

## Rd Bone objects

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Owing to the availability of the raw material and the simplicity of working it, objects made from animal bone were widely used throughout the entire ancient world, in particular in the Greek poleis of the northern Black Sea littoral.<sup>1164</sup> In Olbia, bone objects are found in all layers of the Lower City,<sup>1165</sup> the Upper City and in the necropolis.<sup>1166</sup> Bones of large cattle, sheep and goats, horns of wild animals and occasionally ivory (which was probably imported as already finished articles) served as the raw materials for these objects.<sup>1167</sup>

In terms of their functional features, the bone objects found in Olbia can be divided into tools, domestic implements and ornaments.<sup>1168</sup> In Sector NGS, the tools recovered from various layers included rasps, polishers, bodkins, knife hilts and domestic objects – plaques for boxes, astragali and fragments of flutes(?). Also, off-cuts and sawn pieces of bone and horn have been encountered as blanks or wasters.

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<sup>1164</sup> Peters 1986, 5, 23-32.

<sup>1165</sup> Nalivkina 1940, 187-201.

<sup>1166</sup> Nalivkina 1940, 187-201; Semenov 1958, 92-97; Kapošina 1958, 98-112; Krapivina 1993, 136-137; Skržinskaja 2006, 205-206.

<sup>1167</sup> Peters 1986, 26, 105.

<sup>1168</sup> Krapivina 1993, 136.

## Catalogue

### Tools

**Rd-1** 89-606, IV-1 B 253/143. Pl. 365

Rasp made from a metatarsal bone of a bull; cut on four sides. 22 x 3-5.9 x 2.7-5.2. On three sides there are incisions; the fourth is smooth. The roughening has practically worn smooth due to the long use of the tool.

**Rd-2** 93-604. Pl. 365

Fr. of a rasp made from the metapodial bone of a cow. 8 x 3.8-4.9 x 2.2. The bone is trimmed on four sides; the pricking was absent or is not preserved.

Bone rasps were widely used in working hides, and treating leather and wooden articles. With the addition of some abrasive powders, they were employed for polishing bone, metal and stone (marble) objects.<sup>1169</sup>

**Rd-3** 87-226. Pl. 365

Polisher made from the astragalus bone of a horse. 5.3 x 4.8 x 3. The working surface is well worked and smoothed. It was probably used for working hides and polishing leather.

**Rd-4** 91-415, IV-1 B 315/137. Pl. 365

Bodkin made from a tubular bone of a sheep or goat. 11.8 x 0.2-0.62 x 0.2-0.4. Rather carelessly polished and sharpened at one end.

**Rd-5** 94-493, VI-2 B 395a/261. Pl. 365

Bodkin made from antler. H 6.2; Ø 0.3-1.1. The surface is carefully polished; the point is blunted, possibly due to the long use of the implement.

**Rd-6** 91-623, III-1 Stove 329/71. Pl. 365

Bodkin with a circular section made from a tubular bone of a cow. H 11.2; Ø 0.2-0.6. The surface is carefully polished; the two ends are sharpened. Similar implements are quite often found during excavations of cities in the northern Black Sea region, particularly Olbia.<sup>1170</sup>

**Rd-7** 94-742, VI-2 B 395a/266. Pl. 365

Adze(?) or chisel(?) made from the radius of a sheep or a goat. 12.4 x 1.3 x 0.2-1. The surface of the bone is polished and sharpened to a spade-like shape at one edge. It was probably used for working hides or carving soft wood.

**Rd-8** 90-229, IV-2 B 280/160. Pl. 365

Grinder with a round section made from the petrified bone of some prehistoric animal. 11.8 x 4.4 x 3. At one end the bone is worked and smoothed. Probably used for crushing and grinding cereals. No parallels are known.

**Rd-9** 87-153, I-2 R 119. Pl. 366

Knife hilt made from the tibia of a sheep or a goat; polygonal in section. 10 x 1.5 x 0.4-1. Well smoothed on all sides; in the place of the fastening of the iron blade there is a saw-slot with two rivet holes, Ø 0.35. In one of the holes an iron rivet is preserved.

**Rd-10** 87-722, II-3 B 89/12. Pl. 366

Knife hilt with an oval section made from the bone of a cow. 8 x 1.5 x 0.6. Well smoothed on all sides; decorated with a carved design of one row of circles.

**Rd-11** 87-748a, II-3 B 89/12. Pl. 366

Knife hilt composed of two hilt-plates fastened by five iron rivets of which four are extant. 6.8 x 1.9-2.1 x 0.8; Ø of the rivet holes 0.35.

**Rd-12** 87-859, II-1 R 156/7. Pl. 366

Knife hilt made from a tubular bone of a cow. 8.5 x 1.5-1.8 x 0.6-0.95. The surface is well worked and polished; ornamented with transversal incisions. In the place of the fastening of the iron blade, a saw-slot is preserved with a rivet hole Ø 0.3.

**Rd-13** 89-826, II-6 B 260/59. Pl. 366

Knife hilt-plate made from the tibia of a sheep or a goat. 7.2 x 1.3-1.7 x 0.7. The outer surface is polished. Two holes for fastening the hilt of an iron knife, Ø 0.3. In one of the holes, an iron rivet is extant.

**Rd-14** 90-143. Pl. 366

Knife hilt with oval section made from the tibia of a sheep or a goat. 7.6 x 1.3-1.7 x 0.8-0.95. The surface of the hilt is well polished.

**Rd-15** 90-230, IV-2 B 280/160. Pl. 366

Blank for making a knife hilt(?) from antler. 5.7 x 0.6-1.8 x 0.6-1.45. The antler surface is slightly polished; at the end there is a saw-slot, W 0.3, for insertion of the knife blade.

**Rd-16** 93-944, III-3 B 368/106. Pl. 366

Knife hilt with polygonal section made from the tubular bone of a cow. 9.6 x 1.5-1.8 x 0.5. The surface of the hilt is well polished.

**Rd-17** 93-972. Pl. 366

Hilt of an iron knife composed of two hilt-plates with the extant blade tang between them. 6.9 x 1.4-1.5 x 0.7. The plates are fastened to the blade with an iron hoop, W up to 1.

**Rd-18** 93-1029, III-3 R 359/123. Pl. 366

Knife hilt with polygonal section made from the tubular bone of a cow. 12.5 x 1.5-1.8 x 0.6-0.8. The surface of the hilt is carefully polished. In the place of the fastening of the blade a saw-slot, W 0.2-0.3, and two rivet holes, Ø 0.35-0.4.

**Rd-19** 94-223, II-5 B 390/29. Pl. 366

Hilt-plate of a knife. 7.2 x 1.9 x 0.9. The surface is slightly polished. One rivet hole, Ø 0.32, is preserved.

**Rd-20** 94-433, VI-2 R 410/247. Pl. 366

Hilt-plate of a knife made from the tibia of a cow. 7.7 x 1.2-1.5 x 0.7. The surface is polished. Three rivet holes, Ø 0.2-0.3, preserved.

<sup>1169</sup> Peters 1986, 43; Semenov 1958, 94-95.

<sup>1170</sup> Peters 1986, 168, pl. VII; Nalivkina 1940, pl. XLII.1, 2; Krapivina 1993, 84, fig. 87.

**Rd-21** 96-291, VI-3 R 474/287. Pl. 367

Knife hilt with a conical shape and circular section made from antler(?). H 4.6; Ø 1.2-1.8. The surface is well polished and decorated with several rows of a circle design.

Bone hilts or hilt-plates for iron and bronze knives were very widespread in the ancient world due to their ease of manufacture and the availability of the raw material. In Olbia, in particular, they are found in all layers of the settlement and in the necropolis.<sup>1171</sup>

## Articles of everyday life

**Rd-22** 86-1014. Pl. 367

Knucklebone made from an astragalus bone of a bull. 4.5 x 3.8 x 1.4. The astragalus is ground and smoothed on all sides; in the centre, a drilled hole, Ø 0.8.

**Rd-23** 87-227. Pl. 367

Knucklebone made from an astragalus bone of a cow. 6.8 x 4.2 x 3.5. Ground on two sides.

**Rd-24** 87-570, II-3 B 89/10. Pl. 367

Knucklebone made from an astragalus bone of a sheep. 2.8 x 1.5 x 1. Sawn and smoothed on two sides.

**Rd-25** 93-276, III-3 B 368/102. Pl. 367

Knucklebone made from an astragalus bone of a sheep. 2.7 x 1.7 x 1.3. Ground on two sides.

**Rd-26** 93-348, II-2 B 389/87. Pl. 367

Knucklebone made from an astragalus bone of a sheep. 3.4 x 2.1 x 1.5. Ground on two sides.

**Rd-27** 93-372, III-3 R 359/118. Pl. 367

Knucklebone made from an astragalus bone of a cow. 6.8 x 4.2 x 3.5. Two drilled holes, Ø 0.72 and 0.88. On one of the sides there is a graffito II.

**Rd-28** 89-831, II-2 B 248/9. Pl. 367

Knucklebone made from an astragalus bone of a cow. 6.3 x 3.8 x 2.6. Ground on all sides; inside, a drilled hole, Ø 0.7.

**Rd-29** 94-353, IV-2 B 302/182. Pl. 367

Knucklebone made from an astragalus bone of a cow. 6 x 3.8 x 2.9. Ground on one side.

**Rd-30** 94-354, IV-2 B 302/182. Pl. 367

Knucklebone made from an astragalus bone of a sheep. 3.1 x 2.1 x 1.7. One drilled hole, Ø 0.5.

**Rd-31** 94-366, IV-2 B 302/182. Pl. 367

Knucklebone made from an astragalus bone of a large, horned animal,

sawn lengthwise into two halves. 5.5 x 4.5 x 1.9. Two drilled holes; one all the way through, Ø 0.6.

**Rd-32** 94-597, IV-2 B 302/179. Pl. 367

Knucklebone made from an astragalus bone of a sheep. 2.9 x 1.7 x 1.5. With a hole, Ø 0.3.

**Rd-33** 94-648, VI-2 R 410/251. Pl. 368

Knucklebone made from an astragalus bone of a cow. 4.4 x 2.6 x 1. Ground and smoothed on two sides. On the surface a graffito EIII is scratched with the E turned 90 degrees.

**Rd-34** 94-770, VI-2 R 410/251. Pl. 368

Knucklebone made from an astragalus bone of a large, horned animal. 5.9 x 4 x 1.6. Ground on two sides.

**Rd-35** 97-178, VI-3 R 495/284. Pl. 368

Knucklebone made from an astragalus bone of a sheep. 3.2 x 1.9 x 1.8. The surface is smoothed on three sides.

Astragali were widely used in Greece and the northern Black Sea region as gaming and fortune-telling dice,<sup>1172</sup> as well as amulets and votive sacrifices to gods.<sup>1173</sup> In Olbia, astragali are found in all layers of the town and in the necropolis.<sup>1174</sup>

**Rd-36** 97-344, VI-3 R 477/279. Pl. 368

Spool for thread made from a tubular bone of a large, horned animal; trapezoid in shape with rounded corners. 4 x 2.2-2.9 x 0.5. Well polished on all sides; on one side a design in the form of the number 8 rendered by dots. This spool belongs to type 1 of Boris G. Peters' classification.<sup>1175</sup> Quite a number of analogous spools have been found during the excavation of Olbia.<sup>1176</sup>

**Rd-37** 94-649, VI-2 R 410/251. Pl. 368

Plaque from a casket, trapezoid in shape, made from a horse skull. 4.3-8.7 x 1.8 x 0.3. The surfaces of the plate are well polished; the back side is covered with incisions in the form of oblique lines to aid attachment to the wooden casket. At the corners on the longer side of the trapezium, two drilled holes, Ø 0.28, probably for nails or rivets.

**Rd-38** 94-650, VI-2 R 410/251. Pl. 368

Plaque from a casket; trapezoid in shape, made from a horse skull. 3-6 x 2.2 x 0.3. The surfaces are polished; the back side is covered with incisions in the form of oblique lines.

**Rd-39** 94-651, VI-2 R 410/251. Pl. 368

Plaque from a casket similar to the two described above. 2.8-6 x 2.4 x 0.4. It seems probable that the three plaques were all intended for a single casket. Analogous plaques have been found in Sector AGD in Olbia in a layer dated to the Archaic period.<sup>1177</sup>

**Rd-40** 93-568, IV-4 B 351/218. Pl. 368

Plaque made from the scapula of a bull or a horse. 9 x 1.1-1.4 x 0.1-0.5. The face side is well smoothed.

<sup>1171</sup> Nalivkina 1940, pl. XLII, 7; Krapivina 1993, 136.

<sup>1172</sup> Peters 1986, 77-80.

<sup>1173</sup> Skržinskaja 2006, 206.

<sup>1174</sup> Peters 1986, pl. XVII; Krapivina 1993, 84, fig. 87; Skržinskaja 2006, fig. 219.10.

<sup>1175</sup> Peters 1986, 48-49.

<sup>1176</sup> Peters 1986, pl. VI.7; Skržinskaja 2006, fig. 219.11.

<sup>1177</sup> Skržinskaja, 2006, fig. 219.12.

**Rd-41** 94-652, VI-2 R 410/251. Pl. 368

Plaque from a casket(?). 5.4 x 3.2-4.1 x 0.2. Polished on both sides; on one of the sides graffiti(?) in the form of wavy lines and a circle.<sup>1178</sup>

**Rd-42** 89-342, III-2 R 164/82. Pl. 368

Fr. of a socket made from the tibia of a small, horned animal. Ø socket 2.4; W 1.9; D 0.7. The surface is polished and a hole, Ø 0.4, is preserved.

**Rd-43** 93-844, IV-4 B 351/219. Pl. 369

Socket made from the tibia of a small, horned animal with one hole. Ø 1.8; W 1.1; D 0.4-0.6; Ø hole 0.45.

**Rd-44** 93-845, IV-4 B 351/219. Pl. 369

Socket made from the tibia of a small, horned animal with one hole. Ø 1.8; W 1.1; D 0.4-0.6; Ø hole 0.45.

It is quite probable that the sockets described above were parts of flutes.<sup>1179</sup> However, another interpretation of these objects is also possible, for example for securing the elements of composite objects.

## Blanks and wasters

**Rd-45** 90-231, IV-2 B 280/160. Pl. 369

Pipe made from the femur bone of a small, horned animal. H 7; Ø 1.9-2.3. The surface of the item is thoroughly smoothed; transversal incisions (markings?) are preserved.

**Rd-46** 90-584, IV-2 B 287/171. Pl. 369

Ring made from antler. Ø 3.8-3.9; W 0.6-1; D 1. Cf. Nalivkina 1940, pl. XLVI.2.

**Rd-47** 90-585, IV-2 B 287/171. Pl. 369

Object of antler. 6.9 x 2.9 x 2.6. On the surface a hole, Ø 0.5. The purpose of the object is unclear.

**Rd-48** 94-355, IV-2 B 302/182. Pl. 369

Small pipe of the femur bone of a small, horned animal. 3.5 x 1.2 x 1. The surface shows traces of polishing.

**Rd-49** 94-598, IV-2 B 302/179. Pl. 369

A sawn and ground piece of antler. 7.4 x 2.2 x 1.3-1.7.

**Rd-50** 94-741, VI-2 B 395a/266. Pl. 369

Fr. of an article (a reject?) made from the tubular bone of a large, horned animal. 3.6 x 1 x 0.85. The surface is rather carelessly polished; at one edge of the object a circular groove, W and D 0.1, is cut.

**Rd-51** 97-177, VI-3 R 495/284. Pl. 369

A blank of a piece of antler. H 12.1; Ø 1.1-2.

<sup>1178</sup> This is most likely a blank for producing a duck-head protome, Editors.

<sup>1179</sup> Peters 1986, pl. XV.7.