

The "Emona" Glass Beakers

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Izvleček

Iz Emone in nekaterih drugih najdišč v Zgornji Panoniji in vzhodnem Noriku poznamo steklene čaše značilne oblike, ki ni zastopana med italiskim steklom. Njihova razširjenost govori za delavnico v Emoni. Proučili smo tudi mere teh čaš.

Glass beakers with a characteristic egg-shaped body, a slightly everted rim, a rib below the neck and a low foot (*fig. 1a*) are known from the Emona (Ljubljana) graves.¹ The glass is transparent and slightly green coloured, in one case almost colourless (no. 3); air bubbles are visible, which is indicative of blowing. The widest body point of the broken Emona beakers (nos. 3-5) is extremely thin-walled (0.2 mm).

Apart from Emona, where six such beakers are known (nos. 1-6), two were reported from Poetovio (nos. 10,11; *fig. 1b*) and individual examples from Cerknica (no. 7), Praetorium Latobiorum (no. 8), Štrekljevec in Bela Krajina (nos. 13,14), Wies (no. 16) and a variant with a rib below the neck and above the foot from Arrabona (no. 17) (*fig. 2*). They match the beakers from Emona in form, the appearance of the glass (transparent, slightly green or blue-green in colour) and technique of production. All of them are grave finds, apart from no. 11, where the circumstances of discovery are unknown.

The beakers appear in graves from the end of the 1st and the first half of the 2nd centuries (nos. 2,3,6,7,10,12,13,14,17), but are most common in graves of the Trajanic period (nos. 2, 4-6, 12, possibly no. 10).

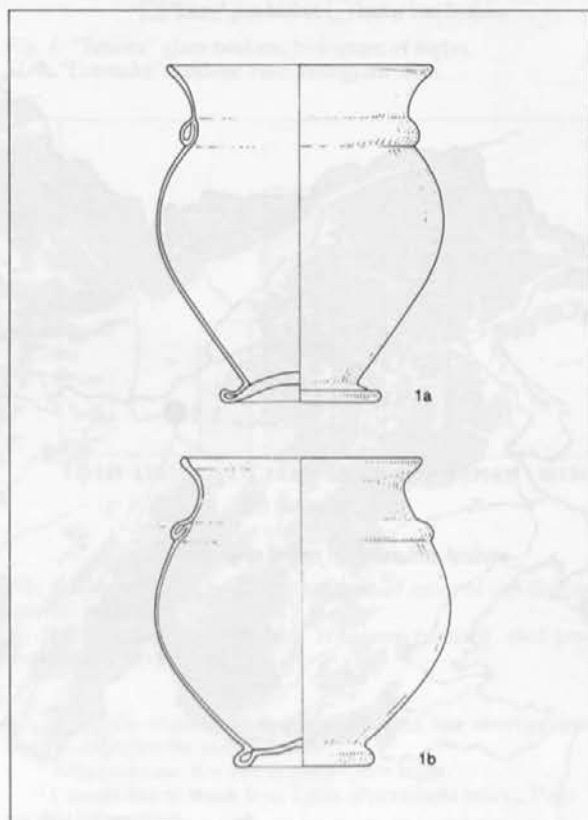
The histogram of the rim diameters (*fig. 3*) shows a marked aggregation in the region of 7.0 to 7.9 cm.² The median value (arithmetic median) of the rim diameters is 7.447 cm, whilst the standard deviation is 0.415 cm. The distribution is not accidental, which is not surprising. Roman vessels were frequently made to dimensions, which are one or several times a Roman unit of measurement (Horvat 1986, 247 (with cited

Abstract

Glass beakers of a characteristic form, for which there are no analogies in the italic glassware, are known from Emona and certain other sites in Upper Pannonia and eastern Noricum. Their distribution suggests the existence of at least one workshop in Emona. The dimensions of these beakers are examined as well.

Fig. 1a: Beaker from Emona (no.1 on list 1). Scale = 1:2.
Sl. 1a: Čaša iz Emone (št. 1 na seznamu 1). M. = 1:2.

Fig. 1b: Beaker from Poetovio (no. 10 on list 1). Scale = 1:2.
Sl. 1b: Čaša iz Poetovione (št. 10 na seznamu 1). M. = 1:2.



bibliography); Istenič 1992, 35-38; Consp.151-152). In the case of the vessels under study the closest Roman measure is one palm or four digits, that is 7.39 cm (palmus = 4 digiti = 7.39 cm) (Hultsch 1971, 700, Tab. 6). The above result suggests that the ideal dimension of the rim diameter of these beakers was one palm. The exactitude of the production (for two-thirds of the artefacts cca. 4 mm) appears to be in keeping with the production technique, that is blowing without the aid of a mould.

Contrary to the histogram of rim diameters, the histogram of heights (fig. 4) shows an even distribution in the region of 7.6 to 9.5 cm. The median value is 8.6 cm, which coincides with the roman measure of seven half-ounces (1 semiuncia = 1.23 cm), but the distribution is not normal. The histogram of ratios between rim diameters and heights (fig. 5) shows a similar distribution within the extreme values of 0.77 and 0.92. The median value of the ratio is 0.85, which fits well with the ratio of 6:7 half- ounces. The standard deviation is 0.05.

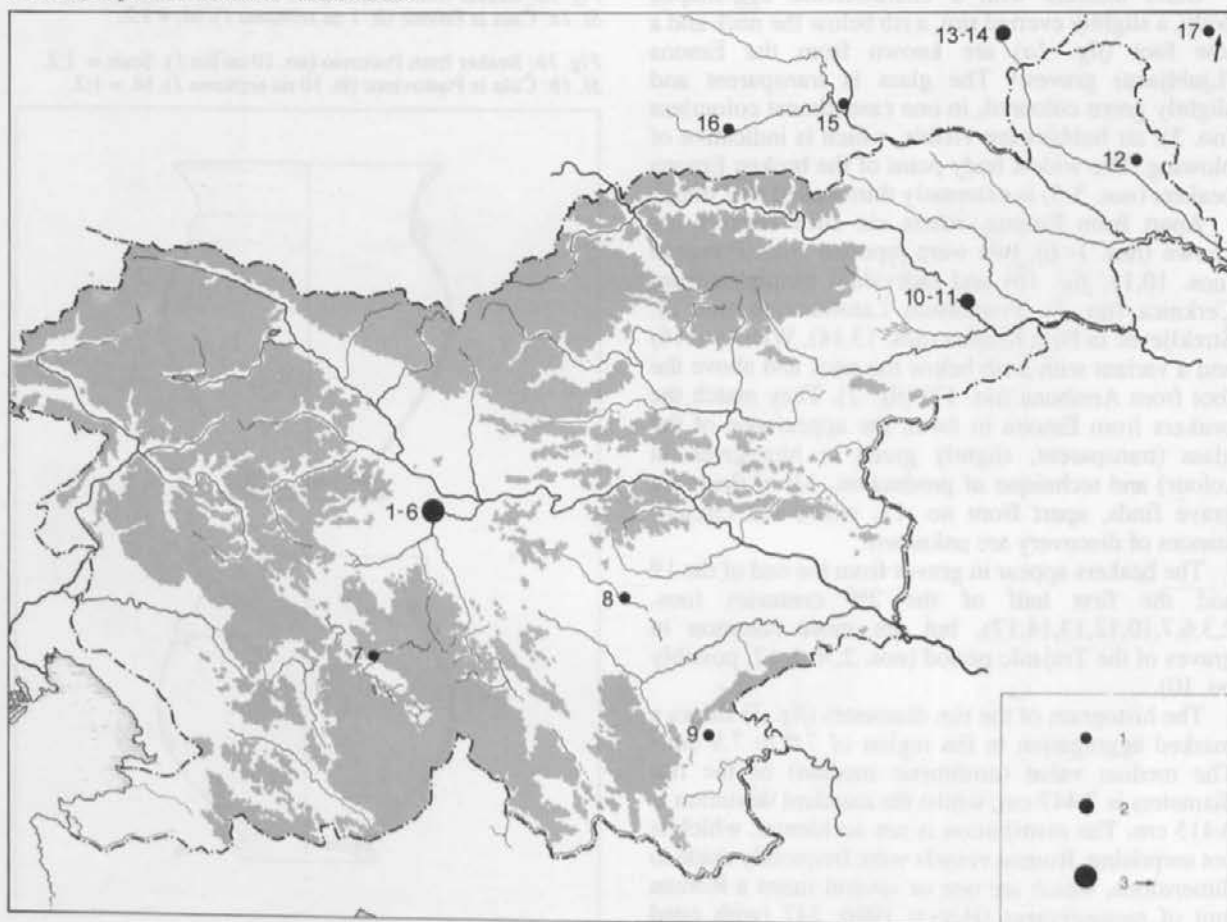
The distribution of the sites with these beakers indicates two groups (fig. 2): a western (nos. 1-9) and an eastern group (nos. 10-17). The greater number of beakers from Emona is probably not only a result of the extensive cemetery excavations. It is supposed that

one or possibly more connected workshops for these beakers existed in the town. This is also argued for by the economic role of Emona and its geographical location. The beakers in the eastern group could be imports from the postulated Emona workshops, or perhaps products of a workshop in that area, possibly in Poetovio. The variant from Arrabona might indicate another workshop.

List 1:³

1. *Emona (Ljubljana)*, Petru 1972, 44, grave 319, T. 28: 8. R = 7.0-7.4 cm, H = 7.6-8.1 cm.
2. *Emona*, Plesničar-Gec 1972, 20, grave 35, T. 9: 14. R = 6.9-7.1 cm, H = 8.4-8.9 cm. Date: end of the 1st - beginning of the 2nd cent. (oil-lamp of the type Buchi Xa; glass jugs of Isings 55 type - Rottloff 1988, 56-7; modiolus of Isings 37 type - Rottloff 1988, 69).
3. *Emona*, Plesničar-Gec 1972, 36, grave 141, T. 39: 2. R = 8.2-8.4 cm. Date: 1st half of 2nd cent. (oil-lamp of Buchi Xa type, glass jug of Isings 55 type - for bibliography see no. 2).
4. *Emona*, Plesničar-Gec 1972, 108, grave 636, T. 146: 10 (incorrect graphic reconstruction!). R (cca. 35% of rim extant) = 7.4 cm. Date: end of 1st - beginning of 2nd cent. (unguentarium of type Isings 82 - Isings 1957, 97-99; Barkóczy 1988, 114-115; modiolus of Isings 37 type - Rottloff 1988, 69).

Fig. 2: Distribution map of "Emona" glass beakers.
Sl. 2: Razširjenost "emonskih" steklenih čaš.



5. *Emona*, Plesničar-Gec 1972, 143, grave 973, T. 193: 9.
R = 7.45-7.6 cm.
Date: end of 1st - beginning of 2nd cent. (for bibliography see no. 2).

6. *Emona*, Plesničar-Gec 1972, 144, grave 977, T. 196: 5.
R = 7.3-7.5 cm, H = 8.3-8.5 cm.
Date: end of 1st - beginning of 2nd cent. (for bibliography see no. 2).

7. *Cerknica*, Urleb 1983, 308, grave 32, T. 20: 1.
R (probably graphic reconstruction) = 6.6 cm.
Date: Flavian period - 1st half of 2nd cent. (imitation? of a sigillata dish, form Consp. 39).

8. *Praetorium Latobiorum (Pristava near Trebnje)*, Slabe 1993, 40, grave 27, T. 2: 5.
R = 7.2, H = 9.2.
Date: 1st - 2nd cent. (oil-lamp of Loeschcke I B type, probably low quality).

9. *Štrekljevec*, Dular 1973, 195, grave 7, T. 11: 2.
R = 7.7 cm, H = 8.8 cm.
Date: 1st- 2nd cent. (pot with a ribbed cylindrical neck).

10. *Poetovio (Ptuj)*, Benkó 1962, T. 37.8; Istenič 1992, II. Catalogue, 121, grave 495.
R = 6.3 cm, H = 7.5-8.0 cm.
Date: beginning or 1st half of 2nd cent. (coin of Traianus, oil-lamp of Buchi Xa type, probably import).

11. *Poetovio*, Šubić 1974, 44, n. 48, fig. 9.
R = 8.5 cm, H = 9.5 cm.
The circumstances of the find are not known.

12. *Strehovec*, Šavel 1990, T. 2: 4.
R = 6.5 cm, H = 7.8 cm.
Date: 2nd cent. (coin of Traianus).

13. *Kapfenstein*, Urban 1984, 76, T. 53: 7.
R (reconstruction) = 8.5 cm.
Date: 1st half of 2nd cent. (Urban 1984, 76.64).

14. *Kapfenstein*, Urban 1984, 92, T. 57: 12.
R = 7.9, H = 8.4.
Date: 1st half of 2nd cent. (Urban 1984, 92.64).

15. *Flavia Solva (Wagna near Leibnitz)*, Fuchs 1980, 170, T. A 41: 3.
R = 7.8 cm, H = 8.6 cm.
The grave context is not preserved.

16. *Wies*, Radimský, Szombathy 1888, 82, T. 2: 10 (grave in a tumulus).
R = 7.5 cm, H = 9.0 cm.

Date: probably time of Hadrianus (coin of Hadrianus; glass vessels; the low quality of drawings makes a typological analysis difficult).

17. *Arrabona (Győr)*, Szónyi 1973, 20-21, fig. 15; 54, grave 14, T. 10: 1.
R = 7.3 cm, H = 9.4 cm (measure taken from the drawing)

Appendix

After the manuscript was handed in two unpublished "Emona" glass beakers from Žalna-Gatina in Dolenjsko (c. 20 km south-east from Ljubljana) were found in the store of Narodni muzej in Ljubljana. According to the data in the museum register they belong to graves 1 and 2. Grave 1 can be dated to the 2nd century (probably the first half) on the evidence of a Buchi type Xa lamp (probably import from Italy). The reconstructed rim diameters of the beakers are c. 7.6 cm (grave 1, Inv. No. R 8491, c. 18 % of rim extant) and c. 7.8 cm (grave 2, Inv. No. R 8493 A, only c. 10 % of rim extant).

¹ I would like to thank Andrea Rottloff M.A. who drew my attention to the non-italic origin of these beakers.

² Apart from nos. 1-6 and no. 9, I did not measure the beakers, but used the published informations. In many cases, where the

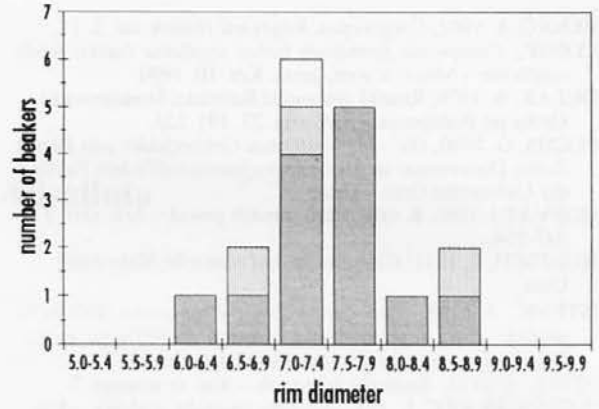


Fig. 3: "Emona" glass beakers: histogram of rim diameters.
Sl. 3: "Emonske" steklene čaše: histogram premerov ustij.

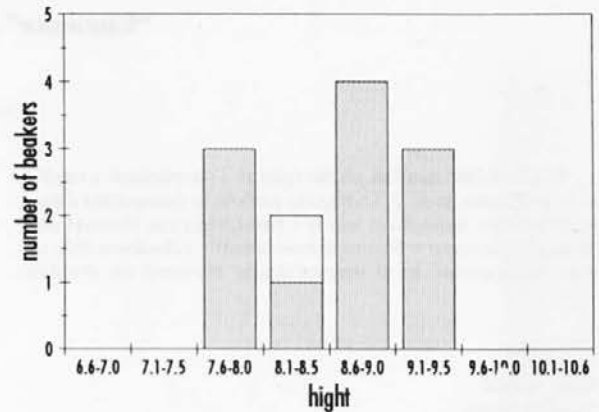


Fig. 4: "Emona" glass beakers: histogram of heights.
Sl. 4: "Emonske" steklene čaše: histogram višin.

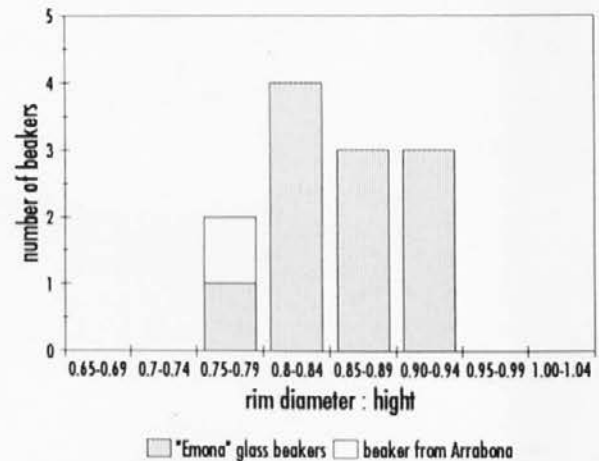


Fig. 5: "Emona" glass beakers: histogram of ratios of rim diameters and heights.
Sl. 5: "Emonske" steklene čaše: histogram razmerij med premerom ustij in višinami.

rim is slightly elliptical in form or a beaker has unsymmetrical height, I respected the median value.

³ Abbreviations: R = rim diameter, H = height.

⁴ I would like to thank Ivan Žižek (Pokrajinski muzej, Ptuj) for this information.

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“Emonske” steklene čaše

Povzetek

Steklene čaše značilne oblike (glej *sl. 1*) so poznane z najdišč, ki so prikazana na *sl. 2*. Izvirajo iz grobov, ki omogočajo datacijo predvsem v trajanski in tudi še v hadrijanski čas. Domnevamo, da so jih izdelovali v Emoni in morda tudi v vzhodnem delu njihove razširjenosti, to je severovzhodni Sloveniji ali avstrijski

Štajerski. Analiza mer je pokazala, da je bila idealna mera za premer ustja najverjetneje ena dlan (palmus = 7,39 cm; *sl. 3*). Idealna mera višine je bila morda 7 polunč (1 semiuncia = 1,23 cm), vendar si ne znamo razložiti nenormalne porazdelitve na histogramu višin (*sl. 4*).

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