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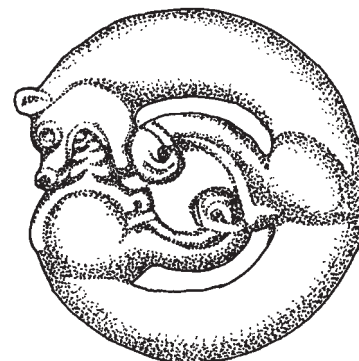
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N. ABAY

ROMAN-PERIOD GLASS ARTEFACTS FROM THE SELÇUK UNIVERSITY MUSEUM COLLECTION



This study focuses on fourteen Roman-era glass artefacts kept at the Selçuk University Museum in Konya, Turkey. The primary subject of the research comprises the unguentaria, globular-bodied and funnel-mouthed bottles, beakers, and bowls included in this examined group.

K e y w o r d s: Iconium, Selçuk University Museum, Roman period, glass

Throughout history, glass has served as a pivotal material in the production of diverse objects intended to meet human needs (Canav 1985, p. 18). Whether utilised for personal adornment or as containers for perfumes, medicines, and similar substances, glass artefacts have evolved in technique, form, and function, maintaining a continuous presence in human life (Eker 2017, p. 16). Consequently, glass finds are among the most frequently encountered artefacts in both archaeological excavations and museum collections. Despite their prevalence, academic publications on Roman-era glass artefacts from Anatolia have remained relatively limited. Within this framework, this study aims to consolidate fragmented data concerning glass artefacts in the Roman world and interpret this material through the lens of archaeological findings.

Accordingly, the glass artefacts in the collection of the Selçuk University Museum in Konya, Turkey, have been classified into typological groups and examined in detail under various thematic headings. This study encompasses the analysis of the artefacts'

morphological characteristics and functions, as well as comprehensive cataloguing (Appendix 1). A total of fourteen Roman-period glass artefacts donated to the museum were analysed; this group includes unguentaria, spherical-bodied and funnel-mouthed bottles, beakers, and bowls. These specimens were manufactured using free-blowing or mould-blowing techniques and shaped with specialised tools. Decorative elements such as ribbing, fluting, or grooving, as well as the application of glass trails, enhance the visual aesthetics of several examples.

The collection predominantly features various shades of green, though specimens in blue, yellow, and brown tones are also present. These artefacts, with rim diameters ranging from 0.8–10.8 cm, heights from 4.7–19.5 cm, and wall thicknesses from 0.1–0.4 cm, are analysed under four primary functional categories, further divided into nine sub-types based on their rim and body features. As the donation-based nature of the collection enables the identification of specific production workshops, assessments of provenance and dating are based on comparative analysis of similar examples in the existing literature, focusing on formal and technical attributes.

Unguentaria (cat. nos. 1–6)

Bulbous-Bodied Unguentaria (cat. nos. 1–2)

The artefacts feature slightly everted, rounded rims, long cylindrical necks, and spherical or bulbous bodies that expand smoothly from the neck, terminating in rounded, concave bases. The glass fabric is dark blue and light blue in colour, respectively (figs. 1–2). These forms are consistent with the bottle/unguentarium types frequently encountered in Roman-period glass collections. According to Isings' typology, these long-necked, spherical-bodied specimens correspond specifically to Isings Form 26a (Isings 1957, p. 40). A similar

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Fig. 1. Selçuk University Museum. Bulbous-Bodied Unguentarium, Mus. Inv. no: 375/A
Рис. 1. Музей Сельчуцького університету. Цибулеподібний унгвентарій, інв. № 375/A

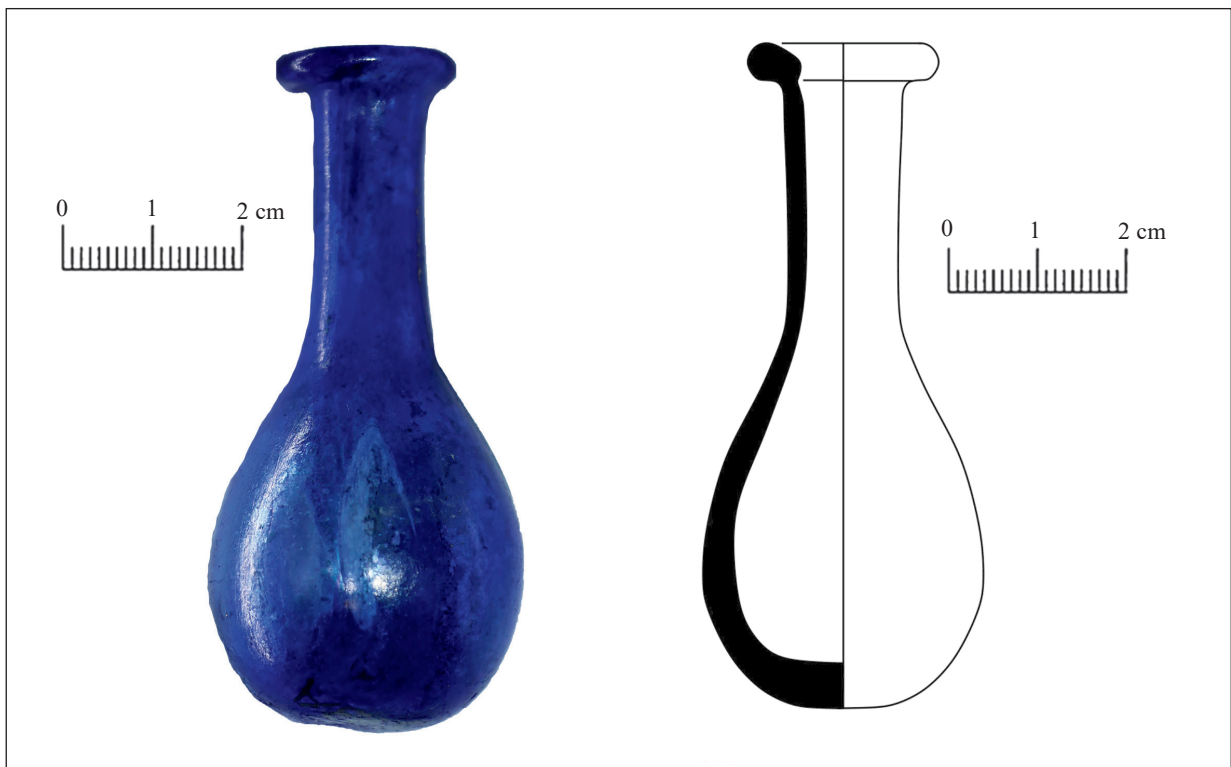


Fig. 2. Selçuk University Museum. Bulbous-Bodied Unguentarium, Mus. Inv. no: 373/A
Рис. 2. Музей Сельчуцького університету. Цибулеподібний унгвентарій, інв. № 373/A

example among the glass artefacts from the Royal Ontario Museum, published by Hayes (Hayes 1975, p. 69, fig. 8), is dated to the mid-1st century AD.

Similar specimens have been extensively documented in museum collections and necropolis finds across Anatolia. The long-necked, spherical-bodied bottles within this museum's glass collection exhibit close parallels to the examined artefacts in terms of form and proportion (Atila, Gürler 2008, p. 33, cat. no. 33). Likewise, glass bottles in the Hüseyin Kocabaş Collection, dated to the 1st century AD, provide comparable examples in terms of glass fabric colour and surface characteristics (Akat, Fıratlı, Kocabaş 1984, p. 29, cat. nos. 176, 180, pics. 74–75).

Published finds from various Anatolian museums clearly demonstrate the regional distribution of this form. Specifically, Roman-period glass bottles in the museums of Kahramanmaraş (Eker 2014, p. 166–167, cat. no. 117), Mardin (Eker 2024, p. 256–257, cat. nos. 85–86), and Samsun (Özbilgin 2019, p. 273, fig. 45a) share common characteristics with our specimens in terms of size, form, and technical features. In light of these data, the examined glass artefacts shows strong similarities — in terms of form, technique, and material properties — to the free-blown glass unguentaria prevalent in Anatolia and the Eastern Mediterranean. Based on these comparisons, the artefacts can be regarded as typical glass unguentaria datable to the 1st century AD.

Piriform-Bodied Unguentaria (cat. nos. 3–4)

In terms of morphology, these artefacts feature an everted and inwardly folded rim, a cylindrical neck, a piriform (pear-shaped) body, and a flat base. The glass colour is intense cobalt blue, with light blue and greenish streaks appearing as flow marks across the body. The other specimen is characterised by dark green tones (figs. 3–4). It is widely recognised that such vessels were primarily utilised for the storage of perfumes, oils, and cosmetic substances, and they are frequently recovered from funerary contexts.

However, some studies have shown that terracotta unguentaria have a very high permeability (Hellström 1965, p. 24; Dündar 2008, p. 6); this suggests that expensive and valuable perfumes or oils could not have been stored in these vessels for long periods (Hellström 1965, p. 24). Beyond these uses, it has been noted that unguentaria were also employed to transport materials such as honey, vinegar, *garum* (fish sauce), various spices, *silphium*, and medicinal substances (Hellström 1965, p. 24).

The long-necked, pear-shaped specimens can be associated particularly with Isings Form 28 and its derivatives (Isings 1957, p. 42, Form 28a). Furthermore, they have been classified within the Morin-Jean Form 22 group (Morin-Jean 1922–1923, p. 73, fig. 66). In Isings' study on glass artefacts from the Limburg region, a specimen exhibiting similar formal characteristics was dated to the 1st–2nd centuries AD (Isings 1971, fig. 15, no. 6). The high concentration of specimens belonging to this form group in the Syro-Palestinian region indicates that these types of vessels may be linked to Eastern Mediterranean production traditions (Hayes 1975, p. 72, no. 242, pl. 16). Similar pear-shaped glass bottles examined by Barkóczi (Barkoczi 1996, p. 60, no. 151) offer striking parallels to the artefacts in the Selçuk Museum, particularly regarding body proportions and rim morphology.

Furthermore, comparisons with similar glass vessels in the Bergama Museum Collection (Atila, Gürler 2008, p. 36, cat. nos. 38–39) and the Hüseyin Kocabaş Collection (Akat, Fıratlı, Kocabaş 1984, p. 29, pic. 78) reveal strong parallels, particularly in terms of body morphology, neck length, and the greenish-blue tones of the glass.

As a result of the evaluation of these analogous specimens, the significant overlap in manufacturing techniques, the preference for similar chromatic tones, and the consistency in morphological characteristics allow the artefacts under study to be dated to the 1st and 2nd centuries AD within the Syro-Palestinian typology.

Fusiform Unguentarium (cat. no. 5)

The glass artefact under examination is an unguentarium characterised by a long, slender cylindrical neck, a fusiform (spindle-shaped) body, and a base that tapers towards a pointed tip (fig. 5). The rim is everted, folded inward, and rounded. The transition between the neck and the body is smooth, and the body terminates in an elongated, pointed base that narrows significantly towards the bottom. The glass is light yellowish-brown in colour.

Stern suggests that such artefacts were imported from the Aegean and dates them to the 2nd century AD, noting that specimens from Anazarbus were found in the same context as 2nd century AD coins (Stern, Yağcı 1989, p. 602, pic. 10: 5–8). In addition to examples originating from Greece and Cyprus (Weinberg, McClellan 1992, p. 115, no. 80), finds from the excavations at Miletus (Rohde 1980, p. 20, Gruppe B, Abb. 14) and Assos (Arslan 2008, p. 52, pic. 6, no. 6), as well as glass bottles in the Hatay Museum

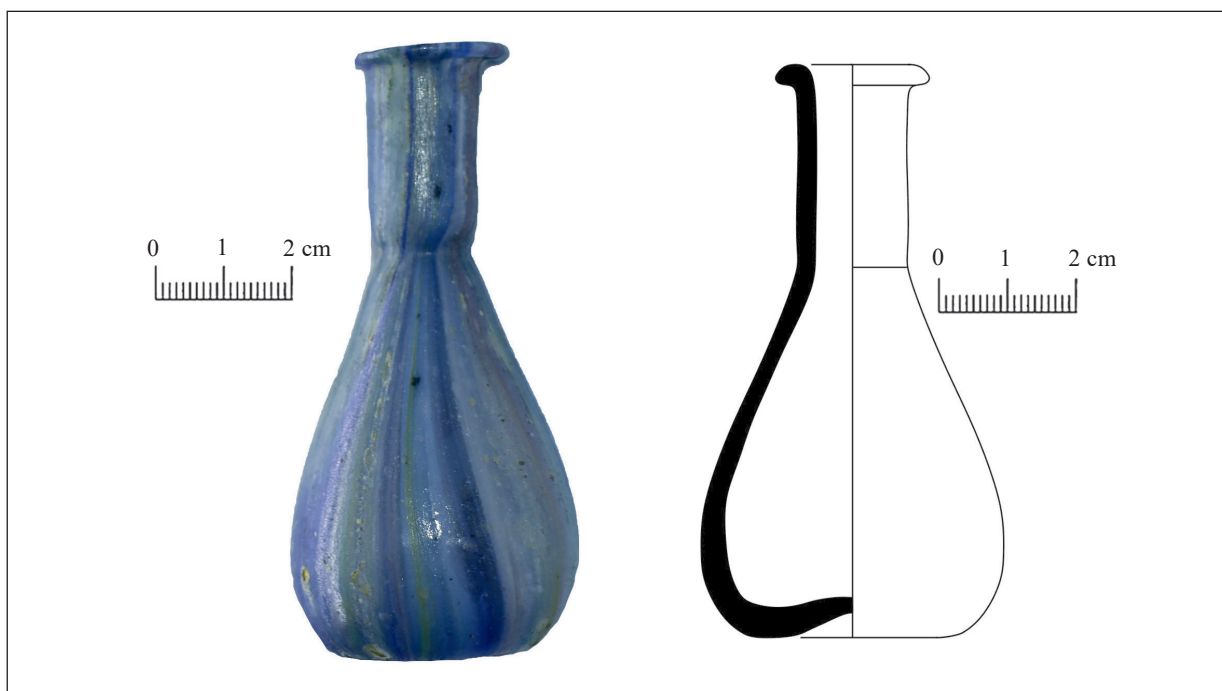


Fig. 3. Selçuk University Museum. Piriform-Bodied Unguentarium, Mus. Inv. no: 370/A

Рис. 3. Музей Сельчущького університету. Грушеподібний унгвентарій, інв. № 370/A

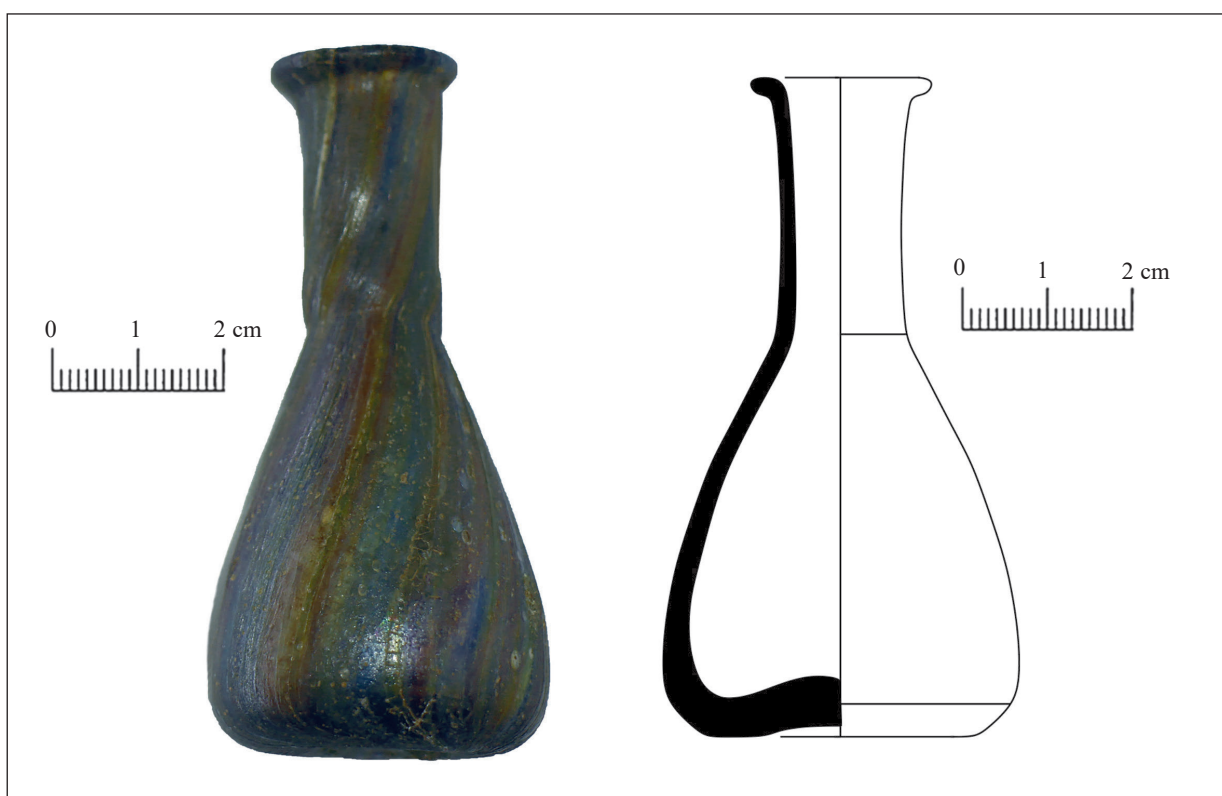


Fig. 4. Selçuk University Museum. Piriform-Bodied Unguentarium, Mus. Inv. no: 374/A

Рис. 4. Музей Сельчущького університету. Грушеподібний унгвентарій, інв. № 374/A

Collection (Yağcı 1990, pic. 33, no. 32), exhibit close morphological parallels to the artefact under study. Specifically, the long-necked, piriform-bodied, and

pointed-base examples are similar in terms of both general formal conception and production technique. Since these comparative examples are generally

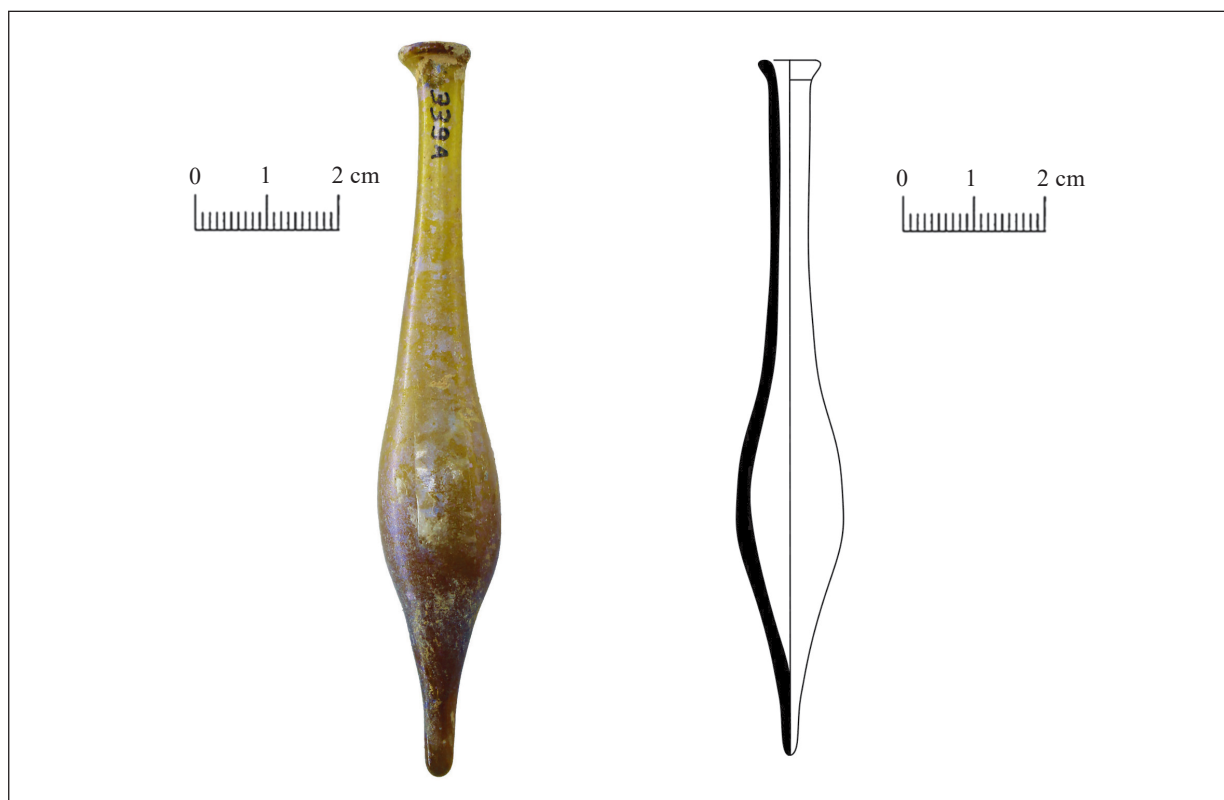


Fig. 5. Selçuk University Museum. Fusiform-Shaped Unguentarium, Mus. Inv. no: 339/A

Рис. 5. Музей Сельчучького університету. Веретеноподібний унгвентарій, інв. № 339/A

dated in the literature to the 1st–2nd centuries AD, it is possible to evaluate the examined glass artefact within the same chronological framework.

Furthermore, specimens in the Kahramanmaraş Museum collection (Eker 2014, p. 179–181, cat. nos. 212, 214), dated to the second half of the 1st century AD, exhibit close parallels with cat. no. 5 in terms of both morphological characteristics and glass colouration.

In this regard, two unguentaria uncovered during the excavations of Elaiussa Sebaste (Gençler 2009, p. 54, cat. nos. 113–114), as well as a drop-based unguentarium recovered from a sarcophagus dated to the 1st century AD in Assos (Arslan 2008, p. 52, pic. 6, no. 7), demonstrate similarities to the example catalogued as no. 5.

Fusiform Unguentarium (cat. no. 6)

The specimen under examination has a long, slender cylindrical neck and a needle-shaped body, and features a conical base that tapers to a teardrop-shaped tip (fig. 6). The glass of this artefact exhibits light blue-green tones.

This example matches the shape of a toilet bottle (unguentarium) found in Roman-period glass collections and is dated to the 4th century AD according to Morin-Jean (1922–1923, p. 82, Form 32). Furthermore, with their long necks and teardrop-

shaped bodies, such examples are typically classified within the Isings Form 105. (Isings 1957, p. 40).

Furthermore, two bottle specimens from the Porte Blanche cemetery — now housed at the Strasbourg Museum and dated to the late 3rd or 4th century AD — appear to share similarities with the examined artefact from the Selçuk Museum. (Straub 1879–1880, p. 14, 18).

Among the Roman glass artefacts studied by Hayes, there are unguentaria with long cylindrical necks and pointed bases; these examples show close similarities to the artefacts under study, both in terms of morphology and glass colouration (Hayes 1975, p. 118–119, pl. 28, nos. 461–462).

Bowl (cat. no. 7)

The vessel features an everted, shaped rim and a deep hemispherical body. The base displays a concave profile with a distinct pontil mark at the centre, surrounded by a low and wide base ring (fig. 7). The glass is characterised by light greenish tones; dense traces of corrosion are observed on the surface.

The specimen under study falls within the Isings Form 42 of the Mediterranean Group (1957, p. 58). Isings states that these bowls do not predate the Flavian period (Isings 1957, p. 58). She further notes that such bowls were commonly used among

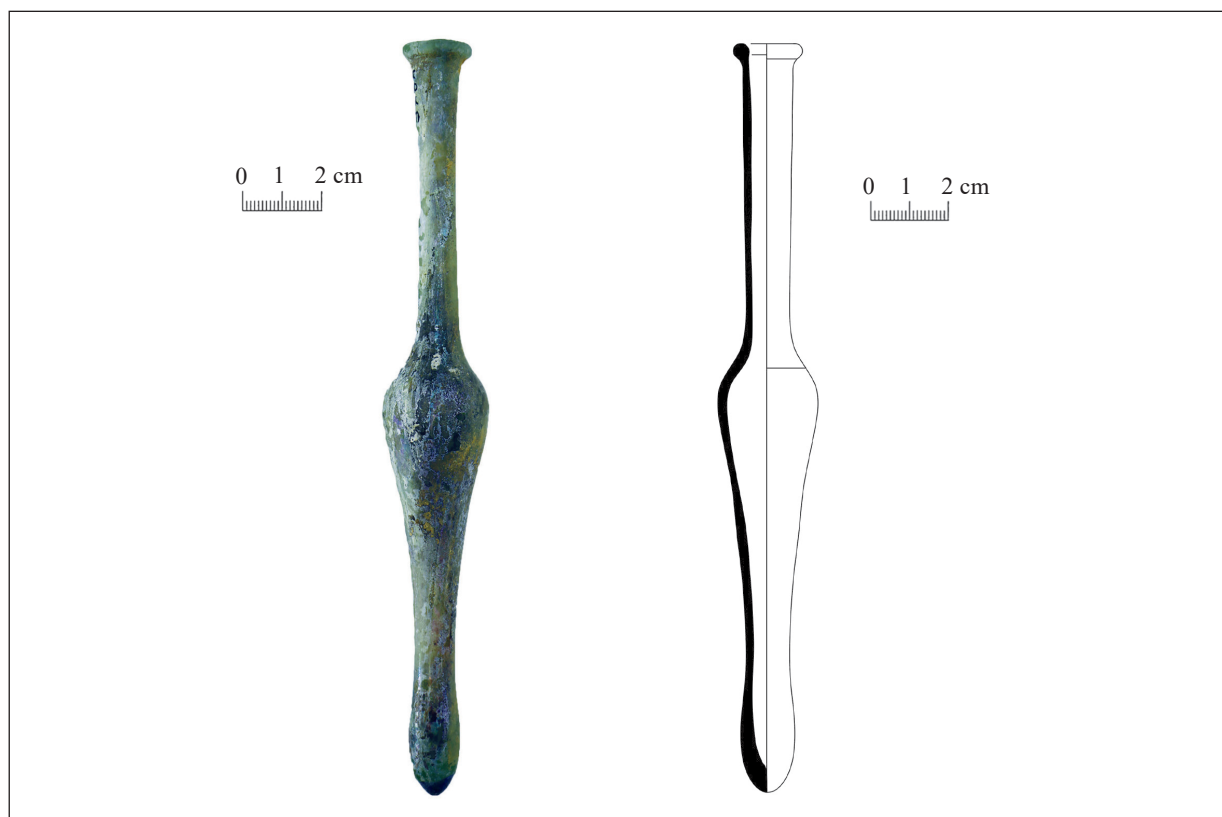


Fig. 6. Selçuk University Museum. Fusiform-Shaped Unguentarium, Mus. Inv. no: 378/A

Рис. 6. Музей Сельчучького університету. Веретеноподібний унгвентарій, інв. № 378/A

the glassware of Pompeii and Herculaneum. Similar examples, published by Hayes in the glass collection of the Royal Ontario Museum (Hayes 1975, p. 191, pl. 5, nos. 56–58), are dated to the early 1st century AD.

The bowl specimens in the Hüseyin Kocabaş Collection Glass Artefacts Catalogue (Akat, Fıratlı, Kocabaş 1984, p. 69, cat. no. 317, pic. 155) show morphological similarities to the examined vessel. Additionally, when compared with similar bowls in the Bergama glass collections (Atila, Gürler 2008, p. 123, cat. no. 193), particularly concerning their hemispherical body form and concave base with a pontil mark, it is evident that the examined specimen represents the widespread use of this type in Anatolia during the 1st century AD.

In light of these evaluations, this glass bowl, with an everted rim, hemispherical body, and base ring, can be dated to the first half of the 1st century AD, alongside similar examples of Anatolian and Eastern Mediterranean origin.

Beaker (cat. no. 8)

The thin rim, shaped by pulling outward, has been rounded and smoothed by fire-polishing. It is decorated with polished wheel-cut marks created by wrapping glass around a cylindrical body four times (fig. 8). A distinct pontil mark resulting from

the blowing technique is visible on the thick, flat base. The artefact, produced in a light greenish hue, exhibits dense corrosion, localised encrustation, and traces of iridisation on its surface.

In general typological studies of Roman glassware, such as that of Isings (Isings 1957, p. 47), the artefact under examination is classified within the Form 30 category. Hayes notes that wheel-cut, polished, and decorated cylindrical vessels were produced extensively in the region of Syria or Cyprus, particularly during the 2nd–3rd centuries AD, and occupied an important place among vessels for everyday use (Hayes 1975, p. 201, pl. 15, no. 190). The closest parallels to this form and decorative style are found in the Hüseyin Kocabaş Collection (Akat, Fıratlı, Kocabaş 1984, p. 68, cat. no. 297, pic. 141); these are comparable particularly in terms of the horizontal decorations formed by wrapping glass threads of the same colour around the body. However, the clarity of the glass and the precision of workmanship in the Selçuk Museum specimen suggest a date approximately one century earlier.

Two specimens in the Bergama Museum collection (Atila, Gürler 2008, p. 131–132, cat. nos. 203–204), dated to the 1st–2nd centuries AD, exhibit characteristics identical to those of the

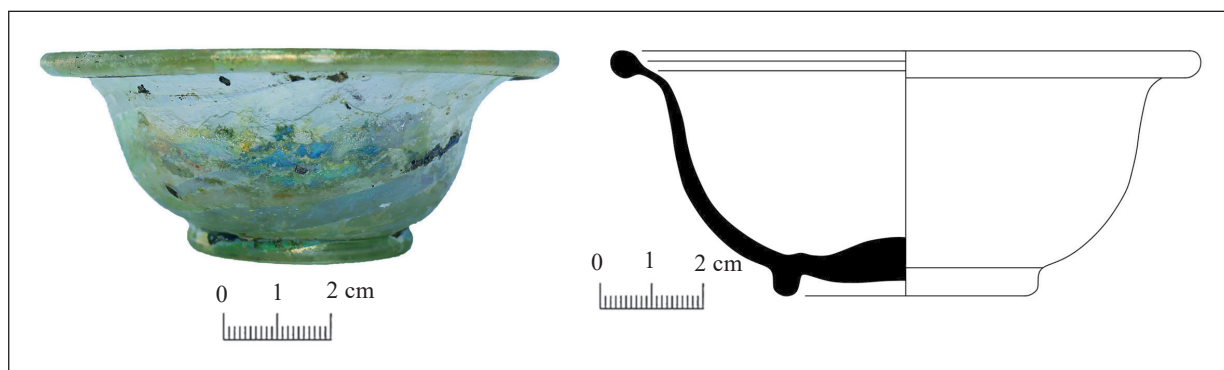


Fig. 7. Selçuk University Museum. Bowl, Mus. Inv. no: 1744/A

Рис. 7. Музей Сельчучького університету. Чаша, інв. № 1744//A



Fig. 8. Selçuk University Museum. Beaker, Mus. Inv. no: 1473/A

Рис. 8. Музей Сельчучького університету. Склянка, інв. № 1473/A

Selçuk Museum artefact. In particular, the simple decoration created with the same-coloured glass threads and the transparency of the glass show direct parallels with the examined specimen. Considering its form, decoration, production technique, and comparative examples, the artefact may be dated to the 1st–2nd centuries AD.

Spherical-Bodied and Funnel-Mouthed Bottles

Spherical-Bodied Miniature Bottle (cat. no. 9)

The object (fig. 9) was made using separate moulds for the neck and body. It has a short, cylindrical neck with a wide, slightly flared funnel-shaped mouth, a rounded sloping rim, a spherical body, and a slightly concave base. The glass has a dark greenish tint.

The vessel is devoid of decoration, emphasising a minimalist form. It is thought that such vessels were primarily used for the storage of perfumes, ointments, and similar liquids (Israeli 2003, p. 112–115).

The examined specimen corresponds to Roman-period glass vessels with a short neck, spherical body, and funnel-shaped mouth in Isings' typology (Isings 1971, p. 45, fig. 1, pl. 55: 104, no. 14). Due to its resemblance to a small-scale bottle/unguentarium type, it has also been associated with Isings Form 26, which is dated to the 3rd century AD (Ising 1957, p. 40). Furthermore, in Hayes' typological study of glass artefacts (Hayes 1975, p. 206, pl. 21: 323), it shows close parallels in terms of glass characteristics and morphology with miniature spherical-bodied vessels dated to the 3rd–4th centuries AD.



Fig. 9. Selçuk University Museum. Spherical-Bodied Miniature Bottle, Mus. Inv. no: 344/A

Рис. 9. Музей Сельчучького університету. Сферична мініатюрна пляшечка, інв. № 344/А

Spherical-bodied vessels with funnel mouths in the Hüseyin Kocabaş Collection (Akat, Fıratlı, Kocabaş 1984, p. 62, pic. 103), dated to the 3rd century AD, share common characteristics with the examined specimen. Glass artefacts found in the museums of Kahramanmaraş (Eker 2014, p. 298, cat. no. 116), Şanlıurfa (Marangoz 2018, p. 222-223, cat. nos. 116–117), and Samsun (Temür, Özbilgin 2019, p. 67, pic. 46) are also comparable to the examined artefact in terms of colour and form. Consequently, examples from Anatolian museum collections demonstrate that these types of glass bottles were widely used across a broad geographical area.

When typological comparisons, production techniques, the properties of the glass, and the chronological data of similar specimens are considered together, it may be suggested that the miniature spherical-bodied glass vessel under study dates to the 3rd–4th centuries AD.

Spherical-Bodied and Funnel-Mouthed Drop-per Flask (cat. no. 10)

The artefact (fig. 10) possesses a slightly conical neck and a broad spherical body. The neck tapers gradually towards the body, while flaring outward at the top to form an everted mouth. At the transition between the neck and the body, there is a distinct constriction made by a tool. The body is elongated in proportion to the neck, and the base is slightly concave. The glass is greenish in tone, with traces of

corrosion and localised encrustation on the surface. These surface characteristics indicate that the artefact remained underground for a long period, reflecting the degradation processes frequently encountered in Roman-period glass finds.

In terms of morphological characteristics, the work shows close parallels with the Isings Form 101–133 group, which comprises short-necked, spherical-bodied vessels with funnel mouths. Isings suggests that the origin of these spherical glass vessels may be related to the Karanis region in Egypt and that the form developed there after 300 AD (Isings 1957, p. 119, 161). Glass objects featured in Hayes' typological study (Hayes 1975, p. 78, pl. 7, cat. nos. 280-281) also resemble the object under examination in terms of both form and decoration.

The Selcuk Museum specimen is comparable in form and decoration to glass vessels in the Hüseyin Kocabaş Collection (Akat, Fıratlı, Kocabaş 1984, p. 64, cat. no. 258, pic. 113), dated to the 3rd century AD. However, in those comparative examples, the shoulder merges with the body through a soft transition, which distinguishes them from the artefact in this study. On the other hand, bottle specimens from the Şanlıurfa Museum (Marangoz 2018, cat. no. 88, p. 194) and the Bergama Museum (Atilla, Gürler 2008, p. 156, cat. nos. 232–233) dated to the 2nd–4th centuries AD, show close resemblance to the artefact under study, specifically in terms of colour and the formal technique used to create a

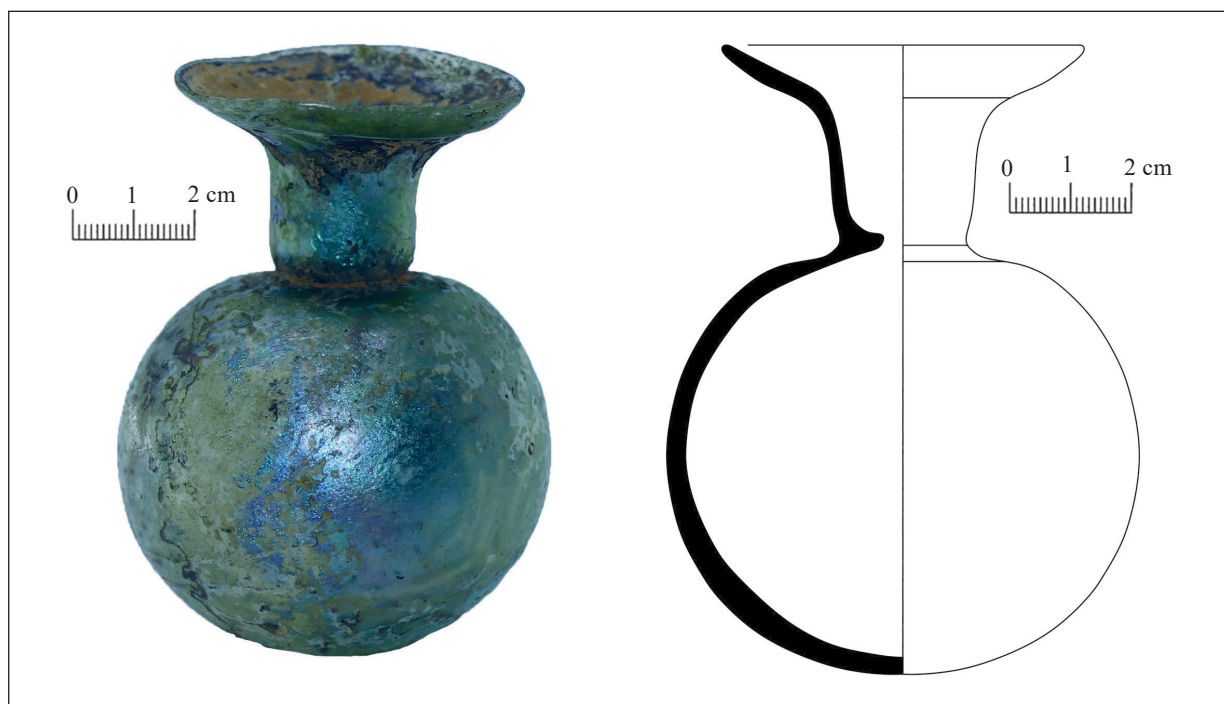


Fig. 10. Selçuk University Museum. Spherical-Bodied Dropper Flask with Funnel Mouth, Mus. Inv. no: 351/A

Рис. 10. Музей Сельчуцького університету. Сферична мініатюрна пляшечка з лійкоподібним горлом, інв. № 351/A

constricted, narrow transition from neck to body. Furthermore, a similar bottle form in the Canav glass collection (Canav 1985, p. 52, no. 67), dated to the 3rd–4th centuries AD, shows close stylistic and morphological affinity with the Selçuk Museum artefact. Taken together, these comparisons of form and decoration suggest that such spherical-bodied, cylindrical-necked bottles with funnel mouths were produced in the Eastern Mediterranean (Egypt-Syria-Palestine) during the 3rd–4th centuries AD.

Spherical-Bodied Bottle with Funnel Mouth (cat. no. 11)

The artefact exhibits a funnel-shaped mouth, everted and slightly folded inward, a cylindrical/conical neck that tapers from the rim towards the body, a piriform body that expands with smooth transitions from the neck, and a slightly concave base (fig. 11). The glass is greenish in tone, and a thin layer of corrosion is visible on the surface. Produced using the free-blowing technique, the vessel reveals faint rotational marks on the body.

In terms of morphological characteristics, particularly the combination of a funnel mouth, narrow neck, and bulbous body, the specimen may be classified within the Isings Form 104b (Isings 1957, p. 124). Isings categorised this form among the glass vessels of the 3rd century AD. According to the researcher, the type features a simple rim, while later specimens exhibit conical- or square-

sectioned necks, predominantly spherical bodies, and surfaces decorated with fluting or painted motifs. The preference for green tones in the glass is characteristic of this group. Isings states that this form emerged in the second half of the 3rd century AD and, through typological evolution, became a characteristic form of the 4th century AD (Isings 1957, p. 123-124).

Furthermore, in Hayes' typological study of glass artefacts, the Cypriot-made vessel with a spherical body and funnel-shaped mouth, dated to the 2nd–3rd centuries AD, shows close parallels in terms of both glass characteristics and form (Hayes 1975, p. 62, pl. 19, no. 164).

When compared with Anatolian finds, the artefact shows significant parallels in both morphology and glass colouration with a 3rd–4th century AD specimen in the Yüksel Erimtan Collection (Lightfoot, Arslan 1992, p. 154, no. 94), examples exhibited at the Carnegie Museum of Natural History (Oliver 1980, p. 119-120, cat. nos. 206–208) dated to the 3rd century AD, and similar forms in the Hüseyin Kocabaş Collection (Akat, Fıratlı, Kocabaş 1984, p. 63, cat. nos. 260-261, pics. 114-115). Furthermore, a funnel-mouthed, spherical-bodied green glass bottle in the Aydın Museum (Temür, Özbilgin 2022, p. 2542, pic. 15), dated to the 3rd–4th centuries AD, also shows strong similarities to the Selçuk Museum artefact. Within the context of these



Fig. 11. Selçuk University Museum. Spherical-Bodied Bottle with Funnel Mouth, Mus. Inv. no: 346/A

Рис. 11. Музей Сельчучького університету. Сферична мініатюрна пляшечка з лійкоподібним горлом, інв. № 346/A

comparisons, this type — widely represented in Anatolian museum collections — ranks among the standardised forms of Roman glass production during the 3rd–4th centuries AD.

Spherical-Bodied Bottle with Droplet Decoration (cat. no. 12)

The artefact (fig. 12) features an unthickened rim, a short cylindrical/conical neck that tapers slightly from top to bottom, and a spherical body that expands abruptly from the neck. The base is prominent externally and slightly concave underneath. The glass is light yellowish-green in tone, with traces of corrosion, encrustation, and localised opacification visible on the surface. The spherical body is decorated with teardrop motifs.

Green glass was commonly preferred for this type, and the form emerged in the second half of the 3rd century AD, becoming a characteristic form of the 4th century AD (Isings 1957, p. 124).

The artefact under study shows close parallels with a similar specimen dated to the 3rd–4th centuries AD and published in the glass collections of the Şanlıurfa Museum (Marangoz 2018, p. 216, cat. no. 110). That specimen, characterised by a short neck, a bulbous body, and light greenish glass, shows strong similarities to the Selçuk Museum artefact in morphology, glass-working technique, and droplet motifs.

In terms of morphological features and production technique, this glass bottle type is also similar to a specimen in the Türkiye Şişe Cam

Fabrikaları Collection (Canav 1985, p. 58, no. 81). Furthermore, it exhibits close affinities in both form and decoration with a similar specimen in the Bergama Museum Collection (Atila, Gürler 2008, p. 174, cat. no. 262) dated to the 4th–5th centuries AD. However, the higher transparency and lighter colour of the glass in the Selçuk Museum specimen suggest a slightly earlier date.

When the simplicity of the form, the distinct spherical body, the predominance of light green tones in the glass, and the transparency of the surface are considered together, the artefact appears consistent with the late phase defined by Isings and may therefore be dated to the 3rd–4th centuries AD.

Funnel-Mouthed Bottles (cat. nos. 13–14)

The glass artefacts under examination feature slightly everted, fire-polished rims, short cylindrical necks, and spherical bodies that expand smoothly from the neck, terminating in concave bases (figs. 13–14). The surface of each body is animated by vertically arranged ribbed decorations, spaced at regular intervals and extending from the neck to the base. Produced in light greenish tones, the artefacts exhibit localised traces of corrosion and surface matting.

In terms of morphology and decoration, these small ribbed-bodied bottles represent one of the common types of Early and Late Roman glass production and are frequently encountered in the Israel region (Stern, Gorin-Rosen 1997, p. 14–17, fig. 8: 16; Nagorsky 2007, p. 47, fig. 4.1; Winter 2010, p. 101, fig. 2: 9).

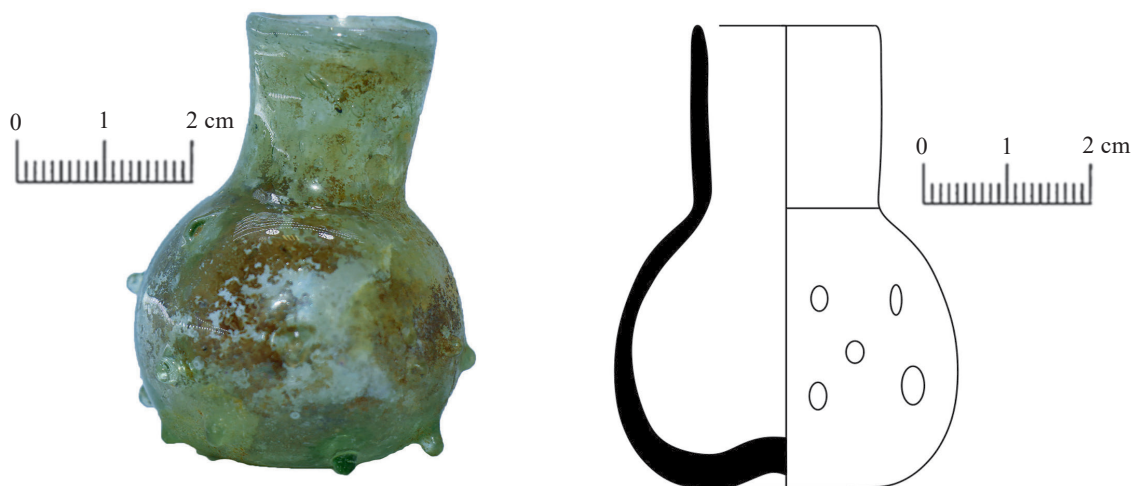


Fig. 12. Selçuk University Museum. Spherical-Bodied Bottle with Droplet Decoration, Mus. Inv. no: 340/A

Рис. 10. Музей Сельчуцького університету. Сферична пляшечка з краплинним оздобленням, інв. № 340/А

Specimens comparable to the Selçuk Museum artefacts are found among the examples dated to the 3rd–4th centuries AD in the Mardin Museum. They show close parallels, particularly in the arrangement of the ribs and the overall silhouette (Eker 2024, p. 488–489, cat. nos. 317–318). Furthermore, among other examples in Anatolian museums, finds from Afyon (Lightfoot 1989, pl. 7, no. 3), Burdur (Soslu 2022, cat. nos. 234–235), and Tire (Gürler 2000, cat. no. 135) show similarities, especially in the proportions of their funnel-shaped rims. However, the slightly more spherical body forms distinguish them from the Selçuk Museum specimens.

In light of these comparisons, and considering morphology, production technique, glass colour, and decorative features, the artefacts may be dated to the 3rd–4th centuries AD. These vessels constitute refined examples of the ribbed-body tradition widely utilised in Anatolian and Eastern Mediterranean glassmaking. In particular, the small ribbed vessels from the Israel region mentioned above demonstrate that the Selçuk Museum artefacts are technically and formally consistent with broader Mediterranean production traditions.

Conclusion

A comparative analysis of the glass artefacts held in the Selçuk University Museum collection was conducted based on their morphological and decorative features, using published articles, books, and catalogues of similar glass artefacts.

It is evident that the glass artefacts under study were manufactured using free-blowing and tool-forming techniques, which were widely employed during the Roman period. Green tones are predominantly represented among the vessels (cat. nos. 6–14), which generally exhibit thin-walled and transparent characteristics. Additionally, a limited number of examples produced in blue, yellowish, and brown tones were identified (cat. nos. 1–5). Decorative elements such as ribbing (cat. nos. 13–14), droplet decoration (cat. no. 12), rotational trails (cat. no. 11), and glass thread trailing (cat. no. 8) are observed in some examples. In accordance with their general typological and technological features, these artefacts may be dated to between the 1st and 4th centuries AD.

Literature reviews and comparisons with analogous specimens indicate that the glass artefacts in question likely originated in the Syro-Palestinian region, Cyprus, or the broader Eastern Mediterranean. The presence of similar examples in various Turkish museum collections — such as those in Şanlıurfa, Kahramanmaraş, Mardin, Burdur, Kayseri, Hatay, and Samsun — demonstrates that these types of glass vessels were in circulation across a broad geographical area. This suggests that the artefacts may have been transported into the interior of Anatolia via trade routes, particularly through coastal settlements and established commercial networks.

The fact that the vast majority of the artefacts were recovered in intact condition allows them to be interpreted as funerary finds. Classified according to their morphological features, the



Fig. 13. Selçuk University Museum. Funnel-Mouthed Bottle, Mus. Inv. no: 353/A

Рис. 13. Музей Сельчучького університету. Сферична пляшечка з лійкоподібним горлом, інв. № 353/A



Fig. 14. Selçuk University Museum. Funnel-Mouthed Bottle, Mus. Inv. no: 342/A

Рис. 14. Музей Сельчучького університету. Сферична пляшечка з лійкоподібним горлом, інв. № 342/A

vessels were examined within four main types and nine sub-types. Unguentaria with bulbous, piriform (pear-shaped), and fusiform (spindle-shaped) bodies; bottles with cylindrical or spherical

bodies; funnel-mouthed and short-necked bottles; and specimens in the form of bowls and beakers were evaluated in detail. It is well-established that such vessels were primarily used for the storage

of perfumes, oils, and cosmetic substances and are frequently encountered in funerary contexts. The characteristic narrow necks of these vessels should be viewed as a functional design feature intended to allow controlled use and prevent the accidental spillage of valuable liquids.

Acknowledgements

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Appendix 1. Catalogue of ROMAN-PERIOD GLASS ARTEFACTS*

1 (fig. 1). Mus. Inv. no: 375/A. Bulbous-bodied unguentarium. Dimensions: r.d. = 2.4 cm, b.d. = 2.8 cm, H = 11.9 cm. Colour: blue. Technique: free-blown, tool-formed. Date: 1st century AD.

Description: the rim is everted and folded inward. The neck exhibits a slightly conical profile; the body is bulbous (onion-shaped), terminating in a slightly concave base.

Analogies: Isings 1957, p. 40, Form 26a; Hayes 1975, p. 51, pl. 16, no. 99; Stern, Yağcı 1989, p. 598, fig. 3/3; Lightfoot, Arslan 1992, no. 113; Öztürk 2003, p. 75, cat. no. 3, fig. 3; Atila, Gürler 2008, p. 33, cat. no. 33; Temür, Özbilgin 2023, fig. 48.

2 (fig. 2). Mus. Inv. no: 373/A. Bulbous-bodied unguentarium. Dimensions: r.d. = 1.8 cm, b.d. = 1 cm, H = 7.5 cm. Colour: dark blue. Technique: free-blown, tool-formed. Date: 1st century AD.

Description: the rim is everted and folded inward. The neck exhibits a slightly conical profile, while the body is bulbous (onion-shaped), terminating in a slightly concave base.

Analogies: Isings 1957, p. 40, Form 26a; Hayes 1975, p. 51, pl. 16, no. 99; Akat, Fıratlı, Kocabaş 1984, p. 60, cat. no. 165, lev. 24, pic. 77; Stern, Yağcı 1989, p. 598, fig. 3/3; Lightfoot, Arslan 1992, no. 113; Öztürk 2003, p. 75, cat. no. 3, pic. 3; Temür, Özbilgin 2023, pic. 48.

3 (fig. 3). Mus. Inv. no: 370/A. Piriform-bodied unguentarium. Dimensions: r.d. = 1.8 cm, b.d. = 2.2 cm, H = 8.4 cm. Colour: bluish. Technique: free-blown, tool-formed. Date: 1st–2nd centuries AD.

Description: The neck exhibits a cylindrical profile; the body is piriform (pear-shaped) with a tool-formed base, terminating in a slightly concave bottom.

Analogies: Isings 1957, p. 42, Form 28a; Saldern 1980, pl. 8; Akat, Fıratlı, Kocabaş 1984, p. 61, cat. no. 205, lev. 27, pic. 90; Özgümüş 2000, pic. 34, no. 163; Öztürk 2003, p. 75, cat. no. 3, pic. 3.

4 (fig. 4). Mus. Inv. no: 374/A. Piriform-bodied unguentarium. Dimensions: r.d. = 1.8 cm, b.d. = 2.6 cm, H = 7.8 cm. Colour: blue-green, yellow, brown. Technique: free-blown, tool-formed. Date: 1st–2nd century AD.

Description: The neck exhibits a cylindrical profile; the body is piriform (pear-shaped) with a tool-formed base terminating in a slightly concave bottom.

Analogies: Isings 1957, p. 42, Form 28a; Saldern 1980, pl. 8; Akat, Fıratlı, Kocabaş 1984, p. 61, cat. no. 205, lev. 27, pic. 90; Özgümüş 2000, pic. 34, no. 163; Öztürk 2003, p. 75, cat. no. 3, pic. 3.

5 (fig. 5). Mus. Inv. no: 339/A. Spindle-shaped unguentarium. Dimensions: r.d. = 0.8 cm, b.d. = 0.2 cm, H = 9.9 cm. Colour: light yellowish-brown. Technique: free-blown, tool-formed. Date: second half of the 1st century AD.

Description: The rim is everted with a small spout at the edge; the neck is slender, elongated, and cylindrical. The mid-body is bulbous, while the base is elongated and terminates in a pointed tip.

Analogies: Akat, Fıratlı, Kocabaş 1984, p. 59, cat. no. 165, pics. 66, 67b; Canav 1985, p. 44, nos. 38–39; Eker 2014, p. 179–181, cat. no. 212; Hayes 1975, p. 118, no. 461; Kurup 2015, cat. no. 71; Lightfoot 2007, p. 152, no. 380; McFadden 1946, pl. XLV, no. 114; Weinberg, McClellan 1992, p. 115, no. 80.

6 (fig. 6). Mus. Inv. no: 378/A. Spindle-shaped unguentarium. Dimensions: r.d. = 1.4 cm, b.d. = 0.4 cm, H = 19.5 cm. Colour: green. Technique: free-blown, tool-formed. Date: 4th century AD.

Description: The rim is everted and folded inward, featuring a small spout at the edge; the neck is slender, elongated, and cylindrical in profile. The body is bulbous, while the base is elongated and pointed, terminating in a drop-shaped (tear-drop) tip.

Analogies: Hayes 1975, p. 118, no. 461; Akat, Fıratlı, Kocabaş 1984, p. 59, cat. no. 165, pic. 67a; Canav 1985, p. 44, nos. 38–39; Lightfoot 2007, p. 152, no. 380; Eker 2014, p. 179–181, cat. no. 214; Kurup 2015, cat. no. 71.

*Abbreviations used in the catalogue: **Mus. Inv. no.** – museum inventory number; **r.d.** – rim diameter; **b.d.** – base diameter; **H** – height; **W** – width.

7 (fig. 7). Mus. Inv. no: 1744/A. Bowl. Dimensions: r. = 10.8 cm, b.d. = 4.6 cm, H = 4.7 cm. Colour: green. Technique: free-blown, tool-formed. Date: first half of the 1st century AD.

Description: The artefact features an everted rim, a hemispherical deep body, a concave base with a distinct pontil mark, and a low, wide ring base.

Analogies: Isings 1957, p. 58, Form 42; Hayes 1975, p. 191, pls. 55–58; Akat, Fıratlı, Kocabaş 1984, p. 69, cat. no. 317, pic. 155; Atila, Gürler 2008, cat. no. 193, p. 123.

8 (fig. 8). Mus. Inv. no: 1473/A. Beaker. Dimensions: r.d. = 7.2 cm, b.d. = 5.4 cm, H = 9 cm. Colour: light green. Technique: free-blown, tool-formed. Date: 1st–2nd century AD.

Description: The everted thin rim is rounded toward the exterior. The spherical body features a decorative design composed of four horizontal glass thread (trail) windings of the same colour. The vessel terminates in a thick, flat base with a distinct pontil mark (noble) on the underside.

Analogies: Isings 1957, p. 47, Form 30; Akat, Fıratlı, Kocabaş 1984, p. 68, cat. no. 297, pic. 141; Canav 1985, no. 131; Lightfoot 1989, p. 77, nos. 12–13; Olcay 2001, fig. 1a; Israeli 2003, no. 164; Atila, Gürler 2008, cat. nos. 203–204.

9 (fig. 9). Mus. Inv. no: 344/A. Spherical-bodied miniature bottle. Dimensions: r.d. = 3.0 cm, b.d. = 2.4 cm, H = 6.0 cm. Colour: dark green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The mouth is everted; the rim is pulled outwards and folded inwards to achieve a flattened profile. It features a short neck that widens into a spherical body. The broad body subsequently tapers towards the base.

Analogies: Isings 1971, p. 45, fig. 1, no. 14; Hayes 1975, p. 206, pls. 21: 323; Akat, Fıratlı, Kocabaş 1984, p. 31, pic. 103; Lightfoot 2007, p. 151, no. 374; Eker 2014, p. 298, cat. no. 116; Marangoz 2018, p. 222–223, cat. nos. 116–117; Temür, Özbilgin 2019, p. 67, pic. 46.

10 (fig. 10). Mus. Inv. no: 351/A. Spherical-bodied dropper flask with funnel mouth. Dimensions: r.d. = 5.8 cm, b.d. = 0.8 cm, H = 10.3 cm. Colour: light green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The artefact features a slightly conical neck and a broad, spherical body. The neck tapers towards the body and widens toward the top to form an everted mouth. At the transition from the neck to the body, a distinct constriction was created through tool-forming, with visible

tool marks preserved on the surface. The body is elongated in proportion to the neck. The base is slightly concave.

Analogies: Isings 1957, p. 161, Forms 101–133; Hayes 1975, p. 78, pl. 7, cat. nos. 280–281; Akat, Fıratlı, Kocabaş 1984, p. 64, cat. no. 258, pic. 113; Canav 1985, p. 52, no. 67; Atila and Gürler 2008, p. 156, cat. nos. 232–233; Marangoz 2018, p. 194, cat. no. 88.

11 (fig. 11). Mus. Inv. no: 346/A. Spherical-bodied bottle with funnel mouth. Dimensions: r.d. = 4.8 cm, b.d. = 3.6 cm, H = 8.6 cm. Colour: green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The artefact features a wide funnel-shaped mouth with an everted, inwardly folded, and rounded rim. It has a spherical and convex-profiled neck, transitioning smoothly into a globular body that expands from the neck. The vessel terminates in a rounded, concave base.

Analogies: Isings 1957, p. 124, Form 104b; Oliver 1980, p. 119–120, cat. nos. 206–208; Akat, Fıratlı, Kocabaş 1984, p. 63, cat. nos. 260–261, pics. 114–115; Lightfoot, Arslan 1992, p. 154, no. 94; Temür, Özbilgin 2022, p. 2542, pic. 15.

12 (fig. 12). Mus. Inv. no: 340/A. Spherical-bodied bottle with droplet decoration. Dimensions: r.d. = 2.2 cm, b.d. = 2 cm, H = 5.6 cm. Colour: light yellowish-green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The spherical neck widens slightly upward, merging with an everted rim. From the neck, the vessel transitions into a wider spherical body with a circular cross-section. The body takes a concave form toward the bottom. The spherical body is decorated with teardrop motifs, applied by pinching the glass with tongs while it is hot.

Analogies: Isings 1957, Form 104b; Canav 1985, p. 58, no. 81; Atila, Gürler 2008, p. 174, cat. no. 262; Marangoz 2018, p. 216, cat. no. 110.

13 (fig. 13). Mus. Inv. no: 353/A. Funnel-mouthed bottles. Dimensions: r.d. = 3 cm, b.d. = 2 cm, H = 7.3 cm. Colour: light green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The artefact features a conical neck, a flattened shoulder, and an oval body. The body is decorated with ribs created by pinching the glass with a tool. The base is concave in form. Throughout the general structure, a vesicular surface is observed.

Analogies: Hayes 1975, p. 92–93, no. 310; Höpken, Çakmaklı 2015, nos. 389–390; Soslu 2022, cat. nos. 234–235; Eker 2024, p. 488–489, cat. nos. 317–318.

14 (fig. 14). Mus. Inv. no: 342/A. Funnel-mouthed bottles. Dimensions: r.d. = 2.6 cm, b.d. = 1.2 cm, H = 7.3 cm. Colour: light green. Technique: free-blown, tool-formed. Date: 3rd–4th century AD.

Description: The artefact features a conical neck and an oval body. The body is decorated with vertically oriented ribs. The base is concave in form. Throughout the general structure, a vesicular surface is observed.

Analogies: Hayes 1975, p. 92-93, no. 310; Höpken and Çakmaklı 2015, nos. 389–390; Soslu 2022, cat. nos. 234–235; Eker 2024, p. 488-489, cat. nos. 317–318.

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СКЛЯНІ АРТЕФАКТИ РИМСЬКОГО ПЕРІОДУ З КОЛЕКЦІЇ МУЗЕЮ СЕЛЬЧУЦЬКОГО УНІВЕРСИТЕТУ

Скло відіграло важливу роль і з давніх часів мало широкий спектр застосування. Спочатку з нього виготовляли предмети розкоші, якими переважно користувалася знать для демонстрації свого статусу. Однак із розвитком технологій виробництва скляні вироби поступово стали доступними різним верствам населення. Скляні миски, чаші, пляшки, стали невід'ємною складовою повсякденного життя.

Музей Сельчуцького університету (провінція Конья, Туреччина) зберігає значну кількість скляних артефактів, які раніше не були досліджені та введені до наукового обігу, що визначає актуальність цього дослідження. У цьому контексті аналіз зазначених артефактів сприятиме не лише визначенню особливостей періоду, до якого вони належать, а й допоможе встановити ареал їхнього поширення.

У дослідженні проаналізовано чотирнадцять артефактів, які музей Сельчуцького університету отримав у дар. До колекції скляних виробів римського періоду входять унгентарії, пляшки зі сферичним тулубом і лійкоподібним вінцем, келихи й чаші. Розглянуті артефакти були виготовлені у техніці вільного видування або видування у форму та сформовані за допомогою різних інструментів. Для більшої художньої виразності деякі вироби покриті ребристим, жолобчастим або рифленим декором або оздоблені скляними стежками. Більшість унгентарій зеленого кольору, але також є зразки синіх, жовтих і коричневих відтінків. Діаметр вінця виробів становить від 0,8 до 10,8 см, висота — від 4,7 до 19,5 см, товщина стінок — від 0,1 до 0,4 см. Зазначені артефакти були проаналізовані за чотирма основними групами відповідно до їхніх функціональних і морфологічних особливостей. Кожна із груп додатково поділяється на дев'ять підкатегорій залежно від специфічних характеристик форми вінця та тулуба.

К л ю ч о в і с л о в а: Іконіум, Музей Сельчуцького університету, римський період, скло, форма.

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