



Amfore kao izvor za rekonstrukciju gospodarskoga razvoja jadranske regije u antici: lokalna proizvodnja

ADRIAMPHORAE

Proceedings of the workshop,
Zagreb, 21st April 2016

Amphorae as a resource for the reconstruction of economic development in the Adriatic region in Antiquity: local production

Radovi s okruglog stola,
Zagreb, 21. travnja 2016. g.



ADRIAMPHORAE

Amfore kao izvor za rekonstrukciju gospodarskoga razvoja jadranske regije u antici: lokalna proizvodnja

Amphorae as a resource for the reconstruction of economic development in the Adriatic region in Antiquity: local production

Radovi s okruglog stola
Zagreb, 21. travnja 2016. g.

Proceedings of the workshop
Zagreb, 21st April 2016

Urednice / Editors
Goranka Lipovac Vrkljan
Irena Radić Rossi
Ana Konestra

Insitut za arheologiju
Zagreb, prosinac 2017.



Impresum

Izdavač / Publisher: Institut za arheologiju

Za izdavača / For the Publisher: Marko Dizdar

Urednici / Editors: Goranka Lipovac Vrkljan, Irena Radić Rossi, Ana Konestra

Izvršni urednici / Desk editors: Goranka Lipovac Vrkljan, Ana Konestra

Korektura / Proofreading: Ana Konestra, Goranka Lipovac Vrkljan

Oblikovanje / Design: Ana Konestra

Računalni slog / Layout: Ana Konestra

Ova je publikacija nastala u sklopu projekata Hrvatske zaklade za znanost RED, IP-11-2013-3973 i AdriaS, IP-2014-09-8211.

The Proceedings are published within the Croatian Science Foundation's project RED, IP-11-2013-3973 and AdriaS, IP-2014-09-8211.

ISBN 978-953-6064-44-1

CIP zapis je dostupan u računalnome katalogu Nacionalne i sveučilišne knjižnice u Zagrebu pod brojem 000982499.

CIP is available in the electronic catalogue of the National and University Library in Zagreb under the number 000982499.

Sadržaj / Table of contents

<i>Predgovor / Foreword</i>	<i>3</i>
<i>Igor Borzić, Korint B i srodne amfore s istočnojadranskih gradinskih lokaliteta.....</i>	<i>5</i>
<i>Irena Radić Rossi, Amfore tipa Korint B iz hrvatskog podmorja.....</i>	<i>13</i>
<i>Ivan Šuta, Amfore kao pokazatelj ekonomskih i društvenih odnosa u okolini Kaštelanskog zaljeva tijekom 2. i 1. st. pr. Kr.....</i>	<i>26</i>
<i>Silvia Cipriano, Stefania Mazzocchin, Western Adriatic amphorae productions: the research status.</i>	<i>33</i>
<i>Goranka Lipovac Vrkljan, Ana Konestra, Crikvenička riblja amfora - indikator proizvodnje/trgovine ribljim prerađevinama?</i>	<i>48</i>
<i>Smiljan Gluščević, Amfore Dressel 6B iz Novalje na otoku Pagu.....</i>	<i>63</i>
<i>Maja Grisonic, Amphorae from Caska in the Augusto-Tiberian period: imports and local productions?</i>	<i>68</i>

Ivana Ožanić Roguljić, Amophoras from Žuta Lokva	80
Mate Parica, Mogućnosti antičke riboprerađivačke industrije u Pašmanskom kanalu	86
Smiljko Rudan, Numerical modelling of amphorae for the purpose of the experimental archaeology.....	99
Bartul Šiljeg, Daljinsko istraživanje uvale Soline na otoku Krku.....	104

Predgovor / Foreword

Radovi predstavljeni na okruglom stolu *AdriAmophorae: Amfore kao izvor za rekonstrukciju gospodarskoga razvoja jadranske regije u antici: lokalna proizvodnja, organiziranoga u sklopu aktivnosti HRZZ projekata RED i AdriaS*, tematski problematiziraju proizvodnju i distribuciju amfora na širem jadranskom prostoru. Diskusija koja je pratila izlaganja na Okruglom stolu pokazala je kako je ovaj oblik argumentiranoga konfrontiranja uz iznošenje različitih stavova te uz otvorenost na njihovo mijenjanje i dopunjavanje, od iznimne važnosti za formiranje znanstvenih doprinosova u korelaciji tumačenja te testiranje različitih interpretativnih metoda.

Zbog važnosti ove teme, posebno za istočnu obalu Jadrana gdje je proizvodnja amfora tek nedavno definitivno potvrđena, procijenjeno je kako objava radova koji su nastali iz izlaganja i diskusije koja ih je pratila, treba uslijediti što ranije. Stoga se u ovom zborniku donose radovi stručnog preliminarnog karaktera, iako nisu bili planirani u tom obliku, a koji su zbog svojih zaključaka iznimni doprinos raspravi o amforama na Jadranu.

Slijedom toga odlučeno je kako će se radovi prikupiti i objaviti u elektronskom izdanju kako bi podaci što ranije bili dostupni široj znanstvenoj zajednici. Time je plodonosna diskusija koja je pratila izlaganja na okruglom stolu pretočena u priloge koji najbolje oslikavanju trenutno stanje spoznaja o pojedinim tipovima amfora i njihovim jadranskim proizvodnim središtima, a čine vrijedno polazište za nastavak postojećih ili posve nova znanstvena istraživanja.

Za kraj, zahvaljujemo se svim kolegama koji su sudjelovali na Okruglom stolu te su se odazvali našem pozivu za objavu preliminarnih podataka svojih vrijednih istraživanja.

Urednice

Predgovor / Foreword

The contributions presented at the workshop *AdriAmophorae: Amphorae as a resource for the reconstruction of economic development in the Adriatic region in Antiquity: local production*, organised within the activities of the HRZZ (Croatian science foundation) projects RED and AdriaS, dealt with the theme of production and distribution of amphorae in the wider Adriatic region. The discussions that followed each lecture showed that this type of scientific confrontations, which included divergent opinions and the will to accept new insights, is of the outmost importance for the formation of scientific contributions in a correlation of explanations and tests of new interpretative models.

Because of the importance of this topic, in particular for the eastern Adriatic where amphorae production has only recently been definitely proved, the decision was taken to publish as soon as possible the presented contributions and the discussions. Therefore, the papers in this volume are preliminary reviews, although they were not initially meant to

be such, but they are, due to their conclusions, an important step forward in the discussion of amphorae in the Adriatic.

Subsequently, the editors decided to collect the papers and compile an online edition so that the data could be readily available to the wider scientific community. This made it possible to transfer the fructuous discussions from the workshop into contributions that reflect our current knowledge on certain amphorae types and their Adriatic production centres. Thus, they are a valid starting point for furthering current research or to start new scientific projects.

Finally, we would like to thank all colleagues who participated at the Workshop and who answered our call to publish preliminary data from their valuable research.

The Editors

Amophoras from Žuta Lokva

Ivana Ožanić Roguljić

Institute of Archaeology, Zagreb, Croatia
iozanic@iarh.hr

Sažetak / Abstract

Excavations at Žuta Lokva yielded a building, dimensions 25 x 20 m, dating from 1st to beginning of the 2nd century. Dimensions of the building are 20 X 25 and it had two phases. This building was probably a *caupona*, *divisorium* or *hospitium* on a road that connected the port of *Senia* (Senj) with Roman towns *Avendo* (Kompolje) and *Arrupium* (Prozor near Otočac) in hinterland of *Siscia* (Sisak) in *Pannonia*. Pottery material showed a large number of *Sarius* cups, north Italian terra sigillata, thin-walled pottery and African sigillata, pottery from Dalmatian workshops in Crikvenica and other table and coarse ware. Types of amphoras are: Dressel 2 – 4, Dressel 6B, flat-bottomed amphorae (Sant'Arcangelo, Crikvenica 1), Dressel 20, maybe Crikvenica 6 and several variants of unknown types like rims and bottoms of small amphora.

Ključne riječi / keywords: Žuta Lokva, rimska putna postaja, rimska Dalmacija, amfore, Dressel 2 – 4, Dressel 6B, amfore ravnog dna / Žuta Lokva, Roman road station, Roman Dalmatia, amphorae, Dressel 2 – 4, Dressel 6B, flat-bottomed amphorae

Today the site Žuta Lokva is located a few meters from the crossroad Senj-Otočac-Brinje. The existence of the site was known from the end of 19th and beginning of 20th c. CE (Brunšmid 1898: 188, 189). It was re-found during the building of the road in 1996 when rescue excavations began (Vekić 1997: 38). It was excavated for several times until

2003 and until now it has been published only as a preliminary report (Vekić 1997; Kolak 2012). Investigations were conducted by *Državna uprava za zaštitu kulturne i prirodne baštine*, *Glavno povjerenstvo u Zagrebu* and Museum of Lika from Gospić.

In Roman times this site was situated alongside a road mentioned in

Itinerarium Antonini Augusti Ad Aquileia per Liburniam Sisciam (Senia – Avendon – Arrupio – Bibium – Romula – Quadrata - Siscia). The section of the road from *Senia* (Senj) to Žuta Lokva goes over the Vratnik pass which is the shortest natural path from the sea in the interior of the continent (Glavaš 2010). *Senia* was the most important port in this part of Adriatic coast in Roman times what is confirmed with the fact that in the second half of the 2nd century there is *publicum portorium Illyrici*. The imperial customs office were passing on the goods that entered the *Senia* that were distributed to the hinterland (Glavičić 1994, 54; Glavaš 2010). Today the distance from Žuta Lokva to Senj is about 15 km.

By the beginning of the 20th c. CE allegedly a Roman road near Žuta Lokva was still visible, but today archaeologists did not find any trace of it (Patch 1990: 87–87; Glavaš 2010: 12). In prehistoric times this part of land was occupied with the Illyrian tribe Iapodians.

The site revealed a building that had two phases. The walls of the building are preserved in their foundation, and the layers of soil above it were very thin. The site is situated on a slope and a landslide so the stratigraphy of the site is disturbed. The most of the material found during the archaeological excavations was found on the western part of the excavated area in mixed stratigraphic units. But even with this archaeologically unfortunate

situation the site revealed interesting finds. Two phases of the building from the excavation are difficult to date since the layers are filled with finds from beginning of the 1st c. CE to the middle of the 2nd c. We can assume that the building of the 1st phase (dimensions 23 x 16 m) was built around the beginning of the 1st c. CE and probably lasted until the third quarter of the 1st c. CE. The building of the second phase was bigger (dimensions 30 x 20 m), and according to the finds it was in function until middle of the 2nd c. CE.

Amphorae documented during excavations at Žuta Lokva are from different regions like *Italia*, *Hispania*, *Dalmatia*, eastern Mediterranean and for some we cannot be sure of type and provenance. Biggest surprise is rim of big jug with two handles typical for Pannonia that is for the first time documented in the province *Dalmatia* (T 1-2). Types are: Dressel 2–4, Dressel 6B, flat-bottomed amphorae (Sant'Arcangelo, Crikvenica 1), Dressel 20, maybe Crikvenica 6 and several variants of unknown types like rims and bottoms of small amphora (Bezczky 2000: 1359–1361; Freed 2000; Pesavento Mattioli 2000: 735–741; Lipovac Vrkljan 2011: 3–18).

The amphora finds confirm that the 1st to mid- 2nd century Žuta lokva was part of an active trade network that spread throughout the Mediterranean. Goods brought to site were wine from different regions of

Mediterranean including the province of *Dalmatia*, oil from *Histria*, *Hispania* and possibly *Dalmatia* and probably *garum* (small amphorae). At this moment we cannot tell what was brought in Pannonian big two handled jug but for sure this find brings new light on trade with *Pannonia* and *Dalmatia*.

This article shows the first analysis in a form of a report, any suggestions are acceptable.¹

¹ This paper stems from the activities of project RED - *Roman economy in Dalmatia* of the Croatian science foundation (IP-11-2013-3973).

Popis literature/Bibliography:

Bezecky T. 2000, Baetican Amphorae from the North-Eastern provinces of the Roman Empire, in: *Congreso internacional ex Baetica amphorae, Conservas, aceite y vino de la Betica en el Imperio Romano, Actas vol. IV*, Ecija-Sevilla, 1359–1369.

Brunšmid J. 1898, Arheološke bilješke iz Dalmacije i Panonije, *VHAD*, n.s. III, Zagreb, 150–205.

Freed J. 2000, Adoption of the Form of the Koan Amphora to the Production of Dressel 2–4 Amphoras in Italy and Northeastern Spain, *RCRF Acta, Vol. 36*, Abingdon 459–466

Kolak T. 2012, Antička postaja u Žutoj lokvi, *Modruški zbornik*, Vol. 6, Josipdol, 17–28,

Lipovac Vrkljan G. 2011, Lokalna keramičarska radionice Seksta Metilija Maksima u Crikvenici- Crikvenička amfora ravnog dna, u: *Rimske keramičarske i staklarske radionice; Proizvodnja i trgovina na jadranskom prostoru. Zbornik I. Međunarodnog arheološkog kolokvija Crikvenica*, 23.-24. listopada 2008, G. Lipovac Vrkljan, I. Radić Rossi, B. Šiljeg (eds.), Crikvenica, 3–18.

Glavaš V. 2010, Prometno i strateško značenje prijevoja Vratnik u antici, *Senjski zbornik*, Vol. 37, 5–8.

Patch K. 1990, *Lika u rimske doba*, Gospić.

Pesavento Matioli S. 2000, Anfore Betiche in Italia Settentrionale: direttive di approvvigionamento e rapporti con le produzioni locali di olio e di conserve e salse di pesce (I e II secolo d.C.), in: *Congreso internacional ex Baetica amphorae, Conservas, aceite y vino de la Betica en el Imperio Romano, Actas vol. III*, Ecija-Sevilla, 733–755.

Vekić, A. 1997, Zaštitno arheološko istraživanje u Žutoj Lokvi, *Senjski zbornik*, vol. 23, 35–40.

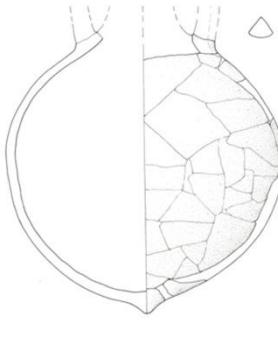
Type	Origin	Datation	Picture/drawing
Dressel 2-4	Cos	1-2nd CE	 A photograph of a reddish-brown, irregularly shaped fragment of an amphora base. It has a small, rounded protrusion on the left side and a flat base. A scale bar is visible at the bottom.
Dressel 6b	Histria	1-2nd CE	 A photograph of a reddish-brown, roughly triangular fragment of an amphora base. It features a vertical line down the center and a horizontal line across it. A scale bar is visible at the bottom.
Dressel 20	Hispania	end of 1st - 2nd CE	 A line drawing of a circular amphora base with a thick rim. The interior is divided into segments by radial lines. A scale bar is visible at the bottom.
Adriatic flatt bottom amphorae: Sant'Arcangelo	Italy	1-2 nd CE	 A photograph of a reddish-brown, tall, narrow fragment of an amphora base with a flared top. A scale bar is visible at the bottom.
Crikvenica 1	Dalmatia	1- mid 2nd CE	 A photograph of a reddish-brown, irregular fragment of an amphora base. A scale bar is visible at the bottom.

Table 1

Type	Origin	Datation	Picture/drawing
Crikvenica 6?	Dalmatia		
Small amphorae			
Unknown type			
Pannonian jug with two handels			

Table 2



ROMAN
ECONOMY IN
DALMATIA

IP-11-2013-3973



IP-2014-09-8211

