THE BURIAL-GROUND OF BANDUŽIAI

Summary

The Bandužiai burial-ground is in the south-east part of the Klaipėda suburb. It has been a big burial-ground but, alas, it was destroyed after the war – a gravel-pit was there and arable land.

In 1935 the burial-ground was investigated by E. Nauburas – senior teacher of the Klaipėda pedagogical Seminary. During the excavation several inhumation and cremation graves were found.

In 1974 survey investigations were carried out by L. Vaitkunskienė – senior research associate. 11 inhumation graves from the 3rd-4th millennuim A. D. as well as solitary finds of the 1st-2nd millennium A.D. and of the 10 th-11 th c.

Systematicl investigations started in 1985 and continued till 1989. 79 inhumation and cremation graves were found. Total quantity of investigated graves was 90 with 879 various archaelogical finds in them. The finds of E. Nauburas have not survived.

Of 90 graves 2 graves are double (8 and 43). According to the way of burial they are divided to: a) 61 – inhumation graves, b) 29 – cremation graves.

Inhumation graves: 26 graves of women, 35 graves of men.

The pits are rectangular with rounded corners (Fig. 3, 4, 5, 6, 7–12, 16, 18–20). Some pits have a widened end (at the head) and narrower at the legs (Fig. 6: 19, 15: 63, 16: 65, 17: 71, 20: 81, 23: 90). Pit sizes vary depending on age and sex. They are 50–100 cm wide, 90–250 cm long, with various orientation (table 2).

The remains appear 30–135 cm deep (Table 1), no remnants of coffins. In some graves there were stones touching each other and forming stone circles (Fig. 5: 10, 6: 15, 16; 7: 20, 25; 12: 45). These are remnants of graves with stone circles. In some graves there was only one stone (Fig. 4: 9, 18: 74) abundant remnants of stones were found in areas 18 and 24 (Fig. 3 and 4). In areas 15, 17, 23, 26, 27 there were graves at the stone circles with solitary finds (Fig. 5–9).

The remains of the dead-skeletons are almost ruined, in the majority of graves they were not found at all. The remains and their fragments were found in graves 6, 8, 11, 63, 64, 74, 78, 81, 87, 89 (Fig. 10: 6, 11: 8, 12: 11, 22: 63, 23: 64, 25: 74, 26: 78, 27: 81, 29: 87, 30: 89). From the survived remains of the dead and the positions we can judge that a part of the dead were buried on their backs with streched legs (Fig. 10: 6, 11: 8, 12: 11, 22: 63, 23: 64, 25: 74, 29: 87, 30: 89). In 78 grave the deads were laid on their right side with their heads bent down-right (Fig. 26: 78).

The position of arms varies: the left arm bent on the elbow with the palm on the waist – grave 11 (Fig. 12: 11), both arms bent on elbows, palms on the waists – grave 22 (Fig. 14: 22), both arms bent on elbows with the right hand on the breast – grave 74 (Fig. 25: 74), both arms bent on elbows, the right hand on the waist, the left under the chin-grave 87 (Fig. 29: 87).

Fire rites were performed during funerals. At the bottoms of the pits, sometimes in the graves there were chars. In a woman´s grave 25 at the head there were traces of burned sticks-torches (Fig. 14: 25). The torches were probably burned after the funeral and some rites performed. Torch traces were also found in double cremation grave 43 (Fig. 19: 43A).

A woman´s grave 84 was interesting too. Clay pot was there with 14 amber beads around it and a little brass spiral. This string of beads was put on the pot. No contours of a grave could be seen so it might be modest schroud as a symbol of memory to a dead or perished

woman.

It seems, that there was a custom to put a horse's head or other parts in men's graves. In a man's grave 81 at the end of the pit a rotten skull of a horse was found while at the opposite end – the remains of a horse's leg bones. Solitary horse teeth were found in other graves (14, 21) as well as in the investigated area. The dead are buried in various directions but the north, north-east and north-west direction prevails (Table 2).

Of 29 cremation graves 5 are of women, 21 of men. In three graves the sex of the dead was not determined.

There are three types of cremation graves: a) rectangular with rounded corners (Fig. 15: 27, 28, 32, 16: 33, 36, 20: 46, 47), b) irregular round pits (Fig. 17: 38, 18: 41). The diameter of pits varies – 47–60, 48–50, 145–150, 170 cm, c) oval pits grave 37 (Fig. 17: 37), grave 42 (Fig. 18: 42). The sizes of such pits – 130x195, 126x165, 100x150 cm.

On the bottoms of some cremation graves char and ash was found, especially it was abundant in burial mounds. During funerals the remains of the dead were put on char "bedding" (Fig. 20: 46, 47). The remains were spread in the pit in 15–20 cm layer. Part of remains – bonesand burned things were found in burial mounds, where there were things without cremation. It shows that a part of burial things used to be put in the pits before fillings up. Parting with the dead their relatives put solitary household things, tools, adornment. In cremation graves big pieces of ceramic pots are found, some thrown in burial mounds. It says that pots with food or drink used to be thrown in the graves as an offer.

Finds. In inhumation graves adornments were found in their traditional places, in cremation graves they were spread at the pit bottom or even in the mounds. Tools in inhumation graves were in different locations of graves.

Knives: at the head on the left side g. 4 (Fig. 10: 4), at the left side of a dead at the shoulder – g. 21, at the waist on the left side – g. 10, 16, 60, 64, at breast at the left hand – women's g. 8A and 8B, men's g. 11, 15, 71, at the head on the right side – woman's g. 3, at the right humerus – g. 65, at the right side of the waist – men's g. 80, 86, 89, 90.

Scythes: at the left side of the dead at their heads, scythehandles pointed downwards to feet – g. 5, 10, 20, 60, at the left shoulder, scythehandle across a grave – g. 71, 76, at waists, handles pointed downwards to feet – g. 65, 66, 68, 69; at feet of the dead, scythehandles pointed to the head or across graves – g. 45, 64, 79, 90.

Socketed axes in inhumation graves were in different places: at the right side of the head and shoulders pointed downwards to feet – g. 7, 10, 39, 65, at waists – g. 69, at the right side of thighs – g. 79, at feet, handle pointed to the head – g. 15, 45, 90.

Sharpeners: at feet – g. 45, 90, at the head – g. 65, at a spearhead, g. 70 at a ceramic pot, g. 88 at a shoulder. In g. 66 and 68 at waists.

Sandstone spindle were only in women's graves – at the right side of heads – g. 21 (Fig. 14: 2), near a neck – g. 23, at waist – g. 63, at breast – g. 85.

Awls were found only in women's graves at the right side of the heads – g. 3, 25; at the top of the heads – g. 22 (Fig. 14: 22).

Shaped clay pots were found in men's and women's graves, at their heads or at the right side of the heads (Fig. 26: 66, 27: 79, 28: 85).

Roman coins were found in men's and women's inhumation graves. It seems that they were carried in birch-bark or cloth sacks, they were found at the waists of the dead as they had been fixed in that area. In a woman's g. 24 and a man's g. 5 and 59 3 coins were found in each; in a woman's g. 61 – 2 coin, g. 63, 59 and 71 – 1 coin in each. Coins minted during the rule of Trayan (98–117), Antonin Pius (138–161), Marc Aurelius (161–180), Faustina II (+175), Gordian III (238–244).

A lot of spear-heads were found in inhumation graves, in different locations in graves at the dead: at the right side of the heads g. 5 (Fig. 10: 5), 60 (Fig. 22: 60), 64 (Fig. 23: 64), 71 (Fig. 24: 71), 80 (Fig. 27: 80), 81 (Fig. 27: 81), 89, 90 (Fig. 30: 89, 90) at the left side of the heads – g. 4 (Fig. 10: 4), 9 (Fig. 11: 9), 11

(Fig. 12: 11), 76 (Fig. 26: 76), 79 (Fig. 27: 79), 82 (Fig. 28: 82), 86, 88 (Fig. 29: 86, 88), at the top of the heads – g. 14, 16, at the feet, socket direction towards the head – g. 65 (Fig. 23: 65). In cremation graves the finds were spread: iron needles, little axes, chisels, steels, scoops, a shaver, saddle stirrups, cylindrical locks with keys, various belt links, iron bells, pot pieces, swords and their fragments, battle axes, spear-heads of different forms, sword sheths tips, shield umbos.

In cremation g. 33 the remains of an artisan were found. Except adornment and weapons – fibulae, bracelets, battle axe, there were pieces of brass wire for twisting, semi-products of unknown purpose brass pin, semi-rounded ornamented brass stick (Fig. 31: 1–5). In men's cremation graves 41, 47, 48 and a woman's g. 34 there were scales and their weights. It seem that the buried persons might be connected with trade in the society.

Adornment

1. Head-dress garlands. In a woman's g. 43A ruined head adornment was found which consisted of 12 rows of yellow and blue beads (Fig. 32). In g. 63 and 8 there were only fragments of them – fixing parts (Fig. 33: 2, 1).

2. Necklaces. They were found in men's and women's graves, in inhumation and cremation graves. Brass-plaited necklaces

a. Brass-plaited necklaces. Inhumation graves of women 19 and 25 and in cremation graves of a man 28 there were necklaces in a rather good state (Fig. 34: 1, 2, 3). Fragments of such necklaces were found in men's graves 40, 41, 42, 46, 47, 49, 51–54. Fragments of some survived necklaces end with hooks – g. 25, 28. The hoops of the necklaces are plaited from 3 wires, 0.2–0.5 thick. The thickness of the plaited hoops is 0.9–1 cm.

b. Brass necklaces ending with hooks and a loop. They were found in men's g. 60, 71, 82 in women's g. 72, 73, 85 and in area 88 (Fig. 34: 4–6, 36: 3, 4, 35: 1, 2). Hoop thickness in the middle – 0.2–0.4 cm. These necklaces were of two types: 1) Hoop ends twisted with brass wire; 2) Untwisted ends. One end of such necklaces with a loop, another with a hook.

c. Brass necklace ending with a cone was found in men's cremation grave 32 (Fig. 35: 3). The thickness of the hoop 0.4 cm. Gross of necklace 12,5x14 cm.

d. Brass box-type necklaces. There were 5 of them in women's inhumation graves 24, 84 and in men's g. 27, 32 as well as in the area 94 sg. 4A (Fig. 35: 4–6; 36: 1, 2). One end of these necklaces has a hook, another – a round plate. The top of the plate has ornamentation. Sometimes a part of the hook is used to be hidden under the ornamentated plate. The hoops in the middle are round, without ornamentation. The ends are twisted with a brass wire and form several rings. The necklaces dating from the 4th–5th c. A. D.

e. A brass necklace with a double hoop. Such a necklace was found in a woman's g. 23. 2 hoops in the front part of it, which narrow at the ends which are fused. Diameter – 16,5 cm (Fig. 36: 5).

f. A brass necklace with a twisted hoop was found in a wman's inhumation g. 22. The greatest part twisted. At the ends the hoop goes to a round form (Fig. 36: 6).

3. Bead strings. They decorated the neck. They were found in a woman's cremation g. 43A and a man's cremation g. 26. Brass beads are stringed on a iron wire (Fig. 37: 1). Beads from g. 43A are formed from 4 iron hoops with a stringed brass and brown enamed beads (Fig. 37: 2).

4. Beads. Neck and breast decoration. In a man's g. 9 a string of 7 beads was found (Fig. 38: 1). In a woman's inhumation g. 22 there was a string of beads of 9 brass quadrangle beads, brass links and spirals (Fig. 39).

In a woman's inhumation g. 63 there were 3 strings found. One of 7 beads: 2 of blue glass, 1 gold beads and 2 amber beads (Fig. 39: 5–11). The second string consisted of 9 beads: 2 amber, 2 of greenish glass, 2 of reddish clay, 1 of dark grey glass, 1 of blue mat glass and 1 of dark blue glass (Fig. 39: 12–20). The third string consisted of 1 amber, 1 brass, 1 clay, 1 dark green glass bead (Fig. 39: 1–4). In a woman's inhumation g. 83 a string of beads consisted of 8 amber beads (Fig. 41: 2). In a woman's

inhumation g. 84 a bead string was found with 14 amber beads with brass spiral in the centre (Fig. 41: 1). In a woman's inhumation g. 85 a bead string of 7 amber and 3 blue glass beads was found (Fig. 41: 4). In a man's cremation g. 50 there was a bead string of 5 blue glass beads (Fig. 37: 2).

Both men and women used solitary beads as an adornment. There were such beads in a woman's g. 19, a man's cremation g. 40, a man's inhumation g. 89 (Fig. 42: 1–11).

5. Fibulae

a. Eyes type fibulae in area 2 g. 4 and in area of 78 sq. 3A (Fig. 43: 1, 2). Their surface is decorated with eyes. They are dating from the 1st–2nd c. A.D.

b. Bow type fibulae with a bent leg. They were of 2 types: b 1) plain – of g. 5, 58, 62, 65, 71, 74, 78, 80, 83 and sq. 91–4B, 94–10B (Fig. 43: 3, 9; 44: 1–4). All of them have 2–8 rings at the junction of a leg and a body of a fibulae, twisted with the remaining wire of the fixing. Their length 4.4–7.5 cm; b 2) Bow type fibula with a little knob in the front was found in a woman's g. 61 (Fig. 44: 5). The little knob is similar as that in the front part. At the other end it was broken.

c. Bow type fibula with a rhom-boid leg. In inhumation g. of a woman 85 (Fig. 44: 1). Its length – 4.5 cm.

d. Bow type ringed fibulae. There were 8 of them. All of them have 1, 2, 3 and 4 rings (Fig. 45: 2–8, 46). Their length 8.2–9.3 cm. They are dating from the 3rd–8th c. A. D.

e. Bow type fibulae with long legs. There were 3 of them. 2 in women's g. 19 and 23 and 6 sq. 1A (Fig. 47: 1–3). In g. 19 and area 6 the fibulae have bows of rectangular cross-section, in g. 23 of semi-rounded cross-section. The latter has trapezeid plate in the front part and a knob at the end. Length – 5–9 cm.

f. Bow-type fibulae with crosswise legs. They were in 2 men's inhumation graves 15 and 16 (Fig. 47: 4, 5). Both are casted. The stems are of triangular cross-section. The ends of the spirals have knobs, crosses on the legs. The length of the first 5 of the second – 7.1 cm.

g. Bow-step type fibula was found in 26 sq. 7C. It is casted, ornamented with transverse strokes. Its length 5.8 cm (Fig. 47: 6).

h. Bow type fibula of undertermined form was found in a man's inhumation g. 79 (Fig. 47: 8).

i. Bow type perforated fibula is found in a man's cremation grave 28. It is casted (Fig. 47: 7). Length – 4.3 cm.

j. Horse-shoe fibulae with cylindrical ends. 3 of them were found in men's cremation g. 30, 43B and 44 (Fig. 48: 5–7). In 2 areas 48 sq. 3A and 49 sq. 5A (Fig. 49: 1, 2). The first has a rhomboid form, the other two has a rectangular form. Their surface is decorated with rhombs and triangles. Their sizes 4.8x5.3, 5.1x5.1, 4.1x4.5 cm. Other fibulae were oval without ornaments.

k. horseshoe fibulae with angular ends. 6 were found. They are from different groups.

k. 1) Fibulae with quandrangular heads. 2 were found (Fig. 49: 3, 4). Their bows has oval form narrowing at the ends. The heads are rather tall 0.5 cm. Size 3.5x5.4, 4.5x4.7 cm.

k 2) fibulae with quandrangular heads and drooping sides. There were 3 of them (Fig. 48: 11, 12; 49: 5). The bows are plaited-twisted, at the ends form a uniform complete bow. They measure 3.8x3.8, 5x5.3 and 4.5x5 cm.

k 3) Horseshoe fibulae with ornamentated ends. 5 were found: 3 in men's cremation g. 33, 44, 51 (Fig. 47: 8–10) and 2 in the area (Fig. 49: 6, 7), 3 of them have twisted bows, the rest – plain. The bows are of round, rhomboid, oval cross-sectiond. The heads are 1–2.1 cm tall.

m. Horseshoe fibulae with widening and narrowing ends. There were 4 of them, in men's cremation g. 29, 30, 40 – two (Fig. 48: 1–4). Their bows are thinner in the middle, at the ends they are wider and narrower. Their cross-section is of oval, semiround, round form. 3 of them have ornamentated bows. They measure 4.9x5.1, 4.5x5.4, 5x5.7, 3.7x3.8 cm.

n. Horse-shoe fibula with star-like ends was found in a man's g. 35. The bow is semi-round narrowing at the ends (Fig. 48: 13). The bow ends are stars 1.6 cm). The fibula measures 5x6 cm.

o. Horseshoe fibula with animal ends in a man's cremation g. 36. The greatest part of a

bow is twisted, it is narrowing at the ends. Stylized heads of an animal are ornamentated with dots (Fig. 48: 14). The fibula measures 5.4x5.7 cm.

p. Ringed fibula was found in a man's cremation g. 41. Its bow is of semi-round cross-section. The surface is decorated with rings (Fig. 49: 8). Diameter – 4.2 cm.

r. Circular fibulae. There were 5 of them in women's inhumation graves in 73 – two, 77, 85 – two (Fig. 50: 1–5). Their heads are round and have two round "shoots" 1.5–2 cm in the centre, with blue glass fixed on the surface of the round parts. Fibulae from g. 73 have pendants with chains (Fig. 50: 1, 2). Diameter of fibulae heads 4.8–5.8 cm.

6. Pins.

a) barrel-type pin from a woman's grave 13 with an ornamentated head (Fig. 51: 1). 8.6 cm long.

b) ring pin from the inhumation graves with ring-like head and an ear on it (Fig. 51: 2). Length – 10 cm.

c) stick like pins. They are made from iron and bronze. Found in g. 9, 11, 83, 86, 8, 87 as well as in area sq. 34 4B; sq 146 7A (Fig. 51: 3, 4, 5, 7, 9, 10, 6,* 8). Head's diameter of the iron pins – 1.5–2.2 cm, of the bronze ones – 3.4–4 cm. Length – 7–14.3 cm.

d) cross–shape pin in a woman's inhumation g. 25. It's head is made of 5 plates. Cross width 7.6 cm. Length – 29 cm (Fig. 51: 15).

e) pins with round heads, found in a woman's grave 72 (two) and 74 (two) in areas sq. 106 4A and sq. 125 9A (Fig. 52: 1–4). Diameter – 5.6–5.7 cm. Round „shoots" in the centre. Dating from the 2nd-4th c. A. D. Pendants used to be hanged on such pins. A very nice pendant was found in a woman's grave 74. It consists of 2 pins with round heads and 8 different pendants joined with bronze chains (Fig. 53).

A very interesting pendant was found in a woman's grave 85 which consists of 26 bell-shape pendants. Among them there are blue, green glass beads, amber and ceramic beads and bronze spirals (Fig. 54). Belts and bands were decorated in various ways. Their trimmings were in crema-tion graves of men – 27, 32, 29, 48 (two) (Fig. 55: 4–8). Clothes were fastened with trimmings-fixings. They were found in a woman's g. 75 in sq. 98 1A (Fig. 55: 13, 14). They were fixed in clothes – on one side hooks, on the other – loops.

7. Bracelets

a) round cross-section 4. According to the ends of bows they are of different types:

a_1) ends thicker – in g. 8 and 58 (Fig. 56: 1, 2),

a_2) uniform bow – in g. 8 (Fig. 56: 3),

a_3) bow ends narrower – g. 74 (Fig. 56: 4).

These bracelets are dating from the 2nd–3rd c. A. D.

b) angular cross-section – in sq. 1. Rhomboid bow narrowing at the ends (Fig. 56: 5). It's dating from the 3 rd–4 th c. A. D.

c) spiral bracelets. 5 were found, 3 of them in g. 21, 23, 62 and in 2 areas separately (Fig. 56: 6, 7–10). They have 3 or 9 bows (rings).

d) massive bracelets. Total amount – 4 in g. 25. Semiround and quadrangular cross-section ornamentated (Fig. 56: 11–14). They are dating from the 9th–10th c. A. D.

e. animal-shape ends. 18 were found in cremation graves and in the zone of such graves. According to bow ends they are:

e_1) with widening triangular ends and ornamentated surface (Fig. 57: 1, 2, 15, 17, 19; 58: 8).

e_2) pressed ends. In a man's grave 21–3. Semi-round cross-section. Stylized animals ears are low, ornamentated surface (Fig. 57: 3–5).

e_3) narrowing ends. 7 were found semi-round rectangular cross-section ornamentated (Fig. 57: 6–9, 58: 2, 3, 6, 7). Bows are thicker in the middle. All animal-types bracelets were found in the graves of the 10th–13th c.

f) bracelets narrowing towards ends with knobs. 2 found in g. 21. One has a bow of semi-round cross-section, another – rectangular cross-section. Both are ornamentated. They have knobs at the ends (Fig. 57: 10, 11). They are dating from the 10 th c. A. D.

g) band bracelets. 24 of them were found. According to the shape of a bow they are of the following types:

g_1) semi-round cross-section. 13 pieces wiere found. Some have perpendicular strokes (Fig. 58: 9–13; 59: 1–7). One was without ornamentation (Fig. 59: 8). Some of them have bows narrowing at the ends (Fig. 58: 9–13), some have widening ends (area sq. 6–8B – Fig. 59: 8).

g_2) narrowing towards ends, but the ends are widening in g. 31. A part of a bow has ornaments (Fig. 57: 5).

g_3) bow of uniform width in g. 56. Its bow has group ornaments of strokes, dots, small cuts (Fig. 60: 1).

g_4) slightly prominent bow. In a woman's g. 63. The surface of the bows is decorated with length-wise strokes and dots (Fig. 60: 2, 3).

h) thick ends. 5 were found. 2 in g. 22 and 82 and in the area of inhumation graves. They have round bows widening at the ends (Fig. 60: 4–8). At the ends there's a net-type ornamentation, dots, strokes.

8. Rings.

They were found in women's as well as in men's graves. They are divided to several groups:

a) with a plaited-twisted front part. 2 in women's g. 63 and 74 (Fig. 61: 1, 2).

b) with a thickened front part. 2 in a man's cremation g. 32 and area sq. 50 4B (Fig. 61: 3, 4). Their ends slide apart. Their surface is decorated with perpendicular and lengthwise strokes.

c) with a widened front part. 4 were found in cremation g. 43A and 3 in other areas. Their front parts are widening. The bands are narrower at the ends which slide apart (Fig. 61: 5–8). The widening part of them is decorated with strokes.

d) spiral rings. They were mostly abundant. According to the spiral width they are divided to several groups:

d_1) spiral rings with the widened middle bands. There were 8 of them. 5 in g. 25 (two), 26, 36, 44), other in separate areas (Fig. 61: 9–15). Their surface is decorated with perpendicular strokes and slantwise strokes.

d_2) spiral ring with the widened side bands in g. 74 (Fig. 61: 17). The surface of these rings is decorated with lengthwise strokes.

d_3) spiral rings with triangular cross-section in g. 25 and 34 (two). They have bows of triangular bronze band 0.3–0.5 cm wide. They have 5–6 bows perpendicular strokes (Fig. 61: 1–3).

d_4) spiral rings with semi-round cross-section. The majority of them was found in men's and women's graves. They have 2–10 bows. Part of them have perpendicular strokes (Fig. 62: 4–20), 63: 1–19).

e) band ring in area 23 3A. It seems it's made of the bracelet section. Band width – 1 cm. Its surface is ornamentated with lengthwise strokes (Fig. 63: 20).

Tools, household things, various clothes, horses' harness.

1. Knives.

40 knives and their fragments were found. Mostly in men's graves. According to blades they are divided:

a) with straight blades (Fig. 64: 1–11; 14: 40). They form the absolute majority of the finds. Blade length from 11 up to 24 cm, width – 2.4–3.4 cm, handles fixings – 3.5–6.5 cm.

b) with bent blades. Only 2 were found in a woman's grave 43A and a man's g. 36 (Fig. 64: 12, 13). A fragment of the blade of the first which was 11.7 cm long. The other – 23 cm. Blades width accordingly 1.9 and 2.3 cm. We may suppose that they belonged to some artisan.

2. Scythes were found in 21 grave and 9 areas. Part of them were rather big, others – shorter. The length of blades: 27–33 cm (Fig. 65: 2, 5–7, 9, 12, 14, 15, 17) or 24.5–25.5 cm (Fig. 65: 1, 3). Width – 1.8–3.9 cm. They were bent. Some of scythes have prominent legs (handle fixings).

3. Axes (socketed) were only in inhumation graves and in the zone of such graves. According to the shape of blades they are divided in two groups:

a) axes with blades flattened to one side – towards a handle (Fig. 66: 3–8, 11). Blade length 4.8–5.7 cm. Body length – 14–19.5 cm.

b) axes with blades flattened to both sides (Fig. 66: 1, 2, 9, 10, 12–14, 16–18). Blade length – 4.2–6 cm, body length – 12.5–20 cm.

4. Scoops.

They were found in cremation and inhumation graves. Found in g. 69 was bent,

width – 2.5 cm, blade length – 6 cm (Fig. 67: 4). Others have bent sockets and widened blades (Fig. 67: 2, 7, 8). Length – 3.6–4.1 cm. Scoop from g. 54 have semi-socket and a blade. It reminds a sharpener (Fig. 67: 5).

5. Little axes.

They were found in men's graves from the late Iron age (9th–13th c.) and reminds working axes of that time. The majority of them have normal butts (Fig. 67: 10–12, 14, 15). Other butts are slinghtly bent and flattened (Fig. 67: 13, 17). Length – 5.6–8.5 cm, blade length 4.3–5.7 cm.

6. Chisels were found in men's graves 36 and 40. They have rectangular and round cross-section, diameter – 1–1.3 cm. Length – 7.9 and 13 cm (Fig. 67: 9, 6).

7. Sharpeners.

7 of them were found in inhumation graves and in the zone of such graves. Only 1 was found in a man's cremation g. 32. They are made of yellowish grey sandstone. Their shape – rectangular, sizes vary – 9–12.5 cm long, 3.4–3.7 cm wide, 2.4–5 cm high (Fig. 68: 1–9).

8. Awls.

3 were found in women's inhumation graves and 1 in a man's cremation g. 26 (Fig. 69: 1–4). They are badly survived. Length – 7–11.5 cm.

9. Razor.

It was found in a man's cremation g. 51. A fragment of a blade – 6.7 cm long (Fig. 69: 5).

10. Steels.

They were found in men's cremation graves and in the zone of such graves. According to the shape they are similar – they have bent ends (Fig. 69: 6–11). Length – 5.8–8.6 cm, body thickness 0.3–0.5 cm.

11. Cylindrical locks and keys. They were found in men's cremation graves, but they are badly survived. Their measures – height 5.4–5.5 cm, diameter 2.4–2.7 cm (Fig. 69: 12, 14, 15). 1 key was found far from the lock (Fig. 69: 13). Its length 10 cm and has holes at one end to open the lock.

12. Buckles.

They were found in men's and women's inhumation and cremation graves. Part of them are made of iron, another part – of bronze. They have oval and rectangular shape, bigger and smaller (Fig. 70: 1–11) with ornaments.

13. Pots.

Mostly they were found in inhumation graves and in two cremation graves. All have flat bottoms, moulded of yellowish-greyish-blackish clay, of various forms (Fig. 71: 1–9), their height – 5–7 cm.

14. Pot pieces.

Solitary pieces were found in cremation graves – various parts of them and fragments. Pots were made of yellowish-greenish-greyish clay. Several pots were put in the grave as the found pieces have different ornaments – dots, strokes, wavy lines (Fig. 72: 1–11).

15. Balance and its weights.

They were only in cremation graves. They are severely effected by corrosion, sound were only the beams (Fig. 73: 1–3) 2 weights were found: 1 is disc-shaped, another has a shape of a barrel (Fig. 73: 4, 5).

16. Spindles.

They were in women's graves and accidentally found. They are made of yellowish-grey sandstone. height – 0.7–1.8 cm, diameter 4.1–4.9 cm, without ornaments (Fig. 74: 1–6).

17. Weaving tools.

They were in women's cremation graves – bronze plates and paddles (Fig. 75: 1–10).

18. Trimmings of drinking horns.

Only fragments were found. They are bent of bronze tinplate (Fig. 75: 11, 12).

19. Stirrups were found in cremation graves. Several were in good state, others – only fragments. They measure 14.4–14.6 cm (Fig. 76: 11–14).

20. Spurs.

In men's cremation graves (4). One of them was made of bronze, others – of iron. Their bows are bent of iron or bronze band or rod. All have thorn in the middle (Fig. 76: 7–10).

21. Spacers.

They were found in cremation and inhumation graves, made of bronze. Some are bent of bronze wire, some are moulded. Some have ornaments, their form is round (Fig. 76: 1–6, 15).

22. Bits. In men's cremation and inhumation

graves. They have two links which are made of iron rods (Fig. 77: 1, 3–6). One bit has curbs (Fig. 77: 2).

23. Bells.

In men's cremation graves. Made of iron tinplate, trapezoid or rectangular. They measure 7–11.9 cm (Fig. 77: 7–9).

Weapons.

1. Swords.

They were found only in late cremation graves. 2 were found in good state, 1 fragment of two-bladed sword and parts of handles.

In a man's g. 43B a sword was found which had a blade 82 cm long (Fig. 78: 1). According to the handle knob it belongs to a_1 group and is dating from the 11th–12th c. In area sq. 47 2A a sword was found with a blade 66.5 cm long. According to the handle form it belongs to the antenna type (Fig. 78: 2) and is dating from the 10th–11th c. A fragment of a sword was found in a man's g. 47. It belongs to T-type (Fig. 79: 1) and is dating from the 11th c. Such swords were made in the Baltic region. Fragments of a handle were found in g. 40 (Fig. 79: 2–3). A part of X-type sword handle was in g. 35 (Fig. 79: 4). They are dating from the 10th–11th c.

1a. Sheath trimmings. 2 were found in a man's cremation g. 36. Both have tulip shape (Fig. 79: 5, 6). Their upper edges are profilled with stylized crosses in the middle. They measure 5.2–5.9 cm.

2. Battle axes. 4 were founs in men's cremation g. 27, 33, 37, 51 (Fig. 80: 1–4). They have similar shape, rounded fan-shaped butts. Their blades are a bit thickened. Length – 16.6–22.5 cm.

3. Spearheads. They were the most abundant:

a) socketed and b) hafted. According to the feather shape they are divided to separate types (Classification by V. Kazakevičius).

A) socketed.

1. Type. They have a rhomboid feather. This type is divided in several groups:

1a. long socket and short feather (Fig. 81: 1, 2, 9, 11; 84: 1, 2, 11). Length 11.6–19.5 cm, feather length 6.5–9 cm. They are dating from the 3 rd c. A. D.

1b. short socket and long rhomboid feather (Fig. 84: 3, 8, 7, 14, 12; 83: 13, 14, 15). Length 14.6–24 cm, feather length 9.5–15 cm. They are dating from the 4th–5th c. A. D.

1v. long rhomboid feather and lowered shoulders (Fig. 82: 4, 7, 11, 14, 16–18; 81: 3–8, 12; 83: 9). Length – 10–15 cm, total length – 19–27 cm. They are dating from the 3rd–4th c. A. D.

1g. wide rhomboid feather (Fig. 82: 1, 2, 10; 83: 10–12; 84: 13, 15, 16). Length 9–17 cm, total length 17–26 cm. They are dating from the 4th–7th c. A. D.

2. Type. Big spearheads with profiled feathers (Fig. 81,10; 82: 3, 15; 83: 5, 6, 9; 84: 6, 9). They are 21–33 cm length, feathers length 14–23 cm. They are dating 5th–8th c.

4b. Type. Spearheads of this type have long laurel leaf-shaped feathers (Fig. 82: 6, 10, 13). Feather length – 9.8–10, stocked length – 8.7–10.5 cm. They are dating from the 6th–7th c. A. D., but they still ware used in the 10th–11th c.

5. Type. Spearheads of this type have willow leaf-shaped feathers. Only 1 was found (Fig. 82: 8). Length 21.5 cm, feather length – 10.5 cm. It was found together with a battle axe dating from the 10th–11th c.

6. Type. Lancet spearheads. 4 were found. 3 in inhumation graves and their zones (Fig. 81: 13; 83: 8, 16). Length 18.5–20.5 cm. They are dating from the 7th–8th c. 1 was found in the zone of the cremation graves. It's length 25 cm, feather length 15 cm (Fig. 83: 3), dating from the 11th–12 th c.

B. Hafted spearheads.

8 type. 1 spearhead with a prolonged laurel leaf shape (Fig. 82: 12). Length 25.2 cm, feather length 8.7 cm. It was found together with the finds from the 11th–12th c.

9 type. 1 spearhead with a triangular feather (Fig. 82: 9). It's feather was 7.2 cm long. Total length 20.7 cm. It was found together with the finds from the 11th–12th c.

4. Iron umboes of the shields. 2 were found in men's inhumation g. 64, 68. They are very damaged. According to their shape they are of I group umboes (Fig. 79: 7, 8). Diameter – (g.

68) 11 cm. They are dating from the 3rd–4th c. A. D.

Chronology and ethnic dependence. The graves and their inventory show that the burial process was going on for a long time, 3 iron centuries A.D.: old, middle, late.

The old one is characterized by graves with the found coins of the Roman Empire, boxtype necklaces with twisted up ends, eye-type fibulae, bow-type fibulae with bent legs.

The middle iron age is characterized by graves with bow-type long-legged fibulae, cross-legged fibulae, thick bracelets, spearheads with profiled feathers.

The late iron age is characterized by cremation graves with bronze plaited necklaces with hooked ends, horseshoe-type fibulae with dotted, cylindrical, angular, widening, star-type and animal-type ends, household tools, scoops, chisels, little axes, cylindrical locks and keys, balance and their weights, battle wide–bladed axes, swords, spearheads, etc.

What concerns ethnic dependence of the burial ground, we have already mentioned that there were remains of stone circles at some inhumation graves. But the rest part of graves had no stone circles despite the fact that they are of the same age. According to dr. R.Volkaitė-Kulikauskienė graves with stone circles belong to the Curonians [31, p. 36]. Dr. Tautavičius states that these graves are left by a tribe related to Curonians and Skalvians [8, p. 11].

Graves in the region of the Nemunas delta without stone circle are connected with the graves of the Bandužiai burial ground without stone circles. There and here the finds are similar. The Bandužiai graves material is analogous with such graves that are far to the North from Bandudžiai (in the Kretinga district). Maybe the burials of the Bandudžiai cemetery were influenced by the traditions of the Curonians and Skalvians.

Cremation and inhumation graves of the late Iron Age the Curonian tradition is clearly expressed. Cremated remains are buried in big pits with rounded or oval corners. The things put in the graves were on the bottom or a part of them on the bottom, other things spread in the mound. Analogous traditions are seen in other Curonian cemeteries of that time – Anduliai, Genčai, Kretinga, Lazdininkai, etc. The material obtained show that the Bandužiai burial-ground is culture heritage of the Curonian tribes with some features of the Skalvian culture.

METALLOGRAPHIC ANALYSIS OF IRON ARTIFACTS

Summary

The study presents data on metallographic analysis of 48 iron artifacts: 7 knives (including 1 battle knife), 5 scythes, 15 socketed axes, 2 miniature axes, 2 chisels, 1 steel, 1 stirrup, 3 swords, 4 broad-bladed battle axes with butts, 8 spearheads.

The distribution of investigated artifacts according to different periods is as follows: Old Iron Age (2nd–4th century) – 6; Middle Iron Age (5th–8th century) – 24; Late Iron Age (9th–12th century) – 18 objects.

The artifacts listed above were manufactured from iron and steel, and produced on the basis of various technological methods.

The most usual method employed through all the above mentioned periods was free forging (iron and steel). All the iron, steel and carbonized artifacts are attributed to free forging.

The 48 studied artifacts include 13 objects made of pure iron, which accounts for 27,03%. Distribution of these artifacts according to different periods is as follows (see table 3: 2nd–4th century – 1, i.e. 16,66%. This was a spearhead (analysis No. 869 (see table 5) – fig. 82: 5); 5th–8th century – 10, i.e. 41,66%. These include 1 knife (analysis No. 842 – fig. 64: 27), 5 socketed axes (celts) (analysis Nos. 837, 840, 835, 833, 827 – fig. 66: 3, 4, 14, 15, 18) and 4 spearheads (analysis Nos. 864, 863, 865, 861 – fig. 82: 15, 18, 17; 84: 4); 9th–12th century – 2, i.e. 11,11%: an adze (analysis No. 859 – fig. 67: 9) and a stirrup (analysis No. 987 – fig. 76: 13). The quality of iron was diverse: the iron of knives, scythes and swords contains less slag whereas the iron of socketed axes and spearheads contains more slag.

The number of pure steel artifacts is twicee less – 8 out of 48, i.e. 16,66% of those studied. Their distribution by different periods is as follows: 2nd–4th century – 3. These include a knife – (analysis No. 848 – fig. 64: 7) and 2 scythes (analysis Nos. 854, 855 – fig. 65: 6, 7) which accounts for 50 percent of all the studied artifacts of the period. The 5th–8th centuries yielded 3 artifacts, i.e. 12.5%. These were: a knife (analysis No. 852 – fig. 64: 5) and 2 socketed axes (analysis Nos. 836, 838 – fig. 66: 6, 9); the 9th–12th centuries – 2 artifacts, i.e. 11.11%: 1 scythe (analysis No. 851) and 1 broad-bladed battle axe with a butt (analysis No. 831 – fig. 80: 4). Carbon constitutes 0.2–0.3% in the steel of these artifacts. The artifacts were not tempered.

Carbonized artifacts are also attributed to objects manufactured by using the free forging technique. The 48 studied artifacts include 5 carbonized ones, i.e. 10.4%. The number of carbonized artifacts is different in different periods: the 2nd–4th centuries yielded 1 object, i.e. 16.66%. That was a socketed axe (analysis No. 830 – fig. 66: 8); 5th–8th century – also 1, or 4.16%. Carbonization was noticed on one side of the quill of a spearhead (analysis No. 862 – fig. 81: 13); the 9th–12th centuries yielded 3 objects, i.e. 16.66%. These include a broad-bladed battle axe (analysis No. 831 – fig. 80: 1). an adze (analysis No. 866 – fig. 67: 6) and a scythe (analysis No. 856). The carbon content in carbonized zones is up to 0.1–0.4%. The artifacts were not tempered.

More sophisticated production methods were used to manufacture artifacts the edge or blade whereof is made by welding steel, steel and iron bands together. Artifacts manufactured by welding several steel bands date to the 5th–8th and 9th–12th centuries, no artifacts of this type dating to the 2nd–4th centuries have been found.

The 5th–8th centuries yielded 3 such artifacts, i.e. 12.5% These include 2 knives (analysis Nos. 853, 850 – fig. 64: 4, 25), and a socketed

axe (analysis No. 873 – fig. 66: 13). The steel bands had a carbon content of 0.3–0.5%. The 9th–12th centuries yielded 2 artifacts, i.e. 11.11%. These were a scythe (analysis No. 858) and a double-bladed axe (analysis No. 870 – fig. 79: 1). The carbon content in these artifacts was 0.3–0.4%, they were not tempered.

So-called "packet" artifacts, produced by welding several steel and iron bands together, were found in all the periods. Only one "packet" artifact belongs to the 2nd–4th century, i.e. 16.66% of all the studied ones of the period. That was a socketed axe (analysis No. 834 – fig. 66: 16). The 5th–8th centuries yielded 3 artifacts, i.e. 12.5%. These were: a knife (analysis No. 844 – fig. 64: 8), a socketed axe (analysis No. 871 – fig. 66: 10), a spearhead (analysis No. 868 – fig. 81: 9). There were 3 artifacts, or 16.66% from the 9th–12th century as well: 1 knife (analysis No. 845 – fig. 64: 10), a firesteel (analysis No. 857 – fig. 69: 8), a miniature axe (analysis No. 843 – fig. 67: 14). The steel bands of the above mentioned artifacts had a carbon content of 0.1–0.4%, they were not tempered.

Welding of 2 bands (steel and iron) was detected in artifacts dating to the 5th–8th and 9th–12th centuries. 3 such artifacts, or 12.5%, belong to the 5th–8th century. They include socketed axes (analysis Nos. 839, 841, 829 – fig. 66: 5, 11, 17). Carbon content in steel bands was 0.3–0.4%. Two artifacts, i.e. 11.11%, dating to the 9th–12th centuries were found. These were: a broad-bladed battle axe (abalysis No. 828 – fig. 80: 2) and a single-bladed sword (analysis No. 847 – fig. 78: 2). Carbon content in these steel bands was 0.2–0.4%. The artifacts were not tempered.

Welding of 3 bands was found in artifacts of the 9th–12th centuries. There were two artifacts of this kind, i.e. 11.11%. These were: a broad-bladed battle axe (analysis No. 832 – fig. 80: 3) and a miniature axe (analysis No. 849 – fig. 67: 12). The blade of the battle axe was welded from 2 lateral steel bands and an iron one in the middle (most probably part of the body). The blade of the miniature axe was welded 3 steel bands. Carbon content in the steel bands was 0.2–0.4%. The artifacts were not tempered.

Artifacts with welded on steel blades come from the 5th–8th and 9th–12th centuries. The 5th–8th centuries yielded one artifact, i.e. 4.16%. That was a socketed spearhead (analysis No. 872 – fig. 66: 7) with a blade of a steel band welded on in an oblique manner. It had a carbon content of approx. 0.2%. The 9th–12th century also yielded only one artifact, or 5.55%, produced in this way. That was the blade of a double-bladed sword (analysis No. 846 – fig. 78: 1). The blade had an iron basis and steel bands welded to it on both sides (fig. 85: 3). The content of carbon in steel bands was 0.2–0.4%. The artifacts were not tempered.

The way of production of the spearhead (analysis No. 860 – fig. 82: 10) remains obscure. Oblique steel zones can be seen in the microanalysis tests. It might be the manufacturing method for patterned Damascus steel. As the spearhead was rusty, macroanalysis was impossible. It was also impossible to define the way of production more specifically.

The data presented above witness that the smiths of the Bandužiai area employed diverse methods for production of artifacts and the scope of these methods was different in different periods.

A comparison of production methods used by the smiths of the Bandužiai area with those of the whole Lithuania shows that they knew and employed the same methods, but the scope of application thereof was different (see table 4).