

**MLADEN ZAGARČANIN**

PODVODNO - ARHEOLOŠKA

ISTRAŽIVANJA NA PROSTORU BARSKOG I

ULCINJSKOG AKVATORIJA

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THE UNDERWATER-ARCHAEOLOGICAL

RESEARCHES IN BAR AND ULCINJ

AQUATORIUM AREA



## MLADEN ZAGARČANIN

### PODvodNO - ARHEOLOŠKA ISTRAŽIVANJA NA PROSTORU BARSKOG I ULCINJSKOG AKVATORIJA

U periodu od 2010. do 2012. Muzej u Baru (JP Kulturni centar) u saradnji Centrom za pomorsku arheologiju Univesiteta Southamton (University of Southamnton 2011, web), vršio je podvodna arheološka istraživanja na prostoru od Crnog rta do uvale Valdanos . Saradnja, u kojoj je tokom tri sezone istraživanja učestvovalo 32 arheologa i studenata arheologije iz nekoliko zemlja, započeta je u okviru zajedničkog crnogorsko-britanskog projekta pod nazivom Arheološka istraživanja i zaštita podmorja Crne Gore (*MMMARP-Montenegrin Marittime Archeological Rescue Project*).<sup>1</sup> Ako uzmemo u obzir da su ovo prva podvodno arheološka istrživanja koja su organizovana od strane jedne crnogorske institucije i prva internacionalna saradnja u ovoj oblasti, onda je značaj za doprinos razvoju skromne i nedovoljno razvijene arheologije u Crnoj Gori izuzetno dragocjen. Ciljevi projekta su obuhvatali širok spektar istraživačke djelatnosti:

1. Sistematsko arheološko istraživanja uvala Bivovica i Maljevik: sondiranje, prikupljanje, analiza i obrada arheološkog materijala; datovanje, funkcija, porijeklo i svrha blokova konstatovanih u uvali Maljevik; preventivna zaštita lokaliteta.

2. Rekognosciranje svih potencijalnih podvodnih lokaliteta na širem prostoru barskog i dijela ulcinjskog akvatorijuma: mapiranje i pozicioniranje podvodno arheoloških lokaliteta iz vremena antike i srednjeg vijeka na prostoru od Crnog rta do uvale Valdanos; prikupljanje arheoloških uzoraka.

3. Rekognosciranje obalnog dijela koji se pruža neposredno uz podvodne lokalitete: izrada GIS-a za

<sup>1</sup> U toku tri sezone istraživanja u projektu su učestvovali : dr Lucy Blue (director centra za Maritime archaeology-University of Southampton, UK), dr Athena Trakadas (Viking Ship Museum, DK), Charles Le Quesne (RPS Group, UK), dr Mike Morley (Oxford Brookes University, UK), Petra Zdravković (MNE), Anya Kotarba-Morley (University of Southampton Poljska), Matt Dames ( University of Southampton, USA), Alicia Boyle (University of Southampton, USA), ZiadMorsy (University of Alexandria, EG), Peter Campbell (University of Southampton, DK), Konstantinos Alexiou (GR), Miloš Lutovac (University Belgrde SR), Dušan Medin (University Belgrde MNE), Nemanja Radunović (University Belgrde MNE), Nemanja Čavlović (MNE), Angela Rodriguez-Schrader (Kolumbija); Anya Rutter (GER); Quin Saint Amand (USA), Joe Wysocki (USA), Paolo Pecci (ITA), Dani Newman (USA), Bo Mackintosh (UK), Carmen Obeid (POR), Andrew Hurst (USA), Ashley Crossen (USA), Denise Rempel (USA), Paolo Croce (ITA), Tony Burges (UK), Ivana Medenica (MNE), Dejan Drašković (MNE), Nikola Borovinić (MNE) i Mladen Zagarčanin (MNE) rukovodioc projekta istraživanja.

### THE UNDERWATER-ARCHAEOLOGICAL RESEARCHES IN BAR AND ULCINJ AQUATORIUM AREA

During 2010 and 2012, the Museum of Bar (Public Institution Cultural Center), in cooperation with the Center for Maritime Archaeology in the Southampton University, has carried out underwater archaeological researches in the area from the Black Cape to Valdanos Bay (University of Southampton 2011, web). This cooperation started in the frame of joint Montenegro-Great Britain project called *MMMARP-Montenegrin Maritime Archeological Rescue Project*<sup>1</sup>, where 32 archaeologists and students of archaeology from several countries took part during three seasons. If we take into account that those are the first underwater archaeological researches organized by one Montenegrin institution, and the first international cooperation in this area, then the importance for contribution of development of this modest and not enough developed archaeology area is extremely precious. The goals of this project covered wide spectrum of research activities:

1. The systematic archaeological researches of Bivovica and Maljevik Bays: probing, collecting, analyses and processing of archaeological materials; dating, function, origin and purpose of blocks found in Maljevik Bay; preventive site protection.

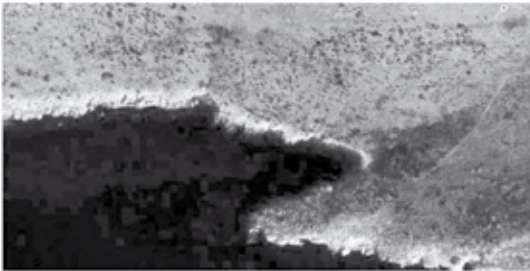
2. Reconnaissance of all potential underwater sites in wider region of Bar's, and partly of Ulcinj's aquatorium: mapping and positioning of underwater archaeological sites from the ancient and medieval times in the area from the Black Cape to Valdanos Bay; collecting of archaeological samples.

3. Reconnaissance of coastal part situated directly along the underwater sites: making of GIS for the prehistoric and medieval sites situated along the coast

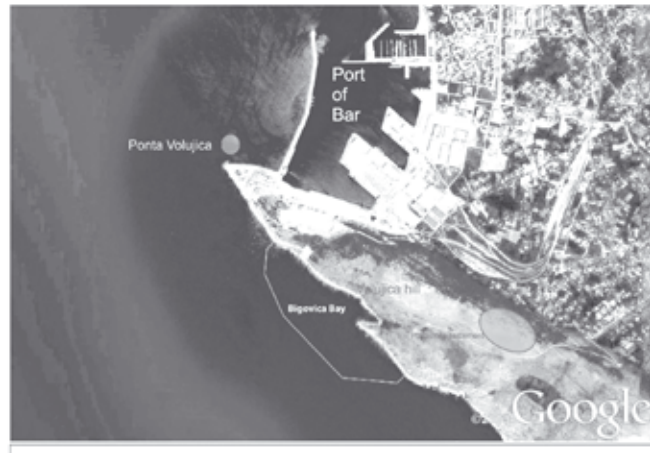
<sup>1</sup> During three seasons of researches, the following experts participated: dr Lucy Blue (director of Center for Maritime archaeology-University of Southampton, UK), dr Athena Trakadas (Viking Ship Museum, DK), Charles Le Quesne (RPS Group, UK), dr Mike Morley (Oxford Brookes University, UK), Petra Zdravkovic (MNE), Anya Kotarba-Morley (University of Southampton Poland), Matt Dames ( University of Southampton, USA), Alicia Boyle (University of Southampton, USA), ZiadMorsy (University of Alexandria, EG), Peter Campbell (University of Southampton, DK), KonstantinosAlexiou (GR), Miloš Lutovac (University Belgrade SR), Dusan Medin (University Belgrade MNE), Nemanja Radunovic (University Belgrade MNE), Nemanja Cavlovic (MNE), Angela Rodriguez-Schrader (Columbia); Anya Rutter (GER); Quin Saint Amand (USA), Joe Wysocki (USA), Paolo Pecci (ITA), Dani Newman (USA), Bo Mackintosh (UK), Carmen Obeid (POR), Andrew Hurst (USA), Ashley Crossen (USA), Denise Rempel (USA), Paolo Croce (ITA), Tony Burges (UK), Ivana Medenica (MNE), Dejan Drašković (MNE), Nikola Borovinić (MNE), Mladen Zagarčanin (MNE), head of the Project.



1: Adriatic Coast of Montenegro

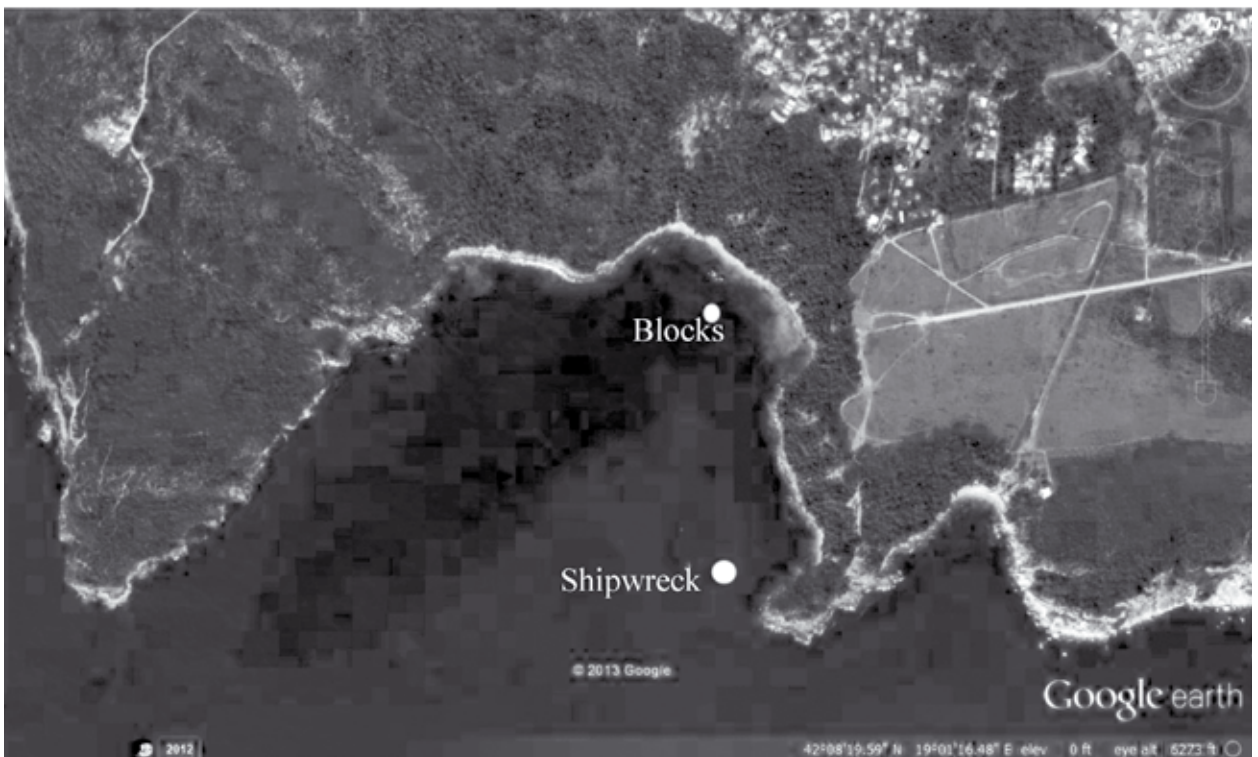


2: Bigovica Bay



3: Volujica Hill

4: Maljevik



lokalitete od praistorije do srednjeg vijeka pozicioniranih uz samu obalu predviđenu za pododvodna istraživanja.

4. Geološko sondiranje sastava priobalnog područja i analiza petrografskih uzoraka sa šireg područja barskog okruženja; identifikacija i razumijevanje post-glacijalnih geomorfoloških procesa koji su doveli do promjene i razvoja reljefa; identifikacija promjena nivoa mora i uticaj ovih promena na reljef i razvoj naselja u kasnom holocenu.

Kako su ukupne istraživačke aktivnosti donijele veliki broj arheoloških i geoloških podataka koje je nemoguće sažeti u ovom članku, tema rada će se fokusirati na najznačajnije nalaze, sa ciljem da se predstavljaju opšti rezultati istraživanja. Kao prvo, to su polufabrikovani arhitektonski elementi pronađeni na lokalitetu Maljevik, a prikazaćemo i opštu tipologiju amfora sa dna uvala Bigovica koja se prati od IV - III vijeka prije nove ere do XI - XII vijeka, što potvrđuje davnašnju tezu o Bigovici kao pretovarnoj luci u antici i srednjem vijeku. Neće biti uzete u obzir statističke vrijednosti velikog broja keramičkih nalaza pronađenih u sondama, kao i mineraloško petrološke analize, analize geoloških uzoraka, dendrohronološka i C14 ispitivanja. Takođe u radu se spominju nalazi sakupljeni tokom rekognosciranja okruženja ostrva Strari Ulcinj, gdje su pronađeni ostaci brodoloma koji je prenosio amfore Globularnog i LR2 tipa kao i Ponta Volujica sa tovarom amfora Dressel 6A. Nedaleko od barskog pristaništa, u samom gradu Baru, leže ostaci trikonhalne crkve iz druge polovine 5. vijeka (Velimirović-Žižić 1966: 148,149). Crkva je napravljena na ostacima kasnoantičke ili ranovizantijske vile rustike. Tokom istraživanja 1964.-1965 pronađena je velika količina ranovizantijskih amfora tipa Late roman 1 i 2, ulomci Globularnih amfora, Samos cistern type, kao i medijevalni primjerci Otranto 1 i 2 i Gnsenin I-IV. Prisustvo materijala sa ovog lokaliteta i ovom radu je od izuzetne važnosti, jer zaokružuje sliku o pomorskoj trgovini do srednjeg vijeka, a samim tim, lokalitet je neodvojivi dio akvatorija koji se danas zbog geoloških promjena nalazi u kriptodepresiji za oko 2 metra.

### Maljevik

Maljevik se nalazi 7.5 km sjeverno od Barske luke i obuhvata prostor između Crnog rta i tzv. Malog Maljevika, koji zatvara široku uvalu plitkim, klinasto isturenim rtom (SI.1.2). Etimologija ovog toponima potiče od latinske riječi malleus (čekić ili malj), koju su Sloveni po svemu sudeći usvojili dola-

predicted for underwater researches.

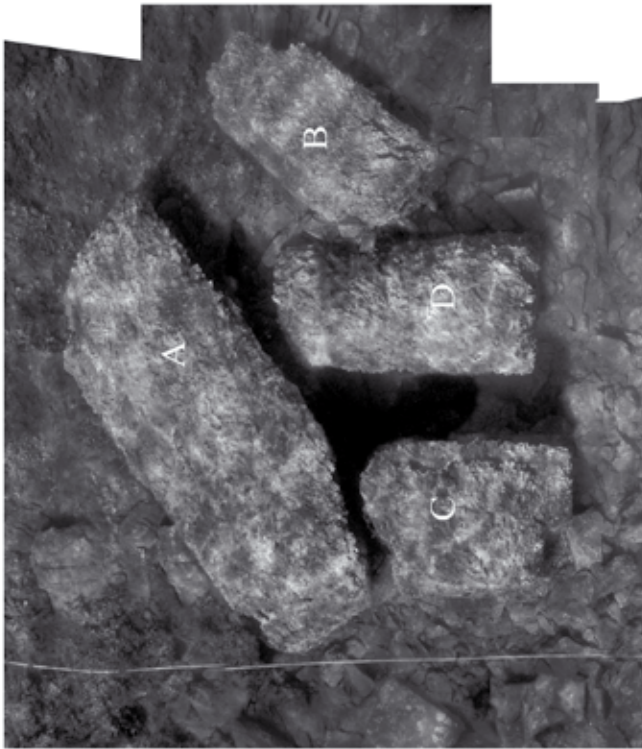
4. Geological probing of the coastal area composition and analyses of petrographic samples from wider area of Bar surroundings; identification and understanding of post-glacial geomorphological processes which led to the relief change and development; identification of the sea level changes and influence of these changes to the relief and settlements development in late Holocene.

As total research activities brought a great number of archaeological and geological data which are impossible to summarize in this article, the subject will be focused on the most significant findings, aiming to present general results of the researches. At the first place, there are half-fabricated architectural elements found at Maljevik site, and we will also present general typology of the amphorae from the bottom of the Bigovica Bay, which origin are from 4th and 3rd century B.C. to 11th and 12th century A.D., which confirms an old thesis about Bigovica that it was a cargo port in ancient and medieval times. The statistic data of a great number of ceramic findings found by probes will not be taken into account, as well as petrological analyses, analyses of geological samples, dendrochronological and C14 researches. Also, the findings collected during reconnaissance of surroundings of island Strari Ulcinj, where the remains of the shipwreck were found, which transported LR2 amphora type, and Ponta Volujica with the cargo of Dressel 6A amphora type. Not far from the port of Bar, in the town of Bar, lies the remains of trefoil church from the second part of the fifth century (Velimirović-Žižić 1966: 148,149). The church was built on the remains of the late antique or early Byzantine *villa rustica*. During the research in 1964-1965 a number of large early Byzantine amphorae - Late Roman amphorae types 1 and 2, globular amphora fragments, Samos cistern type, as well as medieval samples of Otranto 1 and 2 and Günsenin I-IV. The presence of material from this site adds great importance to this work, as it completes the picture of maritime trade to the Middle Ages, and therefore, the site is an inseparable part of the area that is now, due to geological changes, found in crypto depression for about 2 meters.

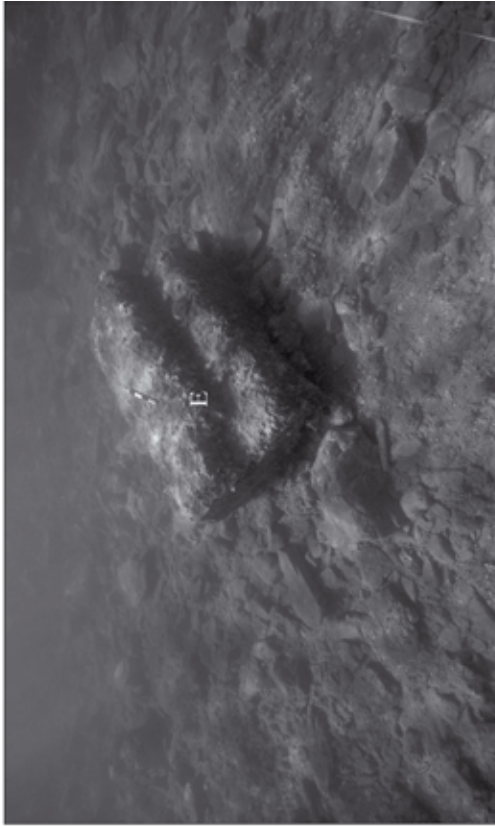
### Maljevik

Maljevik is situated 7.5 km north from Bar Port, and covers the area between Crni Rt and so called "Mali Maljevik", which closes wide bay with a shallow, wedge-shaped, stacked out cape. The origin of this toponym etymology is of Latin word malleus (hammer), which Slavs adopted when they arrive in this area.

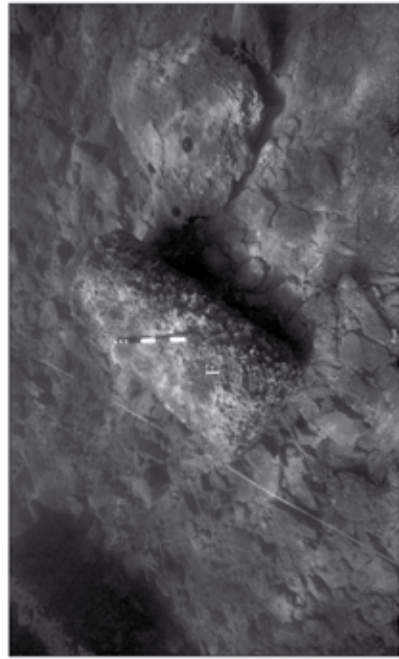
MALJEVIK



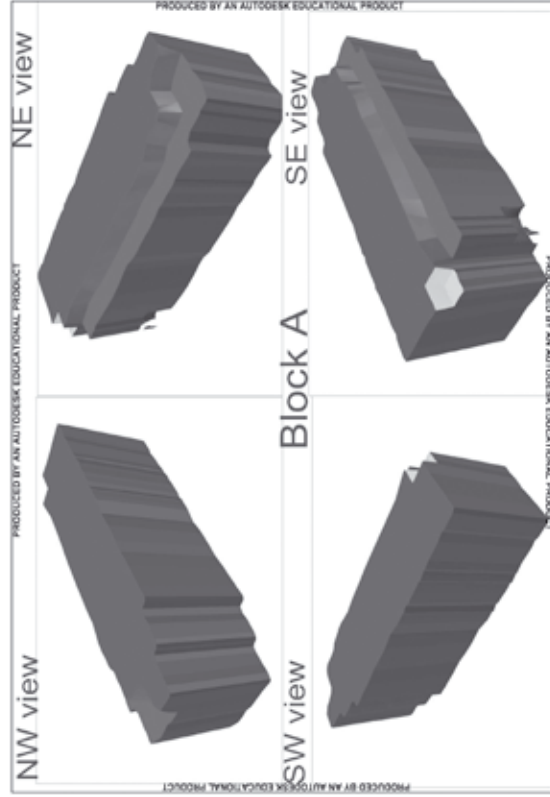
1. BLOKOVI A-D; BLOKOV A-D.



2. Blok E; Blok E



3. BLOK F; BLOK F.



4. 3 D IZGLED BLOKA A; 3D OF BLOCK A.

skom na današnje prostore. Ime je povezano sa negdašnjim postojanjem majdana kvalitetnog crvenkastog krečnjaka prožetog kvarcnim nervaturama, a koji je izgleda prepoznat još u rimsko vrijeme, zbog čega je njegova eksploatacija počela veoma rano.

O tome svjedoči 7 polufabrikovanih arhitektonskih elemenata koji leže na dnu mora, podjeljeni u dvije grupe.<sup>2</sup> Njihova udaljenost od obale je oko 80 metara, upravo na usku maljevičku plažu. Prva grupa (A-D) sastavljena je od 4 nepravilno raspoređena elementa i nalazi se na dubini od oko 2 metra. Elementi su različitih dimenzija, a finalni oblik se samo naslućuje na osnovu formi i uklesanih žlijebova.

Najveći arhitektonski element u grupi je veliki pravougaoni blok (A), klesan u jednom komadu (sl.2.1). Njegove dimenzije su 3.40 x 0.50 m. Na južnoj strani pravougaoni blok se završava sa dva plitko porfilisana stepenasta ispusta, širine oko 30 cm, dok se duž istočne dužne ivice pruža pravilno klesani žlijeb širine 15 cm (visina žlijeba oko 5 cm). Na sjevernoj strani ovaj žlijeb formira profilaciju u obliku ćiriličnog slova П. Na bočnoj sjevernoj strani, odozgo, isklesan je ravan trakašti žlijeb širine 15 cm, dok je donja strana profilisana u obliku latiničnog slova L (dimenzija 30 x 30). Širina bočne strane je oko 0.45 cm.

Blok B je takođe klesan iz jednog monolitnog komada crvenkastog krečnjaka, nešto manjih dimenzija od bloka A, (1.55 x 0.70 m). Krajevi, sa sjeverne i južne strane bloka, dimenzija su 0.50 x 0.60 m. Sa istočne strane žlijeb je na gornjoj površini, širine 30 cm, visine oko 0.5 cm. Na krajnjoj južnoj strani obrazovana su dva pravilna, stepenasto formirana udubljenja; prvo širine oko 0.30 m i visine 0.15 m, „pada“ na drugo udubljeno pravougaono polje dimenzija 0.20 x 0.60 m. Na sjevernoj strani je uklesan pravougaoni žlijeb dimenzija oko 0.15 x 0.30 m (Sl.2.1).

Blok C je pravilnog kružnog oblika širine oko 0.75 cm, i dužine oko 1.90 cm. Sa strane blok je polomljen, najvjerovatnije kao proces vađenja školjaka (slov. Prstac; lat. Lithophaga lithophaga), jer se zbog njihove eksploatacije iz stijene odlamaju čitavi komadi (Sl.2.1).

Blok D je sa gornje površine dimenzija 1.33 x 0.90m, sa žlijebom na jugozapadnoj strane širine 0.22 x 0.13 m. Sa sjeverozapadne strane

The name is related to former quality reddish limestone mine imbued with quartz rib, and which is recognized even during Roman period, and that is the reason why its exploitation started very early.

Seven semi-fabricated elements which lie on the bottom of the sea testify about that, divided into two groups.<sup>2</sup> Their distance from the coast is about 80 meters, right to the narrow Maljevik beach. The first group (A-D) is consisted of irregular assigned elements and it is situated at a depth of about 2 metres. The elements are of different sizes, and the final shape can be only anticipated on the base of forms and engraved grooves.

The biggest architectural element in this group is big rectangles block (A), processed in one piece (Photo 2.1). Its dimensions are 3.40 x 0.50 m. On the southern side, the rectangle block ends with two shallow profiled stair like outlets, about 30 cm width, while along eastern edge there is regular processed groove stretches, 15 cm width (about 5 cm height). On the northern side, this groove forms profiling shaped as a Cyrillic letter П. On the lateral northern side, from above, the flat, stripped groove was processed, 15 cm width, while the bottom side was profiled in shape of a Latin word (30 x 30). The width of the lateral side is about 0.45 cm.

Block B is also processed out of one monolithic piece of a reddish limestone, smaller then block A, (1.55 x 0.70 m). The end, from northern and southern side of the block is 0.50 x 0.60 m. From eastern side, groove is on the upper surface, 30 cm width, about 0.5 cm height. Two regular, stair like formed engrossing were formed on southern side; the first is about 0.30 m width and 0.15 m height, "falls" on the second engrossed rectangle field 0.20 x 0.60 m. On northern side, the rectangle groove was processed, with the dimensions about 0.15 x 0.30 m (Photo 2.1).

Block C is regular, round shaped, about 0.75 cm width, and about 1.90 cm length. This block is broken aside, most likely as a process of shells extracting (slov. Prstac; lat. Lithophaga lithophaga), because whole pieces were taken out of the stones for the shells exploitation (Photo 2.1).

Block D is from the upper surface, 1.33 x 0.90m, with the groove on southwestern side, 0.22 x 0.13 m width. On northeast side, the element gets narrower for about 20 cm, so one gets impression like it is consisted of two parts (Photo 2.1).

<sup>2</sup> Elementi su pronađeni sasvim slučajano od strane 15.-ogodišnjeg Majkla Lekejna (Michael Lequesne), britanskog dječaka koji je sasvim slučajano uočio čudno raspoređene i oblikovane kamene izrađevine.

<sup>2</sup> The elements were found by accident, by Mishael Lequesne (age 15), the British boy who noticed strangely configured and shaped stone structures.

elemenat se polukružno sužava za oko 20 cm, tako da se dobija utisak kao da je sastavljen iz dva dijela (Sl.2.1).

Na oko 11 metara od prve grupe, na 2 metra dubine, leži druga grupa arhitektonskih elemenata sastavljenih od dva klesana komada, blokovi E i F, udaljeni jedno od drugog oko 3 m. Blok E je pravougaonog oblika sa jednim pravilnim žlijebom sa zapadne strane širine 0.30 m. Dimenzije bloka E su 1.90 x 1.10. Na istočnoj, bočnoj strani, žlijeb je profilisan u obliku ćirilicnog slova Г (dimenzije gornjeg kraka 15 cm). Visina bloka E sa obje strane je oko 0.80 metara (Sl.2.3).

Elemenat F je stub kružnog presjeka, pravilnih proporcija, nenagrižen morskom florom i zubom vremena, dužine 2.00 m x 0.80 cm (Sl.2.4).

Na osnovu preliminarnih rezultata možemo da pretpostavimo da su elementi klesani od lokalnog kamena koji se nalazi u samoj blizini. Kako su se našli na dnu mora teško je reći, ali neki geološki procesi u prošlosti idu u prilog pretpostavci da je došlo do potonuća razine kopna usljed jakih seizmičkih djelovanja i da su elementi, pripremljeni za izvoz, utonuli za oko 2.00 do 2.20 metra. Međutim, ove indicije tek treba da nađu svoje konačno naučno utemeljenje, koje će se objaviti nakon kompletno završenih petroloških analiza.

Raspored „potonulih“ elemenata je takav da ide u prilog tezi da se radi o potonulom antičkom brodu, koji je tek što je utovaren doživio brodolom. Kao prvo, zbog balasta u samom brodu, jer ovako teški i kabasti predmeti se ne skladište na ovaj način (stubovi se skladište sa stubovima itd.). To pokazuje i prilično velika udaljenost prve od druge grupe, čak 11 metara, s obzirom da se radi o veoma teškim izrađevinama koje su se u slučaju nasukavanja broda morale naći na jednom mjestu, ili na mnogo manjoj udaljenosti.

Da bi se dobila prava slika njihove namjene potrebno je uraditi dobre 3D projekcije (sl.2.4), nakon čega će se utvrditi razlog tolikog broja klesanih žljebova i da li međusobno korespondiraju, odnosno da li se radi o sastavnim djelovima ili su to pojedinačni elementi koji se uklapaju u druge, zasebne cjeline na građevini. Upada u oči pažljivo klesanje, brojnost i ispreplijetanost usjeka, što znači da su klesari bili veoma vješti i da su morali poznavati osnovne matematičke i geometrijske principe kako bi izašli u susret naručiocu i njegovim zahtjevima. Jedna greška na par tona teškom elementu (npr. blok A) bila

About 11 m distance from the first group, on 2 m depth, another group of architectural elements lie, consisted of two processed pieces, blocks E and F, about 3 m distance from one another. Block E is rectangle shaped with one regular groove on western side, about 0.30 m width. The block E dimensions are 1.90 x 1.10. On eastern side, groove is profiled in the shape of Cyrillic letter Г (dimension of upper jib is 15 cm). The height of both sides of block E is about 0.80 m.

The element F is a pillar of circular cross-section, with regular proportions, not damaged with the sea flora and time, 2.00 m x 0.80 cm length (Photo 2.4).

On the base of preliminary results, we can assume that the elements were processed of local stone which is situated near the site. It is hard to say how they come on the bottom of the sea, but some geological processes in the past support the assumption that because of the strong seismic activity the sink of the land level occurred, and that the elements, which were prepared for the export, sunken for about 2.00 to 2.20 m. However, those assumptions have to be confirmed scientifically, which will be published after completely finished petrological analyses.

The layout of “sunk elements don't approve the thesis on sunken ancient ship, which had shipwreck just after it received its cargo. The first reason for that opinion was the ballast in the ship itself, because these hard and big items are not warehouse in this way (pillars are with pillars in warehouses, etc.). And the big distance between the first and second group, which is 11 m, confirms that opinion, because it is about very hard processed items, which, in the case of shipwrecking, should be at one place, or on smaller distance of each other.

In order to get the real picture of their purpose, good 3D projections should be done (Photo 2.4), after which the reason of so many processed grooves will be confirmed, and do they correspond in a way between them, i.e. is it about integral parts or they are individual elements which fit into other, separate unit in the construction. It is very noticeable the careful processing, number and complexity of the lines, which means that the stonecutters were very skillful and they had to know the basic mathematical and geometrical principles as they had to fulfill purchaser's demands. One mistake on the element which height was a couple of tones (block A for instance) would be fatal, and it would bring some other risks which master couldn't al-



bi kobna, i sa sobom bi nosila i druge rizike koje majstor sebi i svojoj klesarskoj grupi nije smio da dozvoli. To govori u prilog tome da je u blizini živjela vješta klesarska zajednica koja je radila veoma zahtjevan posao. Na jugoistočnoj strani kopnenog dijela Maljevika postoji mikrotoponim Mirišta. Kako su svi toponimi koji u sebi imaju prefiks „mir“ (od lat. mur, muros: zid, ruševina), na našoj obali povezani sa antičkim lokalitetima (Mirišta u Petrovcu, Mirišta na Žanjicama, Mirovica u Baru itd.) onda se može pretpostaviti da je u blizini postojala neka vila rustika koja je kao jednu od svojih djelatnosti imala vađenje i obradu kamena. U svakom slučaju ne možemo pouzdano znati za kakvu građevinu je pripreman ovaj kamen. Oblik blokova i prisustvo stubova upućuje na veliko zdanje, osmišljene koncepcije javnog ili privatnog karaktera kao što su: bazilike, pozorišta, trijumfalni lukovi, unutrašnje uređenje palata...

Jedna sasvim drugačija pretpostavka o namjeni ovih elemenata pojavila se kao domišljanje koje ne treba odbaciti. Naime, na samo 3 kilometra, na kranjem jugoistočnom rtu sutomorskog zaliva nalazi se manastir Bogorodice Ratačke sa nikada dovršenom bazilikom (B) započetom prema natpisu 1347. u vrijeme igumana Pavla Ruđerija (Bošković Korać, 1957: 50-51; Korać 1965: 49). Vrsta kamena koji je upotrebljavan za zidanje skoro je iste oštine i kolorističnog inteziteta kao i maljevički blokovi, odnosno potiče iz istog majdana. To indicira na mogućnost da su možda i potonuli elementi bili naručeni za dovršavanje crkve Svete Bogorodice. Kao prvo, bazilika ima dvostepeno profilisane pilastre, kao Sveti Nikola u Starom Baru, što znači da gotički lukovi svodova polaze iz pilastera prislonjenih uz zid i zasvođavaju poprečne brodove (Bošković Korać 1957: 50-51; Korać, 1965, 49). Tako da bi stubovi odvajali prostor između njih i naosta. Međutim, arhitektonska koncepcija bazilike sa pravougaonom apsidom nije zamišljena sa velikim pravougaonim blokovima, tako da i ovo pitanje ostaje otvoreno.

Na samom ulazu u uvalu pronađen je i još jedan lokalitet, ostaci brodoloma datovani amforama tipa Brindizi I-II vijek. Brod se po svemu sudeći razbio o plitku seku (podvodnu hrid) jer je pjetrificirano amforište pronađeno tik ispod stijene na površini od 11.00 x 5.30 metara. Na dubini od oko 4 metra leži na stotine sitnijih ulomaka sraslih sa stijenama pa je teško dati neke precizne podatke o amforištu.

low to himself and his group. So, we know that very skilled processing community used to live near there which did a very demanding job. On southeastern side of the land part of Maljevik, there is a microtoponym Mirišta. As all toponyms has prefix Mir (from latin word mur, muros: wall, ruin), at our coast they are related with the ancient sites (Mirišta in Petrovac, Mirišta in Žanjice, Mirovica in Bar etc.), than it can be assumed that there was some *villa rustica* near which used to do taking out and processing the stones. In any case, we don't know for which construction this stone was prepared. The block shape and presence of the poles point out to a big building, planned conceptions of public or private character such as basilica, theatres, triumphal arches, inner decoration of the palaces etc.

One completely different assumption regarding the purpose of these elements appeared as an opinion which should not be rejected. Only 3 km away, at the ultimate southeastern cape of Sutomore Bay, there is Mother of God Ratačka Monastery, with basilica which was never finished (B), which construction started, according to the inscription, in 1347, during service of prior Paolo Ruđeri (Bošković Korać, 1957: 50-51; Korać, 1965, 49). The type of the stone used for building is almost the same sharpness and coloric intensity as Maljevica blocks, i.e. their origin is from the same mine. That indicates the possibility that perhaps sunken elements were planned for finishing the church of St. Mother of God. At first, basilica has two level profiled pilasters, as St. Nikola in Old Bar, which means that gothic arches of the apses start from the pilasters leant against the wall and making arch above the transversal naves (Bošković Korać 1957: 50-51; Korać, 1965, 49), so the poles would separate the space between them and naos. However, architectural conception of the basilica with the rectangle apside is not planned with big rectangle blocks, so this question is also opened for further discussions.

At the very entrance, another site has been found, the remains of the shipwreck dated by the Brindisi amphorae type, I-II century (Photo 1; 4). Obviously, the ship crashed to the underwater rock, because the petrificated amphorae site was found just below the rock, at the surface of 11.00 x 5.30 m. At about 4 m depth lie hundreds of small fragments fused with the rocks, so it is difficult to present some precise data about amphorae place.

## Bigovica

Sa geomorfološkog aspekta, najznačajnije prirodno okruženje barskog akvatorijuma predstavlja brdo Volujica, smješteno sa jugozapadne strane zaliva. Ono zatvara barski zaliv iz ovog pravca, a sama pozicija i geološki uslovi omogućili su da postane prirodna brana između plodnog, ali plavnog barskog polja i mora. To je jedno od najisturenijih rtova u Crnoj Gori koji je zbog pogodnog položaja vremenom, sa unutrašnje strane omogućio izgradnju najveće luke crnogorskog primorja, kao i nekoliko najopremljenijih i najsigurnijih marina.

Sama Volujica predstavlja tačku čijim se morskim prolaskom ulazi, odnosno napušta barski zaliv. Podvodni dio volujičkog grebena prati liniju nadvodnog dela i spušta se do 30 metara dubine. Po dobroj vidljivosti, izbrazdane i strme ivice podvodnog grebena pokazuju kakva je opasnost približavanja ovoj velikoj izduženoj stijeni. Vjetrovi koji ovdje duvaju često mogu biti izuzetno nepovoljni za plovidbu manjih plovila, pogotovu ako jaka bura krene da diže velike talase. U takvim slučajevima je gotovo nemoguće proći Volujicu i ući u barski zaliv. Ruža vjetrova i silina otvorenog mora bili su uzrok vijekovnog potapanja mnogih plovila koja danas leže u okolini ovog rta. O toj činjenici govori i etimologija njenog imena, Volujica, odnosno Valovica (od val – talas), jer su talasi na dno mora poslali nebrojeno mnogo brodova, od antike pa sve do danas.

Kada se krene od Bara ka jugoistoku (1.5 km direktne udaljenosti), Bigovica je prva uvala na koju se nailazi poslije najisturenijeg volujičkog rta (Ponta Volujica) (Sl. 1.2.5). Ona zaprema površinu od oko 150 m širine i 200 m maksimalne dužine i zbog prilično dobre zaštićenosti bila je odvajkada mjesto za zaklon brodovima. Odatle i potiče njeno slovensko ime, koje se izvodi od riječi big (bijeg) ili pribježište.<sup>3</sup> Barski akvatorijum, kao uostalom i cijela crnogorska obala nema idealne prirodne uslove za potpunu zaštitu jedrenjaka i brodova, pa se svaka od njih koristila prema vremenskim uslovima u datom trenutku (Varda 1996: 280).

Bigovica je zaštićena isturenim rtom (Ponta Bigovice), usmjerena svojim krakom prema sjeverozapadu. Na taj način ona je barijera jakom južnom vjetru, dok je od bure brani brdo Volujica. Njena

## Bigovica

From the geomorphological point of view, the most significant natural surroundings of Bar aquatorium is Volujica Hill, situated at southwestern side of the bay. It closes Bar Bay from this direction, and its position and geological conditions enabled it to become natural dam between fertile, but often flooded Bar's field, and the sea. It is one of the most stacked out capes in Montenegro, which because of its good position, as the time went by, enabled construction of the biggest port in Montenegrin Coast, as well as several most equipped and safe marines.

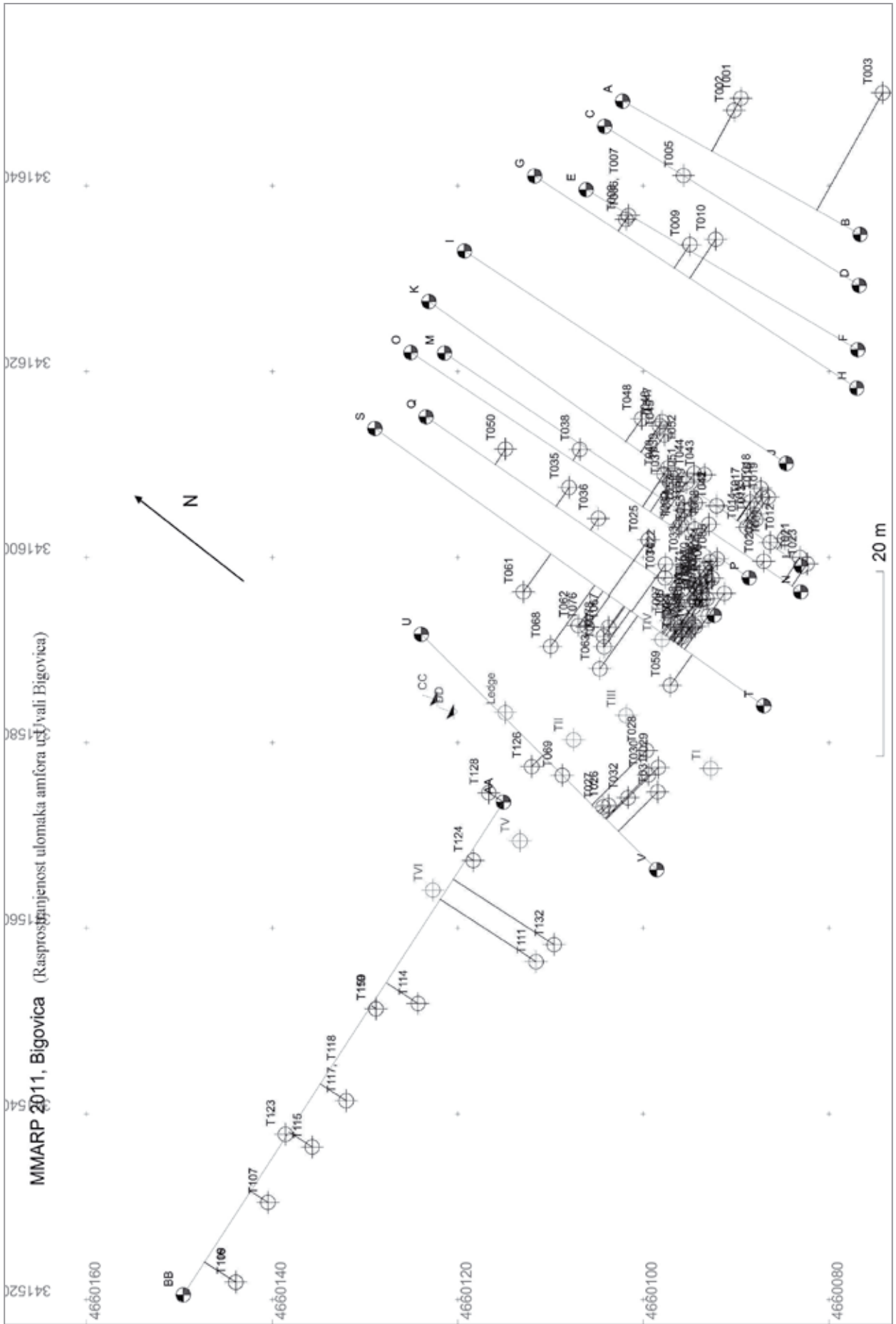
Volujica itself represents starting point where one enters or leaves Bar Bay. The underwater part of Volujica cliffs follows the line of the above water part and it goes down to 30 m depth. When the visibility is good, the ribbed and scar edges of the underwater rock show the danger when approach to this huge long rock. Winds here are often extremely unfavorable for sailing of smaller boats, especially if strong storm starts to make big waves. In cases like that, it is almost impossible to pass Volujica and enter into Bar Bay. Wind roses and strength of the open sea were causes of sinking ships for centuries which lie today in the surroundings of this cape. Ethimology of its name speaks about that fact, Volujica, i.e. Valovica (from val – wave), because waves sent a numerous ships to the bottom of the sea, from the ancient times until today.

When one goes from Bar towards southeast (1.5 km of direct distance), Bigovica is the first bay one can meet after the most stucked out Volujica cape (Ponta Volujica) (Photo 1.2.5).. It covers the area of about 150 m width and 200 m maximal length, and because of good protection, it was always shelter for ships. It has a Slav name, made of word big (escape) or sanctuary.<sup>3</sup> The Bar aquatorium, as well as whole Montenegrin Coast, doesn't have ideal natural conditions for completely protection of sailboats and ships, so each of them were used according to weather conditions at the specific moment (Varda 1996: 280).

Bigovica is protected by stucked out cape (Ponta Bigovice), directed towards northwest. In that way, it is a barrier to strong south wind, while it is protected by Volujica Hill to storms. It's weakness

<sup>3</sup> Uvala identičnog naziva, ali sa mnogo boljim zaklonom je Bigova. Ona obuhvata jugozapadni krak zaliva Trašte, i u njemu je konstatovana velika količina ulomaka amfora koje se na žalost nalaze u privatnim kolekcijama.

<sup>3</sup> A hollow with the similar name, but with much better shelter is Bigova. It covers southwestern part of the Traste Bay, and a large amount of amfora pieces were found in it, which is now, unfortunately, in private collections.



slabost su zapadni i djelimično sjeverozapadni vjetar kojima je izložena čitavom širinom zaliva, kao i jake morske struje koje idu uz južnu i jugozapadnu padinu Volujice praveći kovitlac u samom zalivu. Zbog toga je arheološki materijal uglavnom skoncentrisan na južnoj polovini, uz sam rub oboda stjenovitog rta koji od vrha Ponte pada od 12 do 3 metra dubine. Na taj način vijekovima se akumulirala jedna velika količina krhotina antičkog transportnog materijala, uglavnom amfora, ali i stakla i metalnih predmeta, skoncentrisanih ili uz samu ivicu rta ili ispod sedimentnih nanosa pijeska, krupno zrnastije granulacije pomješane sa velikom količinom otpadaka organskog sistema podvodne flore ovog područja i pjeskovito-glinovitih naslaga iz kojih raste morska trava.

Koncentracija arheološkog materijala je ujedno i granica dvije morfološki različite kompozicije dna ili dva geo-vegetabilna sistema (Slika 3). Tako su uticaji podvodnih struja kreirali podvodno-arheološku sliku koja je u zavisnosti od dubine sedimentnog taloga negdje veća i dublja, dok je na drugim mjestima, pretežno uz rub stjenovite podvodne padine vidljivija ali plića, bez stratigrafije, sa materijalom koji se nagomilavao stalnim pretumbavanjem dna, pa se u istim prostornim kontekstima mogu naći materijali koji pripadaju različitim hronološkim okvirima i proukcijama od IV vijeka prije Hrista do XVII vijeka. To dokazuje da se o Bigovici kao luci može govoriti sa aspekta dugotrajnog pretovara, gdje se opaža vjekovno korištenje ove uvale kao malog emporiona.

Tokom istraživanja 2011. godine postavljeno je 7 sondi od kojih je 5 otkopano do kraja. U njima je pronađeno 157 fragmenata keramičkog materijala: sonda I (dimenzije 1.50 x 1.50 m) – 20 ulomak, sonda III (3.20 x 1.90 m) – 31 ulomak, sonda V (dimenzije 1.50 x 1.50 m) – 39 ulomaka, sonda VI (1.50 x 1.50 m) – 26 i sonda VII (1.50 h 2.00) – 31 keramički ulomak. Sonde II i VII zbog tehničkih nemogućnosti nisu završene do kraja.

Pozicioniranje je obavljeno na mjestima gdje se koncentracija materijala kreće varijabilnom putanjom, i gdje različiti sastav sedimenata upućuje na promjene nastale kao plod stvaranja emporijalnog organskog sistema ili je posljedica i recentnih pretumbavanja, jer Bigovica je u XX vijeku korišćena kao poligon za uništavanje I sredstava. Prema raspoloživoj arhivskoj dokumentaciji saznali smo da je na samoj obali uništen torpedo iz drugog svjetskog rata.

Tokom istraživanja 2012. godine otvoreno je 7 sondi (X-XVI) na onim pozicijama gdje se

are western and partly northwestern wind which is exposed with the whole bay width, as well as strong sea flow which go along southern and southwestern hillside of Volujica, making a whirlpool in the bay itself. Because of that, the archaeological material is mostly situated in southern side, on the very edge of rocky cape which falls about 12-13 m deep. In that way, a big amount of ancient transport pieces was accumulated for centuries, mostly amphorae, but also glasses and metal items, situated by the edge of Cape or below sand drifts, large grains mixed with the big amount of organic system waste of underwater flora from this region and sandy-clay layers from which the seaweed grow.

The concentration of archaeological material is also a border of two morphologically different compositions of the bottom or two geo-vegetable systems (Photo 3). So the influences of underwater flows created underwater-archaeological picture which is in some places bigger and deeper, depending of the sand layer, while in other places, mostly by the edge of underwater rocks, it is more visible but shallower, without stratigraphy, with the material which was accumulated during constant bottom changing, so the materials which belong to different chronological frames from 4th century B.C. to 17th century can be found at the same space contexts. That fact proves the idea that we can talk about Bigovica from the aspect of long term reshipment, where one can notice using of this bay as a small emporium for centuries.

During researches 2011, 7 trench were installed, of which 5 trenches were dug up completely. 157 fragments of ceramic material were found inside them: trench I (1.50 x 1.50 m) – 20 fragments, trench III (3.20 x 1.90 m)– 31 fragments, probe V (1.50 x 1.50 m)– 39 fragments, probe VI (1.50 x 1.50 m) – 26 fragments and trench VII (1.50 h 2.00) – 31 ceramic fragments. Trenches II and VII were not completely finished because of technical inability.

Positioning was carried out on the spots where concentration of material goes along variable direction, and where different sand composition points out to changes occurred as a fruit of emporia organic system creation or it is a consequence of recent changing, because Bigovica was used as a polygon for destroying of explosive materials during 20th century. According to available archive documentation, we know that War World II torpedo was destroyed at the coast.

During researches 2012, 7 trenches were opened (X-XVI) in the positions where the greatest

pretpostavljala najveća koncentracija materijala koja bi omogućila i sagledavanje vertikalne stratigrafije. Dimenzije sonde X-XIV iznosile su 1.50 x 1.50 m, sonda XV je dimenzija 2.00 x 1.00 m, a sonda XVI 2.00 x 1.50m. Sonde su iskopavane korišćenjem vodene pumpe koja se nalazila na ronilačkoj platformi broda *Downunder*. Uočena je skoro ista stratigrafska aktivnost kao i prethodne godine: koncentracija ulomaka po površini, pijesak krupnije granulacije, pijesak sitne granulacije pomješan sa ginovitim muljem, živa stijena ili van granice sedimentnih naslaga samo sitan pijesak do žive stijene.

### Tipologija amfora

Amfore su jedan od glavnih izvora za analizu ekonomskih i socijalnih odnosa u grčkom rimskom, vizantijskom i medijevalnom svijetu. Mogućnost sagledavanja velikog broja različitih tipova amfora koje potiču iz cijelog Sredozemlja omogućuje nam da stvorimo sliku o antičkoj trgovini tokom dugog perioda na ovim prostorima. Ovdje će biti prikazana tipologija odabranih primjeraka sa lokaliteta Bigovica. Prikazaćemo i neke forme sa lokaliteta Ponta Volujica, lokaliteta Stari Ulcinj i „Topoličkog trikonhosa“ (ranohrišćanske crkve iz druge polovine V vijeka). Ova tipologija, koja obuhvata nalaze iz uvala smještenih unutar desetak kilometara obale Barskog akvatorija može se pratiti od 4. vijeka prije Hrista. Posljednji, odnosno najmlađi tipovi amfora, pripadaju medijevalnoj produkciji sa juga Italije. Međutim, sudeći prema brojnosti krhotina koje pokrivaju morsko dno, moguće da mineraloško-petrološke analize pokažu i druge srednjovjekovne produkcije s obzirom da neki tipovi prema fakturi i obliku drški podsjećaju na amfore tipa Günsenin (XII - XIII vijeka) kao i neke istočnomediterranske tipove crnomorskog kruga.

Izdvojili smo XVIII tipova istočnomediterranskih i zapadno mediteranskih amfora koje smo obelježili rimskim brojevima, dok je broj primjeraka jednog tipa amfore označen arapskim brojevima. Takođe, u okviru određenih tipova javljaju se *serda* podtipovi, a njih smo označili sa velikim latiničnim slovima: A, B, C... U radu smo koristili i nalaze iz privatnih kolekcija, pronađenih na samom lokalitetu Bigovica, ili iz neposredne blizine brda Volujica (I/1, II/1, IIIA/1, III/B3). To nam omogućava da dopunimo saznanja o raznovrsnosti centara za proizvodnju amfora koji se pojavljuju u na našoj obali. Jedan broj nalaza je nacrtan,

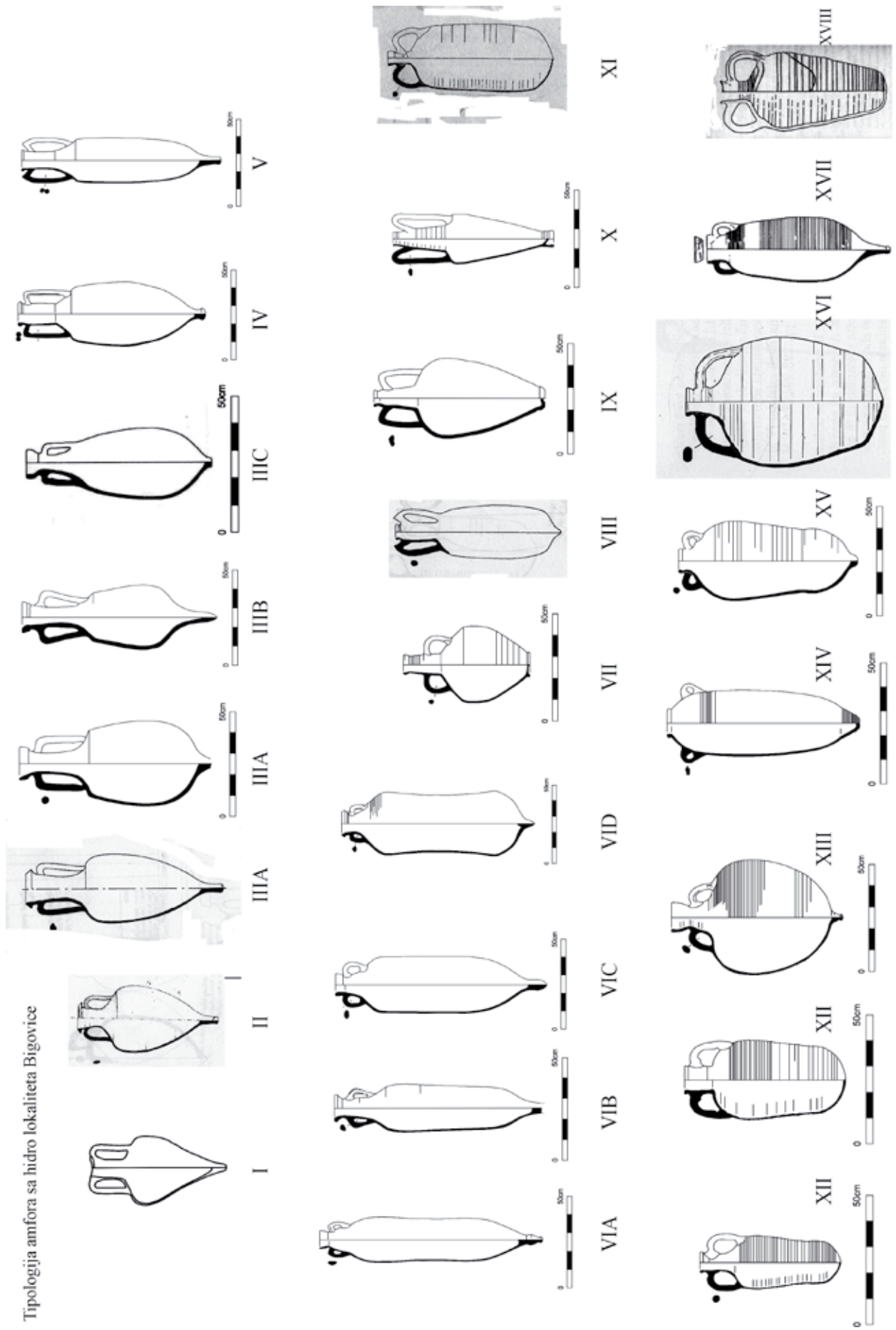
concentration of material is assumed, which will enable consideration of vertical stratigraphy. The dimensions of trenches X-XIV were 1.50 x 1.50 m, trench XV is 2.00 x 1.00 m, and trench XVI is 2.00 x 1.50m. The trench were excavated by using of water pump which was at the diving platform of *Downunder* ship. Almost the same stratigraphic activity as in the previous year was noticed: the concentration of fragments on the surface, sand of large granulation, sand of small granulation mixed with muddy clay, rocks or beyond the sand layer only small sand up to rock.

### Typology of amphorae

The amphorae are one of the main sources for analysis of economic and social relations in Greek, Roman, Byzantine and medieval world. The possibility of perception of great number of different amphora types which origins are from the whole Mediterranean enables us to create clear picture about ancient trade during the long period of time in this region. In this work you will be shown a typology of selected pieces from Bigovica, and we will show several fragments from Ponta Volujica sites, Old Ulcinj site and Topolica trikonhos“ (early Christian church from the second half of the fifth century). This typology, which includes findings from the inlet located within ten kilometers of the Bar coast can be traced from IV century BC. The last and youngest types of amphorae belong to the medieval production in southern Italy. However, according to the large number of broken pieces covering the bottom of the sea, it is possible that mineralogical-petrological analyses show some other medieval productions, because some types, according to the composition and shape of handle, look like Günsenin amphora types (12-13th century), as well as some East Mediterranean types in the Black Sea region.

We have selected XVIII types of Eastern Mediterranean and Western Mediterranean amphorae and marked them with Roman numerals, while the number of copies of a single type of amphora is marked with Arabic numerals. Also, under certain types *serda* subtypes occur, and these are marked with capital letters: A, B, C. In this paper we have used findings from private collections found at the site of Bigovica, or from the immediate vicinity of the hill Volujica (I/1, II/1, IIIA/1, III/B3). This allows us to add knowledge about the diversity of centers producing amphorae that appear along our coast. One number of the findings

Tipologija amfora sa hidro lokaliteta Bigovice



sa presjecima, dok je nekoliko desetina nalaza predstavljena samo sa fotografijom. Razlog je nemogućnost izrade dokumentacije za nalaze koje se nalaze u privatnim posjedima.

### **Tipovi amfora I Korintske amfore**

Korint je danas prepoznat kao jedan od mnogobrojnih gradova država poznatih po proizvodnji i izvozu velike količine transportnog posuđa koje je služilo za smještaj i prenos roba u rasutom stanju. One nisu spomnjane u drevnoj literaturi, ali su arheološka istraživanja pružila mogućnost klasifikovanja najmanje tri tipa koji bi mogle biti u vezi sa ovim drevnim emprijumom. Dva tipa, označena kao A i A', su na osnovu stila, metodologije proizvodnje i fakture, pripisane korintskoj proizvodnji. Postoje i neki dokazi da je i treći tip, Tip B (kojoj pripadaju nalazi sa Bigovice i ) proizvođen u Korintu iako se čini da je korintska kolonija Korkira (Krf) proizvodila takođe amfore iz ove serije (Koehler 1982).

Starije korintske amfore tipa B imaju manje više ovoidno tijelo koje se završava , naglašenim obodom i vertikalne drške jajolikog presjeka. Dno je umbonsto. Ovi tipovi su proizvođeni od oko 525. godine prije Hrista do kasnog III, a vjerovatno se njihova proizvodnja pruža i tokom II vijeka prije Hrista. Njihov izvoz je posvjedočen uglavnom na zapadu. Korintske B amfore pokazuju da su pravljene uglavnom od žute gline koja preovlađuje kod mnogih tipova korintske keramike; površina i unutrašnjost su uglavnom od svijetlo ljubičaste do svijetlo žućkasto-bron boje (Munsell 5YR 8/4 do 7/5 YR 7/4). Amfore tipa B pokazuju sasvim normalnu evoluciju njihovog profila. Brojni primjerci i fragmenti datovanim u arheološkim kontekstima sa iskopavanja u Korintu i Atini pokazuju oblik naranjih B tipova koji pripadaju poslednjoj četvrtini VI vijeka prije Hrista. Nekoliko karakteristika ove klase je jasno definisano: zaobljen i izvučen zadebljan obod, ručke su vertikalne i oštro prelomljene. Oko 480 prije Hrista cilindrični vrat postaje kraći a obod profilisaniji; od sredine V vijeka tijelo je ovoidno (Koehler 1982).

Izduženije piriformno tijelo korintskih amfora B tipa pojavljuje se na kraju prve četvrtine III vijeka (kao primjerci 1-3). Rame amfore je više izbočeno, dok je obod, iako još uvijek profilisan kompaktniji ima skoro trouglast presjek i stješnjen je u obliku broja 8. Najveći izvoz korintskih amfora obavljao se

is drawn, with sections, while ten of findings is presented only with photo. The reason is the lack of documentation for the findings that are on private lands.

### **The Amphora Types I Corinthian amphorae**

Corinth has been recognized even today as one of many towns known by its production and export of large quantity of transport containers that was used as storage and transport of bulk goods. They are not mentioned in ancient literature, but the archaeological researches have provided the possibility of classifying at least three types, which could be related to these ancient emporium. Two types, designated as A and A', are based on the style, production methodology and invoices, attributed to Corinthian production. There is also some evidence that a third type, Type B (to which findings on Bigovica belong and) produced in Corinth, although it seems that the Corinthian colony of Corcyra (Corfu) also produced amphorae of this series (Koehler 1982).

Older Corinthian amphorae, type B, have more or less ovoid body that ends, with emphasized rim and vertical grip egg section. The bottom is umbonal. These types have been produced since about 525 BC until late third century, and probably their production continued during the second century BC. Their export is witnessed mainly on the west. Corinthian B amphorae show that they were made mainly of yellow clay that has prevailed in many types of Corinthian pottery; surface and interior are mostly from light purple to light yellowish-brown (Munsell 5YR 8/4 to 7/5 YR 7/4). Amphorae of type B show normal evolution of their profiles. Numerous examples and fragments, dating in archaeological contexts from the excavations in Corinth and Athens show form of the early B types that belong to the last quarter of the VI century BC. Several characteristics of this class are clearly defined: rounded and drawn thickened rim, handles are vertical and sharply broken. About 480 BC the cylindrical neck becomes shorter and the rim profiled; since the mid fifth century body is ovoid (Koehler 1982).

Elongated piriform body of Corinthian amphorae type B appears at the end of the first quarter of III century (as examples 1-3). The shoulder of amphora is more convex, while the rim, though still profiled, is compact, has nearly triangular section and panned in the form of 8. The largest export of Corinthian amphorae was carried out at the end of

krajem IV i tokom prve polovine III vijeka, a dobra reputacija korinških vina ukazuje na vrstu robe koja je transportovana ovim posudama. Zapremina vina Tipa B varira od 19.3 do 27 litara (Koehler 1982).

I/1

Cijela korinška amfora tipa B, datovana u kraj IV ili početak III vijeka, pronađena u barskom akvatorijumu naspram uvala Bigovica. Amfora ima naglašeno bokasta ramena koja prelaze u piriformno tijelo. Vrat je cilindričan, sa pučasto profilisanim, naglašenim obodom stiješnjenim u obliku broja 8. Ručke su blago zakošene, na presjeku jajolike i oštro se podvijaju ispod oboda. Dimenzije: visina 0.75 m, širina 0.40. Boja: Munsell 2.5 YR4/4, na prelomu, 10 YR 7/4. Lokalitet Bigovica. (Tabla 1: I/1)

I/2

Ulomak gornjeg dijela Korinške amfore tipa B, cilindričnog vrata. Obod je blago izvučen i trouglasto zasječen, dok je na sredini u osi sa drškama stiješnjen u obliku broja 8. Ručke nisu očuvane ali se na osnovu ostatka konstatuje da su bile trakastog presjeka. Dimenzije: očuvana visina vrata 14.2 cm, širina oboda. 12.2 cm Boja: spolja, Munsell 2.5 YR4/4, na prelomu, 10 YR 7/4. Lokalitet Bigovica. (Tabla 2: I/2)

## II Italo-grčki, Republicane 1; Lamboglia 4

Veoma razvijena ekonomija u grčkim kolonijama na jugu Italije (Magna Grecia) omogućila je da se ovdje već u IV vijeku prije nove ere razvije takozvani italo-grčki tip amfore, koje će postati preteče tzv. rimskih amfora. Specifični oblik ovih amfora prvi su identifikovali Nino Lamboglia (Lamboglia, 1955.) i Virginija Grejs (Grace, 1963), a naziv italo-grčke (grčko-italske) prvi je upotrijebio Benoit 1954, proučavajući podmorje Marselja (Benoit 1957: 248).

Elizabeth Will razlikuje 5 tipova (A-E) i 2 podtipa (F-G) amfora (Will 1982: 342). Starija grupa grčko-italskih amfora i odlikuje se kratkim, naglašeno srčolikim tijelom, kratkim vratom, drškama srednje veličine i datuju krajem IV i početkom III vijeka prije nove ere (tip A). Po Vilovoj ova grupa ima jasne veze sa Grčkom, grčkim gradovima na Siciliji i Iberijskim poluostrvom na zapadu, gdje je također moglo postojati mjesto njihove produkcije, te da je to jedan od preovlađujućih tipova amfora u Sredozemlju

IV and during the first half of the third century, while the good reputation of Corinthian wine indicates the type of goods transported in these vessels. Volume of wine Type B varies from 19.3-27 liters (Koehler 1982).

I/1

Whole Corinthian amphora type B, dated to the end of IV or the beginning of III century, was found in a Bar aquatorium across Bigovica bay. Amphora has emphasized evers shoulders that cross into the piriform body. The neck is cylindrical, with umbilic profiled, emphasized rim cramped in the form of 8. Handles are slightly oblique, in the section egg-shaped and sharply fold under the rim. Dimensions: height 0.75 m, width 0.40. Color: Munsell 2.5 YR4/4 on the fracture, 10 YR 7/4. Location: Bigovica. (Table 1: I / 1).

II/2

Fragment of the upper part of Corinthian amphora type B, with cylindrical neck. The rim is slightly drawn out and triangularly notched, while in the middle of the axis with the handles squeezed in the form of 8. Handles are not preserved but based on the rest, could be stated that have been of strip section. Dimensions: The height of the neck 14.2 cm, the width of the rim. 12.2 cm Color: outside, Munsell 2.5 YR4/4 on the fracture, 10 YR 7/4. Location: Bigovica. (Table 2: I/2).

## II Italo-Greek, Republicane 1; Lamboglia 4

A very developed economy in Greek colonies in the south of Italy (Magna Grecia) enabled developing of so called Italo-Greek amphora type here, in 4th century B.C. already, which will become antecedent of so called Roman amphorae. The specific shape of those amphorae was first identified by Nino Lamboglia (Lamboglia 1955) and Virginia Grace (Grace 1963), and the name Italo-Greek (Greek-italic) was first used by Benoit 1984, studying sea underwater of Marseille (Benoit 1987: 248).

Elizabeth Will distinguishes 5 types (A-E) and 2 subtypes (F-G) (Will 1952: 342). It is elderly group of Greek-italic amphorae and it is characterized with short, heart shaped body, short neck, and middle sized handles and dating from the end of 4th and beginning of 2nd century B.C. According to Will, this group has clear connection with Greece, Greek towns in Sicily and Iberia peninsula



prije prvog Panskog rata (Will 1952: 343, 356). Kristijan Van der Merš ih datuje u prvu polovinu IV vijeka stare ere, navodeći da se njihova koncentracija povećava od kraja IV vijeka (Van der Merch 1986, 571, 572).

One su slične kasnijim republikanskim amforama Dressel 1A što potvrđuje forma oboda amfore i faktura, koja može biti skoro identična (Peacock, Williams 1986, 25). Takođe, u kasnijim razvojnim fazama opaža se postojanje raznih prelaznih formi koje idu ka tipu Lambolja 2 (Lamboglia 2). Kod grčko-italskih amfora najveći prečnik se nalazi po sredini tijela, a takođe su zabilježena i neočekivana i atipična rješenja oboda (Starac 2009: 85).

Mlađi primjerci italogrčkih amfora su mnogo češći i veoma su prisutni u cijelom Mediteranu i datuju se od kraja III do kraja II vijeka prije Hrista, a mogu se konstatovati i na ovom lokalitetu i u neposrednoj blizini, kao što je: Karatoč greben ispred Herceg Novog, Rose, Risan, Ulcinj (Kirigin 1956: 20)<sup>4</sup>. Njihova velika koncentracija na nalazištima u hrvatskom, crnogorskom i albanskom podmorju svjedoči o intenzivnoj trgovini vinom u priodu od kraja IV do kraja II vijeka, u vremenu kada Rim nije uspostavio vlast u ovim krajevima (Kirigin 1994:16).

Odlikuju se trouglastim obodom, dugačkim ili kraćim vratom, i dugačkim uspravnim drškama. Tijelo je srololiko, naglašenog ramena i ravnomjerno se sužava prema izduženom dnu. Visina ovih amfora iznosi oko 90 cm, dok je prečnik ramena oko 35 cm (Will 1982: 342). Na bazi petroloških analiza pretpostavlja se da je ovaj tip amfora porijeklom sa Sicilije, ali da slični tipovi koji variraju po obliku mogu poticati iz oblasti egejskih radionica. Lokalna proizvodnja pretpostavljena je u Adriji, Draču (Durachion), Visu (Issa), iako za to ne postoje arheološki dokazi (Starac 2009: 87; Kirigin 1994: 18; Tartari 1982: 27).

## II/1

Cijela amfora grčko-italske produkcije, trouglasto profilisanog oboda koje prelazi u cilindričan vrat, blago sužen na kraju. Ramena su naglašena oštrim rebrastim prelazom. Tijelo piriformno silazi do špicastog dna dužine oko 8

<sup>4</sup> Prema uvidu u materijal koji ukrašava brojne konobe duž Crnogorskog primorja, ovih amfora ima u zalivu Bigovo, na prostoru blizu Svetog Stefana, kod ostrva Svetomiholjska Prevlaka. Jedan tovar amfora ovog tipa je na 3-4 nautičke milje udaljen od Volujice, jer ribari sa ribaricama često vade čak i cijele amfore ovog tipa.

on the west, where the place of their production should also exist, and that it is one of the most prevailing amphora types in Mediterranean before Punic War I (Will 1952: 343, 356). Christian Van Der Merch dates them in the first half of 4th century B.C., adding that their concentration getting larger until the end of 4th century (Van der Merch 1986: 571, 572).

They are similar to late republican amphorae 1A, which confirms the rim of amphora and facture, which can be almost identical (Peacock, Williams 1986: 25). Also, in late development phases, it is noticeable the existence of early forms which go toward Lamboglia 2 type. At greek-italic amphoras, the biggest diameter is in the middle, and also unexpected and atypical rim solution are noticed (Starac 2009: 85).

Younger examples of Italo-Greek amphorae are present more often in the Mediterranean, dating from the end of 3rd until the end of 2nd century B.C., and they can be found on this site too, and in surroundings such as: the Karatoč rock near Herceg Novi, Rose, Risan, Ulcinj (Kirigin 1956: 20).<sup>4</sup> Their big concentration on the sites in Croatian, Montenegrin and Albanian underwater, testifies about intensive trade with wine during the period from the end of 4th to the end of 2nd century, in time when Rome still didn't establish rule in this region (Kirigin 1994:16).

Their characteristics are triangle rim, long or short neck, and long upright handles. Their body is heart shaped, with stressed shoulder, getting narrower toward prolonged bottom. The height of those amphorae is about 90 cm, while the diameter of shoulders is about 35 cm (Will 1982: 342). Based on petrological analyses, it is assumed that origin of those amphorae is from Sicily, but the similar types, which vary by shape, can be from the region of Aegean workshops. Local production is assumed to be in Adria, Durachion, Issa, although there is no archaeological evidences for that (Starac 2009, 87; Kirigin 1994: 18; Tartari 1982: 27)

## II/1

The whole amphora of Greek-Italic production, triangular profiled rim that goes into a cylindrical neck, slightly narrowed at the end. Shoulders are

<sup>4</sup> According to the material which decorates a lot of restaurants along Montenegrin Coast, there are similar amphoras in Bigovo Bay, at the area near St. Stefan, near Svetomiholjska Prevlaka Island. One load of this amphora types is on 3-4 nautical miles distance from Volujica, because dragnet workers often take out even the whole amphoras of this type.

cm. Drške su skoro vertikalne, jajolikog presjeka. Prema Elizabeth Will ovaj tip pripada više C formi koja je prelazna varijanta od grčkih ka rimskim tipovima (Lamboglia 2), i koje se datuju u kraj IV i tokom III vijeka. Dimenzije: Boja: Munsel 7/5YR do 5/4). Izvađeno ribaricom u Barskom akvatorijumu na dva do tri km od Volujice. (Tabla I: II/1)

## II/1

Ulomak grčko-italska amfore kratkog vrata i trouglastog oboda ispod koga polaze dvije ravne drške koje se spajaju sa blago naglašenim ramenom. Ulomak pripada formi A po Elizabeth Will i datuje se u kraj IV i početak III vijeka prije nove ere. Dimenzije: očuvana visina 24 cm; R oboda 13 cm. Boja: Munsell 10 YR 7/4, spolja 2.5/4.4. Lokalizet Bigovica. (Tabla 2:II/2;Tabla 3: II/2)

## III Lamboglia 2, Dressel 6AB

Ovaj tip je izuzetno zastupljen među keramičkim krhotinama u uvali Bigovica, premda je ovdje zasigurno bilo mnogo više amfora ovoga tipa. Organizovana krađa samozvanih arheologa, kolekcionara i drugih pljačkaša od devedesetih pa sve do danas, odagnala je svaku mogućnost da se pronađe brodolom, pa se danas, na dubini do 15 metara mogu naći samo krhotine.

Drugi lokalitet sa potopljenim tovarom amfora tipa Lamboglia 2 (Dressel 6A), pronašli smo na lokalitetu punta Volujica, ovdje je na dubini od 15 do 20 metara, niz padinu prosuto na stotine polomljenih komada preko kojih je potonuo tegljač u modernom periodu, pa je na nekim mjestima bilo nemoguće imati uvid u obim lokaliteta.

Lamboglia 2 amfore su derivati grčko-italskih amfora, odnosno evolutivna varijanta koja je u drugom vijeku zamjenila starije tipove. Vrat je dugačak, sa masivnim vertikalnim drškama, ali još uvijek kraći u odnosu na tijelo. Neke drške imaju utisnuti rukohvat (žlijebovi za prste ruku utisnuti u svježoj glini), kao kod ulomka sa Bigovice. Visina ovih amfora iznosi oko 1.00 do 0.90 m, dok je prečnik stomaka oko 0.41-0.40 m, prečnik oboda 0.16-0.17 m. Kod tipova Lamboglia 2 starije varijante, obod je oštro zasječen na donjem dijelu. Produkcija Lambolja 2 amfora počinje nakon pada Korinta 146. prije Hrista, na istočnoj obali Italije, dok se prestanak proizvodnje dešava krajem I vijeka prije Hrista (Carre, Cipriano 1989: 83 ). U ovim amforama se prenosilo ili ulje, kako predlažu Panella i Buki (

emphasized with sharp ribbed transition. Piriform body goes down to the bottom of the pointed end of a length of about 8 cm. The handles are almost vertical, with egg section. According to Elizabeth Will this type belongs more to C form, which is a transitional variant of the Greek to the Roman types (Lamboglia 2), which have been dated to the end of IV and during III century. Dimensions: Color: Munsel 7/5YR to 5/4). Extracted with the fishing boat in Bar aquatorium in the area of two to three kilometers from Volujica. (Table I: II / 1).

## II/1

The fragment of Italo-Greek amphora with short neck and triangle rim, below which two flat handles pass through, that connect with slightly emphasized shoulder. This fragment belongs to A group, according to Elisabeth Will and dates at the end of IV and beginning of III century BC. Dimensions: preserved height 24 cm; rim diameter 13 cm. Color: Munsell 10 YR 7/4, from outside 2.5/4.4. Location Bigovica (Table 2:II/2; Table 3:II/2)

## III Lamboglia 2, Dressel 6AB

This type is exceptionally present among ceramic fragments in the Bigovica bay, although there were much more amhoras of this type here. Organized steal done by self-titled archaeologists, collectors and other robbers since nineties until today, expelled possibilities for shipwreck to be found, so only debris can be found today, at the depth of 15 m.

The other site, with sunken cargo of Lamboglia 2 amphoras type (Dressel 6A), was found on Ponta Volujica, where on the depth of 15-20 m, there were hundreds of broken fragments above which was a sunken ship from modern times, so in some places it was impossible to calculate the size of this site.

Lamboglia 2 amphorae are derivatives of Greek-italic amphorae, i.e. evolutionary variant which replaced old types in 2nd century. The neck is long, with massive vertical handles, but still shorter in comparison to body. Some handles have depressed handrail (grooves for fingers depressed in fresh clay), like the fragment from Bigovica. The height of these amphorae is about 1.00 - 0.90 m, while the stomach diameter is about 0.41-0.40 m, rim diameter is 0.16-0.17 m. At Lamboglia 2 type, old variant, the rim is cut sharply on the bottom part. The production of

Panella 1970; Buchi 1971) premda, na osnovu urađenih analiza određenih primjeraka iz Madrague de Giens, postoji velika mogućnost da su amfore prenosile vino (Peacock, Williams 1986:100).

Unutar tipologije Lamboglia 2 (Dressel 6) razlikujemo dvije varijante, Dressel 6A i 6B, koje je prvi predložio E. Buchi (Buchi 1971). Prvi tip amfora, Dressel 6A ima deblji obod, pravougaonog ili trouglastog presjeka. Vrat je dugačak, skoro cilindričnog oblika, spojen sa ramenom posude masivnim ovalnim drškama. On može biti i kraći, sa manjim drškama, dok je tijelo izduženije, a obod lijevkastiji (Carre, 1985, str. 211, sl. 1a i 1b). Prelaz između vrata i „torbastog“ tijela je naglašen oštrim ramenom. Visina ovih amfora je prilično velika i kreće se od 0.95 m do 1.18 m ali postoje i primjerci koji imaju dužinu oko 0.70 m. Težina varira od 13 do 33 kg, što zavisi od njihove veličine. Boja pečenja na prelomu varira od svjetlo bež Munsell 10YR8/2, do tamno sive Munsell 5 YR 5/1, ali ima ih crvenih na prelomu 5YR 7/4, crveno – žute 5YR 7/6, braon 10YR 6/3, 7/4 (Carre 1985: 210-211). Pošto je odbačeno njihovo istarsko porijeklo, dokazano je da se ovaj tip amfora proizvodio na picenskoj obali Jadrana (Carre 1985: 214). Služile su za prevoz ulja iz Istre, dok titula picti ukazuju i na garum i vino (Peacock-Williams 1986: 100).

Amfore mlađeg tipa Dressel 6 B imaju duži vrat koji prelazi iz manje naglašenog ramena u ovoidni ili piriforman recipijent koji se završava kratkim cilindričnim zavšetkom. Visina ovih amfora varira između 0.80m i 0.90 m (maksimalni prečnik se kreće oko 0.30 do 0.40m) ali izvjesni komadi mogu dostići dužinu i do metra. Njihova težina je takođe varijabilna, između 14 i 20 kg (Carre 1985: 218, 219). Obod može biti klasifikovan u dvije glavne varijante: obod je vertikalalan i konveksan (prečnika 13-14 cm, visine oko 5 cm) ili je širok, izvučeniji u obliku dimnjaka ili čaše za martini. Prečnik ovih usana varira od 14 do 17 cm, dok je visina oko 5 cm. Boja gline varira od ciglasto crvene (Munsell 2.5 YR 6/6, 7.5 YR 5/2. Ponekad je amfora premazana i crvenkastom engobom (Carre 1985: 219). Ručke su i dalje masivne, ali ne toliko koliko kod formi Dressel 6A. Najstariji primjerci tipa Dressel 6A nalaze se na granici prepoznavanja tipova Lamboglia 2 i Dressel A i datuju se između 50 i 30 godine prije Hrista (Cipriano, Carre 1989: 83).

Datovanje ovih amfora je opšteprihvaćeno u I vijek prije nove ere i I vijek nove ere (Riley 1978: 156; Peacock Williams 1986: 99-100), dok je njihovo

Lamboglia 2 amphora type starts after the fall of Corinth, 146 B.C., at eastern coast of Italy, while the end of production occurred at the end of 1st century B.C. (Carre, Cipriano, 1989). Either oil was transported in those amphorae, as suggested by Panella and Buchi (Panella 1970; Buchi 1971) or, on the base of some fragments analyses from Madrague de Giens, there is a great possibility that wine was transported in those amphorae (Peacock, Williams 1986: 100).

We distinguish two variant inside the Lamboglia 2 typology (Dressel 6), Dressel 6A and 6B, which were first suggested by E. Buchi (1971). The first amphora type, Dressel 6A, has a thicker rim, with rectangle or triangle cross-cuts. The neck is long, almost cylindrical shape, connected to the vessel with massive oval handles. It can be shorter, with smaller handles, while the body is longer, an rim is more cylindrical (Carre, 1985, page 211, pic. 1a and 1b). The crossing between door and „baggy“ body is stressed with sharp shoulder. The height of those amphorae is rather big and it is about 0.95 m to 1.18 m but there are some specimens which are about 0.70 m long. The weight varies from 13 to 33 kg, depending of their size. The baking color vary from light yellow 10YR8/2, to dark grey Munsell 5 YR 5/1, but there are also red 5YR 7/4, red-yellow 5YR 7/6, brown 10YR 6/3, 7/4 (M.B.Carre, 210-211). As their Istrian origin has been rejected, it is proved that those amphora types were produced on picenic Adriatic Coast (Carre 1985, 214). They were used for oil transport from Istria, while title picti proves that garum and wine were transported too (Peacock-Williams 1986, 100).

Younger amphorae of Dressel 6 B type have longer neck which goes from less stressed shoulder into ovoid or piriforma recipient which ends with short cylindrical endings. The height of those amphorae vary between 0.80m and 0.90 m (maximum diameter is about 0.30 to 0.40m) but certain pieces can have length of one meter. Their weight also varies, between 14 and 20 kg (Carre 1985: 218, 219). The rim can also be classified into two main variants: rim is vertical and convex (diameter 13-14 cm, height about 5 cm) or it is wide, it has a chimney shape or martini glass. Diameter varies from 14 to 17 cm, while the height is about 5 cm. The clay varies from brick red to red (Munsell 2.5 YR 6/6, 7.5 YR 5/2. Amphora is sometimes covered with reddish engoba (Carre 1985, 219). Handles are still massive, but not in that way like at Dressel 6A forms. The oldest examples of Dressel 6A type are at the limit of recognition of Lamboglia 2 and Dressel A types, dating between 50 and 30 year B.C. (Cipriano, Carre 1989: 83).

vo porijeklo po svemu sudeći Istra i sjeverna Italija-Veneto, Emilia i Ligurija (Bucchi 1974/75: 434-435; Peacock Williams 1986: 99-100)

Iako je pronađeno nekoliko radionica, smatra se da je porijeklo Dressel 6 B u Istri i sjevernoj Italiji. Jedna od radionica koje su pronađene nalazi se u Fažani blizu Pule a koja je bila u senatorskoj porodici Lekania Basa i Kalvije Krispinile (Leacani). Postoje indicije o još jednoj radionici na Červaru, na drugoj strani zaliva suprotno od vile na Loronu (Bezeczky 1998: 81; Starac 2008: 87).

Koncentracija amfora Lamboglia 2 i Dressel 6A i B je neravnomjerna i nalazi se svuda po površini južnog dijela uvala ispod stjenovitog obronka i unutar muljevitog sedimenta. Velika je vjerojatnoća da je u samoj uvali potonuo brod sa tovarom amfora ovih tipova. O tome svjedoči jedna velika količina pokradenih amfora tipa Dressel A, koje su završile na crnom tržištu.

Na ponti Volujica je pronađeno amforište koje kako smo kazali sadrži samo ulomke amfora tipa Lamboglia 2 (Dressel 6). One se nalaze na dubini od 10 do 20 metara.

### **Lamboglia 2**

#### **IIIA/1**

Cijela amfora tipa Lamboglia 2, koja je tipičan primjer prelaska u rimske amfore. Obod je koso zasječen, trouglast i prelazi u dugačak cilindrični vrat koji je sa ramenom posude spojen sa dvije masivne drške. Iz oštro prelomljenog ramena amfora prelazi u ovoidno i blago trbušasto tijelo koje se završava naglašenim šiljkom. Dimenzije: Boja: Munsell 10 YR 8/8-7/8. Pronađeno u Barkom akvatorijumu na u samoj blizini uvala Bigovica. (Tabla 1: III/1)

#### **IIIA/2**

Ulomak dugačkog cilindričnog vrata i oboda amfore tipa Lamboglia 2. Obod je oštro profilisan, trouglastog presjeka prema dolje. Dimenzije: visina 0.38 m, prečnik oboda 13 cm. Boja: Munsell 10 YR 8/8-7/8. Lokalitet Bigovica. (Tabla 1: III/2; Tabla 2: III/2)

### **Dressel 6A**

#### **IIIB/3**

Cijela amfora tipa Dressel 6A, pronađena na lokalitetu Bigovica, na dubini od oko 15 metara (privatna kolekcija). (Tabla 1: IIIB3)

This amphora dating is accepted in 1st century B.C. (Riley 1978, 156; Peacock Williams 1986: 99-100), while their origin is the most likely Istria and northern Italy-Veneto, Emilia i Liguria (Bucchi 1974/75: 434-435; Peacock Williams 1986: 99-100)

Although several workshops were found, it is considered that Dressel 6 B origin is in Istria and northern Italy. One of the workshops found is in Fazana near Pula and which was in the Senator family of Leacani Bas and Calvia Crispinila. There are assumptions regarding another workshop in Cervar, at the other side of the bay, opposite from the villa in Loron (Bezeczky 1998: 81; Starac 2008: 87).

The concentration of Lamboglia 2 and Dressel 6A and B amphora type is unequal and there is all over the surface of southern part below rocky hill, and inside of muddy sediment. It is a big possibility that a ship with a load of this amphora type sunk in this bay. A large quantity of stolen Dressel A amphora type found on black market, testifies about that fact.

There is amphora site found in Ponte Volujica which has only fragments of Lamboglia 2 amphora type (Dressel 6). They are on depth of 10 do-20 m.

### **Lambolia 2**

#### **IIIA/1**

Whole amphora Lamboglia 2, which is a typical example of the transition to Roman amphorae. The rim is cut with sloping, triangular and goes into a long cylindrical neck which is connected to the shoulder of the vessel with two massive handles. From the sharply fractured shoulder amphora becomes ovoid and slightly profiled belly body ends with emphasized spike. Dimensions: Color: Munsell 10 YR 8/8 to 7/8. Found in Bar aquatorium in the vicinity of the Bigovica bay. (Table 1: III / 1).

#### **IIIA/2**

The fragment of long, cylindrical neck and rim of Lamboglia 2 amphora type. The rim is sharply profiled, with triangle crossing towards the bottom. Dimensions: height 0.38 m, rim diameter 13 cm. Bigovica. Color: Munsell 10 YR 8/8 to 7/8. Location Bigovica. (Table 1: III / 2; Table2: III/2).

### **Dressel 6A**

#### **IIIB/3**

Whole amphora type Dressel 6A, found on Bigovica site, in the depth around 15m (private collection) (Table 1: IIIB3).

**IIIB/4**

Ulomak amfore tipa 6A, cilindričnog vrata i oštro prelomljenog ramena. Obod nije očuvan. Dimenzije: očuvana visina 24.5 cm, prečnik vrata varira od 12.5 do 14.00 cm. Boja: Munsell 7.5 YR, 7/6-8/6; Lokalitet Ponta Volujica. (Tabla I: IIIB/4)

**IIIB/5**

Ulomak amfore tipa Dressel 6A, blago izvučenog oboda, naglašenog trouglastog presjeka. Masivne drške se nisu očuvale do kraja. Dimenzije: visina oboda 4.5 cm, širina 4 cm, očuvana visina fragmenta 7.5 cm. Boja: Munsell 7.5 YR, 7/6-8/6; Lokalitet Ponta Volujica. (Tabla 2: IIIB/5)

**IIIB/6**

Ulomak oboda, gornjeg dijela drški i vrata amfore tipa Dressel 6A. Obod je trakast, zadebljan i zaobljen na gornjem dijelu usne. Od cilindričnog vrata odvojen je naglašenim prelazom. Drške su masivne i ovalne. Dimenzije: prečnik oboda je 14.5 cm, širina oboda 4.5 cm; očuvana visina ulomka je 16.5 cm; širina vrata 16 cm. Boja na prelomu Munsell 7.5 YR/6.6-7/6. Lokalitet Bigovica. (Tabla 2: III B/6).

**Dressel 6B****IIIC/7**

Ulomak amfore tipa Dressel 6B, očuvanog zvonolikog oboda i cilindričnog vrata. Dimenzije: Prečnik oboda 13.8 cm, širina 4.3 cm, visina ulomka 42 cm. Boja: Lokalitet Bigovica. (Tabla 1: IIIC/7)

**IV Dressel 2-4**

Dressel 2-4 ima kraći ili duži cilindričan vrat koji se završava prstenasto porfilisanim obodom. Drške su bifidne, ovalne ili sa koljenastim prelomom. Tijelo je neznato šire od grla i završava se špicastim dnom. Ovaj tip amfora zamjenjuje tip Dressel 1 negdje oko sredine I vijeka prije Hrista. Njihova forma počinje da se proizvodi u tirenskoj Italiji a poseban uticaj na ovaj tip amfore imali su prototipovi sa Rodosa i Kosa (Peacock, Williams 1986: 105, Cipriano Care 1989,71) Uobičajna veličina im je oko 1 metar a zapremina oko 30 litara. Pravljenе su od kompaktne, prečišćene i tvrdo pečene gline svijetlo crvene ili crvene boje (Munsell 2.5YR 5/8-6/8) (Bjelajac 1996: 25)

U uvali je pronađeno nekoliko desetina krhotina bifidnih ručki, koje pripadaju ovom tipu. Kako nemamo detaljnije očuvane komade ne možemo

**IIIB/4**

Fragment of amphora type 6A, cylindrical neck and sharply fractured shoulder. The rim is not preserved. Dimensions: height 24.5 cm - preserved. neck diameter varies from 12.5 to 14.00 cm. Color: Munsell 7.5 YR, 7/6 to 8/6; Location Ponta Volujica. (Table I: IIIB / 4).

**IIIB/5**

Fragment of amphora type Dressel 6A, gently extracted rim, and emphasized triangular section. Solid handles are not preserved until the end. Dimensions: height of the rim 4.5 cm, width 4 cm, preserved height of fragment 7.5 cm. Color: Munsell 7.5 YR, 7/6 to 8/6; Location Ponta Volujica. (Table 2: IIIB / 5).

**IIIB/6**

The rim fragment, upper handle part and amphora neck of Dressel 6A type. The rim is stripped, thick and round on the upper lip part. It is separated from cylindrical neck with stressed crossing. The handles are massive and oval. Dimensions: rim diameter is 14.5 cm, rim width 4.5 cm; preserved height of fragment is 16.5 cm; neck width 16 cm. Color on in fracture Munsell 7.5 YR/6.6-7/6. Location Bigovica. (Table 2: IIIB/6)

**Dressel 6B****IIIC/7**

The fragment of Dressel 6 B amphora type, with preserved bell shape and cylindrical neck. Dimensions: Rim diameter 13.8 cm, width 4.3 cm, height of the fragment 42 cm. Color: Location Bigovica (Table 1:IIIC/7)

**IV Dressel 2-4**

Dressel 2-4 has shorter or longer cylindrical neck which ends with ring profiled rim. Handles are bifid-oval or with the knee-like infraction. The body is slightly wider than neck ending with sharp bottom. This type replaces Dressel 1 type in the middle of 1st century B.C. That form starts to be produced in Tiren Italy and prototypes from Rhodos and Kos have had special influence on this amphora type (Peacock, Williams 1986, 105, Cipriano, Care 1989: 71). Their usual size was about 1 m and volume about 30 l. They were made of compact, clear and hard baked clay, light-red or red color (Munsell 2.5YR 5/8-6/8) (Bjelajac 1996: 25)

opredjeliti njihov produkcijski krug koji je prilično širok. Na osnovu boje i petroloških karakteristika, mogli smo zaključiti da je porjeklo sa Kosa premda, do nekih sigurnijih zaključaka možemo doći samo na osnovu podrobnijih ispitivanja.

#### IV/1

Ulomak bifidne drške koja je pripadala amfori Dressel 2-4: očuvana dužina drške 24 cm, širina bifide je 6.5 cm. Boje po Munsellu 5 YR 6.6 crvenkasto crvena. Lokalizet Bigovica. (Tabla 7: IV/1)

#### V Dressel 5

Amfore ovog tipa su slične amforama tipa Dressel 2-4. Vrat ovih amfora je izrazito cilindričan, sa blago zadebljanim i manje naglašenim obodom. Tijelo je takođe cilindrično i završava se kratkim, neprofilisanim šiljkom. Rame je naglašeno i na njemu su naslonjene masivne bifidne drške sa vertikalnim rukohvatom i naglašenim prelomom prema vratu. Iako pojedini primjerci imaju tituluse sa grčkim i latinskim natpisima malo je poznato njihovo porijeklo. Petrološke analize sugerisu na prostor gdje su karakteristike gline vulkanskog porijekla. Rasprostranjene su u Italiji, Kritu i Panoniji tokom I i početkom II vijeka naše ere (Bezeczky 1998: 233).

#### V/1

Cijela amfora koja odgovara tipu Dressel 5 pronađena u Barskom akvatorijumu (na 100 metara jugozapadno od rta Ratac). Amfora ima blago naglašen pupčast obod koji prelazi u cilindričan vrat. Rame nije naglašeno i prelazi takođe u cilindrično tijelo. Ručke su bifidne i oštro prelomljene u visini oboda. Dimenzije: Boja: 7.5 YR 6/6 - 6/8. (Tabla 1: V/1)

#### VI Sjevernoafričke cilindrične amfore

Proizvodnja sjevernoafričkih ili tunižanskih amfora počela je u priobalnom području Sjeverne Afrike, Tripolitaniji, prokonzularnoj Africi i Byzaceni (Leptis Minor, Hudrummentum) krajem I i početkom II vijeka, dok su se mnogobrojne tipološke varijante razvijale do VI vijeka (Bonifay 2004: 9). Bonifay je za jednu izdvojenu formu tunižanskih amfora (visine 100 do 110 cm i širine 25-28 cm) predložio naziv Africana III, uvrštavajući ih tako u cilindrične amfore

There were dozens fragments of bifidae handles found in the bay, which belong to this type. As we don't have some detailed preserved pieces, we cannot determine their production circle which is rather wide. On the base of color and petrologic characteristics, we could conclude that the origin is from Kos, although, with some detailed examinations we can get some true conclusions.

#### IV/1

The fragment of bifidae handle which belonged to Dressel 2-4 amphora type: preserved length of handle 24 cm, width of bifidae is 6.5 cm. Colors according to Munsellu 5 YR 6.6, reddish, red. Location Bigovica. (Table 7: IV/1)

#### V Dressel 5

This type of amphorae are similar to Dressel 2-4 amphora types. The neck of these amphorae is extremely cylindrical, with slightly thick, and less stressed rim. Body is also cylindrical, ending with short, no profiled peak. Shoulder is stressed, and the massive bifidae handles are reclined on it, with vertical handrail and stressed infraction toward its neck. Although some specimen has titles with Greek and Latin inscriptions, there is no much information about their origin. Petrological analysis suggests the area where clay has volcano origin. They are widespread in Italy, Crete and Pannonia during 1st century and in the beginning of 2nd century A.D. (Bezeczky 1998: 233).

#### V/1

Whole amphora, which corresponds to the type Dressel 5 found in Bar aquatorium (100 meters southwest of the Cape of Ratac). Amphora has slightly emphasized buckled rim that goes into cylindrical neck. The shoulder is not emphasized and also exceeds the cylindrical body. Handles are bifidae and sharply broken at the level of the rim. Dimensions: Color: 7.5 YR 6/6 - 6/8. (Table 1: V / 1).

#### VI North-african cylindrical amphoras

The production of northafrican or tunisian amphoras began in the coastal part of North Africa, Tripolitania, proconsulate Aftica and Byzaceni (Leptis Minor, Hudrummentum) at the end of 1st and beginning of 2nd century, while numerous

prosječnih dimenzija (Bonifay 2004: 119). Na ovu vrstu amfora prvi je obratio pažnju Manacorda kao "contenitori cilindricci di tarda eta imperiale", svrstani između amfora tipa „Africana Grande“ i većih cilindričnih amfora kasnog V i VI vijeka (Manacorda 1977: 171-185). Simon Keay razlikuje 29 varijanti (25A- Z) ali izdvaja one najosobnije i smješta ih u tri glavna pod tipa Keay 25.1, Keay 25.2 i Keay 25.3 (Keay 1984: 184-212). Ova podjela se uglavnom najviše koristi.

Africana IIIA, (Keay 25. 1; Bonifay 27), Africana III B (Keay 25.2; Bonifay 28) najzastupljeniji su arheološki nalazi u Bigovici. Njihovo prisustvo je posljedica brodoloma koji se dogodio na samom ulazu u zaliv, na prostoru koji gavitira oko najveće seke na dubini od oko 20 metara. Za vrijeme trajanja projekta nije pronađen niti jedan cijeli komad, iako je tokom proteklih decenija pronađeno na desetine cijelih amfora, odnešenih i prodatih privatnim kolekcionarima. Danas, stiješnjeni uz južni dio uvala, po površini ili u pijesku do 0.60 m dubine, leže na hiljade ulomaka cilindričnih amfora tipa Africana IIIA-B.

### **VIA Keay 25.1 (Afrikana 1); VIB Keay 25.3 (Afrikana 3)**

Amfore tipa Keay 25.1 karakteriše uglavnom trakasti obod sa blago izvijenim rubom (za 30 stepeni). Vrat je izduženog, blago koničnog oblika, dok su ručke ušaste, prilijepljene direktno na vrat. Dna su špicasta i oblikuju se na tri načina: uvijanjem i izvlačenjem špica u obliku izdužene šišarke ili jednostavnim modelovanjem, profilisanjem (sredina je šire oblikovna) i prstenastim zadebljanjem (Tabla 6/1; Tabla 6/2). Tijelo je cilindrično i ravno (izuzetak je donekle Keay 25.3) koji je nešto ovoidniji od Keay 25.2 i 25.3, a gotovo bez izuzetka po njihovoj površini vide se veoma plitke kanelure urađene prstima u svježoj glini. Boja varira u nijansama, u zavisnosti od petroloških osobina i jačine pečenja, a ukoliko se koristi proces dodavanja slane vode onda je površina bjeličasta što stvara efekat kao da su pokrivene engobom (Bonifay 1984: 38).

Veličina ovog tipa varira od 0.95 cm do 1.10 m, sa zapreminom koja dostiže od 25 do 35 litara tečnosti (Bonifay 2004: 119). Keay 25.1 su prenosile vino jer se kod gotovo svih pronađenih ulomaka nailazi na ostatke crne borove smole. Ne-epigrafski znaci utisnuti u glini konstatuju se ponekad na vratu dok, su epigrafski natpisi veo-

typological variants developed until 6th century ( Bonifay 2004: 9). Bonifay named one separated form of tunisian amphoras (height 100 - 110 cm and weight 25-28 cm) as Africana III, including it in the group of cylindrical amphoras of average dimensions (Bonifay 2004: 119). Manacorda paid attention first on this amphora types "contenitori cilindricci di tarda eta imperiale", included between „Africana Grande“ amphora type and larger cylindrical amphoras in the late 5th and 6th century (Manacorda 1977: 171-185). Simon Keay distinguishes 29 variants (25A- Z) but he also distinguishes those which are most original and put them into three main subtypes Keay 25.1, Keay 25.2 and Keay 25.3 (Keay 1984: 184-212). This division is most often used.

Africana IIIA, (Keay 25. 1; Bonifay 27), Africana III B (Keay 25.2; Bonifay 28) are the most represented archaeological findings in Bigovica. Their presence is a consequence of a shipwreck which occurred at the very bay entrance, in the area which gravitates around the biggest gorge at the depth of about 20 m. During the project implementation, no item as whole has been found, although during last decades, dozens of amphorae have been found, taken and sold to private collectors. Today, pressed along southern part of bay, on the surface or in the sand down to 0.60 m depth, there are thousands fragments of cylindrical Africana IIIA-B amphorae type.

### **VIA Keay 25.1 (Afrikana 1); VIB Keay 25.3 (Afrikana 3)**

Keay 25.1 amphora type is characterized with stripped rim with slightly strained edge (for 30 degrees). The neck is long, with slightly conic shape, while the handles are ear shaped, sticked directly to the neck. The bottoms are sharp, and it is shaped in three ways: by twitting and extracting of the peak in the shape of prolonged cone, with profiling (the middle is wider shaped) and with ring like thickening (Table 6/1; Table 6/2). The body is cylindrical and flat (the exception is Keay 25.3) which is a little bit ovoid then Keay 25.2 and 25.3, and almost without exception, along their surface, one can see very shallow grooves done with fingers in fresh clay. The color varies, depending of petrological characteristics and baking degree, nad if the process of salt water adding is used, then the surface is white which creates the effect as they are covered with engobe (Bonifay 1984: 38).

ma rijetki; u nekim slučajevima na vratu utisnuta tri slova - tria nomina, ili kružnice i polukrugovi. (Bonifey 1984: 38)

### **VIC Africana IID**

Drugi tip cilindričnih amfora pronađenih na Bigovici je Africana II D. Obod ovih amfora je visok, sa ravnim uspravnim spoljnim licem ponekad blago naglašenim ili izravnatim sa vratom. Često se nailazi na primjere gdje je obod odvojen plitkim žlijebom (Manacorda 1977: 199). Vrat je blago koničan sa naglašenim ušastim drškama. Tijelo ovih tipova (inače iste širine kao srodne amfore Africana II A-B) je skoro perfektno cilindrično, sa završetkom u vidu izduženog klinastog dna (Bonifay 2004: 115). Po Bonifaju sadržavale su garum ili vino, premda se na velikim ulomcima iz uvale Bigovica dokazuje da su u ove krajeve samo mogle prenositi vino jer se na unutrašnjim površinama ulomaka nailazi na crni sloj smole što se po svoj prilici stavljalo da bi vino dobilo svojevrsan „buke“, kakav npr. ima čuveno vino redzina. Njihov kapacitet varira od 40 do 50 litara za varijantu Africana II D 1 i 25 litara za varijantu Africana 25 2 (Bonifay 2004: 116, sl 62 a i 62 b).

Radionice za proizvodnju cilindričnih amfora nalaze se na prostoru Byzacene i Zeguitane (Bonifay 2004, 37). Najpoznatije radionice u Bizaceni su D'Oued El-Akrit i Thanenae-Thyna, koje su proizvodili veliki broj tipova amfora među kojima i Key 25.1, Key 25. 2 i Africana II D. Radionica u Leptiminusu je proizvodila tip Africana II D (Bonifay 2004: 31-35). U Zeguitani najveća, a možda i najznačajnija radionica nalazila se u Nebul-Sidi Aoun i Sidi Zahruni (Beni Kahir), sa pronađenim ostacima Key 25.1 iz IV vijeka i 25.3 druge polovine IV vijeka (Bonifay 2004: 37).

### **VI D Tripolitanke amfore (Tripolitanian 3)**

Tripolitanke amfore imaju izvijen profilisan obod. Tijelo je dugačko i cilindrično i završava se zaobljenim dnom, kao i koničnom nogom. Manje ušaste drške su postavljene odmah ispod oboda. Simon Kej je podjelio ovaj tip na 3 dijela (A-C): tip A ima duplo profilisan obod, u vidu stepenika, tip B ima izražen izvijen obod, dok je tip C takođe duplo profilisan u vidu stepenika sa još jednim stepenastim ali ne mnogo naglašenim profilom. Ova vrsta amfore se proizvodila u Tripolitaniji (sjeveroistočnom Tunisu i zapadnoj

This type size varies from 0.95 cm to 1.10 m, with the volume from 25 to 35 liters (Bonifay 2004: 119). Key 25.1 transported wine because the remains of black smole were found at almost all fragments found. No epigraphic signs, impressed into clay, sometimes are found on neck while epigraphic inscriptions are very rare; in some cases, three letters-tria nomina are impressed on neck, or circle and half circles. (Bonifey 1984: 38)

### **VIC Africana IID**

The second type of cylindrical amphorae found in Bigovic is Africana II D. The rim of those amphorae is high, with flat upright outer face, sometimes slightly stressed or equal with the neck. There are many examples where the rim is separated with a shallow groove (Manacorda 1977: 199). The neck is slightly conical with stressed earlike handles. The body of these types (with the same width as similar Africana II A-B amphora types) is almost perfect cylindrical, with the endings like long wedge bottom (Bonifay 2004: 115). According to Bonifay, they had garum or wine, although the big fragments from Bigovica Bay prove the fact that only wine could be transported to this region because the black layer of tar was found, which was put for the reason that wine would get a buque, such as famous Greek wine redzina has. Their capacity varies from 40 to 50 liters for Africana II D 1 variant and 25 liters for Africana 25 2 variant (Bonifay 2004: 116, pic 62 a and 62 b).

The workshops for amphora production are in the area of Byzacene and Zeguitane (Bonifay 2004, 37). The most famous workshops in Byzacene are D'Oued El-Akrit and Thanenae-Thyna, which produced great number of amphora types among which are Key 25.1, Key 25. 2 and Africana II D. The workshop in Leptiminus produced Africana II D type (Bonifay 2004: 31-35). Regarding Zeguitane, the biggest, and perhaps the most important workshop was situated in Nebul-Sidi Aoun and Sidi Zahruni (Beni Kahir), with the remains of Key 25.1 from 4th century found and 25.3 from 2nd half of 4th century (Bonifay 2004: 37).

### **VI D Tripolitania amphorae (Tripolitanian 3)**

Tripolitania amphorae have curved profiled rim. The body is long and cylindrical, and ends with a rounded bottom and conical foot. Less ear like handles are placed just below the rim. Simon Kay has examined this type into 3 parts (A - C): Type A



Libiji). Javljaju se od druge polovine drugog do polovine trećeg vijeka u Ostiji, ali su više prisutnije u četvrtom vijeku (Panella 1973: 201). Manacorda belježi njihovo prvo pojavljivanje u Rimu između 209 i 217 (Manacorda 1977: 154). Kej je publikovao primjere iz Tarragone (Kay 1984) u kontekstima trećeg i četvrtog vijeka. Jedan primjer u Schola Praeconum u Rimu datovan je u 430-440.

#### VIA/1

Gornji dio amfore tipa Keay 25.1. Obod je trakast i zakošen. Vrat dosta kratak, i postepeno se širi prelazeći u nenaglašeno rame. Na vratu su prilijepljene dvije ušaste drške elipsoidnog presjeka. Dimenzije: R oboda 10.8 cm, visina oboda 3.4 cm; visina drški 13.00 cm. Boja Munsell 2.5 YR/4.8, 2.5 YR /6.6. Lokalitet Bigovica. (Tabla 5: VIA/1; Tabla 6: VIA/1)

#### VIA/2

Gornji dio amfore tipa Keay 25.1. Obod je zadebljan i blago narebren. Vrat se strmo spušta prema ramenu. Na vratu su prilijepljene dvije ušaste drške, većih dimenzija. Dimenzije: širina oboda 11.2, visina oboda 3.2, visina drški 14.00 cm. Boja: Munsell 2.5 YR/ 5.8. Lokalitet Bigovica. (Tabla 5: VIA/2; Tabla 6: VIA/2)

#### VIA/3

Gornji dio amfore tipa Keay 25.1. Obod je skoro trouglastog presjeka, zadebljan sa gornje strane. Vrat se se strmo spušta u blago naglašeno rame. Na vratu su prilijepljene dvije ušaste drške elipsoidnog oblika. Po unutrašnjosti je konstantan tanak sloj crne smole. Dimenzije: R oboda 11.00 cm, visina oboda 3.3, visina drški 14.00. Boja Munsell 2.5 YR/ 5.0. Lokalitet Bigovica. (Tabla 5: VIA/3; Tabla 6: VIA/3).

#### VIA/4

Gornji dio amfore tipa Keay 25.1. Obod je trakast i zakošen. Vrat se postepeno širi prelazeći u nenaglašeno rame. Na vratu su prilijepljene dvije ušaste drške elipsoidnog presjeka. Dimenzije: R oboda 10.8 cm, visina oboda 3.4 cm; visina drški 10.8 cm. Boja Munsell 2.5 YR/4.8, 2.5 YR /6.6. Lokalitet Bigovica (Tabla 5: VIA/4; Tabla 6: VIA/4).

has a double profiled rim in the form of steps, type B has a emphasized curved rim, while type C also double profiled in the form of steps with another one stepped but not much emphasized profile. This kind of amphorae produced in Tripolitania (northeastern Tunisia and western Libya). They occur in the second half to the second half of the third century in Ostia, but are more widespread in the fourth century (Panella 1973: 2001). Manacorda marks their first appearance in Rome between 209 and 217 (Manacorda 1977: 154). Kay published examples from Tarragona (Kay 1984) in the context of the third and fourth century. One example of the Schola Praeconum in Rome is dated in 430-440.

#### VIA/1

The upper part of Keay 25.1 amphora type, the rim is stripped, slanted. The neck is pretty short; it gradually goes wide into not emphasized shoulder. Two earlike handles of ellipsoid section, were put on the neck. Dimensions: Rim diameter 10.8 cm, rim width 3.4 cm; handles height 13.00 cm. Color Munsell 2.5 YR/4.8, 2.5 YR /6.6. Location Bigovica (Table 5: VIA/1; Table 6: VIA/1)

#### VIA/2

The upper part of Keay 25.1 amphora type. The rim is thickened, slightly ribbed. The neck goes into shoulder sloping. Two earlike handles were put on the neck, larger dimensions. Dimensions: rim width 11.2, rim height 3.2, handles height 14.00 cm. Color Munsell 2.5 YR/ 5.8. Location Bigovica (Table 5: VIA/2; Table 6: VIA/2)

#### VIA/3

The upper part of Keay 25.1 amphora type. The rim is almost triangular section, thickened on the upper part. The neck goes into slightly emphasized shoulder. Two earlike handles were put on the neck of ellipsoid shape. A thin layer of black tar was found on the inner part. Dimensions: rim diameter 11, 00 cm, rim height 3.3, handles height 14.00. Color Munsell 2.5 YR/ 5.0. Location Bigovica (Table 5: VIA/3; Table 6: VIA/3)

#### VIA/4

The upper part of Keay 25.1 amphora type. The rim is stripped and slanted. The neck gradually goes wider into non emphasized shoulder. There

**VIA/5**

Gornji dio amfore tipa Keay 25.1. Obod je skoro trouglastog presjeka, zadebljan i ravan sa gornje strane. Vrat se se strmo spušta u blago naglašeno rame. Na vratu su prilijepljene dvije ušaste drške, nešto izvučenije prema gore, elipsoidnog presjeka. Dimenzije: prečnik oboda 10.08 cm, visina oboda 4.00, visina drški 14.00. Boja Munsell 2.5 YR/ 5.0. Lokalitet Bigovica. (Tabla 5: VIA/3; Tabla 6: VIA/3).

**VIA/6**

Gornji dio amfore tipa Keay 25.1. Obod blago zakošen, skoro profilisan plitkim rebrom po sredini. Vrat se postepeno širi. Na vratu su prilijepljene dvije ušaste drške, blago prelomljene u gornjem dijelu i elipsoidnog presjeka (nisu čuvane do kraja). Dimenzije: R oboda 12. 8 cm, visina oboda 4.00 cm; visina drški 10.5 cm. Boja: varira od Munsell 10 YR/4.4 do 10 YR /4.8. Lokalitet Bigovica. (Tabla 5: VIA/6; Tabla 6: VIA/6.)

**VIA/7**

Gornji dio amfore tipa Keay 25.1. Obod je trkast. Zakošen i zaobljen odozgo. Vrat dosta kratak, i postepeno se širi prelazeći u nenaglašeno rame. Na vratu su prilijepljene dvije ušaste drške elipsoidnog presjeka. Dimenzije: R oboda 10.8 cm, visina oboda 3.4 cm; visina drški 13.00 cm. Boja Munsell 2.5 YR/4.8, 2.5 YR /6.6. Lokalitet Bigovica. (Tabla 5: VIA/7; Tabla 6: VIA/7).

**VIB/8**

Gornji dio amfore tipa Keay 25.3. obod je naglašeno izvučen, skoro bademastog presjeka. Vrat je vitak, dugačak, i blago se spušta prema ramenu. Drške su ušaste, sa pritkim rebrom po sredini. Dimenzije: Širina oboda 11.00, Očuvana visina 20,00 cm, visina ručke 14.00 cm. Boja: Munsell 5 YR 5.2. Lokalitet Bigovica. (Tabla 5: VIB/8; Tabla 6: VIB/8).

**VIC/9**

Gornji dio amfore tipa Africana IID. Obod je spolja ravan, bez naznačenog prelaza ili povijanja, sa unutrašnje strane je blago zadebljan. Drške su ušaste, skoro iste kao i kod tipa Keay 25.1. Dimenzije: prečnik oboda 11.5 cm, visina drške 12 cm; visina ulomka 17 cm. Boja Munsell 7/5 YR 5.6-5.8. Lokalitet Bigovica. (Tabla 6: VI C/9).

are two ear like handles of ellipsoid section on the neck. Dimensions: rim diameter 10.8, rim height 3.4 cm, handles height 10.8 cm; Color Munsell 2.5YR/4.8, 2.5YR/6.6. Location Bigovica (Table 5: VIA/4; Table 6: VIA/4)

**VIA/5**

The upper part of the amphora type Keay 25. 1. The rim is almost triangular in cross-section, thick and flat on the upper side. The neck rises steeply to slightly pointed shoulder. On the neck are sticking two ear like handles, averted upward and of ellipsoidal section. Dimensions: diameter rim 10. 08 cm, height of the rim 4. 00, the height of the handles 14. 00. Munsell Color 2. YR 5/5. Location Bigovica. (Table 5: VIA / 3; Table 6: VIA / 3).

**VIA/6**

The upper part of the amphora type Keay 25. 1. Rim slightly slanted, almost profiled with shallow rib in the middle. The neck gradually widens. On the neck are sticking two earlike handles, slightly pointed at the top and elliptical cross-section (not perserved until the end). Dimensions: A rim 12. 8 cm, height of the rim 4. 00 cm, height handles 10. 5 cm. Color: varies from Munsell 10 YR / 4. YR 4 to 10/4. 8. Location Bigovica. (Table 5: VIA / 6; Table 6: VIA / 6.)

**VIA/7**

The upper part of the amphora type Keay 25. 1. The rim is stripped. Angled and rounded from the top. Neck rather short, and gradually spreads crossing in non-emphasized shoulder. On the neck two earlike handles of ellipsoidal section are put. Dimensions: Diameter of the rim 10. 8 cm, height of the rim 3. 4 cm, height handles 13. 00 cm. Color Munsell 2.5 YR /4. 8, 2.5 YR /6. 6. Location Bigovica. (Table 5: VIA / 7; Table 6: VIA / 7).

**VIB/8**

The upper part of the amphora type Keay 25. 3. Rim is emphasized drawn, almost almond-sectional. The neck is slender, long and slopes gently toward the shoulder. Handles are earlike with pole rib in the middle. Dimensions: Width rim 11. 00 the height 20.00 cm, handle height 14. 00 cm. Color: Munsell 5 YR 5. 2. Location Bigovica. (Table 5: VIB / 8; Table 6: VIB / 8).

**VIC/10**

Gornji dio amfore tipa Africana IID. Obod je spolja ravan, bez naznačenog prelaza ili povi-  
janja, sa unutrašnje strane je više zadebljaniji od  
prethodnog. Drške su ušaste. Dimenzije: prečnik  
oboda 11.5 cm, visina drške 12 cm; visina ulomka  
17 cm. Boja Munsell 7/5 YR 5.6. Lokalizet Bigovica.  
(Tabla 6: VIC/10).

**VIC/11**

Gornji dio amfore tipa Africana IID. Obod je  
spolja skoro ravan, bez naznačenog prelaza. sa  
unutrašnje strane je blago zadebljan. Drške su  
ušaste. Dimenzije: prečnik oboda 11.02 cm, visina  
drške 11.09 cm; visina ulomka 7.50 cm. Boja Mun-  
sell 7/5 YR 5.8. Lokalizet Bigovica. (Tabla 6: VIC/11).

**VIC/11a**

Gornji dio amfore tipa Tripolitanian 3, pronađen  
tokom iskopavanja trikonhosa. Obod je stepena-  
sto profilisan, vrat se strmo spušta do zaobljenog  
ramena. Uši su male, profilisane sa gornje strane.  
Površina je žuto oker, postignuta dodavanjem  
slane vode prilikom pečenja dok je unutrašnjost  
crvenkasta.. Inače, površina je prilično pjeskovita.  
Dimenzija: očuvana visina 20 cm; širina oboda 11  
cm; visina drški 12 cm. Boja 7.5 YR 7.7. Lokalizet To-  
polica. (Tabla 5: VIC/1).

**VIC/11b**

Tijelo amfore cilindričnog oblika. Po tijelu su  
primjetne brazde, rađene prstima, kao i svijetlija  
boja koja je dobijena dodavanjem slane vode pri  
pečenju. Dimenzije: očuvana visina 55 cm; prečnik  
23 cm. Boja: 7.5 YR 7.7. Lokalizet Bigovica. (Tabla 5:  
VIC/11b)

**VII Mid Roman Amphora 1, Agora 254, Beng-  
hazi Peacock & Williams 40.**

Mid Roman Amphora 1, je poznata i kao Agora  
M254 i Bonifay 59 (Peacock, Williams 1986: 175). To  
je tip amfora koje karakteriše mala dimenzija, nešto  
veća od većih krčaga. One imaju uzak vrat, sa kane-  
liranim ramenom dok su im ručke po pravilu zao-  
bljene. Prilijepljene su jednim krajem za rame a dru-  
gim na polovinu vrata (ponekad su malo visocije  
postavljene). Tijelo je široko, zaobljenog vrećastog  
oblika ili globularnog oblika sa naglašenim ostrim

**VIC/9**

The upper part of Africana IID amphora type.  
The rim is flat from outer side, without point-  
ed crossing or rounding, from the inner side is  
slightly thick. The handles are earlike, almost the  
same as at Keay 25.1 amphora type. Dimensions:  
rim diameter 11.5 cm, handle height 12 cm; frag-  
ment height 17 cm. Color Munsell 7/5 YR 5.6-5.8.  
Location Bigovica (Table 6:VI C/9).

**VIC/10**

The upper part of Africana IID amphora type.  
The rim is flat from outer side, without pointed  
crossing or rounding, from the inner side is thi-  
cker. The handles are earlike. Dimensions: rim diame-  
ter 11.5 cm, handle height 12 cm; fragment  
height 17 cm. Color Munsell 7/5 YR 5.6. Location  
Bigovica (Table 5: VIA/3; Table 6: VIA/3). (Table 6:  
VIC/10).

**VIC/11**

The upper part of Africana IID amphora type.  
The rim is flat from outer side, without point-  
ed crossing and from the inner side is thicker.  
The handles are earlike. Dimensions: rim diame-  
ter 11.02 cm, handle height 11.09 cm; fragment  
height 7.50 cm. Color Munsell 7/5 YR 5.8. Location  
Bigovica (Table 6: VIC/11).

**VIC/11a**

The upper part of the amphora type Tripoli-  
tanean 3, found during excavations of trikonhos.  
Rim is a stepped; neck descends steeply to a  
rounded shoulder. The ears are small, profiled on  
the upper side. The surface is yellow ocher, achie-  
ved by adding salt water during baking process  
while the interior reddish. Otherwise, the area is  
quite sandy. Dimensions: preserved height 20 cm,  
width 11 cm, height 12 cm handle. Color 7. 5 YR  
7. 7. Location: Topolica triconch. (Table 5: VIC / 1).

**VIC/11b**

Body of the amphora is in cylindrical shape.  
The body has noticeable grooves, made with fin-  
gers and lighter color that is obtained by adding  
salt water during baking process. Dimensions:  
preserved height 55 cm: diameter 23 cm. Color:  
7. 5 YR 7. 7. Location Bigovica. (Table 5: VIC/11b).

prelazom iz ramena i silazi ka prstenasto profilisanom dnu.

Postoje dvije forme oboda: tip A tanjeg izvučenog oboda koji ima blago zaobljenu usnu, i širi bikonični recipijent i tip B sa drškama prilijepljenim odmah ispod profilisanog oboda (Panella, 1973: 471; Peacock, Williams 1986: 175, sl.93)

Prvi tip je uočljivo bikoničan i veoma je čest u zapanomediteranskim oblastima od druge polovine II do IV vijeka naše ere. Postoje dokazi da je obod manje oštiri u profilaciji tokom IV vijeka nego što je to slučaj sa drugim i trećim vijekom (Riley 1979: 177–180). Druga forma oboda tipa B je tanja i blago uvučena na vrhu. Pojavljuje se tokom prvog vijeka i traje do trećeg vijeka (Peacock, Williams 1986: 175; Panella 1973: 472; Riley 1979: 180).

Pitanje njihove rasprostranjenosti je slabo riješeno. Prvi tip potiče iz Afrike, najvjerovatnije iz oblasti Tripolitanije, dok je drugi (B) porijeklom sa Sicilije po svemu sudeći iz oblasti Naksosa. Njihova zapremina varira između 17 i 21 litra tečnosti, najvjerovatnije vina (Peacock, Williams 1986: 176). Ovi tipovi amfora nisu poznati na crnogorskom primorju

### VII/1

Gornji dio amfore tipa Agora 254 A, izvučenog oboda u obliku zvona koje prelazi u cilindrični vrat. Ručke (ovalne na presjeku) su postavljene nisko, na sredini vrata i na rubu ramena posude. Blago je kanelirana po površini. Dimenzije: prečnik oboda 10 cm, dužina vrata 13 cm, visina fragmenta 22.00 cm. Boja: Munsell 7/5-6/4. Spolja varira od Munsell 7.5 YR /5.4. Bigovica. (Tabla 3: VII/1)

### VII/2

Gornji dio amfore tipa Agora 254 B? Drške su postavljene visočije, ispod oboda. Obod je izvučen, blago zaobljen prema unutra ali ne kao kod prethodnog primjerka. Vrat je nešto cilindričniji i nije blago kaneliran. Postoji mogućnost da se radi o nekom tipu koji je lokalne proizvodnje. Dimenzije: širina oboda 10.5 cm, visina očuvanog dijela 10.2 cm. Boja: Munsell 7.5 YR /5.5. Lokalitet Bigovica. (Tabla 4: VII/2).

### VII/3

Obod amfore tipa Agora 254 B. Očuvan je samo izvučen obod, lijevkasto povijen i zadebljan

## VII Mid Roman Amphora 1, Agora 254, Bonifay 59, Peacock & Williams 40

MR amphora 1, is also known as Agora M254 and Bonifay 59 (Peacock, Williams 1986: 175). This amphora type is characterized by small dimension, a little bit larger than big jars. They have narrow neck, with the groove shoulder while their handles are rounded. They are put at the shoulder with one ending, and the other ending is put at the other half of the neck (sometimes they are put higher). The body is wide, rounded baggy look or globular shape with stressed crossing from shoulder, and goes down toward ring profiled bottom.

There are two rim types: A type with thinner extracted rim which has slightly rounded lip, and wider biconical recipient, and type B, with the handles put below profiled rim (Panella 1973: 471; Peacock, Williams 1986: 175, photo 93)

The first type is noticeable biconical and very often in west-mediterranean areas since the second half of 2nd until 4th century A.D. There are proves that rim is less sharp in profilation during 4th century then during 2nd and 3rd century (Riley 1979: 177–180). The second form of B type is thinner, and slightly drawn at the top. It appears during 1st type and lasts until 3rd century (Peacock, Williams 1986: 175; Panella 1973: 472; Riley 1979: 180).

The question of their dispersion is not answered yet. The first type has african origin, most likely from the Tripolitania area, while the second (B) has Sicilian origin, from the Naksos region. Their volume varies between 17 and 21 litres of wine, most likely (Peacock, Williams 1986: 176). These amphora types are not known in Montenegrin coast.

### VII/1

The upper type of Agora 254 amphora type, the rim is bell shaped which goes into cylindrical neck. The handles (oval in infraction) are set up low, in the middle of neck and edge of pot shoulder. It is slightly grooved over the surface. Dimensions: rim diameter 10 cm, neck length 13 cm, width. Fragment height 22 cm. Color Munsell 7/5-6/4. Color outside varies Munsell 7.5 YR /5.4. Bigovica. (Table 3: VII/1)

### VII/2

The upper part of the amphora type Agora 254 B? The handles are put higher below the rim. The rim is extended, slightly curved inwards but not like in previous sample. The neck is slightly cylindrical and

na kraju. Dimenzije; visina očuvanog dijela 5.00 cm; visina oboda 4.00 cm; širina oboda 10.1 cm. Boja, spolja 7.5 YR 5.6, unutrašnja 7.5YR varira od 5.5 do 7.6. Lokalitet Bigovica. (Tabla 4: VII/3).

### VIII Kritske amfore, Knosos 3-5, Dressel 43

Ove amfore su lako prepoznatljive po koljenasto prelomljenim ručkama i nešto dužim cilindričnim vratom. Tijelo je ovalno i završava se kratkim špicastim dnom. Njihovu tipologiju je izdvojio Hayes na osnovu nalaza sa ostrva Knosos (Hayes 1983: 140-145). Po svemu sudeći njihova proizvodnja počinje od kraja I i početka II vijeka na Kritu (Empereur et al 1991: 493, sl. 58). Ovi tipovi amfora su prenosili vino tokom II i u prvoj polovini III vijeka.

Veoma su česte na Kritu, ali je je njihova distribucija veoma široka, naročito u Italiji, Francuskoj i Britaniji. Takođe su pronađene u Donjoj Germaniji, Cisalpskoj Galiji, Panoniji, Sjevernoj Africi, Egiptu i istočnom Mediteranu (Marangou-Lerat, 1995; Williams, 2003; Bezeczky, 1994a). Na Bigovici su česte krhotine vratova ovih amfora dok ostaci tijela ispod cilindričnog vrata nisu pronađeni. Na ostalom dijelu crnogorske obale nisu pronađeni.

#### VIII/1

Fragment amfore, očuvanog cilindričnog, blago kaneliranog vrata sa ostacima dvije koljenasto prelomljene ručke. Obod je uzak, blago naglašen. Dimenzije: prečnik oboda 15.5 cm, visina ulomka 15 cm, širina vrata 6 cm. Boja: Munsell 5 YR 7.6-7.8. Boja: Munsell 2.5 YR/6.6. (Tabla 3: VIII/1; Tabla 4: VIII/1)

### IX Forlimpopoli

Postoji više varijanti ovog tipa amfora a razlike variraju od detalja do detalja u različitim profilacijama oboda, ručki ili dna. Tijelo je ovoidno, šire u gornjem dijelu i sužava se prema ravnom profilisanom dnu, ekvivalentnog prečnika kao prečnik vrata, dok je vrat cilindričan, blago zaobljenog oboda ili naglašenog. Ručke „izrastaju“ vertikalno iz zaobljenog ramena i spajaju se ispod oboda koji može da bude profilisan trakasto, pučasto ili je raširen (Bjelajac 1996: str. 24, sl. IV 31, 26, 33, 27, 32, 28, 27). Uobičajna visina ovih amfora je 0.50- 0.60 cm. Najbolju podjelu je uradio Aldini, koji je podjelio ovaj tip am-

not slightly grooved. There is a possibility that this is a type of local production. Dimensions: width rim 10.5 cm, height of the preserved part 10.2 cm. Color: Munsell 7.5 YR 5/5. Location Bigovica. (Table 4: VII / 2).

#### VII/3

The rim of amphora type Agora 254 B. Preserved is only the extended rim, curved and thickened at the end. Dimensions, height of the preserved part 5.00 cm, height rim 4.00 cm width of the rim 10.1 cm. Color the outside 7.5 YR 5.6, inner 7.5YR varies from 5.5 to 7.6. Location Bigovica. (Table 4: VII / 3).

### VIII Crete amphoras, Knosos 3-5, Dressel 43

These amphorae are easily recognizable by knee inflected handles and slightly longer cylindrical neck. The body is oval, ending with short, sharp bottom. Their typology is stressed by Hayes on the base of findings from Knossos Island (Hayes 1983: 140-145). Taking into account this fact, their production starts from the end of 1st and beginning of 2nd century on Crete (Empereur 1991: 493, sl. 58). By this amphora types, the wine was transported during 2nd and in the first half of 3rd century. Common in Crete, with a fairly wide distribution elsewhere, notably Italy, France and Britain. It is also found in Lower Germany, *Cisalpine Gaul*, *Pannonia*, North Africa, Egypt and the Eastern Mediterranean (Marangou-Lerat, 1995; Williams, 2003; Bezeczky, 1994a)

Neck fragments of these amphorae are in Bigovica very often, while body remains below cylindrical neck are not found. They were not found at the other part of Montenegrin coast.

#### VIII/1

The amphora fragment, with preserved cylindrical, slightly grooved neck with the remains of two knee-inflected handles. The rim is narrow, slightly stressed. Dimensions: rim diameter 15.5 cm, fragment height 15 cm, neck width 6 cm. Color: Munsell 5 YR 7.6-7.8. Color: Munsell 2.5 YR/6.6. (Table 3: VIII/1; Table 4: VIII/1)

### IX Forlimpopoli

There are more variants of these amphora types, there are also more differences, and they vary in details in different rim, handles or bottom profilations. The body is ovoid, wider in the upper part, getting

phora u četiri grupe A-D (Adini 1978: 231, 232). One su među sobom veoma slične, sa malim pojedinstima koje ih razlikuju međusobno. Sv tipovi imaju ravno dnosa prečnikom koji uglavnom odgovara prečniku vrata. Naša amphora, pronađena na Bigovici, pripada grupi A.

Njihovo pretpostavljeno porijeklo je sjeverna Italija a ime su dobile po mjestu nalaza jer su ostaci ovih amfora pronađeni u radionici *Forlimpopoli* (Aldini 1978: 230-231), mada je istih nalaza bilo i u nalazištima Sant'Archangelo de Romagne i L'Emilie-Romagne. Njihova masovna proizvodnja traje tokom II vijeka (Carre 1985: 228-231). Po Hejsu najraniji primjerci se javljaju već u I vijeku u Pompeji (Heays 1983: 145).

### IX/1

Skoro potpuno očuvan primjerak amfore tipa Forlimpopoli, ovalnog tijela koje se postepeno sužava prema dnu koji kod ovog primjerka nedostaje, ali je svakako bilo ravno i profilisano. Vrat je skoro cilindričan, sa pupčasto profilisanim obodom. Ovalno profilisane drške izrastaju ravno iz ramena i spajaju se sa vratom. Dimenzije: Prečnik oboda 6.5 cm (širina 1.5 cm); prečnik vrata 12.5 cm, vidina drški 13.3, očuvana visina komada 50.00 cm. Boja: Munsell 5 YR 7.6-7.8. Lokalitet Bigovica. (Tabla 1: IX/1)

### X Peacock-Wiliams 47, Bjelajac XII, Ostia VI

Amfore ovog tipa imaju pupčasto porfilisan i sužen obod stiješnjen sa strana, između usne oboda i gornjeg dijela ručke. Vrat je dugačak, izrazito kaneliran i naglo izlazi iz naglašenog ramena koje se sužava do male nestabilne prstenasto profilisane stope (Bjelajac 1996: 41, 43, sl. XIII, 56, 54, 57, 53). Visina ovih amfora varira između 0.70 i 0.80 m u periodu vrhunca proizvodnje. Sadržaj ovih amfora je najvjerojatnije bilo vino. Porijeklo nije utvrđeno sa sigurnošću pa postoje nepodijeljena mišljenja da se radi o više centara u egejskoj oblasti (Bjelajac 1996: 41). U Akvinkum i Ostiju dospijevaju krajem II vijeka, a na većini ostalih nalazišta se datuju u III i IV vijek (Keay 1984: 140 ; Peacock, Wiliams 1986, 194-195).

### X/1

Ulomak amfore dugog profilisanog grla sa dugačkim drškama koje su u ravni blago izvijenog oboda. Dimenzije: prečnik oboda 5.5 cm, vi-

narrower toward flat profiled bottom, with the equivalent diameter as the neck diameter, while the neck is cylindrical, slightly rounded or stressed rim. The handles "grow" vertically from rounded shoulder, getting together below the rim which can be profiled with stripes, umbilical or it is wide-spread (Bjelajac 1996: pages. 24, pic.IV 31, 26, 33, 27, 32, 28, 27). The usual height of these amphorae is 0.50- 0.60 cm. The best typology was made by Aldini, who divided it into four sub-types, A-D, which are broadly similar but exhibit minor differences (Adini 1978: 1981). All sub-types have a flat base with a diameter roughly equivalent to that of the neck. Our amphora, which were found on Bigovica site, belongs to group A.

Their assumed origin is northern Italy and they are named after the place where they were found, because the remains of those amphoras were found in *Forlimpopoli* workshop, although the same amphoras were found at the Sant'Archangelo de Romagne and L'Emilie-Romagne sites. Their mass production last during 2nd century (Carre 1985, 228-231). According to Heays, the first specimens appear in 1st century in Pompeii (Heays 1983: 145).

### IX/1

Almost completely preserved specimen of Forlimpopoli amphora type, with oval body which is getting narrower toward bottom, which is missing at this specimen, but is flat and profiled in any case. The neck is almost cylindrical, with umbilical profiled rim. Oval profiled handles grow directly from the shoulder and go to the neck. Dimensions: rim diameter 6.5 cm (width 1.5 cm); neck diameter 12.5 cm, handles height 13.3, preserved piece height 50 cm. Color: Munsell 5YR 7.6-7.8. Location Bigovica (Table 1:IX/1)

### X Peacock-Wiliams 47; Bjelajac XII; Ostia VI

These type amphorae have umbilical profiled and narrow rim pressed from sides, between lip rim and upper handle part. The neck is long, extremely grooved getting out from the stressed shoulder which gets narrower to small unstable ring profiled base (Bjelajac 1996: 41, 43, pic. XIII, 56, 54, 57, 53). The height of these amphorae varies between 0.70 and 0.80 m during period of top production. The content of these amphorae was most likely the wine. The origin was not precisely confirmed, so there are opinions that it is about several centers

sina drški 15 cm, širina vrata 7 cm. Boja: Munsell 5 YR/7.6 - 7.8. Lokalitet Bigovica. (Tabla 4: X/1; Tabla 3 X/1)

### **XI Peacock Williams 41, Benghazi, Mid Roman 2**

Ovaj tip amfore ima veoma kratak, skoro nabubren vrat koji prelazi u uski blago konveksni obod. Ručke su niske, ovalne na presjeku i izrastaju iz vrata spajajući se sa naglašenim ramenom. Tijelo ovih amfora je izrazito cilindrično (Peacock, Williams 1986: 177, sl.96).

Radionice za proizvodnju ovog tipa amfora su pronađene u Keratokambosu na južnom dijelu Krita, ali na osnovu fakture arheolozi su sugerisali da proces izrade može biti bilo gdje u Grčkoj. Hronološki raspon ovih amfora se kreće od I do III vijeka (Peacock, Williams 1986: 177-179).

Najbliži nalaz ovog tipa amfore potiče iz Dokeleje. Naime, tokom iskopavanja jugoistočne nekropole otkopana je cijela amfora ovog tipa sa ispranim ostacima spaljenog pokojnika izunutra (Cermanović-Kuzmanović, Velimirović-Žižić, Srejović 1975:137, sl. 109)

#### **XI/1**

Fragment gornjeg dijela amfore Mid roman 2 pronađen tokom rekognosciranja terena na sredini uvale Bigovica. Ovaj primjerak ima kratak nabubren vrat koji prelazi u konveksni obod. Ručke su koso postavljene. Dimenzije: prečnik oboda 7 cm, visina vrata 5,5 cm, visina drški 6.8 cm. Boja 2.5 Y.R 6.6. Lokalitet Bigovica. (Tabla 3: XI/1)

### **XII Late Roman Amphoras 1**

Amfore tipa Late Roman 1 su istočnomediterranskog porijekla. Imaju zadebljan obod, ravan vrat koji u zavisnosti od varijante može biti užii visočiji, ili širi i kraći. Tijelo je sroliko ili izraženo ovalno, sa neravnomjerno raspoređenim rebrima, dok je dno je zaobljeno ili sa blago naglašenim dugmetastim završetkom (Bjelajac 1996: 72).

Boje pečenja su u nijansama žute i crvene (Munsell 2.5R 6/6, 5YR /7&, 10 YR 7/3), dok je spoljna površina prevučena žučkastom engobom. Visina ovih amfora se kreće od 45 do 60 cm, dok je širina trbuha od 25 do 30 cm, mada postoje i manje dimenzije koje variraju oko 40 cm sa širinom trbuha oko 20 cm, kada je i profilacija nešto drugačija (Bjelajac 1996: 72, 73).

on Aegean region (Bjelajac 1996: 41). They came in Acumincum and Ostia during the end of 2nd century, and they date in majority of other sites in 3rd and 4th century ( Keay 1984: 140 ; Peacock, Williams 1986: 194-195).

#### **X/1**

The fragment of amphora with long profiled throat, with long handles which are at the same level with the slightly rounded rim. Dimensions: rim diameter 5.5 cm, handles height 15 cm, neck width 7 cm. Color: Munsell 5 YR/7.6 - 7.8. Location Bigovica (Table 4: X/1; Table 3 X/1)

### **XI Peacock Williams 41, Benghazi Mid Roman 2**

This amphora type has very short neck, almost fat, which goes to narrow and slightly convex rim. The handles are low, oval at the crossing and grow from the neck, getting to the stressed shoulder. This amphora type body is extremely cylindrical (Peacock, Williams 1986: 177, sl.96).

The workshops for this amphora type production were found in Keratokambos, in southern part of Crete, but on the base of facture, the archaeologists suggested that production process could be anywhere in Greece. Chronologically, the range of these amphoras go from 1st to 3rd century (Peacock, Williams 1986: 177-179).

The closest findings of this amphora type are in Doclea. During excavations of southeastern necropolis, a whole amphora of this type was digged out with the washed remains of burned deceased inside (Cermanović-Kuzmanović, Velimirović-Žižić, Srejović 1975: 137, pic. 109)

#### **XI/1**

The fragment of upper part of Mid roman 2 amphora was found during terrain recognizing at the middle of Bihovica bay. This specimen has short fat neck which goes to convex rim and two aslant set handles. Dimensions: rim diameter 7 cm, neck height 5,5 cm, handle height 6.8 cm. Color 2.5 YR 6.6. Location Bigovica (Table 3: XI/1)

### **XII Late Roman Amphorae 1**

Late Roman 1 amphora types are of eastern-Mediterranean origin. They have thick rim, flat shoulder which, depending of a certain variant, can be

Tokom V vijeka sriječemo principalnu varijantu ovih amfora tzv. LR1A. Ova grupa ima suženiji vrat trakastog oboda (širine usne varira od 4.5 do 7.7 cm). Drške su okrugle na presjeku, prelomljene, sa površinom koja je izbrazdana. Dno je zaobljeno, i završava se dugmetastim šiljkom (Pieri 1998: 98). Nakon recentnih studija sa velikog broja materijala i lokaliteta (Aleksandrija, Bejrut, Apameia) zaključujemo da se proizvodnja amfora LR1A odvijala sredinom V i sredinom VI vijeka duž Kilikijske, Isaurijske i Sirijske obale (Pieri 2005: 4). U drugoj polovini V vijeka javlja se varijanta LR1B. Tijelo amfore je trbušastije sa manje naglašenim dugmetastim završetkom na kraju. Obod je širi i izraženiji, dok u drške postavljene skoro pod pravim uglom na rame amfore (Arthur 1998: 165, sl.5.2). Varijanta LR1C je minijatura replika LR1B1 VII - VIII vijeka, suženijeg tijela, skoro vretenstog oblika, dužim vratom i visočijim drškama (Pieri 1998: 99; Arthur 1998: 165, sl. 5. 3). Na prostoru Bigovice pronađeno je na stotine krhotina koje odgovaraju tipu LR1A i LR1B, manje ili više pjeskovite fature, i boje koja varira od žućkasto – oker do svijetlo braon.

## XII/1

Fragment oboda amfore tipa LR1B, kratkog cilindričnog vrata koji se završava pupčasto zadržanim obodom. Spoljnja površina je blago narebrena, rađena od žuto pečene gline, pjeskovite fature (Amfora podsjeća i na globularne tipove Mitelo tipo (Rita Auriemma, Elena Quiri 2007: 49, Tav.4:2, 3) Dimenzije: 10.5 cm, širina vrata 1 cm, visina drški 8 cm. Boja 5 YR 7.7. Lokalitet Bigovica. (Tabla 3: XII/1)

## XII/2 a-e

Gronji do amfore LR1B, rađen od pjeskovite fature (a), Ručke amfora LR1 (b-e), pjeskovite fature, sa izraženim brazdama po površini. Dimenzije: od visina 4.4 do 9.5 cm. Boja varira od 2.5YR 4.4 do 5 YR 7.4. (Tabla 7: XII/ a-e)

## XIII Late Roman Amphoras 2

Proizvodnja tzv. češljastih (po načinu ukrašavanja) ili kasnorimskih amfora 2 (Late Roman 2) je egejskog porijekla (Bjelajac 1996: 68; Pieri 1998: 98). U periodu V i VI vijeka kada nastaje, prototip je LR2 amfora V i VI vijeka, obod je trakasto profilisan, forma „vrecasta“ a urezi horizontalni i zaobljenih ivica (Bjelajac 1996: 68). Postoje mišljenja

narrower or higher, wider or shorter. The body is heart-shaped or has oval expression, with unequal ribs, while the bottom is rounded or with slightly stressed button-like ending.

The baking color are variants of yellow and red (Munsell 2.5R 6/6, 5YR 7/8, 10 YR 7/3), while the outer surface is covered with yellow engobe. The height of these amphoras is from 45 to 60 cm, while the stomach width is from 25 to 30 cm, although there are smaller dimensions which varies about 40 cm with stomach width of about 20 cm, and then the profile is different also (Bjelajac 1996: 72, 73).

During 5th century, we meet principal variant of these amphoras, so called LR1A. This group has narrow neck with stripped rim (the lip width varies from 4.5 to 7.7 cm). The handles are round in intersection, in fractured, with surface which is striated. The bottom is rounded, ending with button-like peak (Pieri 1998: 98). After recent studies from numerous materials and sites (Alexandria, Beirut, Apameia), we can conclude that LR1A amphora production was carried out in the middle of 5th and 6th centuries along Kylikiyn, Isaurian and Syrian coasts (Pieri 2005: 4). In 2nd half of 5th century, there was LR1B variant. The amphora body is stomach-like with less stressed button-like ending. The rim is wider and more expressed, while the handles are set almost under right angle at the amphora shoulder (Arthur 1998: 165, pic.5.2). LR1C variant is miniature replica LR1B1 7-8 centuries, with more narrow body, almost spindle-shaped, with longer neck and higher handles (Pieri 1998: 99; Arthur 1998: 165, pic. 5. 3). In Bigovica area, dozens of LR1A nad LR1B fragments have been found, more or less with sandy fature, and colors which vary from yellow-ocher to light brown.

## XII/1

The fragment of rim LR1B amphora type, with short cylindrical neck, ending with umbilical thick rim. The outer surface is slightly ribbed, made of yellow baked clay, with sandy fature. (Amphora looks like globular types Mitelo tipo (Auriemma, Quiri 2007: 49, Tav.4:2, 3) Dimensions: 10.5 cm, shoulder width 1 cm, handles height 8 cm. Color YR 7.7 Location Bigovica (Table 3: XII/1)

## XII/2 a-e

The upper part of amphora LR1B, made of sandy fature (a). Handles of amphora LR1 (b-e), sandy fature with marked grooves on the surface. Dimen-



da je oblast njihovog porijekla crnomorski region, o čemu je najviše pisao Scorpan, zbog brojnosti ovih amfora u oblasti oko Crnog mora i Donjeg Podunavlja (Scorpan 1976, 161; Bjelajac 1996: 68).

Dominik Pieri je ustanovio podjelu na tri glavne varijante, koje se razlikuju po vratu i obodu (Pieri 1998: 99-100). Podtip LR2A ima sferično tijelo, naglašenog prelomljenog ramena na prelazu u recipijent. Obod je zvonolik i izrasta direktno iz korpusa. Dekorirana je češljastim ornamentima izvedenim ravno. Ovaj tip se datuju kraj V i početak VI vijeka.

Forma podtipa LR2B nastaje na početku VI vijeka. Vrat je duži i završava se zvonolikim obodom dok su ručke masivnije. Dekoracija je izvedena dublje i talasaste je forme (Pieri 1999 100: sl. 3 LRA 2B). Takve amfore su karakteristične za brodolom amfora na Yassi Addi (Yassi Ada 1), pa često imaju i takav naziv (Toniolo 2007: 99, sl.4c3).

Najčešće pominjani sadržaji su ulje i vino, ponekad žito a pojedini autori čak smatraju da su amfore većih dimenzija služile za ulje a one manjih za vino (Bonifay, Villedieu 1989: 25). U VII vijeku pojavljuje se varijanta novijih karakteristika sa drugačijim obodom - LR2C. Ove forme nagovještavaju pojavu „globularnih amfora“.

### XIII/1

Gornji dio amfore tipa Late Roman 2B, varijanta sa razmaknutim urezanim linijama po ramenu. Obod je, ljevkast blago uvučen u goenjem dijelu. Ručke su ovalne sa blagim žlijebom u sredini. Takav tip se čuva u muzeju Argosa (Pieri 2005: 86, sl. 44). Dimenzije: očivana visina 23 cm, visina oboda 5.4 cm, dužina ručke 16 cm. Boja; na prelomu je 10 YR 4.4, spolja 5YR 7.8. Lokaliteta Bigovica. (Tabla 3: XIII/1; Tabla 4: XIII/1)

### XIII/2

Ulomak ramena amfore tipa LR2A, ukrašenog češljem, u vidu pravilno izbrazdanih linija zaobljenih ivica. Dimenzije: 6 x 7 cm. Boja: 5YR 5.4. Lokaliteta Bigovica. (Tabla 7: XIII/2)

### XIII/3

Ulomak ramena amfore tipa LR2A, ukrašenog češljem, u vidu pravilno izbrazdanih linija zaobljenih ivica. Dimenzije: 14 x 17 cm. Boja: 5YR 5.4. Lokaliteta Bigovica. (Tabla 7: XIII/3).

sions: height 4.4 to 9.5 cm. Color varies from 2.5 YR 4.4 to 5 YR 7.4. (Table 7: XII/a-e). Lokation: Topolica triconch.

### XIII Late Roman Amphoras 2

The production of, so called comb (as the way of decoration) or Late Roman 2, is of Aegean origin (Bjelajac 1996: 68; Pieri 1998: 98). During the period of 5th and 6th century, the prototype LR2 is formed, the rim is profiled with stripes, form is "baggy" and engravings are horizontal and with rounded edges (Bjelajac 1996: 68). There are opinions that their origins are from Black Sea region, and Scorpan wrote about that, because of numerous number of those amphoras in the Black sea region and The Lower Danube Basin (Scorpan 1976, 161; Bjelajac 1996: 68).

Dominik Pieri divided this type into three main variants, which differs by neck and rim (Pieri 1998: 99-100). Subtype LR2A has spheric body, with stressed infractioned shoulder at the crossing into recipient. The rim is bell-like and grows directly from the corpse. It is decorated with comb straight ornaments. This type dates at the end of 5th and beginning of 6th century.

The form of LR2B subtype appears at the beginning of 6th century. The neck is longer, ending with bell-like rim, while handles are more massive. Decoration was made deeper, having wave form (Pieri 1999 100: pic. 3 LRA 2B). Those amphoras are characteristics for shipwreck of amphoras on Yassi Addi (Yassi Ada 1), so they are often named after that (Toniolo 2007: 99, pic.4c3).

The most often mentioned contents are oil and wine, sometimes corn, and some authors think that amphorae of larger sizes were used for oil, and smaller ones for wine (Bonifay, Villedieu 1989, 25). During 12th century, a variant with new characteristics appears, with different rim-LR2C. Those forms predict appearance of "globular amphorae".

### XIII/1

The upper part of the Late Roman amphora type 2B, variant spaced incised lines on the shoulder. The rim is slightly tucked in a funnel-shaped part of the fattening. Handles are oval with a slight groove in the middle. This type is held in the Argos (Pieri 2005: 86, Photo. 44). Dimensions: preserved height 23 cm, height of the rim 5.4 cm, length of the handle 16 cm. Color, on the fracture 10 YR 4.4, outside 5YR 7.8. Lokaliteta Bigovica. (Table 3: XIII / 1, Table 4: XIII / 1).

**XIV Late Roman 4; Almagro 54; Kuzmanov XIV**

Amfore poznate i kao Gaza tip proizvođene su u Askelonu i Gazi, a možda i nešto dalje kao npr u Ashdodu i Al-Arishu. Takođe, postojala je i nešto manja produkcija u delti Nila. U V vijeku izvori belježe da su Askelon i Gaza gradovi sa bogatom trgovačkom aktivnošću i da posjeduju velika bogatstva koji izvoze kvalitetna vina u Siriji i Egiptu. Od petog do ranog sedmog vijeka vina iz Gaze, velike reputacije, su proizvođena i zabelježena u zapadnim spisima od Didona Apolinarskog preko Kasiodora, Grigoorija Tirskog, dok su u šestom vijeku izvozi posvjedočeni sve do Engleske. Arheološka svjedočanstva potvrđuju razvoj proizvodnje u oblasti Nagieva, u kasnoj antici stimulisani monaškim zajednicama koje su višak vinske proizvodnje davali za izvoz iz južne Palestine, to je jedan od razloga što polularnost vina iz Gaze u rano-hrišćansko vrijeme raste zbog toga što potiče iz Biblijskih zemalja.

Rane izdužene amfore II i III vijeka imaju široko tijelo, debele zidove, dvije kružne drške i zaobljenu osnovu ( Peacock & Williams 1986: 196, sl.115) U četvrtom do petog vijeka imaju takođe kratko tijelo al su zidovi tanji (Piéri 2005: LRA 4 A.2). Kasni peti i rani šesti vijek imaju izduženije i uspravnije tijelo, sa manjim koničnim dnom i strimijim ramenima (Almagro 54/Peacock & Williams Class 49/Keay 54/Carthage Late Roman Amphora 4/Piéri LRA 4B). Obod je jedva naglašen kvadratnog ili zaobljenog presjeka i prelazi u odmah u rame. Na Bigovici su pronađeni samo manji komad ovih tipova amfora, ali je konstatovano nekoliko cijelih drški od kojih smo prikazali jednu (Peacock & Williams 1986: 198, sl.116).

**XIV/1**

Ručka kružnog oblika koja pripada amfori tipa LR4. Ima plitak žlijeb sa gornje strane. Dimenzije: prečnik ručke 5.1 cm., širina ručke 2.7 cm. Boja 5YR 7/6. (Tabla 7: XIV/1)

**XV Keay 51**

Jedan nalaz oboda i drški amfore T2: XV/1 veza li smo za tipologiju amphora koje je Simon Keay označio brojem 51, iako je prilično rijetka i još uvijek nedovoljno poznata i istražena (Keay 1984: 265). Takođe slična je i nekim tipovima Amagro 50C (Auriemma, Quiri 2007: 51, Tav. 3. 51c), ali ove amfore imaju mnogo masivnije ručke.

**XIII/2**

The fragment of LR2A amphora type, decorated with comb, with regular engraved lines and rounded edges. Dimensions: 6 x 7 cm. Color 5YR 5.4. Location Bigovica (Table 7:XIII/2)

**XIII/3**

The fragment of LR2A amphora type, decorated with comb, with regular engraved lines and rounded edges. Dimensions: 14 x 17 cm. Color 5YR 5.4. Location Bigovica (Table 7:XIII/3)

**XIV Late Roman 4; Almagro 54; Kuzmanov XIV**

Amphorae known as Gaza type, were produced in Ashkelon and Gaza, and perhaps a bit further such as the Ashdod and Al-Arish. Also, there was a slightly lower production in the Nile Delta. In V century sources mark that Ashkelon and Gaza are cities with a rich trade activity and to possess great wealth and export wines in Syria and Egypt. From the fifth to the early seventh century, wines from Gaza, with large reputations, were produced and written in Western writings of Dido Apollinaire by Cassiodorus, Gigorius Tyro, while in the sixth century were witnessed all exports up to England. Archaeological evidence confirms the development of production in the field Nagiev, in late antiquity stimulated by monastic communities that excess wine production gave for exports from southern Palestine. It is one of the reasons for the popularity of wines from Gaza in the early-Christian time was growing because they originate from Bible Lands.

Early elongated amphorae from II and III century have wide body, thick walls, two circular handles and a curved base (Peacock & Williams 1986: 196, Photo 115). In IV to V century have also short body but the walls are thinner (Pieri, 2005: LRA 4A. 2). Late fifth and early sixth century have elongated and upright body, with small conical bottom and slope shoulders (Almagro 54/Peacock & Williams Class 49/Keay 54/Carthage Late Roman Amphora 4/Piéri LRA 4B). The rim is barely pointed, square or rounded cross-section and immediately goes into the shoulder. On Bigovica, were found only a small pieces of these types of amphorae, but noted several entire handles of which we presented one (Peacock & Williams 1986: 198, Photo 116).

Vrat ove amfore je veoma kratak i izrasta u naglašeni obod koji je povijen prema unutra i zadebljan. Gornji dio drške je prilijepljen za vrat, dok se donji oslanja na rame. Tijelo ovih amphora je prepoznatljivo, piriformnog oblika i sužava se prema dnu koje ima malu, slabo naglašenu stopu. Urezani su horizontalni žljebovi po tijelu. Visina ovih amphora je od 76.5 cm visine do 37.5 cm širine. Ručke su polukružne, ovoidne ili okruglog presjeka. Keay (1984: 266) pominje sličnu amforu pronađenu u Empúriesu (Nolla 1974/5: 189, Fig. 27.1; 151, Fig. 3).

#### **XV/1**

Gornji dio amfore Keay 51, kratkog vrata koje izrasta u naglašeni obod povijen prema unutrašnjosti i zadebljan. Gornji dio polukružne drške je priprijepljen za vrat i polovinu oboda dok je donji naslonjen na rame. Datuju se u IV-V vijek. Dimenzije: očuvana visina 10.5 cm; širina oboda 14 cm. Boja: Munsell 5YR 6.8. Lokalitet Bigovica. (T 2: XV/1)

#### **XVI Globularne amfore**

Globularne amfore sa široko postavljenom drškom karakteristične su takođe za vizantijski proizvodni krug. U nauci ove amfore imaju različite varijante i alternative: Sarachene amphora 29, TRC 12, Yassi Ada 1-2, Kuzmanov XX, Tipo San Antonio 20 (Quiri 2006: 43, *сл.* 1/2). Pronađeni fragmenti amfore imaju crvenkastu boju terakote (po Menselu 5 YR 7/6) i često žučkasti i crvenskati slip na spoljnoj površini.

Porijeklo globularnih amfora je egejsko, a proizvodni centri su na Kritu i u regionima Crnog mora, Kipra (na Pafosu, Amathosu, Zigi). Takođe, razvijena proizvodnja je i u radionicama Sjeverne Afrike, sirijsko palestinskom krugu, ali se proizvode i u radionicama južne Italije (Vroom 2005: 61). Njihovo datovanje ide od VII vijeka, ali su najrasprostranjenije u VIII i prodiru sve do polovine IX vijeka (Peacock, Williams 1986: 186; Quiri 2007: 43, *сл.* 1/2; Toniolo 2007: 99, T4, 4b3).

#### **XVI/1**

Ulomak gornjeg diela globularne amfore sa široko postavljenim drškama, prilijepljenim na kratak cilindričan vrat. Obod je blago povijen prema unutra. Rađena je od pjeskovite, crveno pečene zemlje. Dimenzije: prečnik oboda 8.6 cm; visina ulomka 10 cm. Boja 2.5 YR 5.6. Lokalitet Topolica Trikonhos (Tabla 7: XVI/1; Tabla 8: XVI/1)

#### **XIV/1**

Handle of circular shape belonging to amphora type LR4. There is a shallow groove on the upper side. Dimensions: diameter handles 5.1 cm, the width of the handle 2.7 cm. Color 5YR 7/6. (Table 7: XIV/1).

#### **XV Keay 51**

One finding of the rim and handles of amphora T2: XV/1 we tied for the typology of amphorae that Simon Key marked with number 51, although it is quite rare and still insufficiently known and researched. Also similar to some types of Amagro 50C (Rita Auriemma, Elena Quiri 2007: 51, Tav. 3. 51c), but these are much more massive amphora handles.

The neck of the amphora is very short, and grows into a pointed rim which is bent inward and thickened. The upper part of the handle is stuck on the neck, while the bottom rests on the shoulder. The body of the amphora is recognizable, piriform shape and tapers down to a small, poorly emphasized rate. Horizontal grooves are etched on the body. Height of the amphora is from 76.5 to 37 cm height. 5 cm wide. Handles are semi-circular, ovoid or circular section. Keay (1984: 266) mentions similar amphora found in Empuries (Nolla, 1974/5: 189, Fig. 27.1, 151, Fig. 3).

#### **XV/1**

The upper part of the amphora Keay 51, short neck, which grows into a pointed rim bends forward into and thickens. The upper part of the semicircular handle is put onto the neck and half rim, while the bottom is put against the shoulder. It has been dated to the IV-V century. Dimensions: preserved height 10.5 cm, width 14 cm. Color: Munsell 5YR 6.8. Location Bigovica. (T 2: XV/1).

#### **XVI The Globular amphorae**

Globular amphoras with wide set up handle is a characteristic also for Byzantium production. These amphoras have different variants and alternatives in science: Late Roman 2-4, Sarachene amphora 29, TRC 12, Yassi Ada 1-2, Kuzmanov XX, Tipo San Antonio 20 (Quiri 2006: 43, *pic.* 1/2). The amphora fragments found have red color of teracotta (Munsell 5 YR 7/6) and very often a yellow and red on outer surface.

**XVI/2**

Ulomak gornjeg dijela globularne amfore, sa široko postavljenim drškama, prilijepljenim na kratak cilindrični vrat. Obod je nenaglašen sa uskom trouglasto profilisanom usnom. Dimenzije: prečnik oboda 9.5 cm, širina drški 12 cm. Boja: 2.5 YR 4.6. Lokalitet Topolica trikonhos. (Tabla 7: XVI/2; Tabla 8: XVI/2).

**XVI/3**

Ulomak gornjeg dijela globularne amfore, sa široko postavljenim drškama, prilijepljenim na kratak cilindrični vrat. Obod je nenaglašen sa uskom trouglasto profilisanom usnom. Dimenzije: prečnik oboda 9.5 cm, širina drški 12 cm. Boja 2.5 YR 4.6. Lokalitet Topolica trikonhos. (Tabla 8: XVI/3)

**XVI/4**

Ulomak globularne amfore, sa ostacima široko postavljenih drški, prilijepljenim na kratak cilindrični vrat. Dimenzije: očuvana visina 6 cm. Boja 2.5 YR 4.6. Lokalitet Topolica trikonhos. (Tabla 8: XVI/4)

**XIV/5**

Ulomak gornjeg dijela globularne amfore, sa široko postavljenim drškama, prilijepljenim na kratak cilindrični vrat. Očuvan je dio ramena amfore. Dimenzije: Očuvana visina 12.3 cm. Boja 10 YR 7.6. Lokalitet Luka Bar nađeno tokom izgradnje doka. (Tabla 8: XVI/5)

**XVI/6**

Ulomak globularne amfore sa široko postavljenim masivnim drškama koje spajaju vrat i rame posude. Obod je blago izvijen, sa zadržanom usnom. Ulomak je pronađen sa sjeveroistočne strane Starog Ulcinja. Dimenzije: visina ulomka 12.4 cm, širina drški 14.2 cm, drške na presjeku 3.7 cm. Boja 7.5 YR 6.4. Lokalitet Stari Ulcinj. (Tabla 8: XVI/6)

**XVII Samos Cistern; Agora M273**

Godine 1985. Paul Arthur je klasifikovao tipologiju amfora pod imenom Samos cistern type, na osnovu velikog broja nalaza pronađenih u cistijer-

The origin of globular amphoras is Aegean, and production centres are in Crete, and in Black Sea, Cyprus (in Pafos, Amathos, Ziga) regions. Also, developed production is in the workshops of northern Africa, Syrian-Palestinian circle, but also they were produced in workshops of southern Italy (Vroom 2005: 61). They date from 7th century, but they are most spreaded in 8th century, until half of 9th century (Peacock, Williams 1986: 186; Quiri 2007: 43, pic.1/2; Toniolo 2007, 99, T4, 4b3).

**XVI/1**

The fragment of upper part of the globular amphora, with wide set up handles, put on short cylindrical neck. The rim is slightly bent. It was made of sandy, red baked earth. Dimensions: rim diameter 8.6 cm, fragment height 10 cm. Color 2.5 YR 5.6 Location Topolica Trikonhos (Table 7: XVI/1; Table 8: XVI/1).

**XVI/2**

The fragment of upper part of globular amphora, with wide set up handles, put on short cylindrical neck. The rim is not pointed with narrow triangular profiled lip. Dimensions: rim diameter 9.5 cm, handles width 12 cm. Color 2.5 YR 4.6. Location Topolica Trikonhos. (Table 7: XVI/2; Table 8: XVI/2)

**XVI/3**

Fragment of upper globular amphora with wide set up handles, attached to the short cylindrical neck. The rim is not pointed with a narrow triangular profiled lip. Dimensions: diameter rim 9.5 cm, width 12 cm handle. Color 2.5 YR 4.6. Location Topolica Trikonhos. (Table 8: XVI / 3)

**XVI/4**

Fragment of upper globular amphora with wide set up handles, attached to the short cylindrical neck. Dimensions: preserved height 6 cm, Color 2.5 YR 4.6 Location Topolica Trikonhos. (Table 8: XVI / 4)

**XVI/5**

Fragment of upper globular amphora with wide set up handles, attached to the short cylindrical neck. Part of shoulder preserved. Dimensions: preserved height 12.3 cm. Color 10 YR 7.6 Location

ni na Samosu od strane Hans Petera Islera (Arthur 1998: 167). To su amfore užeg duguljastog narebrenog tijela koje preko blago naglašenog ramena prelaze u kratak uspravan vrat. Drške su kratke, ovalne ili okrugle na presjeku. U Agrosu, jedan primjerak je dobro datovan u godinu 585., dok je u Gruziji amfora ovog tipa ugrađena u crkvu koja se datuje oko 580. godine (Arthur 1998: 167).

Po Arturu ovaj tip amfora je nasljednik tzv. tipa Agora 273 (Arthur 1998:167). Bonifay i Pieri imaju drugačije mišljenje, koje ih svrstava u heterogenu grupu (Bonifay, Pieri 1995).

Ove amfore imaju ovalno tijelo, tzv. "torbastog" oblika, koje prelazi u zaobljeni vrat. Drške su kratke i ovalne. Kao i istočno mediteranski tip Samos Cistern, Agora 237 amfore su proizvedene na grčkim ostrvima (Arthur 1998: 166).

### **XVII/1**

Gornji dio amfore tipa Agora 237 (Samos cistern varijanta), kratkog zadebljanog vrata koje prelazi u pupčasto profilisan obod. Dimenzije: Prečnik oboda 13.4 cm, visina vrata 11 cm, visina drški 11.5 cm. Boja: Munsell 5YR/ 7.6 - 6.6. Lokali-tet Bigovica. (Tabla 3: VII/2)

### **XVII/2**

Gornji dio amfore tipa Samos Cistern type, visokog skoro cilindričnog vrata koji je blago kaneliran. Obod je nenaglašen, blago zadebljan. Drške su skoro uspravne, skoro pravougaonog presjeka, zaobljenih ivica. Dimenzije: očuvana visina ulomka 19 cm, širina oboda 12.5 cm. Boja: 2.5 YR 4.4 crvena. (Tabla 8: XVII/1)

### **XVIII Otranto tip amfore**

Opis i tipologiju ovih amfora uradio je Paul Arthur na osnovu nalaza u južnoj Italiji u predjelu Otranta. Amfore tipa Otranto pojavljuju se od XI do početka XIII vijeka, dok su centri proizvodnje u Apuliji, u oblasti Brindizija i Barija gdje su izdvojeni tipovi 1 i 2. Oblici ovog tipa amfora su izduženog vretenastog tijela koje prelazi u blago lijevkast vrat, dok je površina recipijanta kanelirana. Naročito su prepoznatljive po valovici, duboko urezanoj po ramenu posude (Arthur, Auriemma, 1996: 15, fig.3, fig. 4, fig.5; Arthur 1992: 202–207, сл. 72–73; Arthur, 1998). Osim na Bigovici, fragmenti Otranto 1-2 amfora

Port of Bar, found during pier building (Table 8: XVI/5)

### **XVI/6**

Fragment of globular amphora with broad massive handles that connect the neck and shoulder of the vessel. The rim is slightly curved, with a curved lip. The fragment was found on the northeast side of Old Ulcinj. Dimensions: height of fragment 12.4 cm, width of the handles 14.2 cm, the handle at the intersection of 3.7 cm. Color 7.5 YR 6.4. Location Stari Ulcinj. (Table 8: XVI / 6).

### **XVII Samos Cistern; Agora M273**

Paul Arthur classified typology of amphorae named Samos cistern type, in 1985, on the base of large number of findings, found in the cistern in Samos, by Hans Peter Isler (Arthur 1998: 167). Those amphorae have narrow, long ribbed bodies which across slightly stressed shoulder go in short, upright neck. The handles are short, oval or round on intersection. In Agros, one specimen is dated since 585., while the amphora found in Georgia was installed into church, dating about 580 (Arthur 1998: 167).

According to Arthur, this amphora type is successor of so called Agora 273 type (Arthur 1998:167). Bonifay and Pieri have different opinion, which classifies them into heterogenic group (Bonifay, Piery 1995).

Those amphorae have oval body, so called "baggy" shape, which go into round neck. Handles are short and oval. Like eastern-Mediterranean type Samos Cistern, Agora 237 amphorae were produced on Greek island (Arthur 1998: 166).

### **XVII/1**

The upper part of Agora 237 amphora type (Samos cistern variant), with short, thick neck which goes into profiled rim. Dimensions: rim diameter 13.4 cm, neck height 11 cm, handle height 11.5 cm. Color: Munsell 5YR/ 7.6 - 6.6. Location Bigovica (Table 3: VII/2)

### **XVII/2**

The upper part of the amphora type Samos Cistern type, high almost cylindrical neck that is slightly fluted. The rim is not pointed, slightly thickened. The handles are almost vertical, almost

pronađene su na Velikom pijesku (Zagarčanin 2012: 40, 41, sl. 6, T1-11) Miholjskoj Prevlaci (Janković, 2007, 44; сл. 38, 1, 2, 3, 24, сл. 38, 1–11).

### XVIII/1

Ulomak ovoidnog tijela amfore Otranto tipa, sa ostatkom jedne, dvostruko profilisane drške. Spoljnja površina je narebrena, dok je kao prepoznatljiv ornament po ramenu posude urezana valovita linija. Dimenzije: očuvana vidina do vrata 30.6 cm, visina ručke 12.5 cm. Boja: 2.5 YR 5.8. Lokalizacija Bigovica. (Tabla 1: XVIII/1)

\*

Neki recentni rezultati arholoških istraživanja na prostorima blizu uvale Bigovica pokazali su postojanje defanzivnih fortifikacionih sklopova (gradina) koje potiču iz bronzanog i gvođenog doba. Najstarija gradina priobalnog dijela koje gravitira oko uskog pojasa na i oko brda Volujica je u narodu nazvana gradina „Vrh od grobovlja“. Gradina je oblika pravilnog trapeza koji se svojim istočnim stranama naslanja na veliki peririmetralni tumul koji je osim kulturnog i funeralnog karaktera imao i svoj utilitarni značaj, kao neka vrsta osmatračnice koja je kontrolisala puteve iz pravca mora i kopna. Njen pravac pružanja pada strmo prema sjeverozapadnoj strani okrenutoj moru. Na taj način je prilično dobro pozicionirana prema prilaznom putu koji vodi od Vala od Bigovice. Tako je nastao prvobitni odbrambeni sistem koji je kontrolisao komunikaciju koja se penjala od mora, a zatim spuštala prema širokoj barskoj ravnici.

Prateći konfiguraciju brada Volujice, koje se svojim jugoistočnim krakom postepeno spušta prema moru, nailazimo na veliki broj tragova suvozidina sa ostacima različite praistorijske keramike po površini. Na velikom platou izviše uvale, površine 0.30 m x 0.20 metara u mlađem gvođenom dobu formirano je iliro-helenističko utvrđenje, od kojeg je očuvan zid od velikih kamenih blokova (kiklopi). To svjedoči da su naselja i utvrđenja bili veoma blizu temporarnog emporiona, preko kojeg se snabdijevao oblasni ilirski živalj u ranim periodima antike. Takođe, veoma blizu današnje luke, u zaseoku Kapljeva, a na pravcu puta koji preko brda Volujica komunicira sa uvalom Bigovica, otkopan je veliki broj ulomaka skifosa iz 4. vijeka prije nove ere skoncentrisanih na jednom mjestu. Sifosi su pronađeni na maloj površini, prilikom kopanja 6.5 metara dubokog

rectangular in cross-section with rounded edges. Dimensions: height-preserved of the fragment 19 cm, the width of the rim 12.5 cm. Color: 2.5 YR 4.4 red. (Table 8: XVII / 1).

### XIII Otranto amphora type

Paul Arthur did description and typology of these amphoras on the base of findings in southern Italy, i Otranto region (Arthur Paul 1992, pages 202–207, 818–824, pic. 72–73). Otranto amphoras type appear from 11th to the beginning of 13th century, while the production centers are in Apuglia, in Brindisi and Bari regions, where 1 and 2 types are distinguished. These amphora types have long spindle-shaped body which goes in slightly infundibular neck, while the recipient surface is grooved. They are especially known by wavelike line, deeply engraved at the vessel shoulder. Except in Bigovica, Otranto 1-2 amphora fragments were found in Veliki Pijesak (Zagarčanin 2012: 40, 41, pic. 6, T1-11) and Miholjska Prevlaka (Janković, 2007, 44; pic. 38, 1, 2, 3, 24, pic. 38, 1–11).

### XVIII/1

The fragment of ovoid body of Otranto amphora type, with the remains of one, double profiled handle. The outer surface is full of ribs, while the well-known ornament (wave line) is engraved on the vessel shoulder. Dimensions: preserved neck height 30.6 cm, handle height 12.5 cm. Color 2.5 YR 5.8 Location Bigovica. (Table 1: XVIII/1)

\*

Some recent results of archaeological researches in the region near Bigovica bay showed the existence of defensive fortification complexes (constructions) which date from bronze and iron age. The oldest construction of coastal part which gravitates around Volujica hill, is known as "Graveyard Peak". The construction has trapezoidal shape which with its eastern sides recline on big perimeter tumulus which, except cultural and funeral character, have also its utility significance, as a kind of observatory which controlled roads from the sea and land. Its direction is toward northwestern side faced to the sea. It has a good position toward accessory road from Val to Bigovica. The first defense system was made in that way, which controlled communication from the sea, and then went down toward Bar's plain.

Following the configuration of Volujica Hill, which goes down to the sea with its southeastern jib, we meet a lot of trails of walls with remains of different

bunara za pitku vodu krajem XX vijeka. Nemoguće je bilo utvrditi da li se radi o ostavi, perifernom grobnom nalazu ili depozitu unutar profanog objekta ali, mimo objašnjenja koja se vjerovatno nikada neće dokazati ili opvrgnuti, na desetine ulomaka danaca upućuju na mogućnost da je grčka kolonizacija Jadrana i ovdje pustila svoje korjene u IV vijeku, ali da je rijeka Rikavac, koja sezonski nanosi velike količine mulja i krupnog kamenja, pokrila prvu helenističku naseobinu koja se snabdijevala sa dvije strane: ili pretovarom u uvali Bigovica ili na mjestu današnje moderne luke (Zagarčaniin 2006: 16; Zagarčaniin 2008: 4).

Mi danas nemamo dobro očuvanih naznaka o kakvom rimskom lokalitetu na prostoru Bara jer se tokom radova na izgradnji Luke zaobišla mogućnost zaštitnih istraživanja, kako zbog brzine izgradnje lučkih terminala tako i zbog nemara koji je odnio veliki broj antičkih tragova. Jedan od najznačajnijih bio je mozaik pronađen kod stare „Ložionice“ (uži prostor današnje Luke), za koji se pretpostavlja da pripada veleposjedničkom imanju sagrađenom uz rub sjeverne strane Volujice (Bošković 1962: 86). Tokom iskopavanja Barskog trikonhosa 60-tih godina XX vijeka evidentirani su ostaci neke starije građevine - vile rustike preko koje je u VI vijeku sagrađena trikonhalna memorija. Prije nekoliko godina menhanizacija je uništila ostatke rimskog hrama na oko 50 metara udaljenosti od crkve, što je bila i jedna od poslednjih mogućnosti za pronalaženje antičkog mjesta na prostoru modernog grada, zatrpanog aluvijalnim nanosima (Zagarčaniin 2006: 16-20).

Današnji prostor luke Bar nije bio pogodan za pretovar roba u svim vremenskim uslovima, iako je tokom produblivanja gaza za pristanak velikih teretnih brodova evidentirana velika količina antičkih nalaza, prvenstveno keramike (ali i novca, stakla, metala), pa se koristilo alternativno pristanište u današnjoj uvali Bigovica. Novac koji je pronađen u Barskoj Luci veže se za početak tetrarhije. Nemoguće je pobrojati koliko je ovakvog novca pronađeno tokom pražnjenja gaza za omogućavanje bolje plovnosti unutar modernog pristaništa. Jedan ogroman broj je u privatnim kolekcijama jer je tokom rada na izradi luke prikupljan sa lica mjesta a jedan je izbačen pumpama sa druge strane brda Volujica (Blizu uvale Bigovica) pa se nerjetko nalazi u usjecima i škrapama u koje su ih nabili talasi. Ovdje smo predstavili 4 komada koji pripadaju rimskim carevima Dioklecijanu i Maksimijanu Herkuliju.

prehistorical ceramics on the surface. On the big plateau above the bay, the Illyrian-Hellenistic fortification was formed, at the surface 0.30 m x 0.20 m, in younger iron age, of which a wall remained made of big stone blocks (Cyclops). That fact testifies that settlements and fortification were very close to temporary emporion, by which Iliric people supplied in the early ancient period. Also, very close to modern port, in Kapljevo village, and toward the road which goes across Voljuica Hill to Bigovica bay, large number of skifos fragments from 4th century B.C were excavated, concentrated at one place. Sifoses were found at the small surface, during digging of 6.5 m deep well for drinking water, at the end of 20th century. It was impossible to determine if it is about pantry, periphery tomb entrance or deposit inside profiled object, but, without explanation which probably will never be proved or denied, dozens of fragments tell us about possible Greek colonization of the Adriatic, and stayed here in 4th century, but the Rikavac river, which brings huge quantity of mud and big stones seasonally, covered the first Hellenic settlement which was supplied by two sides: either loading in Bigovica bay or in today's modern port (Zagarčaniin 2006: 16; Zagarčaniin 2008: 4).

We don't have good preserved signs about what roman site is in Bar region, because during port construction works, there were no protection researches, because of fast construction of port terminals and also because of negligence which took large number of ancient trails away. One of the most significant was the mosaic at old "Firing plant" (center of today's port), for which is assumed that it belonged to landowner property, built at the northern edge of Volujica (Bošković 1962: 86). During excavation of Bar Trikonhal building in the sixties, 20th century, remains of old construction are noted down - villa rustica, above which thetrikonhal memory was constructed in 6th century. A few years ago, mechanization destroyed remains of roman temple, 50 m distance from the church, which was one of the last opportunities for finding of ancient place at the area of modern town, covered with alluvial layers (Zagarčaniin 2006: 16-20).

Nowadays Port of Bar area would not be suitable for transshipment of goods in all weather conditions, even during the deepening of the ford for large cargo ships registered a large amount of ancient finds, mainly pottery (and money, glass, metal) and are used in today's alternative port in Bigovica bay. Money that was found in the port of Bar is linked to begin of tetrarchy. It is impossible to count how many of

**1. AV. IMP MAXIMIANVS PIVS F AVG; RV. FORTVNAE RE-DVCI AVGG NN. Maximian Herculus. AE Follis. 298-299. Gorina, kovnica TUTINIUM?.**

**2. AV. Nečitak; RV GENIO POPULI ROMANI, Folis oko 300.gorine**

**3. AV. IMP MAXIMIANVS PF AVG; RV. GENIO POPVLI ROMANI, AE Folis, 298-299. godina.**

**4. AV. IMP.G.VAL.DIOCLETIANUS PF AVG. RV GENIO POPULI ROMANI, Folis između 285-306. godine**

Na samom rubu južnog stjenovitog dijela Bigovice pronađena je vještački uravnata rampa koja je po svemu sudeći služila za izvlačenje tereta. Ona se nalazi u liniji sa „ivicom“ koja graniči dva, po strukturi različita diverziteta, jednog sedimentnog sa velikom koncentracijom keramike unutar pjeskovitog mulja i morske trave i drugog pjeskovitog pomješanog sa organskim materijalom i keramikom koja je nataložena kao proces pretumbavanja dna usljed jakih struja koje se mijenjaju u zavisnosti od meteo uslova, neravnomjernog rasporeda temperature i drugih maritimnih faktora. Takva morfološka razdvojenost pretpostavlja mogućnost formiranja lučkog taloženja do sredine uvale zbog dugotrajnog procesa korišćenja pretovarnih usluga. U ovom radu pokazali smo tipologiju amfora koja se prostire u širokom hronološkom rasponu ali, svakodnevnog života i rad na iskrcavanju roba uslovio je postojanje i drugih materijala. Pronađeni su ulomci stakla, kuhinjske grnčarije, antičke i srednjovjekovne keramike, gledišane kasnosrednjovjekovne keramike, bronzanih klinova, metalnih aplikacija, velikog broja tegula, itd. To opet upućuje na neprekidno korišćenje luke u različite svrhe, jer po svemu sudeći nisu ovdje samo dolazili brodovi iz najudaljenijih mediteranskih mjesta već je pristanište koristilo i stanovništvo uže i šire regije, a kako je oblast bogata ribom moguće je da su na obalu izvlačeni i ribarski čamci.

U ovom radu pokušali smo da pokažemo koliko je velika tipološka raznovrsnost amfora koje obuhvataju skoro sve produkcije počev od IV vijeka prije nove ere. Na malom prostoru koje pokriva jedva 3 do 4 kilometra nailazimo na živu i kontinuiranu trgovačku razmjenu

such coins were found during discharge of the ford to facilitate better buoyancy within the modern port. A huge number is in private collections because during the work on the development of port was collected from the spot and other part was pumped on the other side of the hill Volujica (Near Bigovica bay) and is seldom found in ravines and gullies in which they were shoved up by waves. Here we will present four pieces belonging to the Roman emperors Diocletian and Maximian Hercules (photo 4)

**1. AV. IMP MAXIMIANVS PIVS F AVG; RV. FORTVNAE RE-DVCI AVGG NN. Maximian Herculus. AE Follis. 298-299. TUTINIUM.**

**2. AV. Illegible; RV GENIO POPULI ROMANI, folis around 300.**

**3. AV. IMP MAXIMIANVS PF AVG; RV. GENIO POPVLI ROMANI, AE Folis, follis, around 298-299.**

**4. AV. IMP.G.VAL.DIOCLETIANUS PF AVG. RV GENIO POPULI ROMANI, follis, between 285-306.**

At the very edge of southern rocky part, the artificial ramp was found, using for cargo extraction. It is in line with "the edge" which separates two different diversities, one sediment with huge concentration of ceramics inside sandy mud and sea grass, and other sandy mixed with organic material and ceramics which makes layers at the bottom, as a result of changing process and strong flows which change depending of meteorological conditions, temperature changing and other marine factors. That morphological diversity assumes possibility of creation port layer up to the middle of the bay, because of long-term process of using of reloading services. This study showed typology of the amphorae in one wide chronological range, but everyday life and work on unloading of goods from ships made existence some other materials. The fragments of glass, kitchen pottery, ancient and medieval table ceramics, processed late-medieval ceramics, bronze wedge, metal applications, a numerous tegulas etc., were found. That fact informs to constant port using for different reasons, because the port was not used only by ships from remote Mediterranean places, but it was used by the inhabitants from near region, and as the area is rich with fish, it is possible that fishermen's boats were pulled out to the coast.

In this paper, we have tried to show how great typological diversity of amphorae is, and which in-



skoro, koja je svakako morala imati svoje tržište, skoncentrisano u okviru razvijenog emprijalnog mjesta, ili je, sa druge strane obkrvljivalo velike latifunsijske posjede koji su se nalazili u Barskom polju i okolini.

clude almost all production starting from IV century BC. In a small area that covers barely 3-4 kilometers we come across live and continuous trade exchange, which certainly must have its own market, concentrated in the developed imperial place, or, on the other hand provided large *latifunsijski* estates which were located in Bar lands and surroundings.



1.AV



1.RV



2.AV



2..RV



3.AV



3.RV



4.AV



4. RV

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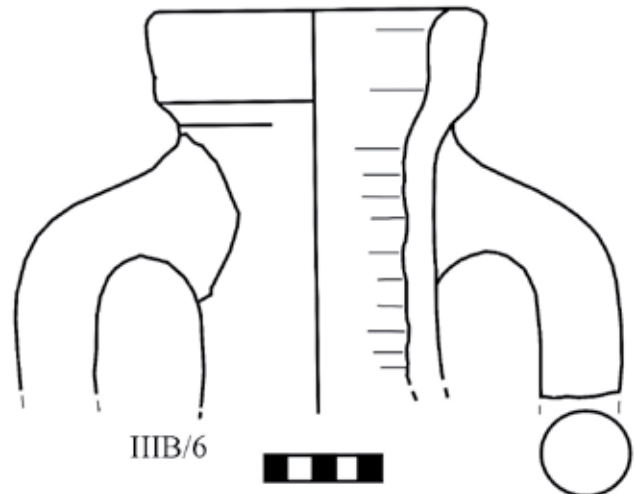
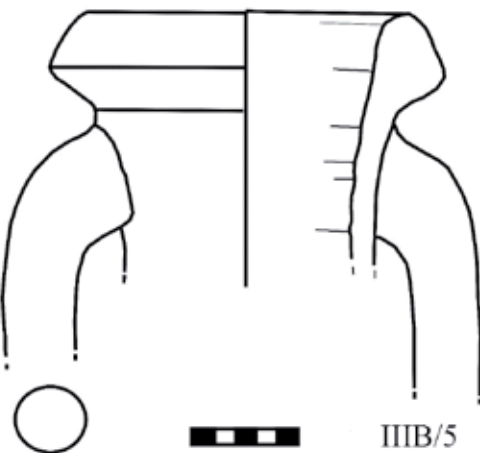
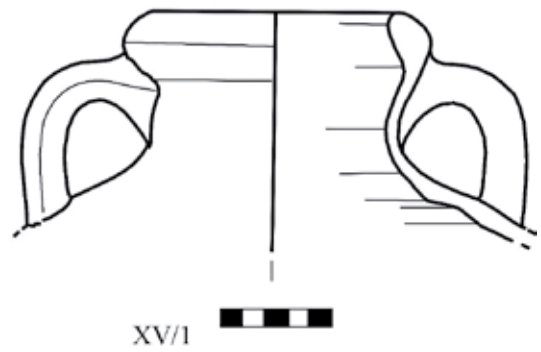
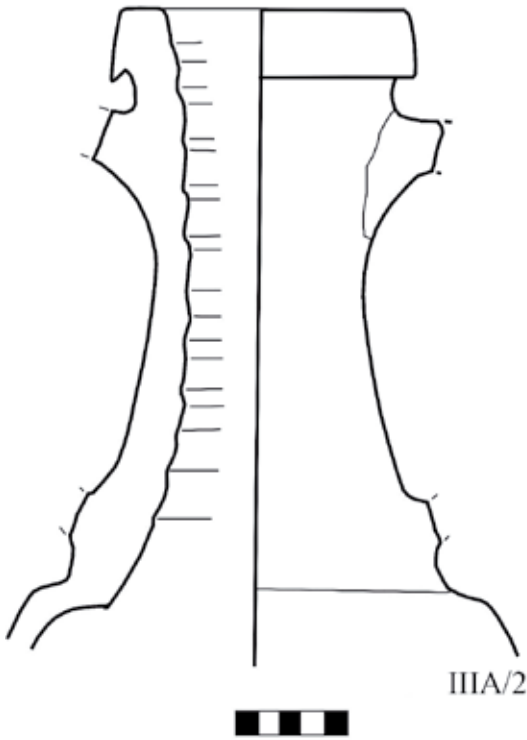
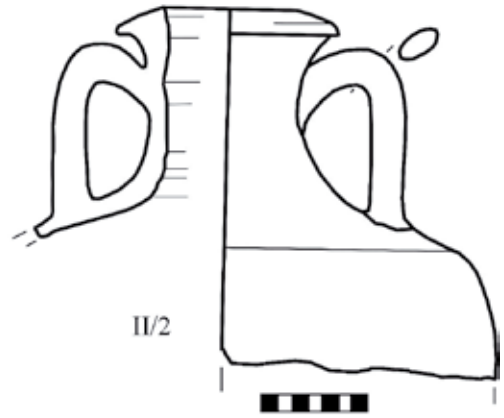
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T. I



T. II



T. III



II/2



I/2



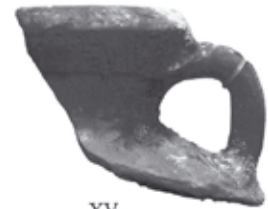
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XV 6



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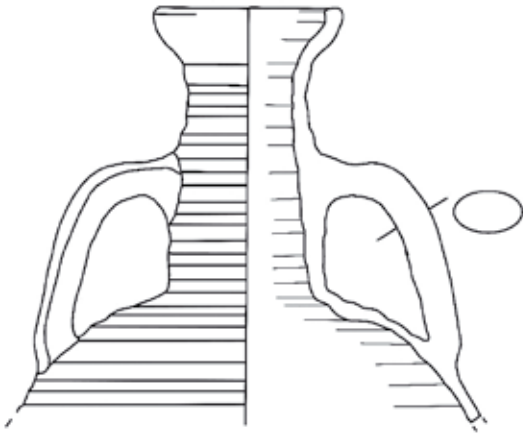


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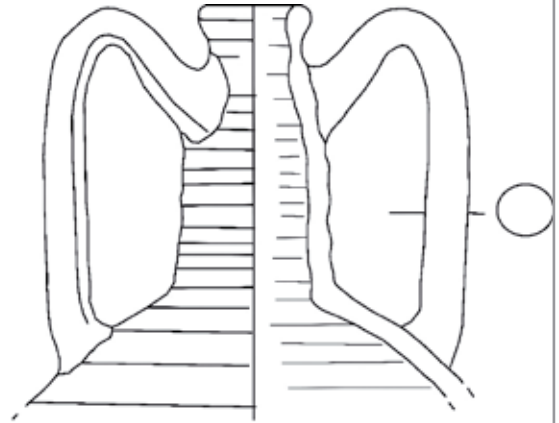


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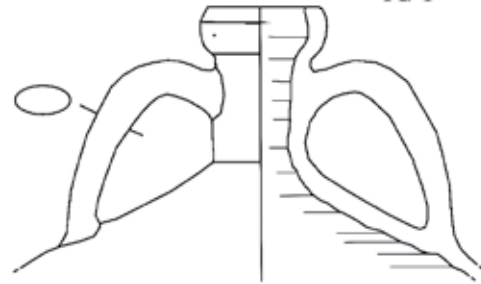
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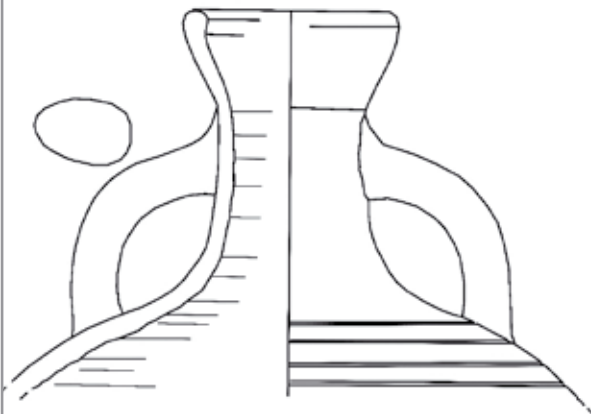
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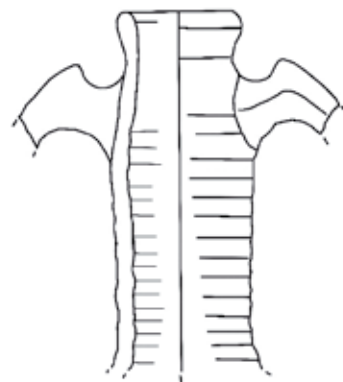
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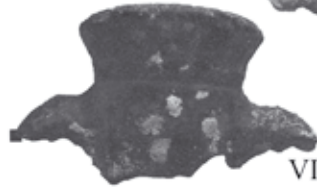
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VIA/6



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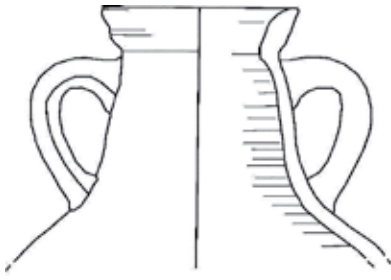


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T.VI



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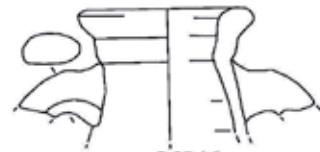
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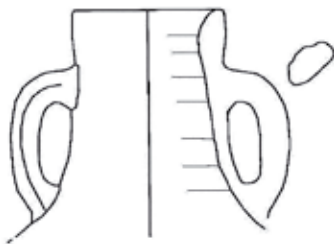
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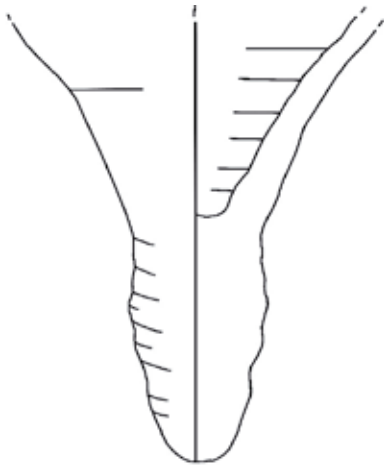
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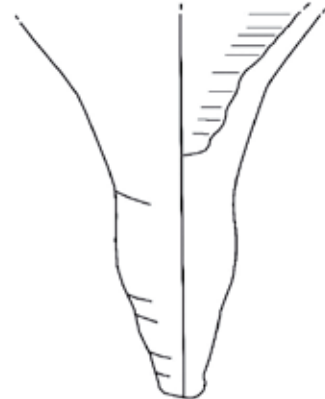
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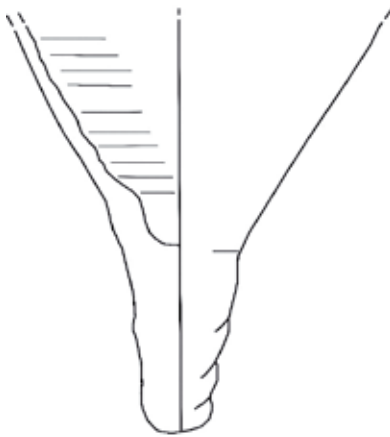
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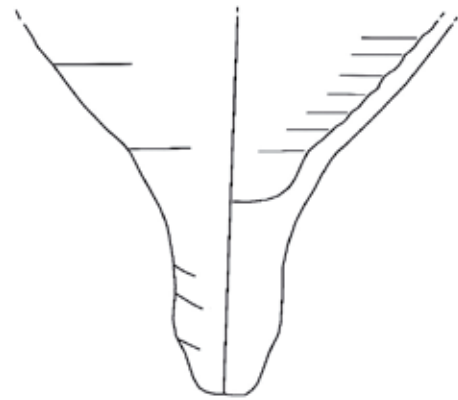
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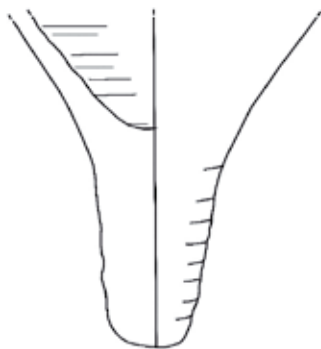
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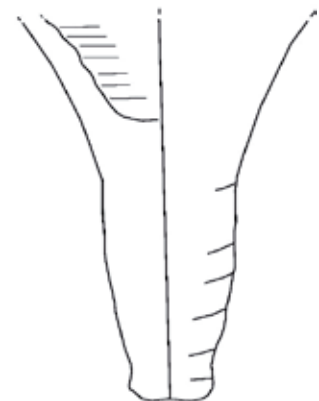
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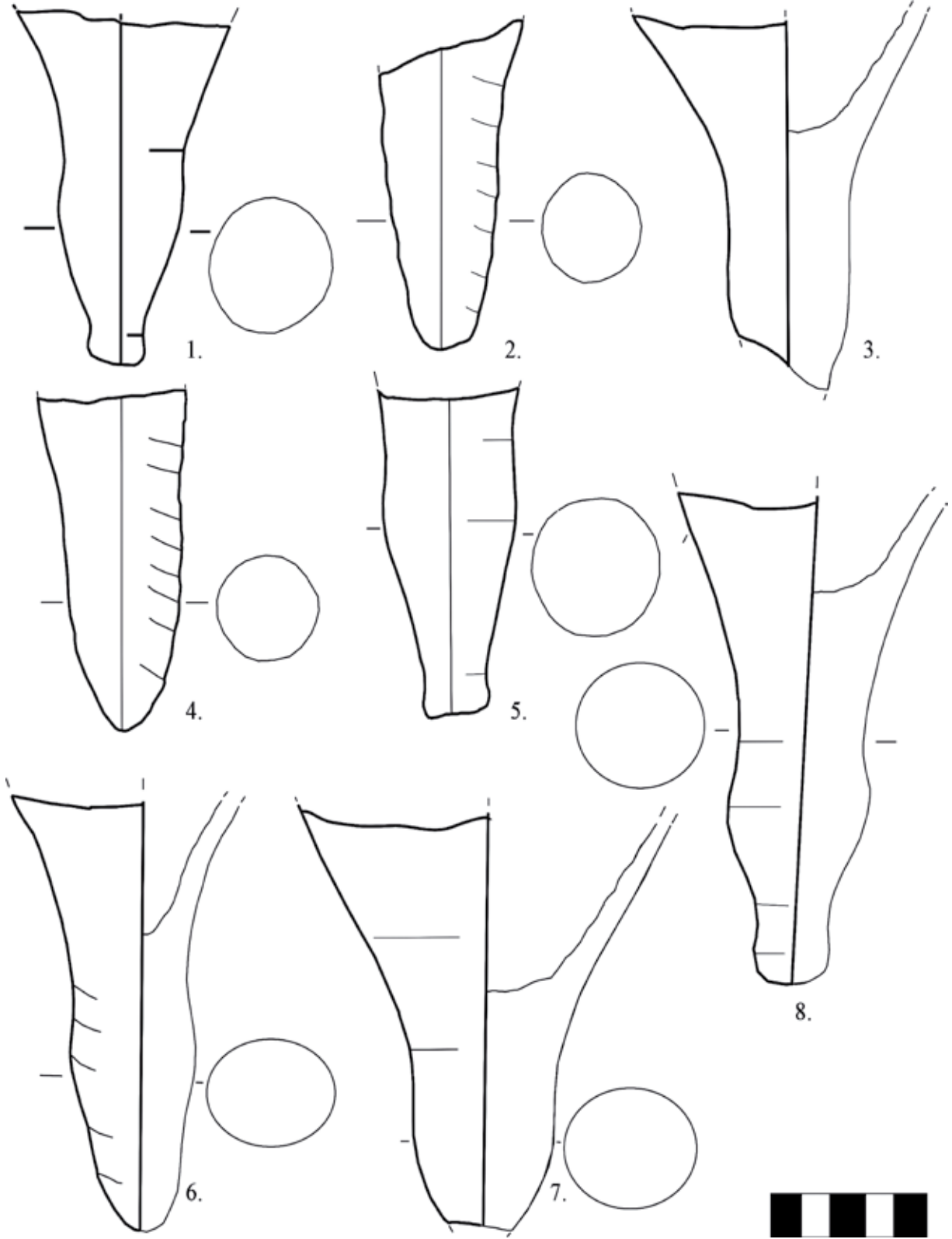
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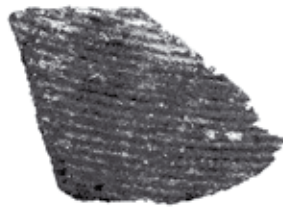
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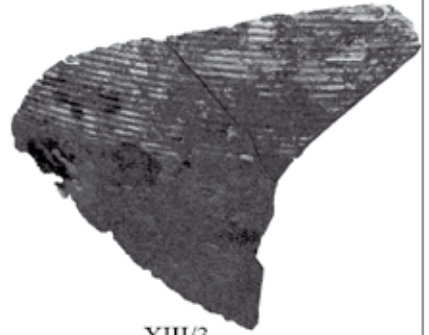
T. VII



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XIII/2



XIII/3



XIV/1



XVI/1



XVI/2



XII/1

a)



b)



c)



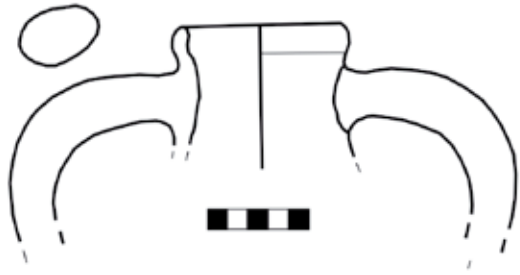
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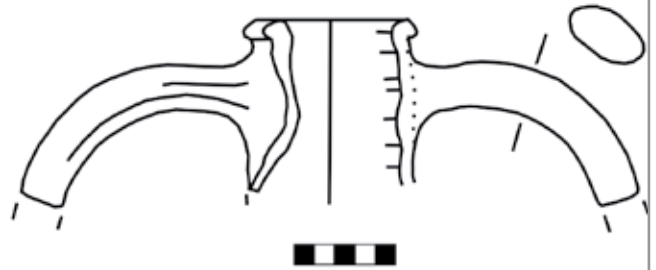
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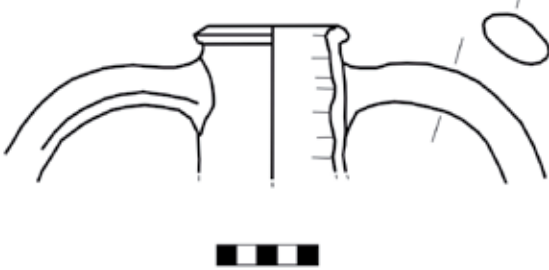
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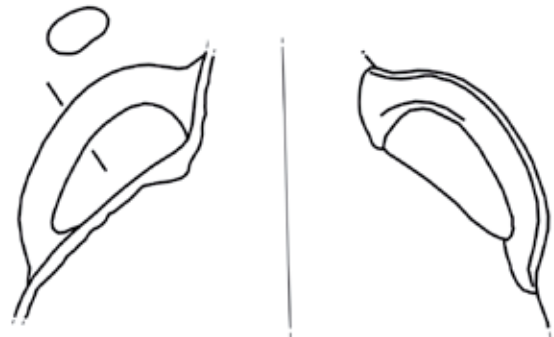
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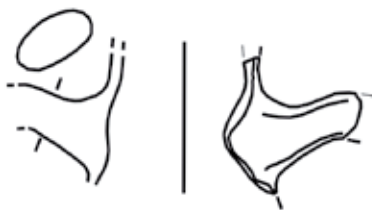
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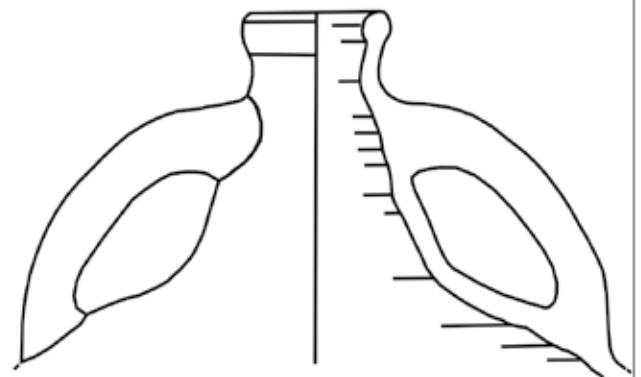
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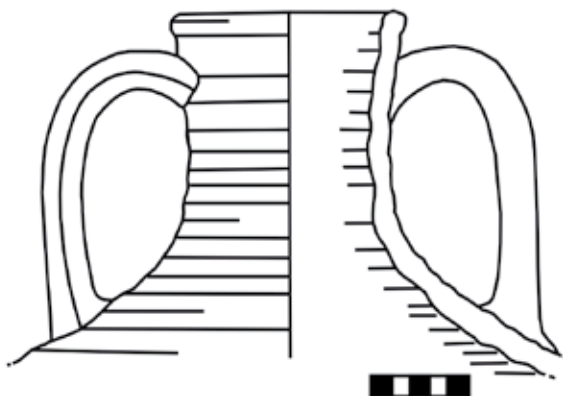
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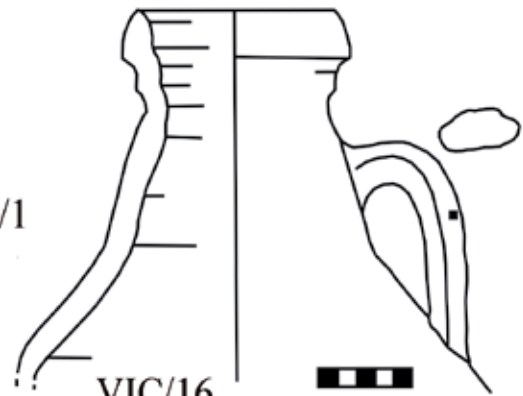
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T VI/6



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