# ONLY THE BEST OLIVE OIL, PLEASE: ON NEW AMPHORAE FINDS FROM MURSA

**Asja Tonc[1], Slavica Filipović[2]**

***Abstract:*** *Large scale rescue excavations in the former Barracks area in present-day Osijek (Mursa) in eastern Croatia yielded important Late La Tène and Roman finds. Thin-walled pottery, terra sigillata and amphorae point to a flourishing 1st c. AD phase of the Roman settlement, especially from the middle of the century until the Flavian era. Amphorae present a small percentage in the recovered pottery, among them dominate those of type Dressel 6B with two stamped pieces. Other types are less common and correspond to the usual type assemblage of other contemporary sites in the region. Since the Dressel 6B type is usually associated with the distribution of olive oil but also to the movements of the Roman army, these examples are used as an opportunity to discuss possible final recipients of the recovered vessels and reflect on the frequency of stamps during the 1st c. AD in Pannonian amphorae samples.*

***Keywords:*** *Osijek – Mursa, southern Pannonia, amphorae, olive oil, stamps*

During the last decades, significant construction works in the former Vojarna (Barracks) area in the Lower town of Osijek, eastern Croatia, yielded important archaeological data on ancient *Mursa*. Rescue excavations have been conducted on a large scale, encompassing areas of the former Roman city and yielding new information on urban infrastructure. More analysis of finds and contexts and publications of the rich material uncovered in these excavations present an on-going, demanding work which this paper aims to contribute to in a rather modest manner by presenting amphorae finds from the 2008 rescue excavations in the area of Učiteljski fakultet – Faculty of Education (hereafter: Učiteljski)[3]. A total of excavated 2700 m$^2$ followed up on the previously research positions of the Faculties of Agrobiotechnical Sciences and that of Civil Engineering as well as at the position of the new student dormitory[4].

The uncovered remains belong to the Late La Tène and Roman phases of the settlement. Among the Late La Tène finds, items of horse gear, weaponry and animal bones stand out as probable traces of cult activities connected to the existence of a sanctuary[5]. As shown by finds from Pristanište (Dock) and Bolnica (Hospital) positions, the Scordiscan settlement extended to the bank of the river Drava. On Pristanište remains of Late La Tène pits have been found alongside Early Roman pottery (*terra sigillata*, amphorae, thin walled pottery such as an Aco beaker[6]). This proximity of Early Roman *Mursa* and the settlement of the autochthonous pre-Roman population is also evidenced on the Učiteljski position. The existence of an important

[1] Institute of Archaeology, Ljudevita Gaja 32, HR–10000 Zagreb; Email: atonc@iarh.hr

[2] Archaeological Museum Osijek, Trg Sv. Trojstva 2, HR–31000 Osijek; Email: slavica.filipovic@amo.hr

[3] The amphorae finds presented here have partially been shown in a lecture given at the annual conference of the Croatian Archaeological Society in Vukovar, Croatia, in 2013.

[4] FILIPOVIĆ 2010.

[5] FILIPOVIĆ 2010, 39; DIZDAR/FILIPOVIĆ 2020.

[6] BULAT 1977; TONC/FILIPOVIĆ 2010.

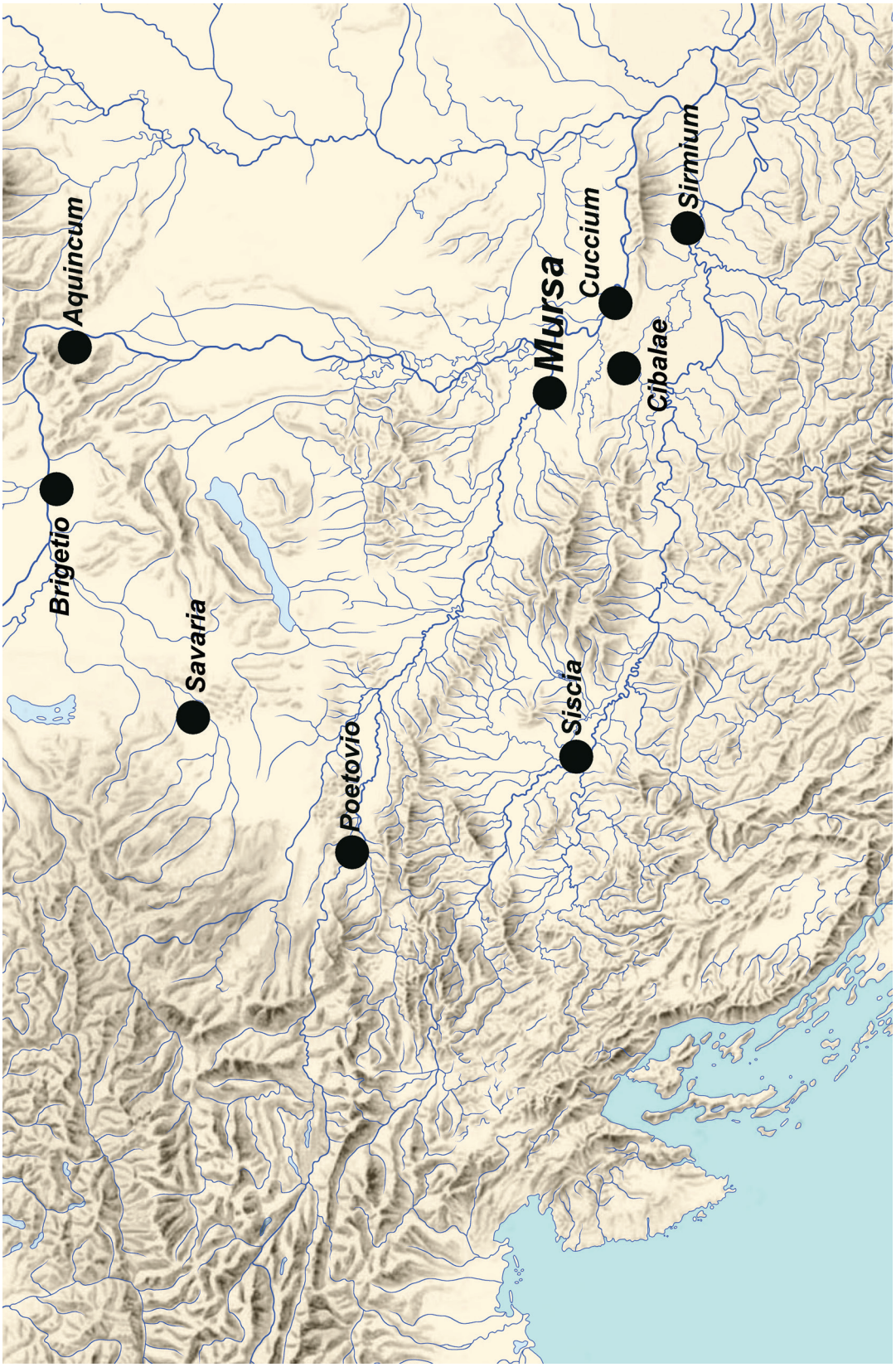


Fig. 1. Map of Pannonian sites mentioned in the text with position of Osijek – *Mursa* (made by A. Tonc).

waterway communication, i.e. the course of the river Drava, surely influenced the selection of this position for establishing the Roman settlement (Fig. 1).

Fig. 2. Stamped amphora from Osijek Vojarna-Učiteljski site (photo by H. Jambrek).

## Amphorae from Učiteljski site and their contexts

Roman finds from Učiteljski site mostly belong to the 1st and first half of the 2nd c. AD. The Flavian era stands out as time of greatest prosperity considering the finds recovered on this location. *Terra sigillata* and thin walled pottery from Transpadanian workshops testify the strong connections with northern Italy in this period of Roman consolidation[7]. Considering that *Mursa* was granted the status of *colonia* later, during Hadrian's reign[8], these pre-colonial strata are very significant for understanding the first decades of Roman rule. The question whether the first Italic settlers were civilians or members of military units remains open[9], although perhaps there is no real need to choose between the two. Newcomers of Italic provenance that played an important part in the spread of Roman (Italian) customs have probably been present even earlier, from the beginnings of Roman eastward expansion during Augustus and especially since Tiberius' conquests. Civilian settlers, such as traders or craftsmen, followed Roman troops, but sometimes their presence could have even preceeded the establishment of official Roman administration[10]. As undoubtedly imported vessels, amphorae testify not only on possible food products that reached pre-colonial *Mursa*, but also give an insight on existing trade and supply networks.

[7] FILIPOVIĆ/CRNKOVIĆ 2014; CRNKOVIĆ/FILIPOVIĆ 2016; CRNKOVIĆ 2017.
[8] PINTEROVIĆ 1978; LELEKOVIĆ 2020.
[9] See LELEKOVIĆ 2020 on pre-colonial finds and more below.
[10] TONC/FILIPOVIĆ 2010; EGRI 2008, 49–50.

One of the most significant pieces among amphorae finds from the Učiteljski site is surely the fragmented vessel with preserved rim, part of neck and one handle found in a Roman well (SU 307) (Fig. 2; Pl. 1)[11]. On the chalice-shaped rim there is a stamp with damaged ending, carrying the letters CRISPINI(I). The fragment belongs to a Dressel 6B (Dr. 6B) type of amphora. This type of amphora was mainly used for storage and transport of olive oil, as corroborated by the examples from Magdalensberg that mention Istrian olive oil, renowned for its high quality. The possibility that some vessels could have been used for storage of other goods remains open, since *tituli picti* mention also wine and *garum* as commodities carried in Dr. 6B amphorae[12], but in general they can be regarded as olive-oil amphorae, especially in the case of those originating in the workshops located on the Istrian peninsula that became dominant on the Pannonian and *Cisalpina* markets during the 1st c. AD[13]. Various other workshops also produced amphorae of this type, so in the absence of stamps that can be linked to specific workshops not much can be said on the provenance of a particular piece[14]. The stamp found on the piece from SU 307 traces its provenance to the Istrian workshop located in Loron near Poreč, on the west coast of the Istrian peninsula[15]. Besides in Istria and Aquileia, the same stamp appears in southern Pannonia, on an amphora from Dalj – *Teutoburgium* and on examples from Ptuj – *Poetovio* and Magdalensberg. Amphorae with the stamp of *Calvia Crispinilla* have been produced during the Tiberian and early Claudian era[16].

The chalice-shaped rim from SU 395 can be ascribed to the same, Dr. 6B type (Pl. 3: 1[17]). Part of stamp is visible, ending with …(B)(D)AS. Two types of previously registered Dr. 6B stamps could correspond to this stamp ending. The first would refer to the stamp C. LAEC.BAS[18] bearing the name of *C. Laecanius Bassus*, owner of the workshop located in present-day Fažana in Istria. The appearance of the owner's name dates the stamp most probably before the Flavian era, i.e. before AD 78 when the workshop was taken over by the Imperial family[19]. The other possibility is the stamp OFF DAS of an unknown workshop, registered in *Cibalae*[20] and *Viminacium*[21].

To the same, Dr. 6B type can be ascribed another rim fragment (Pl. 2: 1[22]) and massive knobbed base[23] from pit SU 106 (Pl. 4: 2), one handle from layer SU 308 (Pl. 2: 2[24]) as well as a handle from SU 221 (Pl. 3: 2[25]), probably also a lid from large pit SU 132 (Fig. 3[26]). The number of examples ascribable to type Dr. 6B makes this the most frequent amphora type present on the Učiteljski location. Considering their fabric and colour, a large portion of the typologically undefinable fragments[27] should most probably also be ascribed to the same type.

[11] 7.5 YR 8/3 pink. All fabric colours were defined using the Munsell soil color chart.

[12] BEZECZKY 1994, 99; CIPRIANO 2009; PEACOCK/WILLIAMS 1986, 100; TASSAUX 2001.

[13] CIPRIANO/MAZZOCHIN 2004; 2019.

[14] See CIPRIANO 2009 for an overview of various productions, also TASSAUX 2001. Archaeometrical analyses have also been conducted on some stamped samples, CIPRIANO/MAZZOCHIN 2004; ZANCO ET AL. 2005.

[15] More on the workhop in TASSAUX ET AL. 2001; also ROUSSE 2011 and MARCHIORI/D'INCÀ 2014 with therein cited bibliography.

[16] BRUKNER 1981, T. 159: 40; BEZECZKY 1994, 49–51.

[17] 7.5 YR 7/4 pink; 5Y 6/1 gray in cross-section.

[18] For ex. BEZECZKY 1994, 67–70.

[19] BEZECZKY 1995; 2001; 2014; BEZECZKY/MANGE 2009.

[20] BRUKNER 1981, T. 159: 41.

[21] BJELAJAC 1996, 18–19, Fig. I: 14–15, Fig. II: 13.

[22] 5 YR 7/6 reddish yellow.

[23] 10YR 8/4 very pale brown.

[24] 5YR 6/6 reddish yellow.

[25] 7.5YR 6/4 light brown.

[26] 10YR 7/3 very pale brown.

[27] This refers to parts of body or other small fragments that by themselves do not offer enough characteristics allowing type assessment of a particular piece. Around 50 such fragments have been identified in the pottery from

Fig. 3. Amphora lid from Osijek Vojarna-Učiteljski site, SU 132
(photo by H. Jambrek; drawing by M. Rončević).

The material found in the mentioned stratigraphic units that contained fragments of Dr. 6B amphorae suggests that these reached *Mursa* during the second half of the 1st c. AD[28]. The handle from SU 308 could belong to the production preceding AD 42, considering that this layer was under SU 277, a layer which contained a brick fragment with stamp LEG VII C.p.f. (= *Claudia pia fidelis*)[29]. A strongly profiled fibula of type Almgren 68 also comes from layer SU 308. This type of fibula appears mostly since the Tiberian era, when it was produced also on Magdalensberg, lasting into the second half of the 1st c. AD.[30] Well SU 307 yielded, among other pieces, a plate of form Conspectus 39 (39.1.1.) with barbotine decoration and thin-walled pottery of northern Italian production[31]. Plate Consp. 39.1.1., a typical form of the Flavian period and one of the most frequent *terra sigillata* forms on site[32], was also found in SU 132, alongside form Conspectus 43 as well as thin-walled pottery of northern Italian, probably also of Pannonian production and even a rather rare piece of so-called egg-shell pottery, a cup with a series of vertical concave depressions on the outer surface, ascribed to Hispanic (Baetican) production. The same layer yielded a coin of emperor Vespasian, dating the entire SU 132 into the Flavian era[33]. Conclusively, the material associated with fragments of Dr. 6B amphorae confirms their dating from Claudian up to the Flavian era.

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the 2008 excavations of Učiteljski. The overall shape of a fragmented amphora (PPN–110) seen at the museum's depot during the preparation of this article, also from SU 132, probably corresponds to the same Dr. 6B type.

[28] Only some pieces that allow a better dating will be mentioned here, given that various Pannonian wares cannot always be precisely dated, and most of the metal objects are basic forms, such as iron keys, that have a wide dating range.

[29] TONČINIĆ ET AL. 2011, 362–363.

[30] RIHA 1979, 72–74; SEDLMAYER 2009, 32–34, 149.

[31] CRNKOVIĆ 2017, 53.

[32] CONSPECTUS 2002, 120; CRNKOVIĆ/FILIPOVIĆ 2016, 550.

[33] CRNKOVIĆ 2017, 53–63, 72–74, 185, 242, T. 8: 2 (Hispanic production).

Some amphorae fragments have been ascribed to other types. Besides the already mentioned fragments of Dr. 6B type, the finds from round pit SU 106 included a flat handle with longitudinal grooves on the outer surface (Pl. 2: 3[34]). The fragment most probably belonged to some variant of flat-based amphorae[35]. Considering the fabric (colour, inclusions) it is possible that it belonged to an amphora of type Forlimpopoli. They are usually considered as recipients for transport of wine, although they could have also contained *garum* or even flour. Several variants (A-D) of this type have been distinguished, with production centred mainly in the Adriatic area[36]. A similar piece, a handle from layer SU 221 can also be attributed to a flat-based amphora (Pl. 3: 3[37]), although possibly it could have been part of a two-handled jug. An amphora base from the pit SU 106 (Pl. 4: 1[38]) could belong to a Dressel 1 or Dressel 2–4 according to its shape and fabric, although this is not a definitive attribution[39]. The pit SU 106 also contained a *terra sigillata* plate of form Consp. 20.4/Drag. 17B, usually dated around the middle of the 1st c. AD[40], as well as thin-walled pottery datable to the second half of the 1st c. AD[41]. The base from well SU 201 (Pl. 4: 3[42]) could belong to a wine amphorae of type Dr. 2–4[43]. An interesting find from the same stratigraphic unit is a strap end of a belt with teardrop-shaped pendant that is probably of a later date, i.e. 2nd–3rd c. AD[44], which doesn't need to be surprising considering that wells can be used for long periods.

The handle (Pl. 5: 1) from irregular pit SU 189 can be ascribed to an amphora of Rhodian type. This amphora type, recognizable by the characteristic horn-like ending of the handle, was used for transporting wine[45]. Its characteristic light red to pink colour (2.5 YR 7/8 light red with pale slip 7.5. YR 7/4 pink) can be observed on this piece. The great popularity of Rhodian wine is testified by a large number of amphorae belonging to this type found on many military as well as civilian sites from Claudian up to Flavian era[46]. They appear relatively frequently in the area of southern Pannonia[47]. SU 189 also contained thin-walled pottery of Italian and Pannonian production, as well as a coin of emperor Traian, dating the assemblage most probably to the first decades of the 2nd c. AD[48], so a bit later than the previously discussed types.

The dark-red amphora handle with oval cross-section and two ribs on the outer side from SU 104 (Pl. 5: 2[49]) could belong to an amphora of Kapitän II type[50]. Recipients of this type were probably used for wine and produced in the Eastern Mediterranean, Aegean workshops from

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[34] 10YR 7/4 very pale brown.

[35] Given the shape of the handle, it is also possible that the fragment belonged to a type Schörgendorfer 558 amphora, known as amphorae for olives, that also appear in Pannonia during the 1st and 2nd c. AD (see for ex. OŽANIĆ ROGULJIĆ 2016, 89–90), but usually with a single groove on the handle.

[36] LIPOVAC VRKLJAN 2011, 9–10; OŽANIĆ ROGULJIĆ 2016, 91.

[37] 7.5 YR 6/6 reddish yellow.

[38] 10 YR 6/3 very pale brown on the outside, 10YR 7/4 very pale brown on the inner surface.

[39] PEACOCK/WILLIAMS 1986, 93–95, 105–106.

[40] CONSPECTUS 2002, 86; CRNKOVIĆ/FILIPOVIĆ 2016, 549.

[41] CRNKOVIĆ 2017, T. 2: 5.,T. 18: 1, 2 (Italian and Pannonian productions).

[42] 5YR 6/6 reddish yellow.

[43] PEACOCK/WILLIAMS 1986, 105–106.

[44] Analogies in Sisak, RADMAN-LIVAJA 2004, 96, T. 49: 342, 343.

[45] PEACOCK/WILLIAMS 1986, 103.

[46] BEZECZKY 1994, 111; PEACOCK 1977, 269.

[47] See BEZECZKY 1994a; BJELAJAC 1996, 40; HÁRSHEGYI 2008; OŽANIĆ ROGULJIĆ 2016, 91.

[48] CRNKOVIĆ 2017, 172; T. 5: 1,2

[49] 2.5YR 6/8 light red.

[50] For the help in the typological determination and other valuable suggestions I owe thanks to the late T. Bezeczky whose work, but also kindness, indebited all those dealing with Pannonian amphorae.

the end of the 2nd, but especially during the 3rd–4th c. AD[51]. This would make the piece a later production thus not belonging to the same horizon as other here presented amphorae types, so it will not be further discussed hereafter.

Overall, on Vojarna-Učiteljski site in Osijek's Lower Town four amphorae types have been distinguished with greater certainty. Type Dr. 6B is the most frequent with six typologically determinable fragments (handles, rims), two handles can be attributed to flat-based amphorae while Rhodian and Kapitän 2 amphorae are present only as single finds. Both Dr. 6B and flat-based amphorae come from stratigraphic units that yielded *terra sigillata* and thin-walled pottery that can be dated in the second half of the 1st c. AD, mainly in the Flavian era, with significant presence of northern Italian imports.

## Amphorae and stamps on Pannonian sites during the 1st c. AD

Several fragments of various types of amphorae from other positions within ancient *Mursa* have been previously published. Two triangular hanging rims can be ascribed to Beltrán IIA amphorae used for fish products (*garum*)[52]. They were produced in Spain from Flavian era up to the first half of the 2nd c. AD[53]. Similar to these is the Dressel 8 type, also recorded in *Mursa*[54]. These were also made in Spain and used for fish products such as sauces and chronologically precede the Beltrán IIA form, i.e. they were produced mainly from around 15 BC up to the end of the Flavian era[55]. On Magdalensberg they were found in layers datable to Tiberius' reign[56]. The amphora with bifid handle[57] is ascribable to type Dressel 2–4, a type produced at various locations, from Italy (especially in Campania) to Spain (Baetica, Catalonia) and France as well as in the eastern Mediterranean (island Kos, Egypt). Their primary content was wine[58]. In Pannonia they were found on Magdalensberg already in layers datable to the end of the 1st c. BC, then in *Emona* alongside Tiberius' coins, with further finds south of Drava datable to the 1st c. AD[59]. Several examples have been recorded in Vinkovci – *Cibalae*[60]. Amphorae with high conical rim belong to type Haltern 70[61], a southern Hispanic, Baetican product that, according to inscriptions, was primarily used for *defrutum* (a reduction of grape must) or olives in *defrutum*. They were produced from the middle of the 1st c. BC until the end of 1st c. AD. Examples from Magdalensberg come from Tiberian-Claudian layers[62].

Several fragments of amphorae have also been found on the already mentioned position of Pristanište in Osijek Lower town. According to the publication by M. Bulat, five pieces have been identified. Fragments carrying the stamps AVR.FI and PACAT/I/ belong to amphorae of Dr. 6B type made in unknown workshops[63]. Starting from the reign of Tiberius, stamped Dr. 6B amphorae start to appear in the wider area between the courses of rivers Sava, Drava and Danube, no longer being restricted to the western parts of southern Pannonia (i.e. *Emona*,

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[51] PEACOCK/,WILLIAMS 1986, type 47, 193–195; RILEY 1979, Mid-Roman 7, 189–192; BEZECZKY 1994a.

[52] BRUKNER 1981, T. 156: 6–7.

[53] PEACOCK/WILLIAMS 1986, type 18, 122–123; BEZECZKY 1996, 333–334.

[54] BRUKNER 1981, T. 163: 78.

[55] PEACOCK/WILLIAMS 1986, type 17, 120–121.

[56] BEZECZKY 1998, 228.

[57] BRUKNER 1981, T. 157: 19.

[58] PEACOCK/WILLIAMS 1986, type 10, 105–106.

[59] BEZECZKY 1994, 17–19.

[60] OŽANIĆ ROGULJIĆ 2016, 90–91.

[61] BRUKNER 1981, T. 160: 49, 52 = BULAT 1977: T. XV: 2.

[62] BEZECKY 1998, 236.

[63] BULAT 1977, 35, T. XIV: 3, XV: 6.

*Poetovio* and *Siscia*) as during Augustus[64]. Besides *Mursa*, examples have been recorded in Vinkovci – *Cibalae,* alongside other 1st c. AD types, i.e. Dr. 2–4 and Rhodian wine amphorae[65]. One Dr. 6B amphora with stamps LAEC.H comes from the grave assemblage found in Ilok – *Cuccium*. The somewhat damaged stamp is attributable to the workshop of *C. Laecanius Bassus* situated in Fažana on the western coast of Istria. The stamp, as well as other pottery and metal finds, date the grave into the first half of the 1st c. AD[66]. Several amphorae fragments, including typologically definable examples of Dr. 6B and Dr. 2–4 as well as lids and covers, have been recorded at various positions in Sisak – *Siscia*[67]. At Sisak-Railway station 37% of all amphorae belong to the Dr. 6B type. They were found in layers dating from Augustan up to the Flavian era. Five pieces carry a stamp, with one stamp attributed to the well known Istrian workshops of C. Laecanius Bassus (BASS) and another to that of C. Crispinilla (ACRSPN)[68]. The dominance of Dr. 6B amphorae is evident in the overall ratio of stamped amphorae from the 1st c. AD collected on various positions in *Siscia*, with 13 of 15 stamps belonging to this type of vessel, while the remaining stamps appear on Dr. 6A amphorae[69].

Stamped amphorae also appear, of course, on several other Pannonian sites, although not all of them come from modern excavations that allow more precise studies of their contexts for better interpretations of supply and trade routes and their users[70]. During the 1st c. AD olive-oil amphorae type Dr. 6B, Rhodian and Dr. 2–5 wine amphorae[71] and some fish sauce amphorae appear in Szombathely – ancient *Savaria,* situated on the Amber Route. The Dr. 6B amphorae are the most numerous and examples include stamps of the *Laecanius* workshop in Fažana[72]. The material of the earliest phase of the ala fort near *Aquincum*, roughly between AD 50 and the middle of the 2nd c. AD, shows a steady presence of various amphorae types in percentage shares that are considered as a reflection of a typical Roman military diet. Of these, Dr. 6B clearly dominate as a single type with 27 examples, followed by 12 Rhodian amphorae. All five stamps are dated to the first half of the 1st c. AD and belong to Dr. 6B amphorae, two of which can be attributed to the *Laecanius* workshop[73]. Dr. 6B olive-oil and Rhodian wine amphorae also dominate in the type spectrum of the area of the legionary fortress in *Aquincum*. All three stamps also occur on olive-oil amphorae but of a later date, with that on Dr. 6B datable to Nerva's reign, while later stamps belong to Dressel 20 and 24 types. Stamped specimens from the area of *canabae legionis* are found on the same types, with the exception of one later stamp on a Kapitän II wine amphora. Five out of the eleven stamps occur on Dr. 6B amphorae. Similarly, among the amphorae from the civil town (*municipium*) stamps occur yet again on the mentioned types of olive-oil amphorae, but with a smaller share of Dr. 6B stamps[74].

The amphorae evidence from various sites and collections show the already well known domination of Dr. 6B amphorae on the Pannonian olive oil market during the 1st c. AD, usually

[64] BEZECZKY 1994, 124.

[65] OŽANIĆ 2005, cat. nos. 3, 6, 15, 16; OŽANIĆ ROGULJIĆ 2016, 89–92.

[66] JELINČIĆ VUČKOVIĆ/TONC 2018.

[67] BAĆANI ET AL. 2012, 138–142, cat. nos. 144–161.

[68] NOVAKOVIĆ et al. 2018, 227–229, Fig. 3: 2–6.

[69] MILETIĆ ČAKŠIRAN 2019, 213–224, Table 30; see also BEZECZKY 1994, 29 for Dr. 6A stamps from Siscia. The stamp on a Dr. 2–4 example from Railway station occured in layers widely dated from the Augustan era up to the Antonine dynasty (NOVAKOVIĆ ET AL. 2018, 226), so it cannot be taken into consideration when discussing 1st c. AD stamped examples.

[70] See amphorae from various sites published in BRUKNER 1981; BEZECZKY 1994; KELEMEN 1987; 1988.

[71] Fish sauce amphorae of type Dressel 7–11 and Beltrán IIA are published as both 1st and 2nd c. AD specimens, see. NAGY 2014.

[72] BEZECZKY 1988; NAGY 2014.

[73] HÁRSHEGYI 2010; MAGYAR-HÁRSHEGYI 2016, 621–624.

[74] MAGYAR-HÁRSHEGYI 2016, 625–628.

appearing together with Rhodian and Dr. 2–4 wine amphorae. Furthermore, stamps appear to be particularly frequent on amphorae of Dr. 6B type in general.

## Olive oil and its users

In a famous scene from Monty Python's "Life of Brian", wine is mentioned alongside medicine, roads, irrigation etc. among the commodities introduced by the Romans. Although obviously this comic classic shouldn't be regarded as a most reliable historic source, the words are nevertheless true – once accepted, new foods surely presented a significant change in the everyday life of the inhabitants in conquered territories. The beginning of use of olive oil and wine is frequently associated with the spread of Roman influences that ultimately led to the wider acceptance of Italian dietary habits as well as other customs (such as clothes, funeral rites, etc.). Introducing new dietary habits meant not just that new ingredients, but also new ways of food preparation, indirectly shown by the appearance of mortars, baking lids etc., were being incorporated in the local customs of food preparation and consumption[75]. The final results of this rather long and complex process usually referred to as Romanisation was the creation of a local provincial culture, well integrated in the cultural landscape of the Roman Empire. Wine, however, may have been consumed by the autochthonous communities even before Roman conquests, as suggested by imported bronze vessels of the Late La Tène period[76] but also by archaeobotanical results[77] and ancient sources[78]. Luxurious vessels, as well as wine itself, could be regarded as signs of high status and wealth of the owner/banquet organiser, member of the local elite. Of course, these vessels could have been used for the consumption of other types of (alcoholic) beverages, not necessarily wine. Olive oil, on the other hand, was indeed a novelty and it doesn't seem to be present in the local diet[79] in the times preceding the spread of Italic customs and the same is valid for fish sauces such as *garum*[80]. Amphorae as vessels used for storage and transport of certain products are especially suitable for use as evidence of the changes in consumption and dietary habits. Furthermore, the need to obtain such commodities, ways of procurement and final recipients can all be considered when discussing the appearance of amphorae in southern Pannonia. Roman military units are frequently mentioned in association with amphorae finds (Dr. 6B in particular), considering their distribution patterns that seem to follow the movements of legionary troops[81].

It is worth emphasising here that amphorae represent a rather small percentage of the overall material recovered from the site, even when counting all typologically undefinable

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[75] See REED/OŽANIĆ ROGULJIĆ 2020 for an overview of Roman diet in southern Pannonia; also EGRI 2018 on changes in dietary habits.

[76] See DIZDAR/TONC 2014 and EGRI 2018 with cited bibliography.

[77] JEREM ET AL. 1985 on possibility of wine production during the Iron Age, although this remains for now debatable (cfr. DÁLNOKI 2009, 149).

[78] *Dio Cass*. 49.36.2 on local Pannonian wine of poor quality: The Pannonians dwell in Dalmatia along the very bank of the Ister from Noricum to Moesia and lead the most miserable existence of all mankind. For they are not well off as regards either soil or climate; they cultivate no olives and produce no wine except to a very slight extent and a wretched quality at that, since the winter is very rigorous and occupies the greater part of their year, but drink as well as eat both barley and millet.

(Translation from https://penelope.uchicago.edu/Thayer/E/Roman/Texts/Cassius_Dio/49*.html#34)

[79] Archaeobotanical results for staple crops in the Late Iron Age in the regions neighbouring eastern Slavonia (see JOVANOVIĆ 2004; 2008; 2011; 2012; MEDOVIĆ 2011, 337–343; MEDOVIĆ/MIKIĆ 2010; also LIGHTFOOT ET AL. 2015 for Bronze and Early Iron Age) suggest that a similar diet could be expected in the case of the pre-Roman inhabitants of *Mursa*.

[80] EGRI 2018, 93.

[81] BEZECZKY 1995a, Fig. 2; EGRI 2008, 51, 56, Fig. 19.

fragments (such as body sherds). Among the total ceramic finds from Učiteljski site only around 70 pieces can be ascribed to amphorae, while for example more than 300 fragments of *terra sigillata* have been recorded[82]. This ratio corresponds to the phenomenon already noted for other Pannonian sites, i.e. a relatively small number of amphorae compared to the estimated number of soldiers/civilians[83]. Perhaps this larger share of other pottery categories in the overall percentage is related to a greater need for imported table and cooking ware in the times before the production of adequate shapes in local workshops began, while foodstuffs could have been brought in other storage vessels. Less expensive wine and vinegar (*acetum*), mixed with water to make *posca* and then distributed to soldiers[84], could have been brought in wooden barrels, while fine wines or fish sauces were distributed to all soldiers only on special occasions, as suggested by the military supply information found on the Vindolanda tablets, while in some areas beer may have been a more common beverage[85]. Nevertheless, most probably expensive wines and fish sauces weren't meant for wider consumption, i.e. for entire legions, but more likely available only to certain individuals such as officers or wealthy Italic settlers[86], so larger quantities of such amphorae shouldn't be expected in average settlement assemblages. Olive oil can also be considered as a commodity not meant for the general population. Various other types of locally available fats were often used as substitutes (e.g. for use in oil lamps) in place of olive oil that was sometimes considered somewhat of a luxury due to higher costs of transport, but also because of local habits[87]. Olive oil amphorae are, however, present in the Učiteljski sample, including stamped examples.

The analysis of amphorae from *Mursa* – Učiteljski site confirms once more the already well known pattern of domination of Istrian olive oil on Pannonian sites of the 1st c. AD, with Dr. 6B as the most numerous type. Considering the small total amount of amphorae, the appearance of two stamped vessels stands out even more. The stamp is a means to ascertain the origin of the vessel, a proof of quality and geographic provenance of the required goods for those that organised their distribution as well as for the final recipients. M. Egri already presented an important study of olive oil supply in the Danube region that presents all crucial historic and cultural circumstances that influenced the formation of olive oil supply routes and mechanisms[88]. The comparison of civilian and military sites shows that at both categories olive-oil amphorae are present, but consumption seems higher on military sites, indicating legionary units as primary recipients, followed by civilians in nearby settlements that had an interest in this kind of commodity. The latter could have been elite members of the autochthonous community that wanted to show off their higher social status, but also newly settled civilians of foreign origin[89]. Stamped amphorae, carrying especially regarded wine or olive oil, could have found in *Mursa* users from both civilian and military categories.

## Conclusion

Vojarna – Učiteljski site contexts yielded important material dated to the 1st c. AD, roughly between Claudian and Flavian era. Within those several amphorae fragments have been

[82] CRNKOVIĆ/FILIPOVIĆ 2016.

[83] EGRI 2007.

[84] All of this corresponds to A. Tchernia's differentiation of local wine, then fine wine for a specific clientele and a mass-production wine that would supply large markets, e.g. the population of Rome (TCHERNIA 1986, 37–38).

[85] EGRI 2007, 49; PEARCE 2002.

[86] BEZECZKY 1994, 125; 1996, 336; EGRI 2007, 49

[87] JUNKELMANN 1997, 150; PEARCE 2002, 940; EGRI 2007, 53–55.

[88] EGRI 2008.

[89] EGRI 2007, 53–55, Fig. 7–8.

separated, although a very small number of them belongs to rims or handles that can be typologically determined with more certainty. Of these, Dr. 6B predominate, with two stamped fragments, while other types – Rhodian, flat-based amphorae – seem to be less frequent. The amphorae come from contexts that show strong connections with northern Italy as source of tableware (thin-walled pottery, *terra sigillata*). A stamped Dr. 6B piece can be firmly linked to the Istrian production centre at Loron, and by all probability most, if not all Dr. 6B examples of this period also originated in major production centres located on the Istrian peninsula. The material from Učiteljski site confirms the existence of a pre-colonial phase of ancient *Mursa* in the so-called Barracks area, which in turn poses the question of who were the final recipients of Italian wares and amphorae with their contents. Was the local, non-Roman population already using olive oil in Flavian times? Probably not to a greater extent and it is maybe even questionable whether olive oil ever became widely used by the general population, traditionally inclined to the usage of other fats. If the locals are excluded as recipients, clearly these should be sought in the new settlers of Italic origin – civilians or members of military units.

The existence of a military camp within the area of ancient *Mursa* remains debatable, as no firm evidence has been published so far[90]. According to T. Leleković, first Roman settlers came to *Mursa* only in the Flavian era, but it is unclear if the burials dated to this pre-colonial phase are connected solely to a civilian settlement or if some of the deceased belonged to military units[91]. However, in the case of the Učiteljski material, finds of *tegulae* with legionary stamps and pear-shaped kilns have been interpreted as possible signs of military, i.e. legionary presence during Flavian era[92]. As mentioned, presence of Dr. 6B amphorae is frequently interpreted as a sign of military presence, i.e. their presence should correspond to the spread of Roman army. The connection between olive-oil amphorae, as well as other northern Italian wares and the Roman army has been presumed for the grave context in Ilok, the probable burial of a member of an auxiliary unit, although of quite likely local origin[93]. This assemblage, however, predates the *Mursa* contexts, so quite possibly the situation changed in the following decades as civilians of local origin started to become more accustomed to Roman habits, sometimes probably to show their privileged status and connections to the new "elite", but also as a greater number of new settlers arrived in these, now presumably more stabilised regions. Although unfortunately not much conclusive evidence can be presented here regarding the identity of those that purchased the amphorae, the possibility that these were connected to the military remains open. Military units seem to be primary recipients of olive oil during the 1st c. AD in all Danubian provinces and Istrian producers had close connections to the imperial family, consequently also to the military that had the need for specific foodstuffs and tableware but also the necessary means for securing supplies, i.e. for organising the import of significant amounts of products from northern Italy[94]. The amount of amphorae is, of course, not that significant to justify them as evidence of legionary supplies, but as mentioned before, their content shouldn't be seen as a commodity available to all soldiers. Furthermore, the presence of stamped Dr. 6B vessels is an important feature of 1st c. AD amphorae assemblages in the entire Pannonian region, as shown also by the analysed sample. Stamps must have been useful for the transport – a quick way to identify and count vessels, as well as to ascertain that the order has been fully delivered when receiving it. It would be quite possible that such a need was especially relevant when organising shipments meant for legions – perhaps some of the vessels were meant for the *Mursa* settlement

[90] See LELEKOVIĆ 2020 for an overview of recent excavations. The epigraphic evidence suggests the presence of garrisons during the 1st c. AD (RADMAN-LIVAJA 2012).

[91] LELEKOVIĆ 2020, 90–102.

[92] FILIPOVIĆ 2010, 38, 40.

[93] DIZDAR 2010; JELINČIĆ VUČKOVIĆ/TONC 2018.

[94] EGRI 2008; BEZECZKY 1995a.

(or camp), while part of the cargo was shipped elsewhere. Was it especially important to identify the provenance of the amphorae in the pre-Flavian period, when not only Roman military units could have been the final recipients, but from the Tiberian and Claudian times also the civilians of upper status[95], so there was a need to keep for army officers the oil of best quality – i.e. stamped by known producers? Although these thoughts remain mostly speculations for now, the settlement that became *colonia Aelia Mursa* reveals itself as a dynamic place in the second half of the 1st c. AD, with close connections to trade routes that supplied various items that met the demand of newcomers and/or local elites. The amphorae fragments presented on this occasion can serve as suggestions of various considerations to be reflected upon in future works that will deal with the material from this interesting period.

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[95] Cfr. EGRI 2007, 55 on the probable decrease of olive oil consumption by civilians. The amphorae from the civilian colony of Brigetio seem to confirm this, with a rather small sample dated from the Flavian period onwards (NAGY 2015).

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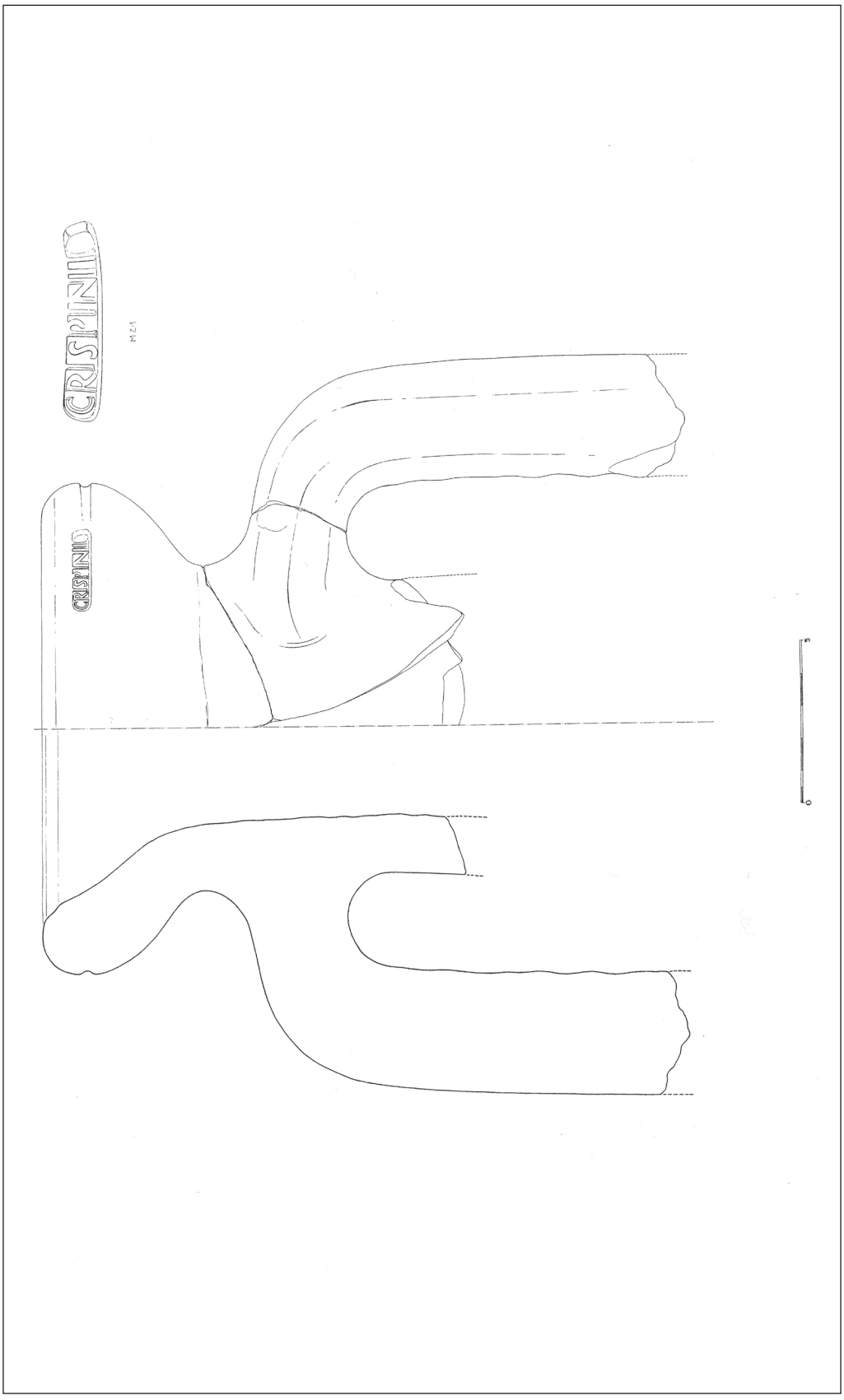


Plate 1. Stamped Dr. 6B amphora from Osijek, Vojarna-Učiteljski site, SU 307 (drawing by M. Rončević).

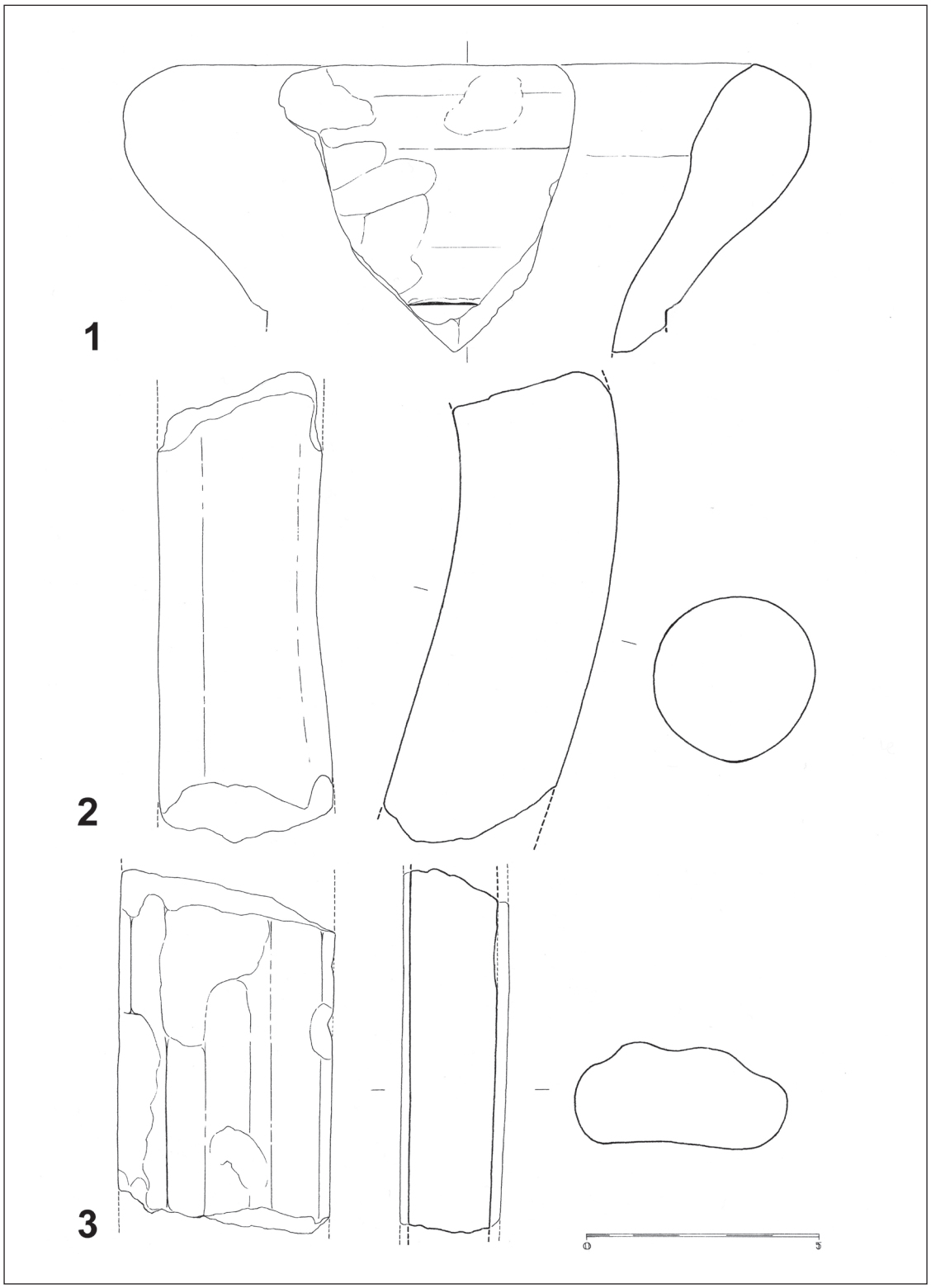


Plate 2. Amphorae from Osijek Vojarna-Učiteljski site: 1, 3. rim and handle from SU 106; 2. handle from SU 308 (drawings by M. Rončević).

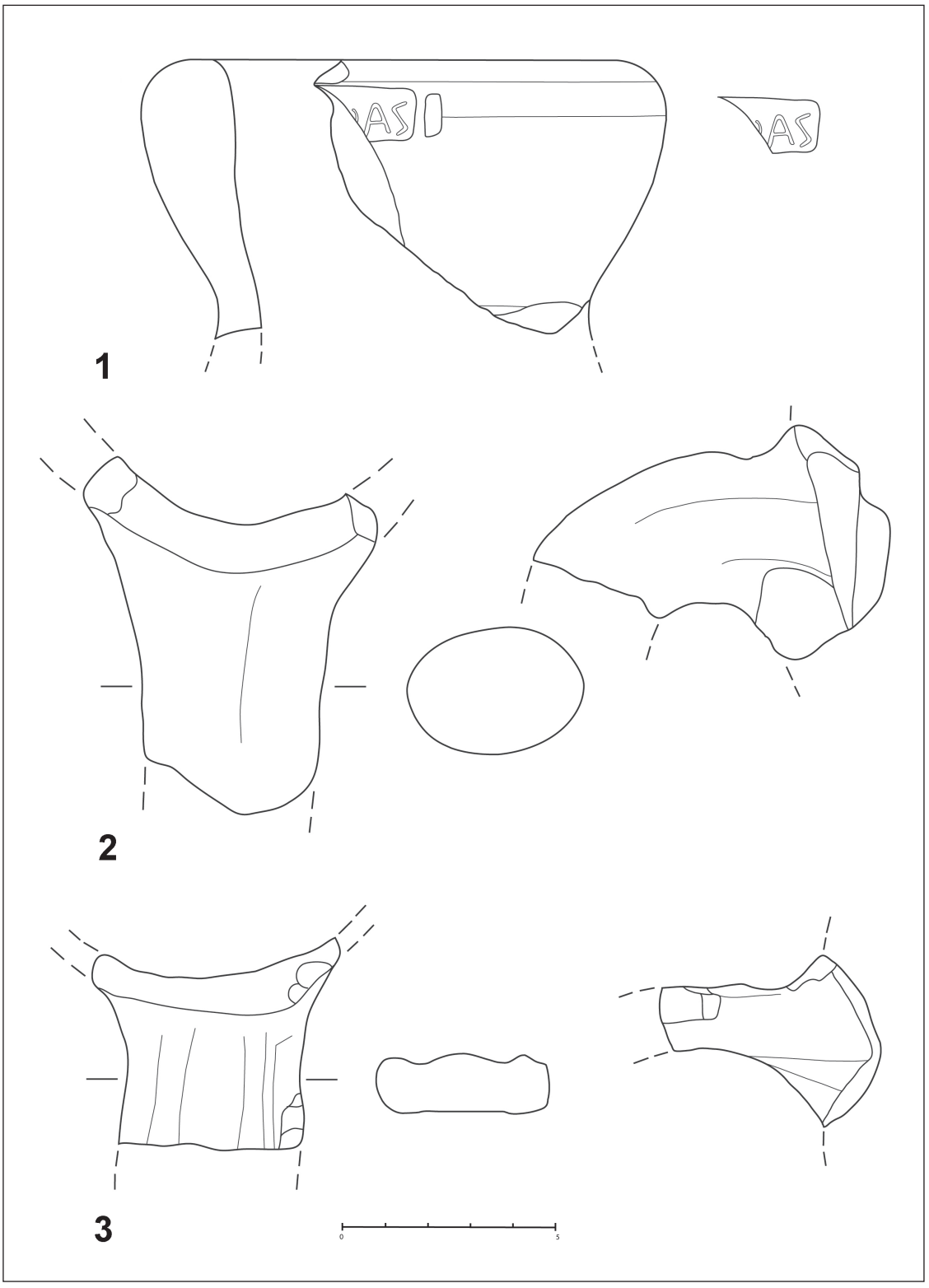


Plate 3. Amphorae from Osijek Vojarna-Učiteljsi site: 1. stamped rim from SU 395; 2, 3. handles from SU 221 (drawings by J. Maslać).

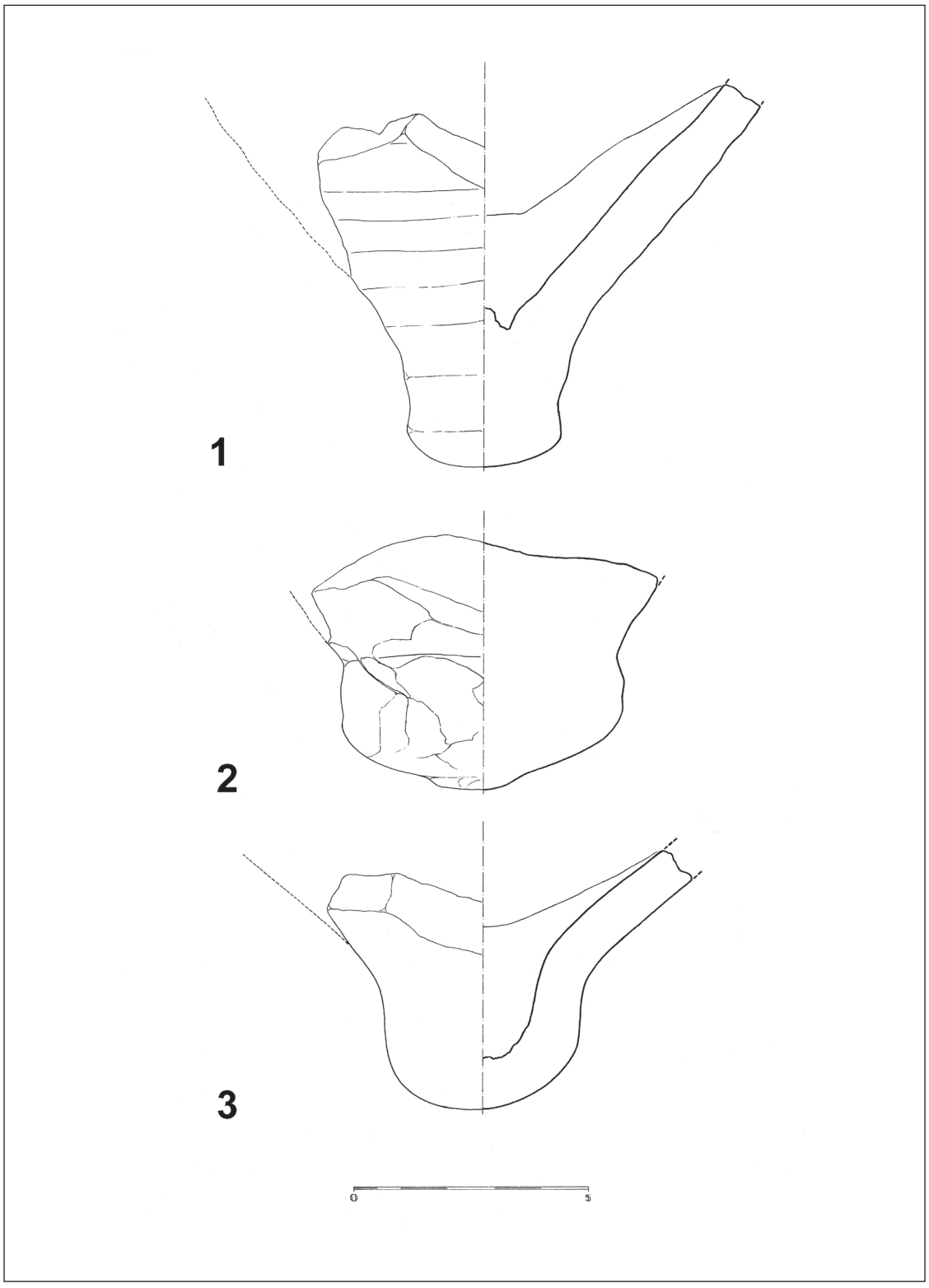


Plate 4. Amphorae from Osijek Vojarna-Učiteljski site: 1, 2. bases from SU 106; 23. base from SU 201 (drawings by M. Rončević).

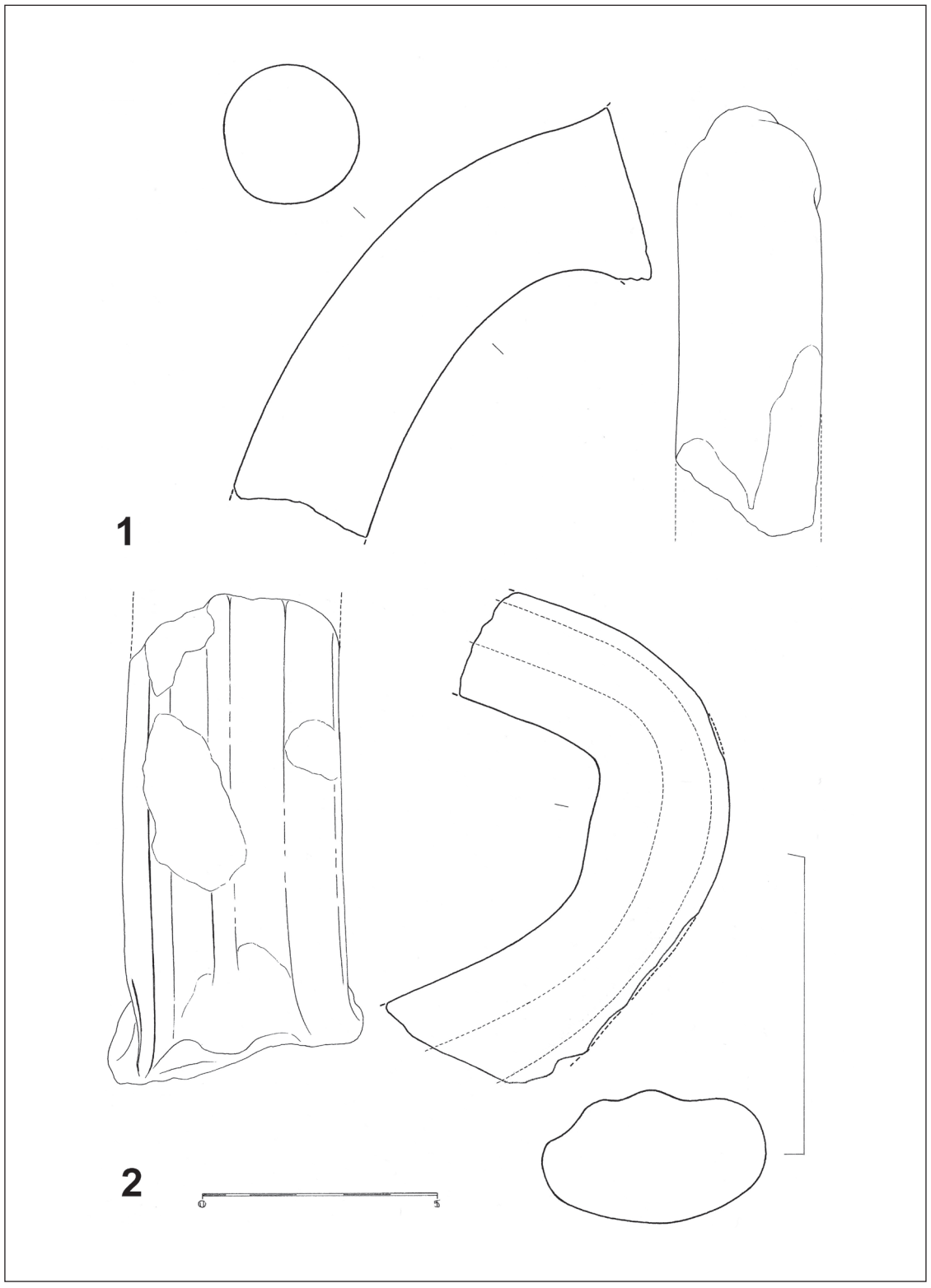


Plate 5. Amphorae from Osijek Vojarna-Učiteljski site: 1. handle from SU 189; 2. handle from SU 104 (drawings by M. Rončević).