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# ADALYA

The Annual of the Koç University Suna & İnan Kıraç Research Center for Mediterranean Civilizations

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# Contents

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# Glass Finds from the Monastery at Olba

Emel ERTEN – Emine AKKUŞ KOÇAK*

**Abstract**

The majority of the glass finds discovered during the excavations at the monastery of Olba consists of fragments belonging to lamps, goblets, and window panes that indicate the use of glass for illumination. In addition to these, fragments of bowls, plates, jars, or flasks were also recorded. As almost all the glass fragments were found within the earth fill, it is not possible to build a chronology through stratigraphy. The only location that gives numismatic evidence for dating is the stone basin. The densely corroded coins from the basin suggest a date starting from the sixth century AD. The overall study of the archaeological evidence from the monastery, as well as the typological research into the glass material, reveal that the glass finds belong to a period starting from the fifth century and ending in the seventh century AD.

**Keywords:** Rough Cilicia, Monastery of Olba, Late Antique Glass, Glass Lamps, Glass Goblets, Window Glass

**Öz**

Olba Manastırı'nda yapılan arkeolojik kazılar sırasında bulunan camlar belirgin bir grubu oluşturmaktadır. Bunların çoğunluğu mekânların doğal ve yapay aydınlatmasını sağlayan kandil, kadeh ve pencere camı parçalarından oluşur. Ayrıca, kaseler, tabaklar, kavanoz ve şişeler de ele geçmektedir. Manastır'ın yer aldığı yamacı kaplayan dolgu toprağı içinde ele geçmiş olduklarından stratigrafi uyarınca bunlar için bir kronolojinin oluşturulması mümkün değildir. Manastır'da tarihlemede kullanılabilecek nümizmatik verileri sadece "taş tekne" verebilmektedir. Çok aşınmış durumda olmakla birlikte, burada ele geçen sikkeler MS 6. yy.'a aittirler. Manastır genelinde yapılan kazılarda elde edilen diğer arkeolojik veriler ve cam buluntular üzerinde yapılan tipolojik değerlendirme MS 5. yy.'dan başlayarak, MS 7. yy. sonuna dek olan bir sürece işaret etmektedir.

**Anahtar Kelimeler:** Dağlık Kilikia, Olba Manastırı, Geç Antikçağ'da Cam, Cam Kandiller, Cam Kadehler, Pencere Camı.

## Introduction

Olba in Rough Cilicia (Mersin Silifke Örenköy) has been one of the better documented sites in the region since the nineteenth century. James Theodore Bent was the first to visit the site and to publish the monuments of Olba.[1] The recorded inscription on the wall of the Roman aqueduct is exceptionally important since it provides direct evidence for the localization of the site.[2]

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1 Bent 1891, 222.

2 Hicks 1891, 270, no. 71.

The archaeological work carried out since 2001 at Olba has proven that the acropolis hill was inhabited as early as the Late Chalcolithic–Early Bronze Age. The processes of Hellenization and Romanization of Olba have been confirmed by archaeological and architectural evidence.[3]

Christianization is another of the major phases in the history of the site. Literary as well as material evidence supports the fact that Olba was home to an early Christian community. The cave–church discovered below the Şeytanderesi Gorge, a few kilometers south of the acropolis hill, reveals the presence of early Christians at the site.[4]

After Christianity was recognized in the Roman world, Olba was recorded as a bishopric in the church organization of the time.[5] This event also marked the transformation of Olba from a pagan to a Christian site. Many churches were constructed, probably starting from the fourth century AD onwards. The monastery, dating to the fifth century AD and located on the eastern slope of the Eastern Gorge, was built on top of an earlier Roman villa.[6] The marvelous mosaic floor that came to light after the excavations belongs to the villa and was dated to the second–early third centuries AD, during the time when Olba was growing as a typical Roman town in the Eastern Mediterranean.[7]

The construction of the monastery as a large building complex is usually interpreted as a part of the building activity that took place in the region during the reign of Zeno the Isaurian.[8] The excavations carried out at the monastery after 2011 provided much information about the history and planning of this magnificent complex, which continued to be in use until the seventh century AD (figs. 1–2).[9]

The aim of our study is to present the glass finds discovered during the excavations of the monastery. This material is important in that it gives a full view of glass use at a Christian monastic complex in Rough Cilicia, and it will be evaluated in relation to the other archaeological evidence that was discovered during the excavations.

## Glass from the Monastery at Olba

The glass that came to light during the excavations in the monastery belongs to the earth fill covering the slope where the building complex is located, thus it is impossible to date the material according to the stratigraphy. Nevertheless, it is still possible to classify the material under certain categories that are typical for the Late Antique Period.

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3 For the process of Romanization in Olba, see Erten 2009, 76–85.

4 Erten, Özyıldırım and Akçay 2010, 278–79, figs. 6–7.

5 Özyıldırım 2003, 145–49; Özyıldırım 2012, 105–18.

6 For the earlier publications on monastery, see Headlam 1892, 22; Keil and Wilhelm 1931, 97, fig. 116; Hild and Hellenkemper 1990, 369–70; and Hill 1996, 252, fig. 55, pl. 113.

7 Erten 2016, 61–91.

8 Canevello and Özyıldırım 2009, 16–28.

9 For the results of the recent excavations in the monastery, see Özyıldırım 2012, 105–18; Özyıldırım 2016, 181–201; Özyıldırım and Yeğin 2017, 47–68; and Özyıldırım and Yeğin 2018, 165–90.

## 1. Lamps

The most common group discovered during the excavations of Olba are the glass lamps (figs. 4–5). This material has previously been studied, classified, and published.[10] Our aim here is to give a complete view of the artificial illumination of a Late Antique religious building complex through the glass lamps discovered in the monastery.

The implements produced in order to light the lamps are metal wick–holders (fig. 3.3–4). Numerous wick–holders, either with tube–shaped or circular recesses and produced to be applied to the rims of glass lamps, were discovered in many sectors excavated in Olba, including the monastery. Metal wick–holders were designed to be suitable for use on all kinds of glass lamps, whether handled or stemmed, and even on glass goblets functioning as lamps. Another type, represented by a couple of examples in Olba, are the conical terra cotta wick–holders with a vent at the bottom (fig. 3.5–7). The discovery of many examples of this type in the neighboring site of Elaiussa Sebaste reveals their common use in the region.[11]

Although no fully preserved lamps were discovered in the excavations, it is still possible to identify their general appearance and details. The fragments of glass lamps found in the excavations of the monastery of Olba can be studied under two sub–groups: handled lamps, and stemmed lamps.

### 1(a). Handled Lamps (fig. 4)

Handled lamps are one of the basic forms of the Late Antique period, and consist of two parts: a bowl (serving as a receptacle for the oil), and three applied handles attached to the rim for suspension. Metal lamp–hangers with three suspension chains with hooks at the ends were designed for use in combination with handled glass lamps. In addition to one well–preserved example, many fragments belonging to bronze lamp–hangers were discovered both in the monastery and other sections in the excavations of Olba,[12] indicating the frequent use of handled glass lamps at the site (fig. 3.1–2).

Detailed study of the handled lamp fragments from various locations within the monastery indicates the presence of some different sub–groups according to the shaping of the handles and rims. The lamps have either vertical or loop handles, and the rims can be classified as either rounded or folded. Only one fragment belonging to a lamp with a vertical handle and a rounded rim was found in the excavations of the Northern Church (Type: Olba 1(b)1) (fig. 4.10). All other examples seem to have rims folded outwards, but a close examination reveals that there were several varieties of shaping among them. The vertical handle either connects to a curved (Type: Olba 1(b)2) [fig. 4.1–2]) or an S–profiled (Type: Olba 1(b)3) [fig. 4.3–7]) shoulder. Another type is the vertical handle connected to a spherical body (Type: Olba 1(b) 4) [fig. 4.8–9]). The reason for this variety in terms of details must be a result of the workmanship of separate glass workers or workshops, rather than a difference of chronology.

Another type of glass lamp discovered during the excavations of the monastery are the examples with loop–handles (fig. 4.13–15). Although a large number of this type were excavated in the theater of Olba, only a few fragments (three pieces) were found in the monastery. The

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10 Erten and Akkuş Koçak 2018, 139–64.

11 Gençler Güray 2007, 157–60; Gençler Güray 2010a, 234–44.

12 Erten 2013, 106–11.

loop–handled type of lamps from Olba have already been studied in detail and published.[13] One of the characteristics of this type is the long extension below the rim, applied to the body either as a plain strip of glass or a strip with horizontal–parallel lines formed when the glass was hot. Another feature of the type worth mentioning is the cut–off rim, which appears to be typical for the loop–handled lamps (fig. 4.11–12).

One question concerning handled lamps is how their bases were shaped. As there were no complete lamps from Olba, it was not possible to answer this question. Based on parallel examples found elsewhere in the eastern half of the Roman Empire, it was suggested that the handled lamps of Olba had a concave base. Subsequently, a fragment discovered in 2018 in the Northern Church—with an S–profiled body, out–folded rim, and straight handle preserved down to the bottom—confirmed that the type has a concave base (fig. 4.3). Thus, it seems clear that the seven concave bases found in the excavations at the monastery belong to handled lamps (fig. 4.16–22).

### 1(b). Stemmed Lamps (fig. 5)

Stemmed glass lamps specially designed to be used together with metal polycandela can be regarded as very common elements in the scenery of Late Antique interiors. The bronze polycandela discovered both in the monastery of Olba and in the surrounding region reveal not only the widespread use of this lighting device, but also the use of glass lamps.

The excavations in the monastery of Olba yielded a number of stemmed lamps with hollow stems. The majority of the stemmed lamps were discovered within the stone basin, which yielded a rich collection of finds that included a bronze polycandelon (fig. 5.19). The diameter (2.5 cm) of each insertion hole on the polycandelon matches the measurements of the lamps, such as the well–preserved example from the stone basin (fig. 5.1). The width of the section that connects the body to the stem of this glass lamp is exactly 2.5 cm.

As there are no well–preserved examples, it is rather difficult to reconstruct the stemmed lamps in detail, but some types can be determined based on the shaping of the stem–bases as straight–cut, oval with pontil mark, or slightly concave (fig. 5.1–18). Another base form recorded at Olba is the massive, button–shaped type belonging to the conical lamps,[14] but these examples were not represented in the collection of glass finds from the monastery.

## 2. Goblets

Glass goblets, used either for illumination or as simple household goods (drinking vessels), are among the most frequent finds in Late Antique contexts of Eastern Mediterranean sites,[15] including in Asia Minor.[16] The Olba monastery is no exception to this, as numerous fragments belonging to the bases, stems, bodies, and rims of goblets were excavated there (fig. 6).[17] As

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13 Erten and Akkuş Koçak 2018, 143, 153, 154, 158, lev. 1.2.2, lev. 2.2–5, lev. 7.1.

14 Erten and Akkuş Koçak 2018, 149, 156, pl. 5.

15 For the spread of glass goblets in the ancient world, see Erten and Akkuş Koçak 2017, 91, n. 6.

16 The pioneering publication on Late Antique glass from Asia Minor is on excavation finds from Sardis: von Saldern 1980; several works on material from a number of excavations were published afterwards; see Anemurium Necropolis Church: Stern 1985, 35–64; Demre St. Nicholas Church: Acara and Olcay 1998, 249–66; Amorium: Gill 2002; Olcay 2001, 77–87; Olympos: Uçkan and Öztaşkın 2017, 11–28; Olba: Erten and Akkuş Koçak 2017, 95–118; Erten and Akkuş Koçak 2018, 139–164.

17 For the glass goblets found in the excavations of the theater at Olba, see Erten and Akkuş Koçak 2017, 89–112.

there are no complete examples among the finds, suggestions about the forms of the goblets must be based on the shaping of their bases.

After a careful study of the base discs, it is possible to establish three basic groups, as follows:

- Olba Group 1: Goblets with folded conical base discs, cylindrical hollow stems (fig. 6.1–19): This type has been recorded as the most frequent group in the theater of Olba[18] and is known from many Late Antique settlements in Asia Minor, including the neighboring sites of Elaiussa Sebaste and Soli–Pompeiopolis.[19]
- Olba Group 2: Goblets with massive conical base discs and massive stems (fig. 6.20–22): These examples constitute the second most common group of lamps among the finds of the theater of Olba.[20] The type has also been recorded in the region at sites such as Diocaesarea, Elaiussa Sebaste, and Kilise Tepe.[21]
- Olba Group 3: Goblets with massive base discs pulled out from the body (fig. 6.23–24): Fragments of these goblets have been found during excavations of the theater of Olba.[22] Examples of the same type are recorded at several findspots in Asia Minor (such as Sardis, Saraçhane, Amorium, and the Agora of Smyrna), and have previously been recorded and named "B1b" by Çakmakçı.[23]

The diameters of the bases vary between 3.5 and 6 cm. The glass rim fragments found together with goblet bases provide data for the reconstruction and basic description of the rims, which were either thickened and rounded in flame or folded outwards.

As no complete goblets have been discovered in Olba in the theater, monastery, or elsewhere, their heights and the shaping of their bodies can only be estimated. According to fully preserved glass goblets from various findspots, it can be suggested that their heights varied between a minimum of 6–7 cm and a maximum of 13–14 cm.[24] Their bodies were probably U–shaped, bell–shaped, or poppy–shaped, as has previously been suggested for the glass material from Kourion Basilica, Cyprus, where no complete goblets were found.[25] Although the majority of the body fragments are plain (fig. 7.2–24), one of the examples was spirally fluted (fig. 7.1), suggesting a two–step shaping (pattern–blowing) during production (i.e., first blowing into a mould and afterwards free–blowing by rotating in order to create the spirals).[26] It is worth noting that another body fragment with the same type of spiral flute but belonging to a lamp was also found in the monastery (fig. 4.3).

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18 Erten and Akkuş Koçak 2017, 93–5.

19 Elaiussa Sebaste: Gençler Güray 2009, 331, drawing 26; Soli–Pompeiopolis: Gençler Güray 2010b, 143, fig. 3/8–9; the type has previously been identified and named by Çakmakçı as "Type A1b": Çakmakçı 2009, 53, 62, Table 3.

20 Erten and Akkuş Koçak 2017, 95, 101.

21 Diocaesarea: Kramer 2012, 41, cat. no. 566–67 (Form II.12), Taf. 64; Elaiussa Sebaste: Gençler Güray 2009, drawing XXVI, no. 347; Kilise Tepe: Collon 2007, 507, 797, fig. 453, no. 2106.

22 Erten and Akkuş Koçak 2017, 95, 101, lev. 1.

23 Çakmakçı 2009, 54, 63, Table 4.

24 Erten and Akkuş Koçak 2017, 98.

25 Young 1993, 40.

26 Stern 2001, 27–201.

## 3. Window Glass (fig. 8)

The history of the use of window glass for the natural illumination of interiors goes back to the Roman imperial period.[27] The later use of window glass for the natural lighting of church interiors can be explained by two aspects: one is the importance given to light in Christian liturgy, and the other is the continuation of the old Roman tradition of illuminating large spaces within monumental buildings (especially baths) via windows with glass panes that provided both light and heat from the sun.

Olba is one of the sites where window glass was widely used. The acropolis hill, the theater, and the monastery are findspots that revealed numerous glass pane fragments.

Starting from the Roman imperial period, two main techniques were practiced for the production of window panes: casting and cylinder–blowing. Crown–glass discs, which were also in use, can be interpreted as something other than ordinary window glass, which is absent in Olba. The window glass panes discovered at Olba are all cast.

All fragments of window glass from the monastery came from the excavations of the stone basin and trenches M–2 and M–3, which are located in the central section of the building complex, where the ruins of a two–storey church were discovered (figs. 2, 8). The basement of the church was probably used as a cellar or storeroom without windows. The second floor, which constitutes the main space of the church and has an apse, had windows with glass panes. All the glass fragments found in this section are blue in colour, cast, and probably belong to the same type of panes.

For the window glass fragments from the stone basin, there is no evidence for the original specific location. They probably belong to a group taken away from one of the buildings in the monastery complex and piled up in the basin.

The total weight of the window glass fragments unearthed in the monastery is 176.5 g, with 87 g of this being composed of blue panes and 20.15 g of green panes. The remaining 69.35 g from the M–2 and M–3 trenches are also of blue glass. Therefore, it is safe to say that the majority of the window glass in the monastery was blue.

The surface, direction of oblong bubbles within the glass texture, and thickness of the pane all reflect the production technique. In this regard, it should be noted that all the window glass fragments from the monastery at Olba indicate casting. The shiny surfaces on the upper side, matte surfaces on the lower side, thickness (2–5 mm), and relatively irregular edges are also due to casting into moulds.

## 4. Plates and Bowls

Among the finds of the monastery, there is a limited number of fragments belonging to bowls and plates (fig. 9). The classification of these was made according to the diameter of their rims, which are either folded or thickened and rounded in flame.

### 4(a). Plates and Bowls with Folded Rims (fig. 9.1–3)

The fragments of glass belonging to plates and bowls with rims folded outwards were discovered in trenches (M–1 and M–4) that encompassed and surrounded the area of the central church building and the vaulted tomb of the monastery. Both pieces were made of transparent

[27] Whitehouse 2001, 31–43; Erten 2015, 155–61.

natural green glass, one with a diameter of 14.2 cm and the other identified as a plate owing to its larger diameter (24.4 cm). Another bowl fragment from Trench M–4 has a diameter of 14 cm, with its rim folded inwards. Evaluation of the same types of bowl and plate from the neighbouring sites of Diocaesareia and Elaiussa Sebaste reveals that a base fragment from the monastery (fig. 9.6) could be similar.[28]

### 4(b). Plate and Bowl with Rims Thickened and Rounded in Flame

Only two specimens found within the stone basin in the monastery represent this group (fig. 9.4–5). One is a plate with a diameter of 20.6 cm and made of transparent green glass. It has a thick thread of glass below its rim, in the same colour as the body. The other is a bowl made of bluish–green glass and with a diameter of 11 cm. A blue glass thread was applied below its rim. The same type of bowl is quite frequent among the finds of Elaiussa Sebaste, and was dated to the mid–fifth to the first half of the sixth centuries AD according to the archaeological data. It has been suggested by the excavators that the lack of parallels of this type may indicate a local production.[29]

### 5. Vessels with Glass Thread Decoration (fig. 10)

The glass thread is a common type of decoration in the Late Antique period. It has been stated that the spiral thread around the necks of bottles and flasks was frequent in the sixth and seventh centuries AD.[30] A number of flask fragments featuring thread decoration were discovered in the excavations of the monastery of Olba. One was found in the Northern Church and is the neck and rim fragment of a vessel made of light blue, transparent glass with a rim thickened and rounded in flame and a cylindrical neck slightly tapering downwards with a projecting roll[31] and four rows of blue thread wound around the neck (fig. 10.1). The vessels (especially jars) with projecting rolls around their necks seem to have been quite common in the Syro–Palestinian region in the Late Antique period, and it has been stated that the presence of the projecting roll is an indication that the vessel was not designed for pouring or drinking, as the bulge traps liquid.[32] As only a small section of the rim of the fragment from Olba was preserved, it was not possible to determine the diameter of the rim; however, the neck with a projecting roll indicates that the vessel could be a jar.

Two neck fragments, one with three rows of red/brown thread and the other with blue thread decoration, were found during the excavations of the Northern Church at the same spot (fig. 10.1–2). They could belong to jars or flasks, known to have been popular vessels of the time, that featured glass thread decoration.

Another flask fragment from the monastery is different from the others in that the blue glass thread was not applied to the neck but rather around the rim (fig. 10.3). This type is known in Olba, as parallels were found on the surface during surveys at the site.[33] Vessels with similar blue thread decoration below the rim were also recorded on bowls and beakers from Elaiussa

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28 Kramer 2012, 39, Taf. 61, no. 502; Gençler Güray 2009, 74.

29 Gençler Güray 2009, 75–6; drawing XV–XVI. Gençler Güray states that, because of the lack of similar examples, no comparisons were made for the dating or determination of the distribution in order to evaluate this rim profile.

30 Stern 2001, 30; Antonaras 2012, 197–99, cat. nos. 288–92; Dussart 1998, 92–3, 259, pl. 19.1–2, pl. 19.7.

31 For the use of the projecting roll in glass vessels, see Stern 2001, 28.

32 Stern 2001, 150, 229–34, cat. nos. 116–20.

33 Erten 2003, 149, fig. 7.

Sebaste[34] and Beirut.[35] In addition to these examples with glass thread decorations, three rim fragments belonging to flasks, two with a funnel mouth and one with a cylindrical neck, have also been discovered in the monastery (fig. 10.4–6).

## Conclusion

The glass found in the monastery at Olba constitutes a group which can be described as very typical of finds from Roman sites in the Eastern Mediterranean. The majority of the fragments (approximately 85 percent), belonging to lamps and goblets as well as window glass, reveals the growing use of glass for the illumination of interiors. Therefore, it is possible to suggest that the artificial lighting for the rooms of the monastic structure at Olba was provided by glass lamps, with natural lighting being provided by windows covered by glass panes.

The overall evaluation of the glass material from the monastery of Olba indicates dates between the fifth and the seventh centuries AD, precisely overlapping with the period of construction, use, and abandonment of the monastic complex. As previously stated, a number of glass fragments were discovered within the stone basin in the monastery, along with some coins. Although most of them are densely corroded, the late antique copper coin finds from the basin (two *nummi* and five *folli* could be identified) indicate a date starting from the reign of Anastasius I (r. 491–518 AD), as he was the first emperor to introduce the copper "follis" in 498 AD.[36] Thus, for the glass finds from the stone basin, a date of the sixth century AD onwards can safely be suggested.

The similarity of the colour and texture of the glass material used in the lamps, goblets, and window glass may suggest a common source and/or workshop operating in the region. Although there is a great deal of glass material from the excavations at Olba, we do not yet have any evidence for glass making or glass working at the site. Future archaeological investigation may produce results that will enable us to understand whether or not there was a primary or secondary glass production at Olba.

Other forms of glass discovered in the excavations at the monastery—such as goblets, bowls, plates, flasks, and jars—indicate a certain level of glassware use (certainly less than pottery) in the monastery, probably in the "agape meals"[37] held in the dining rooms by the monks, who were tired from working in the fields or agricultural workshops since, according to St. Basileus' rules of monastic life, they were required to perform labour as well as worship.

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34 Gençler Güray 2009, figs. 155, 196–7, 208–10.

35 Foy 2000, 264, 12–6.

36 Grierson 1999, 2.

37 "Agape" is a kind of communal meal or "love feast" considered to be a Christian tradition; it had developed alongside the Eucharist, but later became separate in liturgy: Smith 2003, 285; for a more detailed evaluation, see Keating 1901.

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Fig. 1 Aerial photograph of the monastery at Olba.

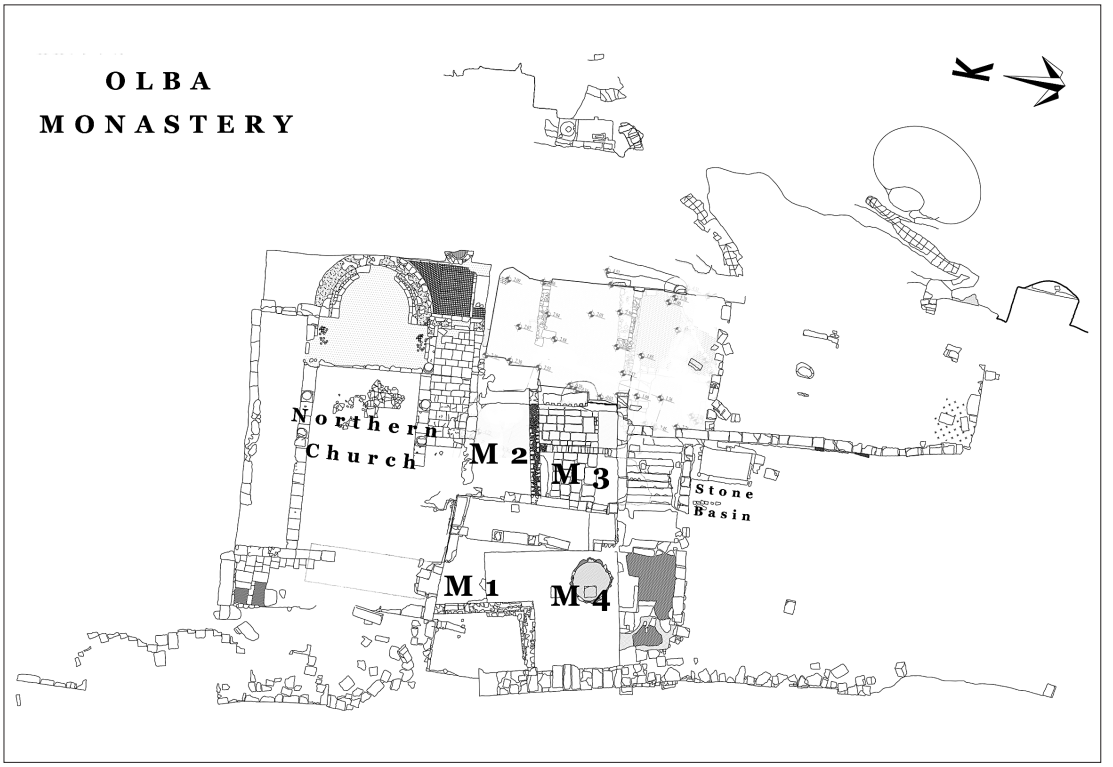


Fig. 2 Plan of the monastery at Olba.

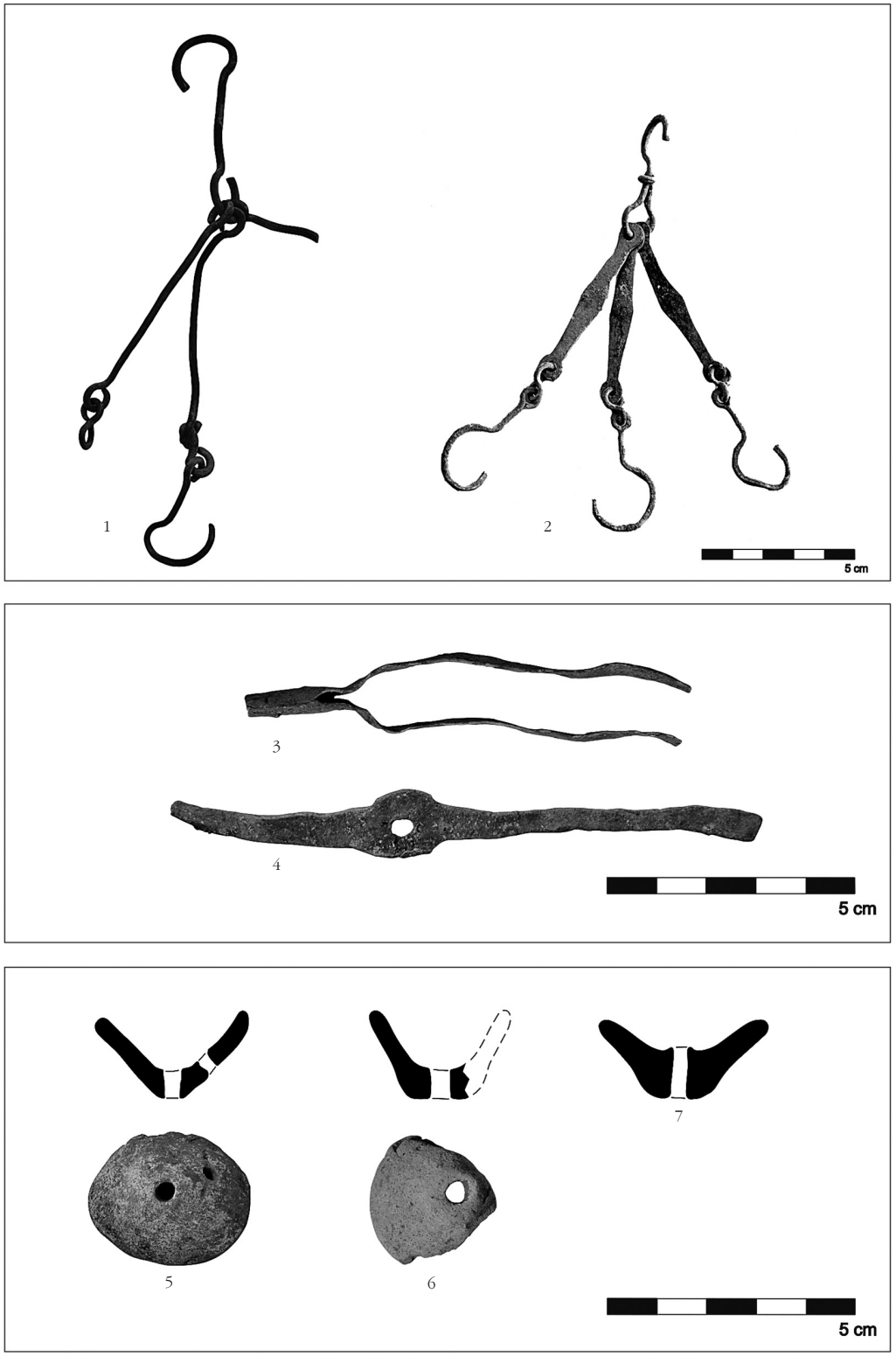


Fig. 3 Metal lamp hangers (1-2), metal wick-holders (3-4) and terra-cotta wick-holders (5-6-7) from the Monastery at Olba.

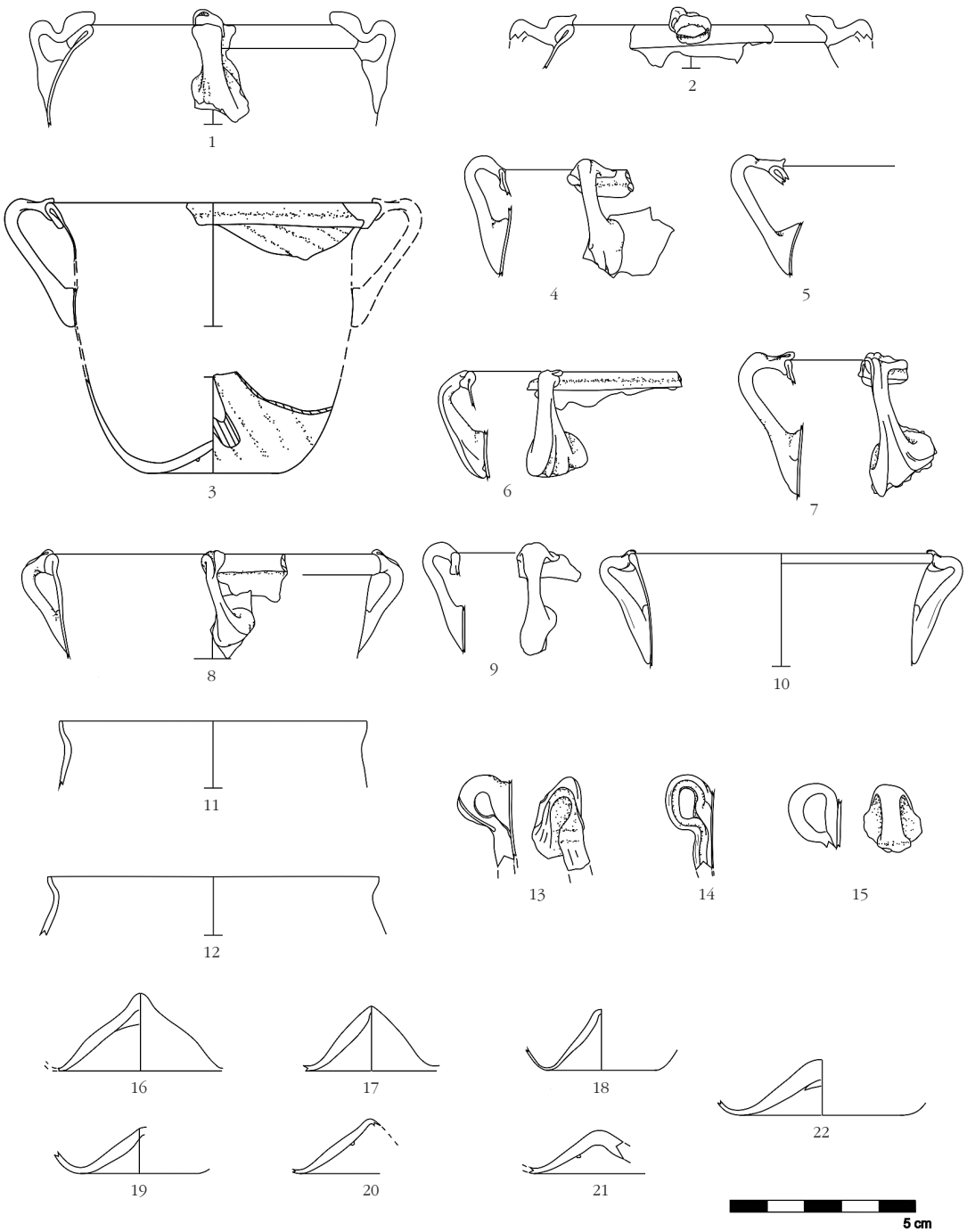


Fig. 4 Handled lamps (rims, handles, and bases) from the monastery at Olba.

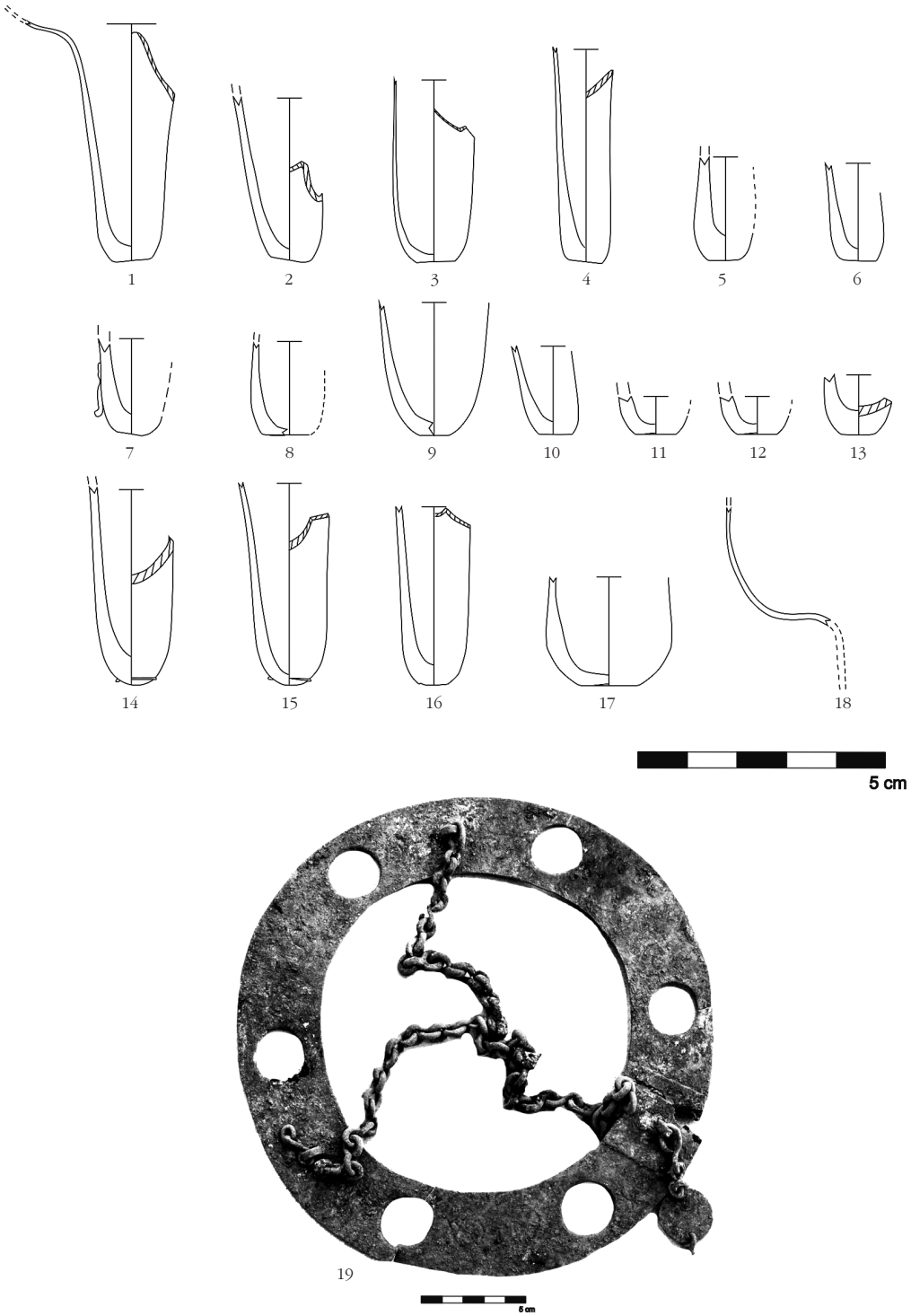


Fig. 5 Stemmed lamps and bronze polycandelon from the monastery at Olba.

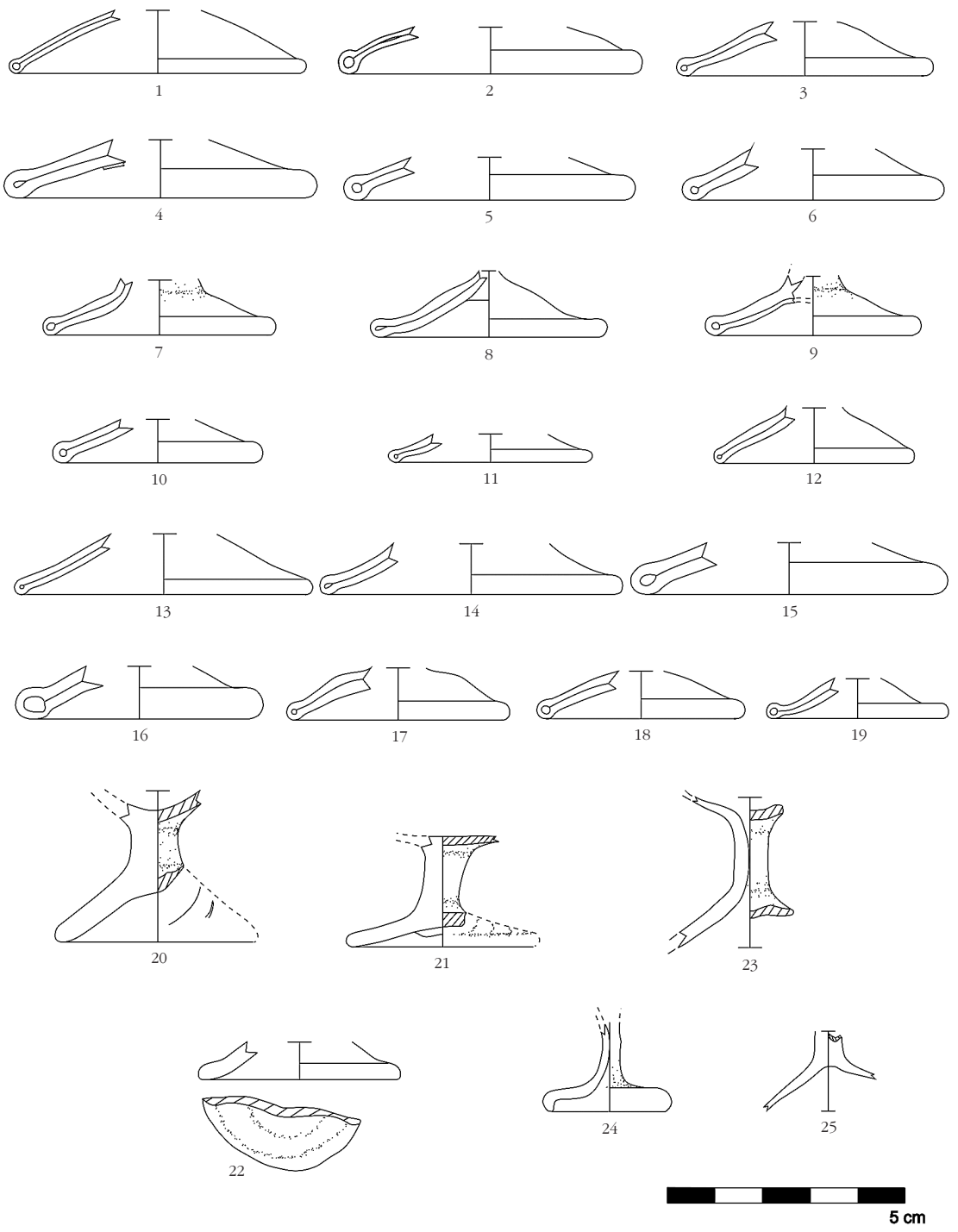


Fig. 6 Goblets (bases) from the monastery at Olba.

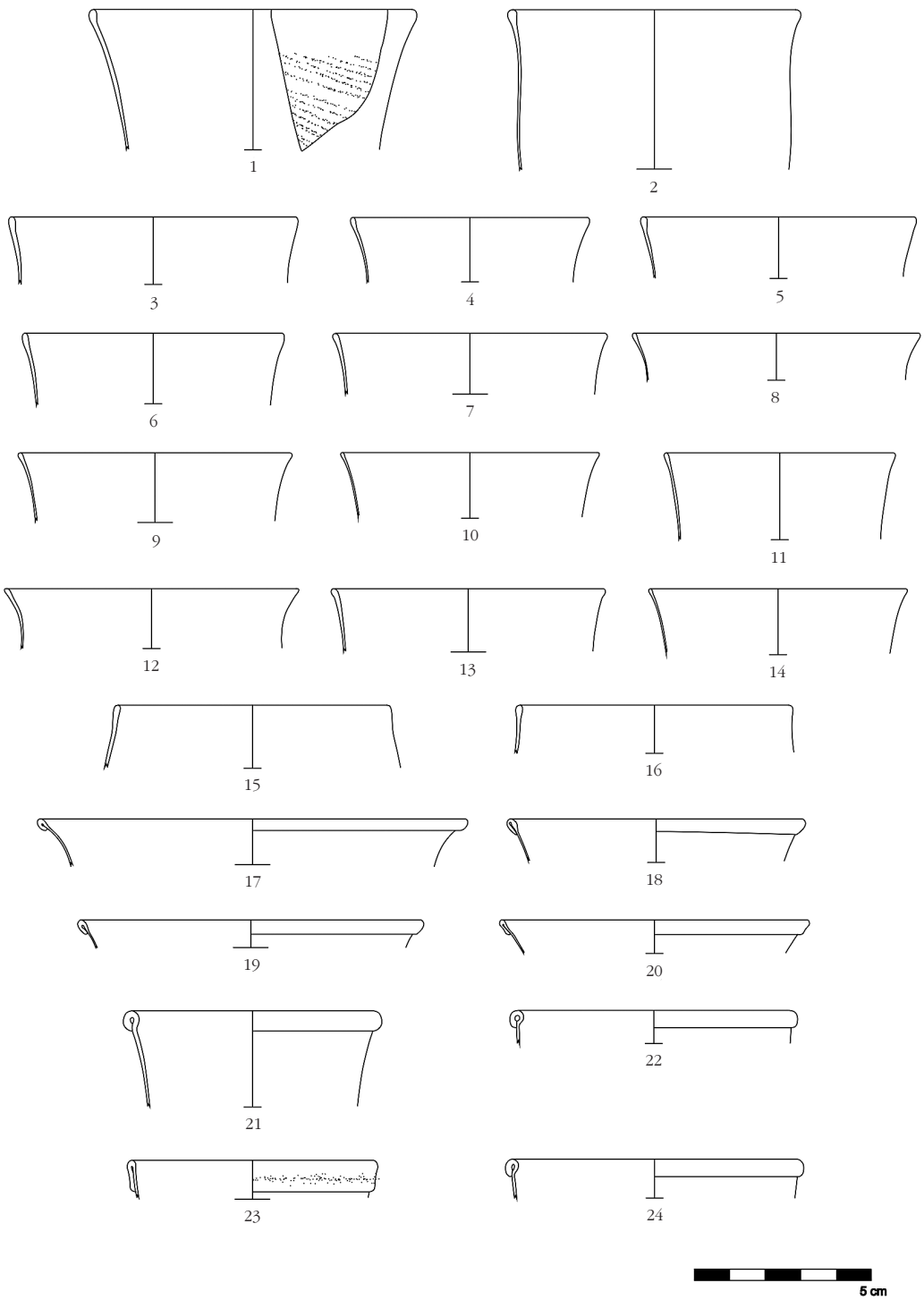


Fig. 7 Rims belonging to lamps and goblets from the monastery at Olba.

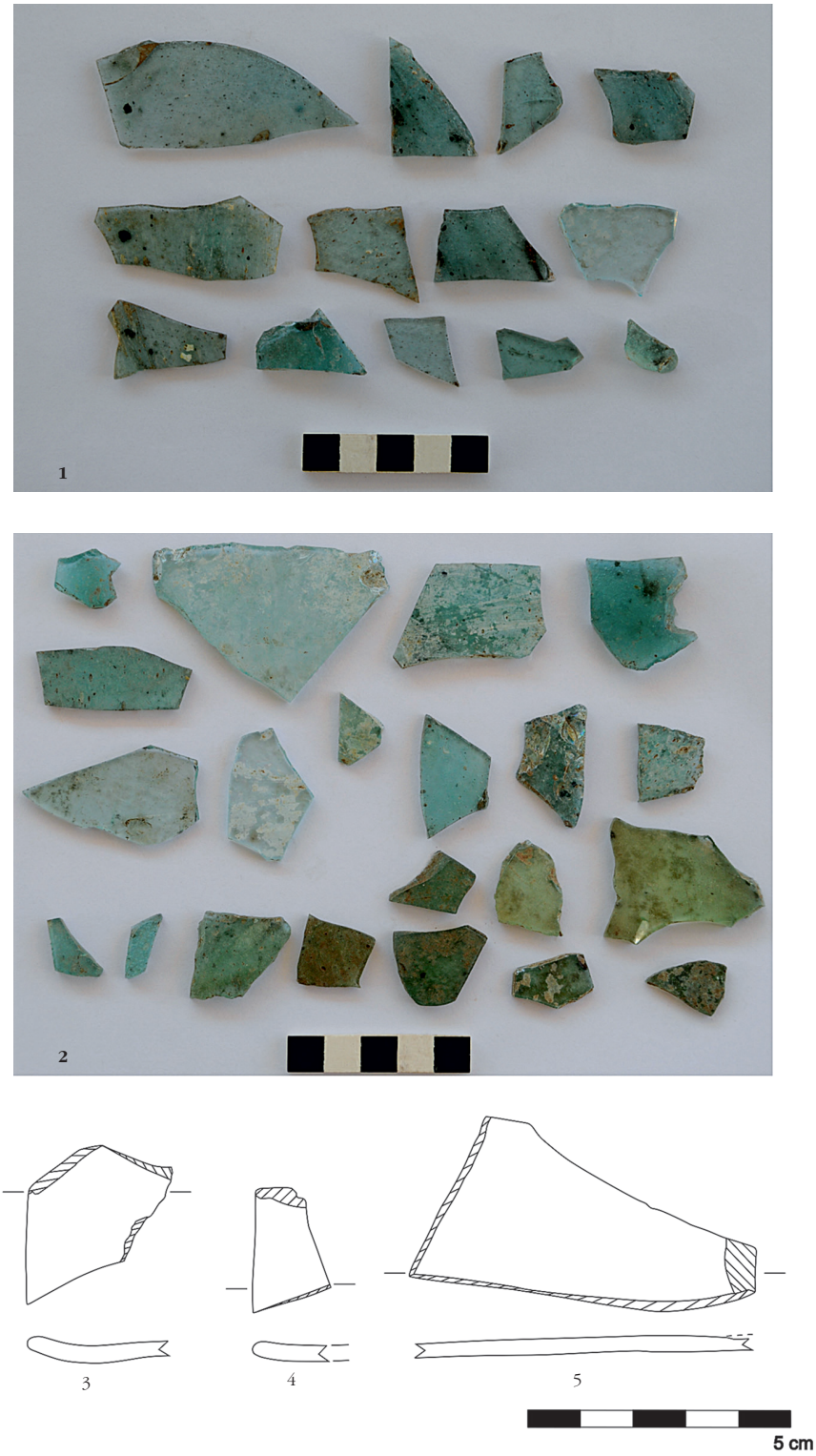


Fig. 8 Window glass pane fragments from the monastery at Olba.

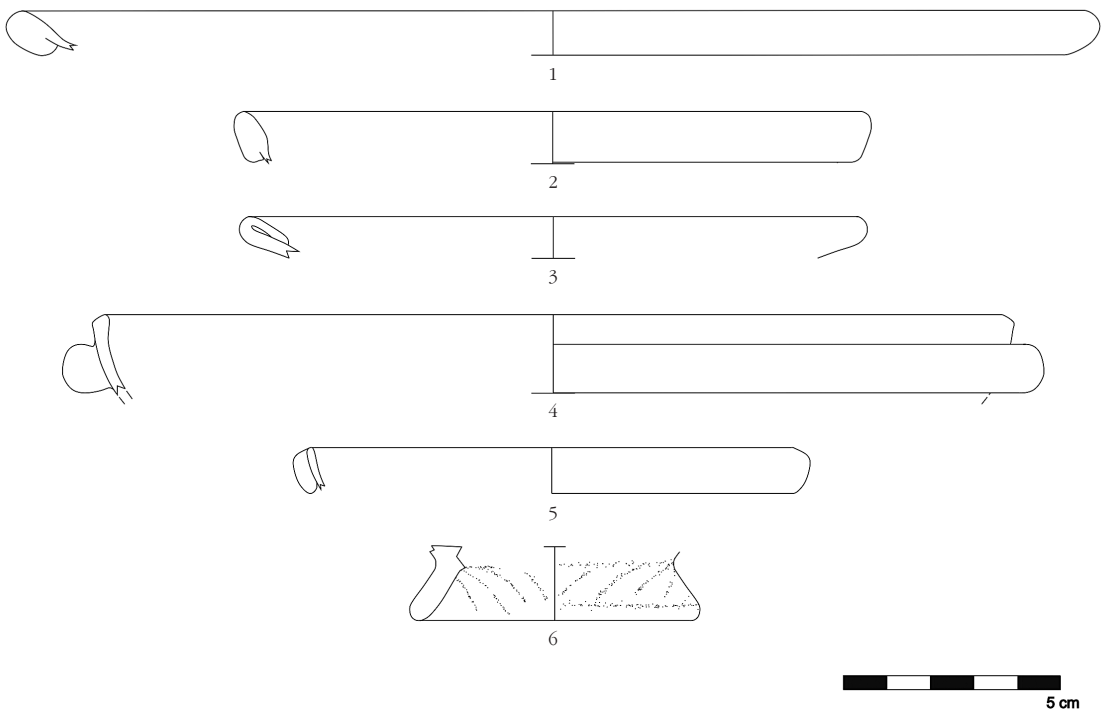


Fig. 9 Bowls and plates from the monastery at Olba.

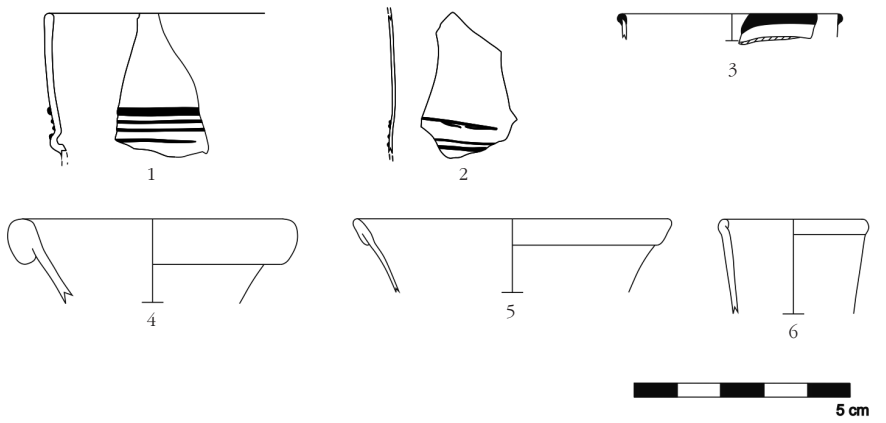


Fig. 10 Vessels (jars and flasks) with and without glass thread decoration, from the Monastery at Olba.