e-ISSN: 2651-4664



arkhaiaanatolika.org Arkhaia Anatolika 8 (2025) 32-49 DOI: 10.32949/Arkhaia.2025.69

Research Article

Decorated Mould-Blown Glass Vessels from the Ancient City of Philadelpheia (Isauria – Cilicia Tracheia)



A. Sezai GEÇİT**

- * Assoc. Prof. Hatice Körsulu, Karamanaoğlu Mehmetbey University, Faculty of Literature, Department of Archaeology, Karaman / Türkiye. E-mail: hkorsulu@gmail.com Orcid iD: 0000-0002-0896-3210
- ** A. Sezai Geçit, Karamanaoğlu Mehmetbey University, Institute of Social Sciences, Karaman / Türkiye. E-mail: sezaiapil@gmail.com Orcid iD: 0009-0003-2979-9709

Corresponding Author: Assoc. Prof. Hatice Körsulu, Karamanaoğlu Mehmetbey University, Faculty of Literature, Department of Archaeology, Karaman / Türkiye.

E-mail: hkorsulu@gmail.com

Received Date: 25.11.2024 Acceptance Date: 07.02.2025 Online Publication Date: 27.02.2025

Citation: Körsulu, H. and A.S. Geçit. 2025. "Decorated Mould-Blown Glass Vessels from the Ancient City of Philadelpheia (Isauria – Cilicia Tracheia)." Arkhaia Anatolika 8: 32-49.

https://doi.org/10.32949/Arkhaia.2025.69

Conflicts of Interest: No conflict of interest has been declared.

Author Contribution: The authors, designing the study; data collection; data analysis; writing the article; contributed to the submission and revision of the article (HK 68% and ASG 32%).

Copyright & License: Authors retain copyright of their work and their articles are licensed under Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0).



• The scientific and legal propriety of the articles published in the journal belongs exclusively to the author(s).

Abstract

The ancient city of Philadelpheia, founded in the region of Isauria-Cilicia Trachea, is situated north of the modern village of Gökçeseki in the Ermenek district of Karaman province. In the necropolis of the ancient city, a salvage excavation was conducted in 2015. During the excavations, a large number of archaeological finds were discovered within an area of 10x10 m. The focus of this study is the decorated mould-blown glass vessels recovered from this area. These vessels include a flask with mythological figures, amphoriskoi/flasks, a lotus-bud beaker, a bottle decorated with lotus buds, a beaker with herringbone decoration, and a bottle with honeycomb pattern.

Only a small part of the flask with mythological figures was preserved. It is a special vessel with scenes on both sides associated with Aias, a hero of the Trojan War. The amphoriskoi/flasks, with four specimens, are more numerous than the others. The types produced in two-part moulds have similar decorations of floral and geometric motifs. The lotus-bud beaker and the bottle with lotus buds both display the same characteristics in terms of colour and decoration. The stylized herringbone pattern on the beaker with herringbone decoration is rendered on the surface of the vessel, in a geometric style. The decoration resembling honeycomb is the characteristic feature of the bottle with the honeycomb pattern. A general dating, based on their technique, form, and decoration characteristics, would place the vessels between the 1st and 2nd centuries AD.

Each of the decorated mould-blown specimens found in Philadelpheia is a vessel of special production. Since there is no evidence of glass production in the city, they must have been imported from the East. As the vessels were found in the necropolis of the city, they are considered to be associated with funerary ceremonies. The presence of these high-quality and likely expensive glass vessels reflects the wealth and prosperity of the city during the early Roman Imperial period.

Keywords: Isauria-Cilicia Tracheia, Philadelpheia, Roman Imperial period, Ancient glass, Mould-blowing technique.

e-ISSN: 2651-4664



arkhaiaanatolika.org Arkhaia Anatolika 8 (2025) 31-49 DOI: 10.32949/Arkhaia.2025.69

Araştırma Makalesi

Philadelpheia Antik Kentinden (Isauria – Kilikia Trakheia) Kalıba Üfleme Tekniğinde Yapılmış Bezemeli Cam Kaplar

Hatice KÖRSULU*

A. Sezai GEÇİT**

- Doç. Dr. Hatice Körsulu, Karamanaoğlu Mehmetbey Üniversitesi, Edebiyat Fakültesi, Arkeoloji Bölümü, Karaman / Türkiye. E-mail: hkorsulu@gmail.com
 Orcid iD: 0000-0002-0896-3210
- ** A. Sezai Geçit, Karamanaoğlu Mehmetbey Üniversitesi, Sosyal Bilimler Enstitüsü, Karaman / Türkiye. E-mail: sezaiapil@gmail.com Orcid iD: 0009-0003-2979-9709

Sorumlu Yazar: Doç. Dr. Hatice Körsulu, Karamanağlu Mehmetbey Üniversitesi, Edebiyat Fakültesi, Arkeoloji Bölümü, Karaman / Türkiye. E-mail: hkorsulu@gmail.com

Geliş Tarihi: 25.11.2024 Kabul Tarihi: 07.02.2025 Online Yayın Tarihi: 27.02.2025

Makale Künyesi: Körsulu, H. ve A.S. Geçit. 2025. " Philadelpheia Antik Kentinden (Isauria – Kilikia Trakheia) Kaliba Üfleme Tekniğinde Yapılmış Bezemeli Cam Kaplar." Arkhaia Anatolika 8: 32-49.

https://doi.org/10.32949/Arkhaia.2025.69

Çıkar Çatışması Beyanı: Çıkar çatışması beyan edilmemiştir.

Yazarların Katkı Oranları Beyanı: Yazarlar, çalışmanın tasarlanması; veri toplanması; veri analizi; makalenin yazımı; makalenin gönderimi ve revizyonu aşmalarında HK %68 ve ASG %32 oranında katkı sunmuşlardır.

Telif Hakkı & Lisans: Yazarlar yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmaları Creative Commons Atıf-GayrıTıcarı 4.0 Uluslararası (CC BY-NC 4.0) olarak lisanslıdır.



 Dergide yayınlanan makalelerin bilimsel ve hukuki sorumluluğu tamamen yazar(lar)ına aittir. Philadelpheia antik kenti, Isauria - Kilikia Trakheia Bölgesinde gösterilmektedir. Bugün Karaman ili Ermenek ilçesi Gökçeseki köyünün kuzeyinde yer almaktadır. 2015 yılında Philadelpheia antik kentinin nekropolisinde bir kurtarma kazısı yapılmıştır. Kazılar sırasında, 10x10 m boyutlarındaki bir alanda yoğun arkeolojik buluntu tespit edilmiştir. Bu çalışmanın konusu, söz konusu bu alandan ele geçen kalıba üfleme tekniğinde üretilmiş bezemeli cam kaplardır. Bunlar arasında mitolojik figürlü bir şişe, amphoriskoi/şişeler, lotus tomurcuğu bezemeli bir bardak, lotus tomurcuğu bezemeli bir şişe, balıksırtı bezemeli bir bardak, bal peteği motifli bir şişe yer almaktadır.

Öz

Mitolojik figürlü şişenin az bir bölümü korunmuştur. Ancak iki tarafında Troia Savaşı kahramanı Aias ile ilgili sahnenin olduğu özel bir kaptır. Amphoriskoi/şişeler, dört örneği ile sayıca fazladır. İki parçalı kalıpta üretilen tiplerin üzerinde aynı şekilde bitkisel ve geometrik motifler vardır. Lotus tomurcuğu bezemeli bardak ve şişe de hem rengi hem de bezemesiyle aynı özellikleri göstermektedir. Balıksırtı bezemeli bardak, stilize balıksırtı motifi geometrik tarzda kap yüzeyine işlenmiş bir örnektir. Bal peteği motifli şişe ise bal peteğini andıran bezemesiyle karakteristiktir. Bunlar genel olarak teknik, form ve bezeme özelikleriyle MS 1. yüzyıl ile 2. yüzyılı göstermektedir.

Kalıba üfleme, bezemeli Philadelpheia buluntusu kapların her biri özel üretim kaplardır. Cam üretimine dair herhangi bir verinin olmadığı Philadelpheia'ya bunlar doğudan ithal edilmiş olmalıydı. Philadelpheia buluntusu olan bu kaplar kentin nekropolisinde bulunduğundan cenaze törenleriyle ilişkili kullanımları olduğu düşünülmektedir. Her biri antik dünyada kaliteli ve olasılıkla pahalı ürünler olan bu cam kapların Philadelpheia antik kentindeki varlığı, kentin erken Roma İmparatorluk Dönemi'ndeki zenginliğine ve refahına işaret etmektedir.

Anahtar Kelimeler: Isauria – Kilikia Trakheia, Philadelpheia, Roma İmparatorluk Dönemi, Antik cam, Kalıba üfleme tekniği.

Introduction

The ancient author Hierocles listed Philadelpheia among the cities of Isauria. Based on his geographical order, it is suggested that the ancient settlement located today north of the Gökçeseki village in the Ermenek district of Karaman province is the city of Philadelpheia (fig. 1)¹. There is a rich necropolis in the valley situated between two hills in this area and on the slopes of the valley. The hill extending in the northeast-southwest direction to the south of the necropolis is the acropolis of the city².



Figure 1: Philadelpheia, map (Körsulu and Ergürer, 59, fig. 1)

Today, on the hill where the acropolis stands, the remains of the structures have only been preserved at the foundation level. In the necropolis, on the other hand, there can be seen numerous rock-cut tombs, richly decorated sarcophagi, *chamosoriums* and their lionshaped lids. The tombs associated with the Roman Imperial and Early Christian periods attest to the city's prosperity during those times³.

In 2015, a rescue excavation was conducted in the necropolis of the ancient city of Philadelpheia. During the excavation, sarcophagi with podiums, some of which were only partially visible, were recovered. To the immediate west of the sarcophagi, numerous archaeological finds were unearthed in an area of approximately 10x10 m (figs. 2-3). The area yielded a large number of terracotta vessels, busts and figurines, coins, metal and bone objects, and glass vessels⁴.

Studies are continuing on the abovementioned site, in which an extensive assemblage of archaeological material was discovered. Nearly 40 coins have been examined from the site so far, with the latest dating to the late 4th century AD⁵. Ceramic finds from the site span from the late 2nd century BC to the 7th century AD, with the majority concentrated between

¹ Ruge 1938, 2093; Hild and Hellenkemper 1990, 378.

² Yıldız and Aşkın 2016, 252; Aşkın et al. 2016, 357.

³ Yıldız and Aşkın 2016, 252.

⁴ Yıldız and Aşkın 2016, 251, 257.

⁵ The coins are being studied.

the 1st and 3rd centuries AD⁶. Imported pottery includes examples of Eastern Sigillata A⁷, Cypriot Sigillata⁸, and lead-glazed pottery⁹. Local pottery, however, constitutes the largest group among the pottery assemblage¹⁰. The metal artefacts are varied in type and are generally dated between the 1st and 3rd centuries AD¹¹. The glass finds include an alabastron that was produced using the core-forming technique (2nd–1st century BC)¹², and a few ribbed bowls made using the mould casting technique (mid-1st century BC–1st century



Figure 2: Philadelpheia, excavation site (Körsulu and Ergürer, 59, fig. 6)

AD)¹³. The majority of the glass finds, however, consist of decorated and undecorated vessels produced by the free-blowing technique¹⁴, accompanied by comparably fewer examples of mould-blown vessels. Initial results indicate that the glass vessels, along with the metal and pottery finds, date mainly from the 1st to the 3rd centuries AD. Thus, the artefacts from the site date from the late 2nd century BC to the 7th century AD, with a notable concentration between the 1st and 3rd centuries AD.

The intended purpose of this area remains unclear. However, it should be mentioned here that the busts in the area were found in an elaborate arrangement. The pottery and glass vessels, which constitute a substantial group of finds, are of high quality and were found either complete or nearly complete. The local pottery encompasses a broad repertoire, including decorated and undecorated tableware as well as vessels for cooking and food preparation. Some of them are presumed to be ritual vessels. Similarly, the glass assemblage includes various tableware items such as beakers, bowls, and cups. Additionally, among the mould-blown vessels, some examples are known to have been used for ritual purposes.

In addition to the pottery and glass vessels, the metal artefacts recovered from the site are also well-preserved and of high-quality. They include cosmetic/medical tools; cutting and piercing tools such as scissors, arrowheads, spearheads, and sickles; jewellery and clothing components such as earrings, rings, bracelets, pendants, and fibulae; lock parts and keys; seal boxes; figurines; and a large number of nails¹⁵. The presence of numerous nails and lock components among the metal artefacts is significant, as they may have belonged to the wooden chests used to contain grave goods. Based on these finds, the site was likely associated with pre- and post-funerary rituals. Furthermore, the presence of finds used for both daily life and rituals suggests that these artefacts were deliberately buried here in some way.

The subject of this study is the decorated mould-blown glass vessels found in the aforementioned area in the necropolis of Philadelpheia.

⁶ Körsulu and Ergürer 2018, 56-57; Körsulu and Ergürer 2019, 380; Körsulu 2019, 265-266.

⁷ Körsulu and Ergürer 2019, 380.

⁸ Cypriot Sigillata is being prepared for publication.

⁹ Körsulu 2019, 265-266.

¹⁰ Körsulu and Ergürer 2019, 380.

¹¹ Canlı 2019, 76-81.

¹² The *alabastron* is being prepared for publication.

¹³ Körsulu 2024a, 106-110, fig. 1-10.

¹⁴ Free-blown vessels are being prepared for publication.

¹⁵ Canlı 2019, 1-5, 76-81.

The mould-blowing technique (circa 1st century AD) emerged about seventy years after the development of the free-blowing technique. It involved blowing molten glass into preprepared moulds¹⁶. The moulds were made of terracotta, stone, metal and occasionally wood¹⁷. The vessels were decorated in high or low relief, or only in raised outlines. The decorations included ribs, geometric patterns, various stylized or naturalistic flower and leaf motifs, and figural scenes. While some vessels were decorated with multiple designs, others displayed only one motif. Some had inscriptions in Latin or Greek. These inscriptions could have been the name of the vessel's manufacturer, a motto to encourage the buyers, or the name of a participant in a sporting event¹⁸.

Thirteen decorated mould-blown glass vessels were recovered from this area at the necropolis of Philadelpheia. All of them are examples of high-quality glassware, which are also well-known from the modern literature. The ribbed bowls/cups among them are considered to be a continuation of the ribbed hemispherical bowls¹⁹ and the free-blown fine-ribbed bowls (*zarte rippenschalen*)²⁰. Of the mould-blown ribbed bowls/cups, two examples were discovered, dating to the 1st century AD, in Philadelphia, which also yielded examples from the first two glass groups²¹.



Figure 3: Philadelpheia, excavation site (Körsulu and Ergürer, 59, fig. 3)

One of the decorated beakers is an example of the well-documented mould-blown glass vessels with the well-wishing inscription on the main frieze, "κατάχαιρε καὶ εὐφραίνου", translated as "rejoice and be merry" or "cheer up and enjoy it". This beaker was dated between the second half of the 1st century AD and the beginning of the 2nd century AD. Based on its form and decoration, it was thought to be imported from Syria²².

Another special production item is a single beaker with mythological

figures, which features four male figures standing between columns joined by garlands of ivy. Two of the figures, based on their attributes, are identifiable as Poseidon and Dionysus, while the identities of the remaining figures are debated²³. The Philadelpheia find is a typical example of its type. Although its purpose remains uncertain, the beaker, which is dated to the second half of the 1st century AD, is considered to be associated in some way with funerary rituals²⁴.

The subject of this study is the other vessels, which consist of a flask with mythological figures, *amphoriskoi*/flasks, a beaker and a bottle bearing lotus bud decoration, a beaker with herringbone decoration, and a bottle with honeycomb pattern.

¹⁶ Price 1991, 56; Erten-Yağcı 1993, 29-30; Stern 1995, 65-67; Lazar 2003, 46; Stern 2010, 25; Wight 2014, 49, 55; Çakmaklı 2017a, 142; Çakmaklı 2017b, 325-333.

¹⁷ Price 1991, 57-58; Lazar 2003, 46-47; Stern 2010, 25-28.

¹⁸ Price 1991, 56, 64.

¹⁹ Its production technique remains to be fully determined, although mould casting is suspected (Hayes 1975, 16).

²⁰ Erten and Akkuş-Koçak 2020, 211.

²¹ Körsulu 2024a, 114-115, fig. 15-16.

²² Körsulu 2025.

²³ Weinberg 1972, 38-39.

²⁴ Körsulu 2024b, 129, fig. 1-3.

Flask with Mythological Figures (Cat. No. 1, Fig. 4)

The flask has a flat bottom and a conical body, of which only a small part is preserved, with figural decoration. The depiction on one side shows a figure sitting on a rock. The figure, whose lower half of the body is preserved, is holding something in its outstretched hand. However, it is not possible to identify the object. The figure has a well-rounded body. Due to the pose of the figure, its abdomen is slightly sagging forward. Its hips and legs are well-built. As evident from its hips and back, the figure is leaning forwards. The place the figure is sitting on as well as the surrounding area has a rocky surface.

The other side shows a ship. Only the hull of the ship is preserved; the oars pointing downward and the masts rising from the hull are visible. Although it is not clearly discernible, the depiction attempts to give the appearance of a rippled sea.

It appears to be blown in a two-part mould. The mould seams separating the two scenes on the flask extend down to the base in convex lines on both sides.



Figure 4: Flask with mythological figures from Philadelpheia

A well-preserved specimen resembling this flask is seen in the collection of the Yale University Art Gallery. The flaring lip of the flask is broken off at the neck. The neck is vertical and tubular in shape. There is a sharp transition from the neck to the shoulder. Its ovoid body tapers down to a flat bottom. J. Hayward suggested that the flask may have been with or without handles. On one side of the bottle, an oar-powered ship is seen on the sea with its sails unfurled. A man in armour stands on the bow of the ship, holding a sword and a shield. On the other side of the flask, there is a person sitting under a tree, reaching towards something in front of him²⁵.

Hayward suggested that the scenes on both sides of the flask from the Yale University Collection were related to the legend of the Argonauts. She interpreted the scene with the figure seated under a tree as Phirixos holding the ram with the golden fleece he was preparing to sacrifice in the grove of Ares. She identified the other scene as Iason, armed with spear and shield, preparing to leap from the bow of his ship onto the land. Hayward stated that although the type of glass and the decoration on the flask both indicated a Syrian origin, the figure representing Iason resembled those on the gladiator beakers, which were usually accepted to be of North Italian or Gallic origin. She dated the flask to the 1st century AD²⁶.

Later, R.A. Grossman re-examined the same flask from the Yale collection. He described the scenes on the flask in a similar fashion. However, saying that the inscription behind the figure on the ship's bow read "Aias", he suggested that both scenes were related

²⁵ Hayward 1962, 58-59, no. 11, fig. 18-19.

²⁶ Hayward 1962, 58.

to Aias. In the scene with the ship, he thought that Aias, one of the heroes who fought in the Trojan War, was depicted travelling with his men towards Troy before the beginning of the war. Aias was again the subject on the other side of the flask. However, this time the scene was related to a post-war event. Here, Aias was seated under a tree, both hands outstretched to the front, trying to catch a bull. According to Grossman, the scene depicted the time when Aias went mad for violating the sanctuary of the Goddess Athena and attacked a herd of cattle²⁷.

A vessel with the same depiction was discovered in Stratonikeia. It was suggested that this double-handled vessel was an *amphoriskos* and dated to the first half of the 1st century AD. The side of the vessel depicting the ship displays the name "Aias" in Greek. It was suggested that the scenes on both sides of the vessel were related to each other and was about Aias, son of Telamon, one of the heroes of the Trojan War²⁸.

D. Whitehouse identified another example of this type in the collection of the Corning Museum of Glass. The well-preserved example with identical form and decoration was inscribed with the name Aias on the side of the vessel depicting the sailing ship. He dated this example to the 1st century AD. Whitehouse also mentioned five other examples of this type: one in the National Museum of Damascus, one in the Museum of Fine Arts, Houston²⁹, one in the Constable-Maxwell Collection, one in Glass Museum in Murano, and another of unknown location³⁰.

There were two mythological characters named Aias in the Iliad. One of them was "Aias the Lesser", the son of Oileus and the leader of the Locrians. The other was the "Great Aias", the son of Telamon the king of the island of Salamis, and cousin of Achilleus. Both Aias participated in the Trojan War with a certain number of ships. After the death of Achilleus and the end of the Trojan War, Aias, son of Telamon, expected Achilleus' armour to be given to him. However, Agamemnon and Menelaos gave the armour to Odysseus. Thereupon, the distraught Aias attacked a herd of cattle one night, mistaking it for an Achaean army. In the morning when Aias realized what he had done, he threw himself onto his sword, killing himself³¹.

According to the myth, the scene with the ship on the flask corresponds to both Aias. As for the other scene on the flask, it is understood that the scene here is related to Aias, son of Telamon. It seems that Grossman confused the stories of the two Trojan heroes.

The glass flask from Philadelpheia seems to be the ninth example from the mouldblown group that is associated with Aias, the hero of the Trojan War. However, it is not as well-preserved as the ones from the Yale University Collection and Stratonikeia. Nevertheless, these two flasks have been instrumental in understanding the complete form and decoration of the Philadelpheia find.

Grossman did not mention a date for the flask. However, in light of the general literature on this type of mould-blown glass vessel, as well as Hayward's suggestion and the vessel from Stratonikeia, the 1st century AD can be proposed for the dating of the Philadelpheia flask.

Arkhaia Anatolika 8, 2025

²⁷ Grossman 2002, 29, fig. 29a-b.

²⁸ Özet 1993, 142-145; Çakmaklı 2012, kat. no. 20.

²⁹ https://emuseum.mfah.org/objects/1042/flask-with-two-scenes-from-the-life-of-ajax-of-salamis?ctx=24fa4e1660c7ba7eb4f0f2e6ed7bf80f687224b2&idx=38 (access date: 11.01.2025).

³⁰ Stern 1995, 89, fig. 63; Whitehouse 2001, 49-50, no. 523.

³¹ Hom. *Il*. II, 526-535, XIII, 702-712.

Amphoriskoi/Flasks (Cat. No. 2-5, Figs. 5-8)

These consist of *amphoriskoi* or flasks with flat bottoms and round bodies. Four such examples were identified among the finds in Philadelpheia. Catalogue no. 2 of this group has a complete profile. The top of its everted rim is folded inward. Its cylindrical neck is followed by an oval body. The bottom is flat. It has two vertical handles. The other flasks (catalogue nos. 3-5), of which only the bases and a small part of the bodies are preserved, have the same profile with their flat bottoms and round bases. Their forms as well as their decorated



Figure 5: Amphoriskos/Flask

bodies are their characteristic features. The upper and lower parts of the bodies are decorated with vertical ribs and between them a frieze of tendrils bordered by horizontal ribs. They were blown into a two-part mould.

A. Oliver dated a parallel example from the Carnegie Museum of Natural History to the 1st century AD³². E.M. Stern dates this type of bottle to the 1st century AD³³. A single-handled juglet with similar decoration from the collection of the Pennsylvania Museum was proposed to be possibly from Aleppo, Syria and dated to the 1st century AD³⁴. Whitehouse dated a dark blue coloured example from the Corning Museum of Glass to the 1st century AD³⁵. Two specimens from Narbonnaisse (Gallia Narbonensis) in the western part of the Roman Empire have geometric motifs on their friezes. It is however likely that they also belong to the same group of flasks³⁶. An *amphoriskos* of this type was found in Thessaloniki in a cremation burial. It was stated that it was not possible to date this artefact with certainty, but that the second vessel found with it was dated to the 1st century AD³⁷. A single-handled jug of this type found in the necropolis of Samothrace was similarly decorated. The jug, considered to be of Sidonian origin, was the only artefact found in the inhumation tomb³⁸. E.B. Dusenbery dated this jug to the third quarter of the 1st century AD³⁹. A double-handled example from the Athenian Agora was found in an Early Roman Imperial context and dated to the 1st century AD⁴⁰.

There are two published examples with the same decoration, a double-handled jug and a single-handled jug, both part of a collection of the Israel Museum. Both artefacts were dated to the 1st century AD and were considered to be of Sidonian origin⁴¹. The Philadelpheia artefact no. 2 is of the same type as the double-handled jug. Although the other artefacts described in the catalogue nos. 3-5, of which only the bases and parts of the bodies were preserved, display the same type of decoration, it is not possible to say anything definite about them since their upper parts were not preserved. Similar *amphoriskoi* from the

³² Oliver 1980, 62, fig. 56.

³³ Stern 1995, cat. no. 56-57.

³⁴ Fleming 1997, 27, fig. 26A-B.

³⁵ Whitehouse 2001, 42-43, no. 512.

³⁶ Fontaine and Roussel-Ode 2010, 191-193, fig. 13, 104-105.

³⁷ Antonaras 2010, 245, fig. 1,6.

³⁸ Dusenbery 1967, 39-40, no. 13, fig. 14.

³⁹ Dusenbery 1998, 1079-1080, W1-4.

⁴⁰ Weinberg and Stern 2009, 68, 81, fig. 8, 151.

⁴¹ Isreali 2003, 138, fig. 144-145.

collection of Türkiye Şişe ve Cam A.Ş. were dated to the 1st century AD. Another specimen with similar decoration was dated to the 1st century AD as well⁴². For an *amphoriskos* from the Yüksel Erimtan Collection, 1st century AD was suggested⁴³. In the light of these data, the 1st century AD can be suggested for the Philadelpheia *amphoriskoi*/flasks in general.

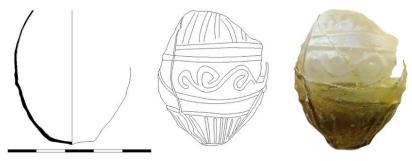


Figure 6: Amphoriskos/Flask

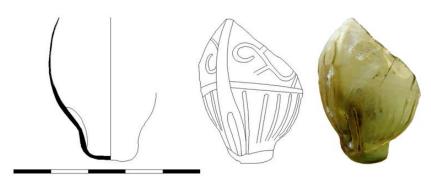


Figure 7: Amphoriskos/Flask



Figure 8: Amphoriskos/Flask

Knobbed or Lotus-Bud Beaker (Cat. No. 6, Fig. 9)

The beakers of this type have cylindrical bodies with inverted rims and flat bottoms. They were blown into three-part moulds, of which the vertical mould seams are visible⁴⁴. The body of these beakers is decorated with inverted lotus buds from base to rim, which are placed diagonally to each other. Some beaker examples have bosses in between the lotus buds.

Only one specimen of this type was found in Philadelpheia, of which the base and a small part of the lower body were preserved. It is a typical example of the form with its flat bottom and cylindrical body. There are characteristic lotus bud motifs on the body. The two mould seams are visible on the partially preserved body. It is evident from the bottom

⁴² Canav 1985, 37, fig. 18-19, 41, fig. 31.

⁴³ Lightfoot and Arslan 1992, 62, fig. 23

⁴⁴ Hayes 1975, 48.

section that the third mould seam is on the other side of the beaker, which was not preserved. The seams start at the base of the beaker and when they intersect a lotus bud, they continue upwards through its centre.

This type of high quality, mould-blown beakers are classified as Isings Form 31. Isings described a group of Form 31 to be decorated with vine boughs and animals, and another group with regularly spaced leaves and dots. Isings also stated that the beakers of Form 31 were imitations of metal beakers. She mentioned that the decoration on a fragment of a beaker, for which she did not specify the provenience, was parallel to those on the *Ara Pacis Augusti*. She noted that the *terminus ante quem* for these beakers was 79 AD, but that due to the similarity of the ornament on the beaker fragment to the Augustan ornament, these beakers may easily belong to an earlier period as well⁴⁵.

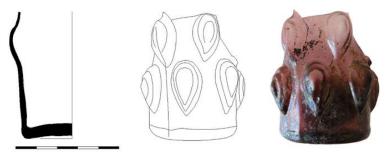


Figure 9: Lotus-bud beaker

J.W. Hayes classified these beakers with conical bodies in the early series of Syro-Palestinian glass among the Sidonian mould-blown vessels. He stated that these beakers, which he identified as one of the common types, were produced in both Syrian and Italian workshops⁴⁶.

Oliver dated a beaker of this type from a museum collection in England to the 1st century AD⁴⁷. B. Rütti counted this type of beaker among the newly emerging forms of the Flavian period⁴⁸. Stern dated mid to second half of the 1st century AD⁴⁹. Whitehouse published examples of this type from the collection of the Corning Museum of Glass. He assigned them, which he identified as Isings Form 31, to the 1st century AD⁵⁰. An artefact from Augusta Raurica was dated to between 60-100 AD⁵¹.

S. Fontaine and J. Roussel-Ode discussed the mould-blown vases from Narbonnaise and said that similar examples from reliable contexts were dated to between the second half of the 1st century AD and the beginning of the 2nd century AD. They also mentioned that the examples from the workshop of Ennion and some other specimens indicated the first half of the 1st century AD⁵².

Examples decorated with dots and lotus buds were discovered also in the Athenian Agora. These were dated to between the late 1st and early 2nd centuries AD⁵³. The specimen from the collection of Türkiye Şişe ve Cam A.Ş. that was decorated with almonds and in

⁴⁵ Isings 1957, 45.

⁴⁶ Hayes 1975, 31-33, 48.

⁴⁷ Oliver 1980, 67, 70, cat. no. 65.

⁴⁸ Rütti 1991, 108,176, abb. 113, AR 33.1.

⁴⁹ Stern 1995, 107-108, cat. no. 8, 9-10, fig. 3.

⁵⁰ Whitehouse 2001, 27-29, no. 492-496.

⁵¹ Fünfschilling 2015, 296, abb. 362, AR 33.1 (1).

⁵² Fontaine and Roussel-Ode 2010, 194.

⁵³ Weinberg and Stern 2009, 81, pl. 13, 149-150.

between the almonds with eye motifs was proposed to be from the 1st century AD⁵⁴. Another example, which was decorated with dots in between lotus buds was unearthed in Pergamon⁵⁵. A beaker example from the Eskişehir Eti Archaeology Museum was also dated to the 1st century AD⁵⁶. In the light of the data, the beaker from Philadelpheia can be dated to between the 1st century AD and the early 2nd century AD.

Bottle Decorated with Knobbed or Lotus-Buds (Cat. No. 7, Fig. 10)

Among the artefacts found in Philadelpheia, only one specimen of this type was identified. The artefact, of which only the base and a small part of the lower body was preserved, differs from the similarly decorated glass specimen by its width and size, and is considered a bottle. It has a flat base and a cylindrical body and, like the beaker described in catalogue no. 6, has a purple colour. The body is decorated with small, regularly spaced, inverted lotus buds. One of the vertical mould seams of the bottle, which was probably blown in a two-part mould, is clearly visible on the body.

A. von Saldern said that the bottles which were a variation of the lotus-bud beakers were rarely seen⁵⁷. He dated an example of this form that he said probably came from the Syro-Palestinian region to the second half of the 1st century AD⁵⁸. Accordingly, the same date can be suggested for the Philadelpheia bottle.

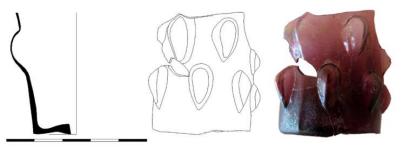


Figure 10: Bottle decorated with lotus-buds

Beaker with Herringbone Decoration (Cat. No. 8, Fig. 11)

Three fragments belonging to this partially restored beaker were found among the Philadelpheia finds. Two of the fragments are from the rim and body. The other fragment is probably from the lower body and base. The vessel has an unworked, convex rim. Its body is cylindrical. The body is decorated with vertical and diagonal bands of a stylized herringbone pattern, bounded below and above by raised lines.

A vessel bearing this type of decoration is in the collection of the British Museum⁵⁹. However, the specimen is a bowl with a spherical body, of which the provenience was said to be unknown⁶⁰.

D. Foy published a goblet with herringbone decoration from Tunisia. She mentioned that this type of vessel was found scattered in different regions in the west and east of the Roman Empire and suggested the late 1st century AD for the example from Tunisia⁶¹. The

⁵⁴ Canav 1985, 79, fig. 122.

⁵⁵ Schwarzer and Rehren 2021, 168, pl. 4, 34.

⁵⁶ Olcay 2001, 149-150, fig. 4.

⁵⁷ von Saldern 1980, 52.

⁵⁸ von Saldern 1980, 52, fig. 45.

⁵⁹ https://www.britishmuseum.org/collection/object/G_1868-0110-508. (access date: 10.01.2025).

⁶⁰ Price 1991, pl. XVI, c.

⁶¹ Foy 2010, 211, fig. 1.

Philadelpheia example is similar in decoration, although not in form, to this example from Tunisia. However, the example in figure 4 in Foy's article is also close in form to that of the Philadelpheia beaker. Foy dated this example to the second half of the 1st century AD⁶².

The form of the Philadelpheia beaker also has a profile similar to that of the Philadelpheia beaker with inscription. That beaker was dated to the second half of the 1st century AD and the beginning of the 2nd century AD⁶³. Considering all these data, the Philadelpheia beaker with herringbone decoration can also be dated between the second half of the 1st century AD and the early 2nd century AD.



Figure 11: Beaker with herringbone decoration

Flask with Sunken Relief (Cat. No. 9, Fig. 12)

It is a small fragment found in Philadelpheia, of which the base and a small part of the body are preserved. The flat bottom is slightly concave in the centre. Immediately above the base, two rows of dot motifs are seen. Above that are some raised motifs bordered by grooves. As it is not completely preserved, the shape of the motif is not clear. There are flasks in the Thomas E. Courtis Collection that have parallels in both form and decoration with the Philadelpheia flask. Stern described them as flasks with mould-blown designs in sunken relief. He said that these types were tried during the 2nd century AD⁶⁴. Also, a mould-blown falsk similar in form and decoration to this fragment were also found among the Karanis (Kom Aushim, Egypt) finds⁶⁵. Accordingly, the 2nd century AD can be suggested for the Philadelpheia find.



Figure 12: Bottle with honeycomb pattern

Evaluation and Conclusion

The mould-blown glass vessels from Philadelpheia were generally dated to between the 1st and 2nd centuries AD. Each of the decorated mould-blown vessels from Philadelpheia is a vessel of special production. Today, many of them are displayed in museum collections. Examples of this glass type have been typically discovered in burial

⁶² Foy 2010, 214, fig. 4.

⁶³ Körsulu 2025.

⁶⁴ Stern 1995, 185, 188-189, cat. no. 115-117.

⁶⁵ Harden 1936, 213-214, pl. XVIII, 630.

contexts. However, none of the artefacts from Philadelpheia were found directly inside tombs. They were recovered from the necropolis of the city, alongside many other artefacts associated with funerary rituals or that were buried for other reasons. Regardless of their findspots, these rare glass vessels attest to the importance of the city.

It has been suggested that the high-quality and fine craftsmanship of certain metal figurines and jewellery recovered from the site indicate the presence of an elite social and economic group in the city⁶⁶. The same can be said of the pottery and glass finds. Not many architectural remnants of the city's settlement have survived to the present day. However, the city's rich necropolis, which is suggested to date from the Roman Imperial and Early Christian periods, provides a glimpse into its splendour and affluence during the Roman Imperial period. This also aligns well with the conclusions drawn from the artefacts recovered from the aforementioned area in the necropolis of the city.

There is currently no evidence of glass production in Philadelpheia or its surrounding area. Therefore, these artefacts must have been imports. It would not be wrong to say that the vessels, largely considered to have been produced in the East, were imported from that region. Around the same time, vessels of Eastern Sigillata A, Cypriot Sigillata, and lead-glazed pottery also came to the city from these geographical regions. Consequently, the glass vessels must have been imported along with them. In addition, the presence of glass vessels in the city, all of which were expensive, high-quality products in the ancient world, and the subject of this study, further argues for the wealth and prosperity of the city in the Early Roman Imperial period.

Catalogue

Abbreviations: H.: Height; RDm.: Rim Diameter; mxDm.: Maximum Diameter; BDm.: Base Diameter

1. Flask with Mythological Figures (Fig. 4).

Excavation Find No.: C280.

Dimensions: H.: 3,7 cm; BDm.: 2 cm. **Colour:** Translucent light blue.

Description: Base and a part of the lower body preserved. Flat bottom. Body widening upward. Exterior body showing on one side a figure only from the waist down, seated on a rock with arms outstretched in front. A ship's hull depicted on the other side, with visible oars and masts. Diagonally opposed two convex lines, identified as mould seams, run down to the base, separating the two scenes. Small and large air bubbles.

Similar Examples: Hayward 1962, 58-59, no. 11, fig. 18-19; Özet 1993, 142-145; Stern 1995, 89, fig. 63; Whitehouse 2001, 49-50, no. 523; Grossman 2002, 29, fig. 29a-b; Çakmaklı 2012, kat. no. 20.

Date: 1st century AD.

2. Amphoriskos/Flask (Fig. 5). Excavation Find No.: ABE100. Museum Inventory No: A-5300.

Dimensions: H.: 7,4 cm; RDm.: 2,7 cm; BDm.: 1,3 cm.

Colour: Translucent light purple.

Description: Body blown in two-part mould, free-blown neck, applied handles. A part of the mid-body missing on one side. Otherwise, full profile preserved. Everted rim folded inward at the top. Short cylindrical neck. Oval body. Flat bottom. Two vertical handles. Handles applied to shoulder, then pulled upwards and folded and attached to neck below the rim. Body decorated with vertical ribs on the shoulder, below that a frieze of tendrils bounded above and below by horizontal ribs, and below that vertical ribs extending down to the round base. Few large air bubbles.

⁶⁶ Canlı 2019, 79-80.

Similar Examples: Corning Museum of Glass 1957, no. 75; Dusenbery 1967, 39-40, no. 13, fig. 14; Oliver 1980, 62, fig. 56; Canav 1985, 37, fig. 19; Lightfoot and Arslan 1992, 62, fig. 23; Stern 1995, no. 56-57; Stern 2001, no. 47-48; Whitehouse 2001, 42-43, no. 512; Israeli 2003,138, fig. 144-145; Weinberg and Stern 2009, 68, 81, fig. 8, 151; Fontaine and Roussel-Ode 2010, 191-193, fig. 13, 104-105; Gavritukhin et al. 2021, fig. 7, 25; Lazar 2021, 258-259, fig. 4-5.

Date: 1st century AD.

3. Amphoriskos/Flask (Fig. 6).

Excavation Find No.: C-38.

Dimensions: H.: 4,7 cm; BDm.: 1,5 cm. **Colour:** Translucent amber yellow.

Description: Base and part of the body preserved. Flat bottom. Oval body. Blown in two-part mould with clearly visible mould seams extending upward from base to body. Vertical ribs on the lower body, above that two horizontal ribs, a frieze of tendrils, and again a series of vertical ribs, in that order. Few air bubbles.

Similar Examples: Canav 1985, 37, fig. 19, 41, fig. 31; Fleming 1997, 27, fig. 26A-B.

Date: 1st century AD.

4. Amphoriskos/Flask (Fig. 7).

Excavation Find No.: C-39.

Dimensions: H.: 3,8 cm; BDm.: 1 cm. **Colour:** Translucent amber yellow.

Description: Base and part of the body preserved. Flat bottom. Oval body. Blown in two-part mould with clearly visible mould seams extending upward from base to body. Vertical ribs on the lower body, above that a frieze of tendrils bounded above and below by two partially preserved horizontal ribs. Has a folded section both on the inside and outside towards the bottom. Few air bubbles.

Similar Examples: Canav 1985, 37, fig. 19, 41, fig. 31; Fleming 1997, 27, fig. 26A-B.

Date: 1st century AD.

5. Amphoriskos/Flask (Fig. 8).

Excavation Find No.: C-40.

Dimensions: H.: 1,7 cm; BDm.: 1,5 cm.

Colour: Translucent purple.

Description: Base and part of the lower body preserved. Flat bottom. Oval body. Blown in two-part mould with clearly visible mould seams extending upward from base to body. Vertical ribs on the body. Small and large air bubbles towards the bottom.

Similar Examples: Canav 1985, 37, fig. 18-19, 41, fig. 31; Fleming 1997, 27, fig. 26A-B.

Date: 1st century AD.

6. Knobbed or Lotus-Bud Beaker (Fig. 9).

Excavation Find No.: C16.

Dimensions: H.: 6,1 cm; BDm.: 4,4 cm.

Colour: Translucent purple.

Description: Base and part of the body preserved. Slightly concave flat base. Cylindrical body. Thin walled. Inverted lotus buds diagonally placed on the body at regular intervals. Visible mould seams indicate a three-part mould. Three convex, concentric circles at the bottom. Few air bubbles.

Similar Examples: Corning Museum of Glass 1957, no. 71-72; Hayes 1975, 31-33, 48, pl. 7, 83; Jaffe 1978, 33, fig. 56; Oliver 1980, 67, 70, kat. no. 65; von Saldern 1980, 51, fig. 44; Canav 1985, 79, fig. 122; Price 1991, pl. XIX, b; Rütti 1991, 108, 176, abb. 113, AR 33.1 – I 31; Stern 1995, 108, fig. 3, kat. no. 8, 9-10; Olcay 2001, 149-150, fig. 4; Whitehouse 2001, 27-29, no. 492-496; Arveiller-Dulong and Nenna 2005, 195, pl. 39, no. 540; Fadic 2005, fig. 1; Bats 2006, fig. 31, 683; Fontaine and Roussel-Ode 2010, fig. 5-6.

Date: 1st century AD to early 2nd century AD.

7. Bottle Decorated with knobbed or Lotus-Buds (Fig. 10).

Excavation Find No.: C17.

Dimensions: H.: 4,3 cm; BDm.: 3 cm.

Colour: Translucent purple.

Description: Base and part of the lower body preserved. Flat bottom. Cylindrical body. Thin walled. Regularly spaced, downturned lotus buds on the body. Part of a raised motif on the bottom, unknown, as only a very small section is preserved. One of the moulds seams visible on the small body part. Few air bubbles.

Doi: 10.32949/Arkhaia.2025.69

Similar Examples: von Saldern 1980, 52, fig. 45.

Date: Second half of the 1st century AD.

8. Beaker with Herringbone Decoration (Fig. 11).

Excavation Find No.: C478-480. Dimensions: H.: 4,8 cm; RDm.: 8,2 cm. Colour: Transparent light amber yellow.

Description: Fragments of rim and body. Unworked, convex rim. Cylindrical body. Thick walled. Body decorated with vertical and diagonal bands of stylized herringbone pattern, bordered below and above by raised lines. Very few air bubbles.

Similar Examples: Price 1991, XVI, c; Foy 2010, 211, fig. 1, 4.

Date: Second half of the 1st century AD to the beginning of the 2nd century AD.

9. Flask with Sunken Relief (Fig. 12).

Excavation Find No.: C-15.

Dimensions: H.: 3;5 cm; BDm.: 3,6 cm.

Colour: Translucent purple.

Description: Lower part of base and small part of body preserved. Flat bottom. Oval body. Two rows of dots on the lower part of body. Above that, motifs in relief bordered by grooves. No air bubbles.

Similar Examples: Harden 1936, 213-214, pl. XVIII, 630; Stern 1995, cat. no. 115-117.

Date: 2nd century AD.

Bibliography

Ancient Literature

Hom. *Il.* (Homeros, *Ilias*) Homeros, İlyada. Translated by Azra Erhat and A. Kadir. İstanbul, 1997 (Yapı Kredi Yayınları).

Modern Literature

- Antonaras, A. 2010. "Roman and Early Christian Mould-Blown Vessels from Thessaloniki and its Region, from the 1st to the 5th Century AD." In *D'Ennion au Val Saint-Lambert. Le verre souflé-moulé. Actes des 23e Rencontres de l'Association française pour l'Archéologie du Verre (Scientia Artis, 5)*, edited by C. Fontaine-Hodiamont, 241-252. Bruxelles: Institut royal du Patrimoine artistique.
- Arveiller-Dulong, V., and M.D. Nenna. 2005. *Les verres antiques du Musée du Louvre*. Vol. 2. Paris: Somogy editions d'art, Musée du Louvre.
- Aşkın, E., A. Yıldız, H.E. Ergürer, H. Körsulu, M. Kurt, and M. Alkan. 2016. "Philadelphia (Ermenek/Gokceseki) Kazısı 2015." *Anmed* 14: 357-361.
- Bats, M. 2006. *Olbia de Provence (Hyères, Var) à l'époque romaine (Ier s. av. J.-C. VIIe s. ap. J.-C.)*. Études Massaliètes 9. Aix-en-Provence: Centre Camille Jullian.
- Canav, Ü. 1985. *Türkiye Şişe Cam Fabrikaları A.Ş. Cam Eserler Koleksiyonu*. İstanbul: Şişe ve Cam Fabrikaları A. Ş. Yayınları.
- Canlı, H. 2019. "Isauria'daki Philadelphia (Gökçeseki) Metal Buluntuları." Ph.D. diss., Mersin University.
- Corning Museum of Glass. 1957. Glass from the Ancient World: The Ray Winfield Smith Collection. Corning, New York: Corning Museum of Glass.
- Çakmaklı, Ö.D. 2012. "Karia Bölgesi Roma Dönemi Cam Kap Tipolojisi." Ph.D. diss., Ankara University.
- Çakmaklı, Ö.D. 2017a. "Roma Dönemi Cam Kaplarında Temenni Yazıtları." Abant Kültürel Araştırmalar Dergisi (AKAR) 2(4): 142-152.

- Çakmaklı, Ö.D. 2017b. "Opifices Artı Vitri: Roma İmparatorluğu'nda Cam Ustaları." *Cedrus* V: 325-336.
- Dusenbery, E.B. 1967. "Ancient Glass from the Cemeteries of Samothrace." *JGS* IX: 34-49.
- Dusenbery, E.B. 1998. Samothrace The Necropoleis. Catalogues of Objects by Catogories. New Jersey: Princeton University Press.
- Erten-Yağcı, E. 1993. "Başlangıcından Geç Antik Dönem Sonuna Kadar Anadolu'da Cam." Ph.D. diss., Ankara University.
- Erten, E. and E. Akkuş-Koçak. 2020, "Olba'dan Roma Erken İmparatorluk Dönemi Üfleme Cam Buluntuları." *Seleucia* X: 201-226.
- Erhat, A. 1997. Mitoloji Sözlüğü. İstanbul: Remzi Kitapevi.
- Fadic, I. 2005. "Čaša s lotosovim pupoljcima iz Aserije." Asseria 3: 75-98.
- Fleming, S.J. 1997. *Roman Glass: Reflections of Everyday Life*. Philadelphia: The University of Pennsylvania Museum.
- Fontaine, S., and J. Roussel-Ode. 2010. "Vases soufflés-moulés du Haut-Empire trouvés en Narbonnaise." In *D'Ennion au Val Saint-Lambert. Le verre souflé-moulé. Actes des 23e Rencontres de l'Association française pour l'Archéologie du Verre (Scientia Artis, 5)*, edited by C. Fontaine-Hodiamont, 177-203. Bruxelles: Institut royal du Patrimoine artistique.
- Foy, D. 2010. "Deux nouvelles attestations de verres antiques soufflés dans un moule en Tunisie." In *D'Ennion au Val Saint-Lambert. Le verre souflé-moulé. Actes des 23e Rencontres de l'Association française pour l'Archéologie du Verre (Scientia Artis, 5)*, edited by C. Fontaine-Hodiamont, 211-214. Bruxelles: Institut royal du Patrimoine artistique.
- Fünfschilling, S. 2015. Die römischen Gläser aus Augst und Kaiseraugst: Kommentierter Formenkatalog und ausgewählte Neufunde 1981–2010 aus Augusta Raurica. 2 vols. Forschungen in Augst 51. Augst: Augusta Raurica.
- Gavritukhin, I., L. Golofast, A. Mastykova, E. Sukhanov, A. Sviridov, and S. Yazikov. 2021. "The Cemetery of Frontovoe 3, New data on the culture of the Crimea in the Roman and Early Great Migration periods." *Študijné zvesti Archeologického ústavu Slovenskej akadémie vied* 68(1): 87–118.
- Grossman, R.A. 2002. *Ancient Glass: A Guide to the Yale Collection*. New Haven: Yale University Art Gallery.
- Harden, D. 1936. Roman Glass from Karanis Found by the University of Michigan Archaeological Expedition in Egypt, 1924–1929. University of Michigan Studies, Humanistic Series 41. Ann Arbor: University of Michigan Press.
- Hayes, J.W. 1975. Roman and Pre-Roman Glass in the Royal Ontario Museum. Toronto: Royal Ontario Museum.
- Hayward, J. 1962. "Roman Mold-Blown Glass at Yale University." *JGS* 4: 48-60.
- Hild, F., and H. Hellenkemper. 1990. *Tabula Imperi Byzantine 5: Kilikien und Isaurien*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Isings, C. 1957. Roman Glass from Dated Finds. Archaeologica Traiectina 2. Groningen: J.B. Wolters.
- Israeli, Y. 2003. *Ancient Glass in the Israel Museum. The Eliahu Dobkin Collection and Other Gifts.* Jerusalem: The Israel Museum.

- Jaffe, M. 1978. Glass at the Fitzwilliam Museum. Cambridge: Cambridge University Press.
- Körsulu, H. 2019. "Isauria Bölgesindeki Philadelphia Antik Kentinden (Ermenek-Gökçeseki) Kurşun Sırlı Seramikler." Seleucia XI: 247-271.
- Körsulu, H. 2024a. "Philadelphia Antik Kentinden (Isauria Kilikia Trakheia) Kaburga Bezemeli Cam Kâse/Fincanlar." *Cedrus* XII: 105-122.
- Körsulu, H. 2024b. "Glass Beaker with Mythological Figures from the City of Philadelphia in Isauria." *Tüba-Ar* 34: 121-132.
- Körsulu, H. 2025 (in print). "A Glass Beaker with an Inscription from the Ancient City of *Philadelpheia* (Isauria Cilicia Tracheia)", *Gephyra* 29.
- Körsulu, H. and H.E. Ergürer. 2018. "Philadelphia (Ermenek/Gökçeseki) Hellenistik ve Roma Dönemi Seramikleri: Ön Rapor." In *Ermenek Araştırmaları I, Arkeoloji-Sanat Tarihi-Tarih*, edited by Hüseyin Muşmal, Erol Yüksel and Mehmet Ali Kapar, 53-66. Konya: Palet Yayınları.
- Körsulu, H. and H.E. Ergürer. 2019. "Isauria Kenti Philadelphia'dan (Karaman-Ermenek-Gökçeseki) Doğu Sigillata A (DSA) Kapları." *Cedrus* VII: 345-364.
- Lazar, I. 2003. Rimsko Steklo Slovenije / The Roman Glass of Slovenia. Opera Instituti Archaeologici Sloveniae 7. Ljubljana: Inštitut za arheologijo ZRC SAZU.
- Lazar, I. 2021. "A Look Through the Glass: Glass Material from the Roman Necropolis of Budva in the Social and Economic Context of the Empire." In *Antička Budva*, edited by Dušan Medin, 252-273. Budva: JU Muzeji i galerije Budve.
- Lightfoot, C. S. and M. Arslan. 1992. Anadolu Antik Camları: Yüksel Erimtan Koleksiyonu /Ancient Glass of Asia Minor: The Yüksel Erimtan Collection. Ankara: Ünal Offset.
- Olcay, B.Y. 2001. "Ancient Glass Vessels in Eskişehir Museum." AnatSt 51: 147-157.
- Oliver, A. (Jr.) 1980. Ancient Glass in the Carnegie Museum of Natural History. Pittsburgh: Board of Trustees, Carnegie Institute.
- Özet, A. 1993. "An Amphoriskos in the Bodrum Museum of Underwater Archeology." *JGS* 35: 142-145.
- Price, J. 1991. "Decorated Mould-Blown Glass Tablewares in the First Century AD." In *Roman Glass: Two Centuries of Art and Invention*, edited by Martine Newby and Kenneth Painter, 56–75. London: The Society of Antiquaries of London.
- Ruge, W. 1938. "Philadelphia (2)." Realencyclopädie der classischen Altertumswissenschaft XIX/2: 2093–2094.
- Rütti, B. 1991. Die römischen Gläser aus Augst und Kaiseraugst. 2 vols. Forschungen in Augst 13/1. Augst: Römermuseum.
- Schwarzer, H., and T. Rehren. 2021. "Glass Finds from Pergamon: A Report on the Results of Recent Archaeological and Archaeometric Research." Berlin Studies of the Ancient World 67: 161–215.
- Stern, E.M. 1995. Roman Mold-Blown Glass: The Toledo Museum of Art. The First through Sixth Centuries. Ohio: L'Erma di Bretschneider.
- Stern, E.M. 2001. Roman, Byzantine and Early Medieval Glass 10 BCE 700 CE: Ernesto Wolf Collection. Ostfildern: Hatje Cantz Publishers.

- Stern, E.M. 2010. "Audacis plebeia toreumata vitri: Souffler le verre dans des Moules." In *D'Ennion au Val Saint-Lambert. Le verre souflé-moulé. Actes des 23e Rencontres de l'Association française pour l'Archéologie du Verre (Scientia Artis, 5)*, edited by C. Fontaine-Hodiamont, 25-37. Bruxelles: Institut royal du Patrimoine artistique.
- von Saldern, A. 1980. Glas von der Antike bis zum Jugendstil: Glass 500 B.C. to A.D. 1900. The Hans Cohn Collection. Los Angeles and Mainz: P. von Zabern.
- Weinberg, G.D. 1972. "Mold-Blown Beakers with Mythological Scenes." JGS 14: 26–47.
- Weinberg, G.D., and E.M. Stern. 2009. *Vessel Glass. The Athenian Agora* 34. Princeton, NJ: The American School of Classical Studies at Athens.
- Whitehouse, D. 2001. *Roman Glass in the Corning Museum of Glass*. Vol. 2. Corning, NY: The Corning Museum of Glass.
- Wight, K.B. 2014. "The Mold-Blowing Process." In *Ennion: The History of Ancient Glass, Ennion: Master of Glass*, edited by Christopher S. Lightfoot, 49–55. New York: Metropolitan Museum of Art.
- Yıldız, A., and E. Aşkın. 2016. "Philadelphia Antik Kenti (Ermenek/Gökçeseki) 2015 Yılı Temizlik Amaçlı Kazı ve Bitki Temizliği Çalışmaları." In 25. Müze Kurtarma Kazıları Sempozyumu ve 11. Uluslararası Müzecilik Çalıştayı, 251-266. Ankara: T.C. Kültür ve Turizm Bakanlığı.