Roman amphorae from Tilurium

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The paper deals with the findings of amphorae from the Roman legionary fortress Tilurium, situated in the Roman province of Dalmatia. The author offers an overview of all amphorae published so far, found in research campaigns 1997 – 2010 and by locals during fieldwork. The content, provenance and dating of amphorae were analyzed, giving us an insight into dietary habits of Roman soldiers and the origin of imported goods. Wine, olive oil, fish products and fruit were transported to Tilurium in various types of amphorae from many parts of the Empire. Wine was imported from Italy, Aegean and Hispania, while olive oil was brought from Italy, Istria, Hispania and African provinces. Fish products were imported from Hispania, while dried fruit was brought from Italy and the eastern Mediterranean. Most of amphorae could be dated to the 1st and 2nd century CE, although several types of Late Republican and Late Antiquity origins are also represented.

Key words: *Dalmatia, Tilurium, legionary fortress, food supply, amphorae*

*Introduction**

I am dedicating this article to prof. dr. Mirjana Sanader, my professor and mentor, who has devoted much of her scientific career to the study of the Roman military and the legionary fortress Tilurium. It is a great honor to publish a paper about Roman amphorae from Tilurium in the proceedings on the occasion of her 65th birthday.

In the village of Gardun near Trilj, situated in the hinterland of the Dalmatia's capital Salona, a Roman legionary fortress Tilurium is located. The fortress is strategically located on the northeastern plateau above the right bank of the Cetina river (*Hippus flumen*), which enabled excellent control over the river crossing and river communication. From this strategic position, it was possible to monitor the important road routes leading from ancient Salona to Narona in the southeast and to former Delminium in the northeast (Sanader & Tončinić 2010: 42).

Based on the epigraphic sources, it has been known that the first permanent military unit to reside in the legionary fortress Tilurium was *legio VII* (from 42 CE known as *legio VII Claudia Pia Fidelis*). The exact time of arrival of the legion in the Roman province of Dalmatia is unknown, but most authors agree that it was sometime during the Dalmatian-Pannonian Uprising (6 – 9 CE) when the legion came from the territory of Macedonia or Moesia (Zaninović 1984: 68–69; Tončinić 2011: 11–15). After the departure of *legio VII* to Viminacium in Upper Moesia, which occurred approximately during the mid-1st century, several auxiliary units were epigraphically attested in Tilurium - *cohors II Cyrrhestarum, ala Claudia nova, ala (Tungrorum)*

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Frontoniana, cohors Aquitanorum, cohors I Belgarum, cohors III Alpinorum and *cohors VIII voluntariorum civium romanorum* (Zaninović 1984: 72–73; Sanader & Tončinić 2010: 34–37; Tončinić *et al.* 2011: 364; Vrbanc 2012: 131–133). *Cohors VIII* was the last military unit that left *Tilurium*, as testified by an inscription of a *centurio* on a sacrificial altar erected in 245 CE (CIL III 2706 = 9724; Zaninović 1984: 70; 2007: 182). Despite that, Tilurium preserved its military significance until the end of Antiquity. The station of *beneficiarii consularis* was developed in a civilian settlement known as *Pons Tiluri* (*It. Ant.* 337,5) or *Ponteluri* (*Rav. Cosm.* IV, 16), located beneath the legionary fortress, next to the bridge on the Cetina river (Zaninović 2007: 183; Glavaš 2016: 23). Tilurium was never given municipal status, however, the results of archaeological excavations and the analysis of small findings indicate the existence of Late Antique horizon that can be dated until the 6th century CE (Šimić-Kanaet 2010: 58; Tončinić & Vukov 2018: 40–43).

Despite the great historical importance of the site and numerous findings stored in museums, the systematic archaeological research did not start until 1997 (Sanader 1998: 243–255). Since then, the research has been conducted under the management of Prof. Dr. Mirjana Sanader from the Department of Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb. During more than twenty years of excavations, remnants of the fortress architecture have been uncovered, as well as a large number of ceramic, glass, metal, stone and bone findings. So far, a large number of scientific papers, several doctoral dissertations (Šimić-Kanaet 2009; Buljević 2016; Ivčević 2016) and four comprehensive monographs (Sanader 2003; Šimić-Kanaet 2010; Sanader *et al.* 2014; 2017), dealing with the architecture, stone monuments and archaeological material found in excavations, have been published. The ceramic material found in research campaigns 1997 – 2010 was thoroughly analyzed and published by Dr. Zrinka Šimić-Kanaet (Šimić-Kanaet 2010; 2017; Vukov 2020: 229–239).

Amphorae from Tilurium

With more than 30 000 fragments, a ceramic material represents the most numerous category of findings among archaeological material excavated in Tilurium. Among those, in addition to the numerous tableware and cookware, a large number of amphora fragments were found. This paper seeks to summarize all findings of amphorae found in the research campaigns from 1997 to 2010. Hundreds of amphorae fragments were found during these 14 excavation campaigns, including 456 diagnostic fragments (Šimić-Kanaet 2010; 2017).[1] The analysis will also include nine fragments of amphorae from the private collections

Amphorae, *by purpose / usage*	Amphorae types	Production centers	Quantity, #	Production timeline (2nd century BCE until 6th century CE)
Wine	Lamboglia 2	Adriatic coast	7	
	Dressel 6A	Northern Adriatic coast	31	
	Pascual 1 / Dressel 1	Spain, France	2	
	Dressel 2-4	Western Mediterranean	57	
	Camulodunum 184	Aegean, Anatolia, Italy	13	
	Flat bottomed amphorae	Italy	17	
	Knidian amphora type	Knidos	1	
Olive oil	Dressel 6B	Italy, Dalmatia, Istria	61	
	Dressel 20	Hispania Baetica	3	
	African amphorae	Tripolitania, Africa Proconsularis, Byzacea	26	
	Amphorae with funnel-like rims and necks	unknown	1	
Fish products	Dressel 7-11 / Beltran 1	Hispania Baetica, Hispania Lusitania	6	
Dried fruit	Camulodunum 189	Syrian-Palestinian area	1	
	Schörgendorfer 558	Northern Italy	1	
Multi-purpose	Eastern Mediterranean amphorae	Eastern Mediterranean	11	

Production timeline: 2nd BCE | 1st BCE | 1st CE | 2nd CE | 3rd CE | 4th CE | 5th CE | 6th CE

Figure 1. Overview of amphora types in Tilurium (by: M. Vukov, 2019).

[1] The amphorae found during archaeological excavations originate from the position of military dormitory (*centuriae*) and the building of indeterminate purpose built along the western rampart of the fortress.

of N. Tadinac, S. Tadinac and S. Roguljić found by locals during fieldwork (Bekić 1998: 234), as well as seven amphorae from *Tadinac I* and *Tadinac II* collections now deposited in the Museum of the Cetina Region in Sinj (Čerina 2011). Amphorae found in post-2010 campaigns are still in the publishing process and will therefore not be included in this paper.

The aim of this paper is to provide an insight into the military supply of the Roman legionary fortress Tilurium based on amphorae published so far. Amphorae were two-handled vessels used to store and transport a variety of products, such as wine, olive-oil, fish products and dried fruit. They were often distributed from remote areas and as such are the best indicators of trade, economy and food consumption (Peacock & Williams 1986: 2). Among published amphorae from Tilurium, 28 different types were distinguished. Most fragments belong to amphorae for transporting wine (128 fragments) and olive oil (91 fragments), while a smaller number of amphorae were used for the transport of fish products (6 fragments) and fruit (2 fragments).

Amphorae for transporting wine (*amphorae vinariae*)

The oldest fragments of amphorae documented in Tilurium belong to the **Lamboglia 2** type. So far, 7 fragments of this type have been found (Šimić-Kanaet 2010: 44, cat. no. 2779–2784, 2813). It is believed that this type of amphorae was developed in the mid-2nd century BCE and continued the production until the end of the 1st century BCE when it was replaced by the Dressel 6A type (Peacock & Williams 1986: 99–100; Bezeczky 1998: 228). They were produced in central and northern regions of Italy and on the Eastern Adriatic coast (Bezeczky 1998: 228).

The **Dressel 6A** amphora type, which was developed from the tradition of the Lamboglia 2 at the end of the 1st century BCE, is represented with 31 fragments (Bekić 1998: 239, P. 2: 10, 11; Šimić-Kanaet 2010: 44, cat. no. 2786–2793, 2795–2801, 2805–2810, 2815, 2816, 2916, 2983, 3080, 3124, 3125). They were produced on the western and northern Adriatic coast until the mid-1st century CE (Panella 2001: 195). Three fragments from Tilurium bear the stamp *M. Her(ennius) Picens* (Bekić 1998: 239; Šimić-Kanaet 2010: 47, cat. no. 2810) which helps in their precise dating. Namely, *M. Herennius* was consul in 34 BCE, and his son in 1 CE (Bezeczky 1998: 230).

Two fragments of amphorae might be attributed to the **Pascual 1 - Dressel 1** type (Šimić-Kanaet 2010: 45, cat. no. 2884, 2899). This type of amphorae was developed in the late Republican time from the Italian Dressel 1B type and was produced in northeastern Spain and southern France by the end of the 1st century CE (Peacock & Williams 1986: 93).

The most represented type of wine amphorae in Tilurium is the **Dressel 2-4**, with a total of 57 fragments (Šimić-Kanaet 2010: 44–45, cat. no. 2868–2883, 2885–2887, 2889–2898, 2915, 2993–2996, 3005, 3008, 3025, 3026, 3029, 3037, 3042, 3043, 3045, 3049, 3053, 3057, 3061–3069; 2017: 87, cat. no. 200; Čerina 2011: 220, cat. no. 2). This type was developed in Campania out of the tradition of Hellenistic amphorae from the Aegean island of Cos during the second half of the 1st century BCE. The production spread to many sites in the western Mediterranean where it continued until the 2nd century CE. Production centers of this type have been documented in Italy, Spain, France and England (Peacock & Williams 1986: 105–106; Freed 2000: 461).

The **Camulodunum 184**, also known as the Late Rhodian amphora type, is represented with 13 fragments (Šimić-Kanaet 2003: 126, cat. no. 140; 2010: 45, cat. no. 2902–2910, 3093; 2017: 88, cat. no. 208, 209). This type of amphorae with characteristic horn-shaped handles was developed on the island of Rhodes at the end of the 1st century BCE. The production spread to other Aegean islands, the Anatolian coast and Italy where it continued until the beginning of the 2nd century CE (Peacock & Williams 1986: 102; Bezeczky 1998: 233).

Another type of wine amphorae represented in Tilurium are **flat-bottomed amphorae**. So far, 17 fragments of this type have been found (Šimić-Kanaet 2010: 46, cat. no. 2964, 2976, 3010–3014; 2017: 88, cat. no. 201–207, 221–223). They were produced during the 1st and 2nd century CE in the workshops of Emilia Romagna (Forlimpopoli, Rimini), Etruria, Umbria, Picenum and the Veneto region (Ožanić 2005: 140).

Only one fragment of the bottom (Šimić-Kanaet 2010: 45, cat. no. 2914) can be attributed to the **Knidian amphora type**. This amphora type was produced on the Greek island of Knidos from Hellenistic until Byzantine times (Bezeczky 1998: 233; Starac 2006: 95–96). They were very rare on the Eastern Adriatic coast, where only a few individual findings have been found so far (Starac 2006: 96).

Amphorae for transporting olive oil (*amphorae olearіae*)

The most frequent type of amphorae used to transport olive oil is the **Dressel 6B**. It is predominant type in both Dalmatia and Tilurium, where 61 fragments have been found (Šimić-Kanaet 2003: 126, cat. no. 136, 137; 2010: 44, cat. no. 2803, 2812, 2817–2867, 2936, 2984, 2991; 2017: 87–88, cat. no. 211, 212, 215–220). It is believed that this type developed in the mid-1st century BCE in Cisalpine Gaul from where the production spread throughout northern Italy, Dalmatia and Istria. Two production centers have been documented in Istria – workshop of *C. Lecanius Bassus* in Fažana near Pula and workshop of *T. Statilius Taurus Sisenna* and *Calvia Crispinila* in Loron near Poreč. During the time of Vespasian, workshops came under the control of Roman Emperors where they remained until the reign of Hadrian when production ceased (Starac 1997: 143–144, 149). Import from northern Italy has been attested by a stamp *Pacci*, produced in the Po valley during the second half of the 1st century CE (Šimić-Kanaet 2010: 47, cat. no. 2812).

Figure 2. Amphora with funnel-like rim and neck (photo: Sanja Budić-Leto)

Only one fragment could be attributed to the type of **amphorae with funnel-like rims and necks** (Šimić-Kanaet 2010: 88, cat. no. 214). The center of production of this form is still unknown, although it is believed that they were developed out of tradition of the late Dressel 6B type. They were produced during the 1st and 2nd century CE (Bezeczky 1987: 35–36; Starac 2006: 96–97).

Import of Hispanic olive oil is evidenced by 3 fragments of the **Dressel 20** amphora type (Šimić-Kanaet 2010: 45, cat. no. 2999, 3001, 3071). These widely distributed large globular amphorae were produced in the province of Hispania Baetica from the time of Tiberius until the late 3rd century CE (Peacock & Williams 1986: 136).

Around the 3rd century CE, Italian, Istrian and Hispanic olive oil was replaced by African oil. It was imported from the African provinces from where it was distributed in various types of amphorae. These amphorae were produced in Tripolitania, Africa Proconsularis and Byzacena from the end of the 1st century until the 6th century CE (Starac 2006: 100; Šimić-Kanaet 2010: 46). So far, based on their characteristic ceramic structure, 26 fragments have been attributed to different types of African amphorae. Some of them are: Keay XXIV, Keay XXV, Keay XXV E, Keay XXVY, Keay XXVI, Keay XXXV, Keay XXXVA, Keay XXVB, Keay XXXVI, Keay XXVIH and Tripolitanian III (Šimić-Kanaet 2010: 46, cat. no. 2917–2927, 2929, 2931, 2932, 2950, 2956, 2957, 2958, 2961, 2978, 3000, 3023, 3039; Čerina 2011: 219–220, cat. no. 5–7).

Amphorae for transporting fish products and fruit

Fish products were imported in the **Dressel 7-11 / Beltran 1** amphora type that was produced in Hispania Baetica and Hispania Lusitania from the end of 1st century BCE to the end of 1st century CE (Peacock & Williams 1986: 118–119). So far, only six fragments of this type have been found in Tilurium (Šimić-Kanaet 2003: 127, cat. no. 138, 139; 2010: 45, cat. no. 2900, 2901, 2977, 2991).

There are only two fragments that can be attributed to amphorae used to transport fruit. First of them belongs to the **Camulodunum 189** type (Šimić-Kanaet 2017: 88, cat. no. 210). These “carrot shaped”

amphorae, used to transport a variety of fruits (dates, figs, olives, grapes), were produced in the Syrian-Palestinian area from the end of 1st century BCE to the end of 2nd century CE (Carreras Monfort & Williams 2002: 133–144). The second fragment belongs to the **Schörgendorfer 558** amphora type (Šimić-Kanaet 2010: 46, cat. no. 3002) in which green and black olives were transported. They were produced during the 1st and 2nd century CE at unspecified location, most likely somewhere in northern Italy (Borzić & Jadrić-Kučan 2010: 529).

Amphorae for multi-purpose content

Several different types of amphorae used for the transport of wine, oil and fish products were produced from the 5th to the 7th century in the wider area of the Eastern Mediterranean (Cyprus, Syria, Cilicia, Black Sea coast) (Šimić-Kanaet 2010: 46). Singled out among them were: Late Roman 1A (LR 1A), Late Roman 2 (LR 2), Late Roman 4 (LR 4), Agora M273 and Almagro 51C (Šimić-Kanaet 2010: 46, cat. no. 2928, 3016–3022, 3027; Čerina 2011: 220, cat. no. 3, 8).

Conclusion

During the archaeological excavations of Roman legionary fortress Tilurium from 1997 to 2010, 456 diagnostic fragments of amphorae were found. When we include findings from private collections, we get a number of 472 diagnostic fragments, of which 242 can be typologically determined. Among those, 28 different types of amphorae were distinguished. The results of typological analysis provided insight into the function, origin and chronology of amphorae imported by Roman soldiers in the legionary fortress Tilurium. Amphorae for transporting wine (128 fragments) and olive oil (91 fragments) are most numerous, while amphorae for fish products (6 fragments) and fruit (2 fragments) are present in smaller numbers. One of the reasons of such a numerical display is probably the fact that wine and olive oil were part of the basic diet that was made available to soldiers by the military, while other groceries, such as fish sauces, fruit and nuts, soldiers had to pay for themselves (Davies 1971: 125).

Further analyses of amphorae indicate the contact between Tilurium and numerous areas of the Mediterranean region. Wine was imported from Italy in Lamboglia 2, Dressel 6A, Dressel 2-4 and flat-bottomed amphorae, from the Aegean in Camulodunum 184, Dressel 2-4 and Knidian amphorae, and from Hispania in Pascual 1 – Dressel 1 and Dressel 2-4 amphorae. Olive oil was imported from Italy and Istria in Dressel 6B amphorae, from Hispania in Dressel 20 amphorae, and from African provinces in various amphora types. Fish products were imported in the Dressel 7-11 type from Hispania, while dried fruit was brought from Italy in Schörgendorfer 558 amphorae and from the Eastern Mediterranean in the Camulodunum 189 amphorae.

The first import of amphorae is evidenced in the Late Republican period when the wine from Italy was transported in the Lamboglia 2 amphora type. The most extensive diverseness of amphora types was imported during the 1st and 2nd century CE while the legionary and auxiliary units were permanently stationed at the fortress. As opposed to Burnum, the other legionary fortress in Dalmatia, where only amphorae from 1st century CE, excavated at its amphitheater, were documented (Borzić & Jadrić-Kučan 2010: 526) amphorae from the Late Roman period, dating form the 3rd to 6th century CE, are represented at Tilurium. Although the last military unit left Tilurium in the mid-3rd century CE, analysis of small archaeological finds, i.e. amphorae indicates the continuity of life during Late Antiquity in this area. Various types of amphorae from Eastern Mediterranean and African provinces were imported during this timespan.

In the end, we can see that the food products being brought into Tilurium in amphorae, often from distant parts of the Empire, demonstrate organized military logistics as well as a varied and rich diet of Roman legionaries.

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Rav. Cosm.	*Ravennatis Anonymi Cosmographia et Guidonis Geographica*, Berolini, 1860.

Abbreviations

CIL	*Corpus Inscriptionum Latinarum*, Berlin.

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