Abstract. – The aim of this paper is to present glass vessels that were used in Roman times in the territory of today's northern Croatia. In Roman period this part of our country was part of the province Pannonia. The idea is to present the vessels that were widespread through the entire Empire, therefore in our part of the province as well. Also, the idea is not to present the rare, luxury vessels, since only few examples of such kind have been found in northern Croatia, but to present plain vessels of everyday use: tableware, storage and toilet vessels. At this point, it seems that glass vessels from the later period (3rd and 4th century) are more numerous than the ones from the earlier one (1st and 2nd century). The latter were mostly imported from Italy, while some vessels from the late Roman period indicate local production, but unfortunately, secure archaeological evidence for such an assumption is still lacking.

In Roman times, the territory of today's northern Croatia was part of the province Pannonia. At the beginning of the 2nd century this province was divided into two parts: Upper and Lower Pannonia. In the 2nd half of the 3rd century, during emperor Diocletian's reign, these two provinces were divided into four autonomous provinces, two of which were in northern Croatia: Pannonia Savia and Secunda. Thanks to the favorable location in the central Danube valley, the whole of Pannonia was an area of trading goods from the southern, western and eastern provinces of the Empire, between the 1st and the 4th centuries. Cities in the territory of today's northern Croatia, as an integral part of this province, were also actively engaged in the exchange of goods from various trade centers. Among other items, glass vessels were also traded.
In this paper the typology of glass vessels (1st – 4th century) from the territory of today’s northern Croatia is going to be presented. The focus is on the plain vessel types of everyday use that were popular through the entire Empire, therefore in our part of the province as well.

**Early roman glass vessels**

The earliest import of Roman glass vessels in the territory of today’s northern Croatia began in the 1st century, during the Pannonian conquest. These vessels were mainly of Italic production (Šaranović Sveteć 1986, 50; Damevski 1976, 63; Pinterović 1978, 117). Particularly significant for our territory was Aquileia, not only as an important workshop centre in Northern Italy, but also as a great port in which all sorts of goods were coming from all parts of the Empire. It was from Aquileia that the glass vessels were imported into the territory of Pannonia (Šaranović Sveteć 1986, 50; Damevski 1976, 63; Lazar 2006, 331). The majority of goods were probably arriving by land, directly from Aquileia, by the road that led through Emona – an important trading center for the Sava region at that time, and then continued to Siscia and Sirmium. Some of the goods, most probably vessels from the eastern Mediterranean workshops, came indirectly from Salona. The provinces of Dalmatia and Pannonia were connected by the road Salona-Servitium that was joined to the longitudinal direction along the Sava valley basin (Migotti 2000, 196).

The number of the early Roman glass vessels in our region is relatively small. It is also interesting that they are mostly concentrated in the northern part of the country, in the area around Zagreb and Sisak (Siscia), while in the eastern part of Croatia, they are present only in Osijek (Mursa) in a greater number. Whether it is a result of a poor import or the fact that most of the glass vessels were not published so far, or insufficient archaeological excavations, it is difficult to say at the moment. But, one of the reasons is perhaps the fact that the Romans conquered the north of Croatia first and then gradually headed east. Therefore, the 1st century vessels are lacking in the territory east of Sisak.

There are only two cemeteries containing multiple pieces of glass vessels, Zagreb - Stenjevec and Nova Vas on Žumberak (Grgić 1989; 2007),
while several vessels were also found on the Southeast cemetery of Siscia (Wiewegh 2003). A lot of early Roman vessels were found in Sisak and the surrounding area (Košćević 2003; Bašić et al. 2004; Bačani, Škrgulja, Tomoš Baršić 2012), unfortunately many of them without any context. Eastward, the early Roman glass vessels are present only at Mursa (Bulat 1976). The typology of these vessels points to the early period.

**Italian and East Mediterranean import**

The most numerous are various types of tubular and conical toilet bottles dated to the period of the 1st and 2nd centuries, but some of them to the 3rd century as well. [Fig. 1] They were made mostly from the naturally blue or green glass. Since these two types of toilet bottles were most popular in the early Roman times analogies for them could be found throughout the Empire. These types of toilet bottles are represented to a great extent in our territory as well. In fact, they are most frequent form of the early Roman glass vessel mainly found in graves.

![Fig. 1 Stenjerce, Sisak, Osijek (after Bulat 1976; Gregl 1989; Wiewegh 2003)](image)

Besides usual toilet bottles there are some other types of toilet vessels represented as well. There are several globular bath flasks with handles (aryballos): two from Sisak (Wiewegh 2003, 59, T. XXXV/1, 2), two from Osijek (Bulat 1976, 89/6, 8) and one in the Pavletić collection (Bašić et al. 2004, 74, cat. no. 106). [Fig. 2] Such flasks were one of the most common toilet bottles used for storing oil that was used in the baths and they were worn tied around the wrist. They were produced both in the western and
the eastern provinces. The flasks from Sisak (Fig. 2c, d) have identical shape of the body, but their necks vary in length, and the type of the handles used, and the decoration as well. The first flask from Sisak (Fig. 2c) is made of green glass and it is well preserved, with two bronze circlets on the volute-shaped glass handles to which the bronze handle is attached. The body is decorated with glass threads. The second one is made of blue glass (Fig. 2d). It has the same shape of the body, but a taller neck with handles of different shape unlike the first one and no decoration on the body. By analogy to similar pieces, especially from Hungary (BARKÓCZI 1988, 159, 160, Taf. XXXIII/363; 159, 190, Taf. XXXIII/358) these flasks were dated to the period of the 2nd century.

The first flask from Osijek (Fig. 2a) has also a globular body and the handles in the shape of dolphins. It is made of green glass. On the basis of analogies from Slovenia and Italy (Lazar 2003, 171, 172, Fig. 49/8.3.3.; Mandruzzato, Marcante 2007, 56, cat. no. 3) it can be also dated to the period of the 2nd century. The flask from the Pavletić collection differs from these four described. [Fig. 2a] It has a globular body made of yellow glass and two thin handles made of blue glass. On the basis of similar specimens (SOROKINA 187, 41, Fig. 1/1; RAVAGNAN 1994, 44, cat. no. 50; FADIĆ 1997, 132, cat. no. 79) it can be dated to the period of the 1st and the beginning of the 2nd century and it is probably of the Eastern Mediterranean production. Based on the type and form of the handles, but also on the body shape, the flask from Sisak could easily be an import from the Eastern Mediterranean as well.

![Fig. 2 Osijek, Sisak (after ŠARANOVIĆ SVENTEK 1986; WIEWEGH 2003)](image-url)
Import of goods from the Eastern Mediterranean glass workshops in Pannonia is hardly evidenced, unlike the area of the eastern Adriatic coast, where it was abundant. There are only several vessels found which were probably imported from the Eastern Mediterranean. They are all preserved in the Pavletić collection. [Fig. 3] An amorphoskos (BALEN et al. 2003, 73, cat. no. 101) made of colourless glass, dates to the 1st and the beginning of the 2nd century. A juglet, 3a, (BALEN et al. 2003, 73, cat. no. 102) made of purple glass is mould-blown and dates to the 1st century. Flask, 3b, (BALEN et al. 2003, 77, cat. no. 122) made of greenish-brown glass, also mould-blown, dates to the 3rd century and originates probably from a Syrian workshop.

At the Zagreb – Stenjevec cemetery two complete, identical, ribbed bowls were found, made of naturally blue glass (Fig. 4a). [Fig. 4] They represent typical 1st century BC and 1st century AD mould made form. Although, these bowls were highly popular and widespread, these two specimens from Stenjevec are the only two preserved of that type in the territory of today’s northern Croatia. They were probably present in large numbers, but only fragments were found (BAČANI, ŠKRULJA, TOMAŠ BARIŠIĆ 2012, 168).

At the cemetery Gornja Vas two more types of the early Roman bowls were found (Fig. 4/b, c). The first one (Fig. 4b) corresponds to Isings form 44a, dated to the 1st century. According to Isings, it probably originated from the middle of the 1st century (1957, 59). It was a very popular form in the Flavian period as well. It is numerous among the glass found at Pompeii and Herculaneum (Isings 1957, 60). The second one (Fig. 4c) corresponds to Isings form 42a and it is characteristic for the period of the 2nd half of the 1st century and the 2nd century. This form was also widespread in...
the western part of the Empire. They were numerous among the Pompeian and Herculanean glass (ISING 1957, 58), as well at the Magdalensberg and Ticino canton (LAZAR 2003, 74). The same type of bowl is contained in the Pavletić collection in the Archaeological Museum in Zagreb, probably originating from Sisak (BALEN et al. 2003, 76, cat. no. 118). The last form (Fig. 4d) was widely distributed in the period of the 1st and 2nd centuries, also in the western part of the Empire (Pompeii, Herculaneum, Ostia, Magdalensberg, Dobova, etc.). The earliest specimen of such a bowl was found at Magdalensberg and was dated to the Augustan period (LAZAR 2003, 73).

At the Zagreb - Stenjevec necropolis four beakers with indentations on the walls were found (Gregl 1989, 18, G. 15/3, T. 4/11; 18, G. 15/4, T. 4/12; 21, G. 47/1, T. 10/6; 23, G. 55/2, T. 12/4). One beaker of such a type was found at the Southeast necropolis of Siscia (WIEWEGH 2003, 53, T. XXXIV/1). [Fig. 5] Indented beakers were common forms of Roman glass vessels and they appear in different shapes through the 1st and 2nd century, but there are examples dated to the 3rd century as well. Beakers 5a, b, d and e, have four broader indentations on the walls, while 5c has twelve narrower. Rims of specimens b and c are of the same shape – slightly facing outwards and they are cut, while specimens 5a and d have rims also cut and ground, but the walls are creating a small curve at the transition to the rims. Beakers 5a, b and c have slightly concave base, while 5d and e have tiny foots. On the basis of analogies with similar pieces and the shape of the rims and base, beakers 5b and c are probably of earlier production, the 1st century, while other three examples were probably produced later, the 2nd – 3rd centuries.

Fig. 4  Stenjevec, Gornja Vas, Sisak (after GREGL 1989; 2007; WIEWEGH 2003)
Square bottles with a handle, larger or smaller, stocky or elongated, are widespread through the Empire, even though more in the western than the eastern provinces (Isings 1957, 63-67, f. 50; Calvi 1968, 116-119; Šaranoović Svetek 1986, 19; Barkóczi 1988, 171-181, T. XXXVII-XLIV). [Fig. 6] Their production began as early as the 1st century (Augustus or Tiberius period) but from the mid-1st century onwards they became extremely popular and widespread and remained in use through the entire Roman period, given that they could still be found in the 4th century. In our territory, they were widespread as well, but unfortunately there are more fragments of such bottles found than entire vessels. There are only a few examples that are complete, found in graves, but only couple of them are published. Two identical bottles were found at Stenjevec: short, square, with rounded shoulders (Gregl 1989, 17, G. 8/3, T. 3/3; 18, G. 15/1, T. 4/9). A similar bottle is preserved in Pavletić collection (Balen et al. 2003, 74, cat. no. 110), but has more narrow neck, while in Siscia’s Southeast cemetery one narrower, taller bottle was found (Wiewegh 2003, 58, T. XXXIII/1). Bottles are dated to the 1st – 2nd centuries.

Since the early Roman vessels from Croatian portion of Pannonia are mostly found in cemeteries we have multiple specimens of storage vessels or urns. At Gornja Vas cemetery (Gregl 2007) about a dozen urns was found, dated to the 2nd half of the 1st and 2nd centuries. They are quite similar in shape and colour (naturally blue or green) and differ only in rim forming. There is only one of square shape found, in Sisak (Koščević 2003, 91, 92, Fig. 2b), dated to the period of the 1st – 2nd centuries. Globular vessels are frequent finds in the western provinces and are rare in the eastern ones. They were used as storage vessels in households, as well as urns. Square vessels were primarily used for storage, since their shape was suitable
for transport. But, they also served as urns in the western provinces, many of them were found in the Gaul and Rhein region (LAZAR 2003, 161).

Fig. 6 Stenjevec, Sisak (after GREGL 1989; WIEWEGH 2003)

Fig. 7 Gornja Vas (after GREGL 2007)

Late Roman glass vessels

Glass vessels dated to the late Roman period appear to be much more numerous than those of the earlier periods. There are far less vessel types but quantitatively more objects. The earlier ones, as already mentioned, are mostly imported from Italy, while those from the later periods may have been produced locally. There are lots of elements that support such a statement. Poor production, poor quality of glass, vessels types that have no or few analogies in other provinces, only several, basic vessel types (conical and hemispherical beakers, oval jugs, spherical bottles and toilet vessels), etc. But, the most important evidence (furnaces, glass waste, tools, etc.) for such an assumption is still lacking.
Glass vessels of probable local production?

There are several types of conical beakers: with rounded base, flat or ring base. [Fig. 8] There are different opinions regarding the functions of the beakers with rounded and flat base. Some scholars believe that they were used as lamps, while the majority of them believe that they could be used both, as lamps and beakers. There are frescoes found showing that vessels of that type were used for wine drinking (FLEMINING 1997, 32). In Karanis, beakers of such type were found together with vessels for everyday use – plates, bowls, bottles, but, also in Karanis, they were found, together with ceramic lamps, in the underground grain pantries (FLEMINING 1997, 32). The majority of these beakers were found as grave goods, at cemeteries of Štrbinci (MIGOTTI 2001; 2004; 2007) and Tekić (SOKAČ ŠTIMAC 1974), but several were discovered at cemetery of Zmajevac as well (FILIPPOVIĆ 2010). They date to the 4th – beginning of the 6th centuries. There are only two published conical beakers with ring base. The first one is preserved in the Pavletić collection (BALEN et al. 2003, 78, cat. no. 128), probably from Sisak, but the context of the finding is unknown. The second one is from Dalj (ŠARANOVIĆ SVETEK 1986, 17, T. III/5), but unfortunately the context is also unknown. They date to the 3rd–4th centuries. Beakers with rounded base were popular both in the western and the eastern provinces while the other two types were more popular in the West.

Hemispherical and oval beakers, with or without decorative blue drops on the body, are also frequent finds among the late Roman vessels in our portion of Pannonia. These vessels originate from the 3rd century and they were especially popular in 4th century. They appear throughout the entire Empire, but particularly in the Rheine region. Our examples are all of
different shades of greenish and yellowish colour and decorative drops on the body are made of blue glass. Plain beakers (Isings form 96) were found in Ludbreg (FADIĆ 1997, 200, cat. no. 207), Popov Dol (DAMEVSKI 1976, 66, Tab. XV/2), while beakers with decorative drops were found in Sisak (FADIĆ 1997, 90, 200, cat. no. 206), Virovitica (SALAJIĆ 2001, 34, 36) and Zmajevac (FILIPPOVIĆ 2010, 37, cat. no. 9). There are more fragments found than complete vessels of such beaker-type with drops, on different sites at eastern Croatia.

As we can see, oval jugs were also very popular in our part of Pannonia during the 4th century. Several different types can be recognized. Their common characteristic is the oval body, which, of course differs in size and decoration (with or without ribbs) and they all have ring base. They also differ in length, size and decoration (with or without threads) of the neck, shape of the mouth and handle. Jugs with oval body and emphasised shoulders, some with and some without decoration of ribbs, were found at the cemetery of Štrbinci (MIGOTTI 2004, 237, T. XVIII/2; 2007, 201, T. VI/3). At the cemetery of Zmajevac all oval jugs that were found have a plain body (FILIPPOVIĆ 2010, 47, cat. no. 33; 49, cat. no. 36). From these two cemeteries, there are several oval jugs with decoration of glass threads on the neck (MIGOTTI 2009, 219, T. XXXV/3, 4; FILIPPOVIĆ 2010, 47, cat. no. 33; 55, cat. no. 51).

Just like oval jugs, globular bottles were also very popular and widespread during the 4th century in our territory. This type of bottles was a popular and frequent type through the entire Empire from the 2nd half of the 3rd and in the 4th century (ISINGS 1957, form 103, 104b; GOETHERT POLASCHEK 1977, Taf. C/101 b; BARKÓCZI 1988, 144, Taf. XXVI, 308a).
Bottles with a straight neck, with or without constriction, were found at cemeteries of Zmajevac (Filipović 2010, 64, cat. no. 72) and Štrbinci (Migotti 2009, 210/4; 215/ T. XXXII/7) and also in Osijek (Bulat 1976, 91/26, T.III/1), but unfortunately without any information about the context. Bottles with funnel mouth are more numerous. They were found in Osijek (Bulat 1976, 89/2, T. I/1; 90, 91/25, T. II/1), Dalj (Bulat 1976: 90/15, T. II/4), Štrbinci (Migotti 2009, 134, T. XX/3) and probably Sisak, now preserved in the Pavletić collection (Balen et al. 2003, 78, cat. no. 126, 127).

The vessel forms presented in this paper are not all glass vessel forms known from northern Croatia. Here presented types, from period of the 1st to the 4th centuries, were most popular and widespread in the entire Empire, so they were popular in our part of the province as well. Unfortunately, to a far less extent than in the other provinces, especially earlier forms. As I mentioned before, one of the reasons for that is maybe just insufficient archaeological excavations so far. But, based on the vessels that we have and their analogies with similar forms from other provinces, we can say that earlier forms are mostly Italic ones. Later forms (4th century) are probably local, Pannonian, which is evidenced by a number of indicators (poor production and poor quality of glass, asymmetrical forms, large quantity of the material found but only few major vessel types (globular bottles,
oval jugs, conical beakers and rounded toilet bottles), lackness of direct analogies, etc.). Unfortunately, no other elements (furnace, glass waste, tools, etc.), on the basis of which we could prove the glass production at this part of Pannonia, have been found yet. In other words, to confirm the latter assumption, more archaeological evidence is needed.

**BIBLIOGRAPHY**


Typology of the Roman glass vessels from the Croatian part of the province Pannonia


