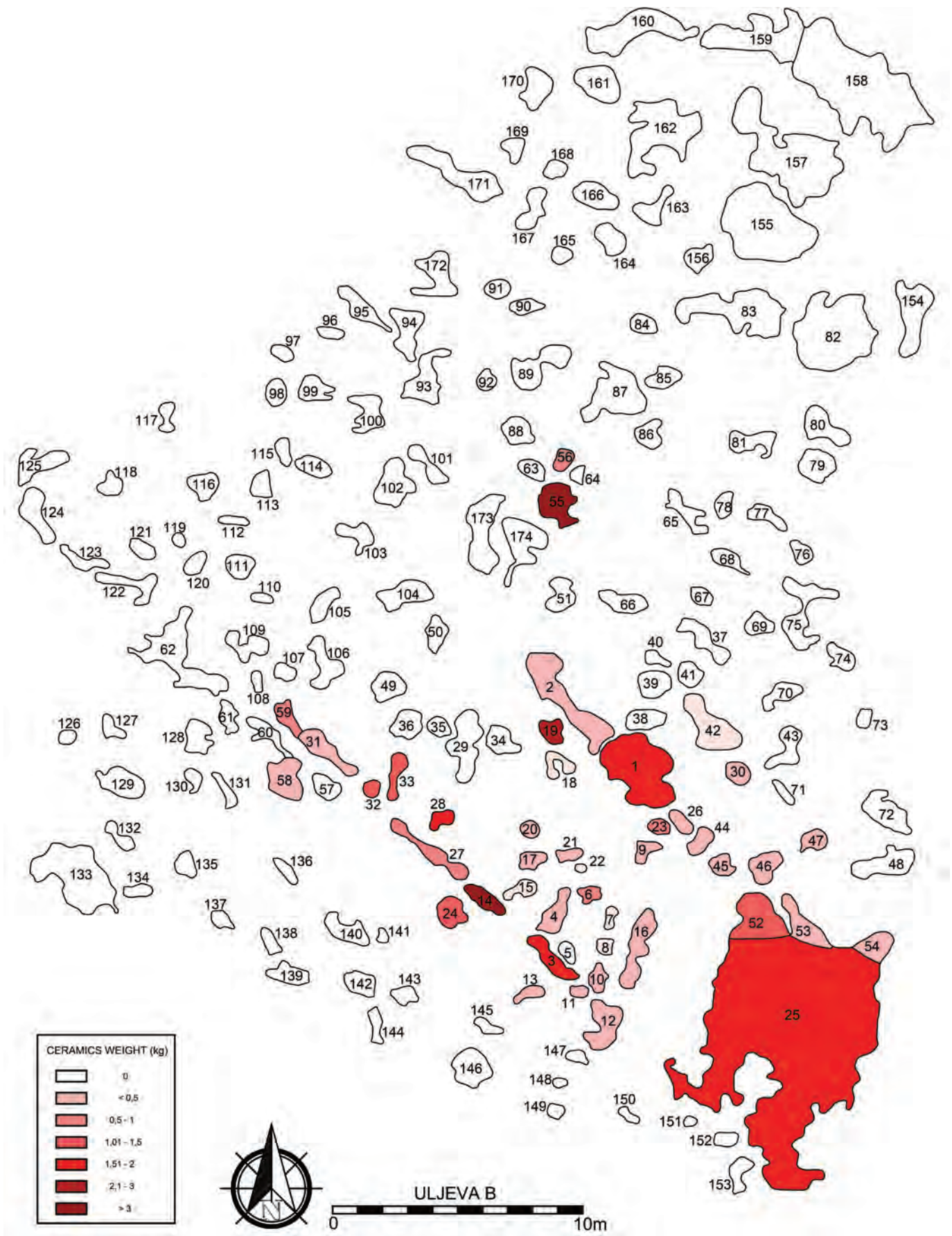
being several thousand units of casseroles, pots, lids, bowls and pans. This cargo was intended for one of the larger ports of call, perhaps the antiquity period harbour at Tarsatica (Rijeka), from whence it could have been transported to the interior as far as Noricum, as J. Istenič has previously proposed (Istenič 2000, 107).

Of the examples published to date the Dramont E ship is most similar in terms of the cargo it transported. It included Keay 25 and multiple variants of Spatheion amphorae (Santamaria 1995, Figs. 36–38; Pl. VI–VIII), and Sidi Jdidi 4B amphorae (Santamaria 1995, 42, Fig. 31). Also found were ARS bowls of the Hayes 61B type (Santamaria 1995, 79, Pl. X). The Dramont E wreck is dated on the basis of numismatic finds to the period from 425 to 455 (Santamaria 1995, 191–192) i.e. to the period when the Vandals made an effort to invigorate the trade in North African goods. Also noteworthy is the wreck at the Piruzi rocks near Rovinj (Fiederling 2019), dated to the early fifth century and carrying some North African amphorae and other artefacts also represented at Uljeva B.

Although some sherds point to a Middle Eastern provenance, such as the LRA1 amphorae that may have originated from Cilicia or Antioch, it is evident that the bulk of the Uljeva B amphorae originated from Tunisian workshops. This fact does not rule out the possibility that the ship set sail from Tunisia and travelled to Asia Minor, where it took on a cargo of amphorae, but it is more likely that they were procured at one of the major harbours that were the hubs of intersecting commercial routes.

Judging by the ballast stones of biotitic gneiss the ship at some point visited shores where metamorphic rock of volcanic origin could be collected. This was likely done after a part of the goods it carried were offloaded, with the crew compensating for the weight lost below deck by bringing ballast stones on board. Shores of this kind are present in southern Italy, Albania and Greece, all of which are potentially consistent with the ship's route.

Ascertaining the dimensions of the ship is fraught with challenges. The counting and weighing of the sherds offers modest data (Fig. 40). The weight of the sherds of all measured amphorae is 357.6 kilograms. Given the great typological diversity among these amphorae we cannot offer a precise estimate of the expected weight of one amphora. If one were to take an average figure of 20 kilograms, that would come out to some twenty amphorae. Based on the amphorae spikes recovered we come to a figure of at least 59 amphorae, which is a more realistic figure. If we further take into account the unexcavated area and looting, the figure may double or triple. The relatively small number of amphorae recovered at the site can be explained by positing that the bulk of the ship's cargo was made up of goods, such as grain, that over time disappear without leaving any trace. Whether or not the cargo of AECW type pottery was also part of the goods carried by this ship cannot yet confidently be asserted.



64. Raspored težine ulomaka kuhinjske i stolne keramike po istraženim jamama / The weight distribution of cooking ware and table ware sherds by investigated pit (M. Kaleb)

KATALOG NALAZA S ULJEVE B

117. Gornji dio amfore. BJ 3. PN 1. Glina izvana i iznutra smeđe, a u prijelomu crvene boje.
118. Gornji dio amfore. BJ 3. PN 2. Glina izvana i iznutra smeđe, a u prijelomu crvene boje, površina se trusi.
119. Gornji dio amfore BJ 3. PN 3. Glina crvene boje, površina mjestimično smeđe boje s primjesama pustinjačkog pijeska.
120. Dio grla amfore. BJ 14. PN 4. Glina crvene boje s primjesama pustinjačkog pijeska.
121. Obod amfore. BJ 1. PN 5. Glina smeđe boje, s puno primjesa pustinjačkog pijeska, tvrde fature.
122. Obod amfore. BJ 2. PN 6. Glina crvene boje s primjesama sitnog pustinjačkog pijeska.
123. Grlo amfore. BJ 133. Glina crvene boje s primjesama sitnog pustinjačkog pijeska.
124. Donji dio amfore. BJ 33. Glina svijetlo smeđe do žute boje s puno primjesa pustinjačkog pijeska.
125. Donji dio amfore. BJ 3. PN 10. Glina svijetlo smeđe do crne boje, s puno primjesa pustinjačkog pijeska, površinski se trusi.
126. Donji dio amfore. BJ 3. PN 9. Glina smeđe boje, s puno primjesa pustinjačkog pijeska, površina se trusi.
127. Grlo amfore. BJ 3. PN 12. Glina crvene boje.
128. Obod amfore. BJ 3. PN 16. Glina crvene boje s primjesama pustinjačkog pijeska.
129. Obod amfore. BJ 53. Glina crvene boje s primjesama pustinjačkog pijeska.
130. Obod amfore. BJ 31. Glina crvene boje s primjesama pustinjačkog pijeska.
131. Obod amfore. BJ 62. Glina crvene boje s primjesama pustinjačkog pijeska.
132. Grlo amfore. BJ 25 + BJ 52. Glina crvene boje s puno primjesa pustinjačkog pijeska.
133. Grlo amfore. BJ 14. PN 13. Glina crvene boje s primjesama pustinjačkog pijeska.
134. Obod amfore. BJ 25. Glina crvene boje.
135. Obod amfore. BJ 25. PN 14. Glina crvene boje.
136. Obod amfore. BJ 44. Glina crvene boje.
137. Dio vrata amfore. BJ 62. Glina crvene boje s primjesama sitnog pustinjačkog pijeska.
138. Dio vrata amfore. BJ 3. PN 15. Glina crvene boje sa sitnim primjesama pustinjačkog pijeska.
139. Šiljak amfore. BJ 59. Glina crvene boje s primjesama sitnog pustinjačkog pijeska.
140. Šiljak amfore. BJ 11. PN 18. Glina crvene boje s primjesama sitnog pustinjačkog pijeska.

CATALOGUE OF ARTEFACTS COLLECTED AT ULJEVA B

117. Amphora upper portion. BJ 3. PN 1. Brown clay inside and outside surfaces, red core.
118. Amphora upper portion. BJ 3. PN 2. Brown clay inside and outside surfaces, red core, crumbling surface.
119. Amphora upper portion BJ 3. PN 3. Red clay, sporadic brown coloured surface with temper of desert sand.
120. Amphora neck portion. BJ 14. PN 4. Red clay with temper of desert sand.
121. Amphora rim sherd. BJ 1. PN 5. Brown clay, with abundant temper of desert sand, hard fabric.
122. Amphora rim sherd. BJ 2. PN 6. Red clay with temper of fine desert sand.
123. Amphora neck. BJ 133. Red clay with temper of fine desert sand.
124. Amphora lower portion. BJ 33. Light brown to yellow clay with abundant temper of desert sand.
125. Amphora lower portion. BJ 3. PN 10. Light brown to black clay, with abundant temper of desert sand, crumbling surface.
126. Amphora lower portion. BJ 3. PN 9. Brown clay, with abundant temper of desert sand, crumbling surface.
127. Amphora neck. BJ 3. PN 12. Red clay.
128. Amphora rim sherd. BJ 3. PN 16. Red clay with temper of desert sand.
129. Amphora rim sherd. BJ 53. Red clay with temper of desert sand.
130. Amphora rim sherd. BJ 31. Red clay with temper of desert sand.
131. Amphora rim sherd. BJ 62. Red clay with temper of desert sand.
132. Amphora neck. BJ 25 + BJ 52. Red clay with abundant temper of desert sand.
133. Amphora neck. BJ 14. PN 13. Red clay with temper of desert sand.
134. Amphora rim sherd. BJ 25. Red clay.
135. Amphora rim sherd. BJ 25. PN 14. Red clay.
136. Amphora rim sherd. BJ 44. Red clay.
137. Amphora neck section. BJ 62. Red clay with temper of fine desert sand.
138. Amphora neck section. BJ 3. PN 15. Red clay with fine temper of desert sand.
139. Amphora spike. BJ 59. Red clay with temper of fine desert sand.
140. Amphora spike. BJ 11. PN 18. Red clay with temper of fine desert sand.
141. Amphora spike. BJ 27. Red clay with temper of desert sand.
142. Amphora spike, BJ 87. Red clay with abundant temper of desert sand.

141. Šiljak amfore. BJ 27. Glina crvene boje s primjesama pustinjskog pijeska.
142. Šiljak amfore, BJ 87. Glina crvene boje s puno primjesa pustinjskog pijeska .
143. Šiljak amfore. BJ 52. Glina crvene boje.
144. Šiljak amfore. BJ 23. PN 17. Glina crvene boje s puno primjesa pustinjskog pijeska.
145. Šiljak amfore. BJ 82. Glina crvene boje s puno primjesa pustinjskog pijeska.
146. Šiljak amfore. BJ 52. Glina narančaste boje s primjesama pustinjskog pijeska.
147. Obod amfore. Slučajni nalaz. Glina žute boje s puno primjesa drobljenih bijelih, crvenih i crnih kamenčića.
148. Dio grla amfore. BJ 52. Glina svijetlo smeđe boje s mnogo primjesa drobljenih bijelih, crvenih i crnih kamenčića.
149. Dio grla amfore. BJ 11. PN 27. Glina narančaste boje, s puno primjesa drobljenih bijelih i malo crnih kamenčića.
150. Dio ramena amfore. BJ 25. PN 29. Glina žute boje, pročišćena.
151. Ručka amfore. BJ 3. Glina svijetlo smeđe boje s primjesama sitnozrnog pijeska.
152. Ručka amfore. BJ 3. Glina svijetlo smeđe boje s mnogo primjesa raznih drobljenih kamenčića.
153. Gornji dio amfore. BJ 52. PN 7. Glina izvana i iznutra smeđe, a u prijelomu crvene boje, s primjesama pustinjskog pijeska, površina se trusi.
154. Obod amfore. BJ 1. PN 24. Glina smeđe, a u prijelomu narančaste boje, s malo primjesa pustinjskog pijeska, čvrste faktura.
155. Obod amfore. BJ 14. PN 22. Glina izvana i iznutra smeđe, a u prijelomu narančaste boje s primjesama sitnog pustinjskog pijeska.
156. Obod amfore. BJ 59. Glina smeđe boje.
157. Obod amfore. BJ 26. PN 21. Glina crvene boje, s puno primjesa pustinjskog pijeska, tvrde fakture.
158. Obod amfore. BJ 58. Glina smeđe boje s puno primjesa sitnog pustinjskog pijeska.
159. Dno posude. BJ 14. PN 23. Glina izvana i iznutra smeđe, a u prijelomu narančaste boje s primjesama sitnog pustinjskog pijeska.
160. Dno posude. BJ 59. Glina izvana i iznutra smeđe, a u prijelomu narančaste boje s primjesama sitnog pustinjskog pijeska.
161. Donji dio amfore. BJ 105. Glina crvene boje s primjesama sitnog pustinjskog pijeska.
162. Šiljak amfore. BJ 62. Glina svijetlo crvene boje s primjesama sitnog pustinjskog pijeska.
163. Donji dio amfore. BJ 140. Glina crvene boje s primjesama sitnog pustinjskog pijeska. Uz
164. Šiljak amfore. BJ 3. PN 11. Glina crvene boje, primjese pustinjskog pijeska, čvrste fakture.
143. Amphora spike. BJ 52. Red clay.
144. Amphora spike. BJ 23. PN 17. Red clay with abundant temper of desert sand.
145. Amphora spike. BJ 82. Red clay with abundant temper of desert sand.
146. Amphora spike. BJ 52. Orange clay with temper of desert sand.
147. Amphora rim sherd. Chance find. Yellow clay with abundant temper of crushed white, red and black pebbles.
148. Amphora neck portion. BJ 52. Light brown clay with abundant temper of crushed white, red and black pebbles.
149. Amphora neck portion. BJ 11. PN 27. Orange clay, with abundant temper of crushed white and spare black pebbles.
150. Amphora shoulder portion. BJ 25. PN 29. Yellow clay, refined.
151. Amphora handle. BJ 3. Light brown clay with temper of fine-grained sand.
152. Amphora handle. BJ 3. Light brown clay with abundant temper of various crushed pebbles.
153. Amphora upper portion. BJ 52. PN 7. Brown clay inside and outside surfaces, red core, with temper of desert sand, crumbling surface.
154. Amphora rim sherd. BJ 1. PN 24. Brown clay, orange core, with sparse temper of desert sand, firm fabric.
155. Amphora rim sherd. BJ 14. PN 22. Brown clay inside and outside surfaces, orange core with temper of fine desert sand.
156. Amphora rim sherd. BJ 59. Brown clay.
157. Amphora rim sherd. BJ 26. PN 21. Red clay, with abundant temper of desert sand, hard fabric.
158. Amphora rim sherd. BJ 58. Brown clay with abundant temper of fine desert sand.
159. Base of a vessel BJ 14. PN 23. Brown clay inside and outside surfaces, orange core with temper of fine desert sand.
160. Base of a vessel BJ 59. Brown clay inside and outside surfaces, orange core with temper of fine desert sand.
161. Amphora lower portion. BJ 105. Red clay with temper of fine desert sand.
162. Amphora spike. BJ 62. Light red clay with temper of fine desert sand.
163. Amphora lower portion. BJ 140. Red clay with temper of fine desert sand. Uz
164. Amphora spike. BJ 3. PN 11. Red clay, with temper of desert sand, firm fabric.
165. Amphora spike. BJ 59. Orange clay with temper of varied fine-grained pebbles, one transparent green!
166. Amphora spike. BJ 27. PN 8. Light brown clay, with abundant temper of varied pebbles, firm fabric.
167. Amphora neck portion. BJ 25. Yellow clay with very sparse temper of crushed black and white pebbles.

165. Šiljak amfore. BJ 59. Glina narančaste boje s primjesama raznih sitnih kamenčića. Jedan prozirno zeleni!
166. Šiljak amfore. BJ 27. PN 8. Glina svijetlo smeđe boje, s puno primjesa raznih kamenčića, čvrste fakture.
167. Dio grla amfore. BJ 25. Glina žute boje s rijetkim primjesama drobljenih crnih i bijelih kamenčića.
168. Ručka amfore. BJ 59. Glina crvene boje s primjesama sitnog pustinjskog pijeska.
169. Ručka amfore. BJ 25. PN 33. Glina svijetlo smeđe boje s malo primjesa crvene pečene gline.
170. Ručka amfore. BJ 14. PN 19. Glina crvene boje s primjesama krupnog pustinjskog pijeska.
171. Dio ručke amfore s pečatom. Slučajni nalaz. PN 20. Glina žute boje s malo primjesa kamenčića i mrvica pečene gline.
172. Grlo amfore. BJ 24. PN 32. Glina sive boje do smeđe boje, bez primjesa.
173. Obod amfore. BJ 25. Glina žute boje s malo primjesa kamenčića i mrvica pečene gline.
174. Grlo amfore. BJ 25. Glina smeđe boje, lomljive strukture, površina se trusi.
175. Dio grla amfore. Slučajni nalaz. PN 30. Glina izvana i iznutra smeđe, a u prijelomu crvene boje. Primjese smeđih kamenčića.
176. Dio grla amfore. BJ 25. Glina žute boje s malo primjesa kamenčića i mrvica pečene gline.
177. Dio grla amfore. BJ 25. Glina žute boje s primjesama raznih sitnih kamenčića i mrvica crvene pečene gline.
178. Čep amfore. BJ 25. Glina žute boje s primjesama sitnih kamenčića i crvenih mrvica pečene gline.
179. Čep amfore. BJ 82. Glina žute boje s primjesama sitnog svjetlucajućeg pijeska.
180. Čep amfore. BJ 19. Glina smeđe boje.
181. Dio čepa amfore. Slučajni nalaz. Glina svijetlo smeđe boje.
182. Dio grla amfore. BJ 25. Glina žute boje s primjesama sitnih kamenčića i mrvicama crvene pečene gline.
183. Obod amfore. Slučajni nalaz. PN 31. Glina svijetlo smeđe boje s primjesama svjetlucajućih mrvica.
184. Dio lonca s ručkom. BJ 14. Glina narančaste boje.
185. Dio lonca. BJ 3. Glina smeđe do narančaste boje.
186. Dio lonca. BJ 56. Glina smeđe boje.
187. Dio lonca. BJ 14. Glina smeđe boje.
188. Dio lonca s ručkom. BJ 58. Glina smeđe boje.
189. Dio lonca s ručkom. BJ 3. Glina narančaste boje.
190. Ručka lonca. BJ 1. Glina smeđe boje.
191. Dio lonca s ručkom. BJ 3. Glina smeđe boje.
192. Dio lonca s ručkom. BJ 3. Glina smeđe boje.
168. Amphora handle. BJ 59. Red clay with temper of fine desert sand.
169. Amphora handle. BJ 25. PN 33. Light brown clay with sparse temper of red fired clay.
170. Amphora handle. BJ 14. PN 19. Red clay with temper of coarse desert sand.
171. Amphora handle portion with a stamped marking. Chance find. PN 20. Yellow clay with sparse temper of pebbles and grains of fired clay.
172. Amphora neck. BJ 24. PN 32. Grey to brown clay, no temper.
173. Amphora rim sherd. BJ 25. Yellow clay with sparse temper of pebbles and grains of fired clay.
174. Amphora neck. BJ 25. Brown clay, friable structure, crumbling surface.
175. Amphora neck portion. Chance find. PN 30. Brown clay inside and outside surfaces, red core. Temper of brown pebbles.
176. Amphora neck portion. BJ 25. Yellow clay with sparse temper of pebbles and grains of fired clay.
177. Amphora neck portion. BJ 25. Yellow clay with temper of varied fine-grained pebbles and grains of red fired clay
178. Amphora stopper/seal. BJ 25. Yellow clay with temper of fine-grained pebbles and red grains of fired clay.
179. Amphora stopper/seal. BJ 82. Yellow clay with temper of fine-grained glittering sand.
180. Amphora stopper/seal. BJ 19. Brown clay.
181. Portion of an amphora stopper/seal. Chance find. Light brown clay.
182. Amphora neck portion. BJ 25. Yellow clay with temper of fine-grained pebbles and grains of red fired clay.
183. Amphora rim sherd. Chance find. PN 31. Light brown clay with temper of glitter grains.
184. Portion of a pot with handle. BJ 14. Orange clay.
185. Portion of a pot. BJ 3. Brown to orange clay.
186. Portion of a pot. BJ 56. Brown clay.
187. Portion of a pot. BJ 14. Brown clay.
188. Portion of a pot with handle. BJ 58. Brown clay.
189. Portion of a pot with handle. BJ 3. Orange clay.
190. Pot handle. BJ 1. Brown clay.
191. Portion of a pot with handle. BJ 3. Brown clay.
192. Portion of a pot with handle. BJ 3. Brown clay.
193. Portion of a pot. BJ 52. Brown clay.
194. Pot handle. BJ 32. Orange clay.
195. Portion of a pot with handle. BJ 27. Brown clay.
196. Pot rim sherd. BJ 3. Brown clay, orange core.
197. Portion of a pot. BJ 3. Brown clay.

193. Dio lonca. BJ 52. Glina smeđe boje.
194. Ručka lonca. BJ 32. Glina narančaste boje.
195. Dio lonca s ručkom. BJ 27. Glina smeđe boje.
196. Obod lonca. BJ 3. Glina smeđe, a u prijelomu narančaste boje.
197. Dio lonca. BJ 3. Glina smeđe boje.
198. Dio lonca s ručkom. BJ 3. Glina smeđe, u prijelomu narančaste boje.
199. Dio lonca s ručkom. BJ 52. Glina smeđe boje.
200. Dio lonca s ručkom. Slučajni nalaz. Glina smeđe, a u prijelomu narančaste boje.
201. Obod lonca. BJ 52. Glina narančaste boje.
202. Dio lonca s ručkom. BJ 3. Glina svijetlo smeđe boje.
203. Dio lonca. BJ 52. Dio lonca. Glina svijetlo smeđe boje.
204. Dio lonca s ručkom. BJ 33. Glina narančaste boje.
205. Dio lonca. BJ 25. Glina svijetlo narančaste boje, pročišćene fature.
206. Obod lonca. BJ 1. Glina smeđe, a u prijelomu crvene boje.
207. Dio lonca s ručkom. BJ 32. Glina narančaste boje.
208. Obod lonca. BJ 56. Glina crvene boje.
209. Obod lonca. BJ 1. Glina smeđe, a u prijelomu narančaste boje.
210. Obod lonca. BJ 3. Glina smeđe do narančaste boje.
211. Obod lonca. BJ 10. Glina smeđe, sa sitnim primjesama.
212. Obod lonca. Slučajni nalaz. Glina smeđe, a u prijelomu crne boje, s primjesama kvarcita, tvrde fature.
213. Obod lonca. BJ 1. Glina smeđe, a u prijelomu narančaste boje.
214. Obod lonca. Slučajni nalaz. Glina crvene boje.
215. Dio lonca s ručkom. BJ 28. Glina svijetlo narančaste boje.
216. Obod lonca. BJ 3. Glina smeđe boje.
217. Obod lonca. BJ 24. Glina crvene boje, smeđe izvana.
218. Obod lonca. BJ 14. Glina smeđe boje, pročišćene fature.
219. Obod lonca. BJ 44. Glina smeđe boje.
220. Obod lonca. BJ 25. Glina crne boje, s primjesama drobljenih kalcita i kvarcita, grube izrade.
221. Obod lonca. BJ 10. Glina smeđe, sa sitnim primjesama.
222. Obod lonca. BJ 14. Glina smeđe boje.
223. Obod lonca. BJ 33. Glina svijetlo smeđe boje.
224. Dio lonca s ručkom. BJ 14. Glina narančaste boje.
225. Dio lonca s ručkom. Slučajni nalaz. Glina smeđe boje.
226. Dio lonca s ručkom. BJ 32. Glina narančaste boje.
227. Dio lonca s ručkom. BJ 1. Glina smeđe boje.
228. Obod posude. BJ 2. Glina narančaste boje, s malo primjesa crvenih mrvica gline, tvrde fature.
198. Portion of a pot with handle. BJ 3. Brown clay, orange core.
199. Portion of a pot with handle. BJ 52. Brown clay.
200. Portion of a pot with handle. Chance find. Brown clay, orange core.
201. Pot rim sherd. BJ 52. Orange clay.
202. Portion of a pot with handle. BJ 3. Light brown clay.
203. Portion of a pot. BJ 52. Portion of a pot. Light brown clay.
204. Portion of a pot with handle. BJ 33. Orange clay.
205. Portion of a pot. BJ 25. Light orange clay, refined fabric.
206. Pot rim sherd. BJ 1. Brown clay, red core.
207. Portion of a pot with handle. BJ 32. Orange clay.
208. Pot rim sherd. BJ 56. Red clay.
209. Pot rim sherd. BJ 1. Brown clay, orange core.
210. Pot rim sherd. BJ 3. Brown to orange clay.
211. Pot rim sherd. BJ 10. Brown clay, with fine temper.
212. Pot rim sherd. Chance find. Brown clay, black core, with quartzite temper, hard fabric.
213. Pot rim sherd. BJ 1. Brown clay, orange core.
214. Pot rim sherd. Chance find. Red clay.
215. Portion of a pot with handle. BJ 28. Light orange clay.
216. Pot rim sherd. BJ 3. Brown clay.
217. Pot rim sherd. BJ 24. Red clay, exterior brown.
218. Pot rim sherd. BJ 14. Brown clay, refined fabric.
219. Pot rim sherd. BJ 44. Brown clay.
220. Pot rim sherd. BJ 25. Black clay, with temper of crushed calcite and quartzite, coarsely made.
221. Pot rim sherd. BJ 10. Brown clay, with fine temper.
222. Pot rim sherd. BJ 14. Brown clay.
223. Pot rim sherd. BJ 33. Light brown clay.
224. Portion of a pot with handle. BJ 14. Orange clay.
225. Portion of a pot with handle. Chance find. Brown clay.
226. Portion of a pot with handle. BJ 32. Orange clay.
227. Portion of a pot with handle. BJ 1. Brown clay.
228. Vessel rim sherd. BJ 2. Orange clay, with sparse temper of red clay grains, hard fabric.
229. Vessel belly sherd. BJ 19. Dark brown clay.
230. Vessel belly sherd. BJ 17. Dark brown clay, with sparse temper.
231. Vessel belly sherd. Chance find. Brown clay, orange core, tempered, hard fabric.
232. Lid rim sherd. BJ 3. Brown to black clay, with temper of pebbles.
233. Lid rim sherd. BJ 17. Orange to brown clay with temper.
234. Lid rim sherd. BJ 2. Orange clay, coarse fabric.

229. Trbuh posude. BJ 19. Glina tamno smeđe boje.
230. Trbuh posude. BJ 17. Glina tamno smeđe boje, s malo primjesa.
231. Trbuh posude. Slučajni nalaz. Glina smeđe, a u prijelomu narančaste boje, s primjesama i tvrde fakture.
232. Obod poklopca. BJ 3. Glina smeđe do crne boje, s primjesama kamenčića.
233. Obod poklopca. BJ 17. Glina narančaste do smeđe boje s primjesama.
234. Obod poklopca. BJ 2. Glina narančaste boje, grube fakture.
235. Obod poklopca. BJ 19. Glina crvene boje s mnogo primjesa.
236. Obod poklopca. BJ 20. Glina smeđe boje s mnogo raznih primjesa.
237. Obod poklopca. BJ 1. Glina svijetlo smeđe boje.
238. Obod poklopca. BJ 28. Glina svijetlo smeđe boje.
239. Gornji dio poklopca. BJ 19. Glina crvene boje s mnogo primjesa.
240. Gornji dio poklopca. BJ 52. Glina svijetlo smeđe boje.
241. Gornji dio poklopca. BJ 12. Glina smeđe, grube fakture s mnogo primjesa.
242. Gornji dio poklopca. BJ 27. Glina narančaste boje.
243. Gornji dio poklopca. BJ 3. Glina narančaste boje, površina se trusi.
244. Dno lonca. BJ 26. Glina smeđe do narančaste boje, s mnogo sitnih primjesa.
245. Dno lonca. BJ 1. Glina svijetlo smeđe, a u prijelomu crvene boje.
246. Dno lonca. BJ 25. Glina crvene boje.
247. Dno lonca. BJ 32. Glina narančaste boje.
248. Dno lonca. BJ 33. Glina narančaste boje.
249. Dno lonca? BJ 25. Glina svijetlo smeđe boje s malo primjesa sitnih kamenčića.
250. Dno lonca. BJ 28. Glina svijetlo smeđe boje.
251. Dno lonca. BJ 27. Glina narančaste boje.
252. Dno lonca. BJ 1. Glina narančaste boje.
253. Dno lonca. BJ 28. Glina tamno smeđe boje.
254. Dno lonca. BJ 59. Glina narančaste boje.
255. Dno lonca. BJ 52. Glina svijetlo smeđe boje.
256. Dno lonca. BJ 14. Glina smeđe boje.
257. Dno lonca. Slučajni nalaz. Glina smeđe, a u prijelomu tamno crvene boje, tvrde fakture.
258. Dno lonca. Slučajni nalaz. Glina narančaste boje, površina se trusi.
259. Gornji dio zdjele. BJ 3. Glina smeđe boje, površina se trusi.
260. Obod zdjele. BJ 1. Glina smeđe, a u prijelomu narančaste boje.
261. Gornji dio zdjele. BJ 1. Glina svijetlo smeđe boje.
235. Lid rim sherd. BJ 19. Red clay with abundant temper.
236. Lid rim sherd. BJ 20. Brown clay with abundant and varied temper.
237. Lid rim sherd. BJ 1. Light brown clay.
238. Lid rim sherd. BJ 28. Light brown clay.
239. Lid upper portion. BJ 19. Red clay with abundant temper.
240. Lid upper portion. BJ 52. Light brown clay.
241. Lid upper portion. BJ 12. Brown clay, coarse fabric with abundant temper.
242. Lid upper portion. BJ 27. Orange clay.
243. Lid upper portion. BJ 3. Orange clay, crumbling surface.
244. Pot base sherd. BJ 26. Brown to orange clay, with abundant fine temper.
245. Pot base sherd. BJ 1. Light brown clay, red core.
246. Pot base sherd. BJ 25. Red clay.
247. Pot base sherd. BJ 32. Orange clay.
248. Pot base sherd. BJ 33. Orange clay.
249. Pot base sherd? BJ 25. Light brown clay with sparse temper of fine-grained pebbles.
250. Pot base sherd. BJ 28. Light brown clay.
251. Pot base sherd. BJ 27. Orange clay.
252. Pot base sherd. BJ 1. Orange clay.
253. Pot base sherd. BJ 28. Dark brown clay.
254. Pot base sherd. BJ 59. Orange clay.
255. Pot base sherd. BJ 52. Light brown clay.
256. Pot base sherd. BJ 14. Brown clay.
257. Pot base sherd. Chance find. Brown clay, dark red core, hard fabric.
258. Pot base sherd. Chance find. Orange clay, crumbling surface.
259. Bowl upper portion. BJ 3. Brown clay, crumbling surface.
260. Bowl rim sherd. BJ 1. Brown clay, orange core.
261. Bowl upper portion. BJ 1. Light brown clay.
262. Bowl upper portion. BJ 27. Orange clay with abundant temper.
263. Bowl upper portion. BJ 23. Brown clay with abundant temper.
264. Bowl rim sherd. BJ 52. Dark orange clay, with abundant temper of pebbles.
265. Bowl rim sherd. BJ 52. Brown clay with abundant temper.
266. Bowl handle sherd. BJ 1. Red clay.
267. Bowl handle sherd. BJ 33. Light brown clay.
268. Bowl handle sherd. Chance find. Brown clay.
269. Bowl handle sherd. Chance find. Brown clay.
270. Portion of a pan? BJ 27. Brown clay with abundant temper.

262. Gornji dio zdjele. BJ 27. Glina narančaste boje s mnogo primjesa.
263. Gornji dio zdjele. BJ 23. Glina smeđe boje s mnogo primjesa.
264. Obod zdjele. BJ 52. Glina tamno narančaste boje, s mnogo primjesa kamenčića.
265. Obod zdjele. BJ 52. Glina smeđe boje s mnogo primjesa.
266. Ručka zdjele. BJ 1. Glina crvene boje.
267. Ručka zdjele. BJ 33. Glina svijetlo smeđe boje.
268. Ručka zdjele. Slučajni nalaz. Glina smeđe boje.
269. Ručka zdjele. Slučajni nalaz. Glina smeđe boje.
270. Dio tave? BJ 27. Glina smeđe boje s mnogo primjesa.
271. Dio tave? BJ 17. Glina smeđe boje s mnogo primjesa.
272. Dio tave?. BJ 28. Glina smeđe boje s mnogo primjesa.
273. Dio tave s nasadom za ručku. BJ 14. Glina narančaste boje, s krupnijim primjesama kamenčića.
274. Nasad za ručku BJ 12. Glina smeđe boje, grube fakture s mnogo primjesa.
275. Nasad za ručku. BJ 52. Glina smeđe boje.
276. Dio tave s nasadom za ručku? BJ 14. Glina smeđe boje.
277. Nasad za ručku. BJ 52. Glina smeđe boje.
278. Obod sigilatnog tanjura. BJ 25. Glina narančaste boje. Crveni slip izlisan, sačuvan samo u utoru. Malo primjesa sitnog oblog kvarcita.
279. Gornji dio staklene čaše. BJ 1. Svijetlo maslinasto zelene boje.
280. Gornji dio staklene čaše. BJ 1. Maslinasto zelene boje.
281. Gornji dio staklene čaše. BJ 1. Svijetlo smečkaste boje.
282. Glineni uteg za mrežu. BJ 25. Glina crvene boje s primjesama mrvica smeđe pečene gline.
283. Željezni čavao. Slučajni nalaz.
284. Željezni čavao. BJ 32.
285. Olovni klin? BJ 52.
286. Dio željeznog čavla. Slučajni nalaz.
287. Dio brončanog čavla. BJ 3.
288. Dio željeznog čavla. BJ 1.
289. Dio brončanog prstena s rupom. Slučajni nalaz.
290. Dio žrvnja od crnog rupičastog vulkanskog kamena. BJ 12.
291. Dio tegule. BJ 162. Glina žute boje s primjesama mrvica crvene pečene gline i jednom cijelom školjkicom.
292. Dio tegule? BJ 160. Glina narančaste boje pročišćene gline.
293. Opeka. BJ 25. Glina smeđe boja s primjesama raznih sitnih kamenčića.
271. Portion of a pan? BJ 17. Brown clay with abundant temper.
272. Portion of a pan? BJ 28. Brown clay with abundant temper.
273. Portion of a pan with handle socket. BJ 14. Orange clay, with temper of coarse-grained pebbles.
274. Handle socket. BJ 12. Brown clay, coarse fabric with abundant temper.
275. Handle socket. BJ 52. Brown clay.
276. Portion of a pan with handle socket? BJ 14. Brown clay.
277. Handle socket. BJ 52. Brown clay.
278. Sigillata dish rim sherd. BJ 25. Orange clay. Red slip worn, preserved only in the groove. Sparse temper of fine-grained rounded quartzite.
279. Glass beaker, upper portion. BJ 1. Light olive-green colour.
280. Glass beaker, upper portion. BJ 1. Olive green colour.
281. Glass beaker, upper portion. BJ 1. Light brownish colour.
282. Clay net sinker. BJ 25. Red clay with temper of grains of brown fired clay.
283. Iron nail. Chance find.
284. Iron nail. BJ 32.
285. Lead spike? BJ 52.
286. Part of an iron nail. Chance find.
287. Part of a bronze nail. BJ 3.
288. Part of an iron nail. BJ 1.
289. Portion of a bronze finger ring with perforation. Chance find.
290. Portion of a quern of black vesicular volcanic stone. BJ 12.
291. Tegula portion. BJ 162. Yellow clay with temper of grains of red fired clay and one whole shell.
292. Tegula portion? BJ 160. Orange refined clay.
293. Brick. BJ 25. Brown clay with temper of varied fine-grained pebbles.

T. 17–38, Plates, Uljeva B (drawings by: L. Bekić)

FT. 1–3, Photo plates of fabric, Uljeva B (M. Kaleb)

T. 17-38, Table, Uljeva B (crteži: L. Bekić)

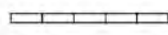
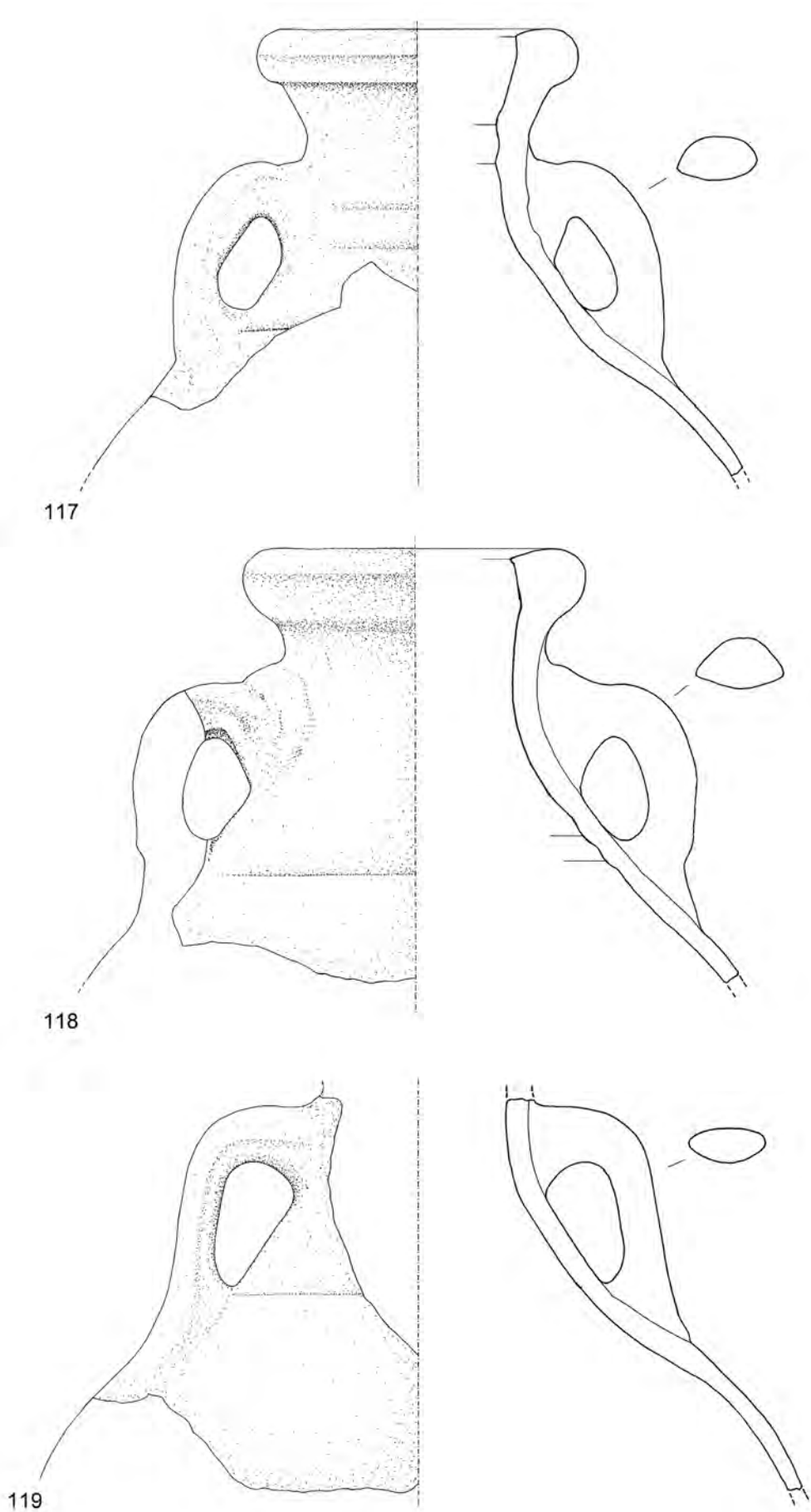
FT. 1-3, Fototabla faktura, Uljeva B (M. Kaleb)

T 17

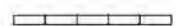
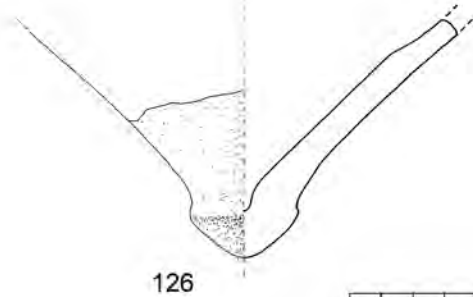
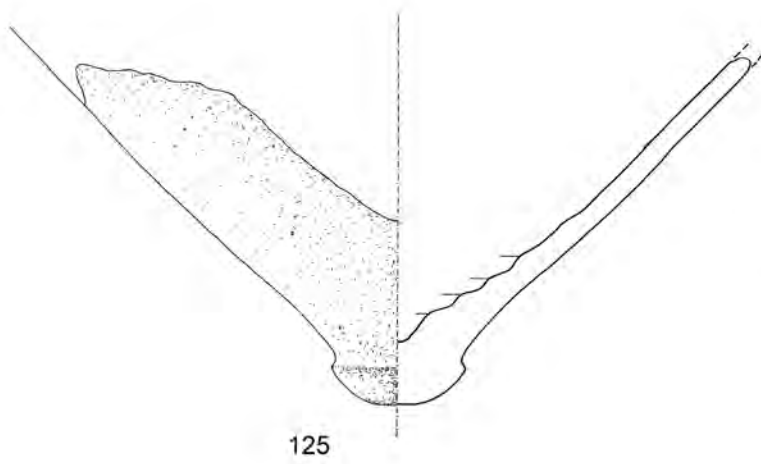
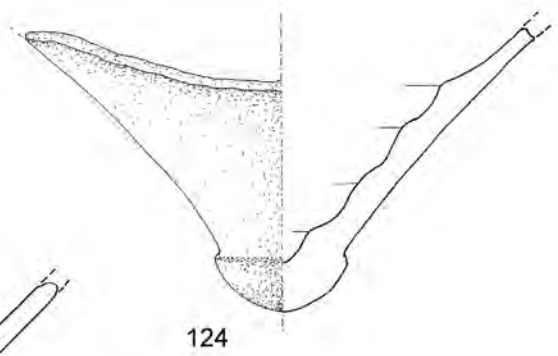
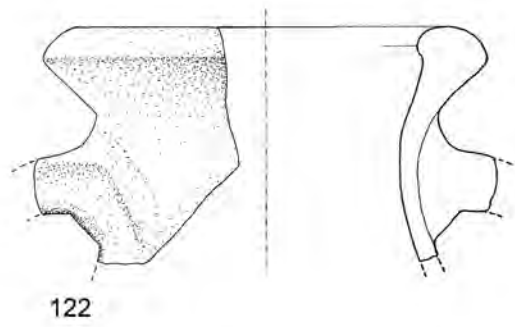
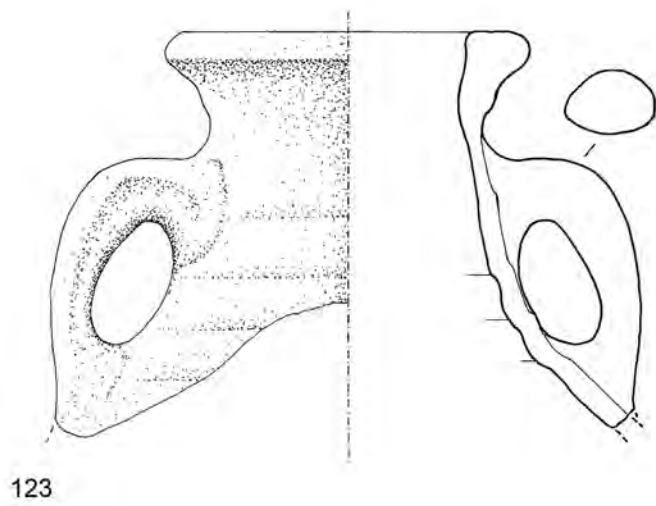
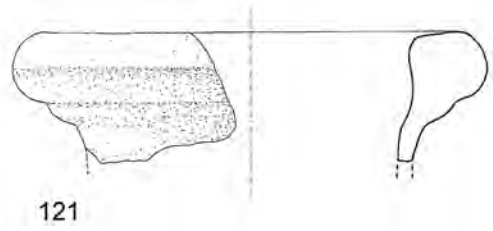
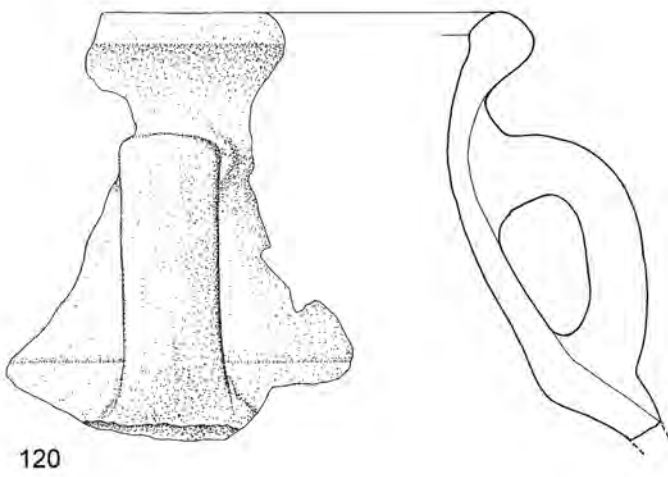
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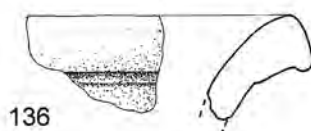
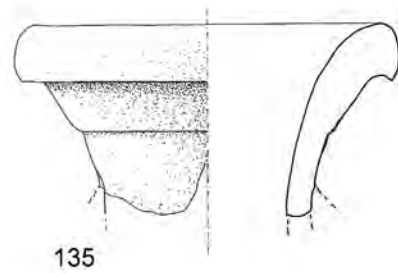
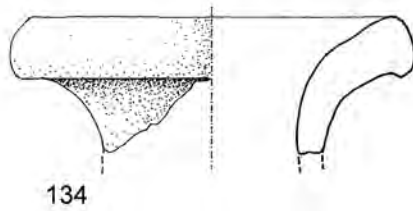
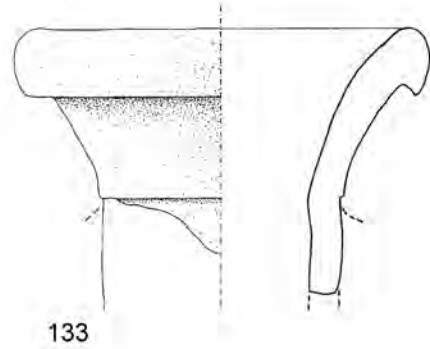
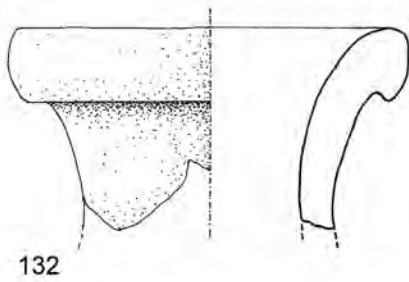
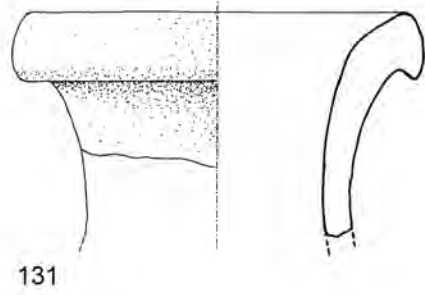
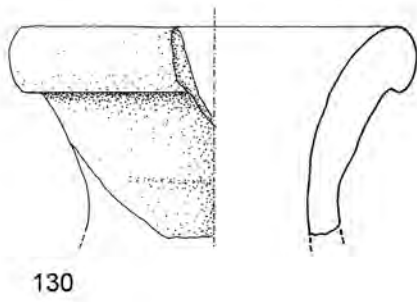
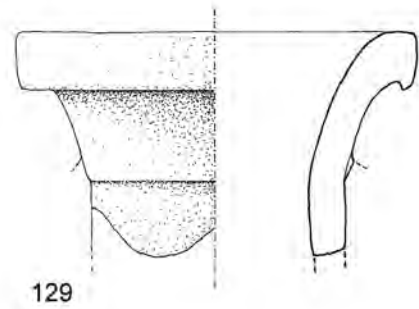
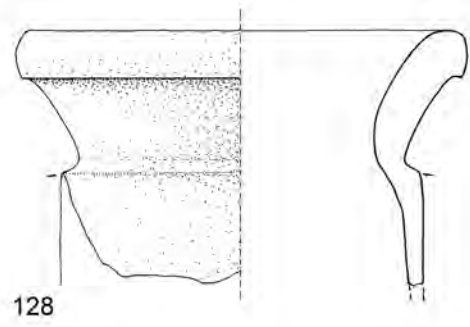
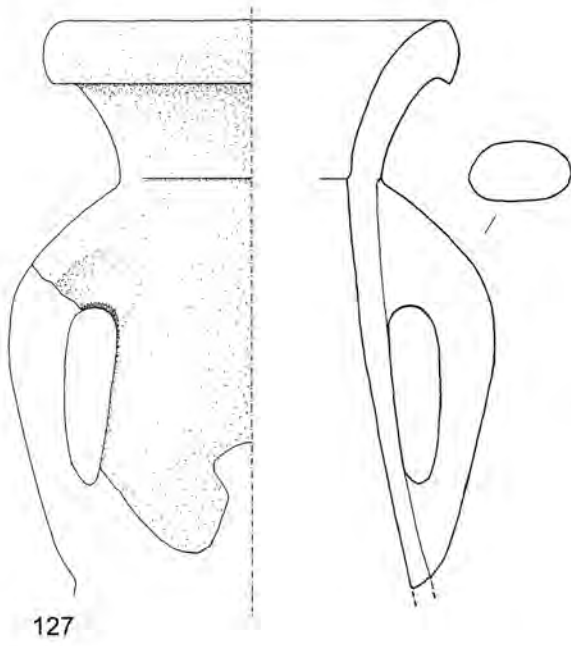
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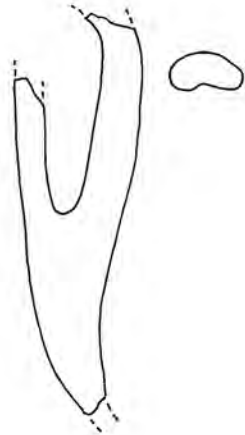




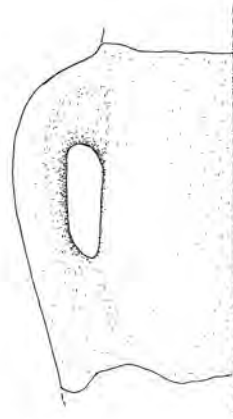
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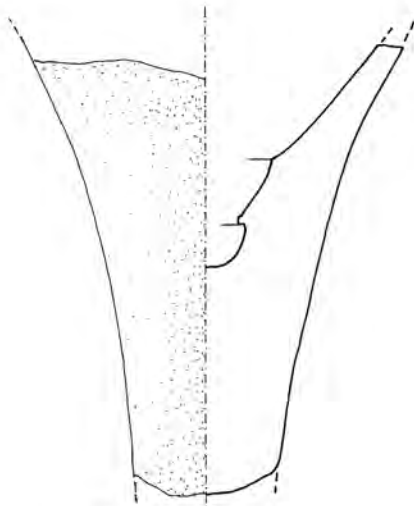
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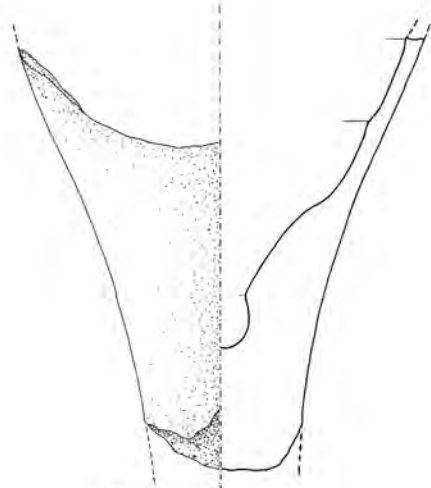
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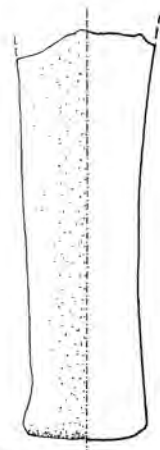
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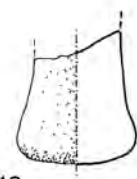
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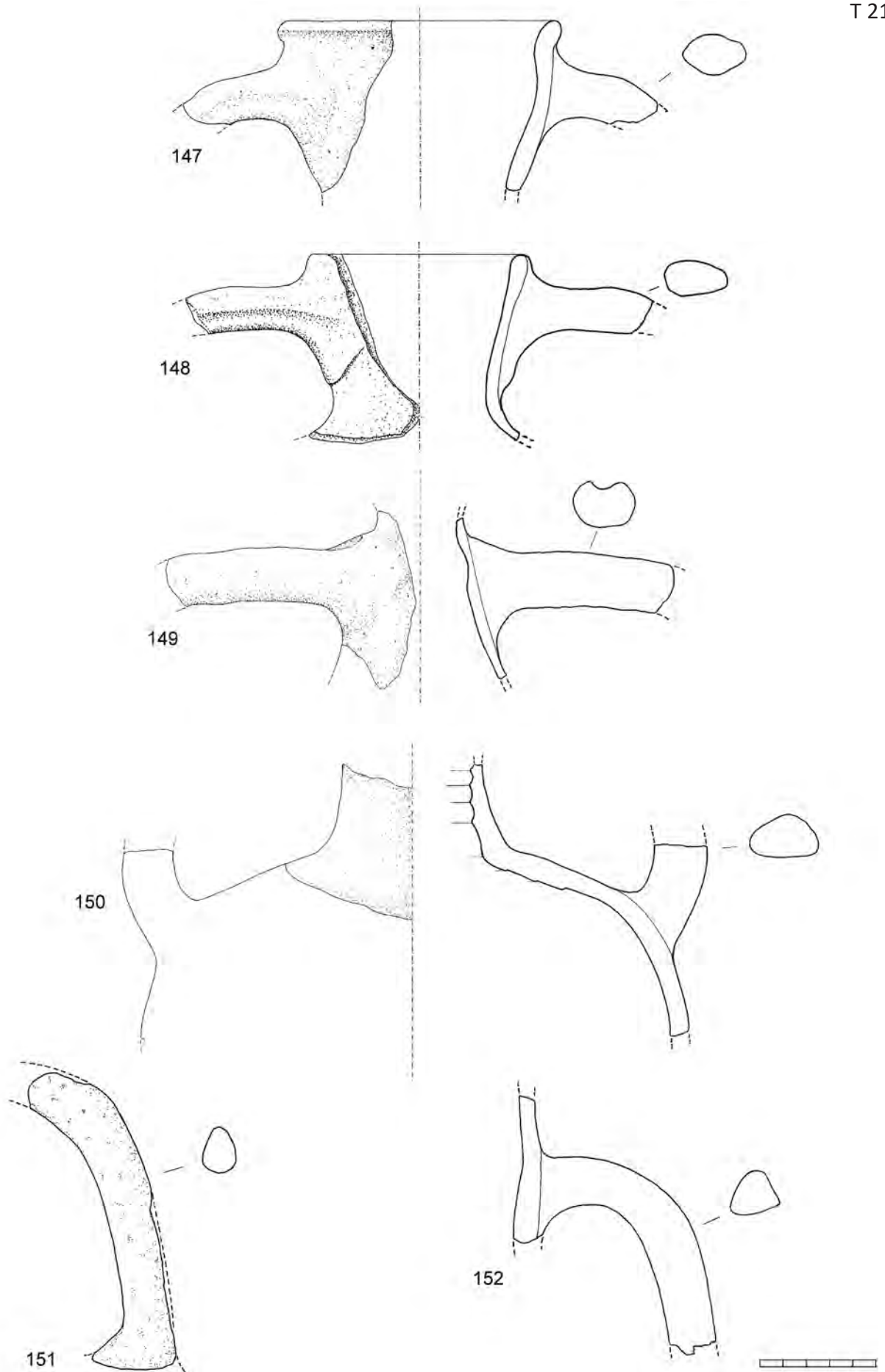
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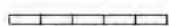
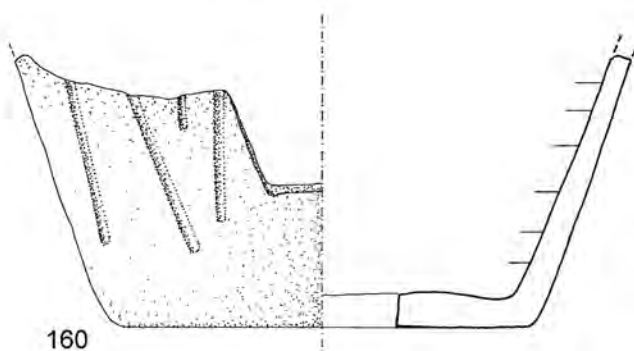
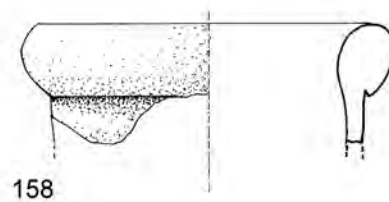
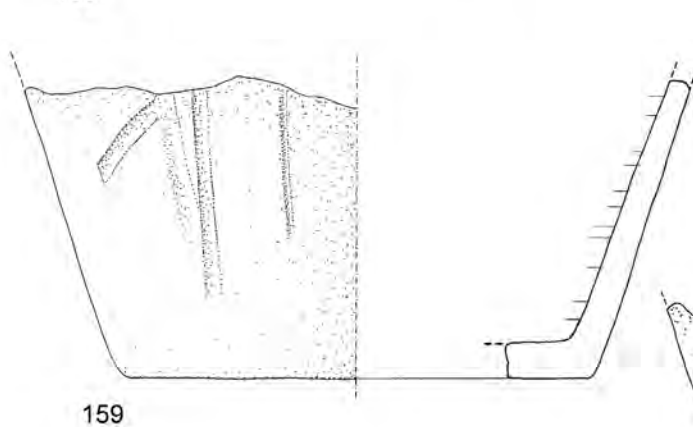
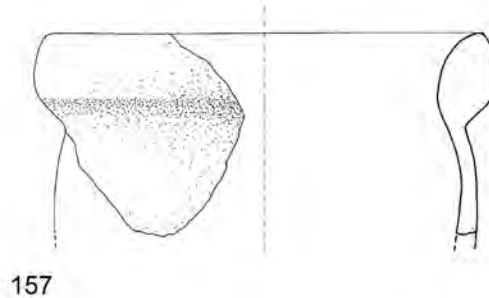
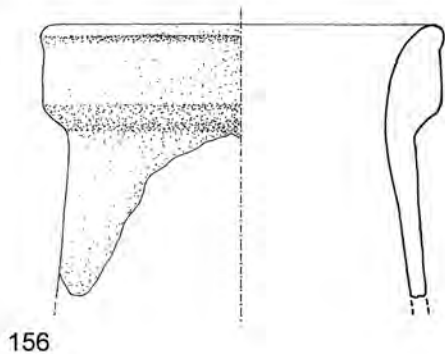
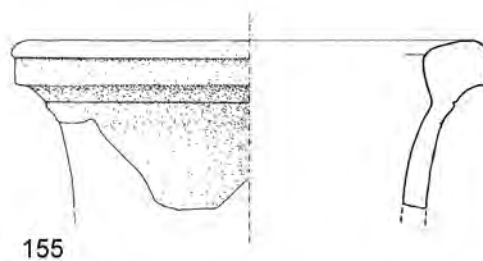
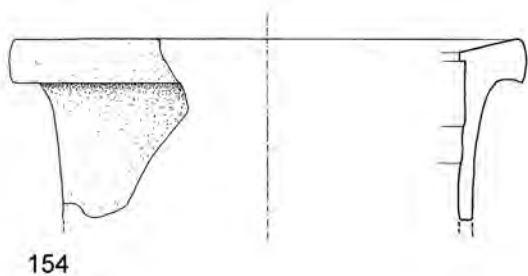
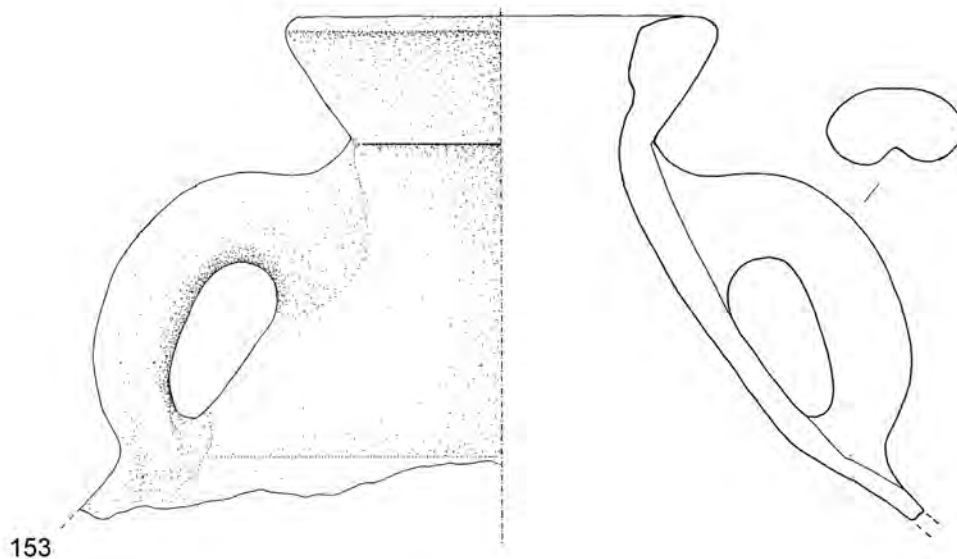
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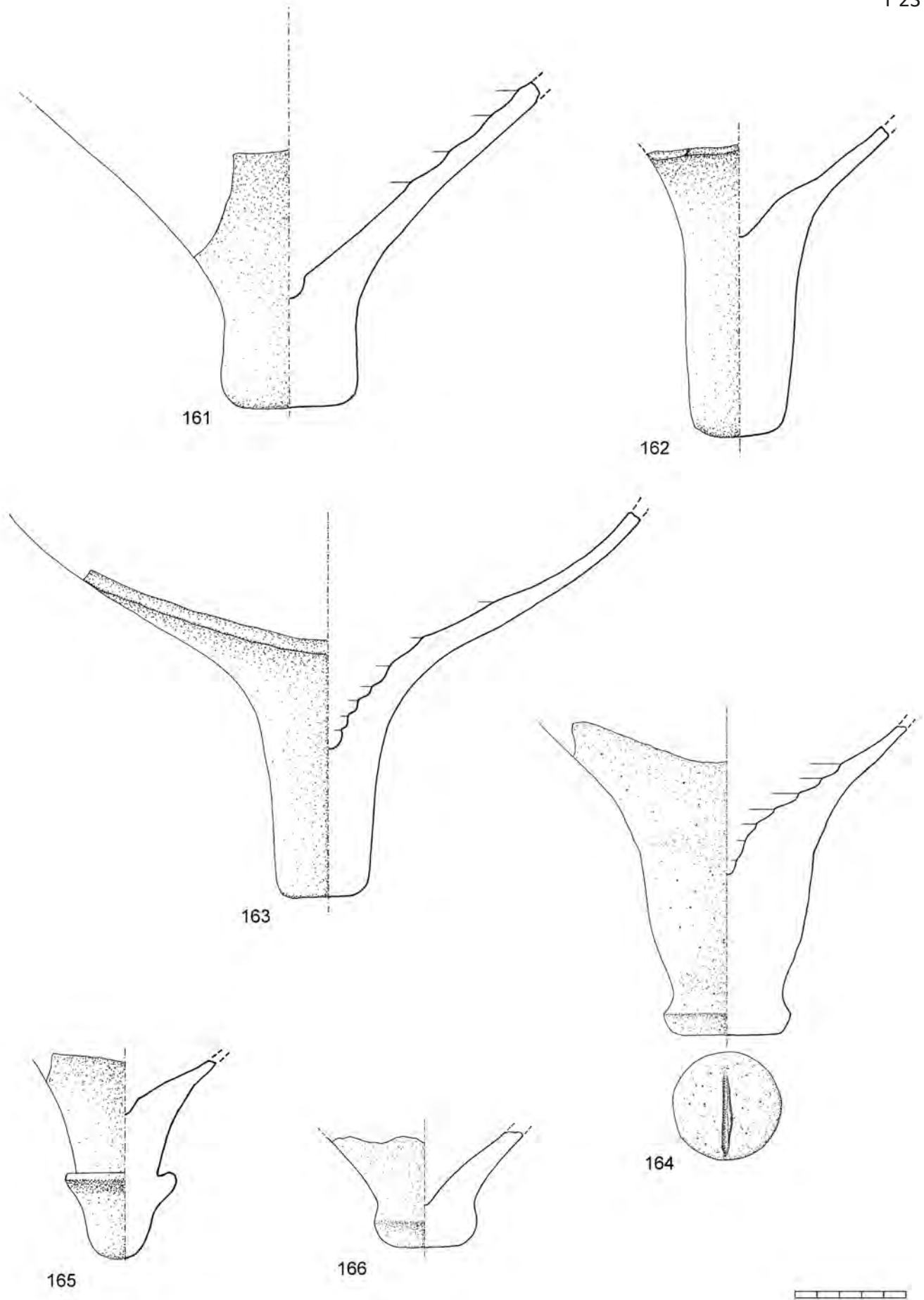
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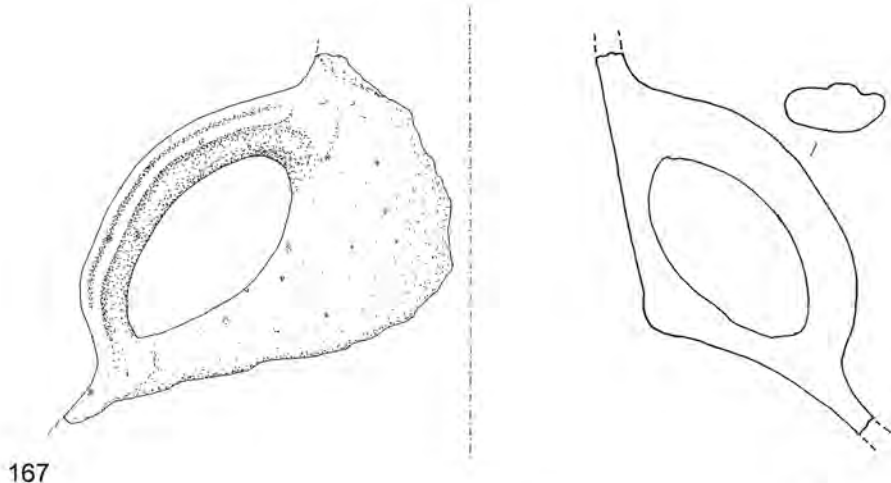
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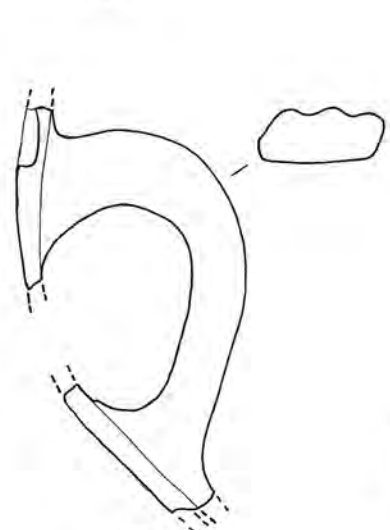
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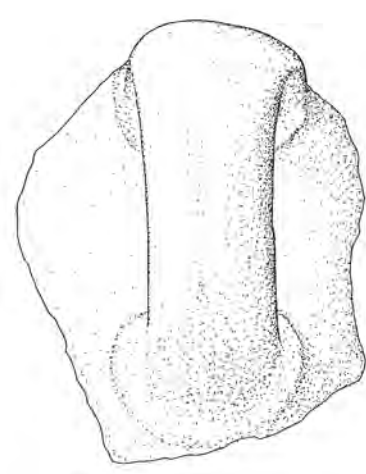
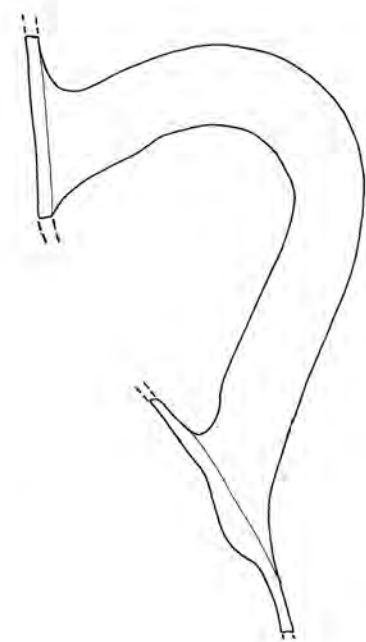
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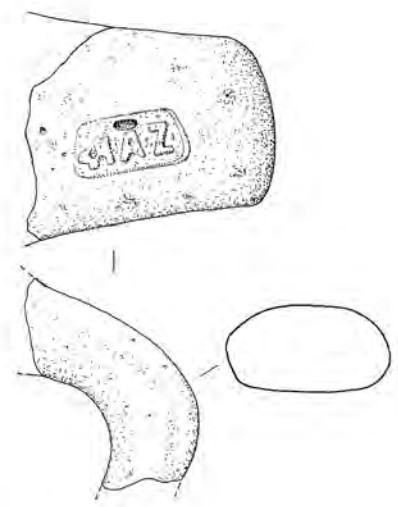
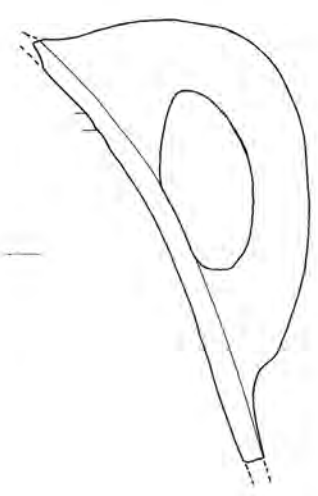
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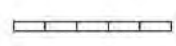
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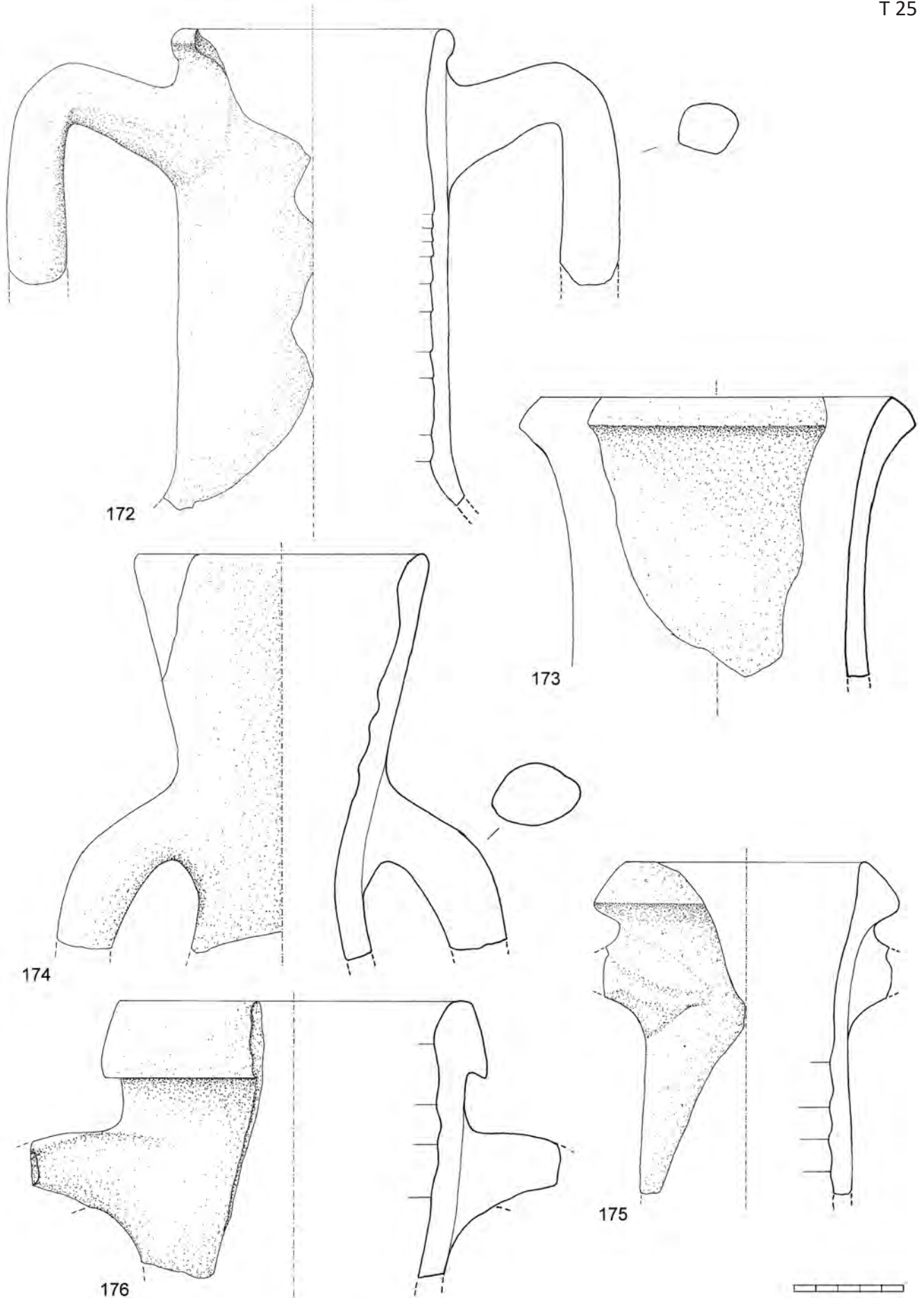
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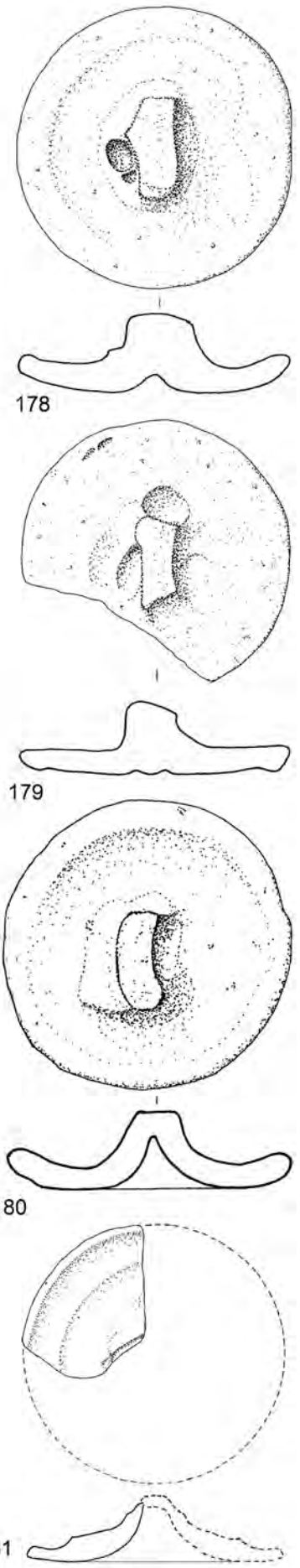
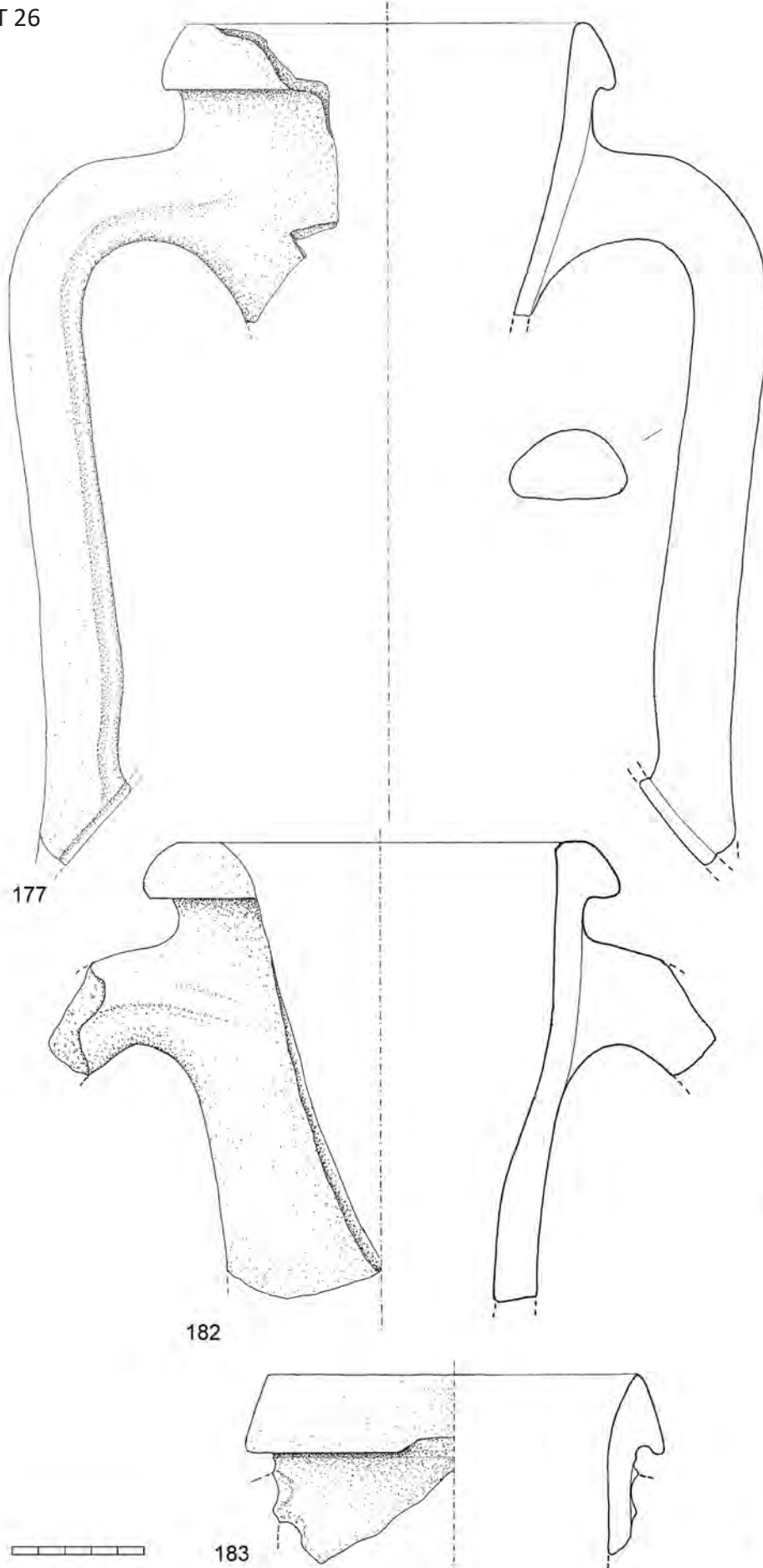
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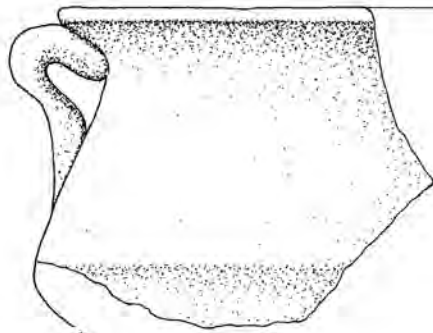
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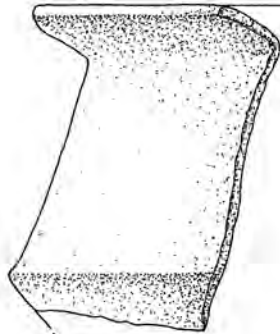
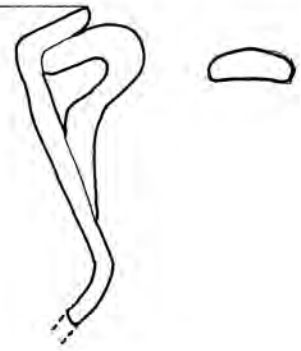
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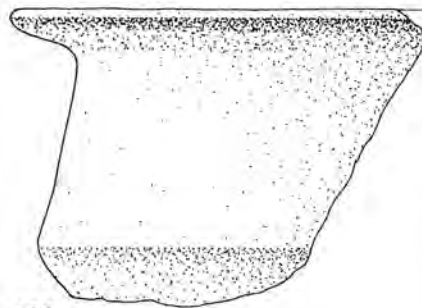
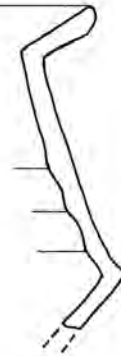
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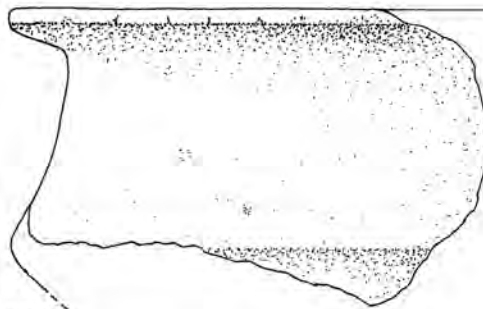
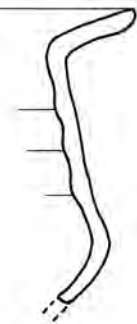
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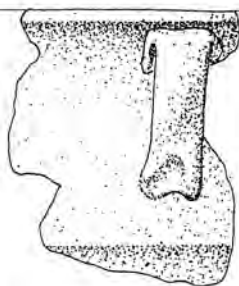
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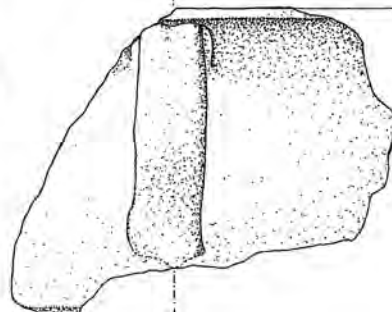
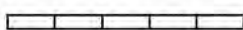
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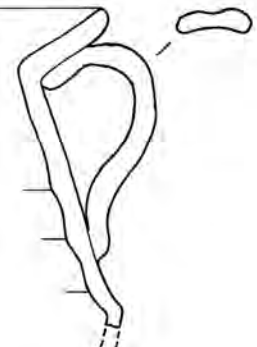
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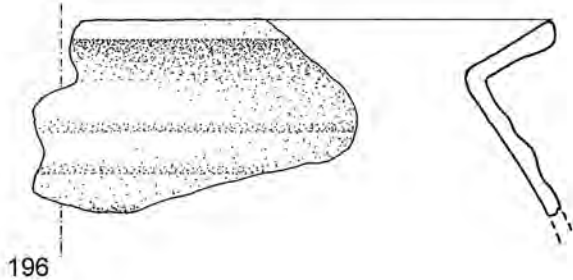
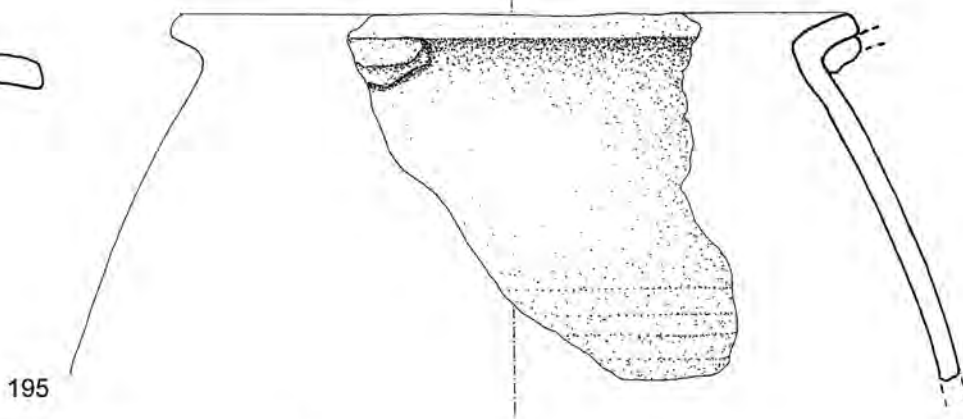
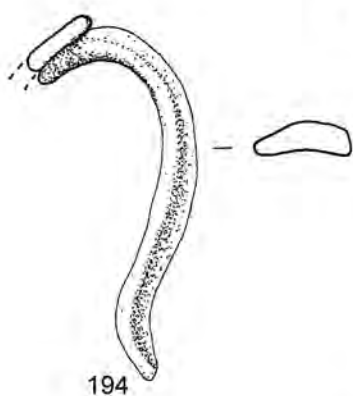
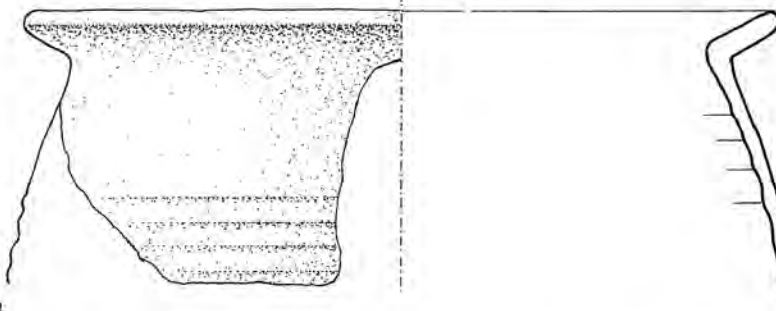
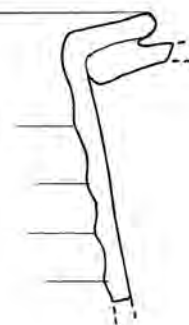
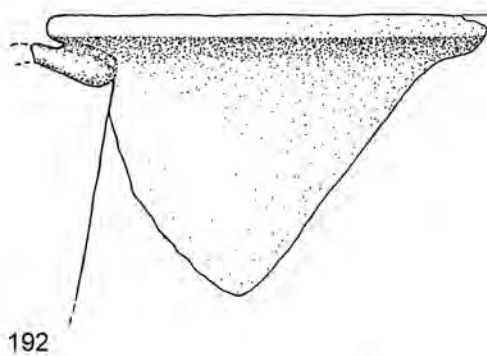
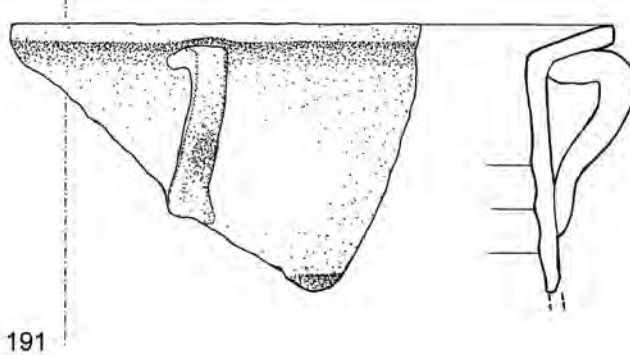
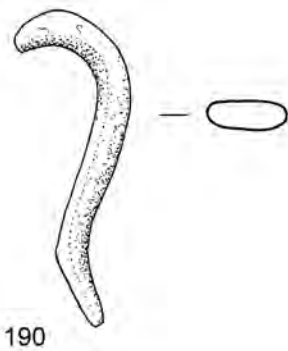
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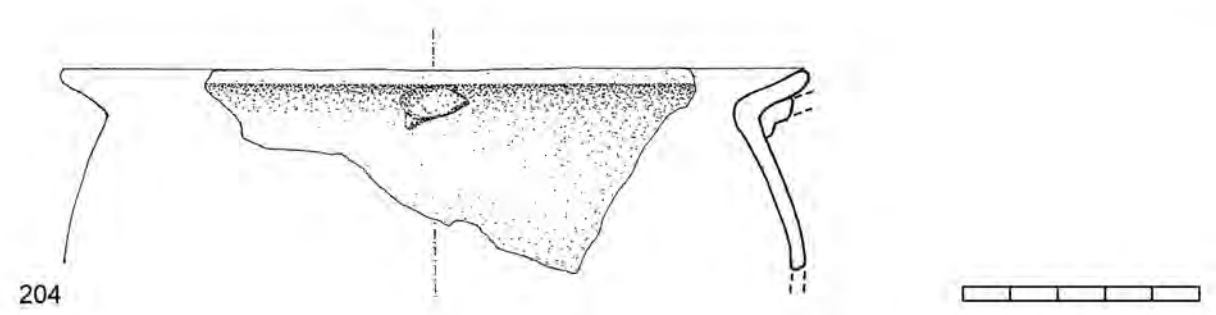
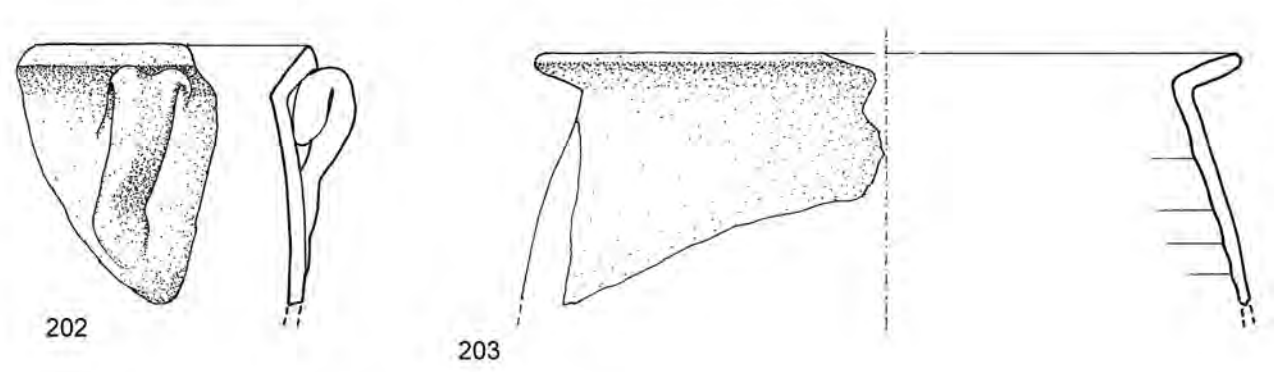
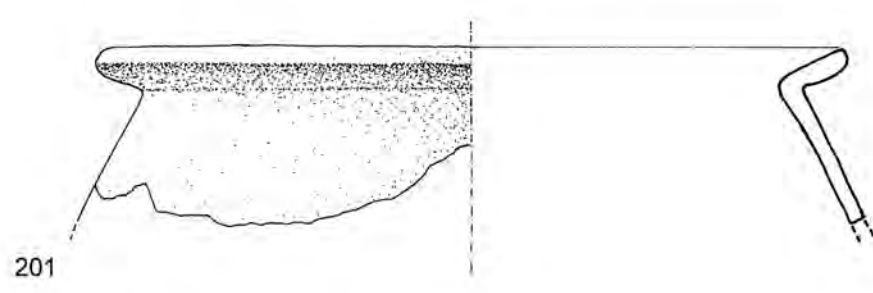
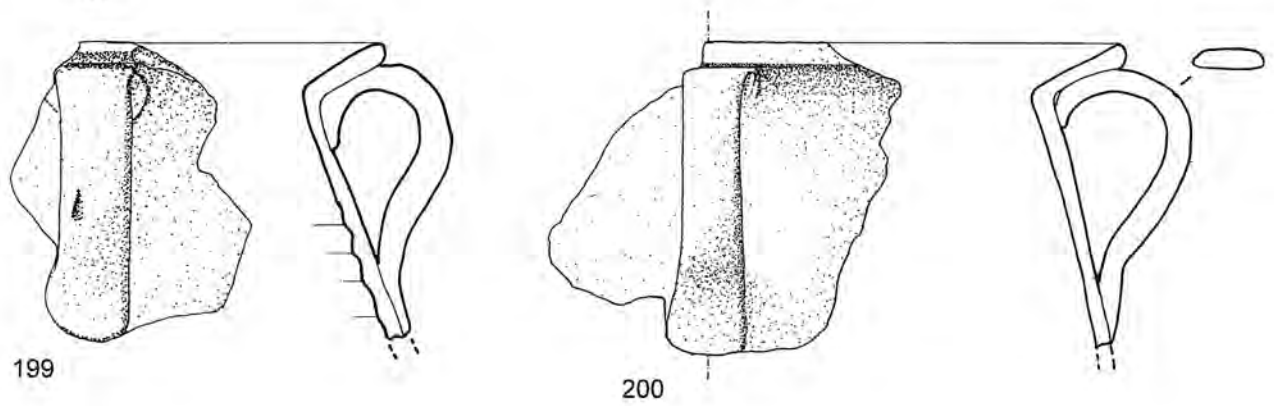
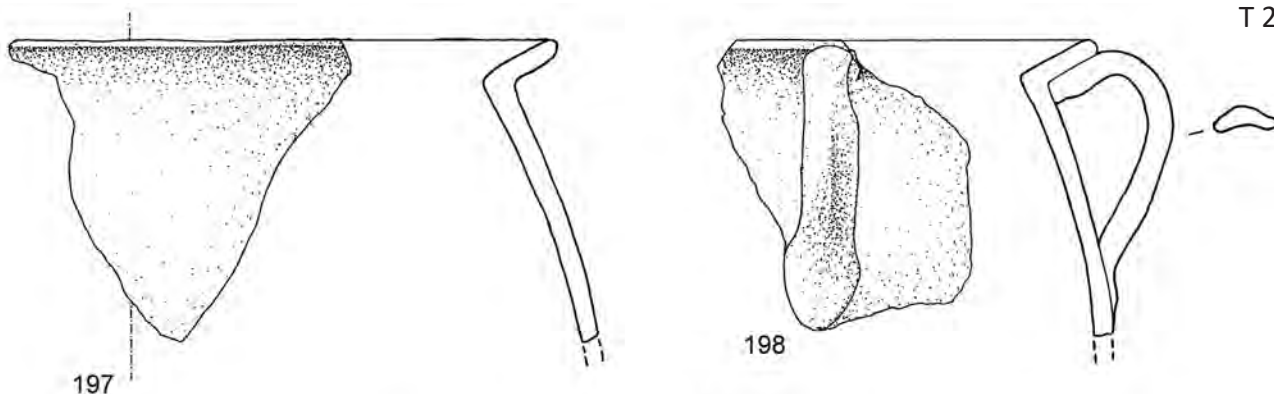
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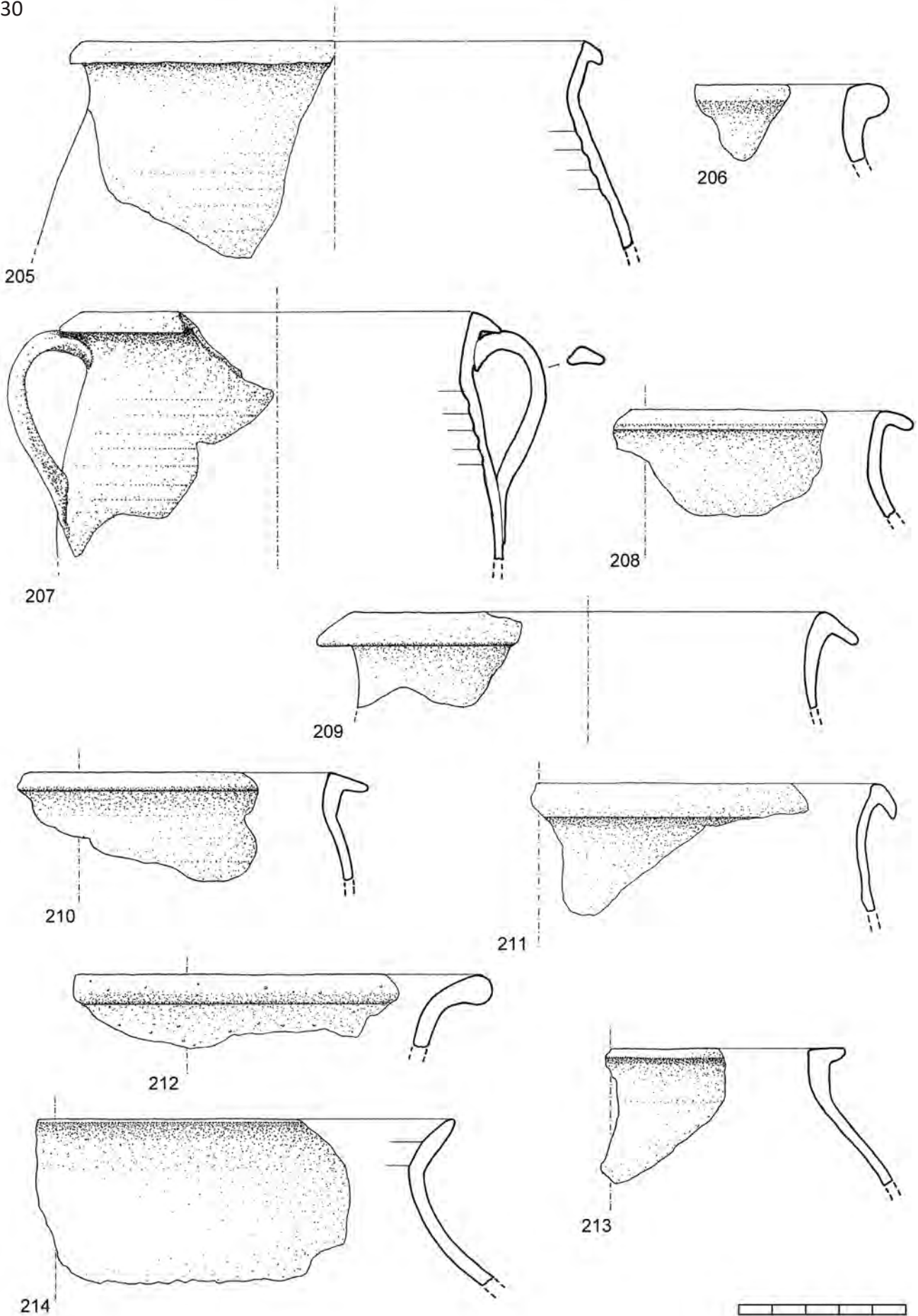
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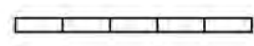
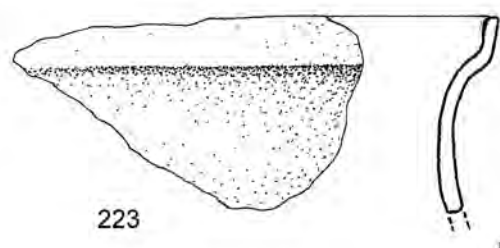
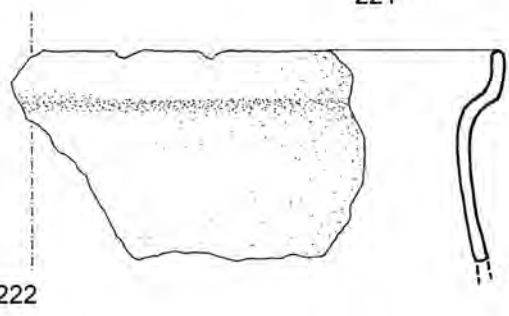
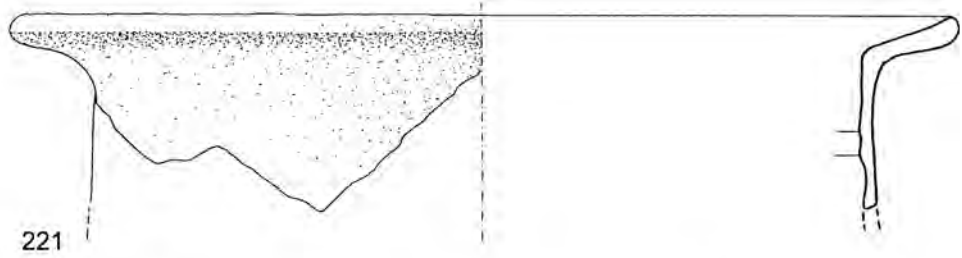
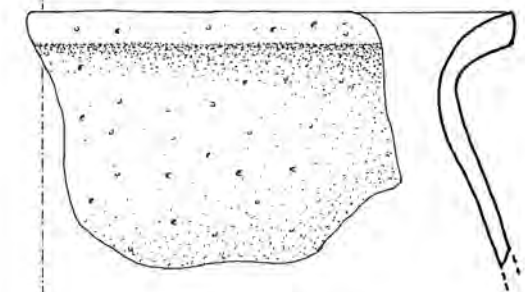
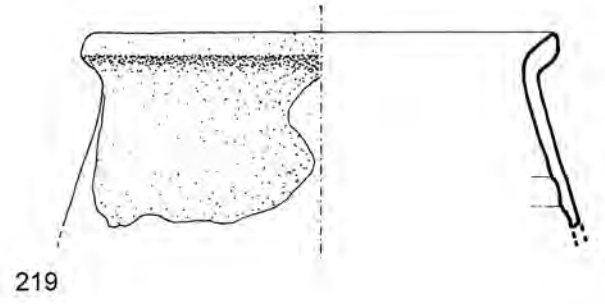
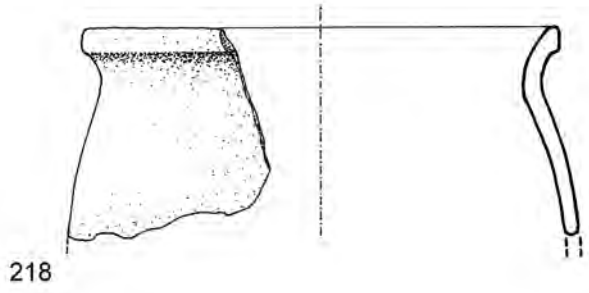
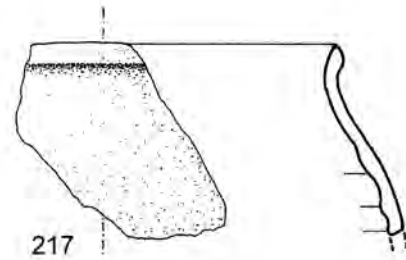
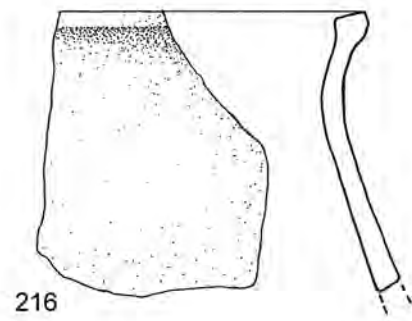
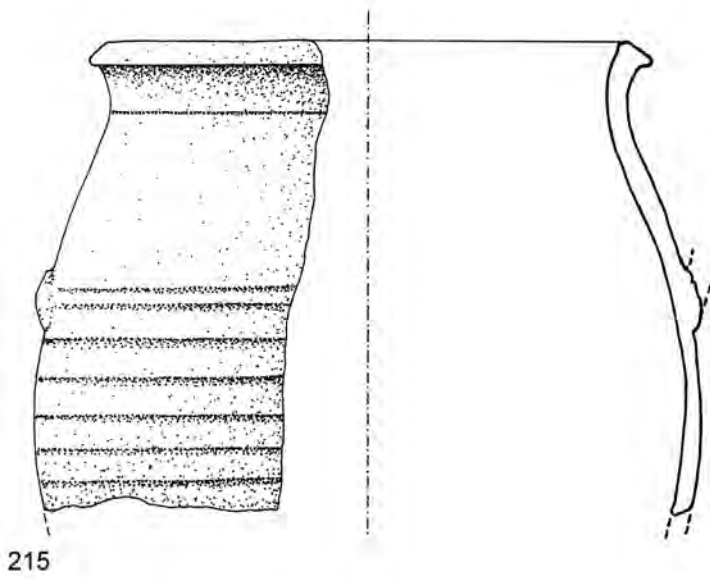
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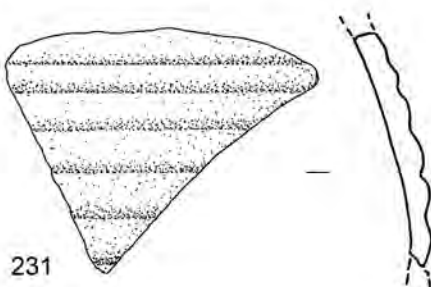
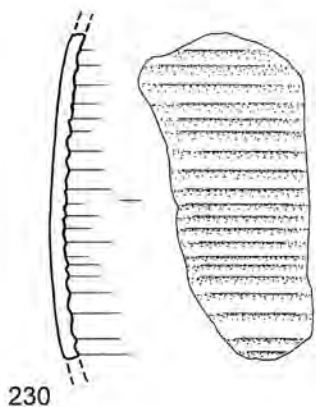
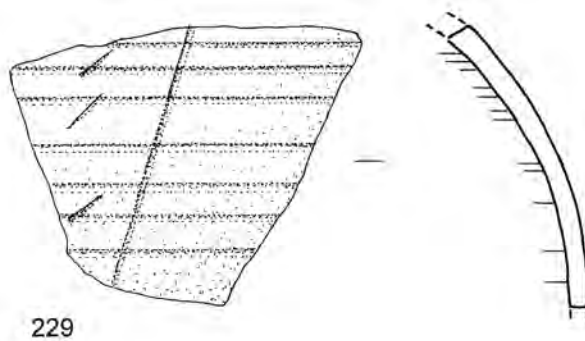
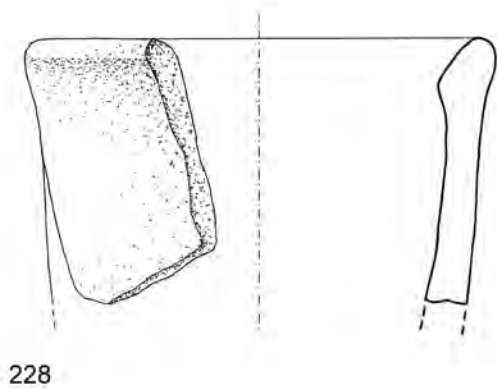
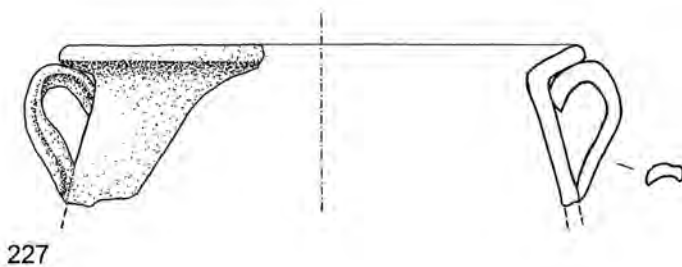
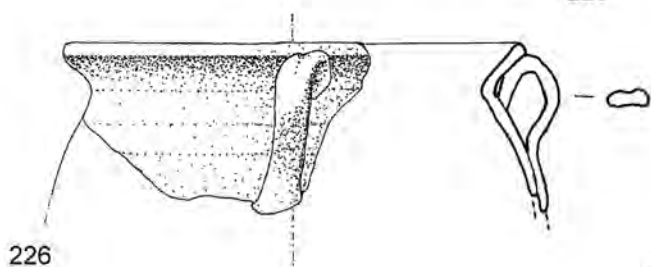
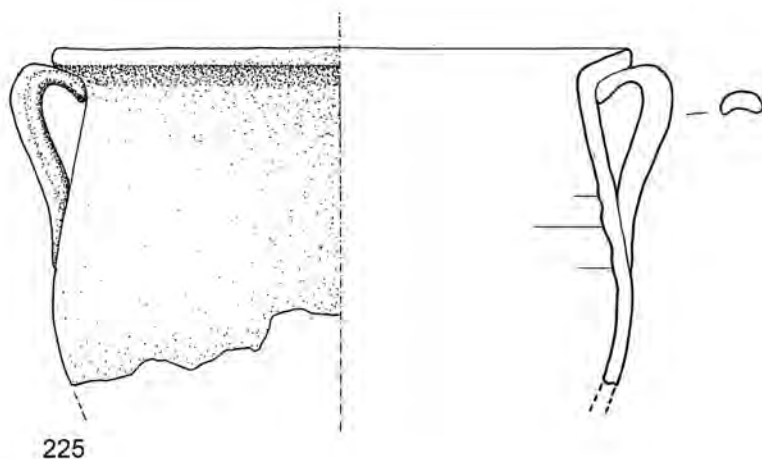
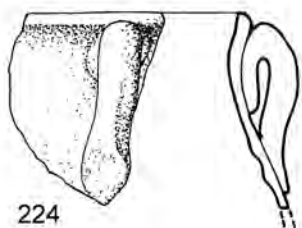
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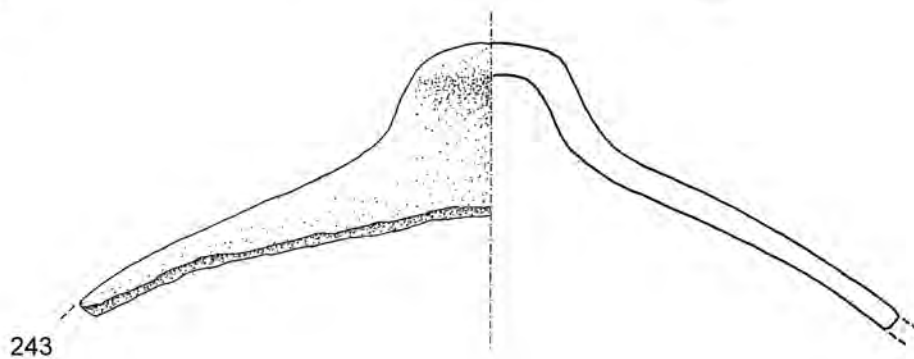
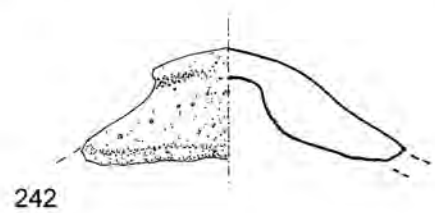
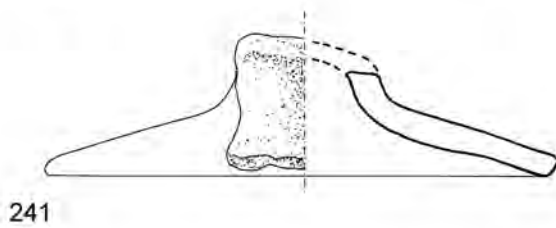
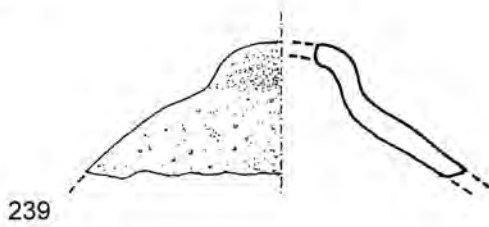
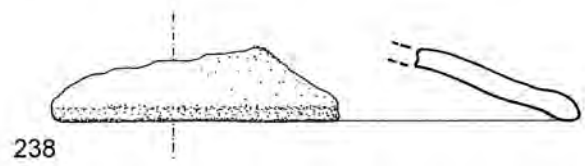
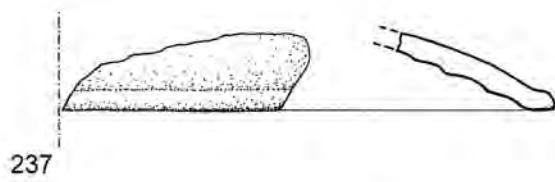
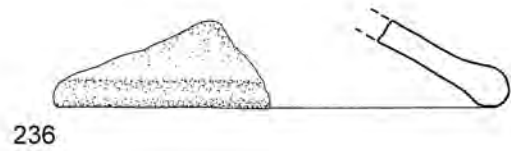
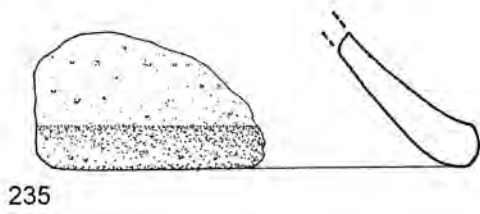
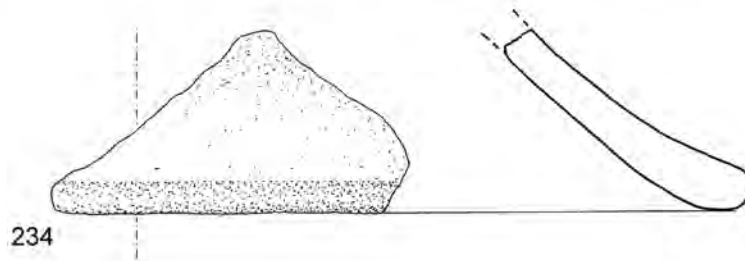
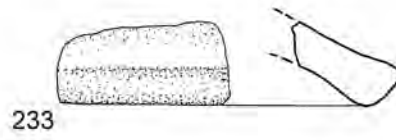
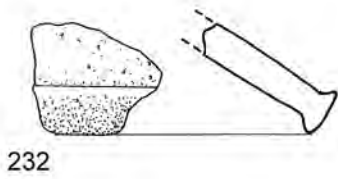


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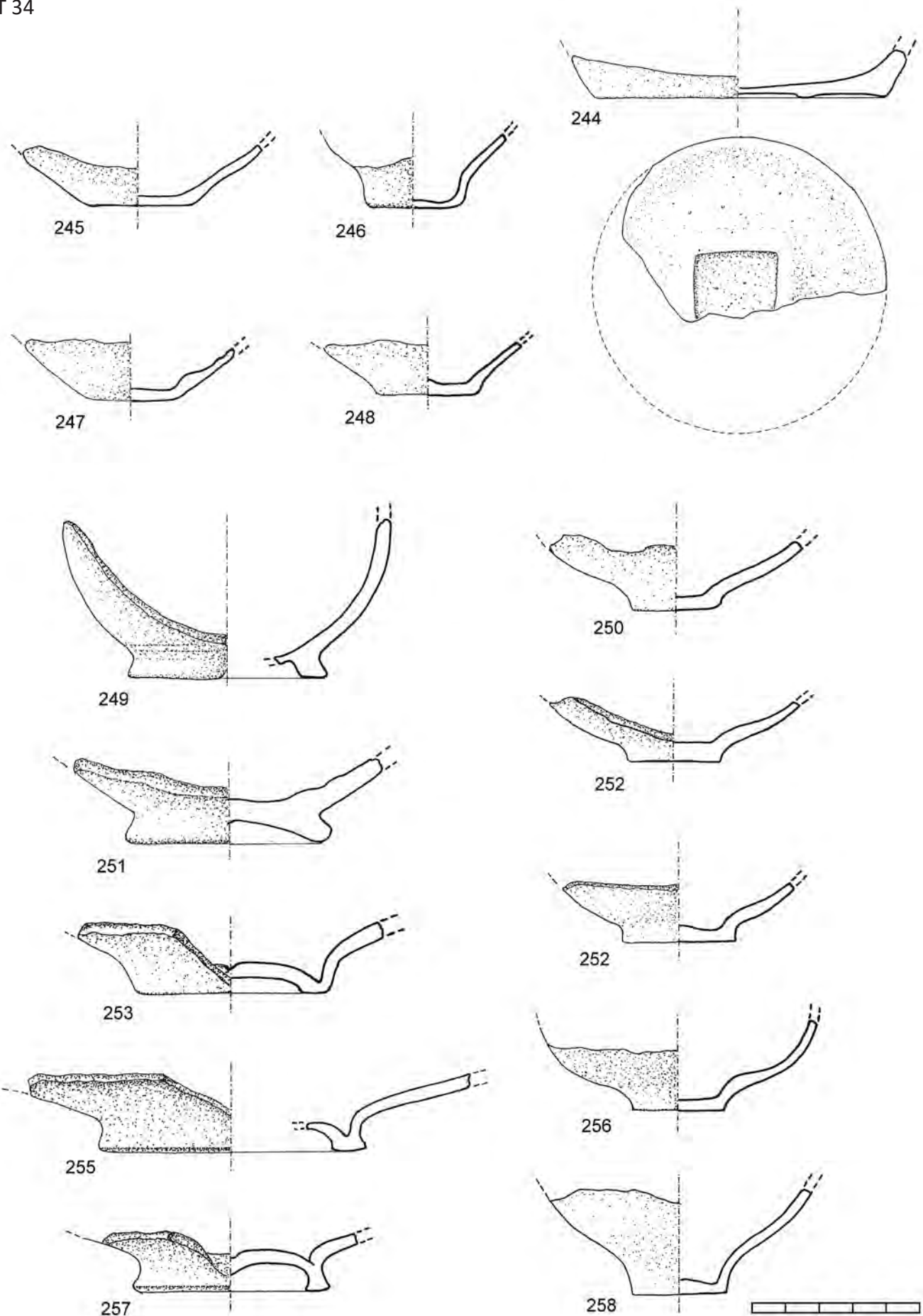


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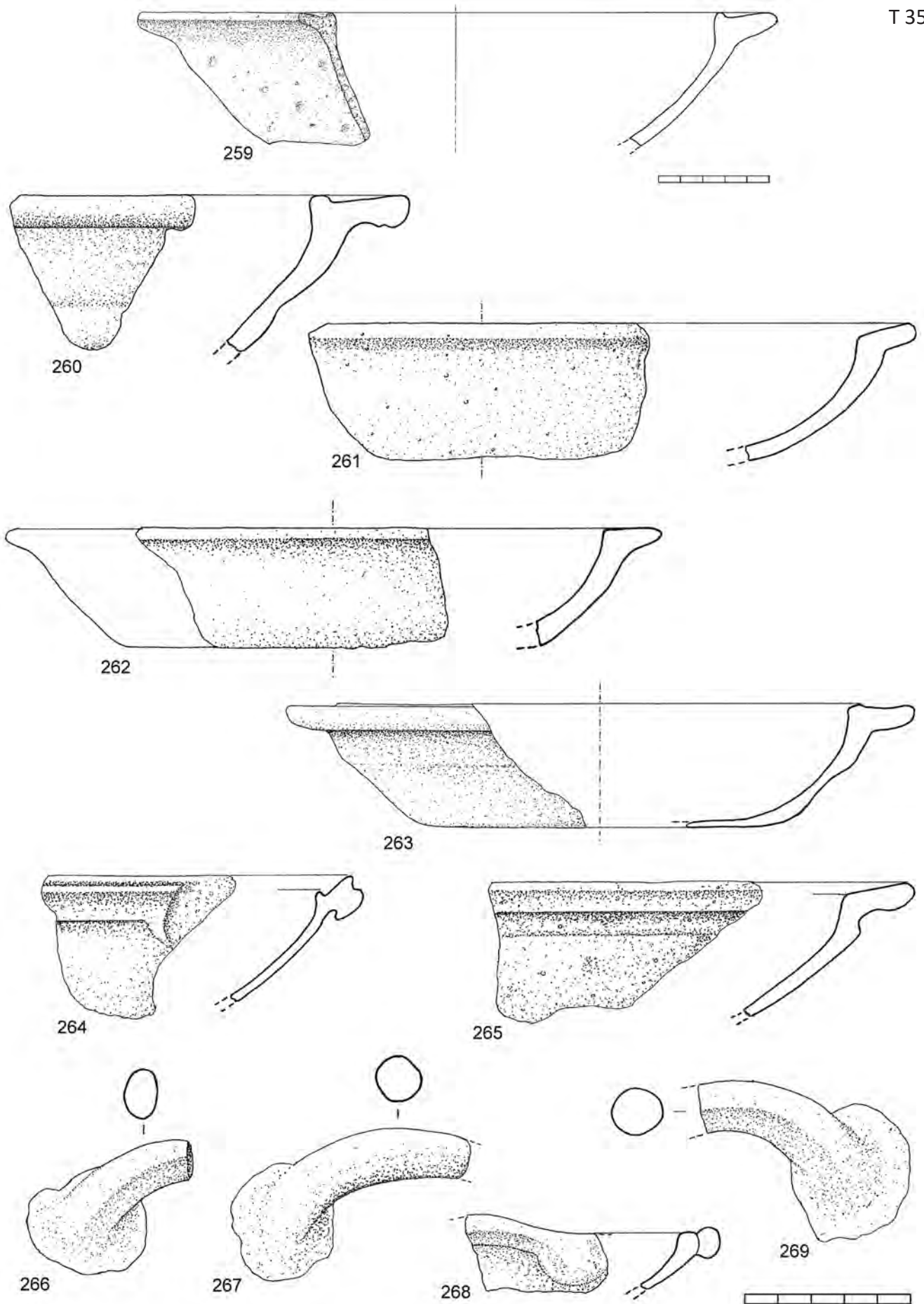




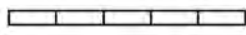
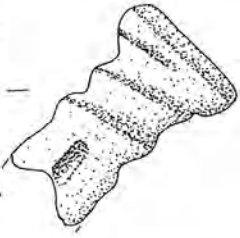
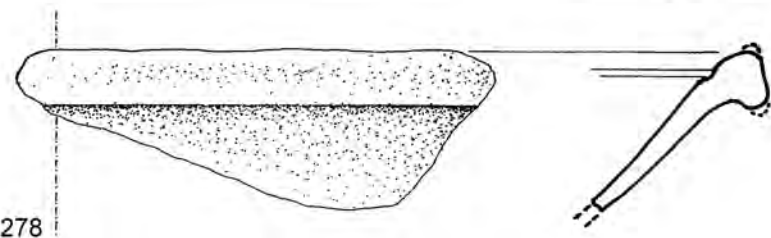
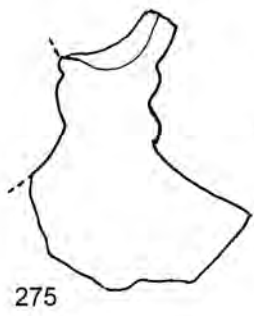
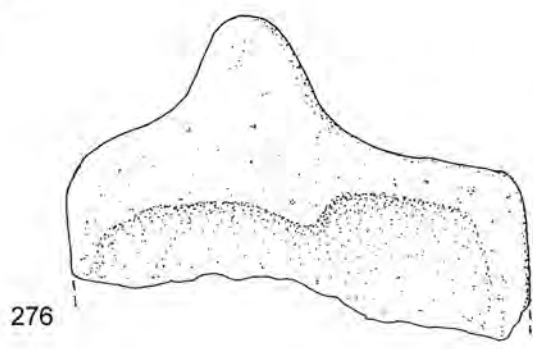
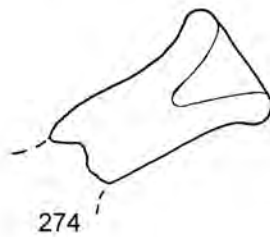
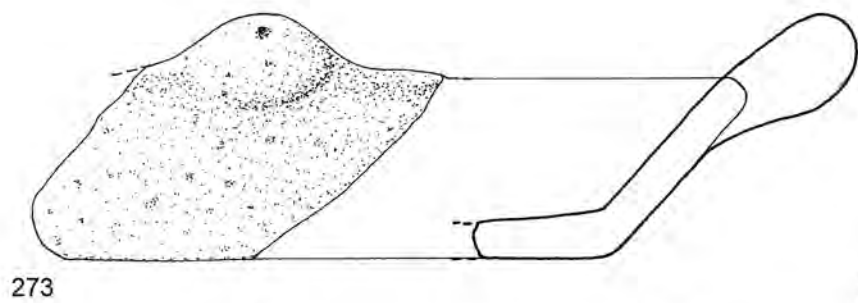
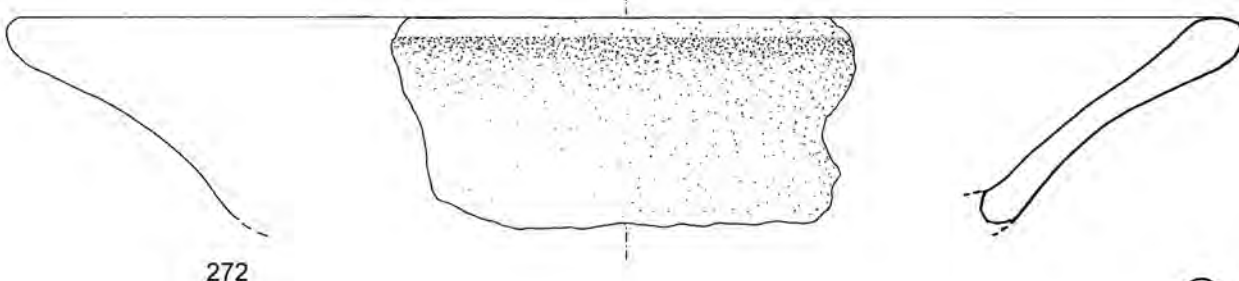
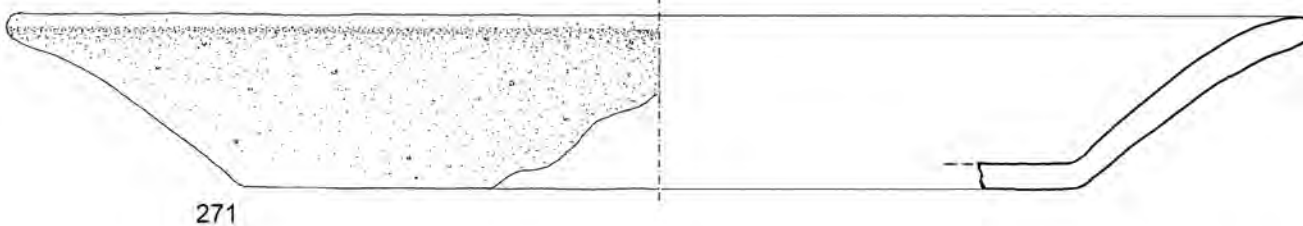
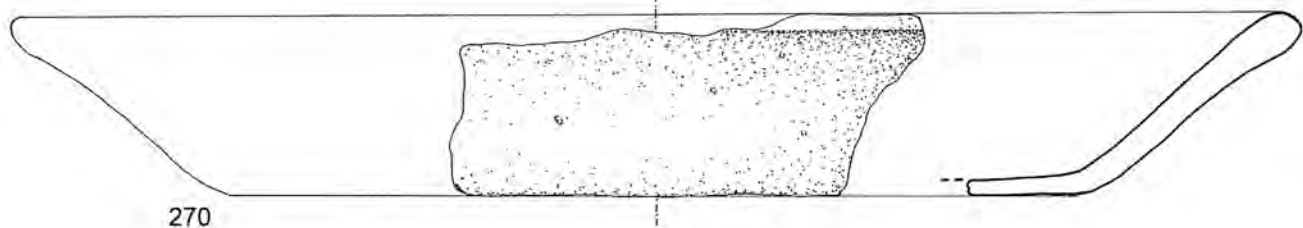
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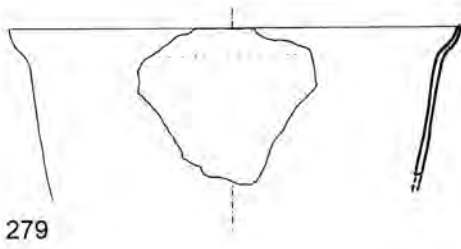
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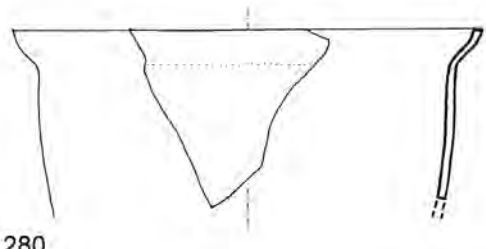
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T 37



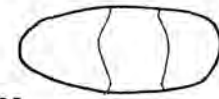
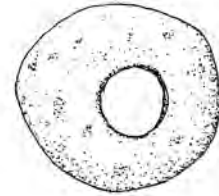
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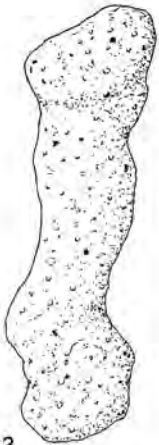
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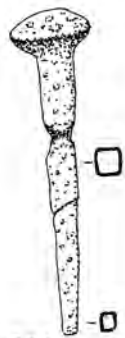
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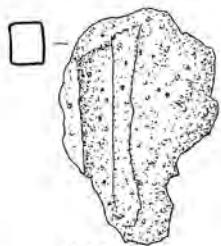
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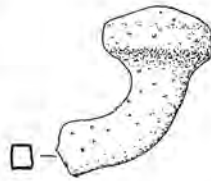
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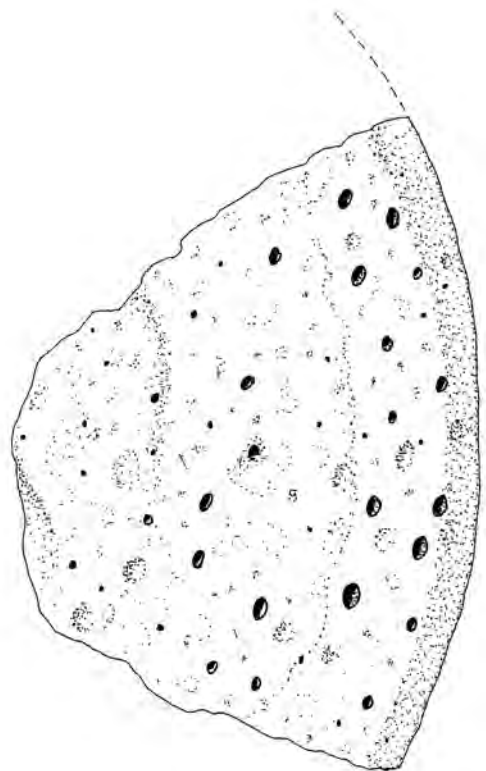
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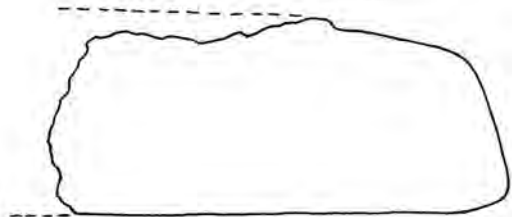
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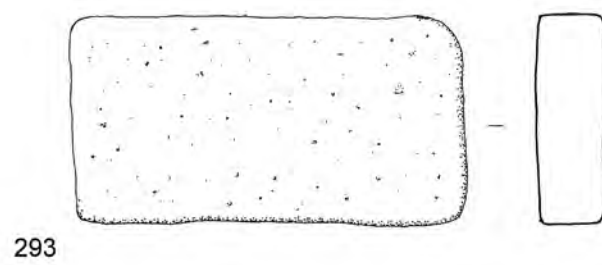
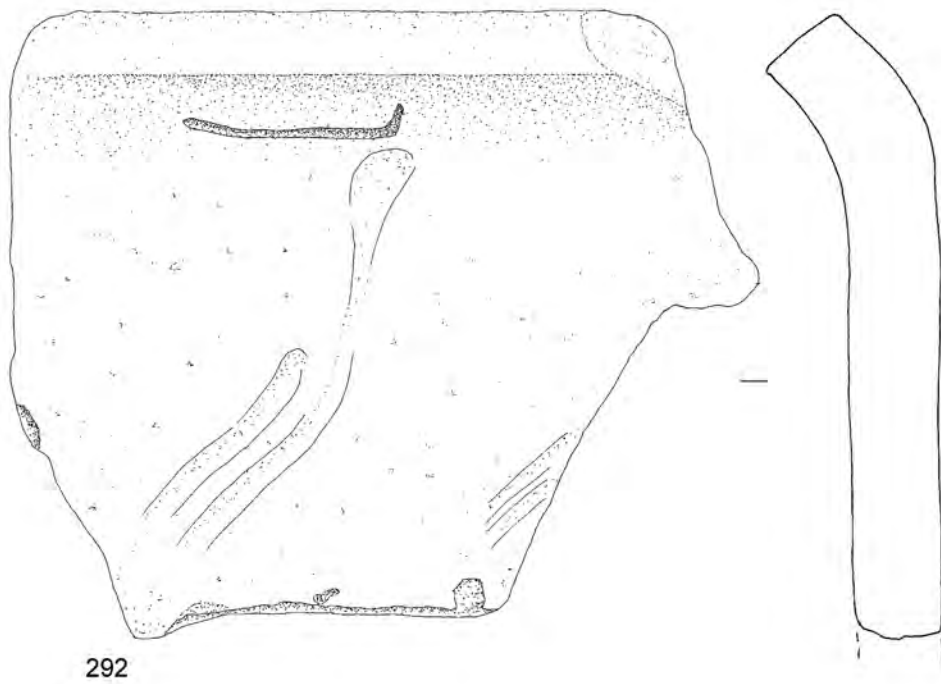
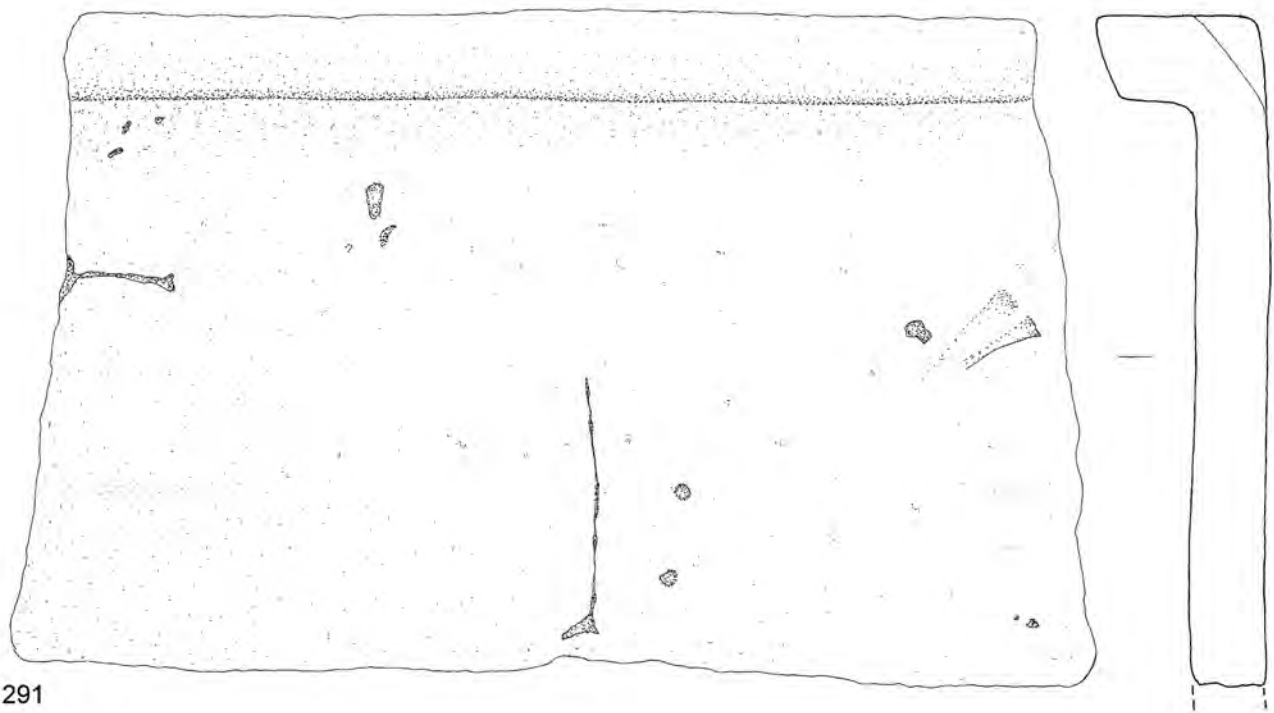
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290



T 38



FT 1



B 117



B 118



B 120



B 121



B 122



B 123



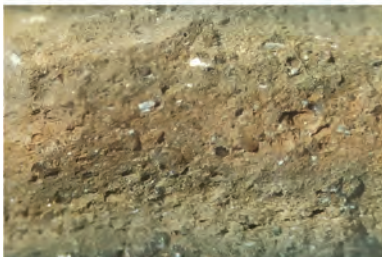
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B 126



B 127



B 128



B 133



B 135



B 137



B 138



B 139



B 140



B 142

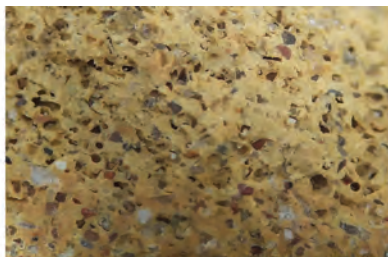


B 143

FT 2



B 144



B 148



B 149



B 150



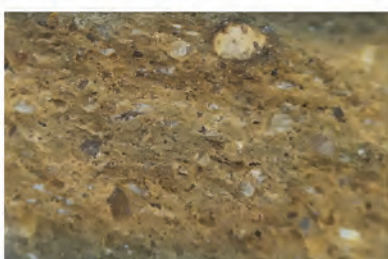
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B 154



B 155



B 156



B 157



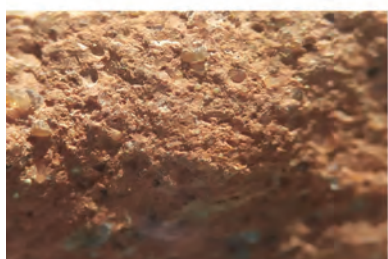
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B 161



B 163



B 164



B 165



B 166



B 168



B 169



B 170

FT 3



B 171



B 172



B 173



B 175



B 180



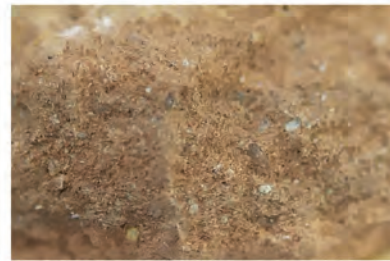
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B 205



B 220



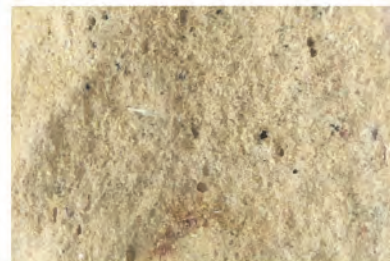
B 249



B 278



B 282



B 291



B 292

Uljeva D

OPIS

Nekoliko stotina metara jugoistočno od položaja Uljeva B, pronađeno je još jedno rimsko nalazište nazvano Uljeva D (Bekić, Surić 2105; Surić, Bekić 2016). Položaj Uljeva D nalazi se sjeverozapadno od središnjeg vrha rta Uljeve, pedesetak metara od obale. Većina nalaza je u jednoj većoj škrapu na dubini od oko 8 metara, ali nalaza ima i po okolnim usjecima. Područje na kojima se primjećuju površinski nalazi je površine oko 600 kvadratnih metara.

Nalazište je pronađeno 2015. g., a već naredne godine izrađen je prvi fotomosaik i nacrt zatečenog stanja. S obzirom na blizinu obale i razmjerno malu dubinu, moguće je da su brojni predmeti opljačkani i prije početka dokumentacije. Naknadno je izrađen novi fotogrametrijski model nalazišta i prekontroliran prvi nacrt, na koji su potom ucrtani i još neki

Uljeva D

DESCRIPTION

One other Roman period site, designated Uljeva D, was identified several hundred metres to the southeast of the Uljeva B position (Bekić, Surić 2015; Surić, Bekić 2016). The Uljeva D position is situated to the northwest of the central peak of Cape Uljeva, some fifty metres from the shoreline. While the bulk of the artefacts were found in one large crevice at a depth of about eight metres, there are other finds in the surrounding fissures. The area across which we see surface artefacts covers approximately 600 square metres.

The site was identified in 2015 and the initial photomosaic and drawing of the condition as found were created in the following year. Given the proximity of the shoreline and the relatively shallow depth, it is quite possible that many artefacts were looted prior to the beginning of our documentation. A



65. Najviše imbreksa i tegula nalazi se u jednoj dubljoj rupi / Most of the imbrices and tegulae were recovered from a single deep fissure (foto: L. Bekić)

površinski vidljivi nalazi.¹⁶ S obzirom da je teren kamenit i većina nalaza je na površini, nisu provedena arheološka iskopavanja. Obavljen je samo pregled površinski vidljivih nalaza, kako bi se prikupili oni koji imaju neki datacijsku vrijednost. Dio nalazišta je pregledan i metal detektorom prilikom čega je pronađen jedan željezni konglomerat. Pravo iskopavanje bilo bi moguće samo na dva ili tri mjesta gdje je možda skriveno više nalaza ispod morskog sedimenta.



66. Uzorci tegula i imbreksa s Uljeve D / Tegula and imbrex samples from Uljeva D (foto: L. Bekić)

Na površini morskog dna se primjećuje velika količina cijelih i razbijenih tegula i imbreksa, koji su očito činili većinu tereta potonulog broda. Tegule se nalaze u raznim dimenzijama. Na slici 66, širina tegule je 44 cm, a pod morem je izmjereno još nekoliko bolje sačuvanih ulomaka. Izmjerena je još jedna s širinom 44, dvije s širinom 43, te jedna manja širine 40 cm. Dužine tegula su različite, jedna ima 64 cm, a tri su izmjerene u dužini 60, te jedna od 57 cm. Na kutovima tegula utori imaju ili kosi ili stepenasti presjek. Očito je i da su po fakturi drugačije, a prevladavaju tegule žuto i crvenkasto pečene gline (FT 4).

Imbreksi su također vrlo različiti. Zabilježeni su u većim ali i manjim dimenzijama, a razlikuju se i po fakturi. Primjerak na slici 66 dugačak je 60 cm, kao i dodatna tri na licu mjesta izmjerena primjerka. Dužine 58 su četiri, a 57 cm dva primjerka. Po jedan primjerak je registriran u dužinama 56, 55, 53, 50, 49 i 48 cm. Širine užeg dijela imbreksa variraju od 14 do 15 na užem dijelu i 17 do 20

new photogrammetric model of the site was created and the initial plan drawing was subjected to review, with additional artefacts visible on the surface drawn in.¹⁶ Given the rocky terrain and the fact that the majority of artefacts were on the surface, no archaeological excavation was undertaken. Work was limited to a survey of the artefacts visible on the seabed surface aimed at collecting those with dating value. A part of the site was examined with a metal detector, yielding the find of one conglomerate of iron. Any true excavation would only be feasible at two or three places where additional artefacts may be found beneath the marine sediment.

On the seabed surface we see a large number of intact and broken tegulae and imbrices, which evidently comprised the bulk of the cargo of the sunken vessel. Among the tegulae we see a variety of dimensions. The tegula shown in Fig. 66 has a breadth of 44 cm, while a number of better-preserved sherds were measured underwater. Another one was measured to have a breadth of 44, two with a breadth of 43, and one small tegula with a breadth of 40 cm. The lengths of the tegulae vary: one measures 64 cm, three measure 60 cm in length, and one 57 cm. At the corners of the tegulae the grooves have a slanted or stepped section. They are also evidently varied in terms of fabric: predominant are tegulae of yellow and reddish fired clay (FT 4).

There is also significant diversity among the imbrices. We see them in large and small dimensions, and differentiated by fabric. The specimen shown in Fig. 66 has a length of 60 cm, as do a further three specimens measured on site. Four specimens measured 58 cm and two 57 cm long. We recorded one specimen each measuring 56, 55, 53, 50, 49 and 48 cm in length. The width of the narrow part of the imbrices varies from 14 to 15 cm at the narrow part and 17 to 20 at the broader part. As a rule, they are two to four cm wider at the broader than they are at the narrower end. In late antique contexts, for example those found at the late antique necropolis at Issa (Vis), imbrices range in length from 78 to 84 cm (Čargo 2010, T. 1).

Also observed were sherds of thinner curved ceramic pieces (cat. 304) that may be from tubuli, the hollow heating pipes used to conduct hot air in thermae. Tubuli normally have sharper corners where the sides meet, but we do know of tubuli with more rounded corners, such as those found in Roman Arabia (Harvey 2013, Fig. 2.12; 2.27; 3.3: 3.7 etc.).

Also recovered were a number of short ceramic pipes of the *tubi fittili* type (cat. 297–301). Judging from the better-preserved parts there were at least five on this ship, while a sixth sherd is from the narrower part of the cylinder and may have been part of one of these five tubes. The tubes are irregular in their make, with a somewhat ellipsoidal

¹⁶ Fotogrametrijski model je izradio Roko Surić, a nacrtnu dokumentaciju Maja Kaleb.

¹⁶ Photogrammetric model by Roko Surić; drawn documentation by Maja Kaleb.

na širem dijelu. U pravilu su od 2 do 4 cm širi na širem kraju nego na užem kraju. U kasnoantičkim kontekstima su imbreksi, npr. s kasnoantičke nekropole u Issi (Vis) dužine od 78 do 84 cm (Čargo 2010, T. 1).

Također su primijećeni i ulomci tanje zavijene keramičke ploče (kat. 304), koji možda potječu od tubulusa, odnosno šupljih opeka za provođenje toplog zraka u termama. Tubulusi inače imaju oštrije izvedene kutove među stranicama ali postoje i tubulusi sa zaobljenim kutovima poput onih u rimskoj Arabiji (Harvey 2013, Fig. 2.12; 2.27; 3.3: 3.7 itd.).

Pronađeno je i nekoliko kratkih keramičkih cijevi tipa *tubi fittili* (kat. 297-301). Njih je na brodu bilo najmanje pet, sudeći po bolje sačuvanim dijelovima, a šesti ulomak je uži dio tuljca i mogao je pripadati nekom od pet većih dijelova. Cijevi su nepravilno izrađene, pomalo elipsoidnog promjera. Najmanja je promjera od 48 do 54 mm, a najveća od 55 do 60 mm. Pregledom fature kod svih šest ulomaka uočena su ista zrnca pustinjskog pijeska (zaobljeni kvarcit) pa se može reći da su sjevernoafričkog porijekla.

Pronalasci ovih cijevi na kasnoantičkim brodolomima, u manjim količinama ili pojedinačno, sve su češće zabilježeni. U istraživanjima koja provodi MCPA Zadar pronađeni su na brodolomima Babuljaš kod Pakoštana (Pešić 2016, 20; 2019, 302), četiri komada, Piruzi kod Rovinja (Bekić 2016, 44, sl. 9; Fiederling 2019, 99) jedan primjerak, te kod Zonavina na

section. The smallest has a diameter of between 48 and 54 mm, and the largest from 55 to 60 mm. An examination of the fabric of all six sherds reveals the same grains of desert sand (rounded quartzite), such that we can attribute a North African provenance to them.

There is a growing frequency in the number of finds of these tubes at late antique wreck sites, in small numbers or as individual specimens. In archaeological investigations performed by ICUA Zadar four specimens were recovered at the Babuljaš site near Pakoštane (Pešić 2016, 20; 2019, 302), one specimen was found at the Piruzi site near Rovinj (Bekić 2016, 44, Fig. 9; Fiederling 2019, 99), and two specimens at the Zonavin site at Rivanj island (Kaleb, Pešić 2018, 21, Fig. 8). Along with Adriatic sites we also see *tubi fittili* finds in shipwreck contexts elsewhere in the Mediterranean (Fiederling 2019, Fig. 65), especially at late Roman sites. Some thirty *tubi fittili*, with three variants, were recovered at the mid-fifth century Dramont E wreck site (Santamaria 1995, 67, 68, Pl. IX). Over a hundred were found at the fourth century Levanzo I wreck site and posited to have been part of the ship's cargo (Royal, Tusa 2012, 44).

In light of the fact that cargos of building materials have not been identified at most of these wrecks and that the tubes are largely individual finds, it is evident that they played some role in seafaring. What the nature of this role was is the subject of numerous and broad speculation (Pešić



67. Primjerci keramičkih cijevi *tubi fittili* (kat. 298, 299, 296) / Specimens of *tubi fittili* type ceramic tubes (cat. 298, 299, 296) (foto: L. Bekić)

Rivnju (Kaleb, Pešić 2018, 21, sl. 8), dva primjerka. Osim u Jadranu, *tubi fittili* se u kontekstu brodoloma pronalaze i drugdje na Sredozemlju (Fiederling 2019, sl. 65), posebice u kasnorimsko doba. Na brodolomu Dramont E iz sredine 5. st. pronađeno je tridesetak cijevi „tubi fittili“ u tri inačice (Santamaria 1995, 67, 68, Pl. IX). Preko stotinjak komada otkriveno je na brodolomu Levanzo I iz 4. st. a za njih se smatra da su bile dio tereta (Royal, Tusa 2012, 44).

Zbog činjenice da na većini ovih brodoloma nije zabilježen teret građevinskog materijala i da su cijevi uglavnom pojedinačne, očito je da su imale neku ulogu u pomorstvu, a kakvu, o tome se zasad tek javljaju brojne i različite pretpostavke (Pešić 2019, 300-303). Stoga za sada možemo pretpostaviti kako na brodu Uljeva D ove cijevi nisu bile dio samog trgovačkog tereta, već u nekoj praktičnoj funkciji na brodu.

Jedan kamen bijele boje pobudio je pažnju već na morskome dnu te je prikupljen zbog daljnje analize (kat. 305, sl. 68). Mada slomljen, dvije nasuprotne stranice su mu sasvim zaglađene. Očito je namjerno obrađen, ali nisu vidljivi tragovi klesanja. Uzorak ovog kamena poslan je na petrografsku analizu. Na temelju makroskopskih i mikroskopskih zapažanja izbruska, stijena je određena kao vrlo dobro sortirani sitnozrnati pješčenjak tipa kvarcnog arenita (Kovačić, Cvetko Tešović, Petrinc 2019, 9). Ovakve stijene ne nalaze se u prirodnim ležištima na istočnoj jadranskoj obali, a najbliži mogući izvori su Italija, Albanija i Grčka. Dakle, očito je da je ovaj kamen povezan s brodolomom, a ostaje pitanje da li je služio posadi broda (kao brus npr.)¹⁷ ili je riječ o nekom, nekada većem građevinskom elementu koji je bio dio tereta.



68. Obradeni kamen pješčenjak kat. 305 / A dressed sandstone (cat. 305) (foto: L. Bekić)

¹⁷ Pod povećanjem od 20x na površini zaglađenih stranica nema vidljivih tragova rezova od povlačenja sječiva, što se često primjećuje na brusovima od pješčenjaka.

2019, 300–303). Consequently, we can for now only posit that these tubes were not part of the commercial cargo of the ship that sank at the Uljeva D site, and that they instead had some practical function associated with the ship.

One white stone on the seabed attracted our attention and was collected for further analysis (cat. 305, Fig. 68). Although broken, it has two opposite faces entirely smoothed. The stone is evidently dressed but we see no traces of tool working. A sample of this stone was submitted for petrographic analysis. Based on the macroscopic and microscopic examination of the submitted thin section sample, the rock was identified as very well sorted fine-grained sandstone of the quartz arenite type (Kovačić, Cvetko Tešović, Petrinc 2019, 9). This rock is not found in natural deposits on the eastern Adriatic coast, with the nearest possible sources being in Italy, Albania and Greece. It is, then, evident that this stone is associated with the wreck: what remains open to question is whether it was used by the crew (as a whetstone perhaps)¹⁷, or whether it was once part of a larger building element that constituted part of the cargo.

Another stone was found subsequently in a deep pit among imbrices and tegulae. This one is very light and black. It does not appear to be tool worked and it is for now entirely unclear what nature of rock or mineral it is.

Amphorae sherds were not evident in the surface layer, but we did recover several sherds from diverse amphorae. The sherds differ in terms of their fabric, but some are certainly of North African production. A large fragment of the belly of an amphora is characterised by cylindrical form and thin walls (Fig. 69). The fabric points to a North African origin, as we clearly see grains of aeolian desert sand (rounded quartzite) in the clay body (FT 4). Also found was a small sherd of the thick rounded rim of an amphora (cat. 303), which is, unfortunately, insufficiently preserved for a precise typological identification, but that, judging from the temper in the clay, is also of North African production.

¹⁷ Under 20x magnification we see none of the incisions caused by the drawing over of a blade, which is a frequent characteristic of sandstone sharpening stones.



Naknadno je među imbreksima i tegulama u dubokoj jami pronađen još jedan kamen, ali ovaj je vrlo lagan i crne boje. Ne izgleda obrađen i zasad je sasvim nejasno kakav je to kamen ili mineral.

U površinskom sloju ne naziru se ulomci amfora, ali je ipak pronađeno nekoliko ulomaka različitih amfora. Ulomci su po svojoj fakturi različiti, ali nekoliko ih zasigurno pripada sjevernoafričkoj produkciji. Veći dio trbuha amfore odlikuje cilindričan oblik i tanje stijenke (sl. 69). Faktura upućuje na sjevernoafričko porijeklo, jer se u glini jasno uočavaju zrnca pustinskog eolskog pijeska, zaobljeni kvarciti (FT 4). Nađen je i jedan manji ulomak zadebljanog oblog oboda amfore (kat. 303), koji je nažalost nedovoljno sačuvan da bi se mogao točnije tipološki opredijeliti, ali sudeći po primjesama glini također pripada sjevernoafričkoj produkciji.

Najvažniji nalaz je jedan gornji dio manje amfore koji je tipološki odrediv i na taj način od ključne datacijske vrijednosti. Amfora je izrađena od crveno pečene gline, pročišćene fakture, s primjesama sitnih kamenčića različitih boja, razmjerno tankih stijenki (sl. 70, kat. 302). Za oblik je karakterističan obod ljevkastog oblika koji na najširem dijelu nije zadebljan, već je debljina stijenke razmjerno ista i tako s unutrašnje strane konkavna. Ova amfora najbolje se može

69. Dio trbuha cilindrične afričke amfore / A belly section from a cylindrical African amphora (foto: M. Kaleb)

The most valuable find is one upper portion of a small amphora that is typologically diagnostic and thus of critical dating value. This amphora was made of red fired clay of refined fabric with inclusions (a temper) of fine-grained pebbles of various colours and was relatively thin walled (Fig. 70, cat. 302). Characteristic of this form is a funnel-shaped rim that has no thickening at its broadest point, rather the thickness of the wall remains relatively equal and thus the inside is concave. This amphora is best compared with a relatively little-known type identified in the course of archaeological investigation at Tarragona (Remolà Vallverdú 1983). Particularly similar to the Ližnjan specimen are the variants shown in Fig. 2. 2 and Fig. 4. 20. All of these amphorae are dated by stratigraphy to the mid-fifth century, with proposed Middle Eastern provenance (Remolà Vallverdú 1983, 306). An amphora like this was published by Bonifay (1986, Fig. 9: 35, Fig. 17: 35) in a group of types of unknown provenance found at Bursa. This amphora also has a stratigraphic provenance in the first half or mid-fifth century (Bonifay 1986, 270). We

usporediti s razmjerno slabo poznatim tipom koji je prepoznat prilikom istraživanja u Tarragoni (Remolà Vallverdú 1983). Ližnjanskom primjerku posebice slične varijante Fig. 2. 2 te Fig. 4. 20. Sve te amfore se prema stratigrafiji datiraju u sredinu 5. st., a pretpostavlja im se bliskoistočno porijeklo (Remolà Vallverdú 1983, 306). Ovakvu amforu u skupini tipova nepoznatog porijekla nađenim u Bursi objavljuje i Bonifay (1986, Fig. 9: 35, Fig. 17: 35). I ova amfora stratigrafski potječe iz prve polovine, odnosno sredine 5. st. (Bonifay 1986, 270). Zbog toga možemo s velikom vjerojatnošću ližnjanski brodolom Uljeva D datirati u sredinu 5. st.

Najsitniji, ali vrlo važan ulomak je dio zdjele, koji pripada skupini afričke sigilate odnosno tzv. *african red slip ware* (kat. 294). To je zdjela s naglašenim trokutastim obodom usmjerenim prema dolje i zaobljenim utorom na unutrašnjosti oboda. Ova zdjela pripada tipu Hayes 61A, točnije u prijelazno razdoblje prema obliku Hayes 61B (Hayes 1972, Fig. 17: 26, 106, 107). To ju datira otprilike u razdoblje od 400. do 420. g., dakle na početak 5. st., što je blizu spomenutoj amfori.

Drugi pronađeni ulomak keramike (kat. 295) je tanjih stijenki i crvene boje pečenja. Ne može se odrediti tipološki niti približno. On pripada trbušastom, širem dijelu neke posude, možda nekog vrča. Na najširem dijelu, gdje se mijenja kut nagiba, na vanjskoj površini je vidljiv plitki utor. Keramika je dobro pročišćene fature, a u primjesi ima vrlo sitne mrvice raznih kamenčića.

Usprkos svim ovim indicijama, ne može se jasno odrediti karakter brodoloma na položaju Uljeva D. Na osnovu pronađene količine tegula i imbreksa, moglo bi se zaključiti da to nije bio neki posebno veliki brod. Gledajući samo to, čini se kako je to mogao biti manji brod za lokalnu plovidbu koji je prevozio krovni pokrov za građevinske potrebe nekog od okolnih naselja. Tegule i imbreksi su različiti i potječu od različitih proizvođača. To ukazuje da je riječ o teretu građevinskog materijala koji je prikupljen s nekih napuštenih zgrada kako bi se ponovno upotrijebio. Činjenica da brod datira u kasnu antiku govori u prilog tome, jer u to doba proizvodnja tegula i imbreksa bila je u velikom padu. No mora se uzeti u obzir da brod nije potonuo na većoj dubini i da na mjestu brodoloma nema cijelih tegula, pa je lako moguće da su sve iskoristive tegule i ostalu građu izronili i prikupili još u rimsko doba. U tom slučaju moglo se raditi i o značajno većem brodu.

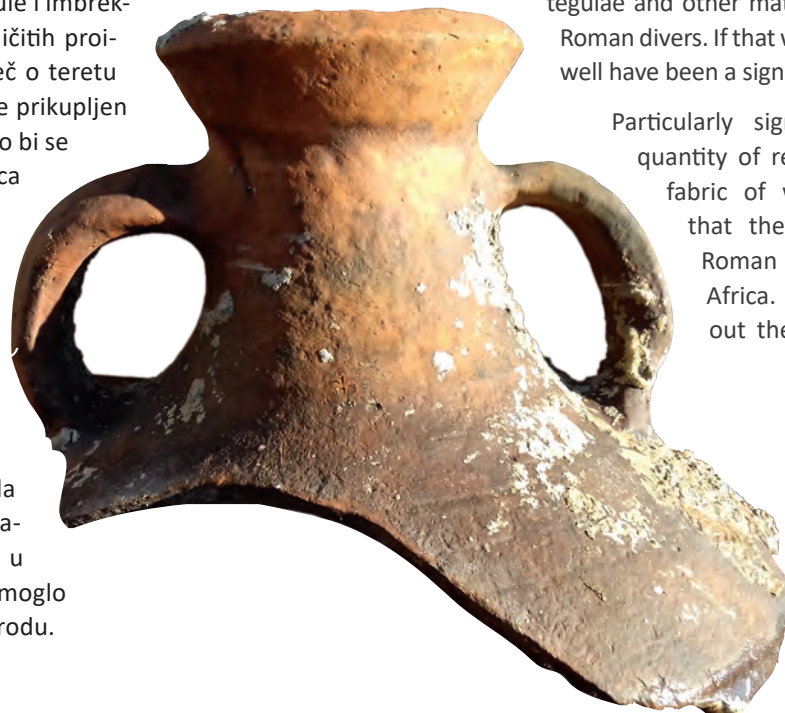
can, then, with a high degree of confidence, date the Uljeva D wreck at Ližnjan to the mid-fifth century.

The smallest, but a very important, sherd is from an African sigillata bowl (African Red Slip ware, cat. 294). This is a bowl with a prominent triangular downturned rim with a rounded groove on the inside of the rim. It is of the Hayes 61A form, more precisely of the form transitioning to the Hayes 61B type (Hayes 1972, Fig. 17: 26, 106, 107). That would date it approximately to the period from 400 to 420, i.e. to the start of the fifth century, which is near in date to the above-mentioned amphora.

Another recovered potsherd (cat. 295) is thin-walled and fired red. It cannot be even approximately typologically identified. It is from the rotund, broader part of a vessel, perhaps a jug. At its broadest part, where the angle of the slope changes, we see a shallow groove on the surface. The ceramic is of well refined fabric with a temper of very fine grains of various pebbles.

In spite of all these indicators we cannot confidently identify the nature of the wreck at the Uljeva D position. Judging from the quantity of found tegulae and imbrices we could conclude that this was not a particularly large ship. Focusing solely on this, it would appear to have been a small ship for local navigation transporting roofing material for the building needs of any of the nearby settlements. The tegulae and imbrices are diverse and originate from a variety of manufacturers. This points to a cargo of ceramic building material collected from abandoned buildings for reuse. The fact that the ship is dated to the late antiquity supports this hypothesis, as the production of tegulae and imbrices had seen a significant decline in this period. We must, however, bear in mind that the ship sank in shallow water and that there are no intact tegulae at the wreck site, such that it is quite possible that all useful tegulae and other material were salvaged by Roman divers. If that was the case it may very well have been a significantly larger ship.

Particularly significant is the large quantity of recovered artefacts the fabric of which would indicate that they originate from the Roman provinces of North Africa. We cannot, then, rule out the theory that the ship



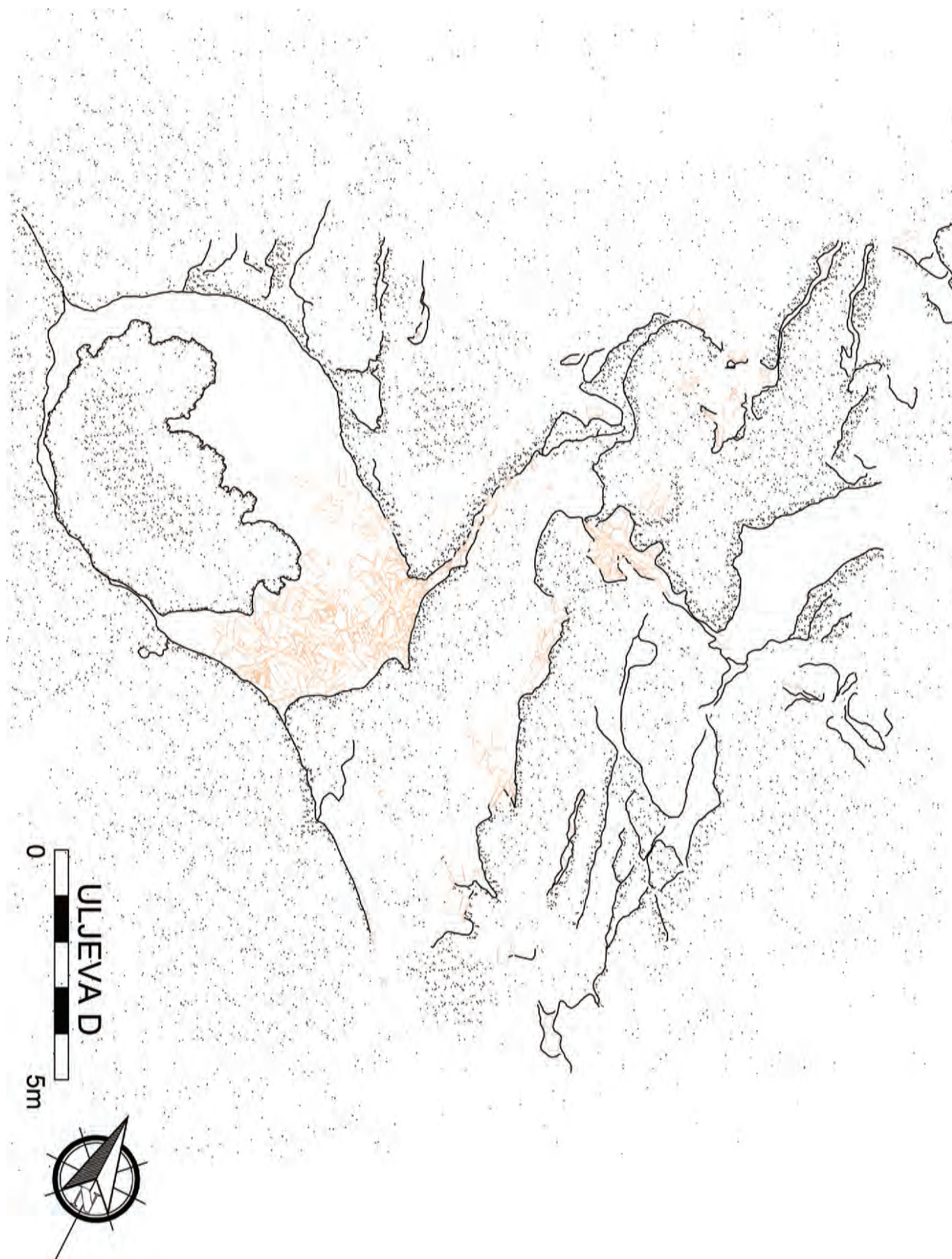
70. Jedini nalaz amfore s Uljeve D (kat. 302) / The sole amphora find from the Uljeva D site (cat. 302) (foto: L. Bekić)

Posebice je znakovit veći broj nalaza za koje se po fakturi može tvrditi da potječu s područja rimskih provincija sjeverne Afrike. Dakle, ne može se odbaciti teorija kako je brod stigao iz sjevernoafričkih i možda istočnih područja te već uspješno iskrcao većinu svog tereta u nekoj sjevernojadranskoj luci. Potom je mogao negdje ukrcati lokalni, rabljeni građevinski materijal kako ne bi plovio prazan i na njemu možda zaradio. U svakom slučaju, ovo je zanimljiv primjer kasnoantičkog broda s teretom građevinskog materijala različitog porijekla i izvedbe, što je neuobičajeno u usporedbi s ranijim rimskim brodolomima tog tipa, koji su prevozili velike količine tegula istog tipa i proizvođača.

S obzirom da se tijekom svih ovih godina intenzivno istraživalo na položajima Uljeva A i B, pa i na Uljevi C, nije bilo vremena posebno detaljno se pozabaviti i s ovim zanimljivim brodolomom. Budućim istraživanjima vjerojatno bi se moglo moći više reći o porijeklu i rutama broda s položaja Uljeva D.

arrived from a northern African or perhaps eastern region and that it had already successfully unloaded its cargo at any of the harbours of the northern Adriatic. It may then have taken on a local cargo of used building material in order possibly to earn revenue, and to avoid sailing empty. In any event, this is a fascinating example of a late antique ship with a cargo of building material of diverse origin and make, which is unusual when compared to earlier Roman wrecks of this kind, which transported large quantities of tegulae of a single type from a single manufacturer.

Given the intensive archaeological investigation performed over the course of these years at the Uljeva A and B positions, and at Uljeva C, there was no viable opportunity to study this interesting wreck in greater detail. Future investigative work may offer more data towards identifying the routes and provenance of the wreck at the Uljeva D site.



71. Novi nacrt dna iz 3D modela s ostacima tegula i imbreksa / The new plan of the seabed from the 3D model with remains of tegulae and imbrices (R. Surić, M. Kaleb)

KATALOG NALAZA ULJEVA D

294. Zadebljani rub oboda zdjele. Uljeva D. Glina crvene boje, pročišćene fature s primjesama sitnog pustinjskog pijeska.
295. Dio ramena i trbuha vrča (?). Uljeva D, središnja jama. Glina crvene boje, pročišćene fature s primjesama sitnih kamenčića različitih boja.
296. Cjelovit *tubi fittili*. Uljeva D, središnja jama. Glina žute boje s puno primjesa zaobljenih kvarcita.
297. Gornji dio *tubi fittili*. Uljeva D, središnja jama. Glina žute boje s puno primjesa zaobljenih kvarcita.
298. Oštećen *tubi fittili*. Uljeva D, središnja jama. Glina žute boje s puno primjesa zaobljenih kvarcita.
299. Gornji dio *tubi fittili* s rupom (?). Uljeva D, središnja jama. Glina žute boje s puno primjesa zaobljenih kvarcita.
300. Uži dio završetka *tubi fittili*. Uljeva D, središnja jama. Glina crvene boje s puno primjesa zaobljenih kvarcita.
301. Donji dio *tubi fittili*. Uljeva D, središnja jama. Glina žute boje s puno primjesa zaobljenih kvarcita.
302. Grlo amfore. Uljeva D, središnja jama. Glina crvene boje, pročišćene fature s primjesama sitnih kamenčića različitih boja.
303. Zaobljen obod amfore. Uljeva D, središnja jama. Glina žute boje s primjesama pustinjskog pijeska.
304. Dio tubulusa (?). Uljeva D, središnja jama. Glina žute boje sa sitnim primjesama raznih kamenčića.
305. Kamen pješčenjak bijele boje. Uljeva D. Obrađen ravnanjem i zaglađivanjem s dvije nasuprotne strane.

T. 40-41, Table, Uljeva D (crteži: L. Bekić)

FT. 4, Fototabla faktura, Uljeva D (M. Kaleb)

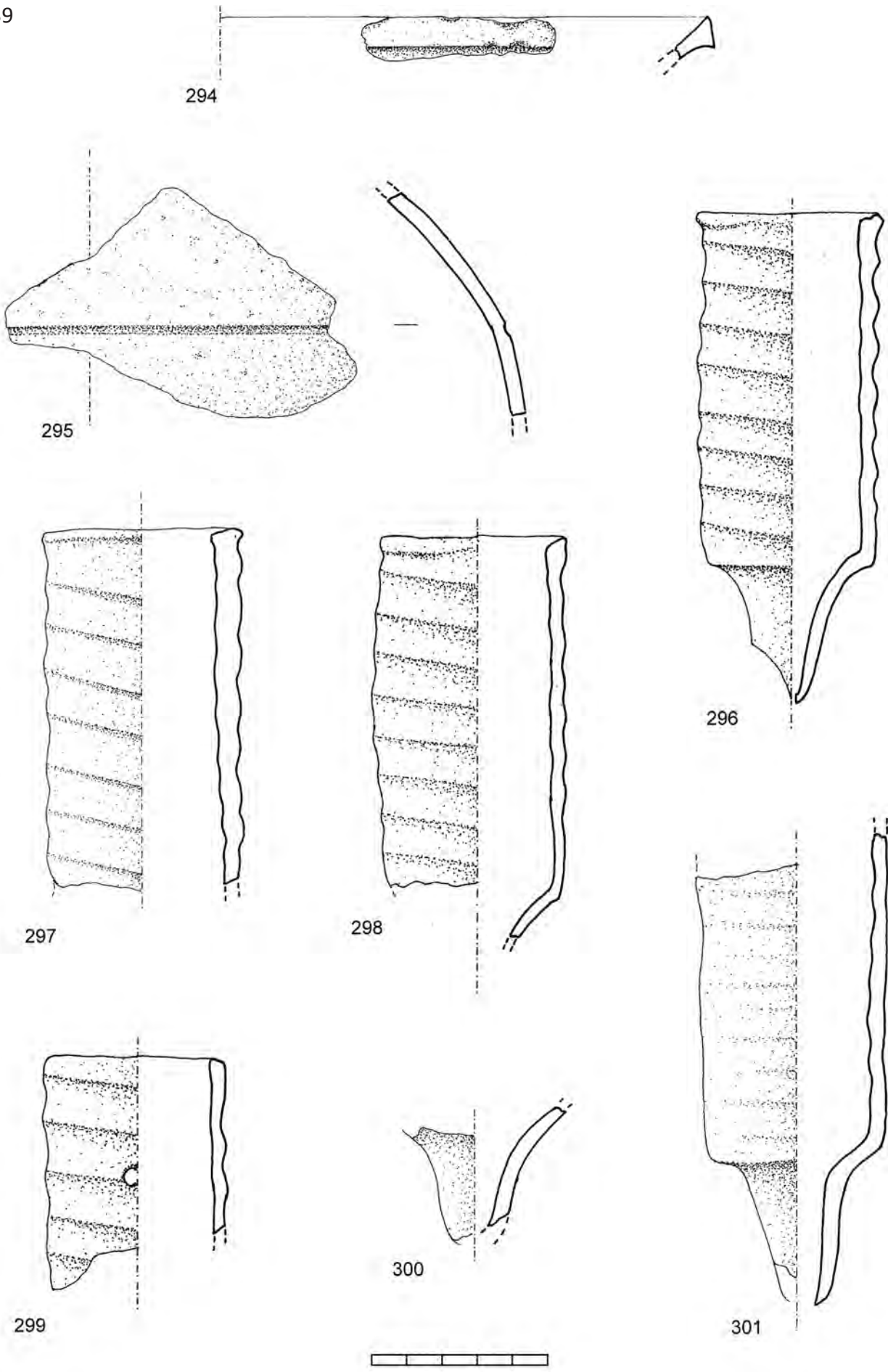
CATALOGUE OF ARTEFACTS COLLECTED AT ULJEVA D

294. Thickened lip of the rim of a bowl. Uljeva D. Red clay, refined fabric with temper of fine-grained desert sand.
295. Uncertain: possible shoulder and belly of a jug. Uljeva D, central pit. Red clay, refined fabric with temper of fine-grained pebbles of various colours.
296. Complete *tubi fittili*. Uljeva D, central pit. Yellow clay with abundant temper of rounded quartzite.
297. Upper portion of a *tubi fittili*. Uljeva D, central pit. Yellow clay with abundant temper of rounded quartzite.
298. Damaged *tubi fittili*. Uljeva D, central pit. Yellow clay with abundant temper of rounded quartzite.
299. Upper portion of a *tubi fittili* with a possible hole. Uljeva D, central pit. Yellow clay with abundant temper of rounded quartzite.
300. Narrower terminal portion of a *tubi fittili*. Uljeva D, central pit. Red clay with abundant temper of rounded quartzite.
301. Lower portion of a *tubi fittili*. Uljeva D, central pit. Yellow clay with abundant temper of rounded quartzite.
302. Amphora neck portion. Uljeva D, central pit. Red clay, refined fabric with temper of fine-grained pebbles of various colours.
303. Rounded amphora rim. Uljeva D, central pit. Yellow clay with temper of desert sand.
304. Uncertain: possibly part of a tubulus. Uljeva D, central pit. Yellow clay with temper of various fine-grained pebbles.
305. Sandstone, white. Uljeva D. Dressed: two opposite faces are flattened and smoothed.

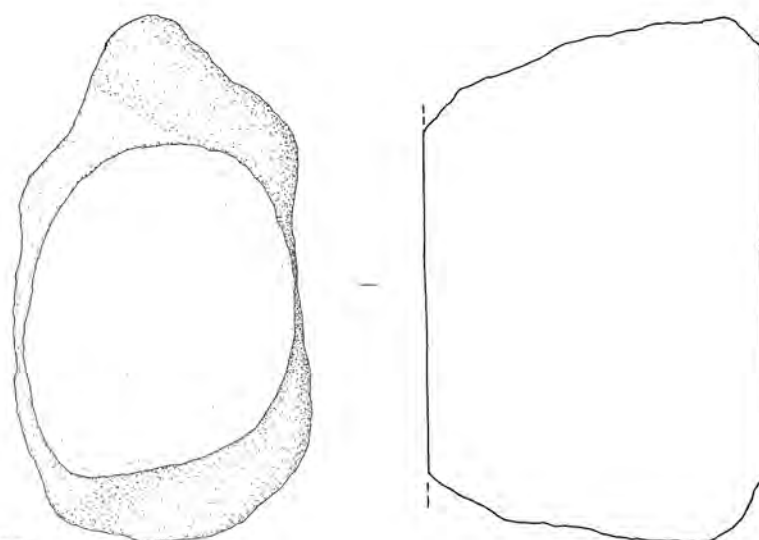
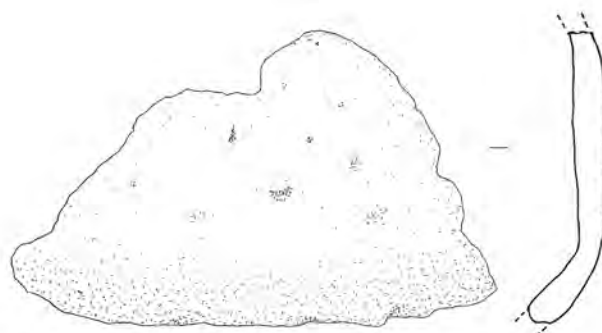
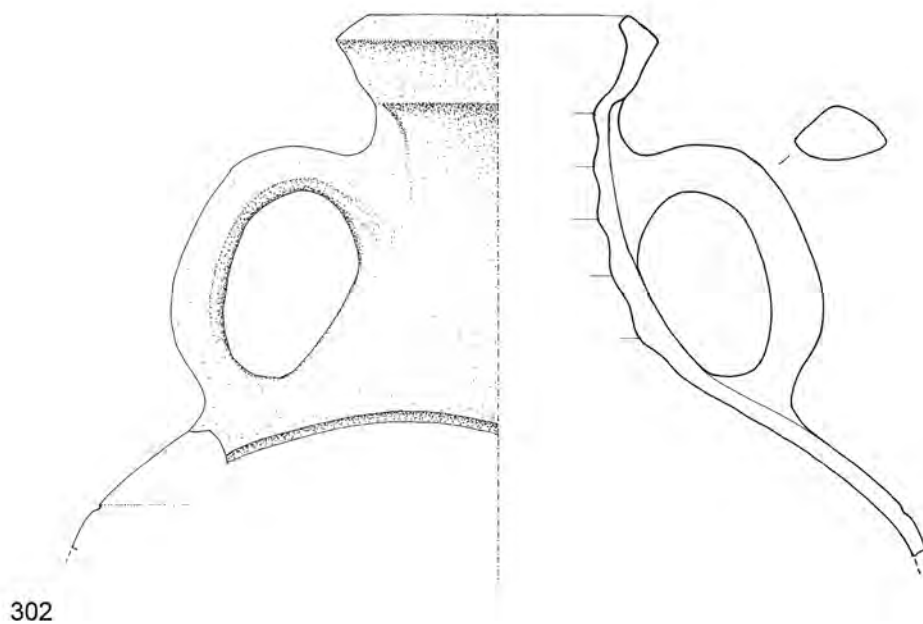
T. 40-41, Plates, Uljeva D (drawings by: L. Bekić)

FT. 4, Photo plates of fabric, Uljeva D (M. Kaleb)

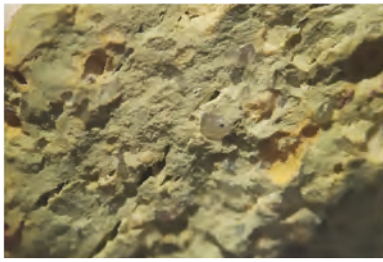
T 39



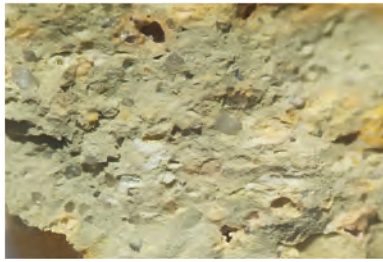
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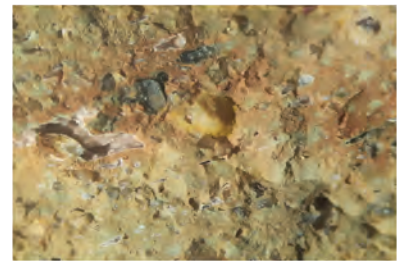
FT 4



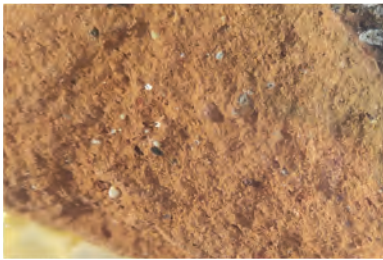
D 296



D 298



D 299



D 302



AMPHORA SHOULDER



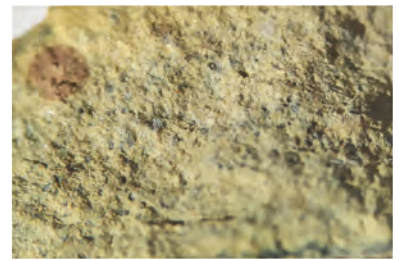
CYLINDRICAL AMPHORA (Fig.69)



RED TEGULA (Fig.66)



YELLOW TEGULA (Fig.66)



YELLOW IMBREX (Fig.66)

HRID SIKA

Uljeva D je čak treći rimski brodolom na razmjerno malom rtu Uljeva koji smo otkrili. Postoji mogućnost da ih je na ovom mjestu stradalo i više, ali vrlo detaljan pregled cijelog podmorja ispred rta nije napravljen. U tom kontekstu valja spomenuti i još jedan brodolom u neposrednoj blizini rta Uljeva. Par stotina metara od obale, nedaleko rta Uljeva, nalazi se kamena hrid Sika. S obzirom na otvorenost ove pozicije na jake vjetrove iz južnih i sjevernih smjerova, nije čudo da se i tu pronalaze tragovi brodoloma. Njih su pronašli djelatnici HRZ i MCPA Zadar 2010. g., a kasnije je položaj ponovno pretraživan (Bekić 2011, 381; 2012c, 589; 2014a, 31).

Ostaci brodoloma se nalaze na istočnim padinama hridi, na dubinama od dva do deset metara. Nalazi su raštrkani na velikom području, ali postoji nekoliko većih koncentracija u škrapama. Svi površinski nalazi koji su prikupljeni su vrlo izlizani djelovanjem valova. To su uglavnom čepovi amfora, dijelovi oboda i ručki amfora ali i brojne *spicatum* opeke. Male četvrtaste opeke tipa *spicatum* (Bekić 2012c, T. 5: 3, 4) služile su za izradu čvrstih podova, slaganjem opeka „na nož“ u vidu „riblje kosti“.

SIKA ROCK

Uljeva D is the third Roman period wreck we have identified off this relatively small cape. It is possible that more ships have come to harm in this area, but no highly detailed survey of the entire expanse of seabed facing the cape has been undertaken. Noteworthy in this context is another wreck in the immediate vicinity of Cape Uljeva. A few hundred metres from the shore, not far from the cape, lies Sika rock. Given the exposure of this open position to strong winds blowing from the south and north, it is little wonder that here too we find traces of shipwrecks. These traces were detected by archaeologists with the Croatian Conservation Institute and ICUA Zadar in 2010, followed by a subsequent round of surveying (Bekić 2011, 381; 2012c, 589; 2014a, 31).

The remains of the wreck are located on the eastern slopes of the rock at depths ranging from two to ten metres. The artefacts are strewn across a broad area but there are a number of greater concentrations in crevices. All of the recovered surface finds exhibit high levels of wear caused by wave action. These include primarily amphorae stoppers/seals, amphorae rim and handle sherds, and many *spicatum*



72. Hridi Sika u oluji / Sika rock during storm (foto: L. Bekić)

Osim opeka brod je očito prevezio i amfore tipa Dressel 6B (Bekić 2012c, T. 4: 1, 3, 5, T. 5: 1, 2). One su poznate i kao *Istarske amfore*, jer su im radionice pronađene u Fažani, kod Poreča i drugdje u Istri. Služile su za prijevoz maslinovog ulja, vjerojatno kao izvozni proizvod istarskih latifundija. Da su bile pune može se zaključiti iz toga što se na nalazištu mogu pronaći i pripadajući čepovi (Bekić 2012c, T. 4: 2, 4). Zanimljivo je kako je ovo zasad jedini pronađeni brodolom na Jadranu koji je kao teret prevezio ovaj tip amfora.

Prema svemu sudeći, rimski trgovački brod koj je ovdje nastradao, prevezio je amfore tipa Dressel 6B napunjene maslinovim uljem i teret opeka za gradnju. Možda je krenuo iz neke od rimskih vila na istoku Istre prema Puli, ili obratno prema Rijeci. Nalazište za sada nije detaljno istraženo ali se istraživanja pripremaju.

bricks. The small rectangular bricks of the *spicatum* type (Bekić 2012c, T. 5: 3, 4) were used in the laying of firm pavements by laying the bricks on edge in a herringbone pattern.

Along with the bricks the ship clearly transported Dressel 6B type amphorae (Bekić 2012c, T. 4: 1, 3, 5, T. 5: 1, 2). They are also known as Istrian amphorae on account of the workshops producing them having been identified at Fažana, Poreč and elsewhere in Istria. They were used to transport olive oil, likely the export produce of Istrian latifundia. That they had been full can be concluded from the fact that the attendant stoppers were also found at the site (Bekić 2012c, T. 4: 2, 4). Noteworthy is the fact that this is to date the only identified wreck in the Adriatic that transported a cargo of this amphora type.

By all indicators the Roman merchantman that came to grief here carried a cargo of bricks and Dressel 6B amphorae filled with olive oil. Its point of departure may have been one of the Roman villas in eastern Istria and it was destined for either Pula or Rijeka. The site has yet to be investigated in detail but preparations are underway to undertake archaeological investigative work.

Brodolomi na rtu Uljeva

Istraživanja brodoloma na Uljevi A i B trajala su sedam godina, kroz šest iskopavačkih kampanja koje su trajale od 10 do 14 dana. Ostala nalazišta u okolici istraživana su u puno manjem intenzitetu. Može se procijeniti da su istražene samo po jedna trećina, odnosno četvrtina nalazišta Uljeva A i B dok je položaj Uljeva D samo površinski dokumentiran bez iskopavanja.

Područje istraživanja je na oba brodoloma, A i B, bilo veliko, jer su nalazi raštrkani široko po jamama. Slično nalazište je i brodolom Porticcio A, gdje su na području od oko 1700 m² razbacani slabo očuvani ostaci broda i njegova tereta. Tamo je također istraženo oko trećine nalazišta (Alfonsi 2014, 29), a s obzirom da je riječ o ravnom pješčanom terenu, nalazi su se dokumentirali po kvadrantima, a ne jamama.

Nakon istraživanja uslijedila je konačna analiza svih prikupljenih pokretnih nalaza, obrada nacrtne dokumentacije i statističkih podataka. Na početku istraživanja način dokumentacije postavljen je tako da bi po završetku istraživanja bilo moguće odrediti osnovni teret brodova, njegovo porijeklo, naslutiti veličinu i nosivost brodova, a možda i njihovu orijentaciju na dnu. Može se reći kako se u tome djelomično uspjelo.

Usprkos činjenici kako je tijekom istraživanja iz mora izvađeno 2943,2 kilograma nalaza koji su potom na razne načine dokumentirani, jasno je kako je to zapravo samo manji dio nekadašnjeg tereta potonulih brodova. Te skoro tri tone arheološke građe potječu samo iz istraženih četvrtina nalazišta, pa se s pravom može pretpostaviti kako na dnu još uvijek leži još barem 9 tona ulomaka.

S obzirom na blizinu naselja, a posebice na malu dubinu na kojoj su se potopili brodovi, zasigurno su ostaci tereta već u kratko vrijeme poslije havarije mogli spasiti. Za očekivati je da su prvo prikupljeni ostaci tereta koji su ležali u polomljenom brodu, zatvorene amfore ili cijelo posuđe i slično. Potom je vrlo vjerojatno na red došla i brodska konstrukcija, odnosno brodska oprema i sama drvena građa koja se mogla iskoristiti za razne duge namjene. Spašavanje ostataka nakon havarije broda pretpostavlja se i za neke druge antičke brodolome pa i one na nešto većim dubinama poput onoga kod otoka Capraia u Italiji, gdje je brod bio potopljen na 18 metara dubine (Atauz, Holt, Bartoli, Gambogi, 2011, 13, 14).

Nakon što su još u rimsko doba bili prikupljeni iskoristivi predmeti, druga akcija njihovog prikupljanja započela je šezdesetih godina prošlog stoljeća, kada su turisti i domaći stanovnici započeli skupljanjem ulomaka u antikvarne svrhe. Opseg ove pljačke, sada već kulturnog dobra, nije poznat, međutim svjedočanstva, kao i mali uvid u lokalne

The Shipwrecks at Cape Uljeva

The investigation of the wrecks at the Uljeva A and B sites has seen seven years of archaeological work, including six excavation campaigns of from ten to fourteen days each. The other sites in the vicinity were investigated to a much lesser extent. We can estimate that about one third of the Uljeva A site and about a quarter of the Uljeva B site have been intensively investigated, while the Uljeva D site has seen only surface documentation without any excavation.

The area of investigation at both wreck sites, A and B, was large, with the artefacts scattered broadly in the submarine pits. The Porticcio A wreck site follows a similar pattern, with the poorly preserved remains of the ship and its cargo scattered across some 1,700 square metres. There too about a third of the site has been investigated (Alfonsi 2014, 29) with the difference that the terrain is flat and sandy, with finds documented by quadrants rather than pits.

The investigation was followed by a final analysis of all the collected artefacts, the drawn documentation and the interpretation of the statistical data. At the launch of the investigation the method of documentation was set such as to provide a window to a determination of the primary cargos, their origins, an indication of the size and deadweight tonnage of the ships, and possibly their orientation on the seabed upon completion of investigative work. We have been partially successful in these regards.

In spite of the fact that 2943.2 kilograms of artefacts were recovered from the sea in the course of the investigation—all documented applying a variety of techniques—it is quite evident that this constitutes only a small part of what was once the cargo of these sunken ships. Just short of three tonnes of archaeological material originates from only the investigated about one quarter of the sites, meaning that we can with good reason surmise that at least a further nine tonnes of sherds remains on the seabed.

Given the proximity of a settlement and, especially, the shallow waters in which the ships foundered, there is surely a high level of probability that the remains of the cargo would have been salvaged shortly following the wrecking of the ships. To be expected is that the remains of the cargo lying on the broken ship, amphorae that had remained sealed, intact ceramic ware and the like, would have been the first to be salvaged. The ship's structure would likely have been next in line for salvage, i.e. the ship's inventory and its wooden structural material that could be repurposed. The salvage of remains following a wreck has been posited for some other antiquity period wrecks, including those lying at a somewhat greater depth, such as the wreck lying off the island of Capraia in Italy, where the ship sank in eighteen metres of water (Atauz, Holt, Bartoli, Gambogi, 2011, 13, 14).

kolekcije daju nam naslutiti kako su svi zanimljivi predmeti izvađeni s ovih lokacija davno prije nego su arheolozi započeli sa svojim istraživanjima.

Iz tih razloga je jasno kako pronađeni i analizirani predmeti čine sasvim mali postotak sveukupnog tereta ovih brodova, a podatke o istima možemo crpiti samo iz njih. Neovisno od toga, prikupljeni ulomci ipak donose mnoge vrlo zanimljive podatke o brodovima koji su nastradali oko rta Uljeva.

Što se tiče položaja Uljeva A zaključeno je kako je to bio ranorimski trgovački brod, porijeklom iz padske doline, koji je prevozio teret amfora napunjenih vinom. Vjerojatno zbog iznenadne bure, pokušao je ući u uvalu Kuje, ali je zbog slabih manevarskih sposobnosti, moguće i djelom zbog pretovarenosti, zapeo o podmorske hridi, gdje su ga valovi dalje razbili. Ovaj događaj zbio se u drugoj polovini 1. st. pr. Kr., kada dolazi do postepenog razvoja romanizacije istarskog poluotoka, organizacijom gradova i gradnjom rustičkih vila. Tako je ovaj brod vjerojatno prevozio vino za potrebe kolonizatora, negdje uz obale istočne Istre, možda prema municipiju Nezakcij ili u neku priobalnu vilu.

Na Uljevi B je u sličnom scenariju nastradao drugi brod, ali nekih pet stotina godina kasnije. Ako se teret Egejske grube keramike može povezati sa sjevernoafričkim amforama, onda je riječ o jednom trgovačkom brodu koji je u prvoj polovini 5. st., nakon opskrbljivanja proizvodima na području današnjeg Tunisa, otplovio na bliskoistočno područje, a potom preko Egejskog mora u Jadran. Uz put je trgovao ovisno o lokalnim potrebama. Njegovo krajnje odredište vjerojatno je bila Tarsatika (Rijeka), koja je u to doba bila veće urbano središte, ali do nje nije nikad stigao.

Brod nastradao na položaju Uljeva D vjerojatno je prikupljao građevinski materijal s napuštenih građevina i dopremao ga u naselja koja su početkom 5. st. nastajala na novim pozicijama uz more i na otocima. Onaj kod hridi Sika, vjerojatno je nastradao u 1. st. s teretom maslinovog ulja koje je iz neke domaće, istarske latifundije krenulo prema nekom većem trgovačkom središtu.

Tako su istraživanja ovih devastiranih tragova brodoloma pokazala kako se i iz slabo sačuvanih tragova može otkriti mnoštvo vrlo zanimljivih podataka, pa i donijeti neke zaključke o dataciji, porijeklu i karakteru brodova koji su nastradali na krajnje jugoistočnoj obali Istria.

Tijekom pet godina ovih istraživanja, u sklopu arheološkog projekta djelovala je i Napredna škola podvodne arheologije, u organizaciji MCPA Zadar i UNESCO ureda u Veneciji. Na dvotjednim istraživanjima je tako svake godine sudjelovalo dodatnih 5-8 studenata i mladih arheologa, a raznovrsnost poslova na ovakvom projektu omogućila im je da prikupe vrijedna iskustva. Također je važan aspekt projekta suradnja s lokalnom zajednicom, upravom općine Ližnjan

Following the Roman-period salvage of useful items, the second phase of collection ensued in the 1960s when tourists and locals began gathering sherds with antiquarian motivations. The scale of this looting of what is cultural property is unknown, but testimony and just a glimpse of the local collections lead us to surmise that all artefacts of interest were collected from these locations long before archaeologists began their investigative work.

For all the aforementioned reasons it is clear that the recovered and analysed artefacts constitute only a small percentage of the total cargos, and the data we can draw on concerning these ships is limited to this small body of finds. Irrespective of this, the collected sherds do offer much very interesting data on the ships that came to grief around Cape Uljeva.

With regard to the Uljeva A position our conclusion is that the ship was an early Roman merchantman based out of the Po Valley and transporting a cargo of amphorae filled with wine. The crew likely sought refuge in Kuje Cove in the face of a sudden squall blowing from the northeast (the *bura* wind), but limited manoeuvrability and perhaps an overloaded cargo bay, saw the ship run aground on the submarine rocks where the waves broke the ship. This event occurred in the second half of the first century BCE, the period that saw the gradual Romanisation of the Istrian peninsula, the formation of towns and erection of rustic villas. This ship likely transported wine for colonisers somewhere along the eastern Istrian seaboard, headed perhaps for the municipium of Nesactium or some coastal villa.

A second ship foundered at the Uljeva B position in similar circumstances but about five hundred years later. If the cargo of Aegean Coarse Ware is associated with the North African amphorae it would point to a single merchant ship in the first half of the fifth century that picked up merchandise in present day Tunisia, sailed to the Middle East, then by way of the Aegean to the Adriatic. Along the way it did trade to meet local demand. Tarsatica (modern Rijeka), at the time a major urban hub, was the likely ultimate destination it never reached.

The ship that sank at the Uljeva D position had likely collected building materials from abandoned buildings and transported them to settlements emerging at new positions along the mainland shore and the islands in the early fifth century. The ship at Sika rock likely foundered in the first century with a cargo of olive oil produced at one of the local latifundia in Istria and headed for any one of the major commercial hubs.

The investigations of these devastated shipwrecks has shown that significant data of interest can be gleaned even from such poorly preserved traces, from which some conclusions can be drawn regarding dates, provenance and the nature of the ships that sank off the southernmost shores of the Istrian peninsula.

i Turističkom zajednicom, u krajnjem cilju prezentacije nalazišta roniocima i turistima općenito. Komunikacija je bila usmjerena i prema svim stanovnicima Ližnjana, a posebice ribarima, roniocima i drugim ljudima okrenutim moru. Jedan od ciljeva je njihova edukacija o važnosti podvodne arheološko - povijesne baštine i kulturnim značajkama njihovog kraja. Kroz taj dvosmjerni proces stvorila su se i trajna prijateljstva, a arheološki projekti poput ovog dobili i poseban smisao.

During five of the years of this investigative work ICUA Zadar and the UNESCO office in Venice worked together to stage advanced level underwater archaeology courses in the frame of this archaeological project. Each of these years saw five to eight students and young archaeologists take part in the two-week investigative campaigns. The diversity of activities on a project of this kind provided them an opportunity to acquire valuable experience. Another vital aspect of the project was our collaboration with the local community, the administration of the Ližnjan municipality and its tourism board, towards the ultimate goal of presenting the site to divers and tourists in general. Communication was also targeted at all the inhabitants of Ližnjan and in particular towards fishers, divers and other people engaged in maritime activities. One of the objectives was to teach them about the importance of our underwater archaeological and historical heritage and the culture of their region. We have seen lasting friendships grow out of this two-way process, giving special and deeper meaning to archaeological projects of this kind.

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