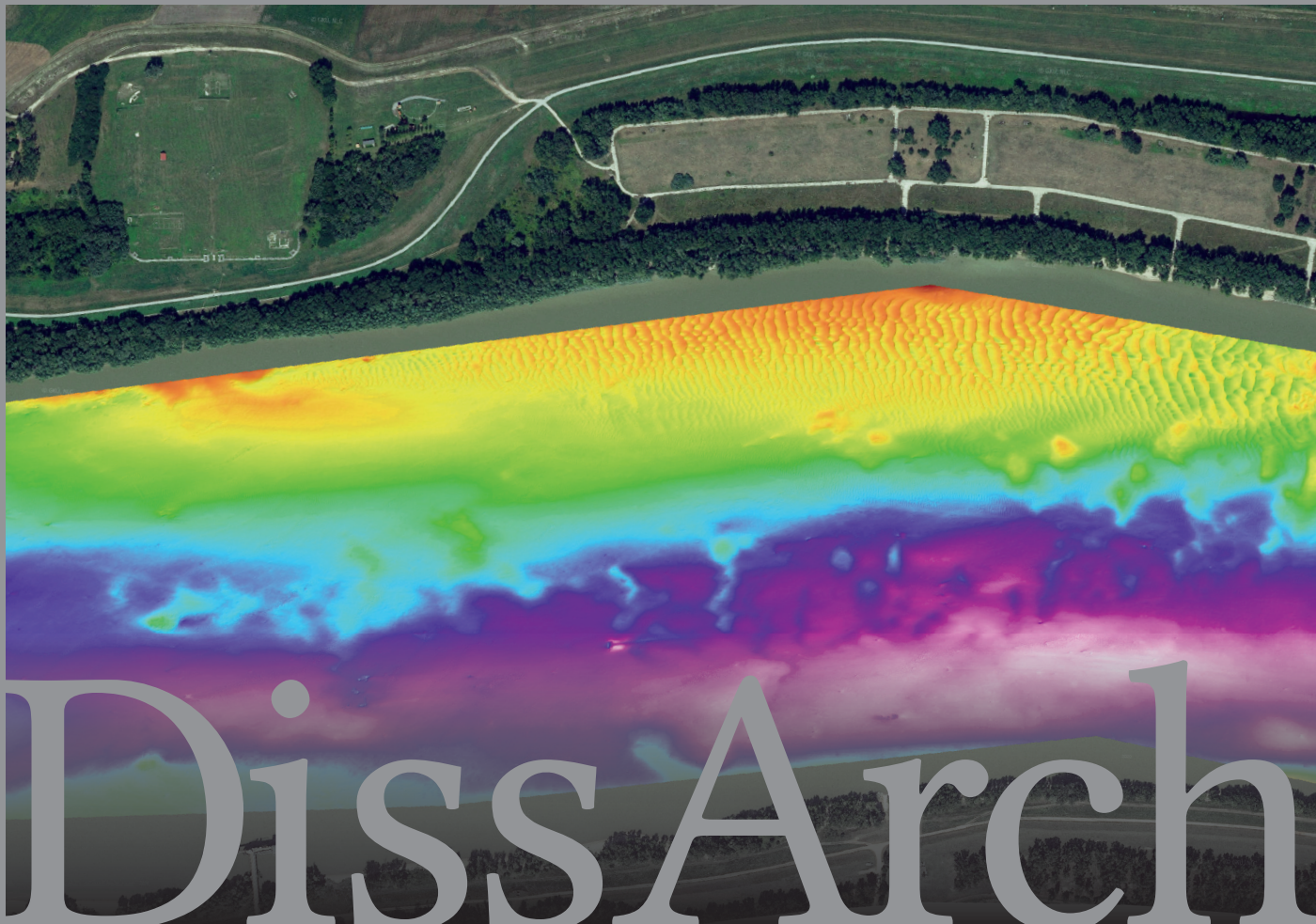


DISSERTATIONES ARCHAEOLOGICAE

ex Instituto Archaeologico

Universitatis de Rolando Eötvös nominatae



DissArch

Ser. 3. No. 13. | 2025

Dissertationes Archaeologicae
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ISSN 2064-4574 (online)

Publisher

Lénárd DARÁZS

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Evidence of fishing from the excavations of the Roman fortress of Sexaginta Prista (Ruse, Bulgaria)

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Received 4 July 2025 | Accepted 14 August 2025 | Published 30 January 2026

Abstract: The excavations of the Roman fortress of Sexaginta Prista (Ruse, Bulgaria) were carried out in 1976–1978, 2005–2010, and 2015–2022, respectively, revealing strata associated with the Late Hellenistic, Roman, Late Roman, Medieval and Modern periods. The subject of this paper is the 38 lead fishing net weights (sinkers) from the recovered find material, almost all of which were found in 4th–6th-century AD structures and layers.

Keywords: fishing net weights, cast net sinkers, Late Roman Period, Sexaginta Prista

Fishing is inextricably linked to the lives of people residing next to large and small water sources—rivers, lakes, seas, and oceans. Direct information about fishing is provided by images appearing on various objects made of diverse materials, as well as those found in literary sources. The archaeological record also provides evidence of fishing, in the forms of skeletal remains of fishes and other aquatic organisms, as well as the remains of fishing equipment. The tools of fishing—fishing rods, harpoons, and various types of nets—have remained largely unchanged from prehistoric times to the present day.

Hooks and harpoons are undoubtedly related to fishing; they may be made of bone or metal, most often bronze. Cast net weights or sinkers, a rather diverse find group, are more problematic to identify, as their interpretation often depends on the find context. Such weights were made of pottery, stone, or lead. This paper provides a detailed examination of the 38 lead sinkers discovered in the territory of the Late Roman fort of Sexaginta Prista (Ruse, Bulgaria).

The town of Ruse is situated on the lower reaches of the Danube, the second-longest river in Europe (2,852 km). Sexaginta Prista lies in the central part of the modern town, on a natural elevation next to the bank of the Danube River, near the confluence of the Rusenski Lom River (Fig. 1). Felix Kanitz identified the site based on the distances between the forts on Roman road maps (*itinerarii*) at the end of the 19th century. Only a few years later, in 1906, Karel Skorpil reported on the Roman fortress. Several stray finds from the area of the ancient Sexaginta Prista are briefly mentioned in various publications.¹

While Roman building remains and graves have been repeatedly brought to light by construction works in the town throughout the 20th century, the first archaeological excavations were only con-

1 VARBANOV 2019, 42–63.

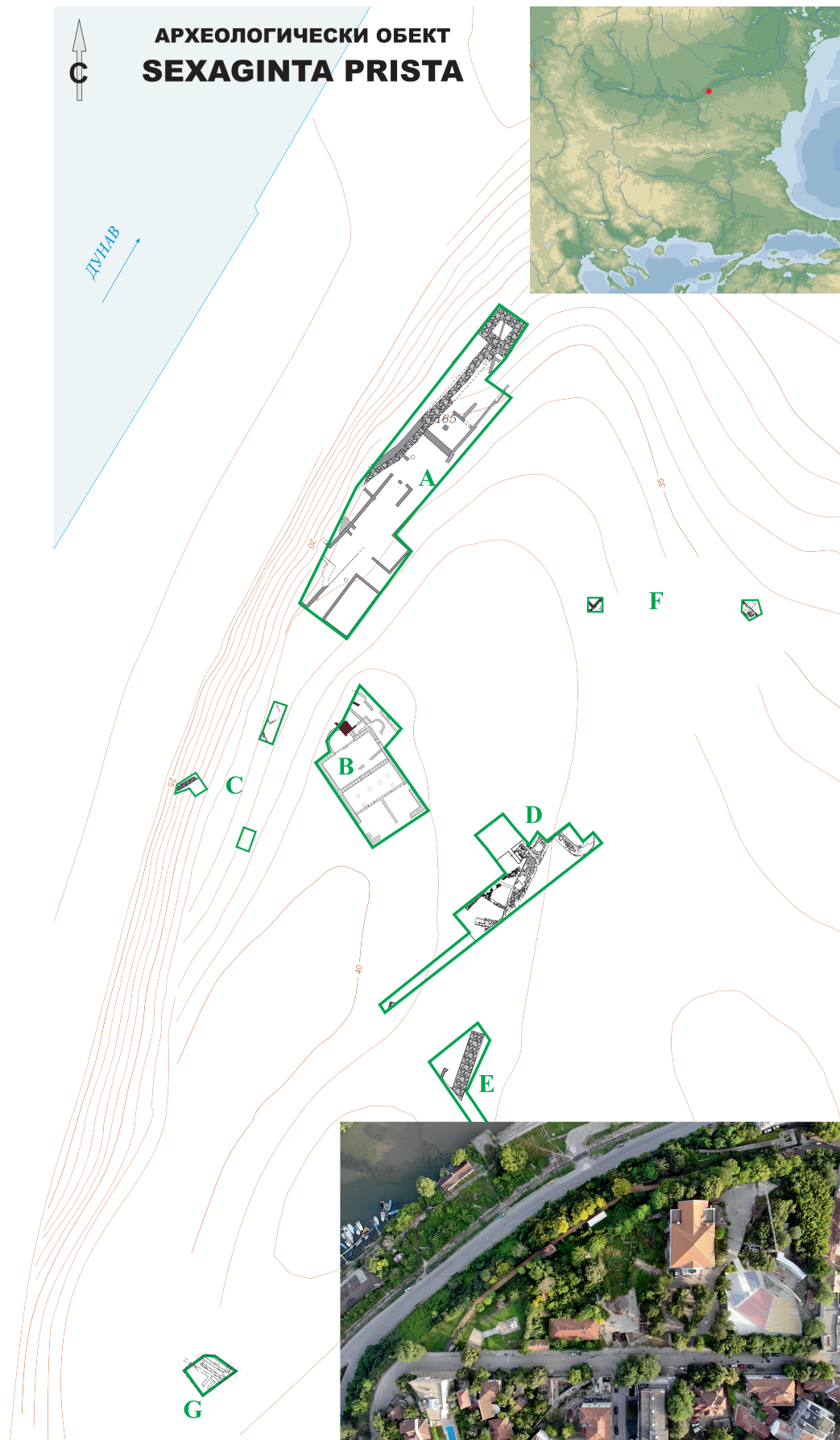


Fig. 1. Sexaginta Prista: location and main plan of the excavated structures.

The oldest horizons of the site, discovered under the remains of the Late Roman fortress of Sexaginta Prista, were associated with the Late Hellenistic Period (2nd century BC–1st century AD). The identified features include a house, 183 pits, an *eschara* (sacrificial hearth), ten fireplaces, and five external ovens. Based on the uncovered structures, the site was part of an important commercial, economic, and religious centre.⁴ Remains of various fish species—mostly carp, white fish, catfish, pike and, rarely, sturgeon—were found in about 80% of the unearthed features.⁵ Until now, only a single lead weight has been discovered in these layers that could be identified as part of some fishing equipment, probably a fishing rod (Fig. 7.1). It was recovered from Pit 64 in Sector B, dated to the 1st century BC–first half of the 1st century AD (Fig. 2).

A few lead objects have been discovered in the Late Hellenistic strata; about 90% of them were brackets for repairing pottery vessels, often found together with shards of the repaired vessels. The recovery of large amounts of fish bones is evidence of intensive fishing during that period. Cast nets were probably used at the time, but the related weights were likely made of stone or pottery.⁶

The remains of a non-fortified settlement (*vicus*) were identified above the Late Hellenistic layers. It appears to have existed from the end of the 1st or the beginning of the 2nd century AD until the end of the 3rd century AD, and suffered several attacks by the Goths in the mid-3rd century AD. The remains of a dozen buildings, a temple dedicated to Apollo and the Thracian Horseman, and twenty pits dating to the 2nd–3rd centuries AD could be attributed to this period. Although the related find material abounded with lead finds, only one, a piece recovered from the temple of Apollo and the Thracian Horseman (Fig. 3), could be associated with fishing (Fig. 7.2). It was published and interpreted as an amulet;⁷ however, its relatively large weight raises the possibility that it was actually a fishing rod weight.

The Late Roman fortress of Sexaginta Prista was erected in the place of the Roman *vicus* at the beginning of the 4th century AD. Altogether, 24 cylindrical lead sinkers (Fig. 7.3–38) have been recovered from the related 4th–6th-century AD layers.⁸ Three of them (Fig. 7.6,17,30) were found

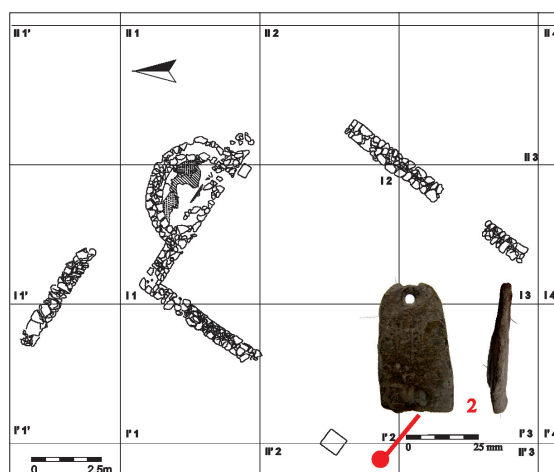


Fig. 3. Sanctuary of the Thracian Horseman and Apollo in sector B.

4 VARBANOV 2019, 47–54.

5 Until 2010, Assoc. Prof. L. Ninov from the National Institute of Archaeology with Museum – BAS analysed the archaeozoological record of the site. In 2015, Assoc. Prof. Diana Vladova from Trakia University of Stara Zagora took over this task.

6 Several stones with holes and grooves for guiding ropes were found in the Late Hellenistic layers. Moreover, some of the over eighty objects retrieved from these strata, identified as spindle whorls, may also be sinkers, although their size and weight distinguish them from the finds certainly identified as sinkers from the territory of present-day Spain. For a typology of stone and pottery sinkers, see BERNAL CASASOLA 2010, 98–104.

7 VARBANOV 2011, 177.

8 Altogether, twelve more probably Late Roman weights have been found in 19th-century layers and pits. Round objects with a hole in the middle, made of bricks, have also been identified as fishing net weights (Fig. 7.39). Such finds are common due probably to the high availability of the raw material; accordingly, more than fifty such weights have been retrieved, mainly from the Late Roman strata of the fortress. Stone and pottery sinkers will be discussed in a separate publication.

in the area of the *principia* of Sexaginta Prista in a mid-5th-century AD context (Sector B in Fig. 1; Fig. 4). Another 28 (Fig. 7.3–4,7–8,11–12,14–16,18–24,26–29,31–38) have been found in the trenches covering parts of the south-eastern fortification wall (Sectors D and E in Fig. 1; Figs 5–6); most were retrieved from layers dated to the first half of the 5th century AD, and some from a 6th-century AD stratum. Five more net weights (Fig. 7.5,9–10,13,25) were discovered in 4th- and 5th-century AD buildings and modern layers in sectors F and G (Fig. 1).

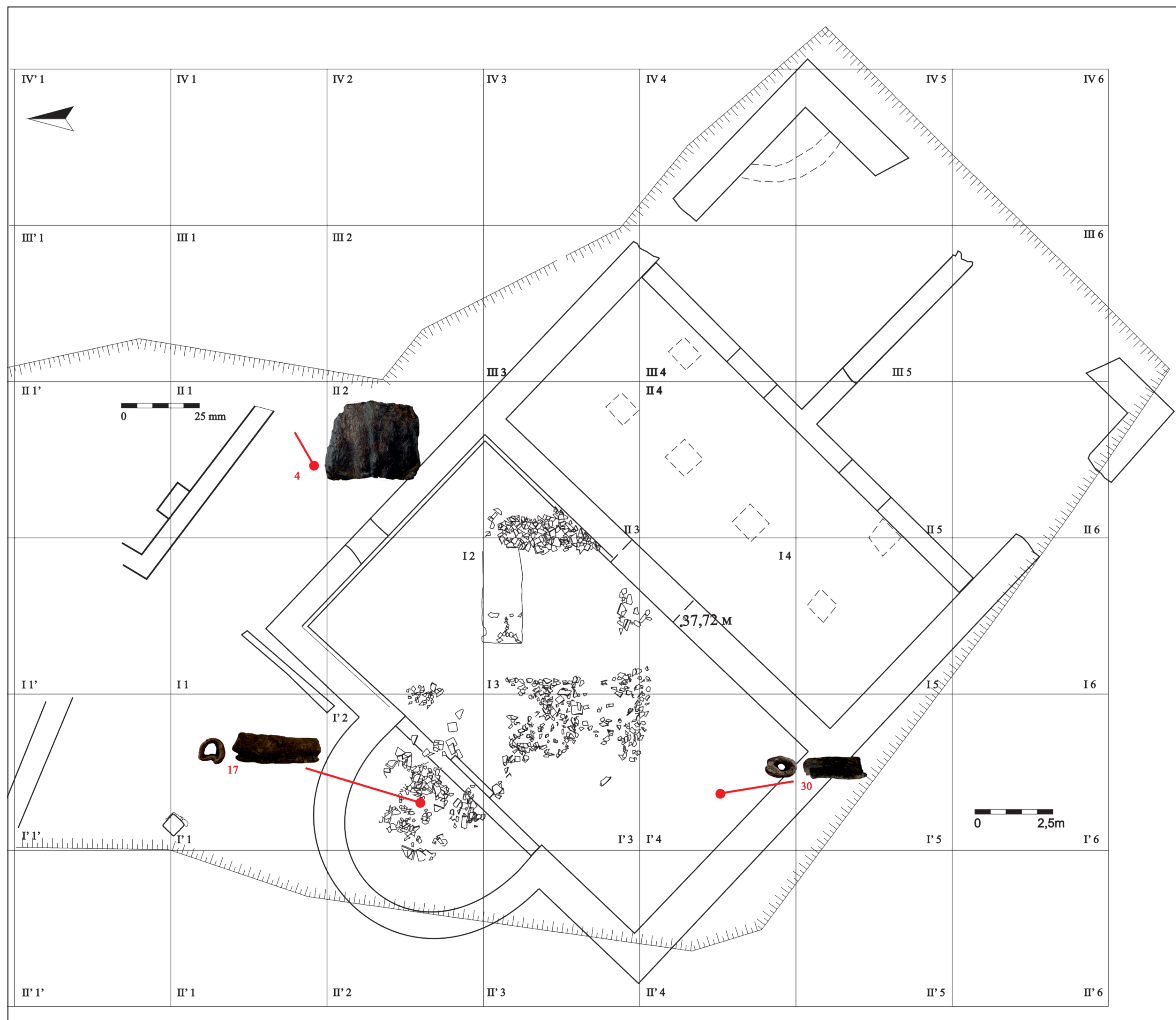


Fig. 4. Principia of the Late Roman fort of Sexaginta Prista in sector B.

All lead sinkers discovered in Sexaginta Prista are rectangular metal sheets rolled into cylinders. They were fastened at small distances (3–5 cm) along the lead line of a round cast fishing net of a diameter of about 1.2 to 4.0 m.⁹ Their length varies from 13.6 to 44 mm (with 22 pieces measuring between 20 and 30 mm), and they weigh between 4.03 and 17.55 g (23 pieces weigh over 10 g). Only one specimen (Fig. 7.38) has different dimensions, weighing 170 g and measuring 80 mm in length. All cylindrical weights were found in the Late Roman and the subsequent layers, with a concentration on the inner side of the fortification wall.

9 For the various types of nets and a typology of lead net weights, see DÜTTING – HOSS 2014, 434; GALILI *et al.* 2002, 197–198. The most common nets in Bulgaria have a diameter of approximately 4.0 m and contain around 300 lead sinkers, weighing up to 8 kg. Casting them required specific skills acquired through long practice (I am grateful for the information about the technical details to Ivaylo Porozhanov, a traditional fisherman from the town of Tutrakan).

Until recently, ancient fishing—especially its tools—received little special attention in Bulgarian and European archaeology. The discovered hooks and harpoons were accepted as unquestionably related to fishing. Stone, pottery and lead sinkers were also assumed to be part of fishing nets; however, these finds have been rather neglected and often remained unpublished.¹⁰ In Bulgarian archaeological literature, lead sinkers have generally been mentioned briefly, mostly without weights and dimensions. The exceptions include a few pieces from the Late Roman levels of the fort of Yatrus, which were published in a catalogue.¹¹

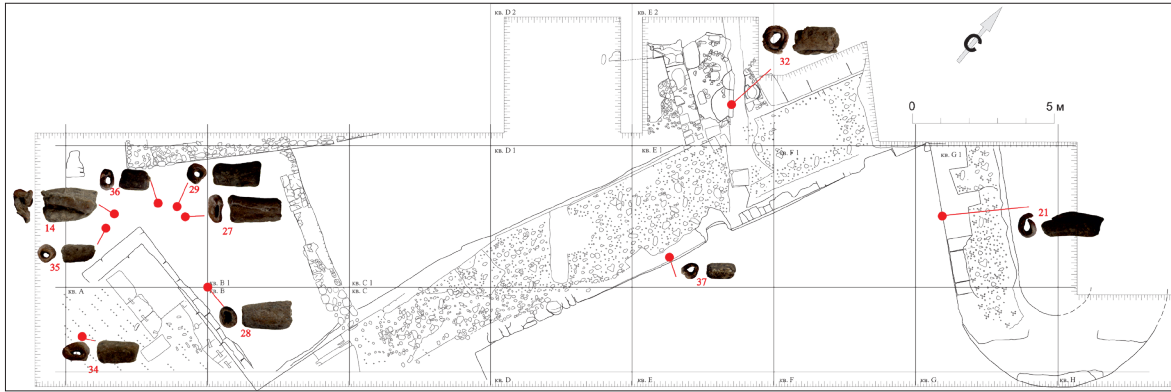


Fig. 5. Part of the southeastern fortification wall and tower of Sexaginta Prista in sector D.

The specialised study of fishing tools from Antiquity and the previous historical periods began only in the early 21st century. The finds from several shipwrecks discovered off the coast of Israel, near the city of Haifa, have been published, and a typology of lead and stone sinkers has been developed based on over 1,200 specimens.¹² Similar frameworks have been developed for the finds discovered in the Spanish and Portuguese Mediterranean coastal areas.¹³ The most recent research topics include the Roman lead sinker finds from the north-western provinces of the empire,¹⁴ while the broader subject of fishing was the focus of two major international conferences.¹⁵ The problem has also been discussed in publications focusing on sites in the Northern Black Sea area.¹⁶

Cylindrical lead sinkers have been made and used in the Eastern Mediterranean since the Bronze Age. Based on the evidence of the archaeological record, they remained in use until the end of the Roman Period and were also used in Northern Europe during the Middle Ages.¹⁷ While they are common finds in sites within the territory of Bulgaria, they are rarely mentioned in the literature and remain mostly unpublished; furthermore, none are known from the Hellenistic and Late Hellenistic periods.¹⁸ A flattened lead weight was discovered in a 1st-century AD layer at a temple of Diana near the village of Koshov in the Ruse region,¹⁹ and another sinker was found in a 1st century stratum in Transmarisca

10 See the collected information on prehistoric sinkers from Northern Bulgaria in [MARKOV 2020](#), 37–55.
 11 [GOMOLKA-FUCHS 1991](#), 194. Bulgarian colleagues presented sites from the Bulgarian Black Sea area at the international congress titled *Fishing and Greek Colonization in the Black Sea during Antiquity* in Paris in 2021; the conference volume is yet to be published.
 12 [GALILI et al. 2002](#), 182–201.
 13 [BERNAL CASASOLA 2010](#), 83–138.
 14 [DÜTTING – HOSS 2014](#), 429–442.
 15 [BEKKER-NIELSEN 2005](#); [BEKKER-NIELSEN – BERNAL CASASOLA 2010](#).
 16 [KLENINA 2018](#), 288–296; [HMELEVSKII 2015](#), 227, etc.
 17 [DÜTTING – HOSS 2014](#), 438–440; [HMELEVSKII 2015](#), 227. In fact, such net weights are still in use today.
 18 The observation is based on sites in North-eastern Bulgaria, in the research of which the author has participated or to which the author has access for documentation purposes.
 19 Excavations in 2022. IN 10, dimensions: 29.6 × 21 mm.

(Tutrakan, Silistra District).²⁰ A study presenting the fortress at the town of Mezdra, District of Montana, mentions a pile of weights discovered in a sanctuary dated to the end of the 3rd century AD.²¹ Seven cylindrical lead sinkers and an iron fishing hook were unearthed during the excavations of a non-fortified settlement (*vicus*) at the village of Gorsko Ablanovo (Targovishte District) in a level dated to the first half of the 3rd century AD.²² Moreover, three lead weights were discovered in a late 3rd-century AD layer next to the southern fortification wall of Transmarisca.²³

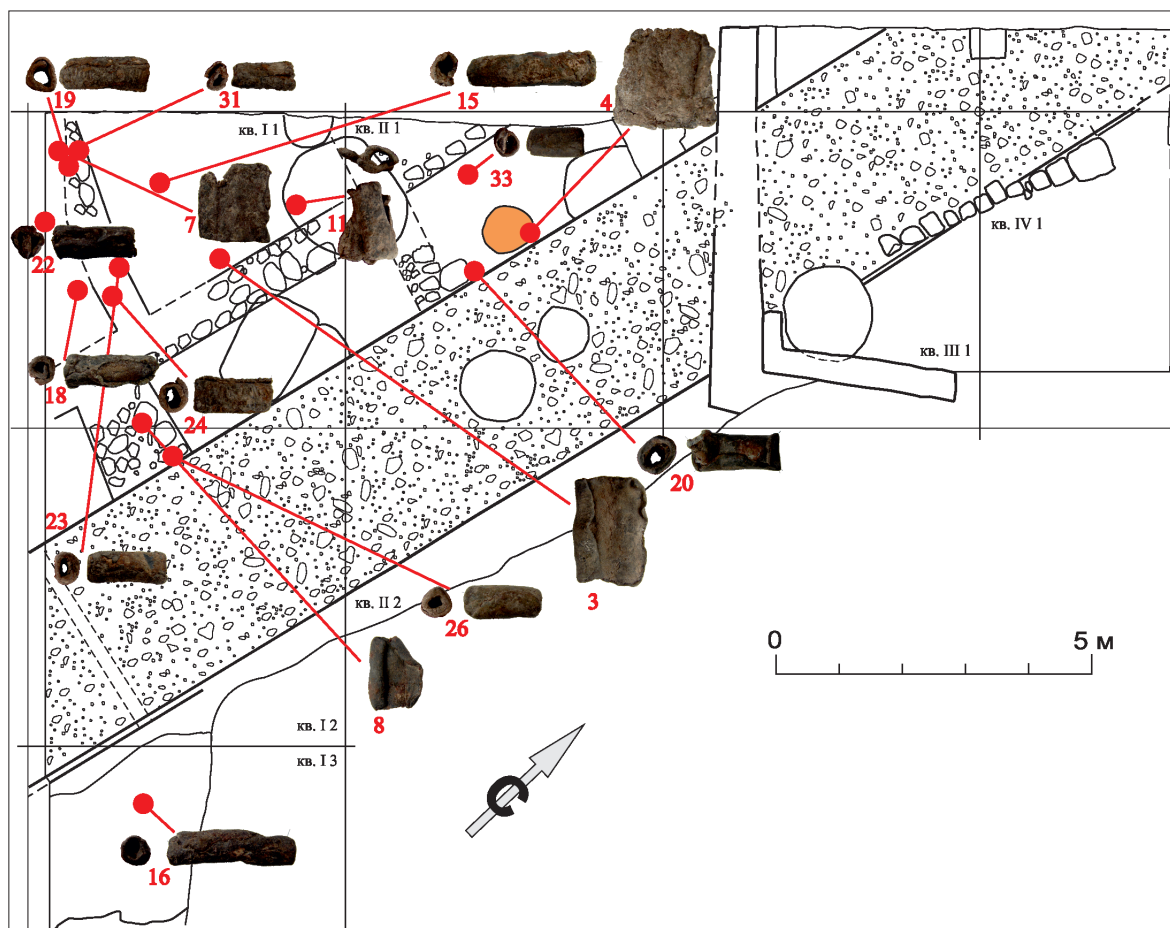


Fig. 6. Part of the southeastern fortification wall of Sexaginta Prista in sector E.

Regarding such finds from the Late Roman Period, three lead weights have been recovered from Late Roman and medieval contexts, respectively, during the excavations at Scaidava (Batin, Ruse District).²⁴ Seven cylindrical fishing net weights are known from Late Roman strata of the fortress

20 The excavations were conducted from 2020 to 2022, with a studied area of 100 m² (VARBANOV 2021, 173–184). IN 143, dimensions: 27.5 × 17.8–14.5 mm, weight 20.0 g.

21 TORBATOV – IVANOVA 2010, 333.

22 The settlement is close to the Beli Lom River. The trench excavations, covering an area of 340 m², were conducted in 2007–2008 (TORBATOV 2008, 55–66). The hook (IN 59/2008) is 32 mm long. The lead weights (IN 32, 42, 48 and 71/2007) are cylindrical and measure 23.5 × 5–6 mm, 10.6 × 6–10 mm, 20.5 × 11 mm, and 20 × 7–9.2 mm, respectively. Three pieces were discovered in 2008 (IN 29, 36 and 40). Dimensions: 25.5 × 9 mm, 18.9 × 59 mm, 22 × 6–8 mm. I am grateful to Prof. Sergey Torbatov for this information.

23 IN 77/2021: 36 × 12–15 mm, weight 84.56 g; IN 68₁₋₂/2022: 1, 13.2 × 12.5 mm, weight 8.51 g, 2, 11.5 × 11.8 mm, weight 6.59 g.

24 The excavations were conducted in 2013–2014, with trenches covering an area of 100 m². The discovered weights include IN 25/2013 (22.4 × 7.5–9 mm), IN 31/2013 (unfolded; 25 × 23 mm), and IN 3/2014 (unfolded; 28 × 37 mm).

of Transmarisca.²⁵ All 33 cylindrical lead sinkers retrieved from the Roman Imperial Period and Late Roman fortress of Trimammium (Mechka, Ruse District) were found in contexts dating from the 4th to the 6th century AD.²⁶ Evidence of fishing was also found in all strata of the excavations at the fort of Caria (Shabla, Dobrich District): six bronze fishing hooks of various sizes and fourteen cylindrical lead sinkers were recovered from the 5th–6th century AD layers.²⁷

Cast net sinkers and lead objects in general are barely attractive to archaeologists and treasure hunters. Thus, they rarely end up in museum collections in Bulgaria, which in turn partly explains the general lack of research dedicated to ancient fishing. The detailed publication of these ‘unattractive’ finds, especially their find contexts, contributes significantly to the reconstruction of how fishing and related activities evolved in the Black Sea area, along the nearby rivers, and near other water sources in inland Bulgaria. In the current body of data from sites in present-day North-eastern Bulgaria, most cylindrical lead sinkers originate from 4th–6th century AD layers, are considerably rarer in earlier Roman layers, and are absent from pre-Roman ones. These finds are indisputable evidence of the role of fishing in the life of Roman soldiers at the *limes*.²⁸

Catalogue²⁹

1. Conical lead weight, perforated. H: 13.8 mm, d(b): 10.4–11.4 mm, wg: 6.31 g. Inv. no. 86/2008. Pit 64 in Sector B (1st century BC– early 1st century AD) (Fig. 7.1).

2. Flat, rounded rectangular lead weight with perforation in the upper part. H: 40 mm, w: 22 mm, t: 6 mm, wg: 32.82 g. Inv. no. 2297. Roman layer in Sector B (second half of the 3rd century AD) (Fig. 7.2).³⁰

3. Folded lead sheet. H: 38 mm, w: 26.6 mm, t: 1.7 mm, wg: 15.24 g. Inv. no. 982/2015–2. Modern layer in Sector E (19th century). Unpublished (Fig. 7.3).

4. Unrolled lead sheet. H: 35 mm, w: 34.2 mm, t: 1.8 mm, wg: 16.08 g. Inv. no. 358/2015–2. Late Antique layer in Sector E (first half of the 5th century AD). Unpublished (Fig. 7.4).

5. Half-rolled lead sheet. H: 32 mm, w: 20.5 mm, wg: 7.18 g. Without Inv. no. (2022). Modern layer in Sector G (20th century AD). Unpublished (Fig. 7.5).

6. Unrolled lead sheet. H: 29.7 mm, w: 36 mm, wg: 9.20 g. Inv. no. 43/2005–2. Modern pit in Sector B (19th century AD). Unpublished (Fig. 7.6).

7. Unrolled lead sheet. H: 28.4 mm, w: 25.5 mm, t: 1.3 mm, wg: 7.21 g. Inv. no. 532/2015–2. Late Antique layer in Sector E (first half of the 5th century AD). Unpublished (Fig. 7.7).

8. Half-rolled lead sheet. H: 23.6 mm, w: 17.2 mm, t: 1.0 mm, wg: 5.85 g. Inv. no. 892/2015–2. Late Antique layer in Sector E (6th century AD). Unpublished (Fig. 7.8).

25 IN 78/2020 and IN 37/2021: 24.6 × 8 mm, weight 8.26 g; IN 61/2021: 255 × 9.5 mm, weight 8.11 g; IN 75/2021: 30.6 × 11.5 mm, weight 12.38 g; IN 55/2022: 43.2 × 6.3–7.9 mm, weight 8.81 g; IN 98/2022: 26 × 7–12.5 mm, weight 7.27 g; and IN 113: 33 × 10–14 mm, weight 21.35 g.

26 The excavations, conducted over a total area of 350 m², took place from 2006 to 2009 and in 2017 (TORBATOV 2012, 429–460). The weights from Trimammium will be published in a separate article.

27 The excavations of the south-western section of the fortress were conducted between 2016 and 2023 (TOŤEV *et al.* 2023, 301–315). The fishing tools from Caria will be discussed in another paper.

28 Dütting and Hoss have conducted a thorough analysis of the situation in the north-western provinces of the Roman Empire and concluded that the cast fishnet became widespread in these parts of Europe with the arrival of the Romans. Large-scale production of silver coins from the end of the 1st century BC, during which lead was separated as waste, promoted the use of lead objects (as net sinkers, for example). Fishing with cast nets was perhaps an occupation reserved for professionals, likely soldiers (DÜTTING – HOSS 2014, 439–442).

29 Abbreviation: h = height; d = diameter; t = thickness; w = width; b = base; wg = weight. The numbering of the items in Fig. 7 matches the catalogue.

30 VARBANOV 2011, 177.

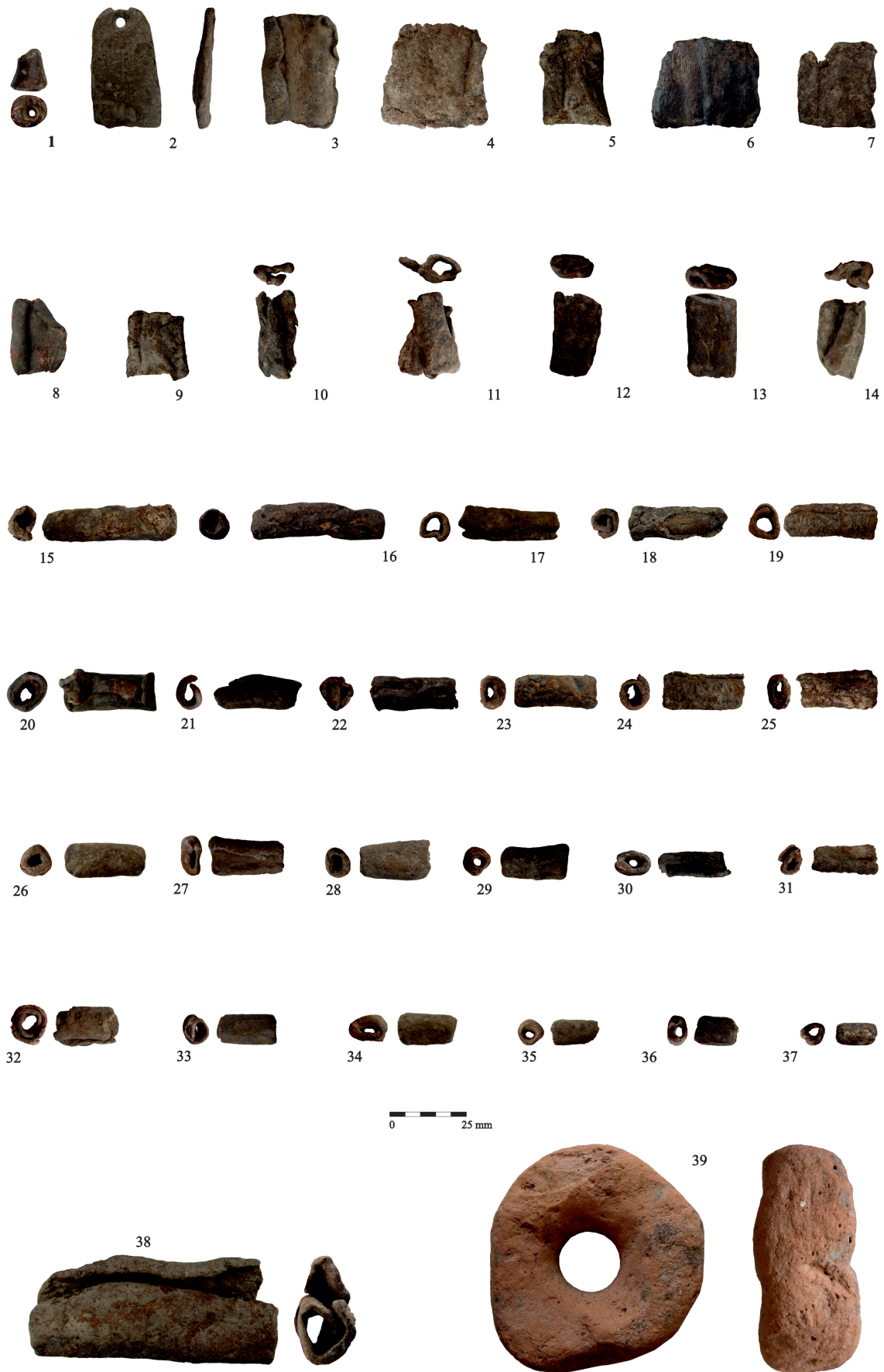


Fig. 7. 1-38 – lead net-sinkers found in Sexaginta Prista, 39 – clay net-weigh.

9. Folded lead sheet. H: 22 mm, w: 21 mm, wg: 5.45 g. Without Inv. no. (2022). Late Antique layer in Sector G (4th–5th century AD). Unpublished (Fig. 7.9).
10. Folded lead sheet. H: 29.2 mm, w: 12.5–7 mm, wg: 7.69 g. Inv. no. 57/2020. Modern layer in Sector F. Unpublished (Fig. 7.10).
11. Half-rolled lead sheet. H: 28.4 mm, w: 21 mm, wg: 10.04 g. Inv. no. 483/2015–2. Late Antique layer in Sector E (first half of the 5th century AD). Unpublished (Fig. 7.11).
12. Rolled lead sheet. H: 27.6 mm, d 14.3–17.1 mm, wg: 10.98 g. Inv. no. 251/2015–1. Late Antique layer in Sector D (4th–5th century AD). Unpublished (Fig. 7.12).
13. Rolled lead sheet. H: 27.5 mm, w: 16–7.3 mm, wg: 15.94 g. Inv. no. 2660. Modern layer in Sector F. Unpublished (Fig. 7.13).
14. Half-rolled lead sheet. H: 26.5 mm, w: 13.7–8.2 mm, wg: 10.24 g. Inv. no. 22/2020. Modern layer in Sector D. Unpublished (Fig. 7.14).
15. Rolled lead sheet. H: 44 mm, d: 12.4–9.6 mm, wg: 17.16 g. Inv. no. 493/2015–2. Late Antique layer in Sector E (4th–5th century AD). Unpublished (Fig. 7.15).
16. Rolled lead sheet. H: 40.8 mm, d: 10.4 mm, wg: 17.55 g. Inv. no. 1472/2015–2. Late Antique layer in Sector E (4th–5th century AD). Unpublished (Fig. 7.16).
17. Rolled lead sheet. H: 33 mm, d: 10 mm, wg: 13.87 g. Inv. no. 124/2005–2. Late Antique layer in Sector B (5th–6th century AD). Unpublished (Fig. 7.17).
18. Rolled lead sheet. H: 32.6 mm, d: 11.4 mm, wg: 11.91 g. Inv. no. 489/2015–2. Late Antique layer in Sector E (4–5th century AD). Unpublished (Fig. 7.18).
19. Rolled lead sheet. H: 30.9 mm, d: 12.2 mm, wg: 12.85 g. Inv. no. 318/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.19).
20. Rolled lead sheet. H: 29.7 mm, d: 11.9 mm, wg: 12.90 g. Inv. no. 130/2015–2. Late Antique layer in Sector E (5–6th century AD). Unpublished (Fig. 7.20).
21. Rolled lead sheet. H: 29 mm, d: 11.4–8.9 mm, wg: 10.58 g. Inv. no. 101/2016. Modern layer in Sector D. Unpublished (Fig. 7.21).
22. Rolled lead sheet. H: 27.8 mm, d: 10.8 mm, wg: 11.77 g. Inv. no. 7/2015–2. Modern layer in Sector E. Unpublished (Fig. 7.22).
23. Rolled lead sheet. H: 27.3 mm, d: 14.2 mm, wg: 11.77 g. Inv. no. 239/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.23).
24. Rolled lead sheet. H: 27.2 mm, d: 12.3 mm, wg: 11.39 g. Inv. no. 167/2015–2. Late Antique layer in Sector E (5th century AD). Unpublished (Fig. 7.24).
25. Rolled lead sheet. H: 26.7 mm, d: 12.9–9.6 mm, wg: 12.84 g. Inv. no. 201/2020. Late Antique layer in Sector F (4th century AD). Unpublished (Fig. 7.25).
26. Rolled lead sheet. H: 26.5 mm, d: 12.4 mm, wg: 16.74 g. Inv. no. 165/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.26).
27. Rolled lead sheet. H: 25 mm, d: 11/12.5–6.1/6.5 mm, wg: 10.15 g. Inv. no. 2649. Modern layer in Sector D. Unpublished (Fig. 7.27).
28. Rolled lead sheet. H: 23 mm, d: 13.5 mm, wg: 12.57 g. Inv. no. 2684. Late Antique layer in Sector D (6th century AD). Unpublished (Fig. 7.28).
29. Rolled lead sheet. H: 22.4 mm, d: 8/9.5–10/11 mm, wg: 10.62 g. Inv. no. 34/2655. Late Antique layer in Sector D (6th century AD). Unpublished (Fig. 7.29).
30. Rolled lead sheet. H: 22 mm, d: 11–8 mm, wg: 8.96 g. Inv. no. 19/2007. Modern pit in Sector B (19th century AD). Unpublished (Fig. 7.30).
31. Rolled lead sheet. H: 21.8 mm, d: 11 mm, wg: 5.72 g. Inv. no. 376/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.31).
32. Rolled lead sheet. H: 21.5 mm, d: 12.5–13.5 mm, wg: 13.15 g. Inv. no. 58/2019. Modern layer in Sector D. Unpublished (Fig. 7.32).
33. Rolled lead sheet. H: 19.7 mm, d: 10.2 mm, wg: 7.32 g. Inv. no. 231/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.33).
34. Rolled lead sheet. H: 19.5 mm, d: 11 mm, wg: 6.61 g. Inv. no. 117/2015–1. Late Antique layer in Sector D (4–6th century AD). Unpublished (Fig. 7.34).
35. Rolled lead sheet. H: 16.2 mm, d: 8.7–9 mm, wg: 5.59 g. Inv. no. 2685. Late Antique layer in Sector D (6th century AD). Unpublished (Fig. 7.35).

36. Rolled lead sheet. H: 14.7 mm, d: 10–6.9 mm, wg: 5.29 g. Inv. no. 2650. Late Antique layer in Sector D (5–6th century AD). Unpublished (Fig. 7.36).
37. Rolled lead sheet. H: 13.6 mm, d: 8.6 mm, wg: 4.03 g. Inv. no. 10/2016. Modern layer in Sector D. Unpublished (Fig. 7.37).
38. Rolled lead sheet. H: 80 mm, d: 32–22 mm, t: 3.0 mm, wg: 170 g. Inv. no. 58/2015–2. Late Antique layer in Sector E (first half of 5th century AD). Unpublished (Fig. 7.38).
39. Pottery sinker. Missing (Fig. 7.39).

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