

Copper Alloy Objects

Elias Khamis

INTRODUCTION

This chapter presents 170 of the copper alloy objects discovered during the rescue excavations at Zeugma in 2000.¹ Unidentifiable objects are excluded from the catalogue for this chapter on the basis of heavy corrosion and decay, but their existence is documented in the chapter on Context Descriptions in volume 1.

State of Preservation

Objects in the catalogue were cleaned and preserved in laboratories at the Gaziantep Museum by the Centro di Conservazione Archeologica, Roma. Many of the catalogued objects were found intact and well preserved, while others are fragments of vessels and objects that vary in their state of preservation. A few objects were found deformed; others have suffered from corrosion and are partially or largely damaged. The preservation of the vessels is poor compared to heavier, solid-cast objects like handles and bail attachments. The damage is usually the result of the penetration of oxidation deep into the core of the metal. Objects with greater damage were probably far more exposed to decay; these were probably not very deeply buried and were therefore vulnerable to winter rains and chemical processes of decay. Most surfaces are covered with a green, black, or brown patina, resulting from a chemical reaction with components of the soil. Over time, copper alloys characteristically undergo a sequence of surface changes, which eventually lead to the formation of a thin, green layer of corrosion. This thin layer of tarnish changes gradually with time to a brown color, then to black, and finally the very gradual formation of a green patina.² The dry climate and soil of Zeugma contributed to the preservation of many of the copper alloy artifacts in relatively good condition by stabilizing the corrosion processes. Likewise, the dry climate conditions in northern Syria contributed to the preservation of many archaeological finds, as in Dura-Europos, which was sacked by the Sasanian army in A.D. 256. The dry conditions in Dura-Europos preserved almost everything, including organic materials in some parts of the site, such as parchment and papyri, wooden doors, painted wooden shield-boards, complete scale-armor garments in leather or in metal with textile backing, the shafts of arrows, and catapult bolts.³

Dating

Most of the copper alloy objects found at Zeugma date from the Roman period, but a few can be dated to earlier or later periods. The majority of the Roman copper alloy objects came from archaeological contexts dated to the Sasanian attack in A.D. 252/253, when many of the citizens fled the city and left their homes and some of their belongings behind. This destruction provides a clear archaeological terminus ante quem for dating most of the finds, including the copper alloys. The majority of the copper alloy objects dated to other periods are simple artifacts (e.g., earrings, bracelets, plain rings, and nails). Overall, the objects represent a wide variety of items used in the daily life of the inhabitants of the city. The corpus presented in this chapter shows that, although some objects could be products of the first or second century A.D., many of the objects, especially vessels, were still being produced in the second and third centuries A.D. Objects dated by provenance in contexts dated by pottery groups published in volume 2 are so indicated in the catalogue. Other objects are dated by parallels cited in the text. All objects can be compared to other finds from the same contexts in the finds concordance in volume 1.

Type and Function

Many of the objects and vessels are identified as domestic ware. They can be divided into two main groups. The first group consists of tableware and kitchenware. It includes two jugs, seven handles for jugs or ewers, a dipper, a cauldron, a bucket, one patera handle, and three small vessels. The second group consists of lighting devices. It includes one candelabrum, an oil lamp, and a suspension hook for hanging an oil lamp. Other copper alloy objects used for a variety of functions were also retrieved. These objects include military equipment, simple items of jewelry, cosmetic tools, parts of wooden caskets, furniture fittings, and miscellaneous objects.

Together with the architectural remains of Zeugma's villas and tombs, with their fabulous mosaics, wall paintings, sculptures, and other finds, the remains of the copper alloys testify to the wealth and economic prosperity of Zeugma in Roman times. The various shapes and functions of these objects, which were widely used in Zeugma, reflect the latest styles of copper alloy vessels and objects in use in the prosperous cities of Italy and elsewhere in the Roman Empire.⁴ The copper alloy finds testify to the influence of Roman culture on the way of life of the city's population.⁵ Proof of the wealth of Zeugma's houses can be seen in some

of the elaborate copper alloy vessels with mold-decorated handles (BR1, BR7), which would have been displayed on tables or used in toilets, or in the lighting devices that would have illuminated the houses, like the oil lamp (BR21) and candelabrum (BR20). Among other elaborate copper alloy objects that added to the atmosphere of houses at Zeugma, in the same way as finds in houses at Pompeii, are two statuettes of Aphrodite Anadyomene, BR153–BR154.⁶ It is believed that statuettes of Aphrodite brought happiness and good luck to young and wealthy wives.⁷ Other statues were used to decorate furniture, like the small bust of Dionysus (BR148) on the upper part of an elaborate tripod. Numerous casket fittings, which include handles, hinges, and padlocks, represent the remains of at least three jewelry boxes (BR55). These caskets were similar to the one shown full of golden jewelry in the mosaic stolen from Zeugma that depicts the wedding of Dionysus and Ariadne.⁸ These boxes, or pixies, probably belonged to ladies from the upper classes of society.⁹ In addition to wearing their jewelry, these ladies used make-up, as we learn from the surviving cosmetic tools BR45–BR51. The fibulae BR43–BR44 and needles BR52–BR53 that were found in the excavations were used to fasten dresses and sew clothes. Another needle was probably used to repair fishing nets (BR54). A fishhook was also found (BR160). Fishing in the Euphrates River seems to have been one of the city's economic resources. When the people of Zeugma went shopping in the market, their purchases were properly weighed with a sophisticated weighing system known at the time as the *statera* (BR158). Almost all parts of a steelyard were found together in Trench 9 (BR158); the only missing part is the long arm, which was riveted to the short arm. It is possible that the long arm was made of wood and has decayed. This type of scale ensured accurate weighing for customers and vendors alike. It was used side by side with the standard balance with two pans. The tragic end of this wealthy era at Zeugma has also left its mark on some of the copper alloy items, for instance the candelabrum (BR20), which was deformed and partly melted down by the heat of a fire probably set by the Sasanians during the sack of the city in the mid-third century A.D.

Manufacture and Technique

Certain techniques were used in the manufacture and decoration of the copper alloy objects. The bodies of the banqueting bronzes were usually produced by hammering (sinking, raising, and annealing). The vessels were mounted on a wheel or lathe during both raising and, later, finishing. Handles were affixed to the vessel body by soldering and riveting. Soldering with tin or tin and lead, probably at relatively low temperatures, is evident on handles: for example, oinochoe BR1 and patera BR7. Some vessel bodies were made in more than one section and then joined. This suggests that they were attached by soldering. The bucket BR10 and the cauldron BR9 were manufactured using a

sheet of rolled metal that was attached with rivets along an overlapping vertical seam. The iron band attached to the handle of the bucket was soldered. Other objects, such as padlock plates BR62–BR64 and decorated discs and plaques BR69 and BR78 were cut out from metal sheets of varying thickness. Many objects were made using more sophisticated casting techniques. The cast vessels were spun on a lathe after they came out of the mold, a method that can be identified by the concentric grooves on the bases of these vessels, like the dipper BR8.¹⁰ The copper alloy objects show that there were two or three distinct methods of casting in use. The first method of casting involved the use of a piece-mold. This method was applied in the production of handles of vessels, oil lamps, statuettes, and other objects: BR1, BR5–BR8.¹¹ The second method of casting was the lost-wax or *cire perdue* technique. There were two ways to produce an object with lost-wax casting: direct and indirect.¹² Here the model was made of wax, the mold was then built around the model, and the wax was melted out before the molten metal was poured in.¹³ It may be that this technique was employed for objects like the statuettes of Aphrodite BR153–BR154 and the lion's head BR150, although it is often extremely difficult to establish whether an object was made by this process or in piece-molds.¹⁴

Cast objects with decoration were designed together with the molded decoration. Other objects were decorated using at least three different methods. The first was incising the desired design over the surface of the object with sharp tools (BR68).¹⁵ The second was the repoussé technique (BR78). In this method the design was hammered from the back to form relief decoration on the front, as on the decorated sheets.¹⁶ The third method was copper alloy inlay on iron. In this method the design was cut from a copper alloy sheet and applied with rivets to the iron plate, as was the case with the scabbard plate BR23. Some decorated cast objects, like one of the hinges, were also decorated by incising.

Since most of the excavated parts of Zeugma revealed houses with considerable decoration, it is not surprising that evidence for the manufacturing of metals or copper alloys was not found during the rescue excavations. Furnaces and metalworking tools found at many sites, such as Olympia, Athens, Samos, Nemea, and Rhodes, testify to local metalwork production.¹⁷ Nor has there been any metallurgical compositional analysis carried out on copper alloy objects from Zeugma, and so there is no evidence to confirm whether the copper alloy objects were produced at Zeugma or imported from elsewhere. The industry of Roman bronzes spread all over the empire, and it is possible that some of the items were produced at Zeugma or in the surrounding areas. It is plausible to assume that some of the most elaborate vessels and items, like the oinochoe (BR1), the patera (BR7), the candelabrum (BR20), and the tripod to which the bust of Dionysus belonged (BR148), were imported from Italy. Other objects, like statues of Aphrodite Anadyomene, were probably produced in the

eastern Roman provinces, where the majority of them have been found.¹⁸ This assumption is also based on the fact that Turkey, Syria, and Egypt were highly developed provinces in the Roman period, with long-established metalworking traditions of their own. Other vessels and objects, like the bucket (BR10), cauldron (BR9), and dipper (BR8), as well as casket fittings, nails, rings, and needles, could have been made at Zeugma.

CATALOGUE

The objects in the catalogue are divided into groups according to their function. Each of the major groups contains several types or subtypes. For instance, vessels (the first group) are presented by shape, first open vessels and then closed ones, followed by fragments and then small vessels. Some items, like the steelyard and the strainer spoon, do not belong to a group and are catalogued under miscellaneous objects. Other objects catalogued here also appear in Ian Scott's chapter on Zeugma's military equipment, in this volume.¹⁹

All objects in the catalogue are copper alloy unless stated otherwise. Each item is given an alphanumeric catalogue number with the prefix BR and described in detail. The description includes function, measurements, shape, decoration, and preservation condition. The description sometimes includes discussion of the reconstruction and use of the object; its date, origin, and distribution; and its parallels, together with bibliographical references. The cited parallels are not intended to be complete, but rather to help with interpretation of the function of items and to give some idea of their geographical affiliation. The main parallels are from key excavated Roman sites, close to Zeugma, in Turkey and Syria, and the Vesuvian towns. Other sites from Europe and the Mediterranean countries are also included. Other bibliographical sources include monographs devoted to Greek, Etruscan, and Roman metalwork, as well as catalogues of museum collections, private collections, and exhibitions. The dates of many of the well-known Roman types of vessels and objects are fairly securely established to high degree of certainty. Since only single items (as opposed to sets of vessels or groups of other items) were found in Zeugma, I only attempt to identify them and compare them to similar objects, rather than to establish a typology or chronology. The dates given in the catalogue refer to the date assigned by the excavators to the context in which the item was found. In the case of contexts belonging to the Sasanian sack of A.D. 252/253, there is a clear terminus ante quem for the final use of the item. Many items from these contexts are probably much earlier in date but continued to be used as part of a family's property until the destruction of the city by the Sasanians.

Vessels

The vessels found in Zeugma are typical of those known to us from the early Roman period. Most of these Roman vessel types originated in Etruria in the sixth to the fourth centuries B.C. Their Roman production probably started in the early first century A.D. They have been found in the towns destroyed by the eruption of Vesuvius. Many of the vessels were distributed outside Italy, a phenomenon that has been connected to the movement of troops in the first century.²⁰ Their production continued into the third century A.D., when they were made in northern and southern Italy. From the mid-second century A.D. some of them were local provincial productions. The oinochoe with lion's mask handle, the biconical jug, the patera with ram's head handle, the dipper with rounded handle, and the bucket and cauldron were among well-known types of Roman copper alloy vessels. Roman metalwares were often made in matching sets. Such complete sets of vessels usually come from burials, for example the first- and second-century graves in Slovakia. The vessels found there are intact and demonstrate that they were parts of sets including jugs, ladles, strainers, oinochoes, buckets (*situlae*), bowls, dippers, pateras, and jugs.²¹ Assemblages including an oinochoe, patera, and dippers with strainers were also found in Roman Pannonia.²² In the rich tumulus graves of the necropolis of Chatalka in Bulgaria, complete sets have been found.²³ It has been suggested that sets found in Slovakia and Pannonia might have been part of a wine service, while those from Chatalka were intended for washing. In fact, many suggestions have been made for the use of these sets and for each of the vessels. The most common suggestion is that they were used as kitchen and tablewares. For the patera and jug that are often found together, it has been suggested that they form a set that was intended for ceremonial use when wine was offered as a libation.²⁴ In the opinion of other scholars, ablution sets included the biconical jug and *situla*, and table sets included the oinochoe and patera. Dippers are supposed to have been used for pouring hot water over the body, and since they are usually found with strainers, it has been suggested that they were used for straining wine.

The most obvious vessels that belong together are the jug and the patera. This pair is often found together in tombs and is commonly depicted on wall paintings, illuminated manuscripts, and reliefs.²⁵ In a special study devoted to paterae and jugs, Nuber discussed questions of typology, as well as the problems of sets. Their dominant function seems to have been for pouring water from the jug onto the hands, with the patera placed underneath to catch the water. In Roman times washing the hands at mealtimes was necessary because forks and knives were not in common use, and people ate with their hands. In scenes depicting meals and banquets, there are often slaves holding a jug, patera, and bowl, so that guests reclining on the couches could wash their hands.²⁶ We know from ancient literary sources that diners washed their hands at the beginning and



Figure 1. BR1 Oinochoe.

end of meals, as well as between courses. This was a custom of Greek origin that the Romans adopted. The use of the jug and patera for washing hands is still in practice today in the Oriental Christian liturgy, and can be seen when the priest washes his hands at the altar during the service.²⁷

In her new study of the function of many of the copper alloy vessels, Nevona-Merdjanova has suggested that the most common shapes of copper alloy vessels should be removed from the table in the triclinium, where archaeologists have assigned them for serving food and drink, and reassigned next to the table, in the bath, or in the bedroom, where they were filled with water and used for toilette. According to her suggestion, the tables of wealthy Romans were mainly furnished with silver, glass, and ceramic vessels. In her opinion, washing was the first and most important part of the toilette. For this purpose, water was brought from its source in bronze buckets, which would have been used for carrying water in the home as well as at

the baths. From the various containers, water was collected in jugs with projecting or trefoil mouths. Water was poured over the hands from the jugs and collected in a bowl with a cylindrical decorated handle, which in most cases ended in a ram's head. These vessels formed a set for washing the hands, also used during meals. The lamp, candelabrum, and casket were also in use for the toilette, which took place in the dark, either very early in the morning or just before going to bed.²⁸

BR1

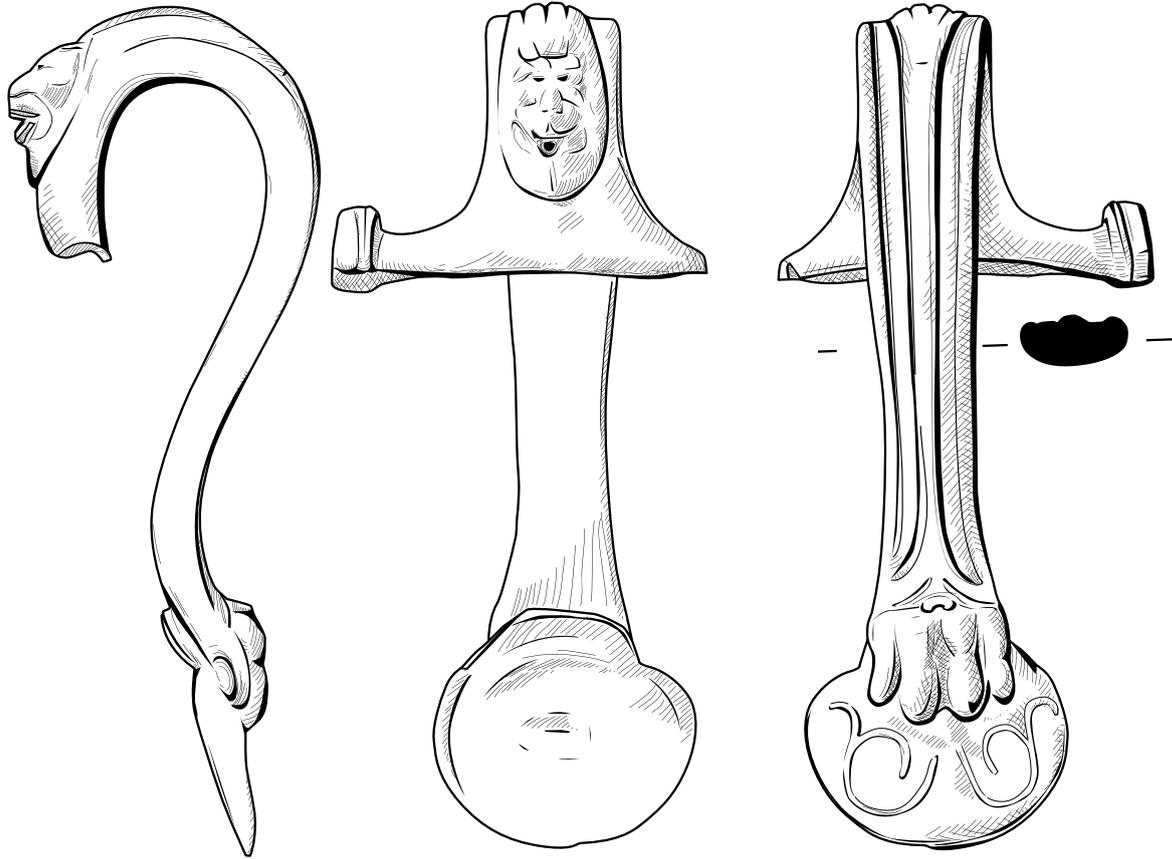
Oinochoe (SF 796, context 9227) with handle
(SF 832, context 9195)

Oinochoe: H. 14.60 cm; Dia. 12.50 cm; Th. 0.20 cm

Handle: H. 13.20 cm; W. 5.80 cm

Probably second century A.D.

FIGS. 1-2



CM

Figure 2. BR1 Handle.

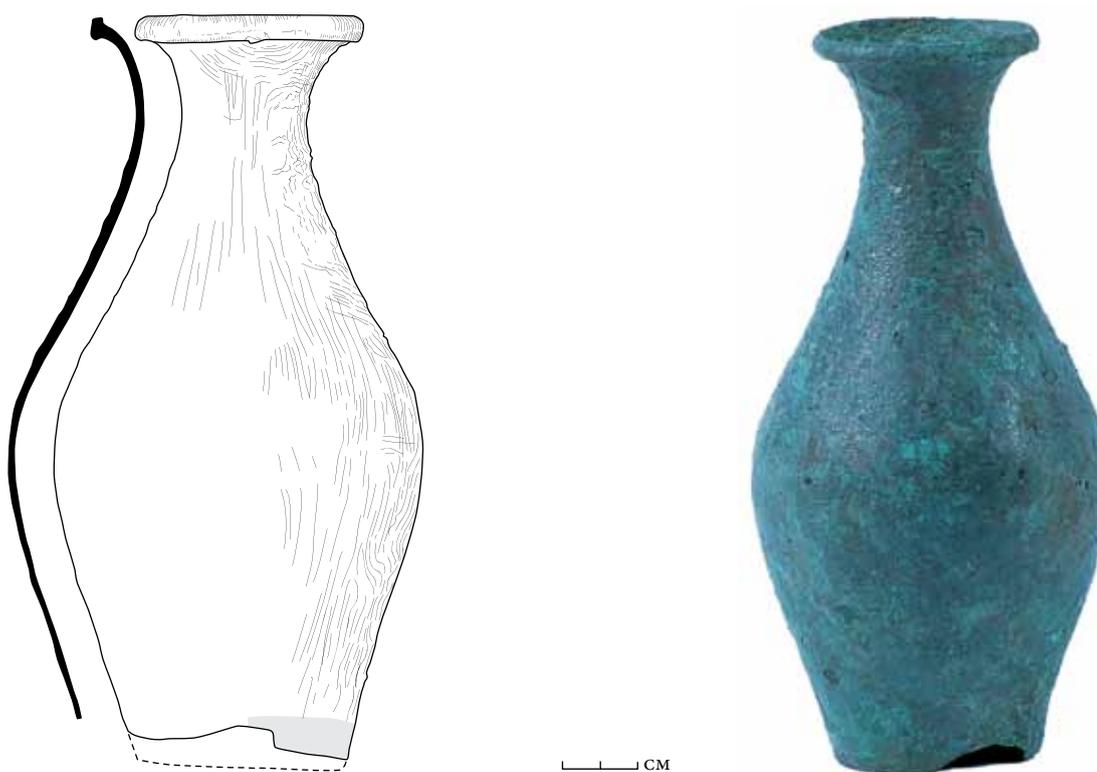


Figure 3. BR2. Drawing (left) and photo (right).

Cast copper alloy oinochoe with bulbous body, wide flaring neck, trefoil mouth, and thickened rim. The base is flat, with concentric grooves. The side of the rim opposite the spout is straight; traces of solder that attached the handle are still visible on the straight side and on the wall below it. The wide shoulders are decorated with circular double incised grooves with unclear decorations in between. Intact, poorly preserved, corroded, and crumbling. Surface covered by green and black patina. The handle decorated with a lion's head that was found next to the oinochoe in the same trench matches the vessel, and they apparently belong together. The handle is made of cast copper alloy and curved above the rim of the vessel. The attachment plate is round and decorated with double scroll and trefoil floral design in between. Its bottom part is concave, following the body shape of the oinochoe. This rounded part is attached to the lion's claw foot. The upper part of the front of the handle is decorated with a lion's mask that has a schematic mane pulled backwards to form a long, raised, ribbed ridge running along the center of the outer surface of the handle. It connects to the foot at the back. This side, where the handle is attached to the rim of the vessel, is horizontal. There were originally two ends in the shape of thick half rings, although one of them is missing. Under this horizontal part there is a deep groove, triangular in section, into which the straight side of the oinochoe rim was inserted. Well preserved; surface covered by green patina.

The oinochoe was well known to the Greeks as well as to the Etruscans (Tarditi 1996, 75–9; Jurgit 1999, nos. 639–42). It became one of the most popular jug types through-

out the empire in the early Roman period. The Roman oinochoe made its first appearance in the mid-first century A.D. and was manufactured throughout the second century A.D. It was common in the Vesuvian cities of Pompeii and Herculaneum, and at Boscoreale. This type of oinochoe has a handle decorated with a lion's head in the front and claws on the attachment plate. This type is earlier than the others decorated with lion's heads, Silenus motifs, sirens, masks, or other motifs on the attachment plate. It is dated from the second half of the first century A.D. to the early second century A.D. For this type at Pompeii, see Tassinari 1993, type D2300. For the type at Boscoreale, see Oettel 1991, no. 13; Gorecki 1993, fig. 1:10, pl. 4:A10; Borriello et al. 1986, nos. 5–6. This type corresponds to type XIa or Trifoliarkannen type according to Nuber's classification (Nuber 1972, 50, fig. 7), for which there are listed 37 items (Nuber 1972, 196–7). This type of oinochoe was spread to the east as far as Chizikov in the Ukraine, where it was found together with patera in a burial place: see Kropotkin 1970, no. 839. It was also spread towards the south as far as the Judean Desert, where an intact and well-preserved similar oinochoe with patera was found in the Cave of the Letters near the Dead Sea (Yadin 1971, 92–5, 100–1). See also Babelon and Blanchet 1895, no. 1395 (18.50 cm high); Faider-Feytmans 1979, no. 373; Kohlert-Németh 1990, no. 35; Nuber 1988, no. 98 (first century A.D.); Borell 1989, no. 126 (second half of the first century A.D. or early second century A.D.); Stefanelli 1990, no. 110; Den Boesterd 1956, nos. 233, 236; Menzel 1960, no. 63; Menzel 1986, no. 534; Popović et al. 1969, no. 220; Comstock and Vermeule 1971,

no. 464. From finds in a tomb, it is apparent that this jug formed a service set with a patera that had a ram's head handle. For two similar oinochoes found with two paterae with ram's head handles, dated from the first to early second century A.D., see Gerhartl-Witteveen and Koster 1992, nos. 83-4; Szabó 1995, fig. 6; Koster 1997, 79-81:106-7; Koster 1994, fig. 3; De Ridder 1915, no. 2754. The oinochoe was used together with the patera for washing the hands during meals but also employed for cleansing in sacrificial ceremonies.

BR2 (SF 2306, context 2269)

Jug

H. 19.50 cm; Dia. 9.50 cm; Dia. (rim) 6 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 3

Copper alloy jug raised out of a sheet and lath-span, ovoid body merging very gradually into a narrow concave neck, flaring mouth. The rim is thickened and rounded on the outside. The base is missing but was probably flat. Leaf-shaped traces of lead or tin solder are visible on part of the body and indicate the location of a missing handle, which was usually cast separately and had a decorated plate. The jug is somewhat damaged in the center of the body and heavily corroded. The surface is covered by green patina. This jug and handle **BR14** were found in the same context and probably belong together. Similar jugs are sometimes found with this type of handle.

This type of jug is known from the first century at Pompeii: see Tassinari 1993, type B1241. For such jugs from Spain, see Pozo 2002, types 1-2, figs. 3-4. For such a jug dated from the Flavian-period burial in the Emona necropolis in Slovenia, see Petru 1972, pl. 78, 28; Brescak 1982, no. 113, pl. 12. For similar Roman jugs from the first century A.D.,



Figure 4. BR4.

see Gerhartl-Witteveen and Koster 1992, no. 1; Koster 1997, 25-6: 2. For similar Roman jugs from the second century A.D., see Kohlert-Németh 1990, nos. 32-3; Tassinari 1975, nos. 199a-b; Boucher and Tassinari 1976, no. 190. For identical jugs, see Hayes 1984, 77 (Egypt: A.D. 50-100 or a little later), 124 (A.D. 100-150), with additional bibliography.

BR3 vacant

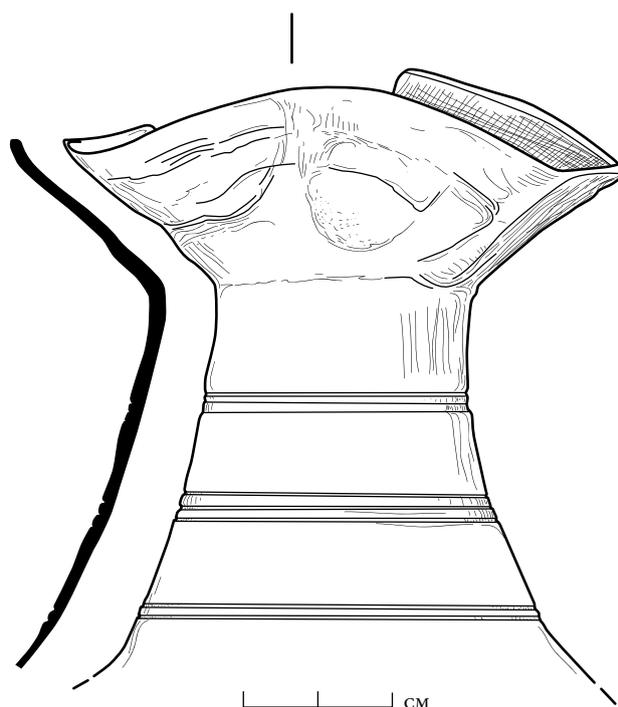
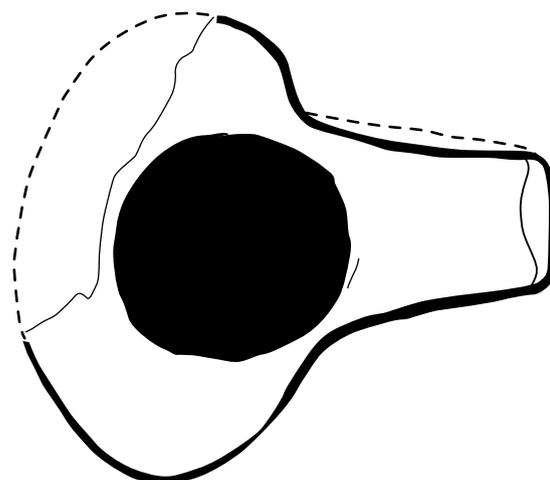


Figure 5. BR4.

BR4 (SF 2263, context 2242)

Upper part of biconical jug

H. 7.80 cm; max. Dia. 5.60 cm; W. (mouth) 7.50 cm; Th.

0.10 cm

FIGS. 4-5

Upper part of jug, raised out of a copper alloy sheet. The preserved part includes the cylindrical tapering neck, the trefoil mouth and the flaring rim. One side of the trefoil

forms a pinched narrow spout; it has a rectangular base and straight walls. The side opposite the spout is partly missing. The neck is decorated with three sets of engraved circular lines; three in the center, two above, and two below it. Well preserved; surface covered by green and black patina. Two broken parts of a handle (BR5–6) were found nearby in the same context and probably belonged to BR4. It is also possible that handle BR16 belongs to similar type of jug.

Jugs of this type, the Latin *lagoena*, were found in quantity at Pompeii, Herculaneum, and Boscoreale. These jugs are about 20 cm high and have a squat biconical body, flat base, and relatively narrow, tapering neck with flaring trefoil rim. The handles are S-shaped; their average height is about 25 cm, and their attachment piece is decorated with a palmetto or vine leaf. The upper part of the handle is bifurcated and attached under the rim, and it also has a hinge riveted to a trefoil flat lid by a pin. The jug was raised out of copper alloy sheet and turned on the lathe. The upper half of the body and the neck has groups of double circular grooves. The neck usually has two to four groups of circles. Jugs of this type were probably used as water jugs, containing warm water to dilute wine. A water and a wine jug were thus part of a wine service, and it is not surprising that they regularly appear together in burials and hoards: Gorecki 1994, 181–2.

These jugs were distributed beyond Italy during the first century A.D. by Roman troops and are particularly common on military sites: Koster 1997, 30. About the genesis of this type of jug, the so-called Blechkanne, especially in the eastern provinces of the empire, see Raev 1977a, 155–62. For the development and spread of this type to the north and to the east, see Szabó 1994, 399–403. For similar jugs from Pompeii, see Tassinari 1993, type E5220, and from Boscoreale, see Oettel 1991, no. 14. For jugs from the first-century A.D. burial in Nijmegen (Netherlands), see Koster 1997, 31–2:7 (intact), 32–3:8 (fragment, including part of the shoulders, the neck, and the rim). For a jug from Wolperswede-Mochenwagen, with similar shape of neck with double and single circular grooves, dated from the first to early second century A.D., see Nuber 1988, no. 100.

BR5 (SF 2253a, context 2238)

Jug handle

L. 11.10 cm; W. 1.20 cm; Th. 0.80 cm; W. (attachment plate) 4.40 cm; Th. (attachment plate) 0.60 cm

FIG. 6

Lower part of cast jug handle, oval in section, part missing. The attachment plate is in the shape of a schematic palmetto and is concave to fit the shape of the rounded shoulders of the jug. Well preserved, the surface covered by black and green patina.



Figure 6. BR5 and BR6.

BR6 (SF 2253b, context 2238)

Jug handle

L. 6.00 cm; W. 4.90 cm; Th. 1.40 cm

FIG. 6

Possible upper part of handle BR5, for connection to the lower part of the jug's rim. It is composed of a vertical curved part and a bifurcated horizontal part, rectangular in section, of which one side is partly missing. On the upper side, between the two parts, double rounded and pierced projections were used as a hinge to rivet a trefoil lid. Well preserved, the surface covered by green and black patina.

BR7 (SF 434, context 9143)

Patera handle

L. 15.30 cm; W. 2.20 cm; W. (head): 3.40 cm; W. (preserved part of the vessel): 5 cm

Not later than A.D. 253

FIG. 7

Hollow-cast patera handle. The handle is composed of a shaft decorated with ten ribs that resemble a fluted classical column. Two of the ribs, on the bottom and top, are wider and flat. The shaft is framed on both sides by rings, of which one is decorated with short incised strokes. The end of the handle is decorated with a naturalistic ram's head.

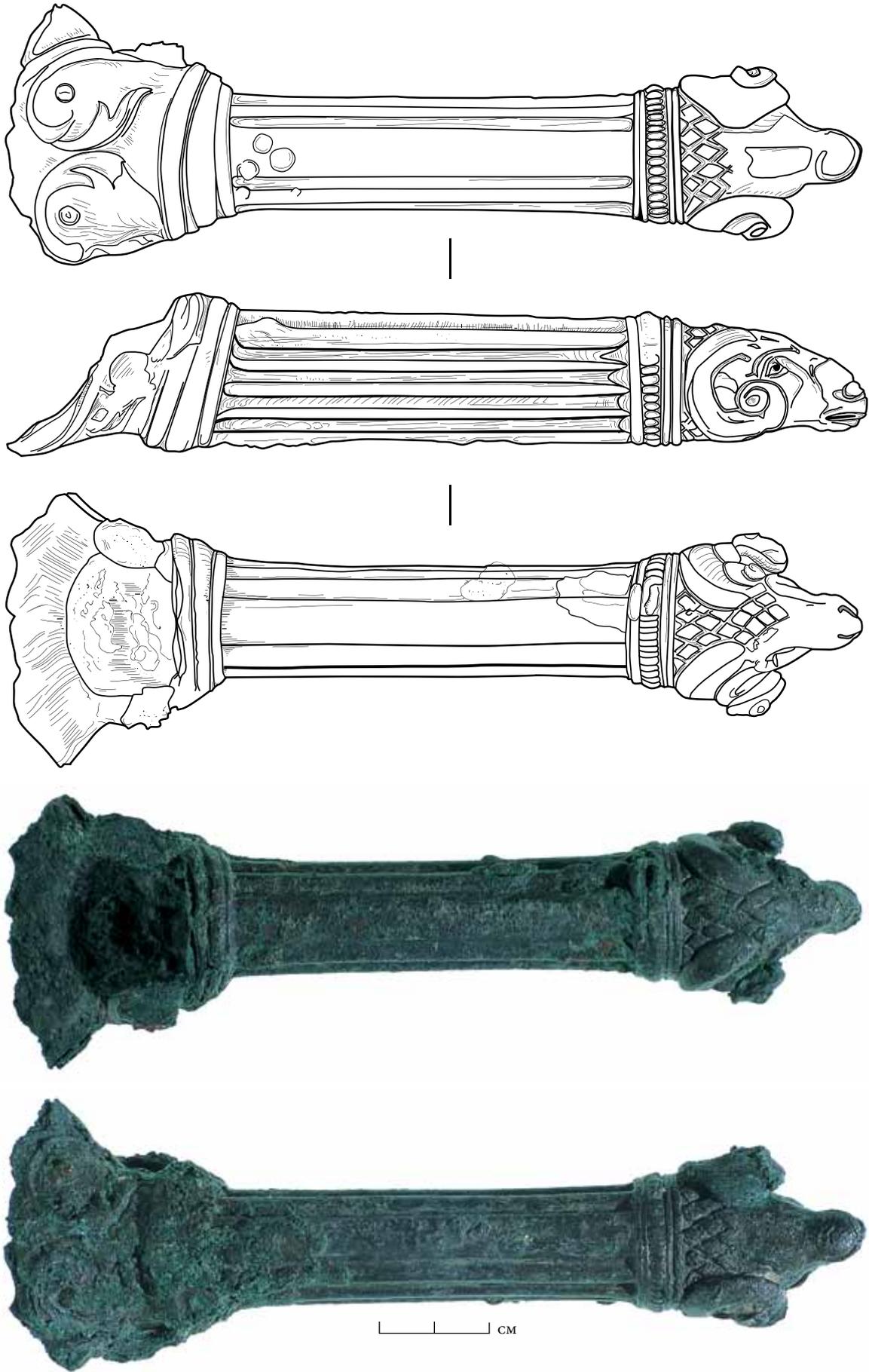


Figure 7. BR7. Drawings (top) and photos (bottom).



Figure 8. BR8. Drawings (top) and photos (bottom).

The other end is concave, with a short, flat edge on each side. These flat edges were originally inserted under the rim of the patera; this was usually done, in addition to the solder between the concave part of the handle and the patera, to strengthen the attachment of the handle. The bottom of this end is decorated with double naturalistic vine scrolls, each with a small boss in the center. The handle is well preserved, with heavily corroded spots. The surface is covered by green and black patina.

This type of handle belongs to the well-known Roman patera. This type corresponds to type E Vb "Millingen type" according to Nuber's classification (Nuber 1972, 49, fig. 6), for which he lists 10 items (Nuber 1972, 193-4). These handles were cast separately and later attached to the bowl's wall; consequently, many of the handles from excavations and collections were found separated from their bowls. For the way in which the handle was attached to the bowl, see Oettel 1991, no. 21. For a stone mold used for casting this type of patera handle, see Nuber 1972, pl. 12:1a-b. The ram's head is among the most common decorative features on a patera handle, although heads of other animals, such as the lion and wolf, as well as theatrical masks and Silenus heads, were also used. Paterae dated to the first century A.D. have been found in places like Pompeii, Herculaneum, and Boscoreale. For ram's head patera handles from Pompeii, see Tassinari 1993, type H2311. From Boscoreale, see Oettel 1991, no. 21; Gorecki 1993, figs. 1:11-12, 3:15, pl. 5:A11-12. For their function and distribution over Europe and the east Mediterranean countries, see Sarnataro 2002, 393-406. For intact paterae with ram's head handles, see Faider-Feytmans 1979, nos. 340-2, 360, 363, 368, 375; Boucher and Tassinari 1976, nos. 138, 141; Popović et al. 1969, nos. 241, 244; Kraskovská 1978, pl. 1:5, fig. 11:1 (first to second centuries A.D.); Kaufmann-Heinimann 1994, no. 305; Edgar 1904, nos. 27.746-7; Den Boesterd 1956, nos. 68, 80, pl. 13:72a; De Ridder 1915, no. 3028; Walters 1899, no. 882. This type of patera and the type of oinochoe represented by BR1 were often found together; the set makes what Nuber defines as the Millingen type: Nuber 1972, 45ff, pl. 4:1. For other sets similar to BR1 and BR6, see Yadin 1971, 93-111 (first half of the second century A.D.); Kohlert-Németh 1990, no. 35; Nuber 1988, no. 99 (first century A.D.); Gerhartl-Witteveen and Koster 1992, nos. 83-4 (first to early second century A.D.).

BR8 (SF 917, context 18001)

Dipper

L. 11 cm; Dia. (rim): 6.40 cm; Th. 0.60 cm; Th. (wall): 0.10 cm
Mid-third century A.D. FIG. 8

Small cast and lathe-finished dipper or casserole, consisting of a deep bowl with flaring wall and an out-turned, flat, and horizontal rim. The flat base has three concentric turning grooves surrounding a small central boss. The short horizontal handle attached to the rim has a small hole in the center of the rounded end. Part of the rim is missing,

the wall is cracked, and the handle has been broken and repaired. Heavily corroded; surface covered by green and black patina.

The Roman dippers are divided into various types according to their handle shape. The type most similar to the dipper from Zeugma is known in the literature as "dipper with handle ending in a disc pierced by round hole." This is the third type of dipper in the classification of Massari and Castoldi (1985, pl. 7): the first type has a handle in a swan's head loop (pl. 4:2); the second type ends in a disc pierced by a crescent-shaped hole (pl. 4:3-4); the third type ends in a disc pierced by round hole (pls. 4:5, 5:1-4); the fourth type ends in a fan shape pierced by a trefoil-shaped hole (pl. 6:1-2); the fifth type ends in a straight line (6:3). The third type has greater longevity than the other types, which are mainly dated to the first and second-centuries A.D.: Massari and Castoldi 1985, 68-9, 71. This type of dipper was used, together with a perforated strainer that fit inside the dipper and a ladle for pouring wine or other liquid; for a set of these three vessels, see Kohlert-Németh 1990, no. 37. For similar dippers from the Roman period, which come in sets with strainers, from first- and second-century graves in Slovakia, see Kraskovská 1978, pls. 3:1-2, 5:1-2, 6:1-2, 8, 10:1-2, 11:1-2; figs. 2:2, 4:1-2, 5, 6:1-2. The same type of dipper with a round hole in the handle was found in quantity at Pompeii (Tassinari 1993, type G3100) and at Boscoreale (Oettel 1991, nos. 24-5; Gorecki 1993, fig. 2:14). The same type, dating from the first century A.D., was found in the Judean Desert: Yadin 1966, 148. For technical aspects of the production of the Roman dippers, see Poulsen 1995, 59-67. See also Webster 2002, no. 171 (first century A.D.); Fauduet 1992, no. 1:9180; Koster 1997, 58-60; Tassinari 1975, nos. 6-12 (no. 6 is dated to the first to second century; no. 8 is 10.70 cm long and badly corroded, but is the closest parallel to the Zeugma dipper in size, shape, and state of preservation); Den Boesterd 1956, nos. 15-23; Boucher and Tassinari 1976, nos. 132-3.

BR9 (SF 19, context 11056)

Cauldron

H. 17 cm; W. 24.50 cm; Th. 0.20 cm; Th. (handle): 2 cm

FIGS. 9-10

Deformed cauldron raised out of copper alloy sheet, originally with straight walls and rounded base. An iron band is bound around the upper part and riveted to the rim by small copper alloy nails. Two flat iron loops, into which an arch-shaped handle was hooked, are riveted over the iron band on opposite sides. The iron handle is thick and round in section, with a hook at each end and a round loop in the center. A large ring, round in section, is inserted into the loop. It seems that after a long period of use, the cauldron was damaged and repaired. The repair was carried out by laying a sheet of copper alloy over the damaged part of the base and fixing it with small copper alloy rivets. These rivets are visible on the outside and the inside. They have a

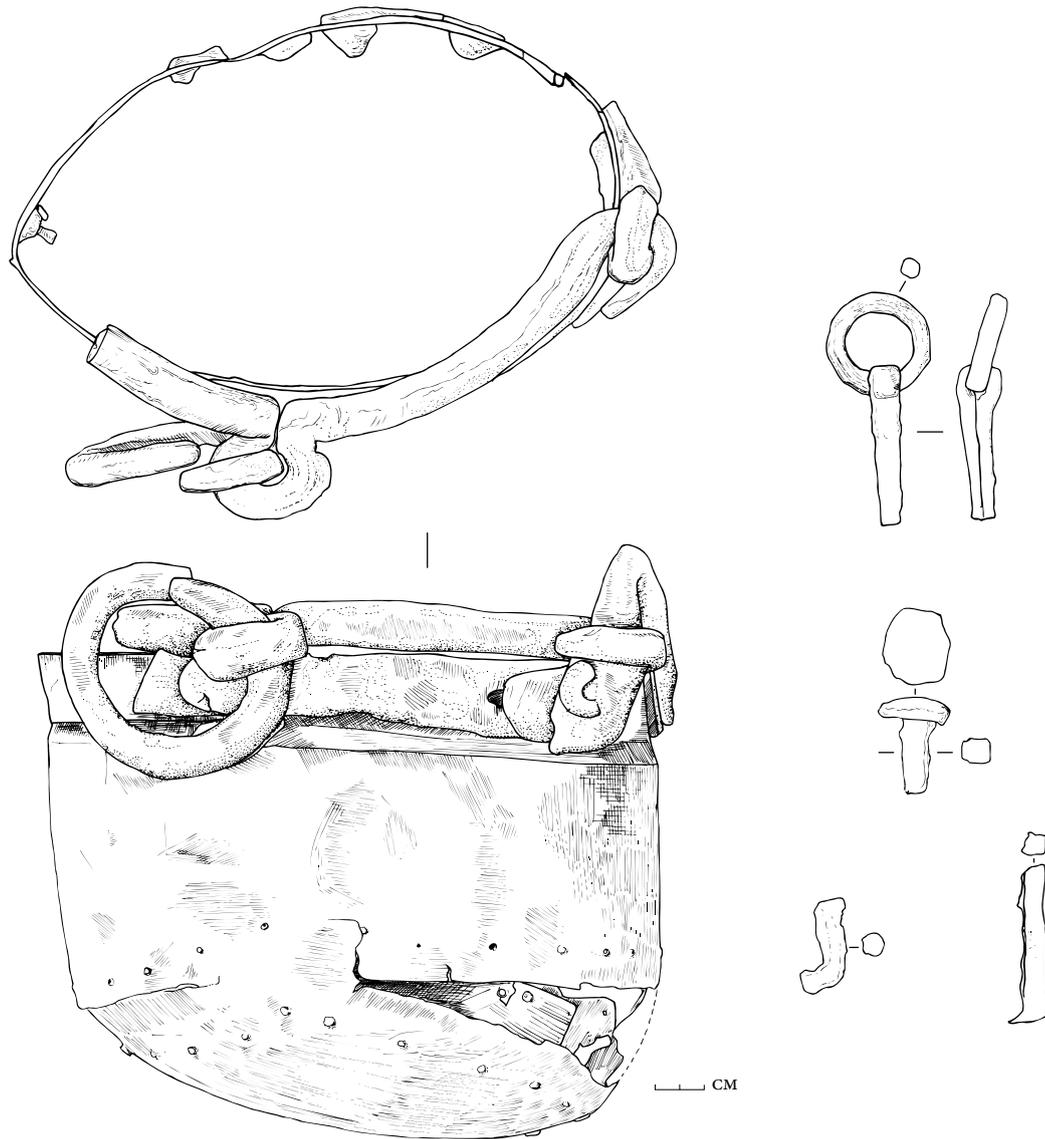


Figure 9. BR9.



Figure 10. BR9.

flat, round head with a central knob and a circular groove around it, similar to other rivets found in the excavation. The iron band is partly damaged and rusted, with traces of carbonized wood still attached to it. The walls of the cauldron are heavily corroded on the outside and inside. The surface is covered by green, black, and brown patina.

This type of vessel was probably used as a cauldron for cooking (suspended by a chain connected to the handle's loop) or a bucket for drawing water (suspended by rope from the loop). Similar bronze vessels with iron handles attached to iron loops on the rim, and similar repair techniques (or the techniques of constructing them), are known from the sixth-century B.C. tombs found in southern Italy (D'Ercole and Grassi 1999, figs. 13:3, 25:2-3 and 31:2) and from a sixth-century Etruscan tomb (Richter 1915, no. 623). The earliest cauldrons with an iron band riveted around the neck date from the first century B.C. The copper alloy cauldrons with iron necks seem to have lasted longer than these



Figure 11. BR10.

with an iron band and continue to the third century A.D.: Koster 1997, 68–9. For Roman cauldrons repaired with rivets, see Nuber 1988, no. 110; Castoldi 2002, figs. 3–6; Wamser et al. 2000, fig. 96. This type of cauldron was found in Pompeii. The vessel from Zeugma probably looked, before it was repaired, like the Pompeian cauldron with Silenus-head handle attachments: Tassinari 1993, type X2120. The combination of iron band and handle was used in different types of arched-handle vessels in Pompeii (Tassinari 1993, vol. 1, pl. 179, and vol. 2, X1522:24196, X1613:2978, X1613:9066, X1623, X2200:16906, and X3100:10257). The same repair technique and connection of the base to the wall of the vessel by rivets was used in Pompeii (Tassinari 1993, vol. 1, pl. 188, and vol. 2, X2210, X1912, and X3100).

BR10 (SF 2334, context 2384)

Cylindrical bucket

Dia. of rim: 28.50 cm; H. 20 cm;

Th. (wall): 0.05 cm; W. (rim): 1.70 cm;

Th. (rim): 0.30 cm

FIGS. 11–12

Upper part of cylindrical bucket raised out of copper alloy sheet. The wall flares slightly, with the rim bent outwards and then upwards. The bottom half, including the base, and parts of the upper half and the rim are missing. The wall is ripped through its entire height. Traces of copper alloy rivets and round holes in the upper part of the wall may indicate the location of the missing handles. Heavily corroded; surface covered by green patina.

This type of bucket is also known from Pompeii: Tassinari 1993, type W2210. The cylindrical buckets date from the first century B.C. to the mid-third century A.D.: Koster 1997, 67:89. A similar bucket with a lid from Egypt is dated from the first century B.C. to the first century A.D. (Hayes 1984, 79). For a similar type bucket, with an iron band, under the rim from which two loops are formed to

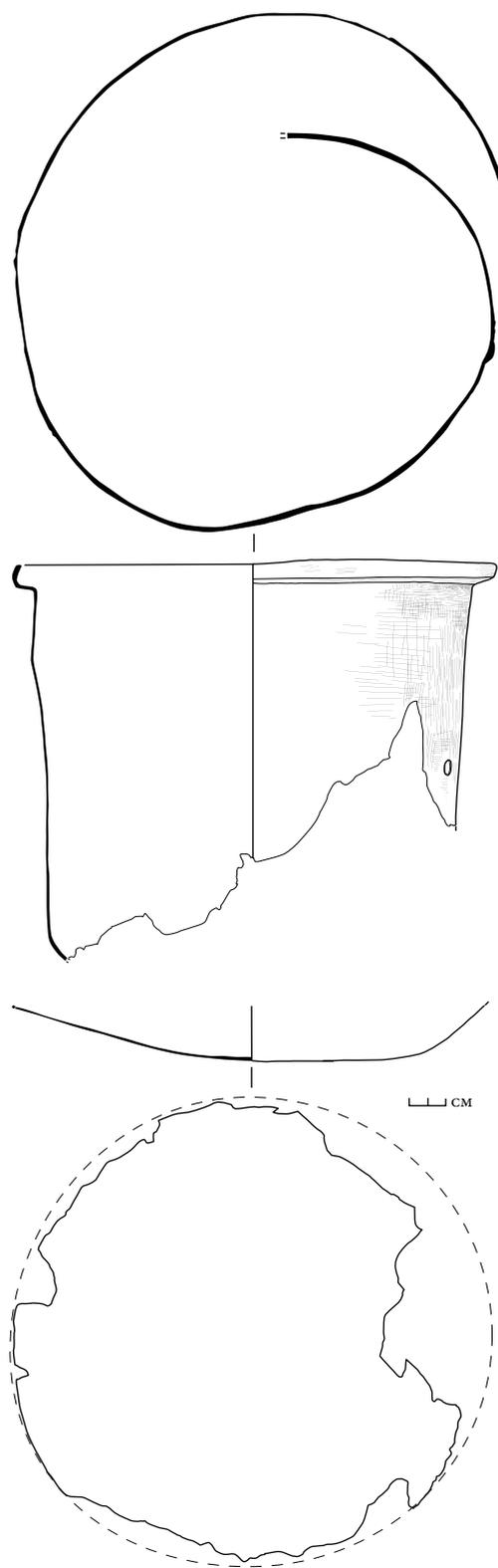


Figure 12. BR10.

hold the hooks of the swinging handle, see Nuber 1988, no. 110 (third century A.D.). For similar cylindrical buckets of the Late La-Tène type in Slovenia, see Brescak 1982, nos. 51–7.

Fragments of Vessels



Figure 13. BR11. Drawing (top) and photo (bottom).

BR11 (SF 800, context 9227)

Fragment of vessel rim

H. 5.80 cm; W. 6.80 cm; Th. 0.40 cm

FIG. 13

End of the second/beginning of the third century A.D.

Cast copper alloy convex fragment of a large, thick vessel rim. The wall is straight, with a short, projecting rim, concave on the outside. Three circular grooves decorate the wall. Well preserved; surface covered by green patina.



Figure 14. BR12. Drawing (top) and photo (bottom).

BR12 (SF 830, context 9195)

Fragment of vessel rim

H. 5.30 cm; W. 4.40 cm; Th. 0.40 cm

Not later than A.D. 253

FIG. 14

Cast copper alloy convex fragment of a large, thick vessel rim. The wall is straight, with a short, projecting rim, concave on the outside. This fragment and BR11 appear to belong to the same vessel. Well preserved; surface covered by green and black patina.

BR13 (SF 868, context 18108)

Fragment of shallow plate

L. 4.20 cm; H. 1.50 cm; Th. 0.40 cm

FIG. 15

Not later than A.D. 253; Ceramic Group D (A.D. 253)

Fragment of cast copper alloy shallow plate with thick, straight wall. Poorly preserved, heavily corroded; surface covered by green patina.

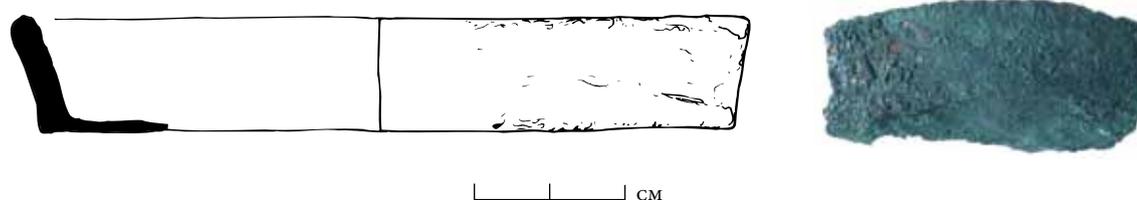


Figure 15. BR13. Section drawing (left) and photo (right).

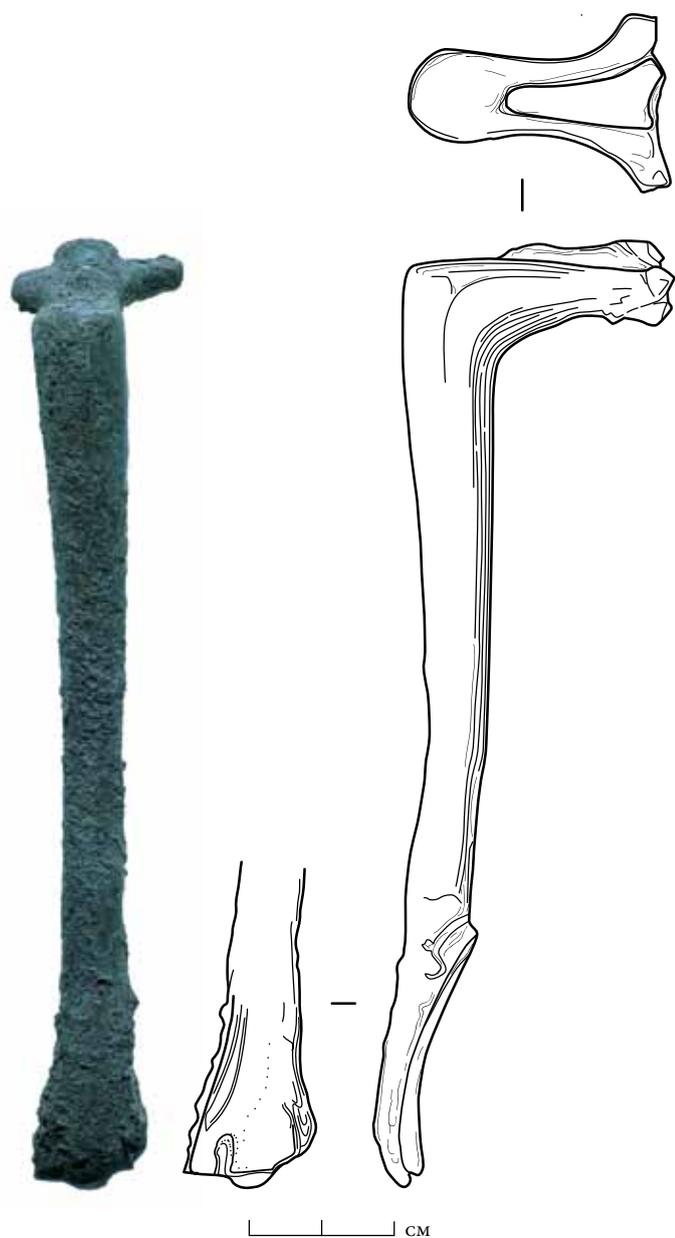
Handles of vessels

Figure 16. BR14. Photo (left) and drawing (right).

BR14 (SF 2316, context 2269)

Jug handle

L. 13.30 cm; W. 2.40 cm; Th. 1.30 cm

Not later than A.D. 253

FIG. 16

Handle, round in section, composed of long vertical and short horizontal parts. The horizontal part consists of two arms (broken), which held the jug rim. The concave attachment plate of the vertical part follows the shape of the body of the jug (or other vessel) to which it was attached. Well preserved, heavily corroded; surface covered by green patina.

This handle may belong to jug BR2, since they were found in the same context and similar jugs with similar

handles are known from the Roman period. Vessels with similar handles could have been in use to the middle of the third century A.D.: for example, the biconical jug with a similar handle in a mid-third century treasure in Künzing (Wamser et al. 2000, no. 68e). For a biconical jug with a similar handle from Spain, see Pozzo 2002, 412f., fig. 5, and from a cremation burial in Ljulin, Thrace, dated by coins of Trajan, see Raev 1977b, no. 45, pl. 19, 1. For intact handles of this type, see Faider-Feytmans 1979, no. 337; Hayes 1984, 125, in the shape of a human right leg (mid-second to third century A.D.).

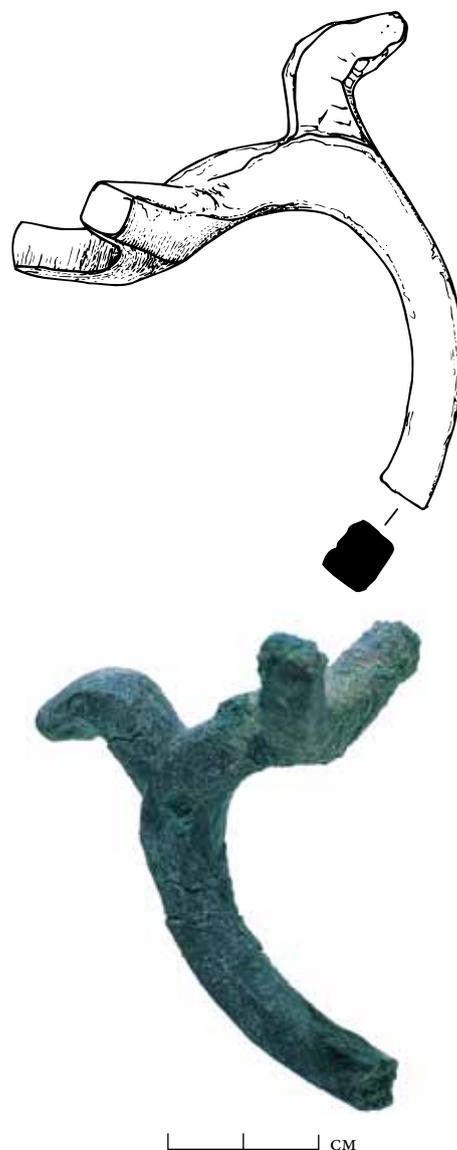


Figure 17. BR15. Drawing (top) and photo (bottom).

BR15 (SF 835, context 9195)

Handle of jug

L. 6.80 cm; W. 5 cm; Th. 1 cm

Not later than A.D. 253

FIG. 17

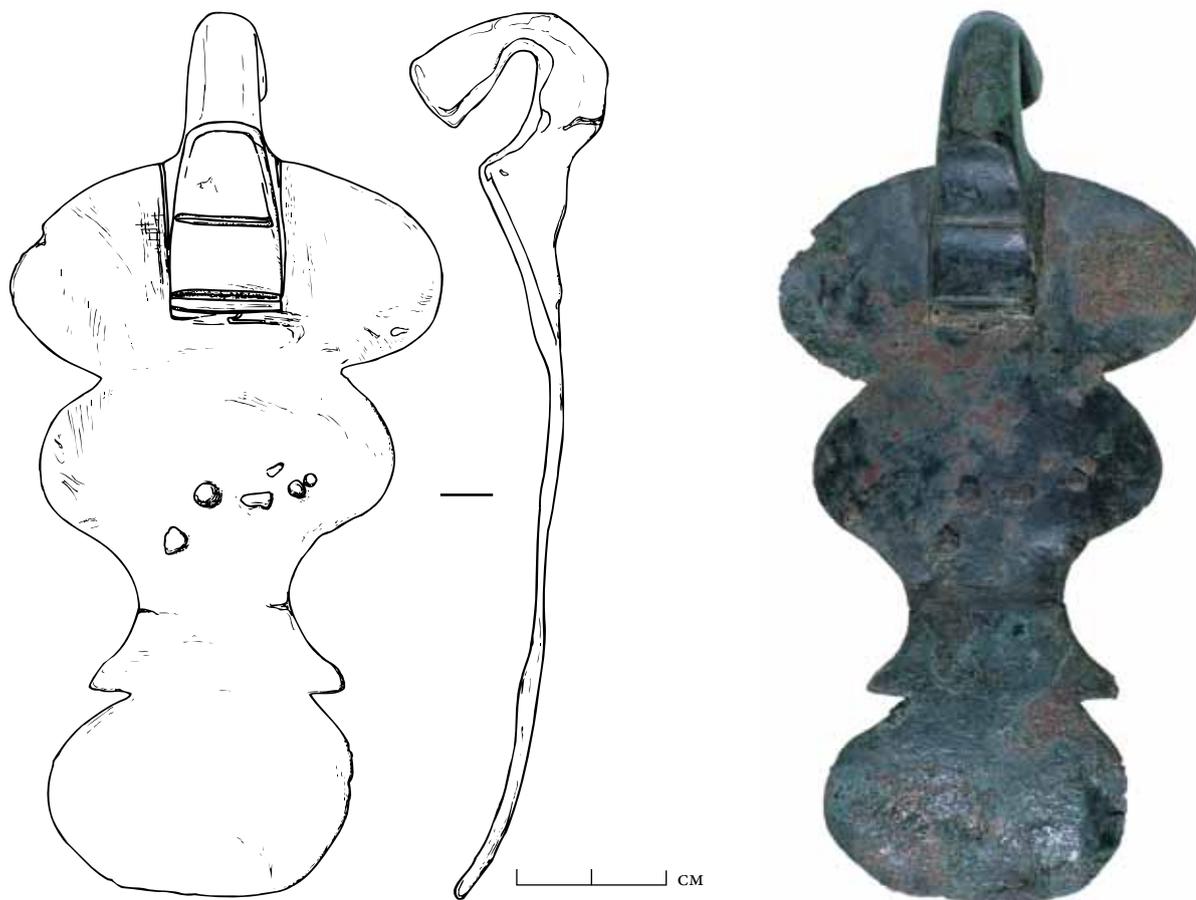


Figure 18. BR16. Drawing (left) and photo (right).

Upper part of cast jug handle. The preserved part is curved, with a thimble rest projection; it ends in a horizontal circular part for holding the attached jug from below the rim. Well preserved but heavily corroded; surface covered by green and black patina.

Handles of this type often decorate the biconical jugs, so it is possible that the piece belonged originally to BR3. For similar jug handles from Pompeii, see Tassinari 1993, type B2200.

BR16 (SF 2090, context 2011)

Decorated plate with hook

L. 12 cm; W. 5.70 cm; Th. 0.15 cm

FIG. 18

Cast plate with curved edge and small hook at the top. The concave shape of the plate follows the rounded body of a vessel. This plate was apparently used as a hook for suspending a vessel, from one of three different points. This is most probably a lower attachment of the handle (to the body). Its unusual shape is interesting and looks very provincial. The thick hook has been cracked by the heavy load that it carried. Traces of solder are still visible on the bottom part, proving that it was attached to the body of a vessel. The hook plate is intact and well preserved; the surface is covered by green and black patina.

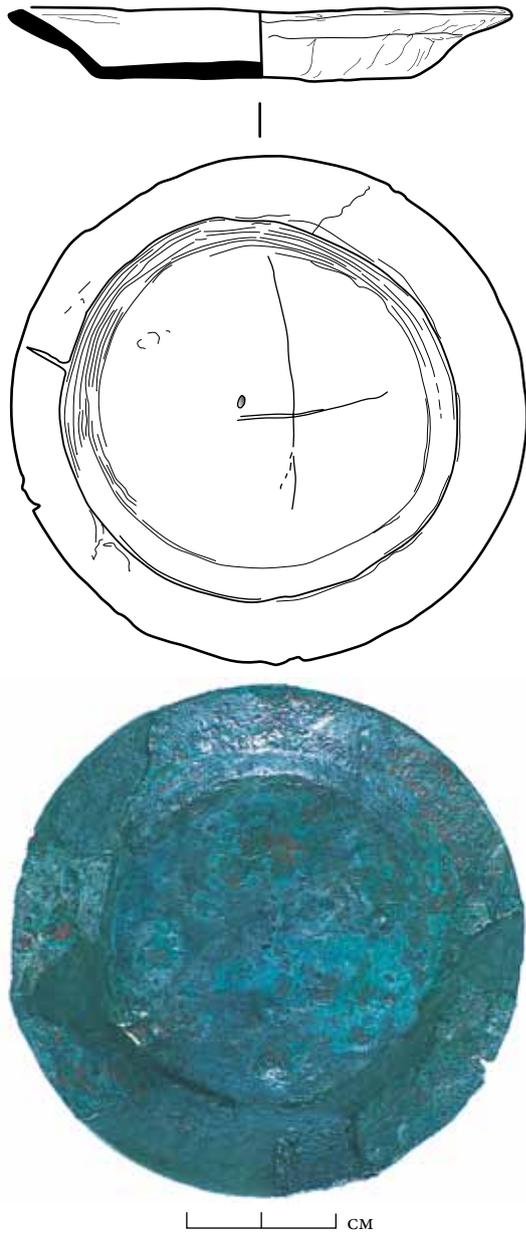


Figure 19. BR17. Drawing (top) and photo (bottom).

Small Vessels

BR17 (SF 445, context 9143)

Small dish

Dia. 6.70 cm; H. 0.85 cm; Th. 0.20 cm

Not later than A.D. 253

Small dish with flat base and flaring walls. Heavily corroded; surface covered by green patina.

FIG. 19



Figure 20. BR18.

BR18 (SF 2079, context 2009)

Small cylindrical vessel

H. 3.70 cm; Dia. 3.40 cm; Th. 0.05 cm

FIG. 20

Small cylindrical vessel of unknown function, raised out of thin copper alloy sheet. The base is flat and slightly concave. Parts of the wall and the base are missing. The wall is preserved in its original height in only one spot. Poorly preserved, heavily corroded; surface covered by green patina.

This vessel, given its shape and dimensions, may have possibly served as an inkwell. For such cylindrical inkwells, see Wamser et al. 2000, 287, fig. 248 (second to third century A.D.). Another similar small vessel, in the Museum of Fine Arts, Boston, was identified as an inkwell; see Comstock and Vermeule 1971, no. 485, height 4.80 cm (Greco-Roman). Two cylindrical vessels that are similar but a little larger (6.5 cm high), of uncertain use (beakers? measures?) and uncertain date (Roman?) are in the Ontario Museum, Hayes 1984, 150–1.

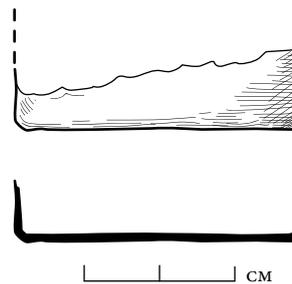


Figure 21. BR19.

BR19 (SF 460, context 9175)

Lower part of small cylindrical vessel

Dia. 3.75; H. 1 cm; Th. 0.05 cm

Not later than A.D. 253

FIG. 21

Lower part of small cylindrical vessel, raised out of copper alloy sheet, with partly preserved straight wall and flat base. Surface covered by green and black patina. Similar to BR18 and was probably used as an inkwell.



Figure 22. BR20.

Lighting Devices

BR20 (SF 928, context 18001)

Candelabrum

L. 33 cm; W. 28.50 cm; Dia. (dish) 20 cm; H. (shaft) 22.40 cm;

H. (tripod) 9 cm; H. (socket) 3.20 cm

Not later than A.D. 253

FIGS. 22–24



Figure 23. BR20.

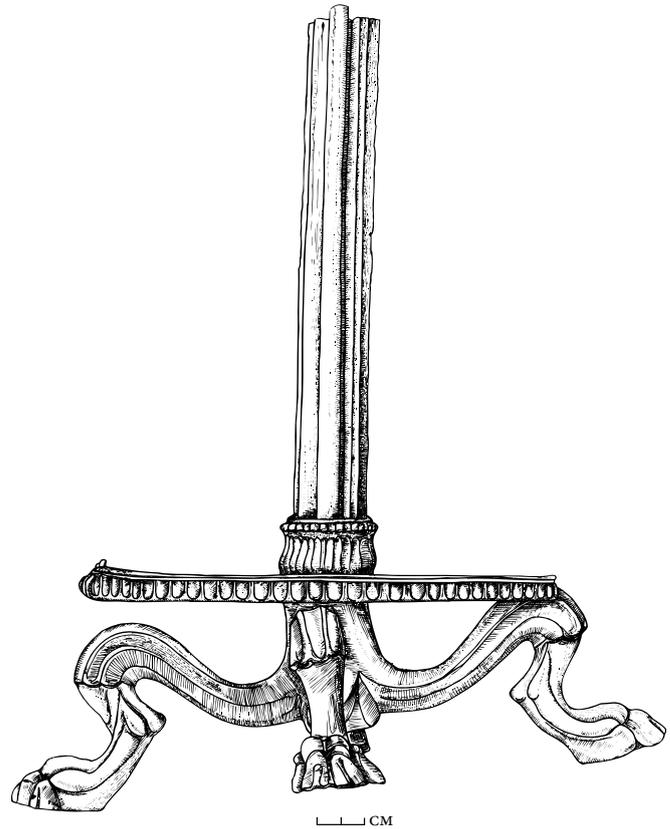
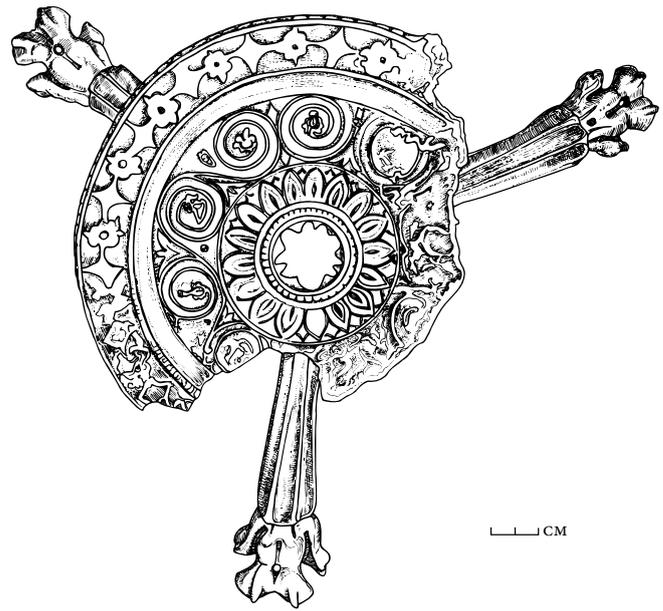


Figure 24. BR20.

Partly preserved candelabrum cast in three pieces: tripod, shaft and disc. The tripod is composed of three legs shaped like lion's claws, blossoming out from three floral fluted stems. These stems combined together in the center to form a socket for inserting the lower part of the shaft. The shaft is tapering, round, and ribbed; its upper part is missing. The ribs are arranged as three main thick ribs alternating with thinner double ribs. A bell-shaped socket and a disc are inserted into the lower part of the shaft, above the tripod.

The socket is decorated with vertical grooves in the shape of a palm capital surmounted by a collar of beads. The disc is flat with a thick edge and a round hole in the center for inserting the shaft. It is elaborately ornamented with three concentric floral strips on its upper surface. The inner one is an ovolos rosette. The second strip is decorated with floral scroll. Between this strip and the outer one is a narrow plain band. The outer strip is decorated with buds alternating with lozenges. The edge has an egg-and-dart motif. In

the center of each claw is a round hole used to rivet them to small round bases similar to BR146 or BR145. The candelabrum was partly damaged by a fierce fire, as the traces of molten copper alloy clearly show. The damaged parts are the upper part of the shaft and almost half of the disc. Well preserved; surface covered by green patina.

The shaft would originally have been at least twice as high as the surviving part and ending in a spike on which the upper part, or a capital, was attached. A similar, though larger, object was found in Trench 8 at Zeugma, next to the life-size copper alloy statue of Mars, now in the Gaziantep Museum: see Nardi and Önal 2003, figs. 3–5, 9. The candelabrum was very popular among the Etruscans and is found in many of their graves (Hostetter 1986). This candelabrum type is known from Pompeii, Herculaneum, and Boscoreale. The great majority of the candelabra in the collection of the British Museum are from towns in Campania, and they are the products of the first century A.D., but one at least, in the collection, is of the second or third century A.D.: Bailey 1996, 91, nos. Q3867–70, Q3911. For similar types from Boscoreale, see Gorecki 1993, pl. 1:A1–A2. These are the closest parallels to the remains of the Zeugma candelabrum and can be reconstructed by their shape: Oettel 1991, nos. 34–5, see also Oggiano-Bitar 1984, no. 307; Oliver and Merino 1993, fig. 1, pls. 2–4; Edgar 1904, nos. 27.791, 27.795 (shafts), nos. 27.798–9 (discs), no. 27.796 (tripod), nos. 27.797 (tripod with disc), nos. 27.800, 27.802, 27.804 (capital); Boube-Piccot 1975, pls. 26–9, 109–10.

BR21 (SF 2261, context 2242)

Oil lamp

L. 14.90 cm; Dia. 8.10 cm; Dia. (nozzle): 6.20 cm;
H. 3.70 cm

FIG. 25

Intact cast oil lamp composed of a high, round receptacle with flat shoulders and a sunken disc with a wide, round eye in the center. In the center of the ring base is a small knob surrounded by concentric grooves. The nozzle is narrow in the center, wider around the wick hole and flaring towards the base. On both sides of the nozzle are schematic spirals. There are three small, round ventilation holes in the center of the nozzle. A raised ridge runs along the center of the bottom part. The lamp is generally well preserved, though the discus is damaged in one place. The upper surface is corroded. The surface is covered by green patina.

This type of oil lamp is well known from the first-century A.D. Roman cities of Pompeii and Herculaneum, where it was classified as the semivault type: De' Spagnolis and De Carolis 1988, nos. 23ff. Bailey dated this type between Augustan times and the reign of Hadrian: Bailey 1996, nos. Q3614–Q3648. See also Rostovtzeff et al. 1947, no. 423; De' Spagnolis and De Carolis 1983, type III (first century A.D.); Popović et al. 1969, nos. 260, 269; Edgar 1904, no. 27.767; Arce et al. 1990, no. 211 (first century A.D.); Boube-Piccot 1975, pls. 79–80.

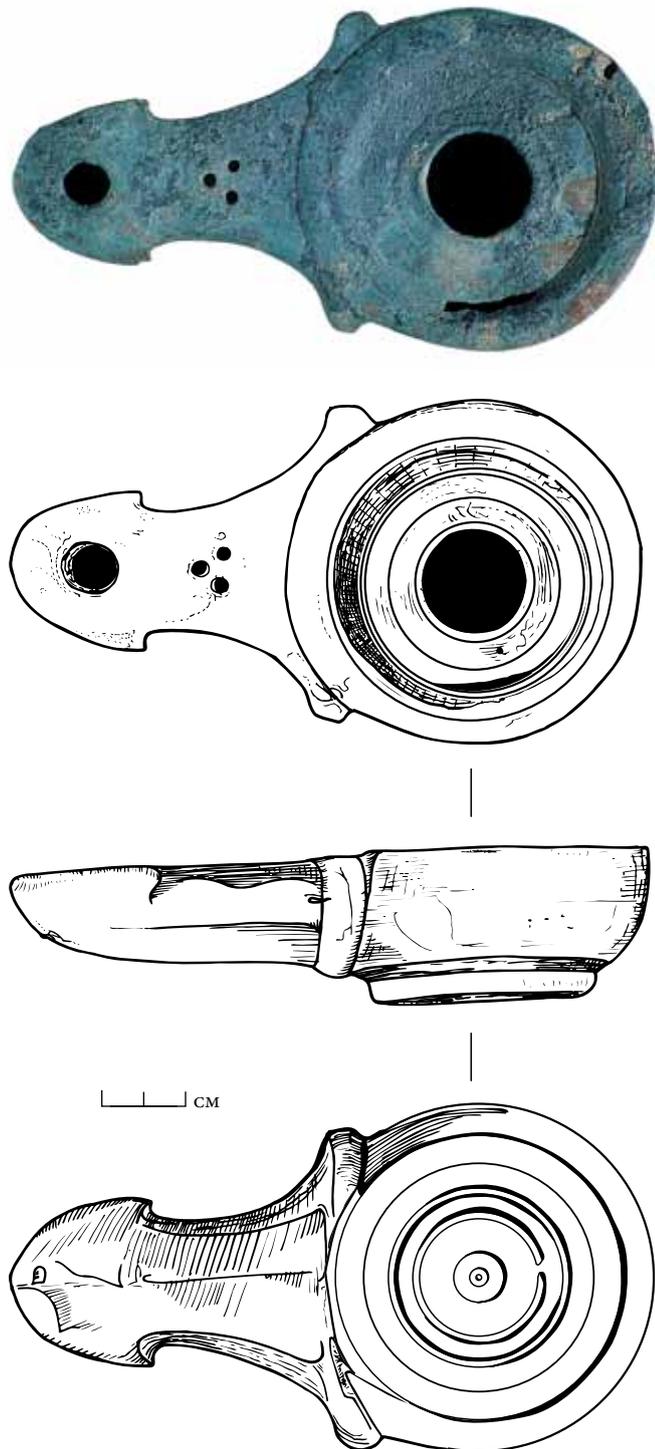


Figure 25. BR21. Drawing (top) and photo (bottom).

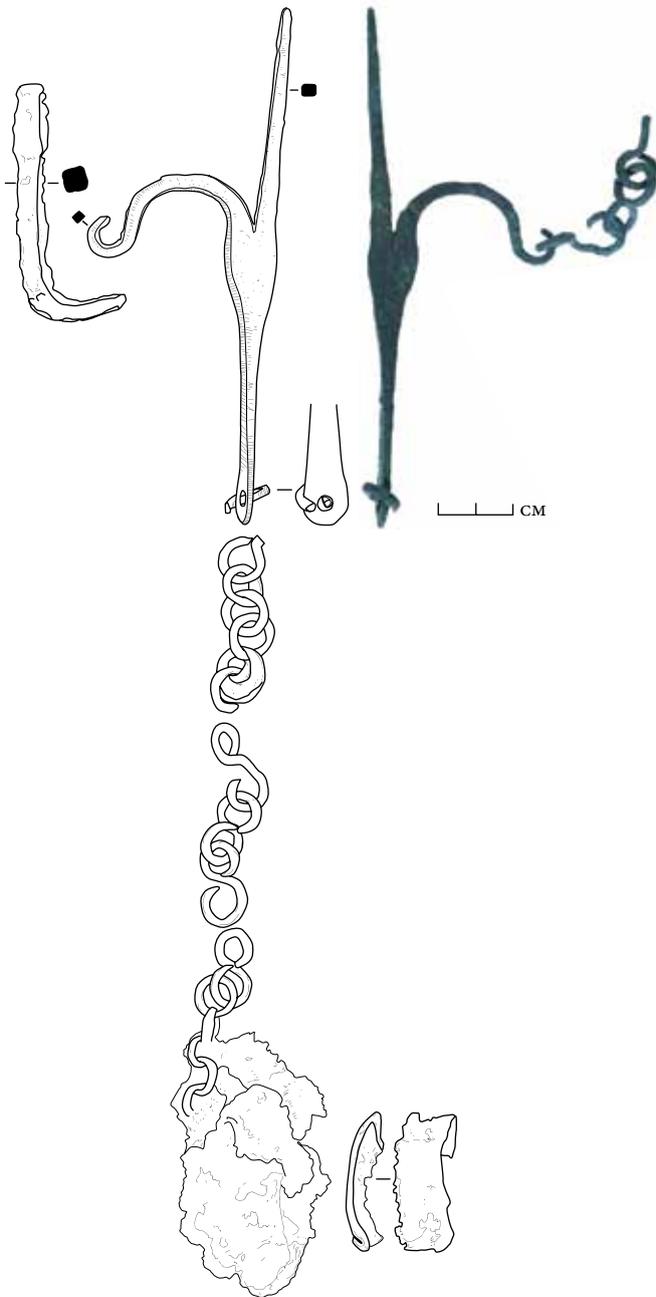


Figure 26. BR21. Drawing (left) and photo (right).

BR22 (SF 394a, context 9138)
Lamp suspension hook
 L. 13.50 cm; W. 5.50 cm; Th. 0.30 cm
 Not later than A.D. 253

FIG. 26

Lamp suspension hook composed of two perpendicular parts hammered from a copper alloy strip. One part is flattened with a round hole at the end, into which a loop is inserted. The other part is split in the middle; one side is straight and square in section, as a spike, the other also square in section, but bent to form a hook. Intact, well preserved; surface covered by green and black patina. Alongside the suspension hook were found sections of copper alloy chain composed of figure-eight links (BR101).

Such suspension hooks were used for hanging oil lamps. For a similar hook from Zeugma, see Başgelen 1999, 184:1. The hook was found in a Roman villa dated to the first century and is now in the Gaziantep Museum. The hook is connected by chain, from a hole at its thick end, to a bronze oil lamp with a negroid head for suspension. For more lamp suspension hooks from Pompeii, see Borriello et al. 1986, no. 55; De' Spagnolis and De Carolis 1988, no. 131. From Rome, see Arena et al. 2001, no. 2.4.67. See also Bailey 1966, nos. Q3838–41; Popović et al. 1969, no. 265; Petrie 1917, pl. 71:50. This type of suspension hook was in use from the first century until late antiquity. For Byzantine bronze oil lamps with similar hooks in the Vatican collection, see De' Spagnolis and De Carolis 1986, nos. 14, 23.

Military Equipment

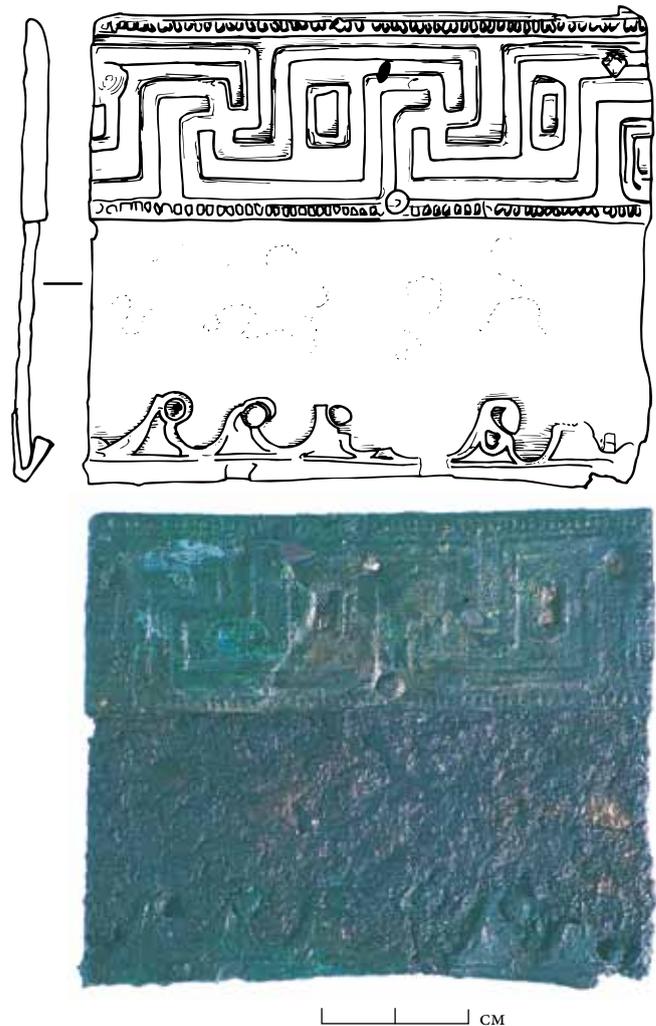


Figure 27. BR21. Drawing (top) and photo (bottom).

BR23 (SF 2309, context 2269)
Possible decorated scabbard plate
 W. 7.55 cm; L. 6.40 cm; Th. 0.30 cm
 Not later than A.D. 253

FIG. 27

Rectangular iron plate (IR184), perhaps for a scabbard, decorated with a copper alloy strip on the upper and lower parts. The upper decorated strip is riveted with small nails. The decoration consists of swastika-meander patterns, framed by double and parallel lines at the long sides. The gap between each of the double lines is filled with dense small strokes. The lower part of the plate is decorated with the classical wave pattern and riveted with small nails at the tip of each wave. Four small nails at the corners of the plate fastened it to the scabbard. There are two small rectangular holes in the upper strip, probably used for inserting leather straps for suspending. The object was found intact. The iron is heavily corroded and cracked. Parts of the waves decoration are missing. The copper alloy decoration is covered with green patina.

Scabbard plates of the Roman gladii sword are usually decorated with square and rectangular bronze sheets decorated with repoussé technique. The swastika-meander and wave patterns do not appear on scabbard plates of Roman swords. For Roman scabbards, see Künzl, 1994, 33–58; Künzl 1996, 383–474.

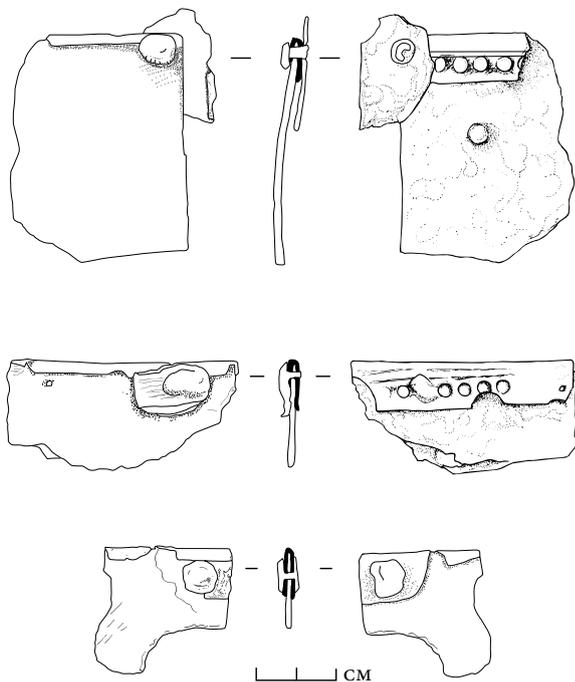


Figure 28. BR24.

BR24 (SF 244a, context 11038)

Decorated scabbard plate?

W. 6.90 cm; L. 5.10 cm; Th. 0.25 cm

Not later than A.D. 253

FIG. 28

This is similar to BR23. The iron plate is broken into three main parts (IR185). The preserved part of the copper alloy decoration includes a narrow strip decorated with a row of small bosses framed by two projecting ribs. There are copper alloy rivets at the corners. The plate is only partly preserved, heavily corroded and crumbling.

Armor Scales

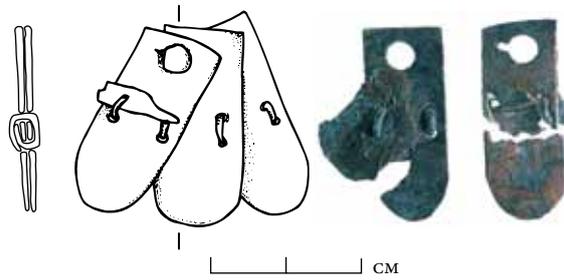


Figure 29. BR25. Drawing (left) and photo (right).

BR25 (SF 244, context 11038) = ML7

Armor scales

L. 2.50 cm; W. 1 cm; Th. 0.05 cm

Not later than A.D. 253

FIG. 29

Three oblong Roman copper alloy armor scales with one rounded edge. In each of them are a large round hole in the center and two pairs of holes lower down on the right and left edges of the scale. These scales are attached to one another by thin wire passing through the lower pairs of holes at the edge of the scales. One of the scales is broken. The scales are well preserved. The surface of all three of them is covered by green patina.

The earliest datable scale armor is from the mid-first century A.D. For the development of scale body armor, the *Lorica plumata* or the *Lorica squamata*, from the mid-first century A.D. to the third century A.D., see Bishop and Coulston 1993, 85, figs. 51, 77:3–4, 100:2. Scale armor was the standard armor type in use in the third century A.D. by both legionary and auxiliary troops throughout the empire, Stephenson 1999, 32–40; Croom 2000, 129–34. Three bronze and iron scale trappers from the third century A.D. were found in the debris of tower 19 in Dura-Europos. The scale armor was well preserved and the cloth and the leather almost intact. The thin bronze scales were sewn on a double backing of coarse linen cloth. The scales were linked horizontally, each overlapping the next, by loops of bronze wire passed through the side holes. The strips were sewn to the backing by a cross-stitch of heavy linen thread through the upper holes in such a way that each strip overlaps the one beneath it and covers the stitching. The edges were finished with a band of leather skirting sewn to the cloth backing, Rostovtzeff et al. 1936, 438–3, pls: 21–23. A representation of Roman infantrymen, fully armed and wearing scale armor, is found in the Battle of Ebenezer fresco from the third century A.D. in the Synagogue of Dura-Europos. For illustrations showing how the scales were fastened to each other and to the cloth, see Stephenson 1999, fig 10; Croom 2000, figs. 2–4. For the way that Roman soldiers wore scale armor, see Stephenson 1999, pls. 3–13; Junkelmann 2000, 91.

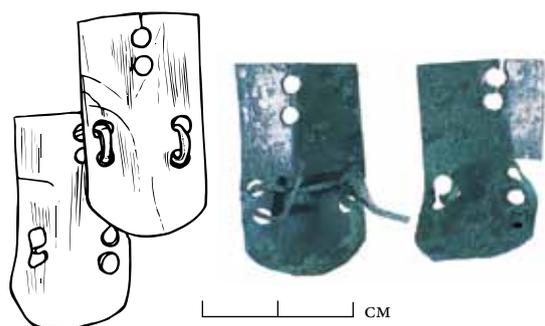


Figure 30. BR26. Drawing (left) and photo (right).

BR26 (SF 822, context 10001) = ML6

Armor scales

L. 2.80 cm; W. 1.60 cm; Th. 0.05 cm

FIG. 30

Two connected, identical Roman armor scales. They are oblong with one rounded side. Each scale is pierced by six holes, two in the center of the top and two pairs lower down on the right and left edges. Two thin looped wires are inserted into the lower pairs of holes, fastening the scales together. The scales are well preserved. The surface of both is covered by green and black patina.

Harness Fittings

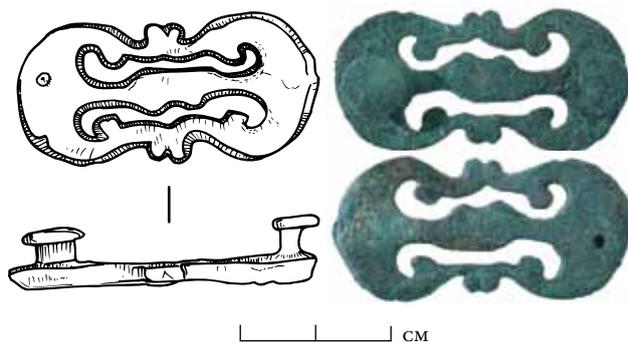


Figure 31. BR27. Drawing (left) and photo (right).

BR27 (SF 2321, context 2269) = ML44

Harness decorative piece

L. 3.85 cm; W. 1.85 cm; Th. 0.25 cm

Not later than A.D. 253

FIG. 31

Cast copper alloy riveted plate, violin-body-shaped, with an openwork decoration following the outer contours. At both ends of the back are two projections for fastening it to a leather strap. Intact, well preserved; surface covered by green patina.

Pierced decorative bronze rivet plates are considered Roman provincial products. They were popular from the mid-second to the mid-third century A.D. They were used for harnesses, straps, belts, armor, and weapons: Frisch and Toll 1949, pl. 3:29; Boube-Piccot 1980, nos. 583-4; Petrie 1927, pl. 43:48.



Figure 32. BR28.

BR28 (SF 2359, context 2251) = ML50

Pendant

Dia. 4.50 cm; H. 5.10 cm; Th. 0.05 cm

FIG. 32

Flat cast copper alloy, crescent-shaped pendant with knobbed terminals and central rib. There is a rectangular projection for suspension at the top. Two small, round holes below the projection were probably used for hanging additional pendants. Well preserved; surface covered by green patina.

Lunate, or crescent-shaped, pendant (*lunula*). Other pendants, like pendant BR29, are generally found suspended inside it. This type is found from the Augustan period through the second century A.D. in association with cavalry harness: Bishop 1988, 98 and fig. 47, type 9. For a similar pendant, but with the knobs joined together, see Sellye 1939, pl. 17:1. Horse trappings (*phalerae*) in the British Museum, formed of nine plates and buckle, have a similar crescent-shape pendant with knobbed terminals hung from its middle plate: Dalton 1901, 338. Similar items were found among 46 items in silver in the lower Danube region, dated from the first century B.C. to the first century A.D., Košćević 2002, figs. 25-33; Oldenstein 1976, nos. 44-5 (second to third century A.D.). Some similar bronze *lunulae* were found in the Netherlands, but out of Roman context: Galestine 2002, 494-7; Eekhof 1997, 24-7. See also Deschler-Erb 1999, nos. 423-4 (first century A.D.); Unz and Deschler-Erb 1996, nos. 1275-84, 1325; Ricci 1985, pl. 60:17; Jitta and Gerhartl-Witteveen 1983, no. 248, 4.40 cm long; Webster 2002, nos. 68, 73.

BR29 (SF 2036, context 2007) = ML49

Pendant

L. 4.10 cm; W. 2.45 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 33

Lobed, leaf-shaped pendant, cut out from a copper alloy sheet. The upper part was cut to leave a long pointed and flat strap that was folded backwards to form a suspension

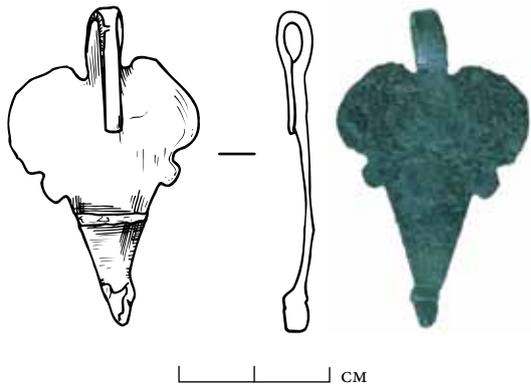


Figure 33. BR29. Drawing (left) and photo (right).

loop. Intact, well preserved; surface covered by green patina.

So-called teardrop-shaped pendant. These pendants could be suspended from the center of the lunate type. Both types of pendants were designed to hang freely from a leather strip or a horse harness: Bishop 1988, 98 and fig. 96-7, 45, type 5. For these two types of pendants in combination, see Bishop and Coulston 1993, fig. 65:3. See also Waldbaum 1983, nos. 886-7 (Roman to late Roman); Oldenstein 1976, nos. 187-92 (second to third century A.D.); Webster 2002, no. 65; Ricci 1985, pl. 60:18 (Roman); Unz and Deschler-Erb 1996, nos. 1472-521.

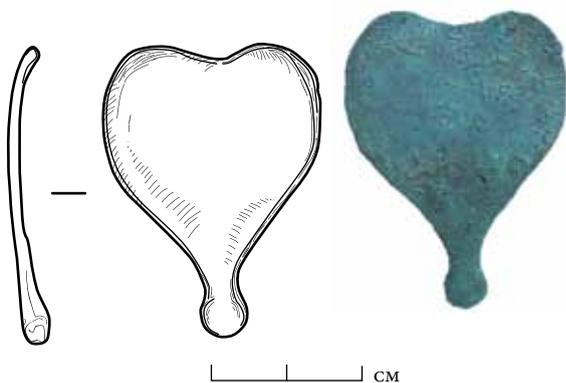


Figure 34. BR30. Drawing (left) and photo (right).

BR30 (SF 463, context 9175)

Heart-shaped plate

L. 3.90 cm; W. 2.85; Th. 0.15 cm

Not later than A.D. 253

FIG. 34

Heart-shaped plate with elegant rounded tip, probably part of a jug handle. The upper part is broken. The profile is concave to fit the carved wall of a jug or other vessel. Well preserved; surface covered by green patina.

For similar Roman heart-shaped plates, see Deschler-Erb 1999, nos. 588-600 (first century A.D.).

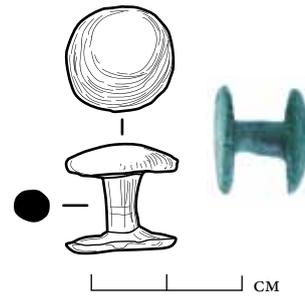


Figure 35. BR31. Drawing (left) and photo (right).

BR31 (SF 115, context 9076) = ML69

Stud

Dia. 1.30 cm; H. 1.30 cm

FIG. 35

Fungiform stud made from two small discs connected by short bar, round in section. Well preserved; surface covered by black patina.

These objects are identified as part of the belt fitting of the third-century Roman soldier, used to fasten the leather strap (Bishop and Coulston 1993, 152-3 and fig. 108:12) or as a harness button (Boube-Piccot 1980, 172-80 and nos. 252-8, 461-2). For similar objects from the Roman period, see Fauduet 1992, no. 1485; Oldenstein 1976, nos. 273, 485-9, 490-502 (second to third century A.D.); Petrie 1927, pl. 26.

Scabbard-Slide?

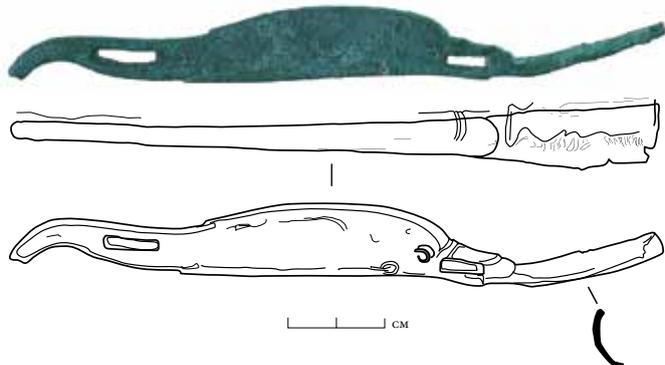


Figure 36. BR32. Drawing (bottom) and photo (top).

BR32 (SF 114, context 9076)

Dolphin-shaped object

L. 13.40 cm; W. 1.50 cm; Th. 0.60 cm

FIG. 36

Cast object, the main part is flat and molded in the shape of a dolphin. Two small rectangular holes are pierced in the dolphin's body, one in the beak and one in the tail. In its beak the dolphin is holding a short, flat strip. The end of the tail is square in section, curved downwards and broken. Well preserved; surface covered by green patina.

The function of this object is obscure, like other Roman dolphin-shaped objects, such as bronze examples from Germany and England: Dixon 1990, figs. 1-4; Stephenson

1999, pl. 15, figs. 28, 30. These objects were probably used as scabbard-slides in which a long leather strap, for the suspension of the sword from the baldric, was wrapped around both the scabbard and the slide: Oldenstein 1976, figs. 11–2. The object from Zeugma has two rectangular pierced holes through which a leather strap could pass. Scabbard-slides were introduced in the late second to early third century A.D. as replacement for the ring suspension: Dixon 1990, 17–25. They were cast bronze or made of iron and attached, by gluing and binding, near to the top of what would have been the outer face of the scabbard: Stephenson 1999, 65, figs. 35–6. For other dolphin-shaped scabbard-slides, see Bishop and Coulston 1993, figs. 80:14, 90:4; Boube-Piccot 1994, nos. 360, 364; Oldenstein 1976, nos. 61–3 (second to third century A.D.).

BR33 (SF 2242, context 2223)

Armlet

Max. Dia. 9.80 cm; Th. 0.70 cm

FIG. 37

Thick, heavy armlet made from four twisted wires, each 0.35 cm thick. These wires are twisted together tightly over a fifth wire in the center. The wires were cut and flattened at both edges. Intact, well preserved; surface covered by green patina.

For similar Roman bracelets, see Riha 1990, nos. 561ff.



Figure 37. **BR33**. Drawing (top) and photo (bottom).



Figure 38. **BR34**. Drawing (top) and photo (bottom).

BR34 (SF 2140, context 2038)

Armlet

Max. Dia. 9.70 cm; Th. 0.70 cm

FIG. 38

Similar to armlet **BR33**, probably worn together as a pair. Intact, well preserved; surface covered by green patina.

Bracelets

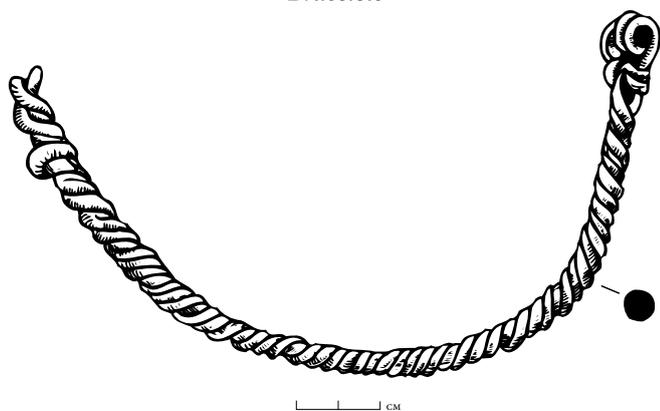


Figure 39. BR35.

BR35 (SF 1036, context 1010)

Bracelet

Dia. 7.70 cm; Th. 0.40 cm

Eighth to tenth centuries A.D.: Ceramic Group G (Islamic)

FIG. 39

Cable bracelet, partly preserved and made from four twisted wires that were bent at the end to form a loop. Well preserved, one wire is partly missing. The surface is covered by green patina. Since this bracelet and the pair of earrings BR38 and BR40 were found close together in the same context, it seems likely that they belonged to the same lady.

This is one of the most widely distributed and popular types of copper alloy bracelets known from classical and medieval times. For different types of cable bracelets from the late Roman period and their distribution in northern Europe, see Swift 2000, figs. 144–50; Wilson 2002, fig. 245:21–30. For similar bracelets, see Colt 1962, pl. 23:18 (Byzantine); Kenyon 1957, fig. 105:10 (Roman); Robinson 1941, nos. 237–42; Davidson 1952, no. 2136 (Byzantine period), 2137 (probably 12th century); Chavane 1975, no. 421 (Hellenistic); Waldbaum 1983, no. 802 (late Roman?). See also Riha 1990, nos. 561–83 (Roman); Petrie 1927, pl. 5:66 (probably Roman).



Figure 40. BR36.

BR36 (SF 3419, context 19005)

Bracelet

L. 4.35 cm; Th. 0.30 cm

Hellenistic, possibly late second century B.C.

FIG. 40

Fragment of bracelet of well-known type. The bracelet is square in section. One end terminates in a schematic snake's head, the other is missing. The outer surface is dec-

orated with transverse grooves. The object is corroded and green patina covers its surface.

This is a popular type of copper alloy bracelet known from the classical period. Over 100 subtypes of bracelets with snakehead terminals are identified: Swift 2000, 117ff and figs. 211–27. For a similar Roman bracelet, see Kenyon 1957, fig. 106:2; Riha 1990, no. 2863. For variations on this type from the fourth and fifth centuries A.D., see Price 2000, fig. 2.7:158–69; Robinson 1941, nos. 179–224.

BR37 (SF 607, context 15108)

Possible bracelet fragment

L. 2.80 cm

Possible fragment made from two twisted wires. Partly preserved, heavily corroded; surface covered by green patina.

Earrings

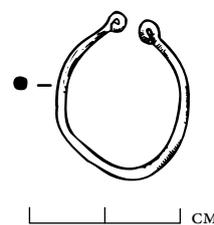


Figure 41. BR38.

BR38 (SF 1007, context 1010)

Earring

Dia. 2.20 cm; Th. 0.10 cm

Eighth to tenth centuries A.D.: Ceramic Group G (Islamic)

FIG. 41

Round earring made from thin copper alloy wire with looped tips. Well preserved; surface covered by green patina.

Crowfoot 1957, fig. 100:9–16. For similar Roman earrings, see Riha 1990, nos. 712–3.

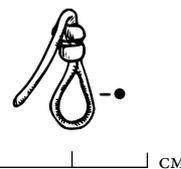


Figure 42. BR39.

BR39 (SF 1006, context 1010)

Earring

L. 1.60 cm; Th. 0.10 cm

Eighth to tenth centuries A.D.: Ceramic Group G (Islamic)

FIG. 42

Small loop made out of thin wire twisted into a loop at one end and into a hook at the other. The hook was inserted

into the hole of the earlobe. This part was probably connected to the earring BR38. Well preserved; surface covered by green patina.

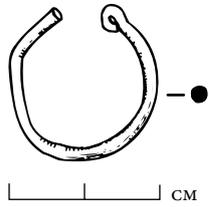


Figure 43. BR40.

BR40 (SF 1048, context 1010)

Earring

Dia. 2.20 cm; Th. 0.10 cm

Eighth to tenth centuries A.D.:

Ceramic Group G (Islamic)

FIG. 43

Earring similar to earring BR38, but one of the loops is broken. The similar context, shape, and dimensions of these two earrings suggest that they were a pair. Well preserved; surface covered by green patina.

Buckles

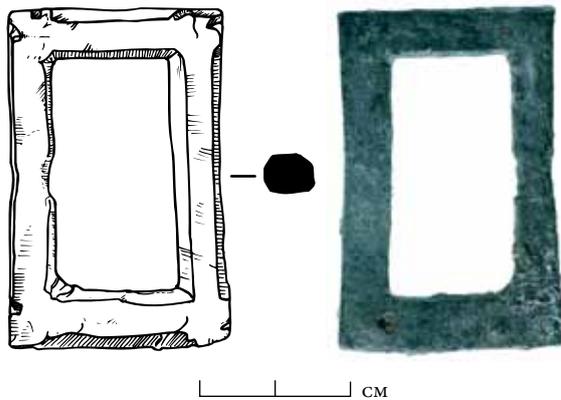


Figure 44. BR41. Drawing (left) and photo (right).

BR41 (SF 3665, context 15186) = ML48

Buckle

L. 4.50 cm; W. 2.90 cm; Th. 0.70 cm

FIG. 44

Rectangular buckle, made from a thick bar that is polygonal in section. The center of one of the long sides was filed to fit the attached (missing) tongue. Well preserved; surface covered by green patina.

Given the shape of the frame, the buckle is most probably late Roman, and probably not earlier than the late second century A.D. This type of buckle was identified by Swift as Sort 1 form C type C: Swift 2000, 192, fig. 235. See also Madyda-Legutko 1986, group G, types 1–10. For an identical copper alloy buckle, 3 cm long, with the tongue still fastened at one end by a sliding loop, see Richter 1915,

no. 1078. See also Wamser et al. 2000, no. 158;j; Oldenstein 1976, no. 1041 (second to third century A.D.); Unz and Deschler-Erb 1996, no. 1916; Lyne 1999, nos. 27–30 (third to fourth century A.D.); Boube-Piccot 1994, nos. 77–82.

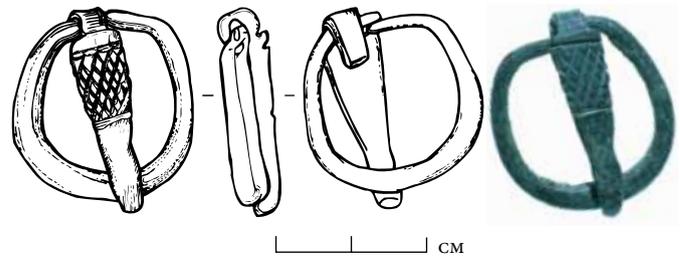


Figure 45. BR42. Drawing (left) and photo (right).

BR42 (SF 369, context 9000) = ML47

Buckle

Dia. 2.40 cm; length of tongue: 2.90 cm

Mid-third century A.D.

FIG. 45

Round buckle made out of a loop varying in thickness. The tongue made separately out of a flat bar and looped around the thin part of the buckle. The thin tip of the tongue is bent downward to hook over the thick part of the buckle. The wider part of the tongue is decorated with an incised net of lozenges between two horizontal lines. Well preserved; surface covered by green patina.

Oldenstein 1976, nos. 1048–55 (second to third century A.D.).

Fibulae

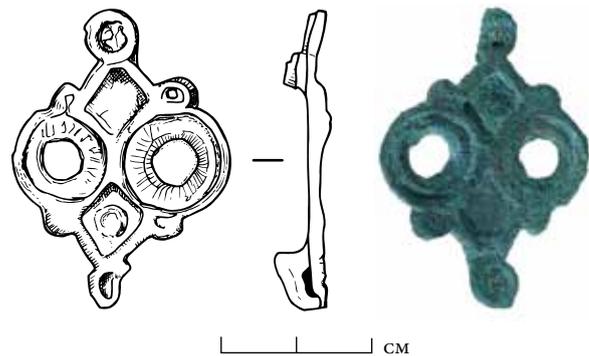


Figure 46. BR43. Drawing (left) and photo (right).

BR43 (SF 2110, context 2014)

Plate fibula

L. 3.90 cm; W. 2.90 cm; Th. 0.15 cm

FIG. 46

Diamond-shaped plate fibula, composed of two circles with a large hole in each and two lozenges in between. There are six small lobes in the corners of the two lozenges. The lozenges appear to be filled with a colored paste. On the back are two broken projections, one the axis bar for the hinged pin and the other the catch plate for holding the

missing pin. The object is almost intact and well preserved. The surface is covered by green patina.

Diamond-shaped fibula plates are well known from all over the Roman Empire. They vary in shape. The basic lozenge form is usually the central part, or the main piece, to which different geometric projections and additions are attached to its corners or surrounding it, like triangles, circles, and squares. These shapes also elaborate the upper surface of the lozenge, but the most common design is a repetitive pattern of concentric lozenges. The design on the surface of many of these fibulae was enameled in different colors. For the enameling technique of these fibulae, see Niemeyer 2003, 188–203. For lozenge-shaped fibulae and variations from the second century A.D., see Hattatt 1989, figs. 207–8; Hattatt 1987, 1085–96; Sellye 1936, pl. 12 and 20:13–8 (enameled); Frisch and Toll 1949, pl. 17:167; Feugère 1985, nos. 1896–905; Lacabe 1995, no. 505.

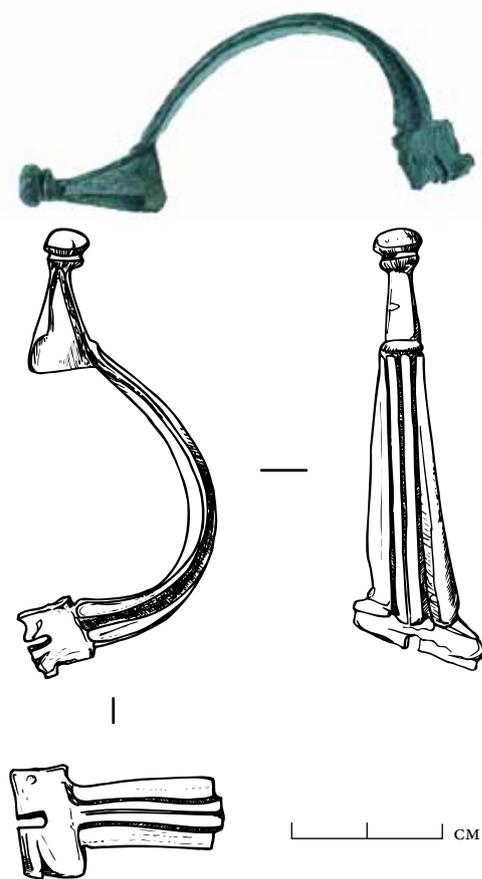


Figure 47. BR44. Drawing (bottom) and photo (top).

BR44 (SF 848, context 13006) = ML76

Fibula

L. 5.80 cm; W. 2.80 cm

FIG. 47

Cast bow-shaped fibula that widens towards the catch plate. Along the center of the outer surface runs a raised, double-ribbed ridge. One side has a rolled-over head with a hole in the center, used as an axis bar for the missing hinged pin. The catch plate for holding the pin, at the other end, is flat-

tened, concave, and terminates with a knob. Deformed but well preserved; surface covered by green patina.

This is an *aucissa*, a well-known fibula type. It received its name in Roman times, when it was written in full or in abbreviated form on the outside of many of the fibulae hinges. Gaul was the probable origin of these fibulae, which were distributed by Roman troops during the first century throughout the Roman Empire, from England in the north to North Africa and the Judean Desert in the south, and from the Iberian Peninsula in the west to Asia Minor and southern Russia in the east. For the distribution, variants, function, and chronology of this type, see Feugère 1985, 312–31; Lacabe 1995, 127–28, map 16; Isidro 2001, 210–27; Hattatt 1982, 83–7; Hattatt 1987, 68–74; Koščević 1980, type 5, 15–7. This type of fibula is well known from the excavations of Dura-Europos, and the Zeugma fibula is identical to the Dura-Europos *Aucissa* Type 1. It was certainly introduced into Syria in considerable quantities by Roman soldiers during the first or early second century. This type probably lasted until the late second or third century A.D.: see Frisch and Toll 1949, pl. 10:6–19. Similar examples were found in Antalya (Feugère 1985, 318, fig. 44), Sardis (Waldbaum 1983, nos. 681–2: first to second century A.D.), and Corinth (Davidson 1952, no. 2166, Hellenistic or early Roman, and no. 2167, first century A.D.). For the Hellenistic and Roman types of this fibula in Delos, see Deonna 1938, figs. 351–5, pl. 87:749–53. This type of fibula was found in large quantities in legionary camps and fortresses, for instance the fortress of the XIVth Legion at Wroxeter, England, where they were dated to the second half of the first century A.D.: Mackreth 2002, nos. 12–26. An intact fibula was found in the fortress of Masada in the Judean Desert, which fell in A.D. 73: Yadin 1966, 150. See also Isidro 2001, type 10, nos. 219–543; Feugère 1985, type 22, nos. 1460–697; Lacabe 1995, type 20, nos. 171–363; Riha 1979, group 5: type 5:2, nos. 625–732. For more first-century A.D. *aucissa* variants in the Richard Hattatt Collection of ancient brooches, see Hattatt 1989, figs. 176–7; Hattatt 1987, nos. 831–40. See also Zampieri and Lavarone 2000, nos. 225a–z (first century B.C. to first century A.D.); Fauduet 1992, no. 265 (Roman); Boucher et al. 1980, nos. 515–24; Richter 1915, no. 1059. For techniques and methods of production of Roman and medieval fibulae, see Formigli 2003.

Cosmetic Implements

Five cosmetic or surgical implements were found in Zeugma, one intact and the others fragmentary. The intact piece has a flat blade. One of the fragments is a broken bowl of the well-known Roman leaf-shaped spatula type. The other three have handles that are round in section and terminate in a smooth rounded edge on one side. The missing parts could have been a bowl of a spoon, a blade, or other parts used for cosmetic or surgical purposes.



Figure 48. BR45.

BR45 (SF 112, context 9076)

Bowl of spatula

L. 4.90 cm; W. 1.40 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 48

Broken spatula bowl. The bowl is shallow and leaf-shaped; one end is pointed, the other is missing. The object is partly preserved and covered with black patina.

Similar spatulas are well known from the Roman and early Byzantine periods. This type has a long shaft handle, round in section and ending in a bulb. Between the shaft and the bowl there is usually a simple bead-and-reel decoration. Some of these spoon-probes were found inside glass kohl bottles, while others were found with other surgical implements. For such spoons found together with other surgical tools, their use, and their ancient names, see Bliquez 2003, 322–30; Jackson 2003, 312–21; Bliquez 1998, figs. 2–4:12–13; Matthäus 1989, fig. 17; Milne 1907, pls. 12–15. The spatulas were found inside small glass kohl bottles, testifying that they were used as cosmetic implements: Crowfoot 1957, fig. 100:24–5 (second to third century A.D.); Colt 1962, pl. 23:7 (seventh century A.D. or later); Yadin 1966, 149 (early Roman); Avigad 1976, fig. 9, pl. 73:15 (mid-third century A.D.); Clark et al. 1986, pl. 26:2; Deonna 1938, fig. 252, pl. 74:605 (Roman); Davidson 1952, no. 1334 (probably late Roman); Waldbaum 1983, nos. 640–2 (late Roman to early Byzantine). For a collection of similar spatulae with leaf-shaped bowls from the Roman world, see Wilson 2002, fig. 248:115 (Roman); Riha 1986, nos. 427; Price 2000, fig. 2.12:301–2 (third century A.D.); Fauduet 1992, nos. 936–61 (Roman); Zampieri and Lavarone 2000, nos. 266–75; Boucher et al. 1980, nos. 647ff; Popović et al. 1969, no. 275; Hattatt 1989, pt. 2, nos. 182–4, 199–200 (Roman); Babelon and Blanchet, 1895, no. 1620; Kancewa 1994, fig. 4; Petrie 1927, pl. 23:54 (Roman); Künzl 1983, figs. 3, 15, 16:18, 46:4, 51:17–18, 68:8, 69:2, 78, 83:6, 85:5, 86:, 88:3, 90:4, 97:1–4.

BR46 (SF 617, context 7023)

Cosmetic implement

L. 14.90 cm; Max. Th. 0.30 cm; W. (blade): 0.50 cm

First century A.D.: Ceramic Group C

(Flavian/Trajanic)

FIG. 49

Intact cosmetic tool or spatula, with long tapering shaft, round in section. The blade is flat with rounded edges. Well preserved, corrosion and green patina covering the surface.

For similar spatulas, see Goldman et al. 1950, pl. 264:18–23; Robinson 1941, nos. 1689–90; Walters 1899, no. 2347; British Museum 1929, fig. 200:f.

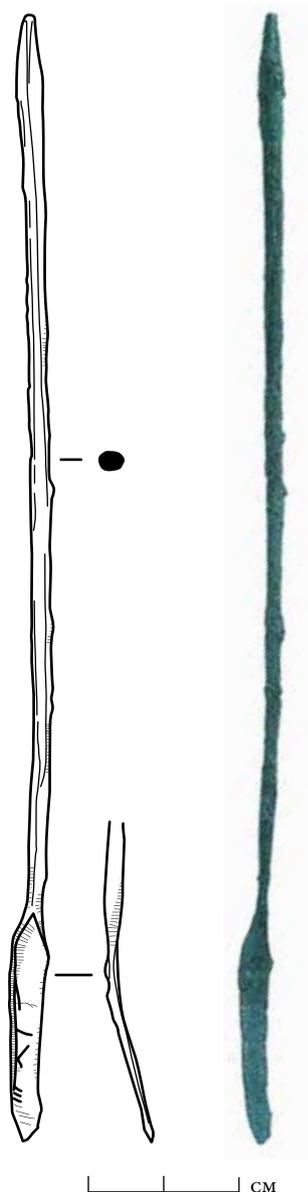


Figure 49. BR46. Drawing (left) and photo (right).



Figure 50. BR47.

BR47 (SF 3468, context 18072)

Cosmetic implement

L. 10.70 cm; W. (blade): 1.30 cm; Th. 0.50 cm

FIG. 50

Cosmetic tool or spatula, with a flat, leaf-shaped blade and missing tip. The shaft is round in section and tapers towards the blade. Between the shaft and the blade, traces of the typical reel-and-bead decoration are still visible. Heavily corroded; surface covered by green patina.

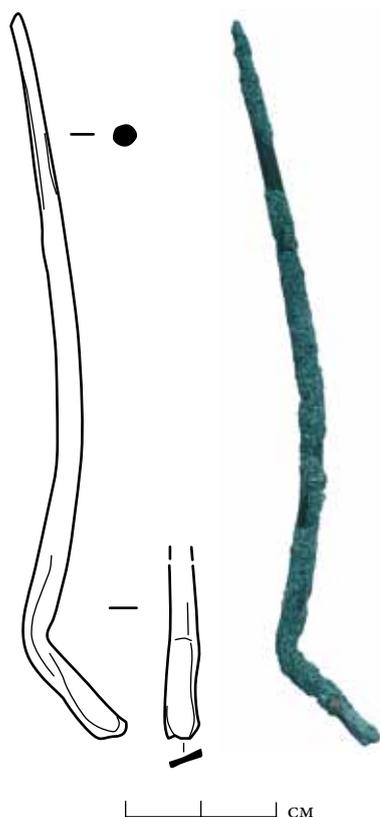


Figure 51. BR48. Drawing (left) and photo (right).

BR48 (SF 42, unstratified)

Cosmetic implement

L. 9.70 cm; max. Th. 0.35 cm

FIG. 51

Cosmetic tool with shaft that is round in section and tapers to a point. The other side is flat and partly missing. Partly preserved, bent at the edge; surface covered by green and black patina.

BR49 (SF 3154, context 9182)

Cosmetic implement

L. 3.20 cm; Th. 0.30 cm

Fragment of rod or cosmetic implement, round in section. Well preserved; surface covered by black patina.

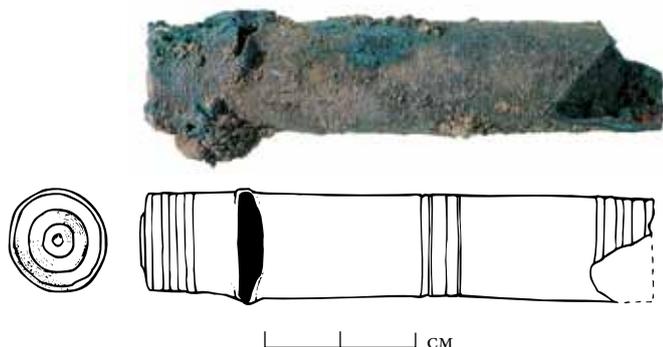


Figure 52. BR50. Drawing (left) and photo (right).

BR50 (SF 705, context 9076)

Needle or spatulae case or cosmetic tube

L. 6.70 cm; Dia. 1.55 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 52

Long tube with a small ring base. The upper part is partly damaged. This object, probably a needle and pin or spatula case, or cosmetic tube. Partly preserved; surface covered by green patina. It was found together with BR51, which was probably its lid.

These tubes are known from the Roman period. Several of them have been found in wash kits along with toiletries. For a similar damaged case, 9.40 cm high with missing lid, which was used as a container to store small instruments such as studs, probes, and spatulas, see Fauduet 1992, no. 935; Bliquez 2003, 28–9. For a similar intact Roman case, 19.40 cm high with cylindrical fitted lid, which was used as cosmetic implements container, see Zampieri and Lavarone 2000, no. 266. For a group of such tubes, see Künzl 2002, figs. 56, 60, 89. See also Ciarallo and De Carolis 1999, no. 327 (first century A.D.); Waldbaum 1983, nos. 644 (Roman: 8.90 cm long and 1.10 cm in diameter) and 153, pl. 58:1008 (Roman?); Bliquez 1998, figs. 2–3:17; D'Andria 1979, pl. 126, fig. 6:2 and pl. 128, fig. 9 (Roman: 8.1 cm high, 1.2 cm diameter); Kancewa 1994, figs. 4–5 (Roman); Popović et al. 1969, no. 275; Arce et al. 1990, 113. For a well-preserved bronze case for Roman surgical implements, 17.20 cm high, dated to the first to second centuries A.D., see Flashar 2003, no. 47. A similar small tube of the Roman period in the British Museum was used as a needle case (British Museum 1929, fig. 156). For comparanda from the Museum of Archaeology and History in Lausanne, see Riha 1986, fig. 25; from the Archaeological Museum in Naples, see Milne 1907, pl. 53; Matthäus 1989, fig. 31. In Egypt, many similar cases made of wood or reed and dating from the Nineteenth Dynasty to Coptic times were used as kohl containers: Petrie 1927, 27–8, pl. 22:27–34. For a survey of such cylindrical tubes of surgical implements, see Künzl 1983, figs. 11:8, 16:28–9, 50:5–7, 69:5–6, 83:5, 84, 92:1.

BR51 (SF 706, context 9076)

Cylindrical object

Dia. 1.30 cm; H. 0.75 cm

Not later than A.D. 253

Upper part of cylindrical object with round grooves decorating the surface. The object is partly preserved and its surface covered by green patina. It is similar to BR50; they were found close to each other in the same context and probably belong together. The shorter part was apparently used as a lid for the taller tube or case.

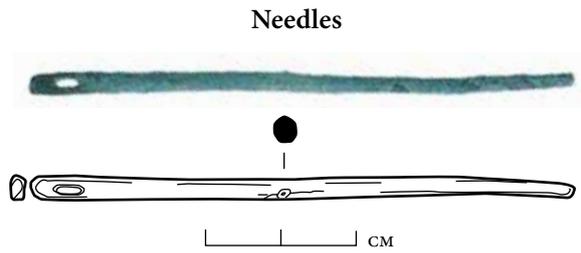


Figure 53. BR52. Drawing (left) and photo (right).

BR52 (SF 620, context 7023)

Needle

L. 7.10 cm; Th. 0.30 cm

FIG. 53

First century A.D.: Ceramic Group C (Flavian/Trajanic)

Sewing needle, round in section, tapering to a missing tip. The head is flattened, with an elliptical pierced eye. Partly preserved, corroded; surface covered by green patina.

For bronze sewing needles, see Waldbaum 1983, nos. 230–4; Davidson 1952, nos. 1235–9; Petru 1972, pl. 94:34–7; Ploug 1985, fig. 53:g; Ploug and Oldenburg 1969, fig. 28:1–2 (Medieval); Goldman et al. 1950, pl. 264:34–9; Robinson 1941, nos. 1750–2; Deanna 1938, pl. 82:702; Kenyon 1957, figs. 105:2–3, 109:3. See also Jurgeit 1999, nos. 936–41; Dusenbery 1998, S15809, S182–2 (first century A.D.); Arena et al. 2001, nos. 2.4.142–217; Kohlert-Németh 1990, no. 53; British Museum 1929, fig. 154.

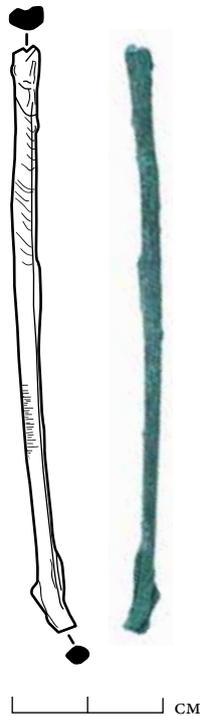


Figure 54. BR53. Drawing (left) and photo (right).

BR53 (SF 2276, context 2279)

Needle

L. 7.80 cm; Th. 0.25 cm

FIG. 54

Sewing needle, round in section, tapering to a missing tip. Traces of the needle's eye are still preserved at the other end. Partly preserved, corroded; surface covered by green patina.

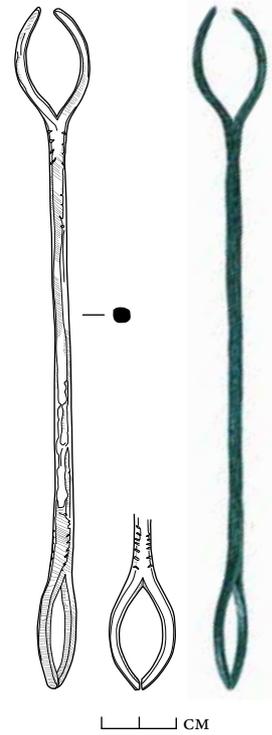


Figure 55. BR54. Drawing (left) and photo (right).

BR54 (SF 4000, context 10000)

Netting needle

L. 18 cm; Th. 0.35 cm

FIG. 55

Netting needle consisting of a long shaft, square in section. Both ends of the shaft are flattened and bifurcated to form a pair of two-pronged forks, or eyes, each square in section and perpendicular to the plane of the other. One of the eyes is closed, the other open. There is herring-bone decoration at the base of the closed eye. Intact, well preserved; surface covered by green patina.

This type of needle was common all over the ancient world and has been found in many places. Netting needles dating from the days of the Twelfth Dynasty in Egypt have been found (Petrie 1917, 53). They were made of wood and in later periods of bronze and iron. Fishermen have used such needles to make and repair their nets for a long period of history until modern times. They were found in many excavated sites: Robinson 1941, nos. 1763–81; Deanna 1938, pl. 69:550, 1–12, 553 (Hellenistic and Roman periods); Petru 1972, pl. 92:12–3 (Roman); Davidson 1952, no. 1273 (probably Byzantine); Chavane 1975, nos. 335–6 (Byzantine). See also Richter 1915, no. 1705; Petrie 1917, pl. 65:98–100; Comstock and Vermeule 1971, 635; British Museum 1929, fig. 155 (Roman); Arena et al. 2001, no. 2.4.194; Boucher et al. 1980, nos. 668–9; Arce et al. 1990, nos. 324–5; Hattatt 1989, pt. 2, nos. 193, 205.

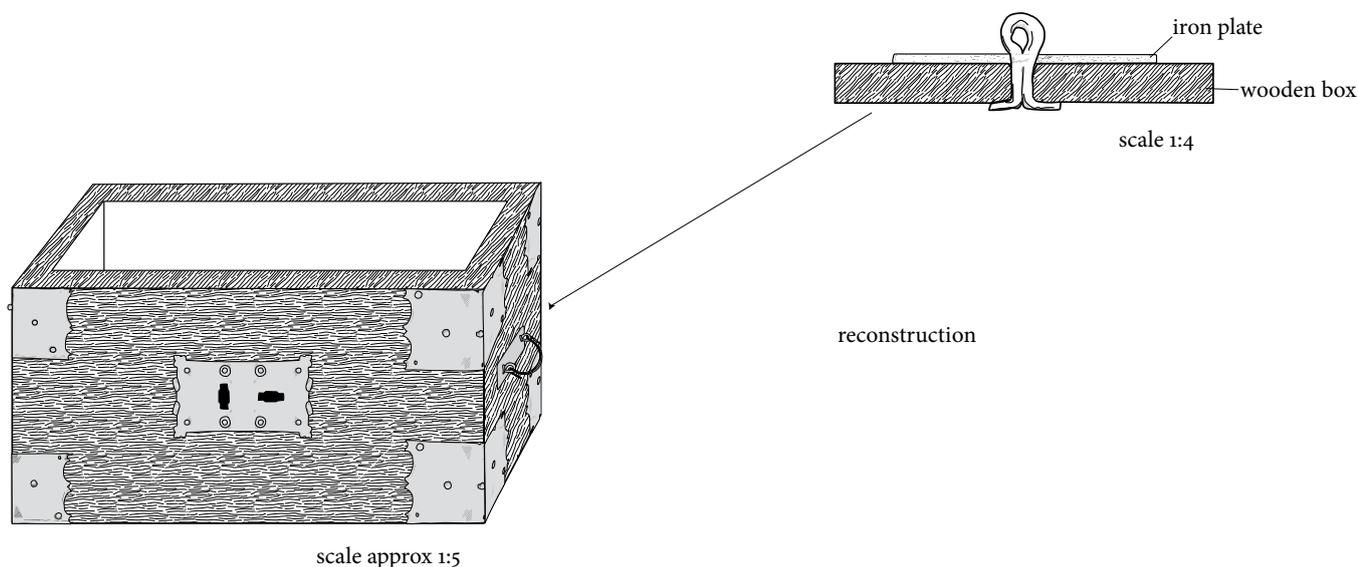


Figure 56. BR55 Reconstruction drawing of wood casket.

Wooden Casket Fittings

The remains of lockable boxes or caskets were among the objects found at Zeugma. It is probable that these cases were made of wood, embellished with copper alloy plates, locks, hinges, and hasps. Iron was also used in the ornamentation of the caskets and in the mechanism of the locks. Hasps were made from a flat strip of copper alloy, bent at one end to enclose a coil hinge. On the side underneath, a square or round copper alloy frame used as a padlock plate was attached. Decorated plates were attached to protect the wood and the corners from being worn out. No trace of wood was found with any of the metal pieces.

In the excavations at Zeugma, various metal parts and fittings were found together in the same context, indicating that they belonged to a wooden box or casket that had decayed. They included a padlock, copper alloy corner pieces, and fragmentary copper alloy covering sheets and iron handle plates, all with rivets or nails still attached or found together with them. The pieces can be easily restored to a simple and known type of casket about 30 cm in length. Such caskets were common from classical times until the medieval period. They usually consisted of two parts, the lower rectangular part used as the main container and the upper part serving as a lid. These two parts were joined by at least two hinges at the back. The opposite side was fastened by one or two hasps, attached by hinges to a binding strap, and held by small bolts in the lock plate in the upper center of the lower part. A handle was attached to each of the shorter sides. A good illustration of this type can be seen in the mosaic from Zeugma showing the wedding of Dionysus and Ariadne. In this mosaic a figure in black on the left-hand side is offering to Ariadne an open

wooden casket full of gold jewelry: Başgelen 1999, 174–9, esp. 178. This casket is probably similar to those used at Roman Zeugma, and the reconstruction of the casket remains found in the excavations at Zeugma partly relies on the depiction in this mosaic. For reconstruction of different types of Roman caskets, including their corner pieces, side handles, padlock, hinges, and round discs, see Dyczek 2002, figs. 3–5 (from a Roman hospital dated to the late second and early third centuries A.D.); Stefani 2003, H14 (first century from Pompeii); Kohlert-Németh 1990, no. 16.

BR55 (SF 2293 and 2294, context 2294)

Remains from wood casket

FIGS. 56–57

The remains of the casket include a partly preserved padlock. This padlock was originally a rectangular plate. The plate is straight at the sides, its corners decorated with a small diagonal crenulation motif. Two holes are partly preserved in the center of the plate, one vertical for the key and the other horizontal for the latch. At the margins are small copper alloy nails for attaching the plate to the casket. The padlock is assumed to have been placed in the center of the long side of the casket. It is partly preserved and corroded, with green patina covering the surface. Among the other remains, four complete copper alloy corner plates were found between other parts of similar plates. These pieces were cut out in rectangular shape from a plain copper alloy sheet, then bent in the middle to form a right-angle corner piece. The short ends were cut to form a double concave profile decoration. Six small nails were used to rivet each of the plates to the eight corners of the chest, four nails in the corners and two in the center. The nails have small spherical heads and square-sectioned shafts. These objects are

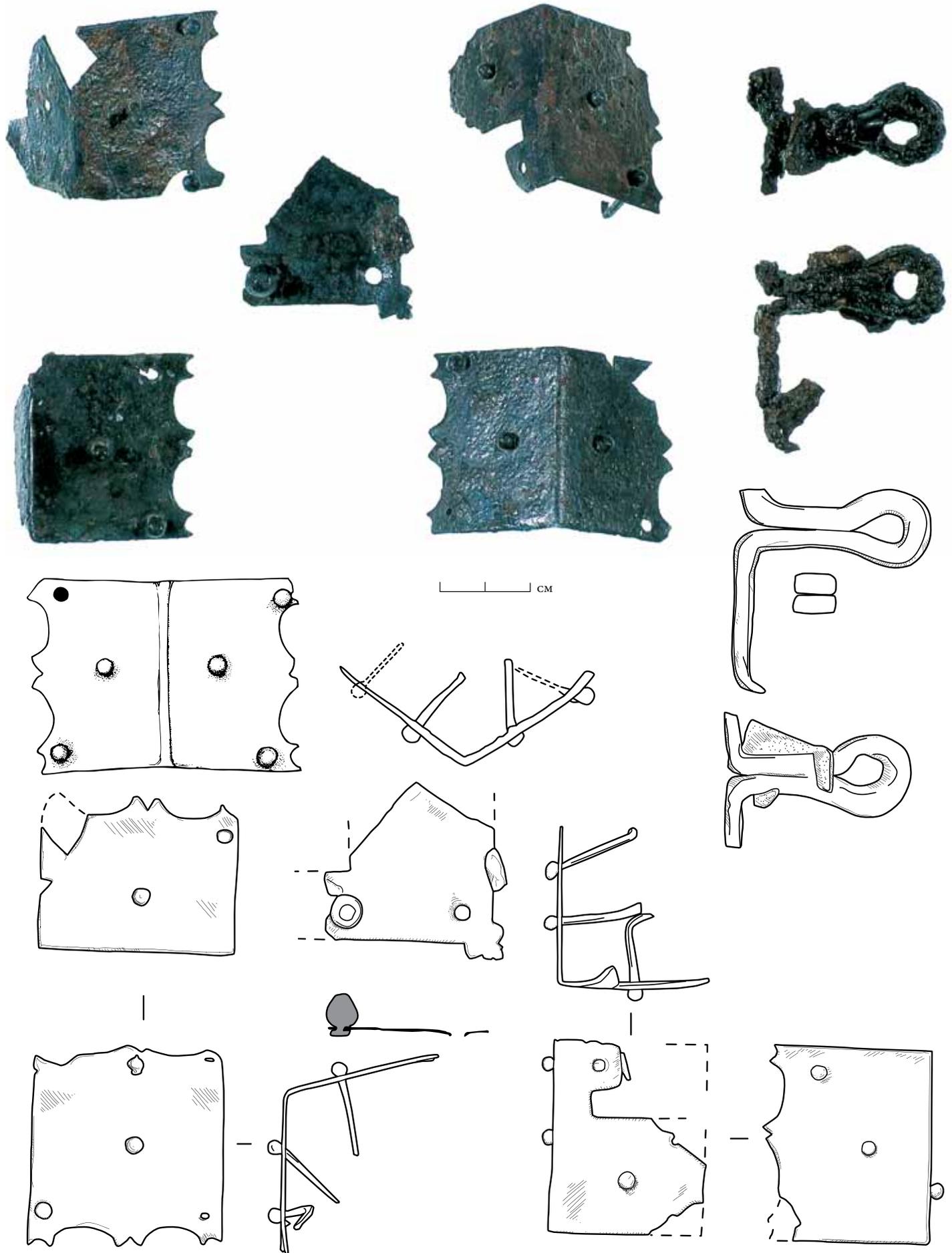


Figure 57. BR55. Drawings (bottom) and photos (top).

heavily corroded, with green and blue patina covering the surface. Fragments of broken, flat copper alloy plates were also found in the same contexts, and they seem to belong to the same chest. The plates are plain and were used to cover the wooden walls of the chest, or parts of them. Copper alloy nails with spherical heads and square-sectioned shafts, bigger than those of the corner plates, were used to rivet the copper alloy plates. At least one copper alloy boss, 1.70 cm in diameter, with traces of three iron rivets, was found. Alongside the copper alloy fragments, iron fragments were also found. They included broken iron plates with iron loops attached to them. These iron loops were made out of long bars, bent to form a round loop in the middle and two long extensions. The extensions were bent in the middle to opposite sides at right angles to form an anchor shape. The tips of both sides were bent and inserted into the wood. Two iron loops were attached to each of the iron plates, inserted into the wood and bent to opposite sides. The iron plates were attached to the short sides of the casket to hold a swinging handle at each side.

Casket Handles

Five cast copper alloy casket handles were found, all of the same arched type. This type of handle corresponds to the swinging and omega handles published in many archaeological reports. Three of these handles are intact and the other two are missing their ends. They vary between 5 and 11 cm in width. This handle type has a long tradition in antiquity and was riveted to different objects or vessels. On some of them the ends are ornamented with knobs or swan's heads shape and bent up to form a hook. These were hooked to rings or loops affixed to the caskets or vessel by cotter pins. Usually, one handle was attached vertically to the lid of the casket or two were fixed horizontally to the short sides of the casket. The five handles from Zeugma vary not only in size, but also in some of their details. Handles of different sizes do not belong to the same box, although handles of the same size but different in details might do so. In any case, we have sets of handles belonging to at least three boxes. One of the handles was found with a small ring inserted in one of its hooks; this ring would have originally also been attached to a cotter pin and then fastened to the casket.

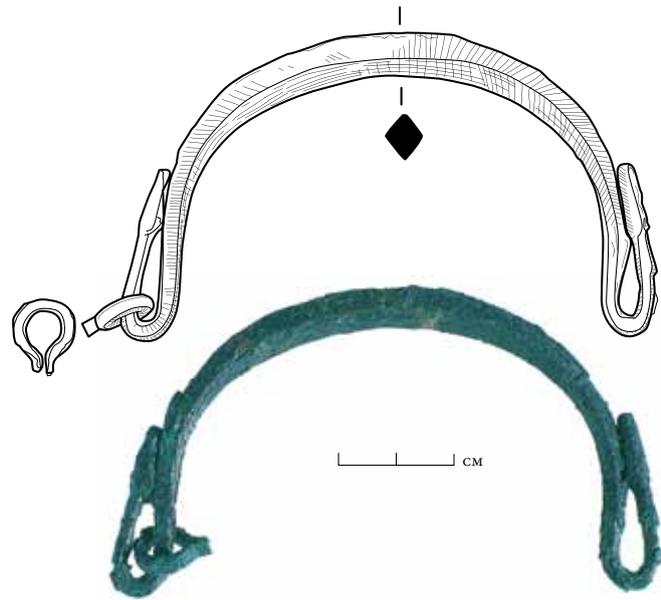


Figure 58. BR56. Drawing (top) and photo (bottom).

BR56 (SF 2103, context 2032)

Casket handle

W. 9.20 cm; H. 5.30 cm; max. Th. 0.70 cm

FIG. 58

Arched casket handle, rhombic in section, tapering to thinner, round-section ends. The ends bend upwards to form a hook in the shape of schematic swan's head shape, almost touching the outer surface of the main part. A small ring is inserted in one of the hooks. This ring was also originally attached to a cotter pin, similar to BR61, inserted into the casket. The handle is intact, cast, and heavily corroded. The surface is covered by green and black patina.

Similar handles have been found in many sites dated to the Roman period in the eastern Mediterranean: Olynthos (Robinson 1941, nos. 668–758); Corinth (Davidson 1952, nos. 897, Roman, and 899, Byzantine); Sardis (Waldbaum 1983, nos. 559–60, Roman and late Roman); the Emona necropolis in Slovenia (Petru 1972, pl. 38:13, Roman). In Samaria-Sebaste, Palestine, they were found in a second-century context: Kenyon 1957, fig. 107:9. In Natania, Israel, they have been found in Roman sarcophagi dated from the late second to mid-third centuries A.D.: Khamis 2004, fig. 16:2. Similar handles from the Roman period from Palestine are now in the Royal Ontario Museum: Hayes 1984, 267, 268. For others, see Wilson 2002, fig. 250:132–3; Hattatt 1989, pt. 2, no. 228; Fauduet 1992, nos. 170–7 (Roman); Borell 1989, no. 33. For a similar handle on a reconstructed wooden casket, see Arena et al. 2001, nos. 2.4.825–900 (Byzantine: sixth to seventh centuries A.D.).

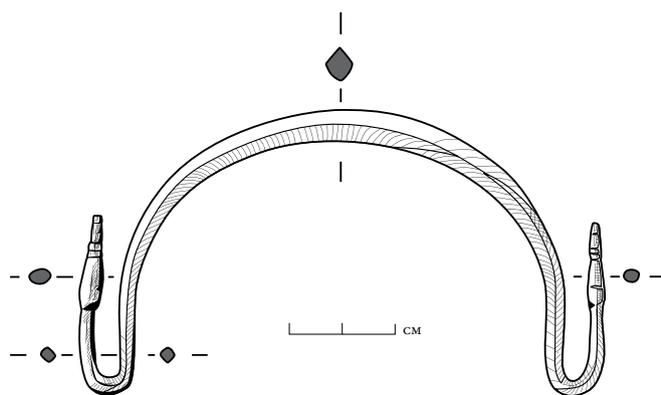


Figure 59. BR57.

BR57 (SF 3392, context 18070)

Casket handle

W. 9.80 cm; H. 5.50 cm; max. Th. 0.60 cm

Not later than A.D. 253

FIG. 59

Arched casket handle, of the same type as BR56, except that the ends have a conical shape, decorated with circular double lines below the tips. The handle is intact, partly corroded and covered with green patina.

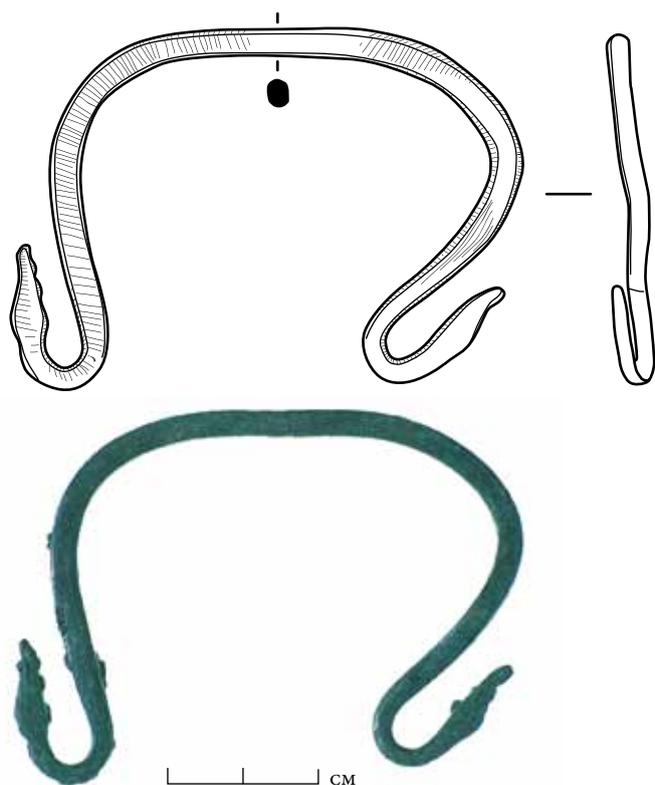


Figure 60. BR58. Drawing (top) and photo (bottom).

BR58 (SF 2326, context 2378)

Casket handle

W. 6.80 cm; H. 4.80 cm; max. Th. 0.35 cm

Mid-third century A.D.

FIG. 60

Arched casket handle, the same type as BR56, but the arch is deeper, omega-shaped, and the ends are beautifully finished in the shape of swan's heads. The handle is intact, well preserved, and covered by green and black patina.

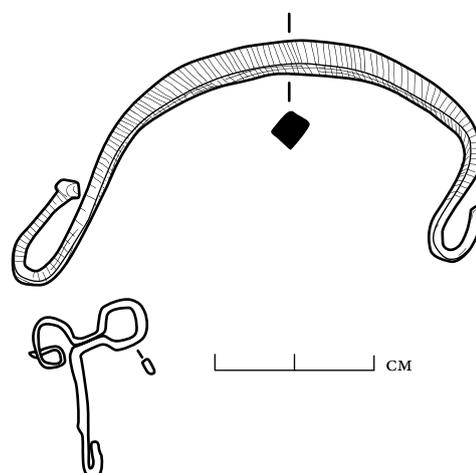


Figure 61. BR59.

BR59 (SF 2005a, context 2000)

Casket handle

W. 6.30 cm; H. 3.30 cm; max. Th. 0.50 cm

FIG. 61

Arched casket handle, the same type as BR56, but the ends are simple and one is missing. Although the handle is well preserved, it has been deformed. The surface covered by black and green patina. It was found together with cotter pin BR61.

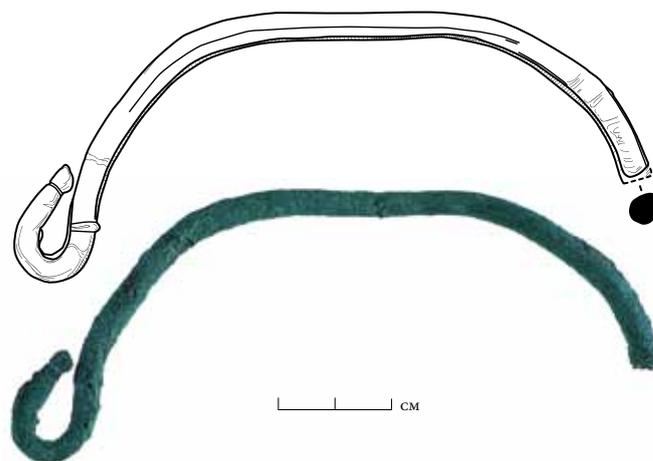


Figure 62. BR60. Drawing (top) and photo (bottom).

BR60 (SF 2312, context 2295)

Casket handle

W. 11.20 cm; H. 4.80 cm; max. Th. 0.45 cm

FIG. 62

Arched casket handle, the same type as BR56, but the ends are simple and one of them is broken. The handle is heavily corroded and covered with green patina.

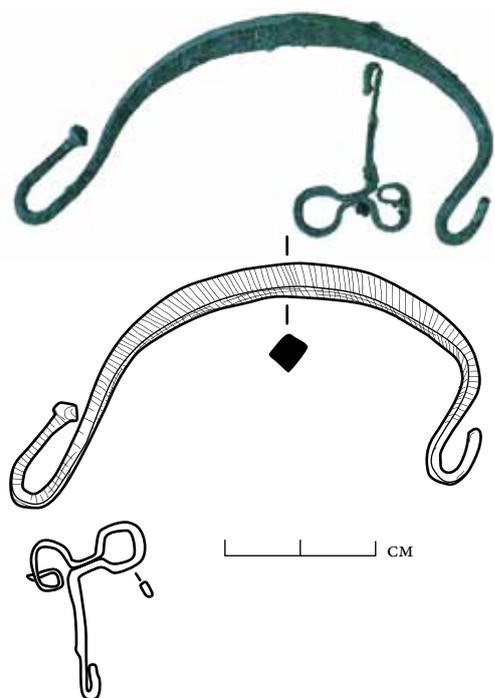


Figure 63. BR61. Drawing (bottom) and photo (top).

BR61 (SF 2005b, context 2000)

Cotter pin

L. 2.30 cm; W. 1.50 cm

FIG. 63

Cotter pin used to attach a casket handle (BR59), made from flat copper alloy wire folded in the middle to form a round loop with two extensions. These extensions were inserted into the wooden walls of the casket and, as one of its tips shows, they were bent into the wood. Well preserved; surface covered by green patina.

For similar cotter pins, see Seigne et al. 1986, pl. 14:8 (end of the third century A.D.); Robinson 1941, nos. 977–82; Arena et al. 2001, nos. 2.4.884, 2.4.887–901 (Byzantine). See also Boucher et al. 1980, no. 342.

Locks and Padlock Plates

BR62 (SF 2308, context 2295)

Cylindrical lock

Dia. 5.50 cm; H. 3.90 cm

FIG. 64

Cylindrical lock with walls made of copper alloy with iron disc plates covering the top and the bottom. The mechanical parts are enclosed inside the cylindrical box. The top side has three large iron nails, one keyhole, and a rectangular hasp hole. At the bottom are two holes for holding two bars, one of which is preserved in place. Almost intact, heavily corroded, and the surface covered by black and green patina.

A similar Roman type, made of iron and 6.50 cm in diameter, shows that this object was used to lock a chain: Kellner and Zahlhaas 1984, nos. 108–9. For a smaller lock,

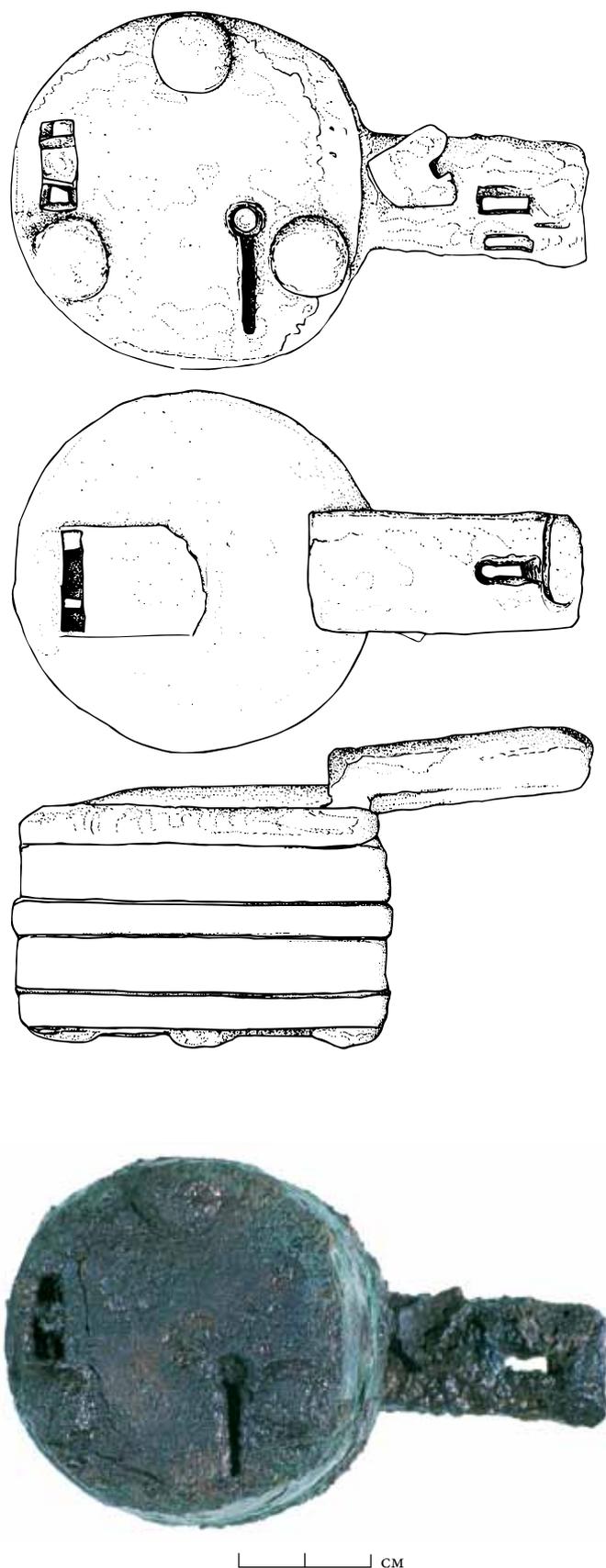


Figure 64. BR62. Drawing (top) and photo (bottom).

4.80 cm in diameter, with one keyhole and one hasp hole surrounded by three round nail holes, see Menzel 1964, no. 152 (probably second or third century A.D.). See also De Ridder 1915, no. 3538 (diameter 4.90 cm), 3539 (diameter 5.60 cm); British Museum 1929, fig. 161. For similar locks from the Byzantine period found at Sardis, see Waldbaum 1983, nos. 366–78.

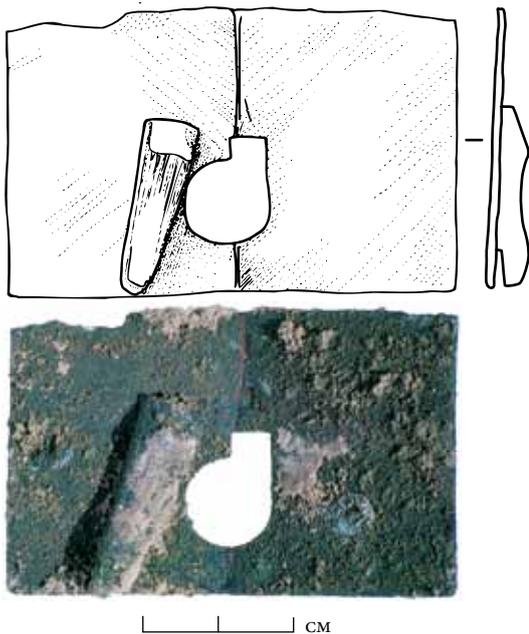


Figure 65. BR63. Drawing (top) and photo (bottom).

BR63 (SF 238, context 11028)

Padlock plate

L. 5.70 cm; W. 3.70 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 65

Rectangular padlock plate of a wooden casket. The lower part is missing. There is a keyhole in the center and next to it a rectangular hasp hole, part of the lock bar is still attached in its original place. The object is bent in the middle and well preserved. Heavily corroded, the surface covered by green patina.

Rectangular padlock plates of wooden caskets are well known since classical times and were found in many excavations: Waldbaum 1983, no. 358 (Byzantine); Zampieri and Lavarone 2000, no. 346 (Roman); Chavane 1975, no. 117 (Byzantine); Fauduet 1992, no. 116 (Roman); Seigne et al. 1986, pl. 14:2–3 (end of the third century A.D.).

BR64–BR65 (SF 2121a–b, context 2036)

Padlock plate

L. 11.40 cm; W. 5 cm; Th. 0.10 cm

FIG. 66

Parts of a round padlock plate for a wooden casket, preserved in two pieces. In the center a key hole and a rectangular hasp hole are partly preserved. At the margin there are small round holes for nails or rivets. At one edge a small copper alloy nail, with square head and square-sectioned shaft, has survived in situ (BR90). Another nail found with the object is catalogued below (BR88). Corroded and partly preserved; surface covered by green and black patina.

For Roman round padlock plates, see Russell 2001, fig. 4; Fauduet 1992, nos. 115, 130. For an early Byzantine example, see Waldbaum 1983, no. 385.

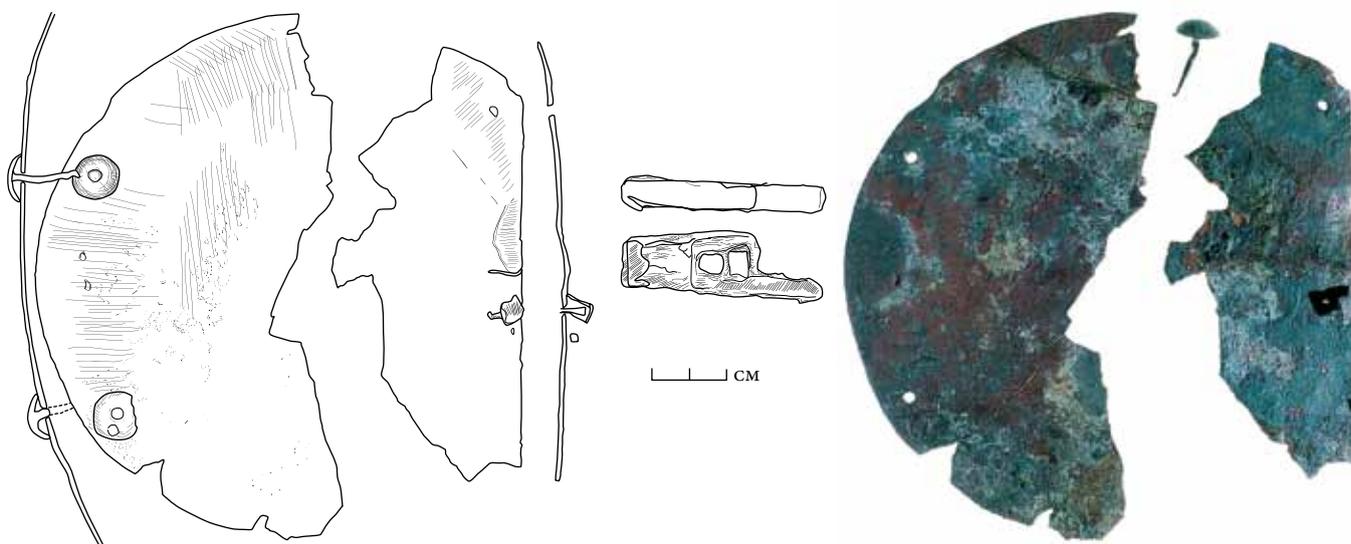


Figure 66. BR64–BR65. Drawings (left) and photos (right).

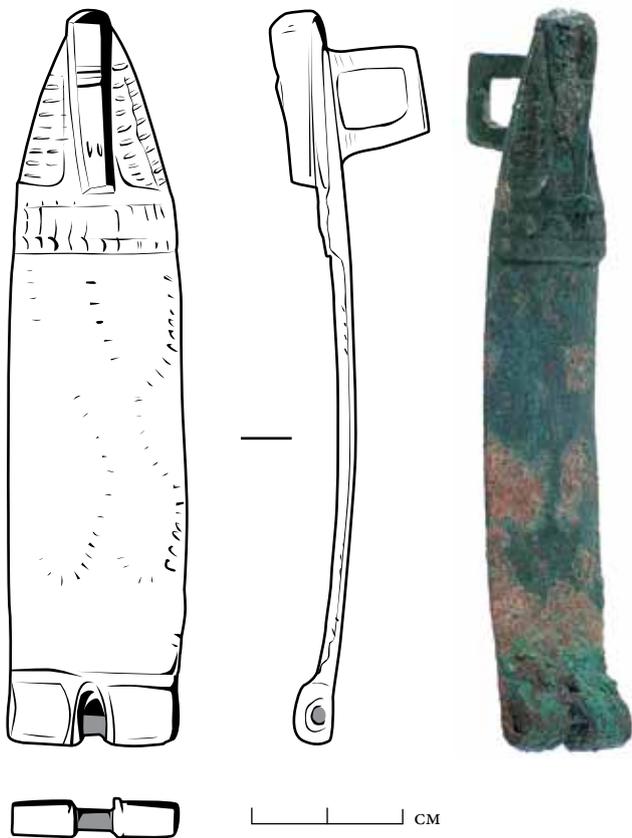
Hasps and Hinges

Figure 67. BR66. Drawing (left) and photo (right).

BR66 (SF 3395, context 18070)

Hasp

L. 9.80 cm; W. 2.20 cm; Th. 0.25 cm

Not later than A.D. 253

FIG. 67

Cast copper alloy hasp of a wooden casket, made from a broad, flat strip of copper alloy. At one end the strip is bent upward to form a hinge with an iron pin in it. The other end is triangular, with a thick rectangular projection at the top. This triangular part bears a beak-like knob in the center, schematically representing a duck's head. At the base of the triangle two grooves and short-stroke decorations fill its upper side. Shorter strokes decorate the upper side of the hinge and form a wavy pattern. Beneath the duck-head decoration, on the back of the hasp, is a square tab pierced by a square hole at right angles to the top of the strip. Through this tab could be passed the bolt of a small lock to secure the casket. Well preserved; surface covered by green patina.

This type is known from the early Roman period and has been found in many sites in the eastern Mediterranean: Kenyon 1957, fig. 107:1-2 (second century A.D.); Khamis 2004, fig. 16:1 (late second to mid-third century A.D.). Ploug and Oldenburg 1969, fig. 4:1 (found in undated context); Ploug 1985, fig. 52:a; Christensen et al. 1986, fig. 22:a (beginning of the second century A.D. to the third century A.D.); Hayes 1984, 307-9 (probably first or second century A.D., from Palestine).

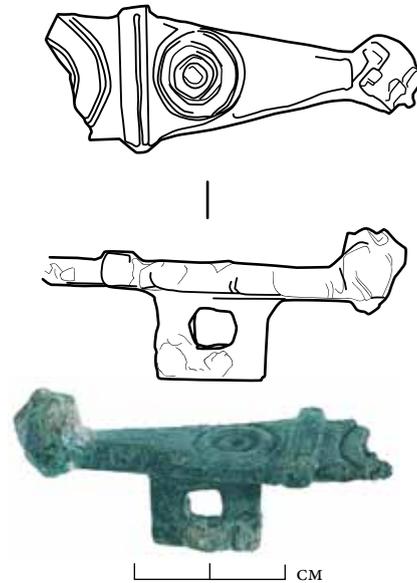


Figure 68. BR67. Drawing (top) and photo (bottom).

BR67 (SF 366, context 9108)

Hasp

L. 4.90 cm; W. 1.90 cm; Th. 0.30 cm

FIG. 68

The edge of a cast copper alloy hasp of wooden casket, triangular in shape with a spherical tip. The main part is missing. The thickened part is decorated with two incised lines separating the triangle from the main part. Groups of concentric circles decorate the upper side of the hinge. At the bottom is a hollow square projection used as a hasp, into which the latch could be inserted to lock the casket. Well preserved; surface covered by green and black patina.

For this type of hasp, see Christensen et al. 1986, fig. 35:h (third to sixth centuries A.D.); Dusenbery 1998, S156-2, S205-5 (first century A.D.); Goldman et al. 1950, pl. 265:78.

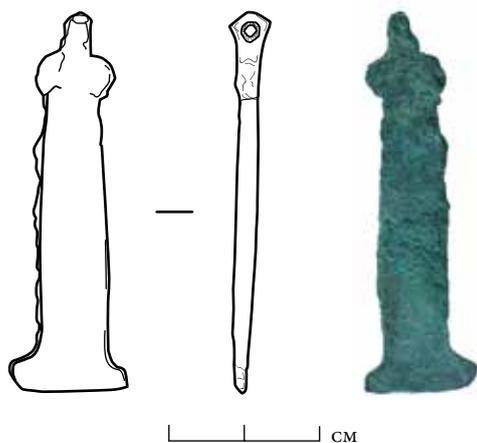


Figure 69. BR68. Drawing (left) and photo (right).

BR68 (SF 2169, context 2035)

Hinge

L. 5.10 cm; max. W. 1.80 cm; Th. 0.40 cm

FIG. 69

Flat cast copper alloy hinge of a wooden casket. One end is missing and the other end has a vertical extension with a small hole in it. This extension was fitted in between two other similar extensions, each with a small hole. A small, short bar, round in section, was inserted through the three holes to fasten them together to form a hinge. This piece comes from a wooden casket or a similar object. The object is well preserved, although heavily corroded. The surface covered by green patina.

BR69 (SF 2158, context 2001) = ML63

Decorative piece

Dia. 3.70 cm; H. 0.80 cm; Th. 0.10 cm

FIG. 70

Small, round, concave boss, decorated on the inside with double incised concentric groups of circular lines. Three other circular lines are on the outer wall below the rim. The object is partly damaged in the center. Similar objects have a small round hole in the center for inserting a nail to attach it to wooden casket. Partly preserved; surface covered by green patina.

For similar objects, one of which is still attached to the wood, dated to the Byzantine period, sixth to seventh centuries A.D., see Arena et al. 2001, nos. 2.4.827-30; Dusenberg 1998, XS-493 (probably fourth century B.C.); Robinson 1941, nos. 1110, 1112.

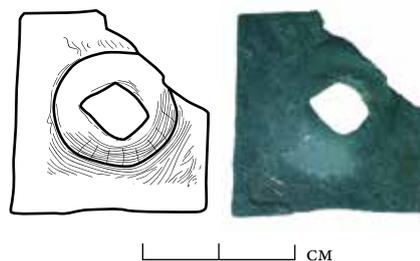


Figure 71. BR70. Drawing (left) and photo (right).

BR70 (SF 2059, context 2008) = ML66

Square plaque

L. 2.60 cm; W. 2.60 cm; Th. 0.10 cm

FIG. 71

Not later than A.D. 253

Square plaque used for wooden casket, one corner missing. It has a dome-shaped part in the center. A large square hole in the center attests to the shape of a square-section nail that was inserted in it. Well preserved; surface covered by black patina.

Plates and Sheets for Decorating and Covering Wooden Caskets

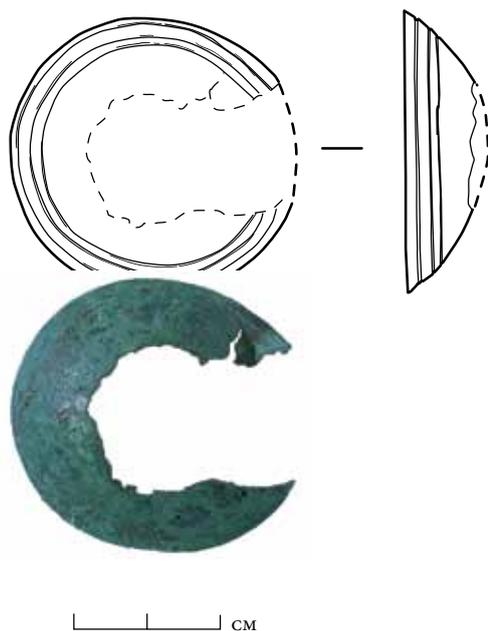


Figure 70. BR69. Drawing (top) and photo (bottom).

Bosses

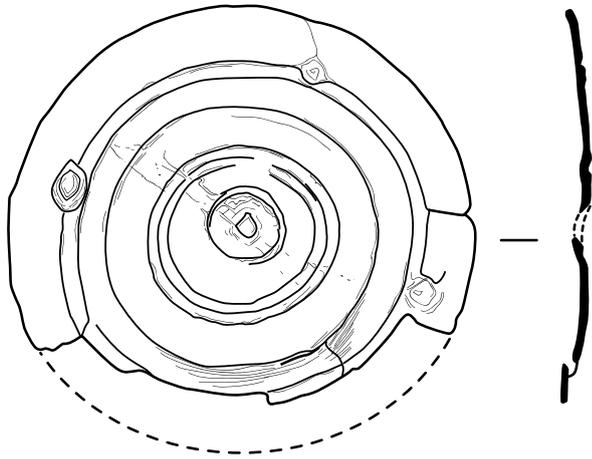


Figure 72. BR71. Drawing (top) and photo (bottom).

BR71 (SF 619, context 7023) = ML59

Round plaque

Dia. 6.10 cm; Th. 0.10 cm

FIG. 72

First century A.D.: Ceramic Group C (Flavian/Trajanic)

Round, flat plaque, used for decorating wooden casket or similar object, decorated with groups of concentric circles. One hole is in the center of the plaque and three more are arranged near the margin. The holes were used to insert fastening rivets. The plaque is deformed and the margin is partly damaged. The surface is covered by green and black patina.

This disc must have served as a decorative mounting on wood or leather. For similar round objects for decorating wooden caskets from the Roman period, see Ricci 1985, pl. 62:5; Waldbaum 1983, no. 874 (Hellenistic to late Roman); Goldman et al. 1950, pl. 266:100; Robinson 1941, nos. 1231-52; Arena et al. 2001, nos. 2.4.856-75 (Byzantine). See also Zampieri and Lavarone 2000, no. 330; Fauduet 1992, nos. 135, 138, 144a-b, 842-8, 859; Borell 1989, no. 176.

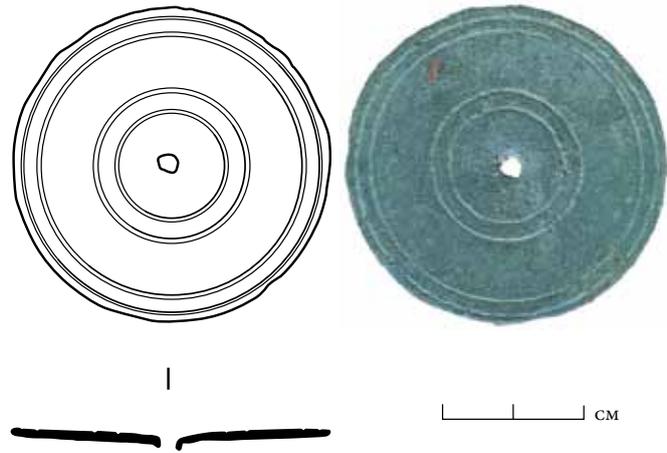


Figure 73. BR72. Drawing (left) and photo (right).

BR72 (SF 2111, context 2039) = ML56

Round plaque

Dia. 4.50 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 73

Round, flat plaque used for a wooden casket. The disc is decorated with two pairs of incised concentric circles, one at the margin and other in the center. A small round hole in the center was used for inserting a nail to apply the object to a wooden casket or similar object. Well preserved; surface covered by green patina.

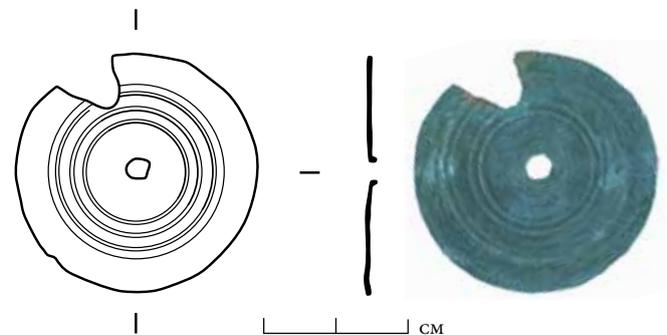


Figure 74. BR73. Drawing (left) and photo (right).

BR73 (SF 2330, context 2379) = ML57

Round plaque

Dia. 3.40 cm; Th. 0.05 cm

Not later than A.D. 253

FIG. 74

Round, flat plaque used for a wooden casket. The disc is decorated with two double incised concentric circles. A small round hole in the center was used for inserting a nail to attach the object to a wooden casket or a similar object. The margin is partly missing. Well preserved; surface covered by black patina.

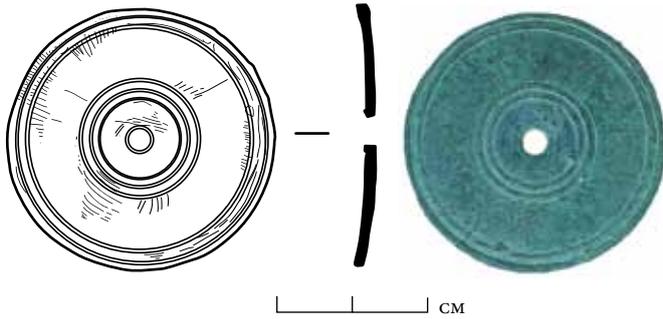


Figure 75. BR74. Drawing (left) and photo (right).

BR74 (SF 2370, context 2158) = ML58

Round plaque

Dia. 3.45 cm; Th. 0.10 cm

First century A.D.

FIG. 75

Round, flat plaque used for wooden casket. The disc is decorated with two pairs of incised concentric circles, one at the margins and the other in the center. A small round hole in the center was used for inserting a nail to apply the object to a wooden casket, or similar object. Well preserved; surface covered by green patina.

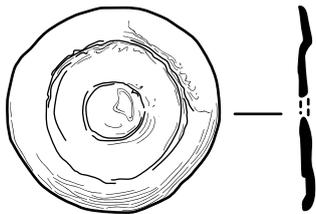


Figure 76. BR75.

BR75 (SF 792, context 9175) = ML64

Round plaque

Dia. 2.65 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 76

Round, thin plaque used for a wooden casket, sunken in the middle. In the center, a small hole for fastening a rivet. Well preserved; surface covered by green patina.

BR76 (SF 581, context 11054) = ML61

Round plaque

Dia. 2.80 cm; Th. 0.10 cm

Round plaque used for a wooden casket. A small round hole in the center was used to insert a fastening rivet. Partly damaged and heavily corroded; surface covered by green patina.

BR77 (SF 2277, context 2279) = ML60

Broken round plaque

Dia. 3.40 cm; Th. 0.15 cm

Round broken plaque used for a wooden casket. Heavily corroded; surface covered by green patina.

Repoussé Decorated Sheets

Copper alloy sheets, often in conjunction with ornamental studs and rivets, were apparently used to strengthen, protect and decorate a wide variety of items. Unfortunately, little of the material found can be assigned to specific

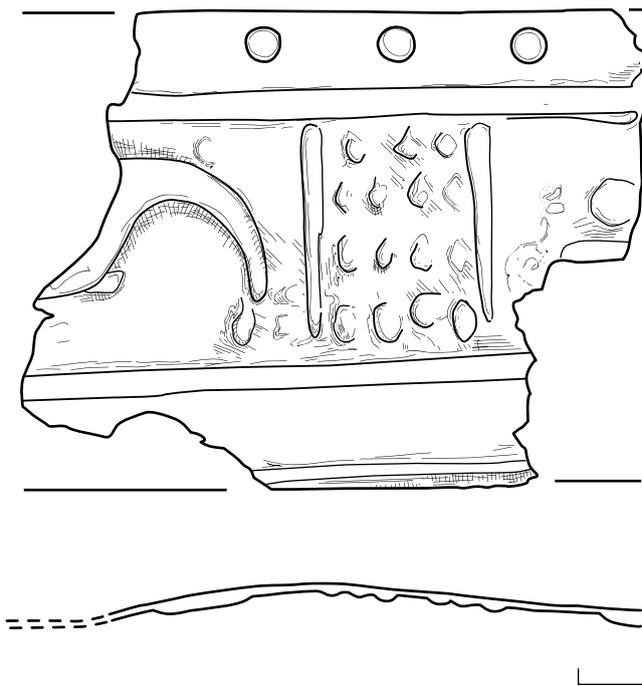


Figure 77. BR78. Drawing (left) and photo (right).



objects and, because of the fragmentary nature, there are only hints of the forms of decoration. This type of repoussé sheet-relief-decorated casket was especially widespread in the second and the third centuries in Pannonia and the area of the lower Rhine. These reliefs often depict mythological scenes. For a survey of repoussé reliefs decorating caskets, with bibliography, see Treister 2001, 323–4. For Roman caskets covered with copper alloy repoussé and plain sheets dated to the end of the fourth century A.D., see Faidier-Feytmans 1979, nos. 215–6. For decorative copper alloy strips from the Roman period, see Price 2000, fig. 2.15.

BR78 (SF 23, context 11034)

Decorated sheet

L. 8.20 cm; W. 6.30 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 77

Fragment of decorated sheet, probably used for covering a wooden casket. The repoussé decoration is in a frieze in the middle, between two thick, projecting parallel lines. The preserved part of this frieze is divided into three parts. The one in the center, which includes four rows of small bosses, is framed by two projecting, parallel lines. On the right side is a partly preserved depiction of a dolphin or cornucopia. On the left side the decoration is unclear. In the top part, over the decoration, are three large, round nail holes. Well preserved; surface covered by green patina.

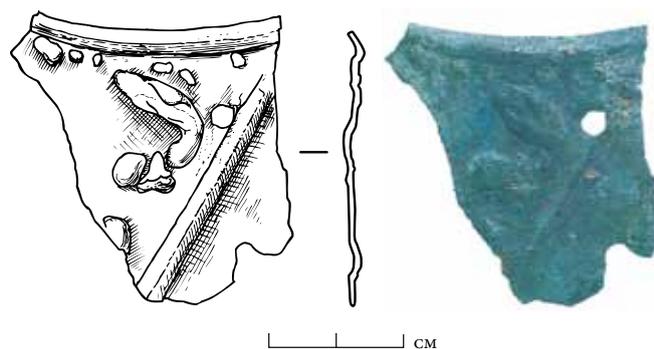


Figure 78. **BR79**. Drawing (left) and photo (right).

BR79 (SF 17, context 11040)

Fragment of decorated sheet

L. 4.90 cm; W. 4.55 cm; Th. 0.05 cm

FIG. 78

Fragment of decorated sheet, probably used for covering a wooden casket. Though the repoussé decoration is unclear, it appears to include a floral design or a bird eating from a bunch of grapes. One projecting line at the top and another curved at the bottom are framing the design. One round hole and traces of a second indicate that the sheet was attached to a wooden casket. Well preserved; surface covered by green patina.

BR80 (SF 2318, context 2275)

Decorated sheet

L. 6.50 cm; W. 4.80 cm; Th. 0.10 cm

Not later than A.D. 253

FIG. 79

Fragments of decorated sheet, probably used for covering a wooden casket. The main part of the decoration includes a

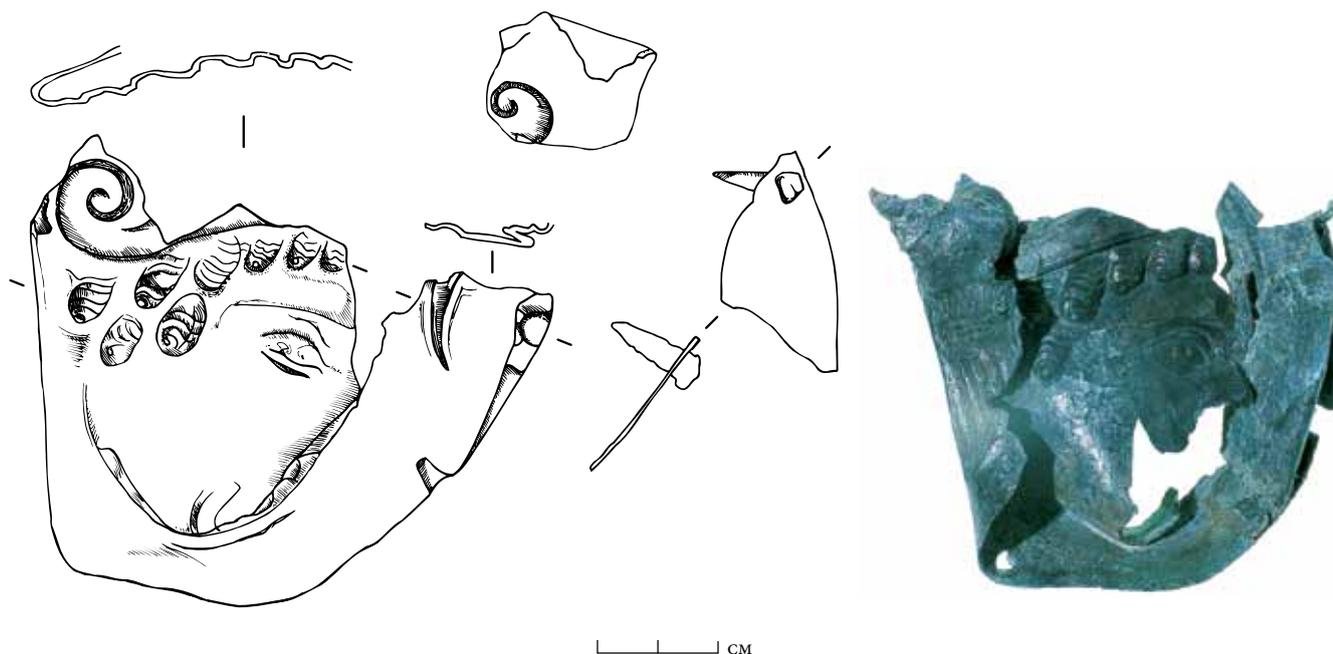


Figure 79. **BR80**. Drawing (left) and photo (right).

human face in profile: eye, eyebrow, and curly hair framed by elegantly scrolled line made in repoussé technique. Another piece is plain, with one small copper alloy nail inserted at the corner. The fragments are poorly preserved and heavily corroded, and the surface is covered by green and blue patina.

BR81 (SF 22, context 11034)

Decorated sheet

L. 5 cm; W. 3 cm; Th. 0.10 cm

Third to fourth century A.D.

Rectangular decorated sheet probably used for covering a wooden casket. The sheet is broken on two adjacent sides. At the narrow unbroken edge are two round nail holes, framed on one side by double parallel lines. The rest of the sheet is decorated with rows of small projecting bosses. Well preserved; surface covered by green patina.

Undecorated Sheets

BR82 (SF 713, context 9108)

Undecorated sheet

L. 4.60 cm; W. 3.10 cm

Fragment of undecorated copper alloy sheet, probably used for covering a wooden casket. At the bottom, traces of a thick layer of carbonized wood of a casket are still visible. A small nail with spherical head and square-sectioned shaft, similar to those found with fragments of casket **BR55**, was inserted into the copper alloy sheet and the carbonized wood. Surface covered by green patina.

For similar undecorated sheets, see Dusenbery 1998, XS-471.

Plates



Figure 80. **BR83**. Drawing (left) and photo (right).

BR83 (SF 621, context 7022) = **ML43**

Rectangular plate

L. 5.90 cm; W. 2.10 cm; Th. 0.05 cm

FIG. 80

Rectangular plaque with four rounded rivets heads at the corners, probably originally attached to leather, as a belt fitting, or wood. Intact; surface covered by green patina.

Similar types of plaques were used as parts that belong to Roman military equipment: Unz and Deschler-Erb 1997, nos. 1078–137, and Deschler-Erb 1999, nos. 322–3; Wilson 2002, fig. 283:35. For a similar plaque of later period, see Arena et al. 2001, no. I.12.7c (end of sixth century A.D.).

BR84 (SF 43, context 9000)

Round plate

Dia. 6.70 cm; Th. 0.20 cm

Probably after A.D. 253

FIG. 81

Undecorated plate, round and broken, probably used as a mirror, or a base of a bottle or other vessel with a rounded body. Partly preserved and corroded; surface covered by green patina.



CM

Figure 81. **BR84**.

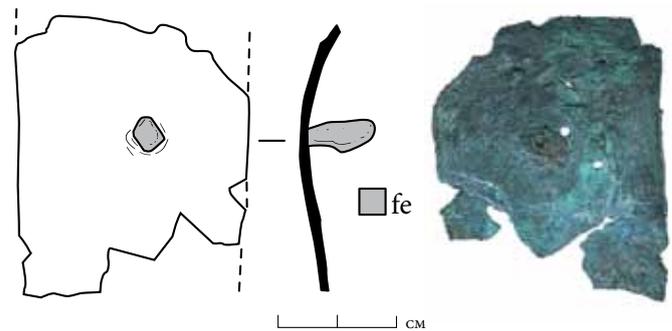


Figure 82. **BR85**. Drawing (left) and photo (right).

BR85 (SF 2311, context 2295) = **ML42**

Plate

L. 4.80 cm; W. 3.80 cm; Th. 0.15 cm

Not later than A.D. 253

FIG. 82

Amorphous copper alloy sheet with an iron nail in the center. Partly preserved and heavily corroded; surface covered by green patina.



Figure 82. **BR85**.

BR86 (SF 2307, context 2295) = **ML41**

Folded plate

W. 4.90 cm; L. 4.80 cm; Th. 0.05 cm

FIG. 83

Folded square plate with a nail hole in the center. Partly preserved; surface covered by green patina.

Bosses, Nails, Tacks and Pins

Several types of small nails, tacks, and pins were used for fastening wooden caskets, doors, and furniture. Some of them were found inserted in padlocks and decorative plates that belonged to caskets. All types of nails, tacks, and pins have square-sectioned shafts, and the only feature by which they can be divided into types is the shape of the head. The pins are the smallest; the only pin that was chosen for the catalogue has a typical small globular head square-section shaft. The tacks have larger heads, usually hollow and dome-shaped with a small diameter, no more than 1.50 cm. The nails are of four different types defined by the shape of the head. The first two types are relatively small; the first has a hollow domed head and the second a round, flat head. The other two nail types are larger and were used for fastening thicker and larger wooden objects. The first type is the well-known copper alloy nail with square head and long square-sectioned shaft. The second type has an iron shaft and a large decorative cast copper alloy head. All these types of nails, tacks, and pins are known in the classical period in Europe and the countries around the Mediterranean. In the catalogue the nails are described in order of size. Within each type the descriptions start with intact and well-preserved nails, followed by broken and damaged ones.

BR87 (SF 2317, context 2150)

Pin

L. 1.90 cm; Dia. (head) 0.80 cm

Round-headed pin. The shaft is square in section, with a broken tip. Well preserved; surface covered by green patina.

Pins of this type were used mainly as rivets for fastening wood caskets and other wooden objects. This type of pin was known to the Etruscans: Jurgeit 1999, nos. 295–6a–b. They were also used in hairdressing: for example, a false front of plaited hair from Egypt in which 62 copper alloy pins were inserted. This object is dated from the period of Trajan to A.D. 130–140: Petrie 1927, pl. 4. Similar pins were probably used as hairpins during the Roman period: Riha 1990, nos. 1495ff. For similar pins, see Waldbaum 1983, nos. 326–37; Davidson 1952, no. 1049 (Byzantine); Wilson 2002, fig. 257:215 (Roman); Webster 2002, nos. 106–11 (first century A.D.); Ricci 1985, pl. 60:4 (Roman); Arena et al. 2001, nos. 2.4.345–90 (Byzantine, sixth and seventh centuries A.D.); Price 2000, fig. 2.16:435 (medieval). See also Zampieri and Lavarone 2000, no. 336; Fauduet 1992, nos. 1303, 1309 (Roman); Boucher et al. 1980, no. 341.

BR88 (SF 2121d, context 2036)

Tack

L. 2.10 cm; Dia. (head) 1.20 cm

Tack, intact, with hollow, hemispherical head and square-sectioned head. The tip is bent and broken. Well preserved; surface covered by green patina. Found with padlock plate **BR64–BR65**.

For a similar copper alloy tack, see Davidson 1952, nos. 1039–41 (Byzantine period or later); Ploug 1985, fig. 51:v; Colt 1962, pl. 22:50 (seventh century A.D. or later); Kenyon 1957, fig. 109:6; Oldenstein 1976, nos. 451–71 (second to third century A.D.); Petru 1972, pl. 38:14 (Roman); Ricci 1985, pl. 61:9 (Roman). See also Boucher et al. 1980, nos. 718–37; Fauduet 1992, no. 1234 (Roman).

BR89 (SF 2313, context 2295)

Tack

L. 2.30 cm; Dia. (head) 1.30 cm

Nail with hollow hemispherical head and square-sectioned shaft. The shaft is partly missing. Well preserved; surface covered with green patina.

BR90 (SF 2121e, context 2036)

Tack

L. 0.70 cm; Dia. (head) 1.20 cm

Tack with hollow hemispherical head and square-sectioned shaft. The object is partly preserved (parts of the head and the shaft are missing); surface covered by green patina. Found with padlock plate **BR64–BR65**.



Figure 84. BR91.

BR91 (SF 2008, context 2001) = ML72

Tack

Dia. 1.30 cm; L. 0.80 cm

FIG. 84

Tack with hollow hemispherical head and square-sectioned shaft. The domed part is partly missing and the tip is broken. Heavily corroded; surface covered by green patina.



Figure 85. BR92.

BR92 (SF 88, context 5003)

Nail

Dia. 2.10 cm; L. 1.20 cm

FIG. 85

Nail with hollow hemispherical head and square-sectioned shaft. The shaft is partly missing. Well preserved; surface covered by green patina.



Figure 86. BR93.

BR93 (SF 738, context 5003)

Nail

Dia. 2.25 cm; L. 1.20 cm

Eighth to tenth centuries A.D.

FIG. 86

Nail with hollow hemispherical head and square-sectioned shaft. The shaft is partly missing. Partly damaged; surface covered with green patina.

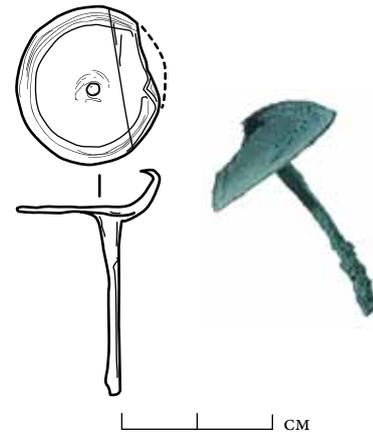


Figure 87. BR94. Drawing (left) and photo (right).

BR94 (SF 3402, context 18070) = ML74

Nail

Dia. 2.00 cm; L. 2.40 cm; Th. (head) 0.05 cm

Not later than A.D. 253

FIG. 87

Small nail consisting of a copper alloy disc with a circular groove at the margin and a hole in the center through which a small square-sectioned shaft was inserted. The tip is missing. Well preserved; surface covered by green patina.

This type is common at military sites: Webster 2002, no. 86 (first century A.D.); Dusenbery 1998, S265-1 (Roman period, before A.D. 50); Oldenstein 1976, nos. 528-9 (second to third centuries A.D.). For similar type of nails, see Khamis 2004, fig. 16:3 (late second to mid-third centuries A.D.); Davidson 1952, nos. 1043-4 (Roman-Byzantine); Goldman et al. 1950, pl. 264:9-14; Ricci 1985, pl. 61:4-7; Price 2000, fig. 2.16:452 (late fourth century A.D.). See also Zampieri and Lavarone 2000, nos. 331-2; Boucher et al. 1980, nos. 718-32; Fauduet 1992, nos. 1126, 1129 (Roman); Deschler-Erb 1999, nos. 849-55 (first century A.D.); Unz and Deschler-Erb 1996, nos. 2266-91.

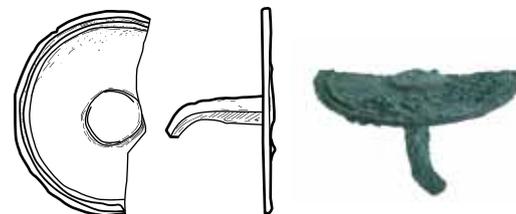


Figure 88. BR95. Drawing (left) and photo (right).

BR95 (SF 3401, context 18070) = ML73

Nail

Dia. 2.70 cm; L. 1.50 cm; Th. (head) 0.05 cm

Not later than A.D. 253

FIG. 88

Small nail with wide, flat, round head, partly missing. The shaft has a square section and a broken tip. Well preserved; surface covered by green patina.

It is known from many sites dated to this period: Ciarallo and De Carolis 1999, nos. 85–8, 101; Jurgeit 1999, no. 358; Zampieri and Lavarone 2000, nos. 337–8.



Figure 89. BR96.

BR96 (SF 3410, context 18070)

Nail

Dia. 1.60 cm; L. 2.70 cm; Th. (head) 0.05 cm

Not later than A.D. 253

FIG. 89

Small nail with wide, flat, round head, partly missing. The shaft has a square section and a broken tip. Well preserved; surface covered by green patina.

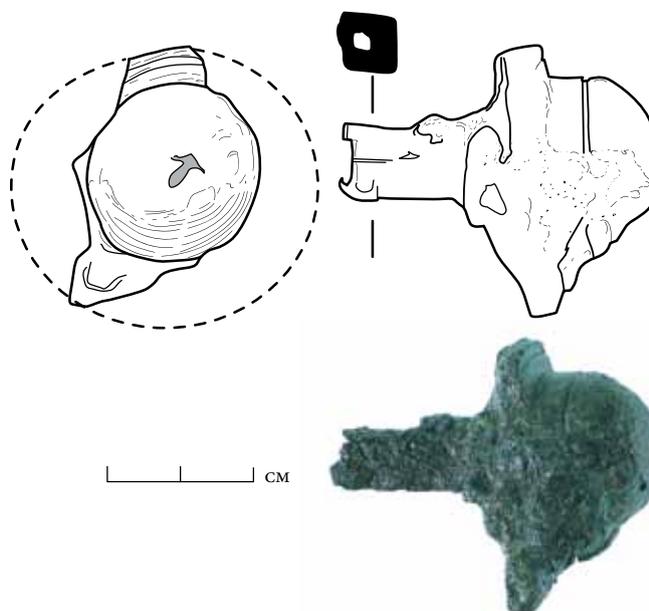


Figure 91. BR98. Drawing (top) and photo (bottom).

BR98 (SF 40, context 9000)

Boss with iron nail

L. 4.40 cm; Dia. (head) 3.70 cm

Probably after A.D. 253

FIG. 91

Iron nail, square in section, with cast decorative domed copper alloy head. It was probably used to fasten and decorate a wooden door. The nail's tip is broken and rusted. The copper alloy head is partly damaged. Surface covered by green patina.

For Roman copper alloy bosses, see Waldbaum 1983, nos. 258–9 (fourth century A.D.); Robinson 1941, no. 1169; Kohlert-Németh 1990, no. 22.

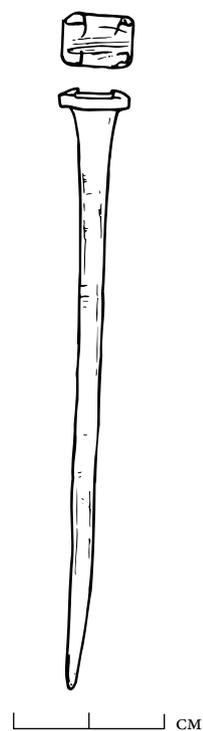


Figure 90. BR97.

BR97 (SF 886, context 7264)

Nail

L. 7.90 cm; head is 0.90 by 0.70 cm

Possibly second half of the fifth century A.D.

FIG. 90

Nail with long tapering shaft, square in section in the upper part and round in section in the lower. The head is small and rectangular. Intact, well preserved; surface covered by green patina.

This is the typical copper alloy nail of the classical times.



Figure 92. BR99.

BR99 (SF 92, context 5080)

Boss with iron nail

Dia. 2.00 cm; L. 0.90 cm

FIG. 92

Nail with hollow tapering head composed of two shallow domes, one upon the other, surmounted by a triangular

projection. The iron shaft is square in section and its lower part is missing. Well preserved; surface covered by green and black patina.

Chains

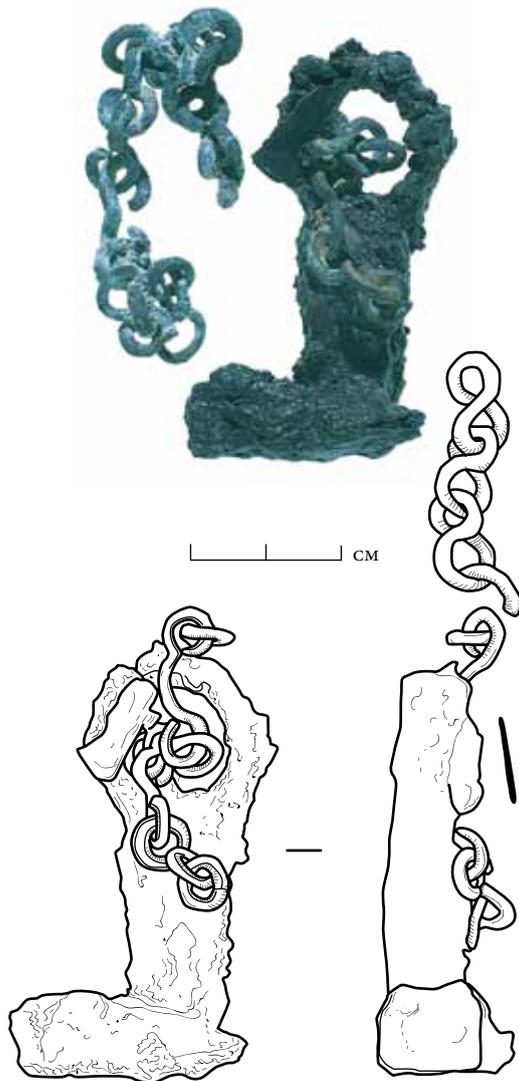


Figure 93. BR100. Drawing (bottom) and photo (top).

BR100 (SF 455b, context 9137)

Chain

Each chain link measures: L. 1.40 cm; W. 0.70 cm;
Th. 0.20 cm

Not later than A.D. 253

FIG. 93

Part of copper alloy chain formed from round-sectioned wire, creating figure-eight links twisted in the middle so that the two parts are perpendicular to each other. The chain is connected to a copper alloy plate, which was probably attached to a suspended object or vessel, and to an iron key (IR316). The chain links are well or poorly preserved. The surface is covered by green patina.

These two-eye link chains are the most common type in the classical period, found in countless excavations and in many cases attached to different objects. For similar chains from the Roman period, see Ploug 1985, fig. 52:h (Parthian: second to third centuries A.D.); Chavane 1975, nos. 205–8; Robinson 1941, nos. 253–61. See also Fauduet 1992, no. 153; Boucher et al. 1980, no. 616; Petrie 1927, pls. 4, 43:44; Richter 1915, no. 1850. From the Byzantine period, Arena et al. 2001, nos. I.12.9c, 2.4.1033–7.

BR101 (SF 394c, context 9138)

Chain

Each chain link measures: L. 2.10 cm; W. 1.25 cm; Th. 0.30 cm
Not later than A.D. 253

Part of a chain formed from round-sectioned wire, creating figure-eight links twisted in the middle so that the two parts are perpendicular to each other. Partly corroded; surface covered by green patina. Found with BR22.

BR102 (Trench 1 “test pit, level 1”)

Chain

L. 2.80 cm; W. 1.80 cm; Th. 0.40 cm

Part of a chain link formed from round-sectioned wire, creating a figure-eight link twisted in the middle so that the two parts are perpendicular to each other. Well preserved; surface covered by green patina.

Bells

BR103 (SF 3406, context 18072) = ML55

Small bell

H. 3.45 cm; Dia. 2.90 cm; Th. 0.20 cm

FIG. 94

Small conical bell with pentagonal suspension loop. Part of the iron clapper is preserved inside the bell. Intact, well preserved; surface covered by green and black patina.

For parallels, see Jurgeit 1999, no. 369 (Etruscan); Ciarallo and De Carolis 1999, nos. 350–1 (first century A.D.); Dusenbery 1998, XS-496 (probably the Roman Imperial period); Webster 2002, no. 121 (first century A.D.); Waldbaum 1983, no. 100 (sixth to seventh centuries A.D.); Boube-Piccot 1980, nos. 316–7, 322; Petrie 1927, pl. L. Similar bells may have been part of Roman horse harness: Van Enckevort and Willems 1994, fig. 7, and Unz and Deschler-Erb 1997, nos. 2353–5.

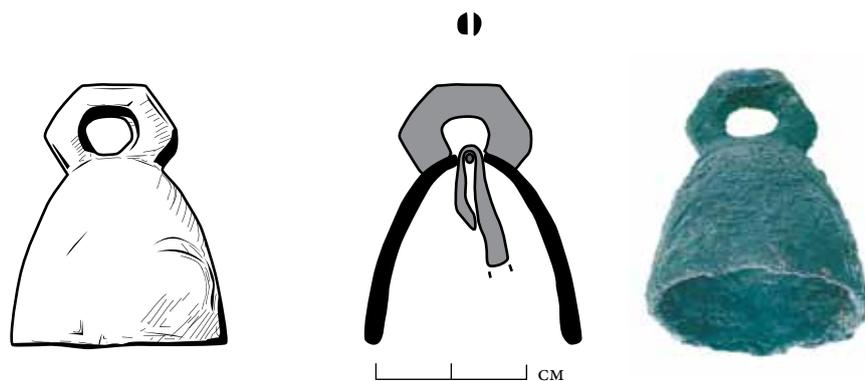


Figure 94. BR103. Drawing (left) and photo (right).



Figure 95. BR104.

BR104 (SF 2304, context 2283) = ML53

Small bell

Dia. 3.10 cm; H. 2.30 cm; Th. 0.15 cm

First century A.D.: Ceramic Group C
(Flavian/Trajanic)

FIG. 95

Small hemispherical bell with suspension loop at the top. Traces of the clapper are still visible inside the bell. Intact, well preserved, corroded; surface covered by black and green patina.

For small dome-shaped bells from the Roman period, see Christensen et al. 1986, fig. 35:d (third to fourth centuries A.D.); Robinson 1941, nos. 2609, 2614. From the Byzantine period, from the end of the sixth to the seventh century A.D.: see Arena et al. 2001, nos. 2.4.706–10, and Waldbaum 1983, no. 93; Ploug and Oldenburg 1969, fig. 32:8 (medieval). See also Borell 1989, no. 150; Boucher et al. 1980, nos. 400–7; Fauduet 1992, nos. 1057, 1060; Boube-Piccot 1980, nos. 312–3, 58:315; Richter 1915, nos. 1835–40.

BR105 (SF 465, context 9179) = ML54

Small bell

Dia. 1.80 cm; H. 1.20; Th. 1.50 cm

FIG. 96

Small dome-shaped bell with small round hole at the top for hanging the (missing) clapper. Intact, heavily corroded; surface covered by green and black patina.



Figure 96. BR105. Drawing (top) and photo (bottom).

Rings

Large quantities of rings were found in the excavations of Zeugma; 39 of them are included in the catalogue. They consist of various types of plain rings, round and elliptical, large and small, thin and thick. They have 20 different diameters. Half of them, with a diameter ranging between 2–2.50 cm, could have fitted a finger, but they were not necessarily used as cheap finger rings. These rings, or loops, fulfilled different functions. Most of them were used for connecting the different parts of objects, such as candelabra chains or steelyard for suspension. They were also used to attach handles and to fasten the parts of saddles and harnesses.

Similar rings have been found in sites dated from the classical period to the medieval times. It is almost impossible to date these rings unless they come from a dated context of a stratified excavation. For various types of plain rings, round and elliptical, large and small, thin and thick and with attached split rivet, see Robinson 1941, nos. 833–946; Chavane 1975, nos. 425–30, pl. 6:431–2; Waldbaum 1983, nos. 855–69 (Hellenistic-Ottoman); Goldman et al. 1950, pl. 265:51–2; Arena et al. 2001, nos. 2.4.332–8 (Byzantine); Dusenbery 1998, XS-496; Ploug and Oldenburg 1969, fig. 30:9–11, Layer A1 (A.D. 1302–1401) or Layer A2 (A.D. 1260–

1302), and fig. 30:11, Layer A1 or earlier. See also Zampieri and Lavarone 2000, no. 342 (large ring), 343a–b (rings with attached loop), 344a–g (plain round rings varying in section); Fauduet 1992, nos. 1397, 1415, 1417 (Roman); Boucher et al. 1980, nos. 544–615.



Figure 97. BR106.

BR106 (SF 456, context 9137) = ML45

Ring

Dia. 6.30 cm; Th. 1.10 cm

Not later than A.D. 253

FIG. 97

Large ring, round in section. Partly corroded; surface covered by black and brown patina.

BR107 (SF 931, unstratified) = ML46

Large ring

Dia. 6.05 cm; Th. 0.60 cm

FIG. 98

Large ring, elliptical in section. Well preserved; surface covered by green patina.

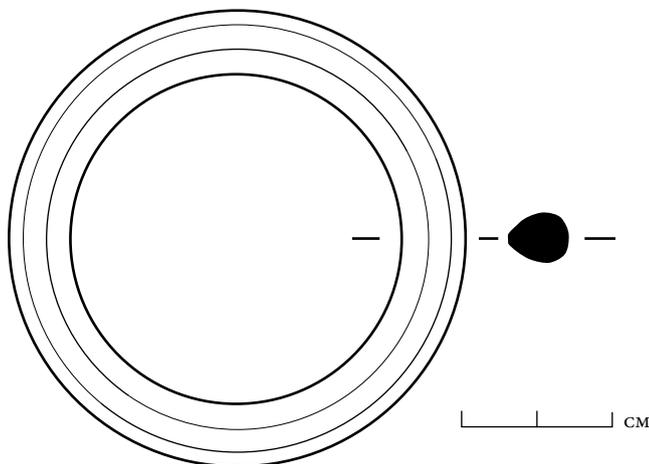


Figure 98. BR107. Drawing (left) and photo (right).

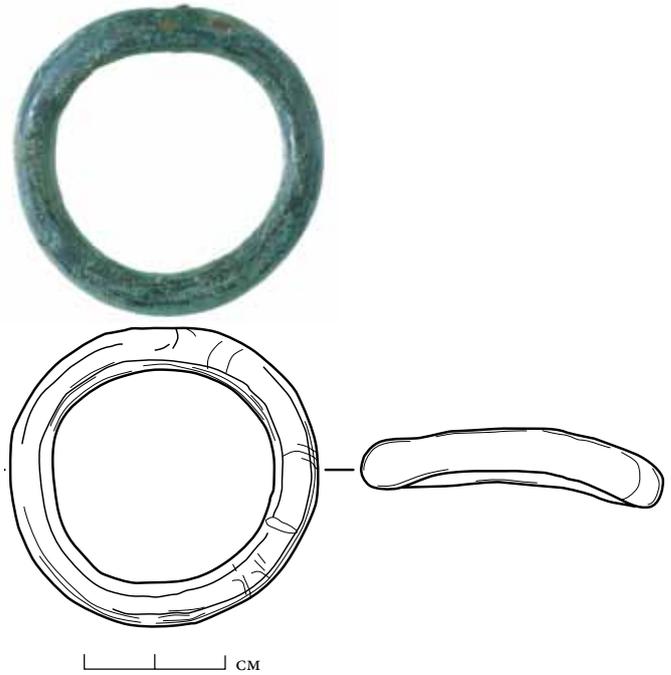


Figure 99. BR108. Drawing (bottom) and photo (top).

BR108 (SF 894, context 7327)

Ring

Dia. 4.40 cm; Th. 0.60 cm

FIG. 99

Large and deformed ring, round in section. Well preserved; surface covered by green and black patina.



Figure 100. BR109.

BR109 (SF 2166, context 2039)

Large ring

Dia. 4.40 cm; Th. 0.60 cm

Not later than A.D. 253; Ceramic

Group D (A.D. 253)

FIG. 100

Large and round ring, square in section. Well preserved; surface covered by green patina.



Figure 102. BR111.

BR110 (SF 701, context 9076)

Ring

Dia. 4.10 cm; Th. 0.60 cm

Not later than A.D. 253

Group D (A.D. 253)

FIG. 101

Large ring, round in section. Well preserved; surface covered by black patina.



Figure 101. BR110.

BR111 (SF 700, context 9076)

Ring

Dia. 3.80 cm; Th. 0.85 cm

Not later than A.D. 253

FIG. 102

Ring, round in section. Partly damaged; surface covered by black patina.



Figure 103. BR112.

BR112 (SF 457) context 9137)

Ring

Dia. 3.60 cm; Th. 0.40 cm

Not later than A.D. 253

FIG. 103

Large ring, square in section. Well preserved; surface covered by black patina.

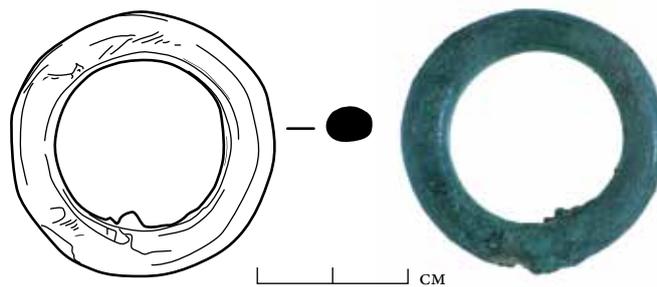


Figure 104. BR113. Drawing (left) and photo (right).

BR113 (SF 2331, context 2278)

Ring

Dia. 3.50 cm; Th. 0.50 cm

Not later than A.D. 253; Ceramic

Group D (A.D. 253)

FIG. 104

Thick ring, round in section. Partly corroded and damaged; surface covered by green patina.



Figure 105. BR114.

BR114 (SF 3404, context 18070)

Ring

Dia. 3.20 cm; Th. 0.30 cm

Not later than A.D. 253

Deformed large ring, round in section. Surface covered by green patina.

FIG. 105

BR115 vacant



Figure 106. BR116.

BR116 (SF 934, unstratified)

Ring

Dia. 3.00 cm; Th. 0.45 cm

Elliptical and open ring, rectangular in section. Well preserved; surface covered by green patina.

FIG. 106

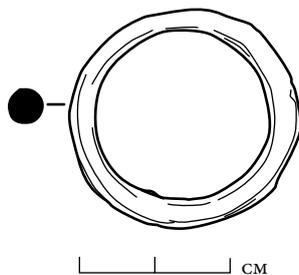


Figure 107. BR117.

BR117 (SF 2327, context 2278)

Ring

Dia. 3.00 cm; Th. 0.40 cm

Not later than A.D. 253; Ceramic

Group D (A.D. 253)

FIG. 107

Round ring, round in section. Heavily corroded and damaged; surface covered by green patina.



Figure 108. BR118.

BR118 (SF 101, context 9073)

Flat ring

Dia. 3.00 cm; Th. 0.30 cm

Not later than A.D. 253

FIG. 108

Flat, plain and round ring with rectangular section. The top is decorated with double circular grooves. Well preserved, surface covered by green and black patina.



Figure 109. BR119.

BR119 (SF 578, context 11104)

Ring

Dia. 2.70 cm; Th. 0.30 cm

FIG. 109

Ring, polygonal in section. Well preserved; surface covered by green and black patina.

BR120 (SF 3152, context 9227)

Ring

Dia. 2.50 cm; Th. 0.20 cm

Fragment of ring, round in section. Partly preserved; surface covered by green and black patina.



Figure 110. BR121.

BR121 (SF 3407, context 18070)

Ring

Dia. 2.45 cm; Th. 0.30 cm

Not later than A.D. 253

FIG. 110

Ring, round in section. Partly corroded; surface covered by green patina.



Figure 111. BR122.

BR122 (SF 391, context 9138)

Ring

Dia. 2.40 cm; Th. 0.50 cm

Not later than A.D. 253

FIG. 111

Ring, round in section, with iron loop attached to it. Heavily corroded; surface covered by green patina.



Figure 112. BR123.

BR123 (SF 827, context 9195)

Ring

Dia. 2.40 cm; Th. 0.35 cm

Not later than A.D. 253

FIG. 112

Ring, rectangular in section. Well preserved; surface covered by black patina.



Figure 113. BR124.

BR124 (SF 102, context 9073)

Ring

Dia. 2.30 cm; Th. 0.40 cm

Not later than A.D. 253

FIG. 113

Ring, square in section. Well preserved; surface covered by green and black patina.

BR125 (SF 2113, context 2039)

Ring

Dia. 2.30 cm; Th. 0.20 cm

Not later than A.D. 253; Ceramic Group D (A.D. 253)

Round, plain ring with rectangular section. Partly damaged due to corrosion; surface covered by green patina.

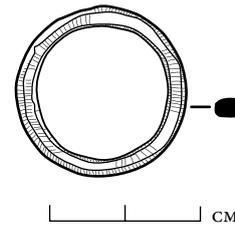


Figure 114. BR126.

BR126 (SF 2262, context 2243)

Ring

Dia. 2.20 cm; Th. 0.30 cm

FIG. 114

Round and plain ring, square in section, varying in thickness. Well preserved; surface covered by green patina.



Figure 115. BR127.

BR127 (SF 3083, context 11066)

Ring

Dia. 2.20 cm; Th. 0.40 cm

FIG. 115

Ring, round in section. Partly corroded and damaged; surface covered by black patina.

BR128 (SF 1002, context 1010)

Ring

Dia. 2.20 cm; Th. 0.30 cm

Eight to tenth centuries A.D.: cf. Kenrick's Group G (Islamic)

Plain ring, round in section. Badly corroded; surface covered by green and black patina.



Figure 116. BR129.

BR129 (SF 491, context 7028)

Ring

Dia. 2.20 cm; Th. 0.30 cm

FIG. 116

Ring, rectangular in section. Partly corroded; surface covered by green patina.



Figure 117. BR130.

BR130 (SF 464, context 9179)

Ring

Dia. 2.20 cm; Th. 0.40 cm

FIG. 117

Ring, rectangular in section. Well preserved; surface covered by green and black patina.



Figure 118. BR131.

BR131 (SF 3394, context 18070)

Ring

Dia. 2.10 cm; Th. 0.30 cm

Middle of the third century A.D.

FIG. 118

Ring, square in section. Well preserved; surface covered by green patina.



Figure 119. BR132.

BR132 (SF 100, context 9073)

Ring

Dia. 2.10 cm; Th. 0.30 cm

Not later than A.D. 253

FIG. 119

Ring, square in section. Well preserved; surface covered by black patina.



Figure 120. BR133.

BR133 (SF 451, context 9137)

Ring

Dia. 2.10 cm; Th. 0.35 cm

Not later than A.D. 253

FIG. 120

Ring, square in section. Well preserved; surface covered by green and black patina.

BR134 (SF 2010, context 2002)

Ring

Dia. 2.10 cm; Th. 0.50 cm

Round, plain ring with round section. Ring badly damaged and deformed due to heavy corrosion. The surface is covered by green patina.

BR135 (SF 2069, context 2011)

Ring

Dia. 2.00 cm; Th. 0.30 cm

Round, plain ring with round section. Traces of iron corrosion, probably from attached iron object. Well preserved; surface covered by green patina.

BR136 (SF 2270, context 2263)

Two rings

Large ring: Dia. 2.00 cm; Th. 0.30 cm

Small ring: Dia. 1.50 cm; Th. 0.30 cm

Two round rings connected by corrosion, one inside the other. The large ring is square in section and varying in thickness. The smaller is triangular in section. Both are well preserved; surface covered by green patina. The traces of iron corrosion on both rings are probably from attached, missing iron object.

BR137 (SF 2040, context 2000)

Ring

Dia. 1.90 cm; Th. 0.25 cm

Round, plain ring with shapeless section. Well preserved; surface covered by black patina.

BR138 (SF 2063, context 2008)

Ring with a loop

Dia. 1.90 cm; Th. 0.30 cm

Not later than A.D. 253

Round ring, square in section. The ring is attached to a broken loop of leaf-shaped plate. This plate was probably attached to a copper alloy vessel with chains, such as a scales pan. The copper alloy ring is corroded and partly damaged. The leaf-shaped plate is broken and crumbling. The surface covered by green and black patina.

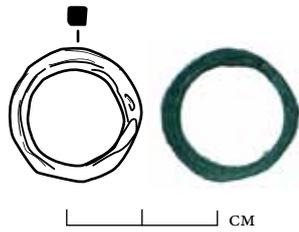


Figure 121. **BR139**. Drawing (left) and photo (right).

BR139 (SF 2237, unstratified)

Ring

Dia. 1.70 cm; Th. 0.25 cm

FIG. 121

Small ring, square in section. Well preserved; surface covered by green patina.

BR140 (SF 127, context 9074)

Ring

Dia. 1.50 cm; Th. 0.50 cm

Small ring, square in section. Cracked; surface covered by green patina.

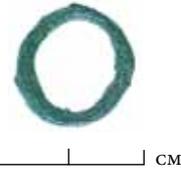


Figure 122. **BR141**.

BR141 (SF 4002, context 10015)

Ring

Dia. 1.60 cm; Th. 0.35 cm

FIG. 122

Ring, elliptical in section. Well preserved; surface covered by green patina.

BR142 (SF 3383, context 18070)

Ring

Dia. 1.25 cm; Th. 0.20 cm

Not later than A.D. 253

Small ring, square in section. Well preserved; surface covered by green patina.

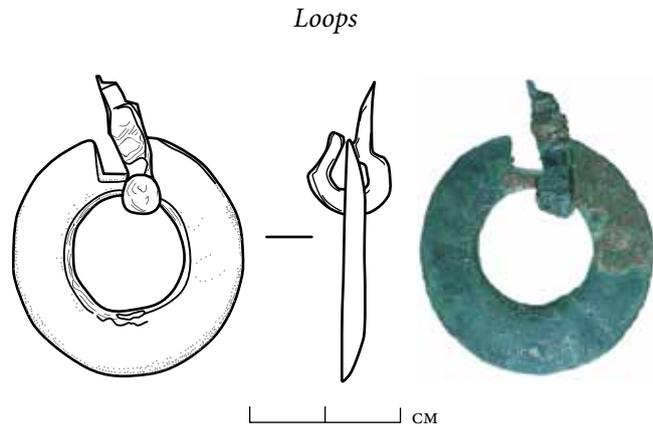


Figure 123. **BR143**. Drawing (left) and photo (right).

BR143 (SF 2297, context 2294)

Loop

Dia. 3.00 cm; Th. 0.25 cm

FIG. 123

Round object with large hole cut out in the center. It has flat bottom and a curved top. There is a small recess on the outer side, to which a broken loop is attached, which seems to be for fastening a loop. The function of this object is unclear. Well preserved; surface is covered by black patina.

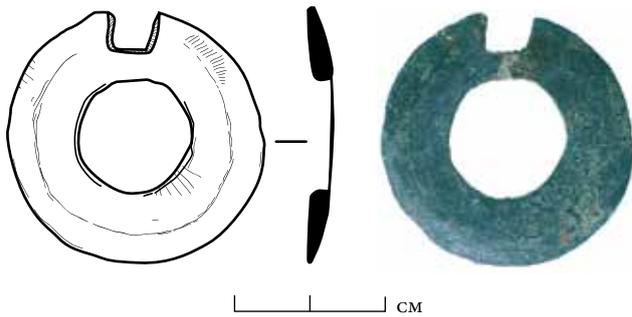


Figure 124. BR144. Drawing (left) and photo (right).

BR144 (SF 2244, context 2255)

Loop

Dia. 3.00 cm; Th. 0.25 cm

FIG. 124

Round object, similar to loop BR143, but without the attached copper alloy loop. The object is well preserved with black patina covering the surface. These two objects were found adjacent to each other, and were possibly used together.

Furniture Fittings

BR145 (SF 3393, context 18070)

Furniture fitting

Dia. 4.90 cm; H. 1.70 cm; Th. 0.50 cm

Not later than A.D. 253

FIG. 125

Hollow cylindrical object with flaring walls and flat base. Two round ribs run along the outer wall. The object, which is similar in shape to the base of a classical column, was probably used as furniture fitting, like one of the bases for the candelabrum BR20, or the base of a statuette. The flat base is decorated with two groups of double concentric grooves. Well preserved; surface covered by black patina.

For similar base of copper alloy statue, see Fleischer 1967, no. 295; Boucher et al. 1980, nos. 295–300.

BR146 (SF 793, context 9175)

Base of statuette

Dia. (base): 3.80 cm; Dia. (top): 3.80 cm; H. 2.90 cm; Th.

0.40 cm

Not later than A.D. 253

FIG. 126

Cast base of statuette. The wall is concave and decorated with a molded profile. The upper part is flat with projecting copper alloy traces, probably from statue's feet. Well preserved; surface covered by green patina.

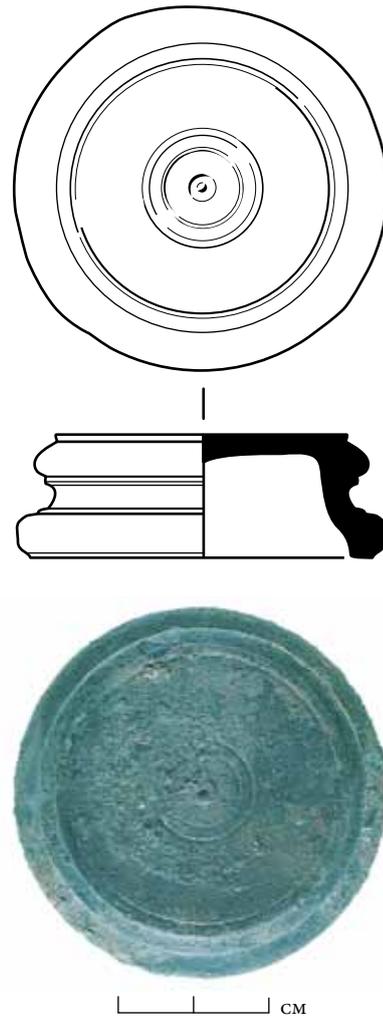


Figure 125. BR145. Drawing (top) and photo (bottom).

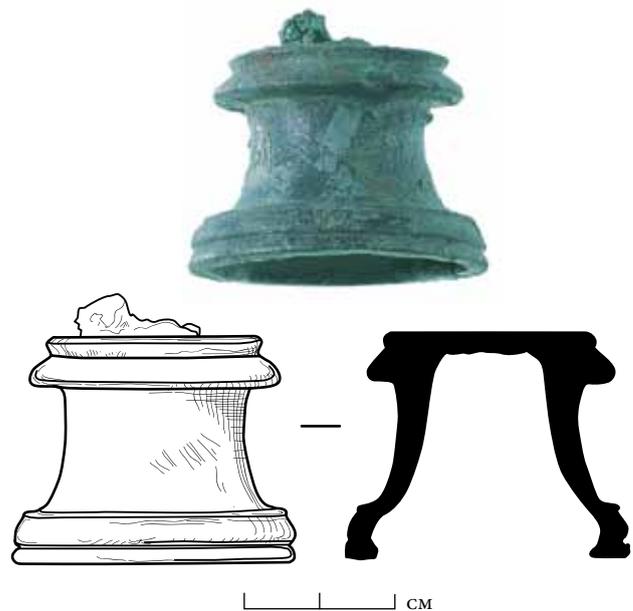


Figure 126. BR146. Drawing (bottom) and photo (top).

BR147 (SF 865, context 18070)

Furniture fitting

Dia. 3.80 cm; H. 1.30; Th. 0.70 cm

Not later than A.D. 253

FIG. 127

Shallow cylindrical object with thick wall, concave on the outside. On the inside the traces of the cast were not filed away. Well preserved; surface covered by green patina.

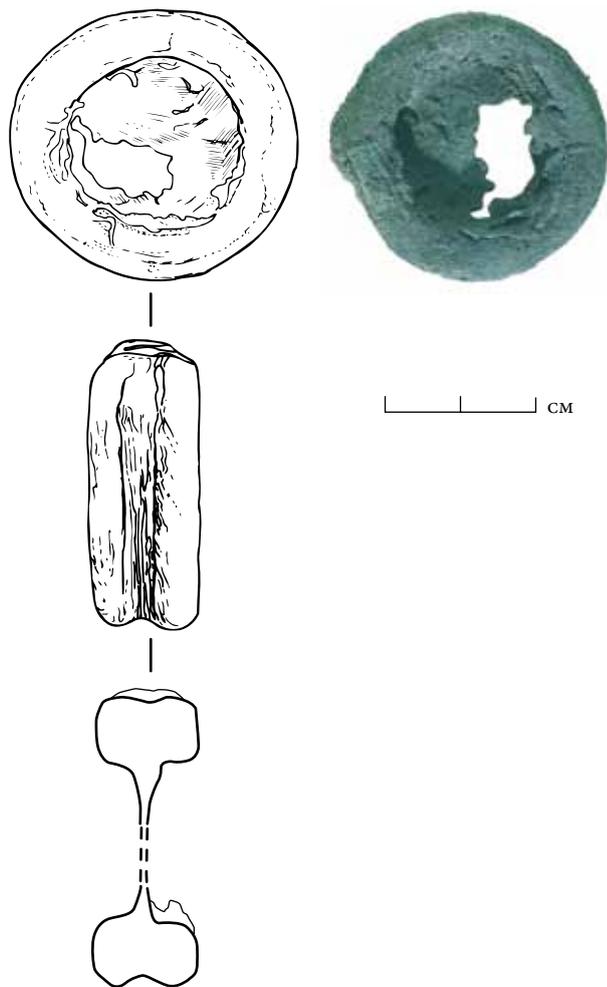


Figure 127. BR147. Drawing (left) and photo (right).

Figural Fittings

BR148 (SF 726, context 9110)

Bust of Dionysus

FIG. 128

H. 7.30 cm; W. 3.30 cm; L. (projection): 3.80 cm

Cast schematic bust of Dionysus on a small square pedestal. He has long curly hair, parted in the middle and gathered in a bun on the nape. Around the head are schematic vine leaves and probably a bunch of grapes, surmounted by a bud. A diagonal strip is wrapped over the chest and the left shoulder and schematically represents the nebris, an animal skin. A horizontal bar, rectangular in section, projecting from the neck was used as a support for a plate or tray. The lower part shows signs of having been broken and disconnected from another attached object. Intact, well preserved; surface covered by green patina.

Busts of Dionysus were used to ornament the upper parts of folding tripods. This type of tripod is well known from all over the Roman Empire. It consists of three feet joined together, each foot surmounted by a figural decorative fitting with a support projection from the back. The bust was cast separately and was attached to the top of the foot. These fittings usually supported a tray or a large bowl. The figural decorative busts portray different subjects, among which the Dionysus theme is predominant. Although the bust from Zeugma is one of the most schematic examples of this type, it shares some features with the other examples. The principal characteristics of the type are a figure blossoming out from a square base, hair gathered in a bun on the nape of the neck, vine leaves around the face surmounted by a bud, and an animal skin over the left shoulder. They normally range between 7 and 11 cm tall. Because of their decorative nature, they were sometimes removed from damaged tripods and displayed independently or put to other uses.

For this type of Dionysus bust and tripod stand, see Manfrini-Aragno 1987, nos. 177–211; Menzel 1986, no. 486 (the author mentions that it was broken from the tripod and used as a weight); Kaufmann-Heinimann 1977, no. 189; Menzel 1964, no. 67. For tripod busts of Dionysus supporting a deep bowl, see Stefanelli 1990, nos. 15–7. For more tripods with figural busts, Babelon and Blanchet 1895, nos. 486–7; Edgar 1904, nos. 27.823 (a bust of Dionysus, 7.50 cm high), 27.818 (a folding tripod with a bust); Wamaser et al. 2000, fig. 140; De Ridder 1913, no. 819 (8 cm high); Boube-Piccot 1975, pl. 77.

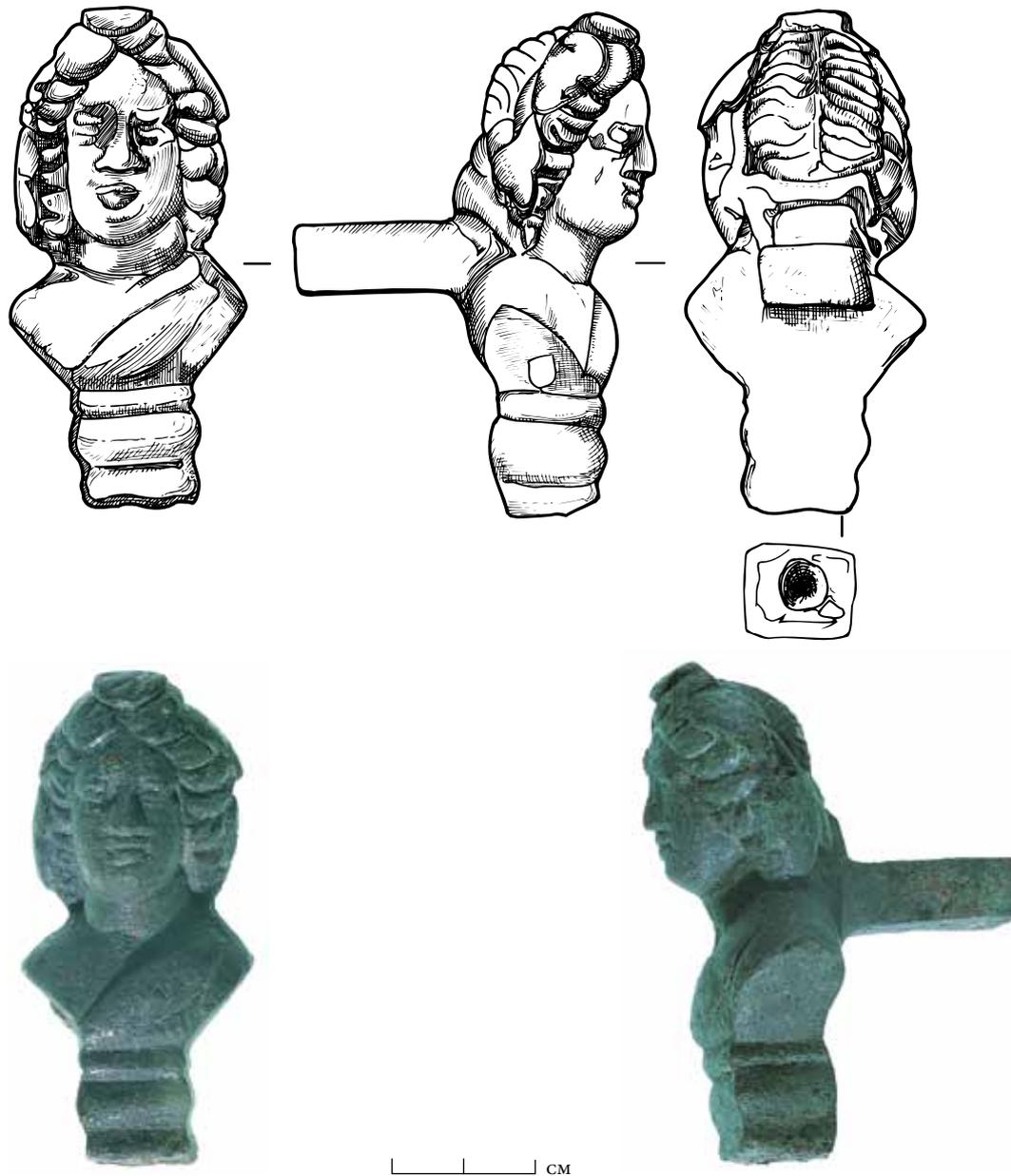


Figure 128. BR148. Drawing (top) and photo (bottom).

BR149 (SF 685, context 5048)

Figural fitting

H. 6.65 cm; W. 3.55 cm; Th. 1.30 cm; L. (projection): 4 cm

Sixth to seventh centuries A.D.: Ceramic

Group E (early sixth century A.D.)

FIG. 129

Decorative, cast foot for a copper alloy vessel, such as brazier or incense burner. The front has the shape of a tragic mask with hollow eyes and a horizontal figure-eight-shaped mouth. The face is framed by curly hair. The hair consists of three superimposed curls on the left and right sides and three single curls over the forehead. The eyebrows are wide

and thick. Double curved lines frame the neck. Above the forehead curls are double arched curves, with three and four dots in each, framing the hair. Under the mask are three deeply incised lines framing a decoration composed of zigzag or triangles filled with dots. The same design continues on the back, just below a horizontal projection that supported the vessel. There are traces of lead/tin solder at the top of the support projection, indicating that it was originally attached to the base of a metal vessel. Intact, well preserved; surface covered by green and brown patina.



Figure 129. BR149.



Figure 130. BR150.

BR150 (SF 2336, context 2376)

Lion's head mask

Dia. 6.60 cm; H. 3.60 cm; Th. 0.30 cm

Not later than A.D. 253; Ceramic Group D (A.D. 253)

FIG. 130

Cast fitting with relief of naturalistic and detailed lion's head. Two iron loops fixed to the flat margins around the head, one in the upper part and the other in the lower, were used to attach the decorative piece to wooden furniture. A small part of the margin is missing. Well preserved; surface covered by green and brown patina.

For various Roman lion's head attachments, see Menzel 1986, nos. 350, 357; Menzel 1966, nos. 140, 149; Boucher et al. 1980, no. 314; Babelon and Blanchet 1895, nos. 1116–20; Boube-Piccot 1975, pls. 157–8, 221–2. The horse trappings formed of nine plates and a buckle, from the British Museum, mentioned in BR28, include three circular plates embossed with lion's heads similar to BR150: Dalton 1901, 338. For a possible military use of similar item from Bulgaria, see Junkelmann 2000, 200–1 (first to second century A.D.).

BR151 (SF 831, context 9195)

Lion's head

L. 3.60 cm; W. 3.60 cm; Th. 0.30 cm

Not later than A.D. 253

FIG. 131

Hollow cast copper alloy miniature fountain in the shape of naturalistic lion or lioness head. A spout protrudes from the open mouth. The features are well executed, including the incised eye pupils and details of the nose, ears, and hair. Intact, almost well preserved (some damage caused by some spots of green corrosion); surface covered by green and black patina.

This item could be used as a spigot for bronze vessels such as *Authepsae*: Buck 2002, fig. 5:1A and fig. 7:1; Kaufmann-Heinimann 1994, no. 263. It could be also used as roundel, as in the case of an inlaid folding camp stool from the Shelby White and Leon Levy collection: Simon 2002, 549–53. For a similar lion's head, see Comstock and Vermeule 1971, no. 561. For other lion's heads, see Menzel 1966, nos. 140–52.

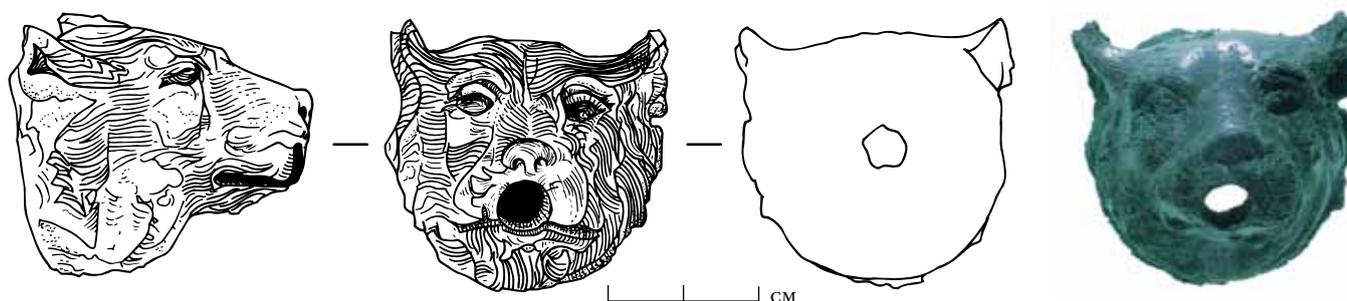


Figure 131. BR151. Drawing (left) and photo (right).

BR152 (SF 2223, context 2043)

Miniature mask

Dia. 3.30 cm; H. 1.55 cm; Th. 0.10 cm

FIG. 132

Miniature cast copper alloy comic mask. The details of the mask are roughly executed and stressed with heavy lines. Above the head is preserved a thin copper alloy strip for attaching the mask to an object. Intact, well preserved; surface covered by green, black and brown patina.

For Roman comic and tragic masks, see Petit 1980, nos. 64–9; Babelon and Blanchet 1895, nos. 992–1008.



Figure 132. BR152. Drawing (bottom) and photo (top).

Statues and Statuettes

Statuettes of Aphrodite Anadyomene

BR153 (SF 96, context 5140)²⁹

Figurine of nude Aphrodite

H. 6.30 cm

FIG. 133

Miniature cast copper alloy figurine of Aphrodite binding her hair, known as “Aphrodite Anadyomene.” The figure is nude and schematic. She is standing in the classical S-shaped posed. Her left leg bears the main weight of her body, while the right leg is held close to it and set back on the tiptoe. The upper body bends slightly and turns to the right, with a corresponding incline forwards of the head. She is looking to the right and raising her arms to hold two strands of hair that fall over both shoulders, in a pose of binding her hair. The figurine is intact, well preserved; surface covered by green patina and green corrosion spots.

This statuette is based on a Hellenistic prototype of the goddess of love and beauty shown drying herself after being born full-grown from the sea. The mythological background of the motif possibly comes from Apelles’s painting of the birth of Aphrodite from the sea, in the temple of Asklepios on Kos. It was already known in the fifth

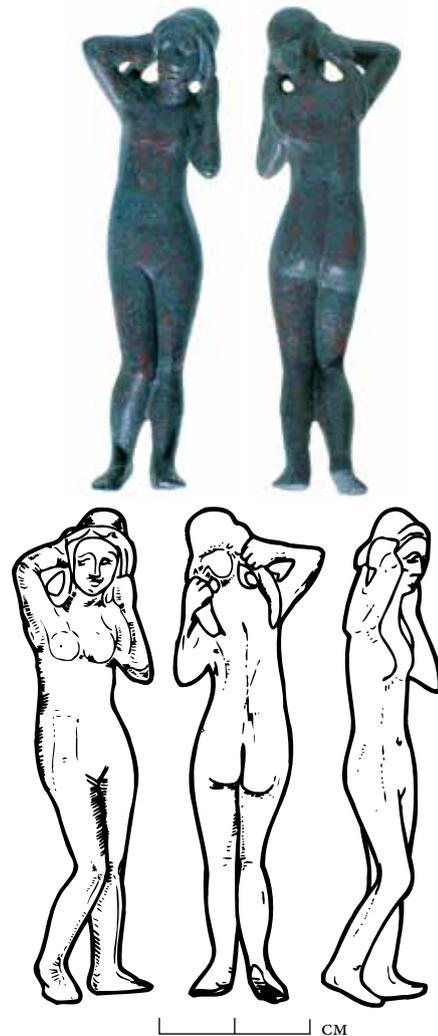


Figure 133. BR153. Drawing (bottom) and photo (top).

century B.C. in works of Pheidias. The Anadyomene motif spread in plastic representations in many variants during the Hellenistic period. It is well known in Anatolia, Syria, and especially in Egypt in the Hellenistic and Roman periods. For the nude Aphrodite Anadyomene, see Delivorrias et al. 1984, 54–6, nos. 424–54, esp. no. 430, a bronze figurine from the first century B.C. in the Walters Art Gallery in Baltimore with a pose similar to BR153 but rendered with greater detail and a diadem; it is perhaps more comparable to BR154 in details like the diadem, the facial features, the direction of the gaze, and the gesture of the hands. For a similar type of statue, 24 cm high, dated to the late first or second century A.D., and for additional bibliography, see Faider-Feytmans 1979, 82–3 and no. 76. Another similar small figurine (8.4 cm high) is from the historical museum in Vienna: Fleischer 1967, no. 77. For a small figurine, 6.10 cm high, from the Kestner Museum in Hanover, see Menzel 1964, no. 35. See also Popović et al. 1969, no. 95; Borell 1989, no. 10 (10.7 cm high, dated to the second century B.C.); Babelon and Blanchet 1895, nos. 237–40 (varying in height from 5.60 to 15.40 cm); Edgar 1904, nos. 27.647 (16 cm high), 27.649 (6.8 cm high); De Ridder



Figure 134. BR154.

1913, no. 383 (27.30 cm high, from Egypt), 64, pl. 33-4:415-6 (17 and 15.70 cm high, both from Syria), 105, pl. 53:768 (8 cm high); Boube-Piccot 1969, pls. 174-6, 232-5; Oggenova-Marinova 1975, no. 156 (from Bulgaria). For eight small nude Aphrodite Anadyomene figurines, measuring between 6 and 7 cm, all of Anatolian provenance, see Warden 2002, fig. 5.

BR154 (SF 932, context 18070)

Figurine of half-draped Aphrodite

H. 11.40 cm

Not later than A.D. 253

FIGS. 134-135

Small cast copper alloy figurine of the half-draped Aphrodite binding her hair (Aphrodite Anadyomene). She is standing in the classical S-shaped pose. Her right leg is bent forwards, while the left leg bears the main weight of her body, and she is looking to the right. Her arms are raised to bind her wet hair. She is almost nude, apart from drapery that has fallen from her left hip and is bound around the lower part of her legs, leaving her feet visible. She is wearing a crescent-shaped diadem and two armllets. The figure is represented in fine details down to the engraved eye pupils. The figurine is intact and hollow cast in one piece. It was probably soldered to a typical round base similar to BR146. Excellent condition; surface covered by green and brown patina.

A photograph of this figurine of Aphrodite was published by Early et al. (2003, fig. 9). The half-draped Aphrodite Anadyomene type, in which the goddess is covered by drapery around her hips, is among the best known and widely discussed representations of Aphrodite. The prototype of this image is the Hellenistic version of the nude Aphrodite Anadyomene. The earliest examples dated from the mid-third century B.C., especially in terracotta. The large number of copies, repetitions, and variants, greatly differing from each other, may serve as proof that the prototype image was changed by a series of later reductions, as often happened. In its development there is a perceptible tendency to expose the pudenda from the robe, which becomes crumpled between the legs instead of being held by the knot. These elements are obvious in Hellenistic originals as well as in Roman copies. For the half-draped Aphrodite Anadyomene, see, e.g., Delivorias et al. 1984, 76-77, nos. 667-687, esp. nos. 681 and 682, both Roman-period bronze statuettes in the same pose as the Zeugma figurine, with drapery bound just below the hips: no. 682 has visible feet and a diadem similar to BR154; no. 681, dated to the first century A.D., has feet obscured by drapery and no diadem. For other examples, see Babelon and Blanchet 1895, no. 223 (11.30 cm tall); De Ridder 1913, no. 770 (13.20 cm tall).

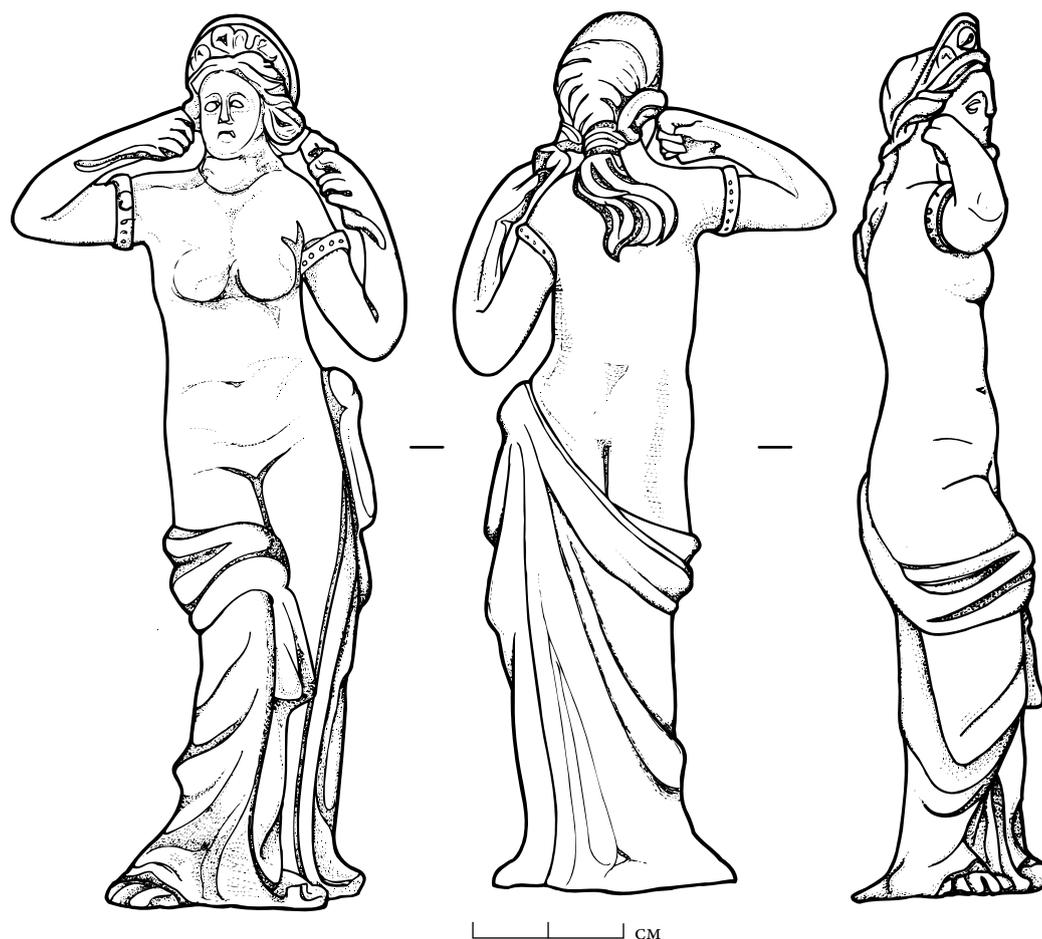


Figure 135. BR154.

*Parts of Statues***BR155** (SF 130, SF 141, context 9082)**Toes of copper alloy statue**

Max. L. 10.20 cm; max. W. 8.60 cm; H. 3.90 cm

Not later than A.D. 253

FIGS. 136–137

Five toes of copper alloy broken life-size statue. They were found in two separate parts and put back together. The toes are executed in a naturalistic and repeated form that is typical of first- to third-century A.D. Roman Bronze statues.

This part is evidence for the existence of one more Roman bronze statue that probably once adorned a public place or a private residence. A life-size bronze statue of Mars was found in Trench 8 during the Zeugma rescue excavations: Nardi and Önal 2003, 69–78. For a similar part of a Roman bronze statue, see Menzel 1966, no. 228. See also Oggiano-Bitar 1984, no. 255.

BR156 (SF 2146, context 2108)**Part of statue**

L. 14.10 cm; W. 10.50 cm; Th. 0.25 cm

Thick, concave cast copper alloy piece cut out from larger part. The edges show the traces of chopping by a chisel. This sheet could be part of a leg of a copper alloy statue. The outer surface is smooth. Traces of lead or tin solder on the back. Well preserved; surface covered by green patina.

BR157 (SF 2073, context 2011)**Part of statue**

L. 8.10 cm; W. 6.10 cm; Th. 0.20 cm

FIG. 138

Decorated cast piece, apparently part of a statue. This part is decorated with lines imitating hair or a lion's mane. Well preserved; surface covered by green patina.

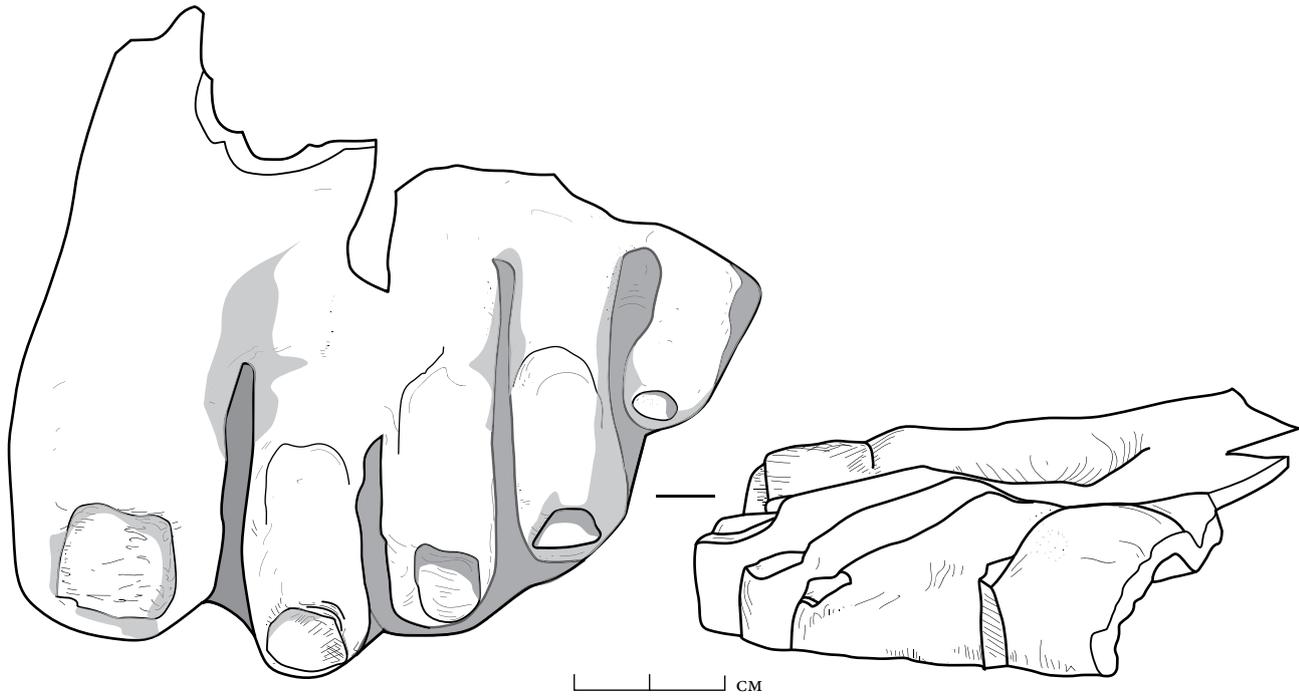


Figure 136. BR155.



Figure 137. BR155.



Figure 138. BR157.

Miscellaneous Objects

BR158 (SF 824, context 9247)

Steelyard

FIGS. 139–145

The steelyard found in the Zeugma excavations is of a rare early Roman type. It was found almost intact with all of its parts. The Zeugma steelyard preserves a long cylindrical beam to which the following parts are connected: deep scales pan with suspension chains, two suspension hooks, and one counterpoise weight. In general, Roman steelyards (*staterae*) consist of a long, single-cast copper alloy beam that is divided into two unequal parts—a short arm and a long arm. On the short arm were suspended goods to be weighed by means of a hook or scale pan. Two or three other hooks (*fulcra*) on this short arm were used for suspending the steelyard. Suspending the steelyard by the hook closer to the edge of the beam made it possible to weigh a heavier object. An equipondium weight, usually of figural type, was suspended from the longer arm. The long arm is always four-sided. In the Roman period, the long arm was marked with Roman numerals on two or more of the four sides. The position of the weight on this arm, when balanced, showed the weight units of the commodity being measured. The earliest steelyard type was found in Pompeii. Through the Roman period the steelyard evolved and changed in character.

The beam

L. 20.50 cm; Dia. 2.10 cm

This is the short arm of the steelyard beam, comprising a hollow cylindrical cast pipe. One end is open and part of an iron pin is preserved inside the end. This pin was apparently used to rivet the longer arm that was inserted into the pipe. The long arm, which was usually thinner than the short arm, was not found, probably because it was made from wood that had decayed, or from iron that rusted and crumbled. Although all the parts of the steelyard were found together, it cannot be ruled out that the missing long arm was also made of copper alloy and was lost in antiquity. This type of removable long arm is unknown to us from the Roman period. The other end of the short arm is thickened by a ring and terminates with a loop. Into this loop was inserted a multihooked piece for suspending the scales pan. This piece comprised three hooks, two frontal and opposite each other, and a third perpendicular to them and lower in the center. From this hook were suspended four chains holding the scale pan, two from the frontal hooks and two from the perpendicular one. Near each of the two edges of the short arm is a flat, rectangular projection, parallel to the beam. At the base of each of them is a round hole in which a rivet for holding a hook was inserted. From these two hooks the steelyard could be suspended in two different positions for weighting lighter or heavier weights. Each



Figure 139. BR158. Photo of steelyard, showing beam, weight, hook, and leaf-shaped attachments.

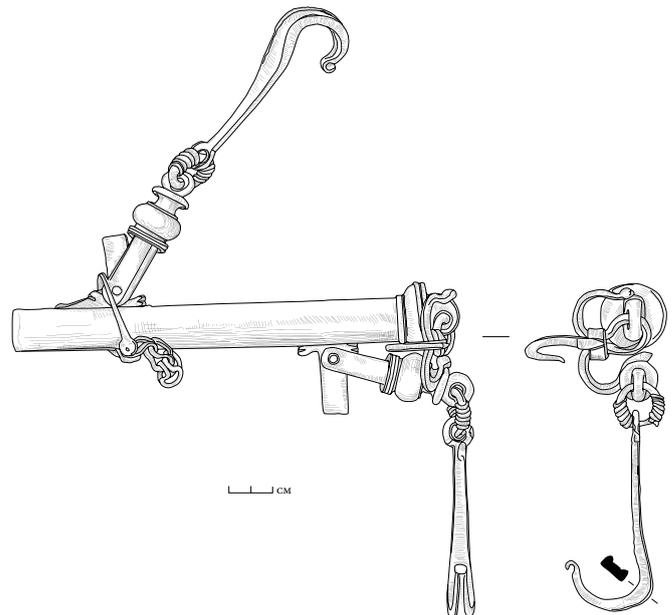


Figure 140. BR158. Drawing of steelyard beam and hooks.



Figure 141. BR158. Photo of the pan.

of the hooks has a split part with two parallel round holes at its edge into which the rivets were inserted to fasten them to the holes of the rectangular projections. This split part terminates in a molded sphere between two rings, ending with a ring holding a long, flat suspension hook. The short arm is well preserved; surface is covered by corrosion and green patina.

The pan

Dia. 18 cm; H. 6.10 cm; Th. 1 cm

The pan is a hemispherical copper alloy bowl with a short, thickened, flaring rim. Two bands of three incised circular lines decorate the outer wall underneath the rim. Four leaf-shaped traces of lead or tin solder are visible on the upper part of the walls in all four directions. At these points four leaf-shaped copper alloy attachments for suspending the hanging chains were soldered. The bowl is partly damaged, with a large hole in one side. The surface is heavily corroded and covered with black and green patina.

Leaf-shaped attachments

L. 4.70 cm; W. 2.20 cm; Th. 0.10 cm; diameter of ring: 2.10 cm; thickness of ring: 0.30 cm

Leaf-shaped attachment, one end broken, the other folded backwards to form a circular loop. A round ring, square in section, is inserted into the loop. The plate is concave with a central rib. On the flat back traces of lead or tin solder are still visible. Well preserved; surface covered by green and black patina.

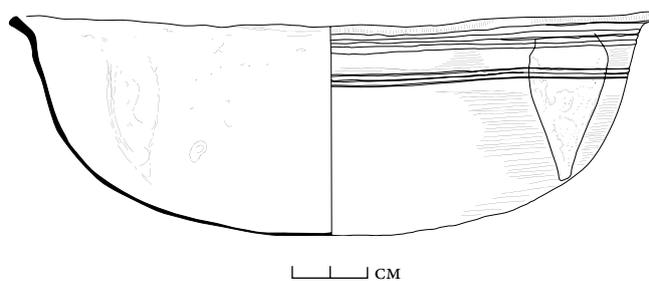


Figure 142. BR158. Drawing of the pan.

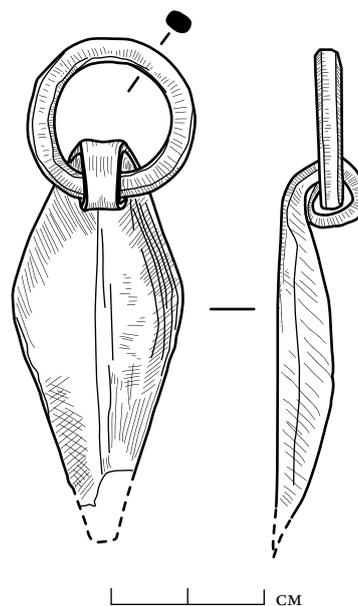


Figure 143. BR158. Drawing of leaf-shaped attachments.

The weight

H. 8.25 cm; Dia. 6.40 cm

Acorn-shaped counterpoise weight made out of thin copper alloy sheet filled with lead. A projection at the top of the dome-shaped part was used for suspending the weight from the thin hook, still attached, which was hung on the missing long arm of the steelyard. The weight is almost intact, though part of the copper alloy cover is missing. It is well preserved and the surface is covered by green and black patina. This type of weight is archaic in comparison with the Pompeian figural types of counterpoise weights.

There are no exact parallels to be found for this Roman

steelyard. A steelyard found in Smyrna has hooks made in the same style as those of Zeugma's steelyard, but more elaborate: British Museum 1929, fig. 171. For a steelyard with similar counterpoise weight and hooks, see Nuber 1988, no. 86. For the common type of Roman steelyards from Pompeii, see Ciarallo and De Carolis 1999, 365–73; Borriello et al. 1986, nos. 132–4, and Kisch 1965, figs. 16, 24. For other Roman steelyards, see Petculescu 2003, nos. 301–2; Fauduet 1992, no. 1016; Boucher et al. 1980, nos. 387–90; Richter 1915, no. 1720; Borell 1989, no. 153; Babelon and Blanchet 1895, no. 1906; Petit 1980, no. 93; Edgar 1904, no. 32.374; Ridder 1915, nos. 3256–7, 3560.

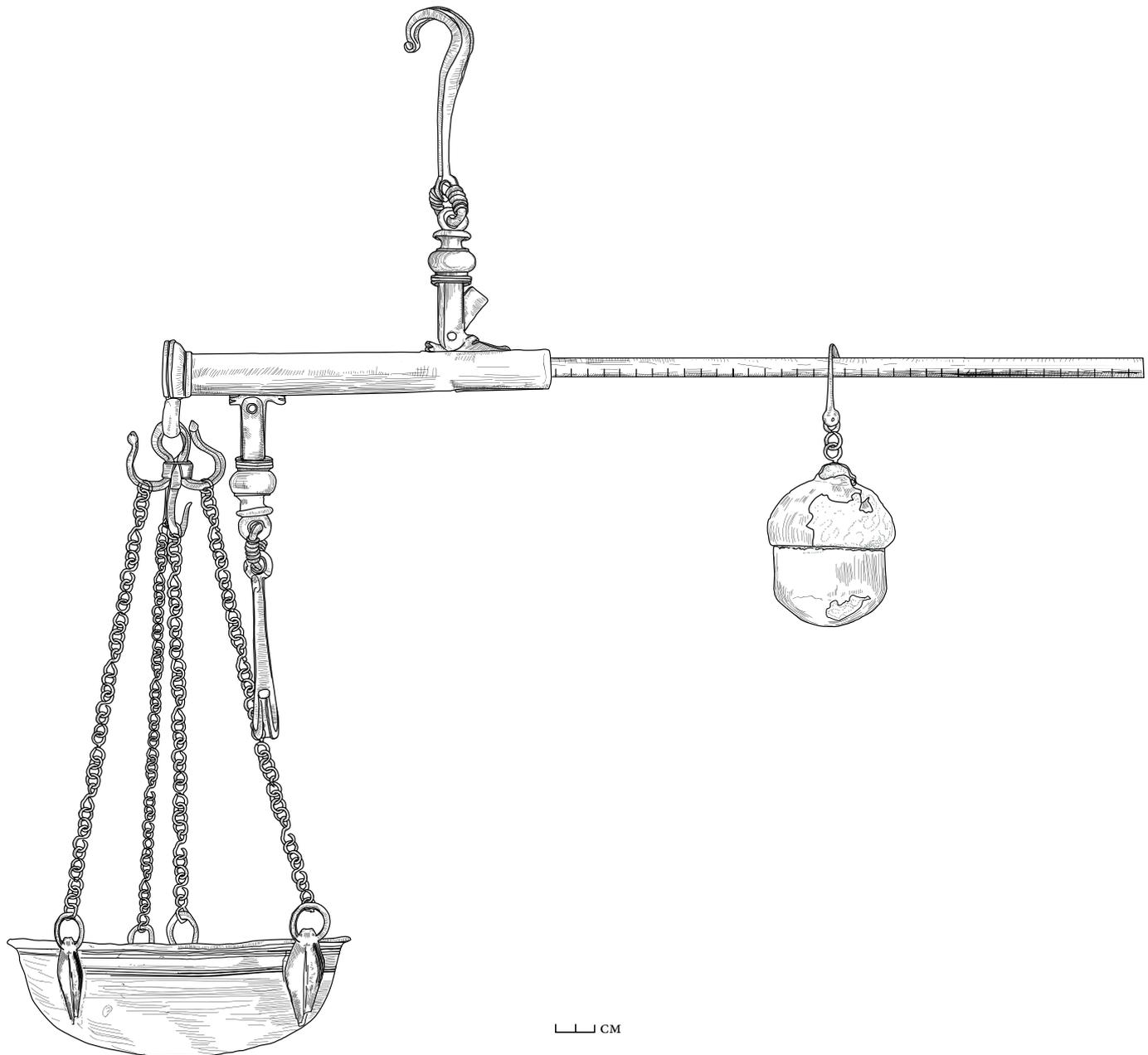


Figure 144. BR158. Drawing of the restored steelyard.

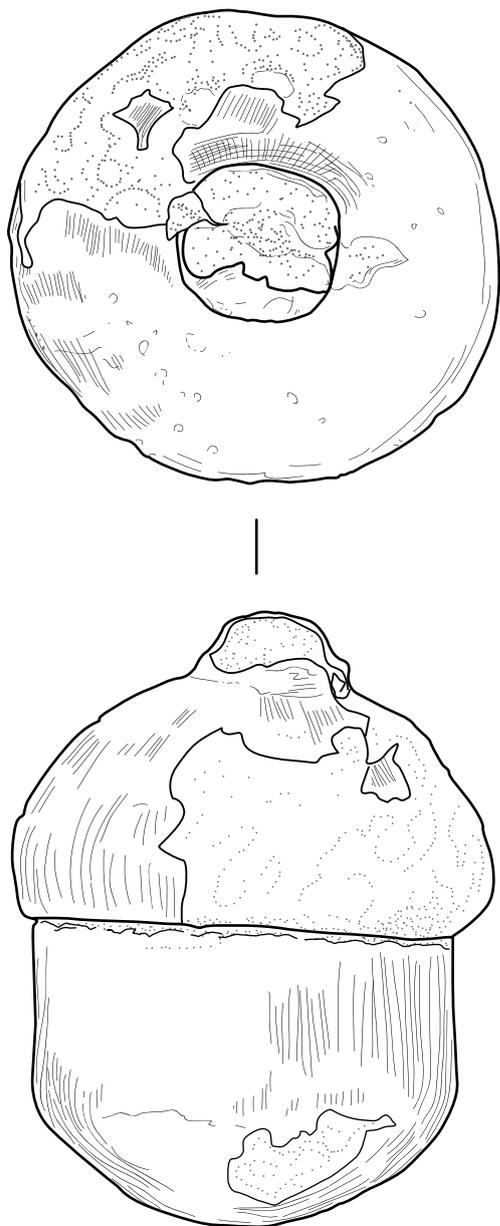


Figure 145. BR158. Steelyard weight.

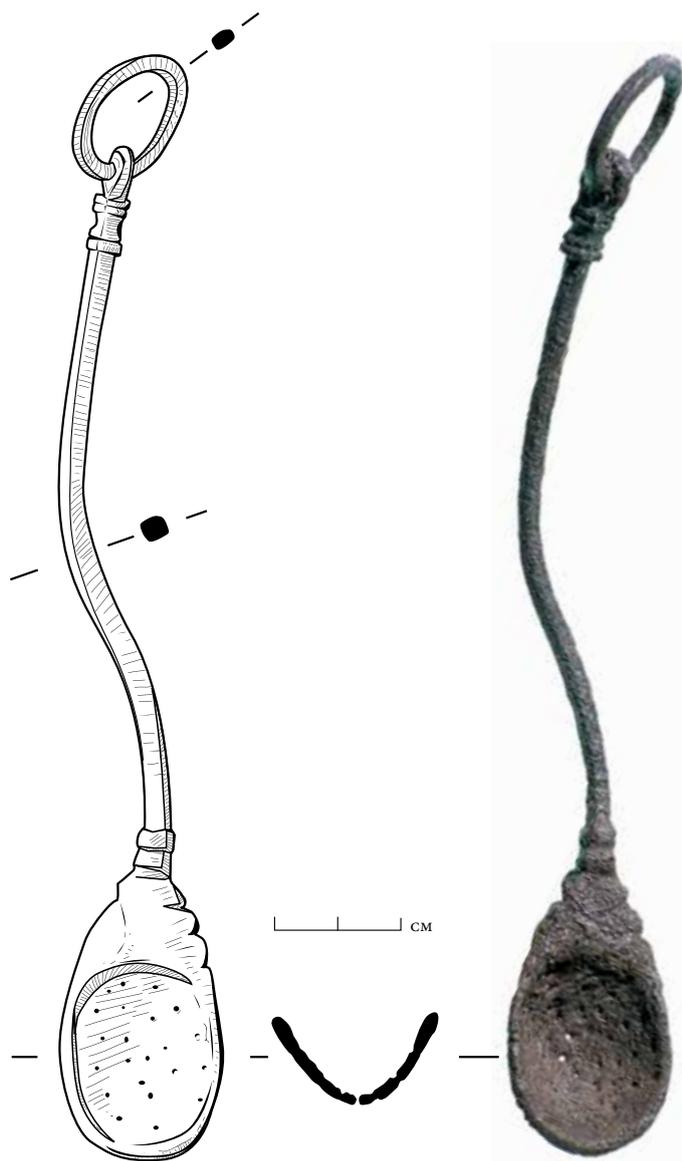


Figure 146. BR159. Drawing (left) and photo (right).

BR159 (SF 933, context 18070)

Strainer spoon

L. 13.40 cm; W. (bowl): 2.70 cm; L. (bowl): 3.50 cm; Th. (handle): 0.40 cm

Not later than A.D. 253

FIG. 146

Cast copper alloy or silver strainer spoon, consisting of hemispherical perforated bowl and long handle. The strainer holes do not form a pattern. The upper rim is flat and has a splayed triangular extension. The spoon's long handle is round in section and is decorated with three beads at the point of attachment to the rim's extension. At the other end there is a small rectangular cube, decorated with incised lines and terminating with a flattened pierced rectangular projection in which a round-sectioned ring is inserted. The surface is covered with heavy corrosion and a residue of earth.

Strainer spoons of the late antique period are widespread, in hoards and graves, in Europe and in the eastern Mediterranean countries. They probably had a liturgical use in both pagan and Christian ritual. They could be used to extract spices, insects, dregs, or other impurities from the wine already in the cup or chalice. They could also be used for giving communion in the old Eastern Church, in which the bread was dipped in a chalice full of wine and then given in a sieve spoon. Other strainers were connected with pagan sacred places, like the silver-gilt spoon strainer found in a casket from the Walbrook Mithraeum at London that was probably used in the Mithraic ritual. Other such spoons have been found in association with other Christian liturgical items. There is nothing to indicate whether the Zeugma spoon strainer was intended for secular or religious use. Most of the strainer spoons are dated to the fourth century A.D., though some, like those from Pompeii and Herculaneum, are dated to the early Roman period. These spoons spread towards the east in the late Roman and early Byzantine period, and the spoon from Zeugma is important for understanding the diffusion of these spoons to the eastern provinces. Similar strainer spoons from Slovakia, Spain, and the northern Black Sea are dated from the middle or second half of the third century A.D.: Martin 1984, 101. The closest parallels to the Zeugma spoon are the two found in the liturgical silver hoard from Hama in Syria, dated from the sixth to seventh century A.D.: Mango 1986, figs. 24–5. Only one of the two has survived (the other was lost). It is 18.9 cm long and has a long grooved handle, round in section, with a loop inserted through a hole in its terminal knob. For a similar silver sieve spoon from the first century A.D., see Wilson 2002, fig. 269. The same date was given to two silver strainer spoons from the Nascosto Treasure: Kaufmann and Cahn 1987, nos. 36–7; Martin 1984, nos. 52–3. These spoons have a handle that is twisted in its lower part and plain in the upper. Between the two parts is a molded decoration of reeds and beads. One of the handles ends with a large pointed leaf shape. The part between the shaft and the bowl is decorated with two schematic dolphins. These two spoons were found together with other spoons and tableware. In the late Roman period such spoons were used both as wine strainers and as a toothpick. The literary sources of that period describe a type of wine that was prepared with pepper and other spices (*vinum conditum*). In this case the wine had to be strained before serving by a similar spoon, as illustrated in a fourth-century wall painting from Rome; the spoon in the painting has a ring at the end of the handle. Three other silver strainer spoons are part of the Thetford Treasure found in England: Johns and Potter 1983, nos. 47–9; Johns 1988, pl. I:1. The three spoons are different in shape but share similar details. All three have twisted handles, partly plain in two of them. Two of them have some decoration in the transition between the shaft and the bowl: in one case two confronting schematic dolphins and the other in double-pelta form. The latter two have a flattened handle end

with a hole, one of them containing a ring. Another silver sieve spoon decorated with double incised dolphins on the rim is dated to the sixth century A.D.: Baratte 1989, no. 248. It is 17.20 cm long; the handle is square in section and has a hole in its end, though the ring is missing. Another silver sieve spoon, 7.40 cm long and dated to the late third or fourth century, was found in the Camille-Jouffray place in Vienna: Baratte et al. 1990, fig. 52. It has an almost naturalistic dolphin-shaped handle. This sieve spoon was part of silver treasure that included, among others, five spoons, one fork, and a number of plates and dishes. Another object shown in Baratte et al. (1990, fig. 56) is a penknife composed of toothpick, small spoon, fork, and sieve spoon. See also Boucher et al. 1980, no. 484; Borell 1989, no. 132 (first century B.C. to first half of first century A.D.). A small funnel is connected to the lower part of a strainer spoon from Belgrade National Museum: Popović et al. 1969, no. 47.

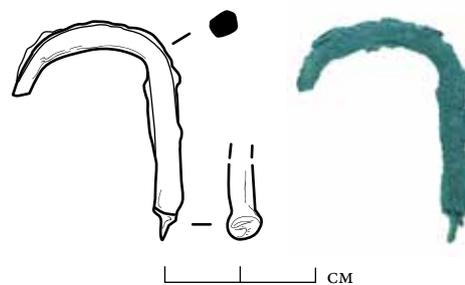


Figure 147. BR160. Drawing (left) and photo (right).

BR160 (SF 862, context 18085)

Fishhook

L. 2.80 cm; Th. 0.30 cm

Not later than A.D. 253

FIG. 147

Fishhook, round in section, the straight shaft flattened and widening at the top. The tip is broken. Poorly preserved, heavily corroded; surface covered with green patina.

The classical fishing hook varies slightly in size and shape, and it is barbed at the point and lacks an eye, having a flattened shaft instead. For a similar fishhook from the Roman and Byzantine periods, see Ciarallo and De Carolis 1999, 54–62 (first century A.D.); Deanna 1938, pl. 69:551; Davidson 1952, no. 1447 (Roman), 1488 (Byzantine); Dusenbery 1998, XS-494 (archaic or classical periods); Robinson 1941, nos. 1788–865; Chavane 1975, nos. 332–4 (Hellenistic, Roman, and Byzantine periods); Goldman et al. 1950, pl. 266:112; Arce et al. 1990, nos. 322–3; Arena et al. 2001, nos. 2.4.299–301. See also Zampieri and Lavarone 2000, nos. 427a–b (Roman); Fauduet 1992, no. 1044 (Roman); Petrie 1917, pl. 44:64–79; Comstock and Vermeule 1971, no. 603; Hattatt 1989, pl. 2, no. 226.

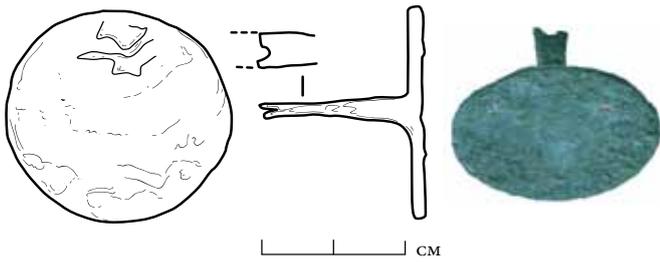


Figure 148. BR161. Drawing (left) and photo (right).

BR161 (SF 443, context 9143) = ML71

Mirror handle?

Dia. 3 cm; H. 2.10 cm; Th. 0.15 cm

Not later than A.D. 253

FIG. 148

Possible mirror handle with round, flat head. The flat shaft is perforated at the bottom for insertion of a ring or hook. The shaft is broken at the center of the perforated hole. The object is well preserved; surface is covered by green and black patina.

This type of object is similar to the handle of the typical Roman copper alloy disc mirror. A small handle, similar to a tack with round, flat head, was attached at the back of these mirrors. The lower part of the handle is pierced, and through this hole a small chain or thick thread was inserted. Several similar copper alloy mirror handles were found in the necropolis of Samothrace; they were dated from the fourth century B.C. to the early Roman period: Dusenbery 1998, S120–6, S124–5. Similar items were used as fittings for Roman military equipment: Oldenstein 1976, nos. 564–81 (second to third century A.D.).

BR162 (SF 2139, context 2075)

Clamp

L. 13.00 cm; W. 1.70 cm; Th. 0.20 cm

Not later than A.D. 253

FIG. 149

Clamp used to affix revetment to walls. The clamp consists of a tapering strip of copper alloy, broken at both ends. One end would have ended in a pointed and bent projection. The other side, which would also have been bent, is wider. The wide end was usually split and inserted into a hole in the wall. The hole was later sealed with a lump of lead that attached the clamp to the wall. The other end was thicker and round in section and was used to anchor a revetment slab, normally marble, to the wall. Well preserved; surface covered by green patina.

Many of these clamps, or the holes in the walls in which they were fixed, can still be seen on marble-clad walls of classical buildings: Waldbaum 1983, nos. 266–77 (late Roman); Clark et al. 1986, pl. 29:L (third or eighth century A.D.).



Figure 149. BR162.



Figure 150. BR163.

BR163 (SF 592, context 15009)

One pincer of a pair of tweezers

L. 5.40 cm; max. W. 1.80 cm; Th. 0.15 cm

First century A.D.: Ceramic Group B
(late Augustan or Tiberian)

FIG. 150

Tapering flat strip, wide at one end and narrow at the other. The narrow end is broken at the point where the missing second half started. Well preserved; surface covered with green patina.

For various tweezers, see Comstock and Vermeule 1971, nos. 566–78; Petrie 1917, pls. 62, 64.

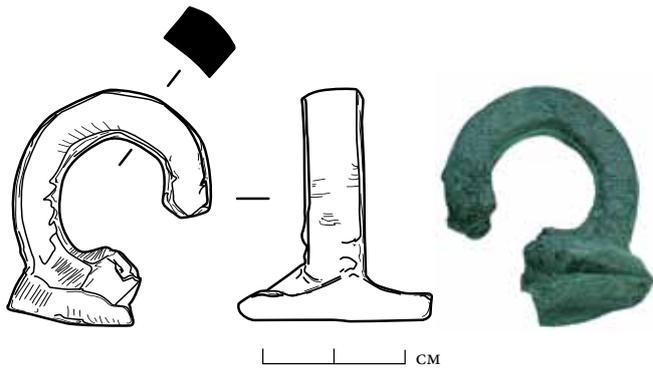


Figure 151. BR164. Drawing (left) and photo (right).

BR164 (SF 2264, context 2242)

Suspension loop

L. 3 cm; Dia. (loop): 2.80 cm;

Th. (loop): 0.80 cm

Not later than A.D. 253

FIG. 151

Thick cast suspension loop, broken, square in section. The loop was attached by soldering to a missing object, perhaps a hanging candelabrum or similar object. Such objects were usually hung from the ceiling by at least three chains attached to three suspension loops like this one. Well preserved; surface covered by black patina.

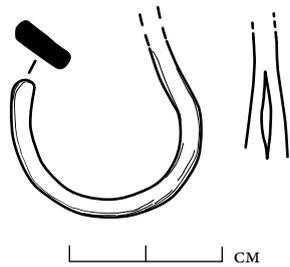


Figure 152. BR165.

BR165 (SF 2266, context 2182)

Hook

Max. Dia. 2.50 cm; max. Th. 0.30 cm

FIG. 152

Broken hook made out of thick strap of metal with a rounded tip at one edge. The other end is round in section and broken. The hook was found broken into pieces and was restored. Well preserved; surface covered by green patina.

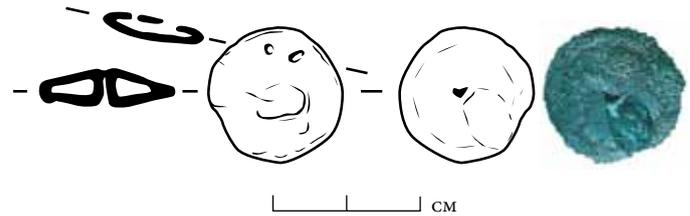


Figure 153. BR166. Drawing (left) and photo (right).

BR166 (SF 867, context 18108)

Button?

Dia. 1.90 cm; Th. 0.60 cm

Not later than A.D. 253; Ceramic Group D (A.D. 253) FIG. 153

Hollow, round object, probably a button. There is one round hole in the center and two smaller holes near the edge. Heavily corroded with small part missing; surface covered by green patina.

Unidentifiable Objects

BR167 (SF 797, context 9227)

Telescopic object

Average L. (each part): 6 cm; Dia. (each part), thick to thin:

Dia. 1: 4.50 cm; Dia. 2: 3.40 cm;

Dia. 3: 2.60 cm; Dia. 4: 2.30 cm; Th. 0.10 cm

Late second/early third century A.D.

FIG. 154

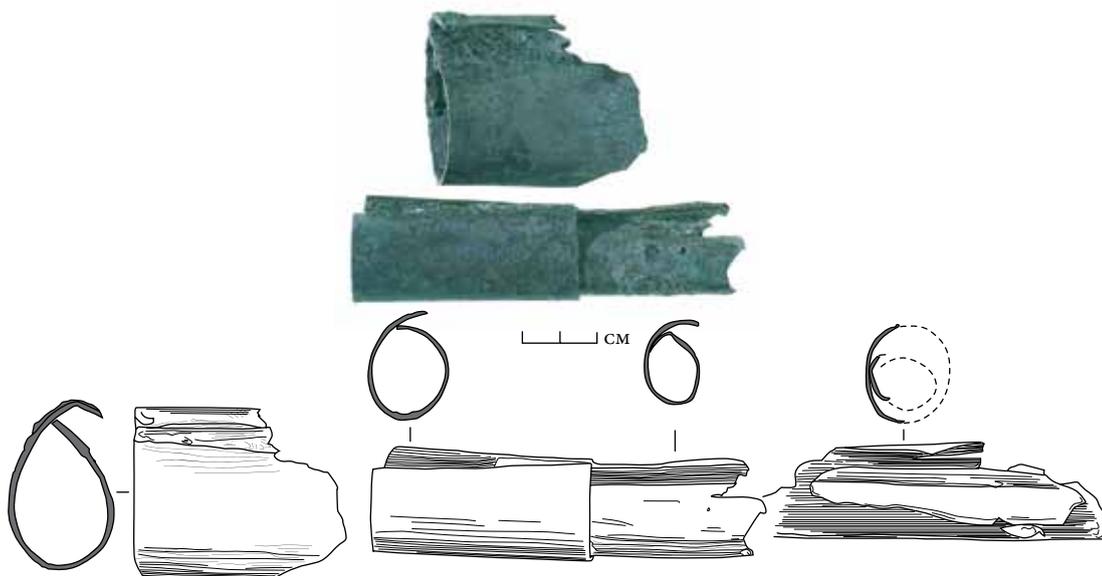


Figure 154. BR167. Drawing (bottom) and photo (top).

Four sheets folded to form four cylinders varying in diameter and fitted to be inserted one into the other in a telescopic manner. The object is of obscure use. Only one of the cylinders is intact, the second and the fourth are partly damaged, the third heavily damaged. The surface covered by green patina.

For similar unidentified hollow bronze cylindrical object, see Avigad 1976, fig. 101:1 (mid-third century A.D.).

BR168 (SF 712, context 9108) = ML70

Mechanical object?

Dia. (larger) 5.50 cm; Dia. (smaller) 2.80 cm;

Th. 0.15 cm

FIG. 155

Two discs, large and small, connected together by a small pin. The smaller disc has a rectangular recess and may have functioned as the bolt stopper of a padlock. Part of the larger disc is missing. Traces of carbonized wood probably came from a wooden box. Partly preserved; surface covered by green patina.

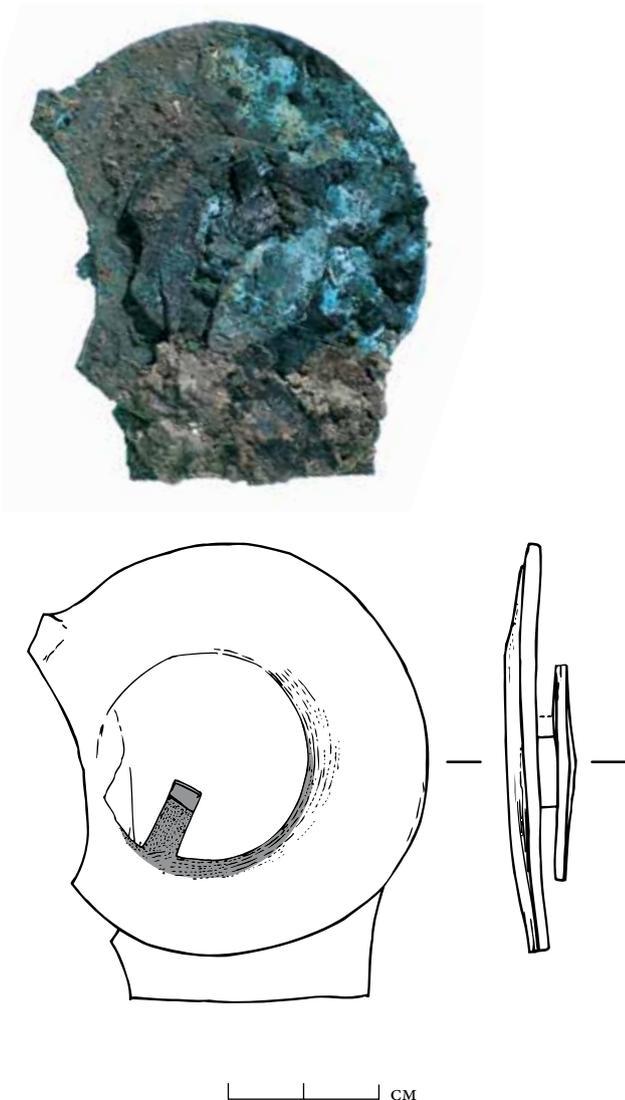


Figure 155. BR168. Drawing (bottom) and photo (top).

BR169 (SF 440, context 9143)

Unidentified object

L. 9.30 cm; Dia. 3.70 cm; H. 2.25 cm

Not later than A.D. 253

FIG. 156

Cast object composed of one round part and one long part. In the center of the round part is a large globular projection with a central circular groove. Two deep circular grooves frame this projection. On the base there is a sunken flat discus framed by a raised, wide, flat ring. A long arm is attached to the round part. The arm ends in a lozenge shape with a large knob in the center. Between the two parts there are two round projections. Well preserved; surface covered with green corrosion and black patina.

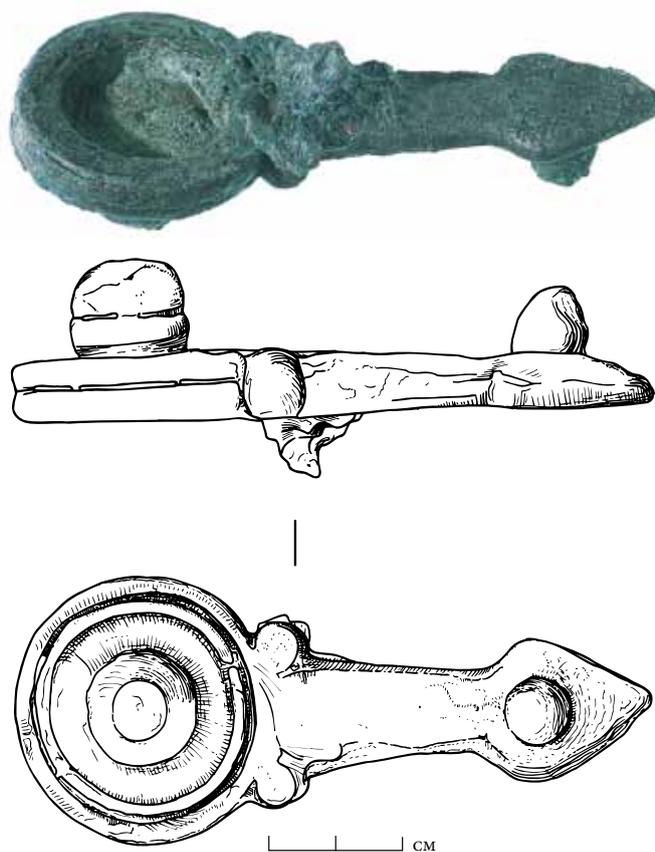


Figure 156. BR169. Drawing (bottom) and photo (top).

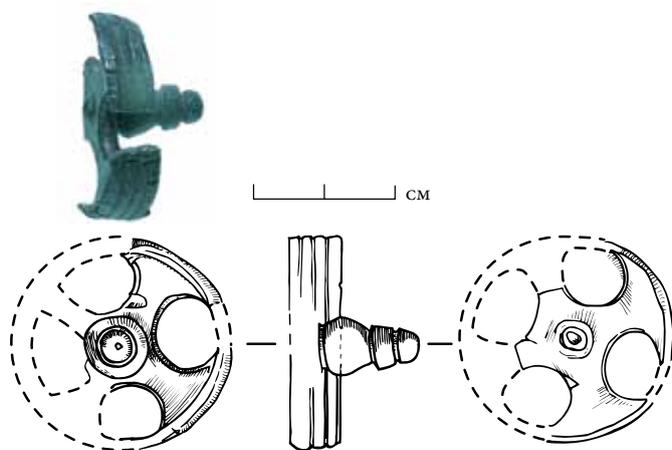


Figure 157. BR170. Drawing (bottom) and photo (top).

BR170 (SF 4004, context 10026)

Unidentified object

Dia. 3 cm; H. 1.70 cm

FIG. 157

Unidentified round object that could be a stud or decorative piece. It is composed of a wide outer ring with three rounded and incised grooves. In the inside is a pierced discus with four round holes. In the center there is a projecting molded-profile handle, round in section. Partly missing; surface covered by black patina.

This could be an internal part of water pump stopper. Arce et al. 1990, 155 and no. 310.

BR171 (SF 788, context 9194)

Unidentified object

L. 5.10 cm; W. 1.80 cm; Th. 0.80 cm

Not later than A.D. 253

Unidentified rounded fragment of copper alloy object, cast and broken, with a rounded projection. Well preserved; surface covered by green patina.

BR172 (SF 2323, context 2269)

Unidentified object

L. 3.50 cm; W. 1.20 cm; Th. 0.10 cm

Not later than A.D. 253

Copper alloy strip into which is inserted a copper alloy nail with a long shaft and square section. Partly preserved; surface covered by green patina.

1. These figures refer to copper alloy objects discovered in Trenches 1, 2, 4, 5, 7, 9–13, 15, 18, and 19 — areas excavated by Oxford Archaeology (OA) as a part of The Packard Humanities Institute (PHI) rescue excavations. Not included here are finds from areas excavated by other teams in 2000, namely the Gaziantep Museum, the University of Nantes, and the Zeugma Initiative Group. A few bronze objects not in the catalogue in this chapter are described elsewhere in this volume: cf. **ML8** (armor scales) and **ML62** (decorative roundel) in the chapter by Ian Scott, and **SF1698** (small weight) in the introduction to Hoard 1 in the chapter by Kevin Butcher.
2. Hughes 1993, 1–18; Gettes 1970, 57–72; Bol 1985, 156–7.
3. Rostovzeff et al. 1936
4. Sedlmayer 1999.
5. Ciarallo and De Carolis 1999.
6. Barr-Sharrar 1996, 104–21.
7. Projesi 2001, 131.
8. Başgelen 1999, 174–9.
9. Berg 2002, 15ff.
10. Poulsen 1995, 59–67.
11. Zimmer 1990, 127–55; Bol 1985, 65–117; Edgar 1903; Poulsen 2002, 330–7; Tassinari and Burkhalter 1984, 87–106.
12. Haynes 1992, 24–56.
13. Haynes 1992, 57–74.
14. Cavanagh 1990, 145–60.
15. Boucher 1990, 161–78.
16. Treister 2001.
17. Zimmer 1990.
18. Delivorrias et al. 1984, 40–89.
19. Cross references to Scott's catalogue numbers appear with the prefix **ML**.
20. Koster 1997, 30.
21. Kraskovská 1978, 3.
22. Szabó 1995, fig. 6.
23. Nevona-Merdjanova 2002, 203.
24. Den Boesterd 1956, xxii; Nuber 1972, 96ff.
25. Nuber 1972, pls. 18–31.
26. Nuber 1972, pls. 20:2, 28:3, 29.
27. Kohlert-Németh 1990, 63–4.
28. Nevona-Merdjanova 2002, 201–4.
29. For **SF96**, the unpublished Interim Report produced by Oxford Archaeology gives context 5140 and context 9074 as the findspots. The Oxford Archaeology finds database lists context 5140.

BIBLIOGRAPHY

- Arce, J., et al. 1990. *Los bronzes romanos en España, mayo–julio 1990, Palacio de Velazquez, parque del retiro, Madrid*. Madrid: Ministerio de Cultura.
- Arena, M.S., L. Paroli, and L. Vendittelli. 2001. *Roma dall'antichità al Medioevo: Archeologia e storia nel Museo nazionale romano*. Milano: Electa.
- Avigad, N. 1976. *Beth She'arim: Report on the Excavations during 1953–1958*. Vol. 3, *The Catacombs*. Jerusalem: Massada Press.
- Babelon, E., and J.A. Blanchet. 1895. *Catalogue des bronzes antiques de la Bibliothèque Nationale*. Paris: Ernest Leroux.
- Bailey, D.M. 1996. *A Catalogue of the Lamps in the British Museum*. Vol. 4, *Lamps of Metal and Stone, and Lampstands*. London: British Museum Press.
- Baratte, F. 1989. "L'antiquité tradive." In *Trésors d'orfèvrerie gallo-romains*, edited by F. Baratte et al. 254–82. Paris: Éditions de la réunion des musées nationaux.
- Baratte, F., et al. 1990. *Le Trésor de la place Camille-Jouffray à Vienne (Isère): Un dépôt d'argenterie et son contexte archéologique. 50e supplément à Gallia*. Paris: Centre national de la recherche scientifique.
- Barr-Sharrar, B. 1996. "The Private Use of Small Bronze Sculpture." In *The Fire of Hephaistos: Large Classical Bronzes from North American Collections*, edited by C.C. Mattusch, 104–21. Cambridge, MA: Harvard University Art Museum.
- Başgelen, N., ed. 1999. *The Legacy of Gaziantep to World Culture*. Istanbul: Archaeology and Art Publications.
- Berg, R. 2002. "Wearing Wealth: *Mundus Muliebris* and *Ornatus* as Status Makers for Women in Imperial Rome." In *Women, Wealth and Power in the Roman Empire*, edited by P. Setälä et al., 15–73. Rome: Institutum Romanum Finlandiae.
- Bishop, M.C. 1988. "Cavalry Equipment of the Roman Army in the First Century A.D." In *Military Equipment and the Identity of Roman Soldiers: Proceedings of the Fourth Roman Military Equipment Conference*, edited by J.C. Coulston, 67–195. BAR-IS 394. Oxford: British Archaeological Reports.
- Bishop, M.C., and J.C.N. Coulston. 1993. *Roman Military Equipment: From the Punic War to the Fall of Rome*. London: Bastford.
- Bliquez, L.J. 1998. "Two 'Sets' of Roman Surgical Tools from the Holy Land." *SaalbJb* 49:83–92.
- . 2003. "Roman Surgical Spoon-Probes and Their Ancient Names (μήλη, μήλωτις/μήλωτρις, *specillum*)." *JRA* 16:323–30.
- Boesterd, M.H.P. den. 1956. *The Bronze Vessels in the Rijksmuseum G.M. Kam at Nijmegen*. Nijmegen: Provincie Gelderland.
- Borell, B. 1989. *Statuetten, Gefässe und andere Gegenstände aus Metall im Anhang Grabfund aus dem Tessin*. Mainz am Rhein: Philipp von Zabern.
- Borriello, M.R., et al. 1986. *Le Collezioni del Museo nazionale di Napoli: I mosaici, le pitture, gli oggetti di uso quotidiano, gli argenti, le terrecotte invetriate, i vetri, i cristalli, gli avori*. Rome: Du Luca.
- Boube-Piccot, C. 1969. *Les bronzes antiques du Maroc*. Vol. 1, *La statue*. Rabat: Direction de monuments historiques et des antiquités.
- . 1975. *Les bronzes antiques du Maroc*. Vol. 2, *Le mobilier*. Rabat: Musée des antiquités.
- . 1980. *Les bronzes antiques du Maroc*. Vol. 3, *Les chars et lattelage*. Rabat: Musée des antiquités.
- . 1994. *Les bronzes antiques du Maroc*. Vol. 4, *L'équipement militaire et l'armement*. Paris: Éditions Recherche sur les Civilisations.
- Boucher, S. 1990. "Surface Working, Chiselling, Inlays, Plating, Silvering and Gilding." In *Small Bronze Sculpture from the Ancient World: A Symposium Organized by the Department of Antiquities Conservation at the J. Paul Getty Museum, March 16–19, 1989*, edited by M. True and J. Podany, 161–78. Malibu: Getty Trust Publications.
- Boucher, S., G. Perdu, and M. Feugere. 1980. *Bronzes antiques: Du Musée de la civilisation gallo-romaine à Lyon*. Vol. 2, *Instrumentum-aegyptiaca*. Paris: Diffusion de Boccard.
- Boucher, S., and S. Tassinari. 1976. *Bronzes antiques: Du Musée de la civilisation gallo-romaine à Lyon*. Vol. 1, *Inscriptions, statuaire, vaisselle*. Paris: Diffusion de Boccard.
- Brescak, D. 1982. *Anticno bronasto posodje slovanije*. Ljubljana: Narodni Muzej.
- British Museum, Department of Greek and Roman Antiquities. 1929. *A Guide to the Exhibition Illustrating Greek and Roman Life*. 3rd ed. London: British Museum Press.
- Buck, T.T. 2002. "Römische *Authepsae*, auch ein Instrument der ärztlichen Versorgung?" In *From the Parts to the Whole: Acta of the 13th International Bronze Congress, Held at Cambridge, Massachusetts, May 28–June 11, 1996*. Vol. 2, edited by C.C. Mattusch, A. Brauer, and S.E. Knudsen, 213–32. *JRA Suppl.* 39. Portsmouth: Journal of Roman Archaeology.
- Castoldi, M. 2002. "Recipienti in bronzo romani da Goito (Mantova)." In *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22–26 maggio 2001*, edited by A. Giunlie-Mair, 370–6. Udine: Monique Mergoil.
- Cavanagh, P.K. 1990. "Practical Consideration and Problems of Bronze Casting." In *Small Bronze Sculpture from the Ancient World: A Symposium Organized by the Department of Antiquities Conservation at the J. Paul Getty Museum, March 16–19, 1989*, edited by M. True and J. Podany, 145–60. Malibu: Getty Trust Publications.
- Chavane, M.-J. 1975. *Salamine de Chypre*. Vol. 4, *Les petits objets*. Paris: Diffusion de Boccard.
- Christensen, A.R., R. Thomsen, and G. Ploug. 1986. *Hama: Fouilles et recherches 1931–1938*. Vol. 3, pt. 3, *The Graeco-Roman Objects of Clay, the Coins and the Necropolis*. Copenhagen: Nationalmuseum.
- Ciarallo, A., and E. De Carolis, eds. 1999. *Pompeii: Life in a Roman Town*. Milan: Electra.
- Clark, V.A., et al. 1986. "The Jerash North Theatre: Architecture and Archaeology 1982–1983." In *Jerash Archaeological Report 1981–1983*, edited by F. Zayadine, 205–302. Amman: The Department of Antiquities of Jordan.
- Colt, H.D. 1962. *Excavations at Nessana (Auja Hafir, Palestine)*. Vol. 1. Princeton: Princeton University Press.
- Comstock, M., and C. Vermeule. 1971. *Greek, Etruscan and Roman Bronzes in the Museum of Fine Arts Boston*. Boston: Museum of Fine Arts.
- Croom, A. 2000. "The Wear and Tear of the Third Century Military Equipment." *Journal of Roman Military Equipment Studies* 11:129–34.
- Crowfoot, G.M. 1957. "Roman Tombs: North Cemetery." In *Samaria Sebaste*. Vol. 3, *The Objects from Samaria*, edited by J.W. Crowfoot, G.M. Crowfoot, and K.M. Kenyon, 423–38. London: Palestine Exploration Fund.
- Dalton, O.M. 1901. *Catalogue of Early Christian Antiquities and Objects from the Christian East, in the Department of British and Mediaeval Antiquities and Ethnography of the British Museum*. London: British Museum Press.
- Davidson, G.R. 1952. *Corinth*. Vol. 12, *The Minor Objects*. Princeton: The American School of Classical Studies at Athens.
- D'Andria, F. 1979. "Vasi di bronzo romani di recente scoperti in Puglia e Lucania." In *Bronzes hellénistiques et romain: Tradition et renouveau*, edited by C. Bernard, 223–7. Lausanne: Diffusion De Boccard.
- Delivorrias, A., G. Berger-Doer, and A. Kossatz-Deissmann. 1984. "Aphrodite." *LIMC* 2.1:2–151.
- Deonna, W. 1938. *Délos*. Vol. 18, *Le mobilier délien*. Paris: Editions De Boccard.
- D'Ercole, V., and B. Grassi. 1999. "Necropoli protostoriche abruzzesi

- a sud della Salaria." In *La salaria in età antica: Atti del Convegno di Studi, Ascoli Piceno, Offida, Rieti 2-4 ottobre 1997*, 193-266. Rome: "L'ERMA" di Brestschneider.
- De Ridder, A. 1913. *Les bronzes antiques du Louvre*. Vol. 1, *Les figurines*. Paris: Ernest Leroux.
- . 1915. *Les bronzes antiques du Louvre*. Vol. 2, *Les instruments*. Paris: Ernest Leroux.
- Deschler-Erb, E. 1999. *Ad arma! Römischer Militär des 1. Jahrhunderts n. Chr. in Augusta Raurica*. *Forschungen in August 28*. Augst: Römermuseum.
- Dixon, K.R. 1990. "Dolphin Scabbard Runners." *Journal of Roman Military Equipment Studies* 1:17-25.
- Dusenbery, E.B. 1998. *Samothrace*. Vol. 2, *The Nekropoleis: Catalogues of Objects by Categories*. Princeton: Princeton University Press.
- Dyczek, P. 2002. "Bronze Appliqués of Wood Caskets from the Site of the Valetudinarium at Novae." In *From the Parts to the Whole: Acta of the 13th International Bronze Congress, Held at Cambridge, Massachusetts, May 28-June 11, 1996*. Vol. 2, edited by C.C. Mattusch, A. Brauer, and S.E. Knudsen, 145-50. *JRA Suppl.* 39. Portsmouth: Journal of Roman Archaeology.
- Early, R. 2003. "Rescue Work by the Packard Humanities Institute: Interim Report, 2000." In *Zeugma: Interim Reports*, edited by J.H. Humphrey, 9-56. *JRA Suppl.* 51. Portsmouth: Journal of Roman Archaeology.
- Edgar, M.C.C. 1903. *Catalogue général des antiquités égyptiennes du Musée du Caire: Greek Moulds*. Cairo: Imprimerie de l'Institut français d'archéologie orientale.
- . 1904. *Catalogue général des antiquités égyptiennes du Musée du Caire: Greek Bronzes*. Cairo: Imprimerie de l'Institut français d'archéologie orientale.
- Eekhof, D. 1997. "Een aantal lunula's op een rijtje." *Detector Magazine* 32:24-7.
- Faider-Feytmans, G. 1979. *Les bronzes romains de Belgique*. 2 vols. Mainz am Rhein: Philipp von Zabern.
- Fauduet, I. 1992. *Bronzes gallo-romains: Instrumentum*. Évreux: Musée d'Évreux.
- Feugère, M. 1985. *Les fibules en Gaule méridionale: De la conquête à la fin du v^e s. Ap. J.-C.* Paris: Centre national de la recherche scientifique.
- Flashar, F. 2003. *Stifter und Sponsoren der Archäologischen Sammlung: Fünfzig Beispiele antiker Kunst*. Munich: Biering & Brinkmann.
- Fleischer, R. 1967. *Die römischen Bronzen aus Österreich*. Mainz am Rhein: Philipp von Zabern.
- Formigli, E., ed. 2003. *Fibulae: Dell'età del bronzo all'alto Medioevo, tecnica e tipologia*. Firenze: Edizioni Polistampa.
- Frisch, T.G., and N.P. Toll. 1949. *The Excavations at Dura-Europos*. Vol. 4, pt. 4, *The Bronze Objects*. Fasc. 1, *Pierced Bronzes, Enamelled Bronzes, and Fibulae*. New Haven: Yale University Press.
- Galestin, M.C. 2002. "Bronzes without a Context." In *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22-26 maggio 2001*, edited by A. Giunliè-Mair, 489-99. Udine: Monique Mergoil.
- GAP-RDA (Southeast Anatolia Project). 2001. *Zeugma: A Bridge from the Past to Present*. Ankara: Republic of Turkey Prime Ministry.
- Gerhartl-Witteveen, A., and A. Koster. 1992. *Duur en duurzaam: Römische bronzefässer aus der gelderischen Flusslandschaft*. Haag: Provincie Gelderland.
- Gettens, R.J. 1970. "Patina: Noble and Vile." In *Art and Technology: A Symposium on Classical Bronzes*, edited by S. Doeringer, D.G. Mitten, and A. Steinberg, 57-72. Cambridge, MA: M.I.T Press.
- Goldman, H. 1950. *Excavations at Gözli Kule, Tarsus*. Vol. 1, *The Hellenistic and Roman Periods*. Princeton: Princeton University Press.
- Gorecki, J. 1993. "Metallgefäße und Objekte aus der Villa des N. Popidius Florus (Boscureale) im J. Paul Getty Museum, Malibu, Kalifornien." In *Bronces y religion romana: Actas del XI congreso internacional de bronzes antiguos, Madrid, mayo-junio, 1990*, 229-46. Madrid: Consejo Superior de Investigaciones Científicas.
- . 1994. "Der Bronzenkrug aus Eich, Kr. Alzey Worms." In *Akten der 10. Internationalen Tagung über antike Bronzen, Freiburg, 18-22 Juli 1988*, 173-82. Stuttgart: Konrad Theiss Verlag.
- Hattatt, R. 1982. *Ancient and Romano-British Brooches*. Milborne Port: Dorset Publishing Company.
- . 1987. *Brooches of Antiquity: A Third Selection of Brooches from the Author's Collection*. Oxford: Oxbow.
- . 1989. *Ancient Brooches and Other Artifacts*. Oxford: Oxbow.
- Hayes, J.W. 1984. *Greek, Roman, and Related Metalware in the Royal Ontario Museum*. Toronto: The Royal Ontario Museum.
- Hostetter, E. 1986. *Bronzes from Spina*. Vol. 1, *The Figural Classes: Tripod, Kraters, Basin, Cista, Protome, Utensil Stands, Candelabra and Votive Statuettes*. Mainz am Rhein: Philipp von Zabern.
- Isidro, M.M. 2001. *Fibulas romanas en Hispania: La Meseta*. Madrid: Consejo Superior de Investigaciones Científicas.
- Jackson, R. 2003. "The Domus 'del Chirurgo' at Rimini: An Interim Account of the Medical Assemblage." *JRA* 16:312-21.
- Jitta, A.N.Z.-J., and A.M. Gerhartl-Witteveen. 1983. *Description of the Collections in the Rijksmuseum G.M. Kam at Nijmegen*. Vol. 7, *The Figural Bronzes, Supplement*. Nijmegen: Ministry of Welfare, Health and Cultural Affairs.
- Johns, C. 1988. "The Silver from the Thetford Treasure." In *Argentaria romana et Byzantina: Acta de la table ronde, Paris 11-33 octobre 1983*, edited by F. Baratte, 51-6. Paris: Centre national de la recherche scientifique.
- Johns, C., and T. Potter. 1983. *The Thetford Treasure: Roman Jewellery and Silver*. London: British Museum Press.
- Junkelmann, M. 2000. *Römische Heleme, Sammlung Axel Guttman: Band VIII*. Mainz am Rhein: Philipp von Zabern.
- Jurgeit, F. 1999. *Die etruskischen und italischen Bronzen sowie Gegenstände aus Eisen, Blei und Leder im Badischen Landesmuseum Karlsruhe*. 2 vols. Roma: Istituti editoriali e poligrafici internazionali.
- Kancewa, T. 1994. "Bronzene chirurgische Instrumente im Museum N. Zagora." In *Akten der 10. Internationalen Tagung über antike Bronzen, Freiburg, 18-22 Juli 1988*, 233-6. Stuttgart: Konrad Theiss Verlag.
- Kaufmann-Heinimann, A. 1977. *Die Römischen Bronzen der Schweiz*. Vol. 1, *Augst und das Gebiet der Colonia Augusta Raurica*. Mainz am Rhein: Philipp von Zabern.
- . 1994. *Die Römischen Bronzen der Schweiz*. Vol. 5, *Neufunde und Nachträge*. Mainz am Rhein: Philipp von Zabern.
- Kaufmann-Heinimann, A., and H. Cahn. 1987. *Il Tesoro nascosto: Le argenterie imperiali di Kaiseraugst*. Rome: De Luca.
- Kellner, H.-J., and G. Zahlhaas. 1984. *Der römische Schatzfund von Weissenburg*. Munich: Schnell & Steiner.
- Kenyon, K.M. 1957. "Miscellaneous Objects in Metal, Bone and Stone." In *Samaria Sebaste*. Vol. 3, *The Objects from Samaria*, edited by J.W. Crowfoot, G.M. Crowfoot, and K.M. Kenyon, 439-68. London: Palestine Exploration Fund.
- Khamis, E. 2004. "Metal and Stone Finds." In "A 'Provincial' Roman-Period Samaritan Burial Ground in Pardes Ha-Gedud," by E.C.M. van den Brink. *Atiqot* 47:148-51.
- Kisch, B. 1965. *Scales and Weights*. New Haven: Yale University Press.
- Kohlert-Németh, M. 1990. *Archäologische Reihe Römische Bronzen*. Vol. 2, *Aus Nida-Heddernheim: Fundsachen aus dem Hausrat*. Frankfurt am Main: Museum für Vor- und Frühgeschichte.
- Koščević, R. 1980. *Antičke fibule s područja Siska*. Zagreb: Odjel za arheologiju centra za povijesne znanosti Zagreb.
- . 2002. "Un antico tesoro di gioielli d'argento in una collezione private di Zagabria." *Rivista di Archeologia* 26:114-45.

- Koster, A. 1994. "Zwei römische Gräber mit Bronzegefäßen aus Ulpia Noviomagus (Nijmegen, Niederland)." In *Akten der 10. Internationalen Tagung über antike Bronzen, Freiburg, 18–22. Juli 1988*, 245–50. Stuttgart: Konrad Theiss Verlag.
- . 1997. *Description of the Collections in the Provinciaal Museum G.M. Kam at Nijmegen*. Vol. 13, *The Bronze Vessels 2*. Nijmegen: Provinciaal Museum G.M. Kam.
- Kraskovská, L. 1978. *Roman Bronze Vessels from Slovakia*. BAR-IS 44. Oxford: British Archaeological Reports.
- Kropotkin, V.V. 1970. *Rimskie importnye izdeliya na territorii Vostochnoi Evropy*. Moscow: Izd-vo "Nauka."
- Künzl, E. 1983. *Medizinische Instrumente aus Sepulkralfunden der römischen Kaiserzeit*. Cologne: Rheinland Verlag GmbH.
- . 1994. "Dekorierete Gladii und Cingula: Eine ikonographische Statistik." *Journal of Roman Military Equipment Studies* 5:33–58.
- . 1996. "Gladiusdekorationen der frühen römischen Kaiserzeit: Dynastische Legimation, Victoria und Aurea Aetas." *JRGZM* 43.2:383–474.
- . 2002. *Medizin in Der Antile: Aus einer welt ohne Narkose und Aspirin*. Stuttgart: Theiss.
- Lacabe, R.E. 1995. *Las fibulas del nordeste de la península ibérica: Siglos I A.E. al IV D.E.* Zaragoza: Institución "Fernando el Católico."
- Lyne, M. 1999. "Fourth Century Roman Belt Fittings from Richborough." *Journal of Roman Military Equipment Studies* 10:103–13.
- Mackreth, D.F. 2002. "Military Brooches." in *The Legionary Fortress at Wroxeter*, edited by J. Chadderton, 89–104. London: English Heritage.
- Madyda-Legutko, R. 1986. *Die Gürtelschnallen: Der Römischen Kaiserzeit und der frühen Völkerwanderungszeit im mitteleuropäischen Barbaricum*. BAR-IS 360. Oxford: British Archaeological Reports.
- Manfrini-Aragno, I. 1987. *Bacchus dans les bronzes hellénistiques et romains: Artisans et leur repertoire*. Lausanne: Bibliothèque historique vaudoise.
- Mango, M.M. 1986. *Silver from Early Byzantium: The Kaper Koraon and Related Treasures*. Baltimore: Walters Art Gallery.
- Martin, M. 1984. "Weinsiebchen und Toilettgerät." In *Der spätrömische Silberschatz von Kaiseraugst*, edited by H.A. Cahn and A. Kaufmann-Heinimann, 97–132. Derendingen: Habegger.
- Massari, G., and M. Castoldi. 1985. *Vasellame in bronzo romano: L'officina dei Cipii*. Como: Museo Civico Archeologico "Giovio" Edizioni New Press.
- Matthäus, H. 1989. *Der Arzt in Römischer Zeit: Medizinische Instrumente und Arzneien*. Stuttgart: Gesellschaft für Vor- und Frühgeschichte.
- Menzel, H. 1960. *Die römischen Bronzen aus Deutschland*. Vol. 1, *Speyer*. Mainz am Rhein: Philipp von Zabern.
- . 1964. *Römische Bronzen: Bildkataloge des Kestner-Museum Hannover*. Vol. 4. Hannover: Kestner-Museum.
- . 1966. *Die römischen Bronzen aus Deutschland*. Vol. 2, *Treir*. Mainz am Rhein: Philipp von Zabern.
- . 1986. *Die römischen Bronzen aus Deutschland*. Vol. 3, *Bonn*. Mainz am Rhein: Philipp von Zabern.
- Milne, J.S. 1907. *Surgical Instruments in Greek and Roman Times*. Oxford: Clarendon Press.
- Nardi, R., and M. Önal. 2003. "The Bronze Statue of Mars: Interim Report." In *Zeugma: Interim Reports*, edited by J.H. Humphrey, 69–78. *JRA Suppl.* 51. Portsmouth: Journal of Roman Archaeology.
- Nenova-Merdjanova, R. 2002. "Bronze Vessels and the Toilette in the Roman Times." In *From the Parts to the Whole: Acta of the 13th International Bronze Congress, Held at Cambridge, Massachusetts, May 28–June 1, 1996*. Vol. 2, edited by C.C. Mattusch, A. Brauer, and S.E. Knudsen, 201–4. *JRA Suppl.* 39. Portsmouth: Journal of Roman Archaeology.
- Niemeyer, B. 2003. "Provinzialrömische Emailfibelin in der Antikensammlung Berlin." In *Fibulae: Dell'età del bronzo all'alto Medioevo, tecnica e tipologia*, edited by E. Formigli, 188–203. Firenze: Edizioni Polistampa.
- Nuber, H.U. 1972. "Kanne und Griffschale: Ihr Gebrauch im täglichen Leben und die Beigabe in Gräbern der römischen Kaiserzeit." *BerRGK* 53:1–232.
- . 1988. *Antike Bronzen aus Baden-Württemberg*. Aalen: Limesmuseum Aalen.
- Oettel, A. 1991. *Bronzen aus Boscoreale in Berlin*. Berlin: Staatliche Museen Preussischer Kulturbesitz.
- Oggiano-Bitar, H. 1984. *Bronzes figures antiques des Bouches-du-Rhône, XLIIIe supplément à "Gallia"*. Paris: Centre national de la recherche scientifique.
- Ogdenova-Marinova, L. 1975. *Statuettes en Bronze, du Musée national archéologique à Sofia*. Sofia: Academie Bulgare des Sciences.
- Oldenstein, J. 1976. "Zur Ausrüstung römischer Auxiliareinheiten: Studien zu Beschlägen und Zierat an der Ausrüstung der römischen Auxiliareinheiten des obergermanisch-raetischen Limesgebietes aus dem zweiten und dritten Jahrhundert n.Chr." *BerRGK* 57:49–284.
- Oliver, J.L.A., and C.G. Merino. 1993. "Bronces hispanorromanos del Museo Numantino procedentes de Uxama." In *Bronces y religion romana: Actas del XI congreso internacional de bronzes antiguos. Madrid, mayo–junio 1990*, 13–32. Madrid: Consejo Superior de Investigaciones Científicas.
- Petculescu, L., ed. 2003. *Antique Bronzes in Romania: Exhibition Catalogue: The 16th International Congress of Antique Bronzes, Bucharest, 26–31 May 2003*. Bucharest: National History Museum of Romania.
- Petrie, W.M.F. 1917. *Tools and Weapons: Illustrated by the Egyptian Collection in University College, London*. London: British School of Archaeology in Egypt.
- . 1927. *Objects of Daily Use*. London: British School of Archaeology in Egypt.
- Petru, S. 1972. *Emonske nekropole: Odkrite med leti 1635–1960*. Ljubljana: Narodni Muzej.
- Petit, J. 1980. *Bronzes antiques de la collection Dutuit: Grecs, hellénistiques, romains et de l'Antiquité tardive*. Paris: Musée du Petit Palais.
- Ploug, G. 1985. *Hama: Fouilles et recherches 1931–1938*. Vol. 3, pt. 1, *The Graeco-Roman Town*. Copenhagen: Nationalmuseet.
- Ploug, G., and E. Oldenburg. 1969. "Les objets en métal sauf les monnaies." In *Hama: Fouilles et recherches, 1931–1938*. Vol. 4, pt. 3, *Les petits objets médiévaux sauf les verreries et poteries*, edited by G. Ploug, E. Oldenburg, E. Hammershaimb, and R. Thomsen, 13–88. Copenhagen: Nationalmuseet.
- Popović, L.B., D. Mano-Zisi, M. Veličković, and B. Jeličić. 1969. *Greek, Roman and Early-Christian Bronzes in Yugoslavia*. Belgrade: Narodni Muzuj.
- Poulsen, E. 1995. "Remarks on Roman Bronze Skillets with Deep Grooves under the Base." In *Acta of the 12th International Congress on Ancient Bronzes, Nijmegen 1992*, edited by S.T.A.M. Mols, A.M. Gerhartl-Witteveen, H. Kars, A. Koster, and W.J.Th. Willems, 59–67. Nijmegen: Provinciaal Museum G.M. Kam.
- . 2002. "On Moulds and Models for Ancient Roman Small Bronzes." In *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22–26 maggio 2001*, edited by A. Giunlie-Mair, 330–7. Udine: Monique Mergoil.
- Pozo, S.F. 2002. "La vajilla metálica de la Provincia Baetica. II: Los jarros bronceos de época alto-imperial." In *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22–26 maggio 2001*, edited by A. Giunlie-Mair, 407–18. Udine: Monique Mergoil.

- Price, E. 2000. *Procester: A Romano-British Settlement, Its Antecedents and Successors*. Vol. 2, *The Finds*. Bodmin: Gloucester and District Archaeological Research Group.
- Raev, B.A. 1977a. "Les 'Blechkanen' des Province et leurs prototypes italiques." In *Actes du IVe Colloque International sur les Bronzes Antiques, 17-21 mai 1976*, edited by S. Boucher, 155-62. Lyon: L'Hermès.
- . 1977b. "Die Bronzegefäße der römischen Kaiserzeit in Thrakien und Mösien." *BerRGK* 58:605-42.
- Ricci, A., ed. 1985. *Settefinestre: Una villa schiavistica nell'Etruria romana*. Vol. 3, *La villa e i suoi reperti*. Modena: Panini Modena.
- Richter, G.M.A. 1915. *Greek, Etruscan and Roman Bronzes*. New York: The Metropolitan Museum of Art.
- Riha, E. 1979. *Die römischen Fibeln aus Augst und Kaiseraugst*. Augst: Amt für Museen und Archäologie des Kantons Basel-Landschaft.
- . 1986. *Römische Toilettgerät und medizinische Instrument aus Augst und Kaiseraugst*. Augst: Forschungen in Augst.
- . 1990. *Der römische Schmuck aus Augst und Kaiseraugst*. Augst: Amt für Museen und Archäologie des Kantons Basel-Landschaft.
- Robinson, D.M. 1941. *Excavations at Olynthus*. Vol. 10, *Metal and Minor Miscellaneous Finds*. Baltimore: The Johns Hopkins Press.
- Rostovzeff, M.I., and P.V.C. Baur. 1936. *The Excavations at Dura-Europos: Preliminary Report of the Sixth Season of Work, October 1932-March 1933*. New Haven: Yale University Press.
- . 1947. *The Excavations at Dura-Europos*. Vol. 4, pt. 3, *The Lamps*. New Haven: Yale University Press.
- Russell, J. 2001. "Household Furnishing." In *Antioch, the Lost Ancient City*, edited by C. Kondoleon, 79-89. Princeton: Princeton University Press.
- Sarnataro, T. 2002. "Le patere con manico dell'area vesuviana e la loro funzione domestica: Case-study; la Casa di L. Volusius Faustus (I 2, 10)." *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22-26 maggio 2001*, edited by A. Giunlie-Mair, 393-406. Udine: Monique Mergoil.
- Sedlmayer, H. 1999. *Die Römischen Bronzegefäße in Noricum*. Monographies Instrumentum 10. Montagnac: Monique Mergoil.
- Seigne, J., et al. 1986. "Recherches sur le sanctuaire de Zeus à Jerash, Octobre 1982-December 1983, Rapport préliminaire." In *Jerash Archaeological Project 1981-1983*, edited by F. Zayadine, 29-106. Amman: The Department of Antiquities of Jordan.
- Sellye, I. 1939. *Les bronzes émaillés de la Pannonie romaine*. Leipzig: Harrassowitz.
- Simon, C. 2002. "An Inlaid Curule Chair in the Leon Levy and Shelby White Collection, New York." In *I bronzi antichi: Produzione e tecnologia. Atti del XV Congresso Internazionale sui Bronzi Antichi, organizzato dall'Università di Udine, sede di Gorizia, Grado-Aquileia, 22-26 maggio 2001*, edited by A. Giunlie-Mair, 549-53. Udine: Monique Mergoil.
- Spagnolis, M. de', and E. de Carolis. 1983. *Museo Nazionale Romano, I bronzi*. Vol. 4, pt. 1, *Le lucerne*. Rome: De Luca.
- . 1986. *Le lucerne di bronzo*. Vatican: Città del Vaticano.
- . 1988. *Le lucerne di bronzo di Ercolano e Pompei*. Rome: "L'ERMA" di Bretschneider.
- Stefanelli, L.P.B. 1990. *Il bronzo dei Romani: Arredo e suppellettile*. Rome: "L'ERMA" di Bretschneider.
- Stefani, G. 2003. "Verti da cosmesi e medicina." In *Menander: La casa del Menandro di Pompei*, edited by G. Stefani, 178-81. Milano: Electra.
- Stephenson, I.P. 1999. *Roman Infantry Equipment: The Later Empire*. Gloucestershire: Tempus.
- Swift, E. 2000. *Regionality in Dress Accessories in the Late Roman West*. Monographies Instrumentum 11. Montagnac: Monique Mergoil.
- Szabó, K. 1994. "Posta à Embouchure Lourde Coulée d'une Pièce avec l'Anse." In *Akten der 10. Internationalen Tagung über antike Bronzen, Freiburg, 18-22 Juli 1988*, 399-403. Stuttgart: Konrad Theiss Verlag.
- . 1995. "Situles de Pannonie." In *Acta of the 12th International Congress on Ancient Bronzes, Nijmegen 1992*, edited by S.T.A.M. Mols, A.M. Gerhartl-Witteveen, H. Kars, A. Koster, and W.J.Th. Willems, 77-85. Nijmegen: Provinciaal Museum G.M. Kam.
- Tarditi, C. 1996. *Vasi di bronzo in area apula: Produzioni greche ed italiche di età arcaica e classica*. Galatina: Congedo.
- Tassinari, S. 1975. *La vaisselle de bronze romaine et provinciale au Musée des antiquités nationales*. Paris: Centre national de la recherche scientifique.
- . 1993. *Il vasellame bronzeo di Pompei*. 2 vols. Rome: "L'ERMA" di Bretschneider.
- Tassinari, S., and F. Burkhalter. 1984. "Moules de Tartous: Techniques et production d'un atelier de toreutique antique." In *Toreutik und figürliche Bronzen Römischer Zeit: Akten der 6. Tagung über antike Bronzen 13-17 Mai 1980 in Berlin*, edited by G.-M. Faider-Feymans. Berlin: Staatliche Museen Preußischer Kulturbesitz.
- Treister, M. 2001. *Hammering Techniques in Greek and Roman Jewellery and Toreutics*. Leiden: Brill.
- Unz, C., and E. Deschler-Erb. 1997. *Katalog der Militaria aus Vindonissa*. Veröffentlichungen der Gesellschaft Pro Vindonissa 14. Brugg: Ötermuseum.
- Waldbaum, J.C. 1983. *Metalwork from Sardis: The Finds through 1974*. Archaeological Exploration of Sardis, Monograph 8. Cambridge, MA: Harvard University Press.
- Walters, H.B. 1899. *Catalogue of Bronzes, Greek, Roman and Etruscan, in the Department of Greek and Roman Antiquities*. London: British Museum Press.
- Wamser, L., C. Flügel, and B. Ziegau, eds. 2000. *Die Römer zwischen Alpen und Nordmeer, Zivilisatorisches Erbe einer europäischen Militärmacht, Katalog-Handbuch zur Landesausstellung des Freistaates Bayern, Rosenheim, 2000*. Mainz am Rhein: Philipp von Zabern.
- Warden, P.G. 2002. "Roman Provincial Bronzes in the Hilprecht Collection, University of Pennsylvania Museum." In *From the Parts to the Whole: Acta of the 13th International Bronze Congress, Held at Cambridge, Massachusetts, May 28-June 1, 1996*. Vol. 2, edited by C.C. Mattusch, A. Brauer, and S.E. Knudsen, 128-34. *JRA Suppl.* 39. Portsmouth: Journal of Roman Archaeology.
- Webster, G. 2002. "Catalogue of Military Equipment." In *The Legionary Fortress at Wroxeter*, edited by J. Chadderton, 105-23. London: English Heritage.
- Wilson, P.R. 2002. *Catactonium: Roman Catterick and Its Hinterland: Excavations and Research, 1958-1997*. Pt. 2. York: Council for British Archaeology.
- Yadin, Y. 1966. *Masada: Herod's Fortress and the Zealots' Last Stand*. London: Weidenfeld and Nicolson.
- . 1971. *Bar-Kokhba: The Rediscovery of the Legendary Hero of the Last Jewish Revolt against Imperial Rome*. London: Weidenfeld and Nicolson.
- Zampieri, G., and B. Lavarone. 2000. *Bronzi antichi: Statuette figurate egizie etrusche venetiche e italiche, armi preromane, romane e medioevali, gioielli e ogetti di ornamento, instrumentum domesticum domesticum dal deposito, del museo archeologico di Padova*. Roma: "L'ERMA" di Bretschneider.
- Zimmer, G. 1990. *Griechische Bronzegusswerkstätten: Zur Technologieentwicklung eines antiken Kunsthandwerker*. Mainz am Rhein: Philipp von Zabern.