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## ON THE EVE OF THE “SCYTHIAN INVASION” TO CENTRAL EUROPE: A NEW WARRIOR GRAVE IN BILSK

*In the article, the results of excavations of the Barrow 1/2020 (no. 57) in Skorobir (Area “4<sup>th</sup> Field”) are presented. In the burial of the beginning of the transitional period (580/570—560/550 BC), a set of handmade pottery, two iron bits, a spearhead and a quiver with arrowheads were found. The arrowhead set makes possible to synchronise it with other warrior burials of the time of the eve of nomad campaign to the Hallstatt and Lusatian lands around the middle of the 6<sup>th</sup> century BC. Complexes with similar arrowhead sets could belong to warriors, who moved to the campaign to the west after the conquering of the Eastern European forest-steppe tribes.*

**Key words:** Dnipro Left Bank forest-steppe, Bilsk hillfort, transitional period, HaD1, barrow, arrowheads.

### Introduction

Against the background of the modern situation, events in the past, when warlike tribes of Eastern Europe and Asia carried out military campaigns into the lands of settled tribes of Central Europe, deserve special attention. One of such episodes refers to the so-called Scythian raids in the Late Hallstatt period. An important aspect of this topic is the question of who made these raids and from where. Its resolution depends on the dating of these events.

The author has concluded that the arrowheads from the layers of destruction of fortifications in Central Europe certainly belong to the transitional period (ca. 570/560—540 BC) and it was not two raids of nomads, which were separated by a century, but a single action, which lasted for a short time (Grechko 2020, p. 23).

Accordingly, one can try to find traces of the presence of warrior burials, which contain quiver

sets similar to or slightly older than those which were found in the layers of the destruction of the settlements in Central Europe. New information regarding such complexes has been published recently (Андрух, Тоцев 2022; Шрамко І., Задніков 2020 с. 9-10). The discovery of a whole arrow set in the warrior burial in the necropolis of Bilsk hillfort in 2020 (Гречко et al. 2021, с. 16-23) allows us to return to this topic.

### Burial complex and inventory

In 2020, the Bilsk archaeological expedition of the Institute of Archaeology of the National Academy of Sciences of Ukraine investigated two burial mounds in Skorobir tract (Area «4<sup>th</sup> Field») near Bilsk village, the Kotelevskiy Region, the Poltava region (fig. 1—2). In 1975 and 1979, the expedition of the Kharkiv University led by B. A. Shramko explored 16 barrows. The eastern group of barrows on the terrace of the Sukha Hrun River investigated in the same field is dated to the 5<sup>th</sup>—4<sup>th</sup> centuries BC. Barrow 1/2020 (no. 57) is located to the west, spatially closer to the group of excavated mounds of the Early Scythian period (mounds nos. 22—26) (Шрамко Б. 1994, с. 102-126).

Under the Mound 1/2020 (no. 57<sup>1</sup>) an almost rectangular-shaped burial chamber oriented along the northeast-southwest axis of a size of 4.94 × 4.60 m and a depth of 1.0—1.3 m from the level of the ancient surface was investigated (fig. 3). This burial was surrounded by a rampart made of the soil from the grave pit.

The northwestern corner of the chamber, which probably contained the remains of the deceased and the most valuable items of inventory, was completely destroyed by two robbery pits.

Above the wooden floor of the grave, the birch (?) planks of the burial coverage, which collapsed in ancient times, were clearly visible (fig. 3). At the pit bottom, two wooden logs of 3.4—3.5 m long placed

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<sup>1</sup> According to the general numbering of the burial mounds of the Bilsk hillfort necropolis of Skorobir-Marchenky-Osniaky (Шапорда, Коротя 2018, с. 245, рис. 5). Further, this barrow number will be used.

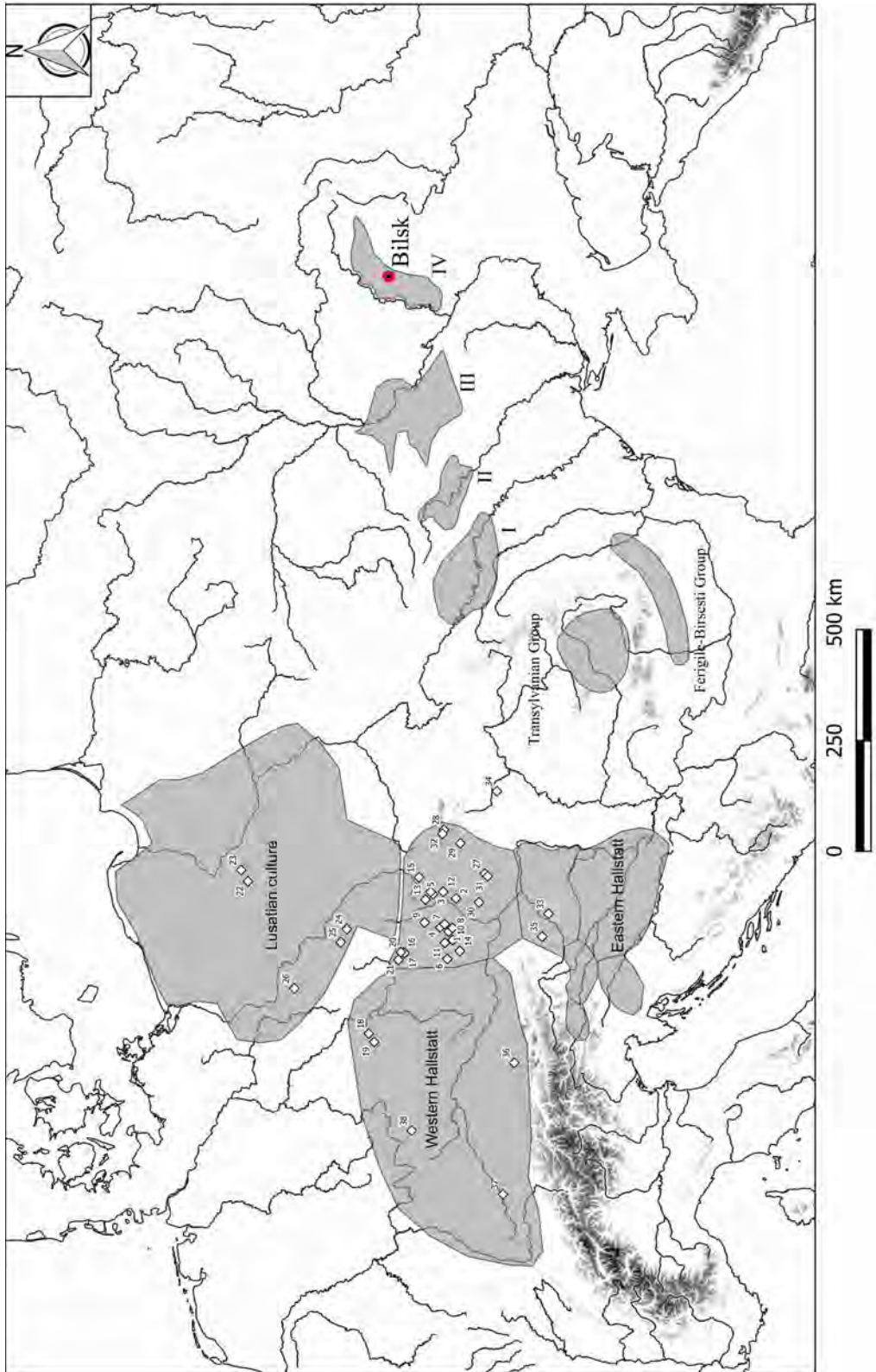


Fig. 1. Bilsk hillfort and cultural groups of Central and Eastern Europe of the Ha D1 period. I — Western Podililian group; II — Eastern Podililian group; III — Kyiv-Cherkasy group; IV — Vorskla group. Findings of arrowheads of the Scythian type: 1 — Błučina; 2 — Borsice u Blatinice; 3 — Brusné; 4 — Horákov; 5 — Chvalčov; 6 — Jaroměřice nad Rokytinou; 7 — Křenovice; 8 — Kreπίce; 9 — Malé Hradisko; 10 — Olbramovice; 11 — Oslavany; 12 — Provodov-Ludkovice “Rysov”; 13 — Radslavice; 14 — Suchohrdly; 15 — Štramberk Kotouč; 16 — Doly Rabouň; 17 — Lhota; 18 — Měrunice; 19 — Minice; 20 — Pěšice; 21 — Topol “Na skále”; 22 — Kametec; 23 — Kruzwica; 24 — Sobótka “Sleza”; 25 — Strzegom; 26 — Wicina; 27 — Kostofany pod Tribečom; 28 — Liptovská Sielnica; 29 — Prasnice; 30 — Smolenice-Molpir; 31 — Štítare; 32 — Vyšný Kubín; 33 — Celldömölk; 34 — Dédestapolcsány; 35 — Velem; 36 — Hellbrunnerberg; 37 — Heuneburg; 38 — Kirchrehrenbach (after: Grechko 2021)

in parallel to each other at a distance of 1.8 m were identified. The logs' grooves had a depth of up to 0.1 m, and their width was ranging from 0.23 m to 0.4 m. The latter indicates that the groove was made directly to the shape of the existing wooden log. The floor was made of oak planks. The walls of the burial chamber, which was smaller than the burial pit, were also built from wooden planks. The space between the wooden walls of the chamber and the burial pit was filled with chernozem of a loamy texture.

In the unrobbed part of the grave, the inventory was recorded *in situ* on the remains of the wooden floor of the grave (fig. 3). The planks of the wooden cover collapsed and damaged the inventory, primarily handmade pottery<sup>2</sup>. In the southeastern corner of the burial chamber, a handmade polished korchaga was found. Behind it, an iron spearhead was found lying along the wooden wall and, therefore, clearly identifying the edge of the chamber. Next to the spear, an iron tassel-holder was discovered. The remains of a wooden case-cover are traced around the spearhead.

In the middle of the southwestern wall of the chamber, two iron bits were found, which may have been hanging on the wall. At a distance of 0.25—0.35 m from the wall of the chamber, a handmade ladle and “korchaga-shaped” polished cup (fig. 3) were unearthed, which could have been placed at the feet of the buried person<sup>3</sup>. The location of these finds may indicate its possible western orientation with slight deviation. An iron artefact, remains of a quiver with arrows<sup>4</sup> and an ornamented horn (?) plate were found nearby.

The burial inventory is a fairly classic set of finds for the complexes of the Early Scythian time/transitional period of the Bilsk necropolis.

Ceramic vessels are represented by a handmade korchaga, a ladle and a cup.

The deep ladle has a biconical profile (fig. 4: 1) (Type 3 according to Пеляшенко, 2020, с. 52). It has a high cylindrical neck that passes into conical shoulders and a rib decorated with oblique

impressions in the lower part of the body. The looped handle of the dipper is oval in cross-section and attached to the rim and to the rib on the body. The diameter of the rim is 8.6 cm, the base — 6.5 cm, and the height is 11 cm.

The closest analogies to the ladle were found in the neighbouring barrows nos. 8 and 22 in the Skorobir tract (Шрамко Б. 1994, с. 106, рис. 4: 3—4; с. 124, рис. 13: 4) and in the synchronous assemblage of Barrow 4, Burial 1 near Hladkivshchyna (Григорьев, Скорый 2012, с. 454, рис. 13: 1, 3).

“Korchaga-shaped” polished cup (fig. 4: 2) (Type 5 according to Пеляшенко 2020, р. 55) has high conical shoulders, a slightly thickened profiled rim, and a rib at the place of the widest part of the body. The height is 9.4 cm, the diameter of the rim is 8.5 cm, and the diameter of the base is 4.8 cm. The largest diameter is 10.5 cm. Similar vessels are well known in the burials of Vorskla basin area of the Early Scythian period (Machukhy, burial no. 19) (Ковпаненко 1970, с. 160-161, рис. 5: 1), Курievakha, burial no. 20, burial no. 4 (Бойко, Берестнев 2001, с. 42, 131, рис. 44: 3), Malyi Trostianets, burial no. 3 (Гейко 2001, с. 94, рис. 6: 3).

Korchaga has a biconical body, a rib in the lower part of the body and a funnel-shaped rim (fig. 4: 3) (Type 2 according to Пеляшенко 2020, с. 42-43). The diameter of the rim is 22.3 cm, the base is 11.0—11.6 cm, and the height is 38.7 cm. The body diameter is 32.4 cm. Such vessels are well known among the synchronous burials of the Bilsk necropoleis (Marchenky, 8<sup>th</sup> Field, Burial 1) (Черненко, и др. 2005, рис. 41), Skorobir, Burial 22 (Шрамко Б. 1994, рис. 13: 1), Pereshchepune, Barrow 10 (Мурзин, и др. 1997, рис. 2: 2) and the Sula River basin area (Oksiutyntsi, Burial 2) (Пеляшенко 2020, рис. 159: 4).

Two finds of unknown purpose were also discovered: an iron object (workpiece?) (fig. 5: 2) and a horn (?) plate with an ornament, which could not be preserved.

The details of the horse bridle are represented by two iron looped bits (fig. 5: 4—5). Similar items are widely known during the Early Scythian period (Могилев 2008, с. 19).

Weapons and military ammunition are represented by the remains of a quiver with arrows and an iron spearhead.

An iron spearhead with a laurel-shaped blade and a rib (fig. 5: 1) is a classic example of Early Scythian time weapons and does not have a narrow dating. The total length of the spearhead is 28 cm (blade — 16.2 cm; sleeve — 11.8 cm), the largest

<sup>2</sup> Restoration of the pottery vessels has been made by the restorer of the Bilsk Historic and Cultural Reserve, Anatolii Shtanko.

<sup>3</sup> A similar location of the pottery is typical for synchronous burials of the Dnipro Left Bank forest-steppe (Пеляшенко 2020, с. 131-157, табл. 63).

<sup>4</sup> The restoration and conservation of the quiver and arrows was carried out with the comprehensive support of I. I. Korost, the Director of the Bilsk Historical and Cultural Reserve, by the Senior Restorer of the National Research Restoration Center of Ukraine, Kharkiv branch, V. P. Bolotin.



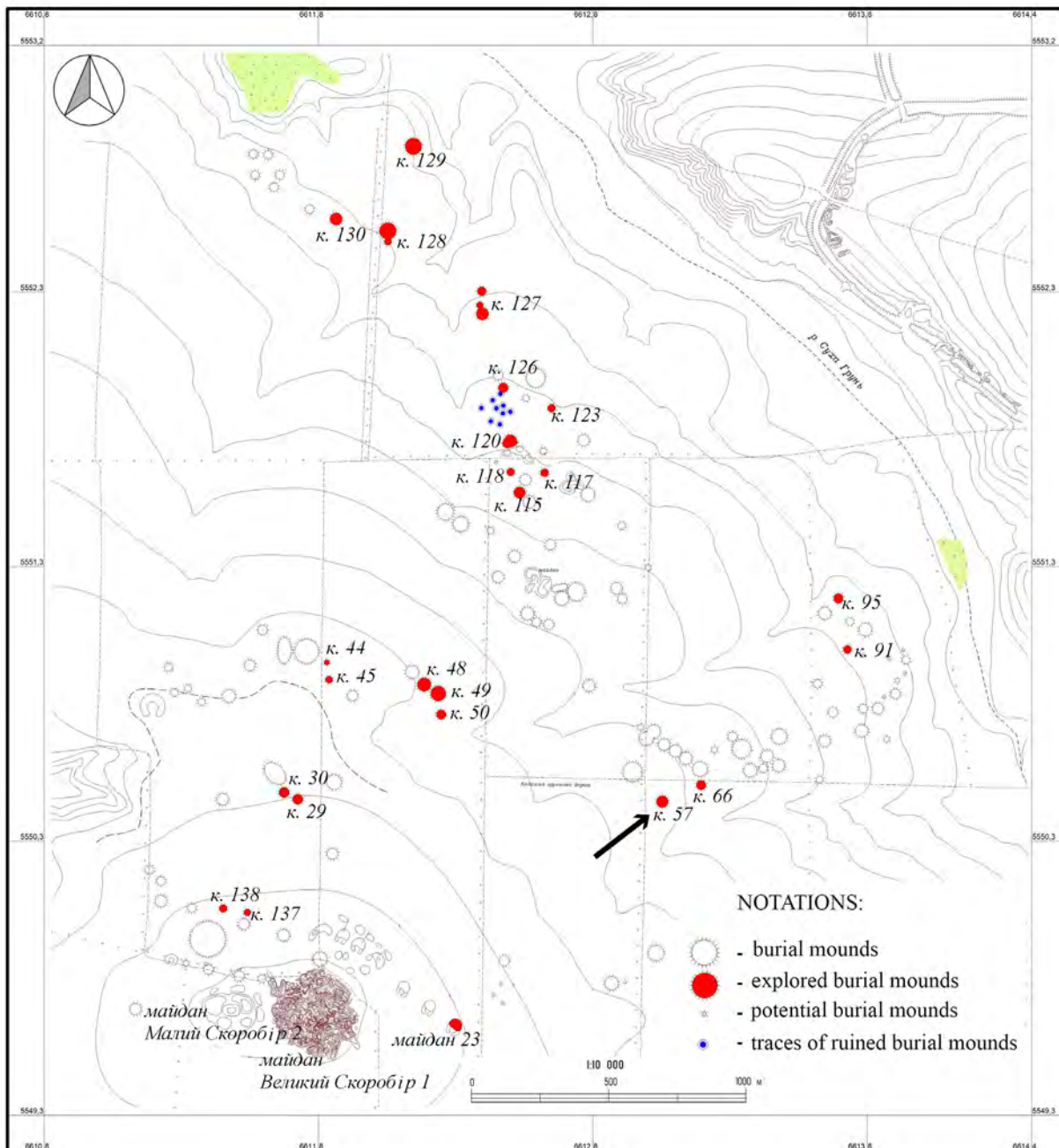


Fig. 2. Plan of the Skorobir necropolis (Шапорда, Коротя 2018)

width of the blade — 3.2 cm, the diameter of the hole — 2.3 cm.

**Conical iron tassel-holder** (fig. 5: 3). Similar products are known in the latest burials of the Early Scythian period — the beginning of the transitional period (Ohorodne, Perebykivtsi, Barrow 2, Novozavedennoie II, Barrow 17) (Гречко 2016, с. 48) and during the Middle Scythian period.

Let us consider the remains of a part of a leather quiver and a set of arrows found in it in detail.

This is the first case of identifying leather parts of similar artefact in the forest-steppe.

**Quiver**<sup>5</sup>. The lower part and a bottom of the artefact, on which parts of the arrows laid, was preserved (fig. 6). It was sewn from at least three parts — outer (missing), lower and a bottom. The remains of the wood, which was fixed directly on the arrows, don't differ from the wood of the floor

<sup>5</sup> Another article dealing with the reconstruction of the quiver is planned.

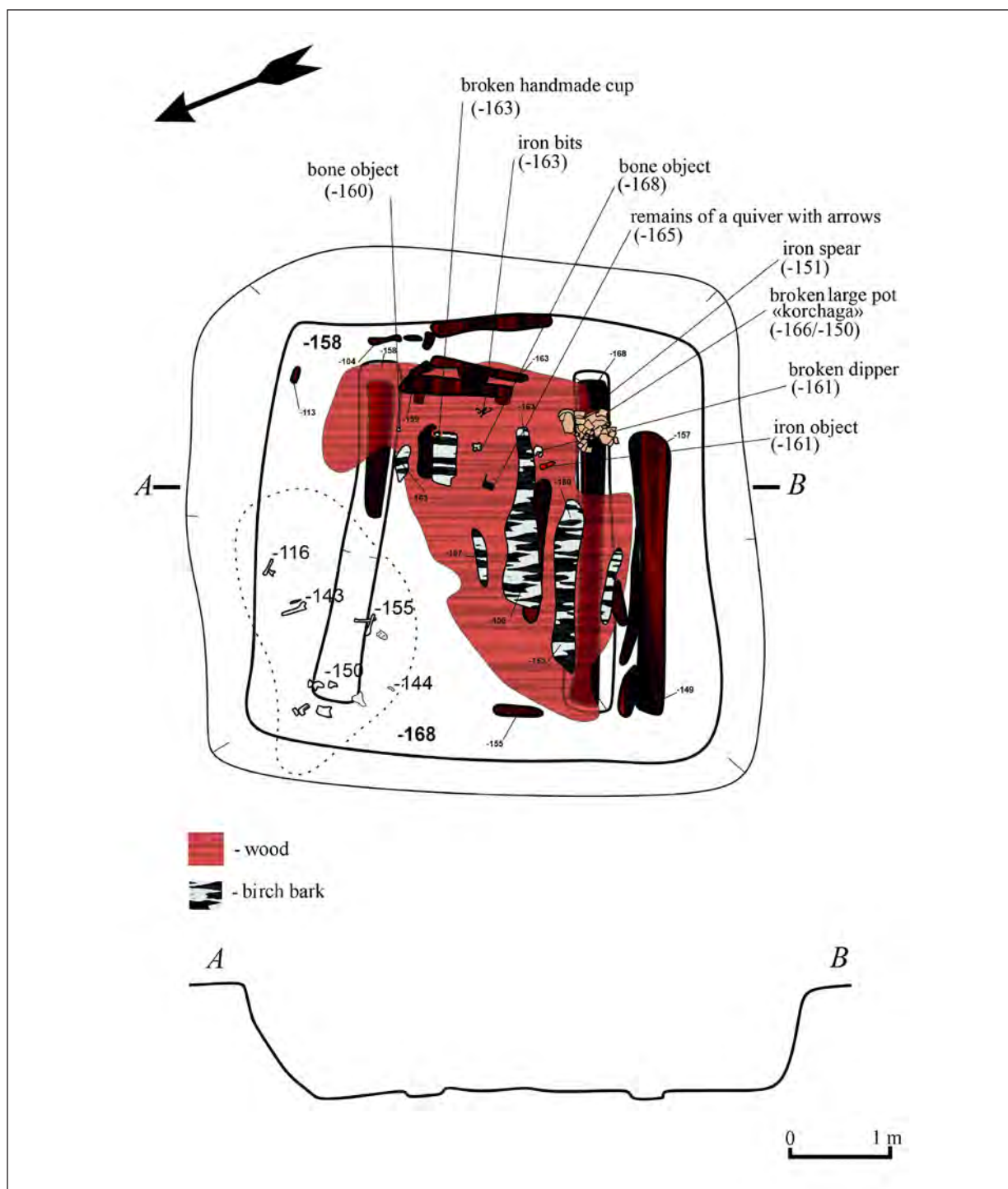


Fig. 3. Plan of the burial of the Barrow 57 of the Skorobir necropolis

slabs. There is no reason to assume that the second part of the quiver was made of birch. It can be assumed that only a part of the quiver with broken (?) arrows was specially placed in the grave.

The stack of 57 arrows was 11 cm long, which fully corresponds to the classic (small) quivers, not gorytoi, of the Scythian time (Ильинская 1968, с. 96).

The part of the quiver with arrows had dimensions of  $11.0 \times 9.5$  cm. The edges of a piece of bottom skin with a thickness of 0.2 cm were wrapped in the direction of the arrows. The lower part of the quiver was uneven, but rounded in one direction (fig. 6). Along the edge of the quiver, slightly above the arrows, laid an iron chisel-shaped object measuring  $9.8 \times 0.9$  cm, which had a wooden handle (fig. 7: 8).

It can be assumed that it was used in the repairing and manufacturing of arrows. Probably similar in purpose, a bronze four-sided rod with one end in the shape of a spade was found in a quiver in Maimai-Hora, Barrow 377, burial no. 1 (Андрух, Тощев 2022, с. 408-409, 414, рис. 6, 9).

**Arrows shafts.** All shafts were broken and remained at the same length — about 4.5 cm (fig. 6; 7: 7). Four samples were selected for analyses. The research established that two arrows were made of ash tree (*Fraxinus sp.*), one from a tree of diffuse vascular species (the willow family (Salicaceae)), one from a broad-leaved tree<sup>6</sup>.

**Arrowheads.** The quiver set included 51 arrows with bronze arrowheads and 6 wooden arrows.

Two-winged arrowheads were all casted in indifferent moulds.

- Leaf-shaped arrowheads with blade bases cut off at an obtuse angle to the socket, with spur (fig. 7: 1, 3) or without it (fig. 7: 2), length — 3.2—4.2 cm, weight — 4.6; 4.9 and 5.6 g. One arrowhead has an incised mark in the form of a broken line, which was not fully preserved due to sharpening. One dash is present on the socket (fig. 7: 1).

- Arrowhead with a tower-shaped head, tetrahedral cross-section of the edge and outer socket, length — 3.9 cm, weight — 3.9 g. (fig. 7: 4).

- Arrowhead with a tower-shaped head and outer socket with a spur, length — 5.1 cm, weight — 9.2 g (fig. 7: 5). It has an incised mark on the blade in the form of 5 lines.

- Leaf-shaped arrowhead, one blade goes to a barb, the second is cut at an obtuse angle, short outer socket, length — 4 cm, weight — 5.9 g (fig. 7: 6). It has incised marks on the wing in the form of two triangles with mirrored vertices.

Three-winged arrowheads were all casted in different moulds.

- Arrowheads with a leaf-shaped head, outer socket and with (fig. 8: 5) or without a spur (fig. 8: 1—4), length — 2.9—3.5 cm, weight — 2.5—4 g. One arrowhead has an incised mark in the form of a broken line of seven dashes (three triangles and one dash).

- An asymmetric-rhombic (sharp leaf-shaped) arrowhead, a long outer socket, with or without a spur, length — 2.9—4.2 cm, weight — 2.6—4.2 g (fig. 8: 6—13). One arrowhead has relatively smaller dimensions and weight, a relatively shorter outer socket — 2.9 cm and a bushing length 0.7 cm

and a weight 2.6 g (fig. 8: 10). The two smallest arrowheads have a length of 2.3—2.5 cm with a weight of 1.8—2.0 g (fig. 8: 6—7).

- Narrow triangular-shaped arrowheads with an outer socket, length — 3.2—3.5 cm, weight — 2.3—2.9 g (fig. 8: 14—17).

- Arrowheads with a tower-shaped head with blades cut off at an obtuse angle to the base of the blades with an outer socket, length — 2.8—3.9 cm, weight — 2.7—4.9 g (the largest groups are 3.4—3.9 g (7 pcs.) and 4.2—4.9 g (5 pcs.) (fig. 9). Eleven items have the spur on the sockets, another eight — do not. One arrowhead has an incised mark in the form of a cross (fig. 9: 17). These arrowheads vary in shape and do not form a series.

- Arrowheads with a tower-shaped head with blades cut off at a right angle or one/all<sup>7</sup> go to a barb, length — 2.9—3.4 cm, weight — 2.8—4.5 g (fig. 10: 1—7). Three arrowheads have cast marks on all sides (fig. 10, 4, 6—7). One of them also has an incised mark in the form of three lines (fig. 10: 7).

Two massive arrowheads significantly differ from the others. The first one is rather massive (length — 4.1 and weight — 5.7 g) with a short socket and two barb-blades, one barb was not cast (fig. 10: 5). The second arrowhead has a considerable length (4.4 cm), which visually gives it slender proportions, but it weighs more than two-winged specimens — 4.5 g (fig. 10: 1). The item has a cast mark on one side (fig. 11: 8).

- An arrowhead with arch-shaped head with blades cut off at an right angle, although all the blades were supposed to form the barb, but they did not come out during casting; length — 3.1 cm, weight — 3.5 g (fig. 10: 8). It has a cast mark similar to the tower-shaped ones (fig. 10: 1, 6, 7) and an incised mark in the form of five slanting lines on one blade (fig. 12);

- A combined type of the arrowhead (two sides are the wings and one — a facet), with blade bases cut off at an obtuse angle to the socket, length — 3.2 cm, weight — 3.5 g (fig. 10: 9).

In addition, during the investigation of the remains of the quiver, six wooden arrows were discovered. One of them has a tip imitating a trihedral bronze arrowhead with notches at the base of the faces (fig. 10: 10). Others have the tips of simply sharpened arrows with a ball-shaped point (fig. 10: 11—

<sup>7</sup> The two arrowheads had to have all three barb-blades (fig. 10: 6—7). One has one blade that should have formed a barb, but it did not work out during casting (fig. 10: 4). One way or another, all the arrows of this group, according to the caster's design, would have at least one barb. Accordingly, none of them had a spur on the socket.

<sup>6</sup> Attribution by DSc. M. S. Serheieva, the Institute of Archaeology of the National Academy of Sciences of Ukraine.





Fig. 4. Burial of the Barrow 57 of the Skorobir necropolis. The handmade ceramic vessels (photos and drawings by D. V. Karavaiko)

15). They could be blank shafts, which with the help of an iron item, if necessary, were processed to fit the existing arrowhead. Many wooden shafts or models of arrowheads were found in permafrost burials of the Pazyryk culture. Researchers believe that these arrows' imitation carved on the ends of the shafts had votive attribution (Кубарев, Шульга 2007, с. 73).

### ***Arrowhead set from Scorobir, Barrow 57: Between the Early Scythian period and innovations of the transitional period***

Composition of the analysed quiver set combines the arrowhead types of the Early Scythian period and new forms of the transitional period.

Two-winged arrowheads with a pointed leaf-shaped head, a long socket with and without a spike, in which the blades merge into the socket at an obtuse angle, appear in the late group of the second phase of the Kelermes period (Гречко 2016, с. 43; Махортых 2022, с. 105-109). Similar arrowheads continued to be used during the transitional period (Grechko 2020a, p. 15-17).

The two-winged arrowheads with a tetrahedral cross-section head, blades that merge into the socket at an obtuse angle, are unique. The closest analogy is an arrowhead from the Dédestapolcsány-Verebce-bérc hillfort (Szabó, Czajlik, Reményi 2014, p. 5, fig. 8). This shape is probably related to the further development of the leaf-shaped tips of the Early Scythian period, which also have a tetrahedral cross-section<sup>8</sup> (Дараган 2016, с. 69).

A massive arrowhead with a tower-shaped head and a long socket with spurs and blades that merge into the socket at an obtuse angle has analogies in the latest complexes of the Early Scythian period (Spasivka, Burial 8) (Могилов 2020, с. 144, рис. 6, 9), Nemyriv hillfort (Смирнова, Вахтина, Кашуба 2018, с. 180, рис. 150,1) — transitional period (Novosilka Hrymailivska, Mound "S", Hlybochok) (Могилов 2020, с. 144, рис. 6, 142, 160), Smolenice-Molpir (Hellmuth 2006, taf. 1: 15-18), Dédestapolcsány-Verebce-bérc (Szabó, Czajlik, Reményi 2014, p. 5, fig. 8). This type is often represented in complexes by single items. The concentration of this type of arrows in Podillia attracts attention.

Two-winged arrowheads with a pointed leaf-shaped head, in which one blade turns into a socket

at an obtuse angle, and the other forms a barb, were quite common during the Early Scythian period and transitional periods (Grechko 2020a, p. 14). During the transitional period, their number decreases.

*Three-winged* arrowheads with a leaf-shaped head, outer socket and with (fig. 8: 1—5) or without a spur and with an asymmetric-rhombic or sharp leaf-shaped arrowhead and long socketed shaft are widely represented in the complexes of the Early Scythian and transitional periods (Grechko 2020a, p. 15). Arrowheads with a long socket and blades cut at an angle to it, in which the maximum expansion occurs in the lower part of the head, are typical for the latest group of burials of the Early Scythian (Махортых 2022, с. 109) and transitional periods (Grechko 2016, p. 44).

Three-winged arrowheads with a triangular head of slender proportions without spikes are innovative for the beginning of the transitional period (II.3.D.a according to Hellmuth 2006). These are known in the layers of destruction in Central Europe (Hellmuth 2006, Taf. 12: 8—24).

Three-winged arrowheads with a tower-shaped head, a long socket, with blades that merge into the socket at an obtuse angle are also innovative for the beginning of the transitional period (Гречко 2012; 2016, с. 44; Grechko 2021, p. 17).

Some observations and assumptions can be made regarding the reasons for the appearance of new types of arrowheads with a tower-shaped head during the transitional period.

Only the upper part of the arrowheads of the Early Scythian period was sharpened, each blade on each side separately, which led to differences in the shapes of the heads (Ключко 1977; Дараган 2015, с. 150). Sometimes this led to the grinding of the socket, which became multifaceted. This is a rather complicated process, because the tip must be held at an angle to the whetstone and all surfaces must be sharpened. It is much easier to sharp the tips only on three sides. For this reason, the planes must be as flat as possible, because any non-coincidence of the surfaces lead to quite significant losses of metal. If a three-winged arrowhead with a laurel-shaped head and a long socket is placed on one side on a whetstone and sharpened, we will get an arrowhead with a close to tower-shaped head with significant metal loss on the blades and a socket. Thus, on some of the three-winged arrowheads with an arch-shaped head from Huliai-Horod, Barrow 38 and Zhurivka, Barrow 432 attempts to sharp them in this way are visible, which made the outline of a part

<sup>8</sup> As an example, we can cite the arrowhead from Barrow 1/1983 near the village of Lykhachivka (Daragan, Didenko 2021, с. 173, рис. 16, 1).



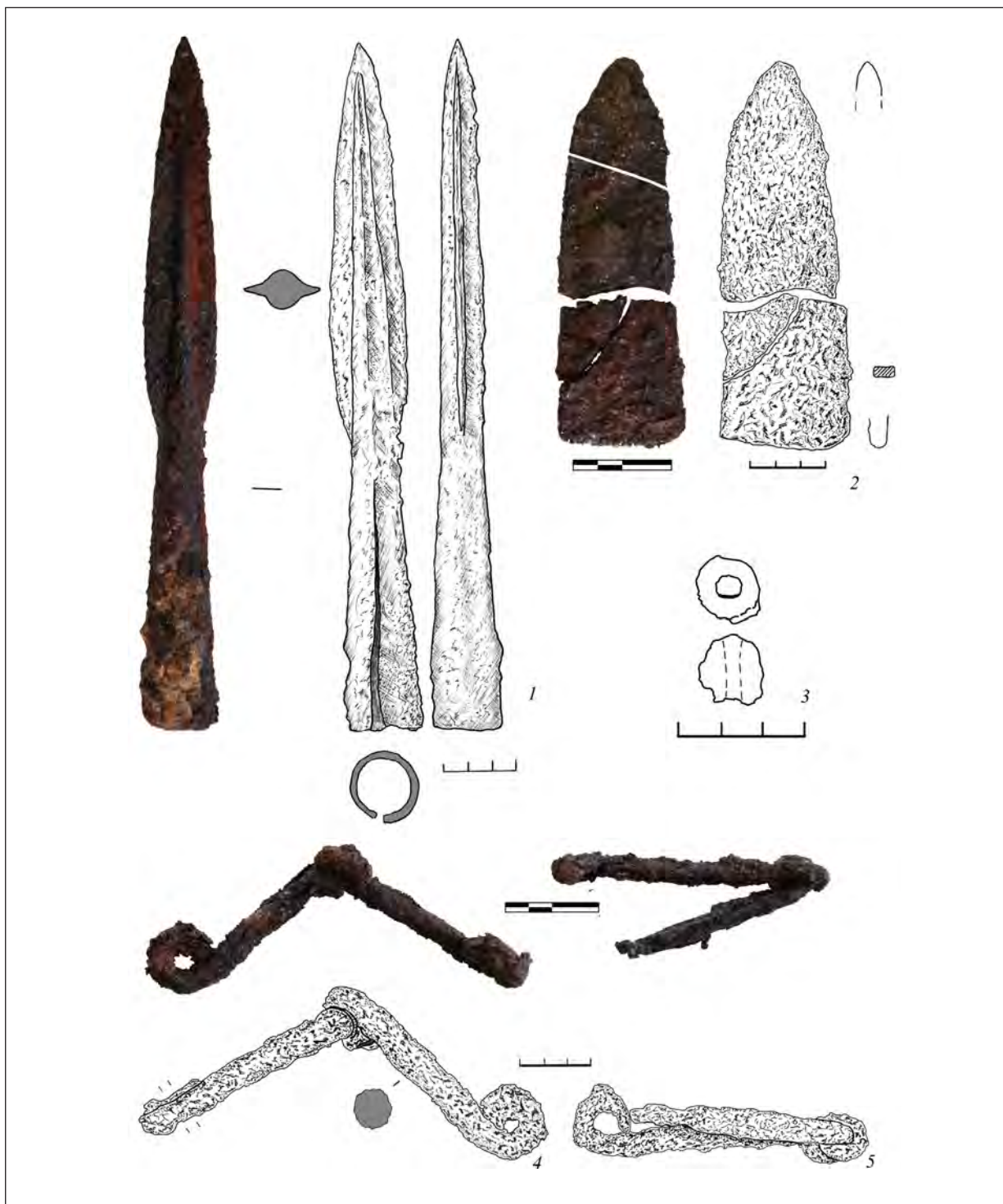


Fig. 5. Burial of the Barrow 57 of the Skorobir necropolis. The iron items (photos and drawings by D. V. Karavaiko)

of them close to a tower shape (Daragan, Didenko 2021, p. 159, fig. 4: 1, 6; fig. 5: 1, 3—5,7, 9; fig. 6: 5, 9; fig. 11: 2, 4, 11). The only one three-winged arrowhead from the Yahorlyk settlement received a tower-like shape as a result of sharpening (Daragan, Didenko 2021, p. 174, fig. 17: 15), which precisely confirms the completion of the functioning of this site at the end of the Early Scythian period (end of

the first quarter of the 6<sup>th</sup> century BC) (Буйских С., Буйских А. 2010, с. 30).

It can be assumed that the appearance of new types of three-winged arrowheads in the latest chronological group of the burials of the Early Scythian period (Махортых 2022, с. 109) was the first step in a path of changing the shape of their head. At first, the socket and the hook, which





*Fig. 6.* The quiver in restoration process (photo by V. Bolotin)

were rounded in cross-section, remained and were sharpened.

In addition, the first three-winged arrowheads with an inner socket appeared (Perebykivtsi, Barrow 2). The next step in the transitional period was to reduce the length of the socket, which was gradually hidden and did not protrude beyond the plane formed by the blades. There are types with a slightly protruding socket and even trihedral products with an inner

socket. This line of development will lead to the mass distribution of arrowheads with a tower-shaped head and an inner socket during the Vitova Mohyla horizon and a little later to the beginning of the dominance of basic arrowheads in the next period, which were much easier to sharpen with minimal loss of metal compared to the Early Scythian ones. So, the change in types of arrows at the beginning of the transitional period, in particular, the spread of items with a

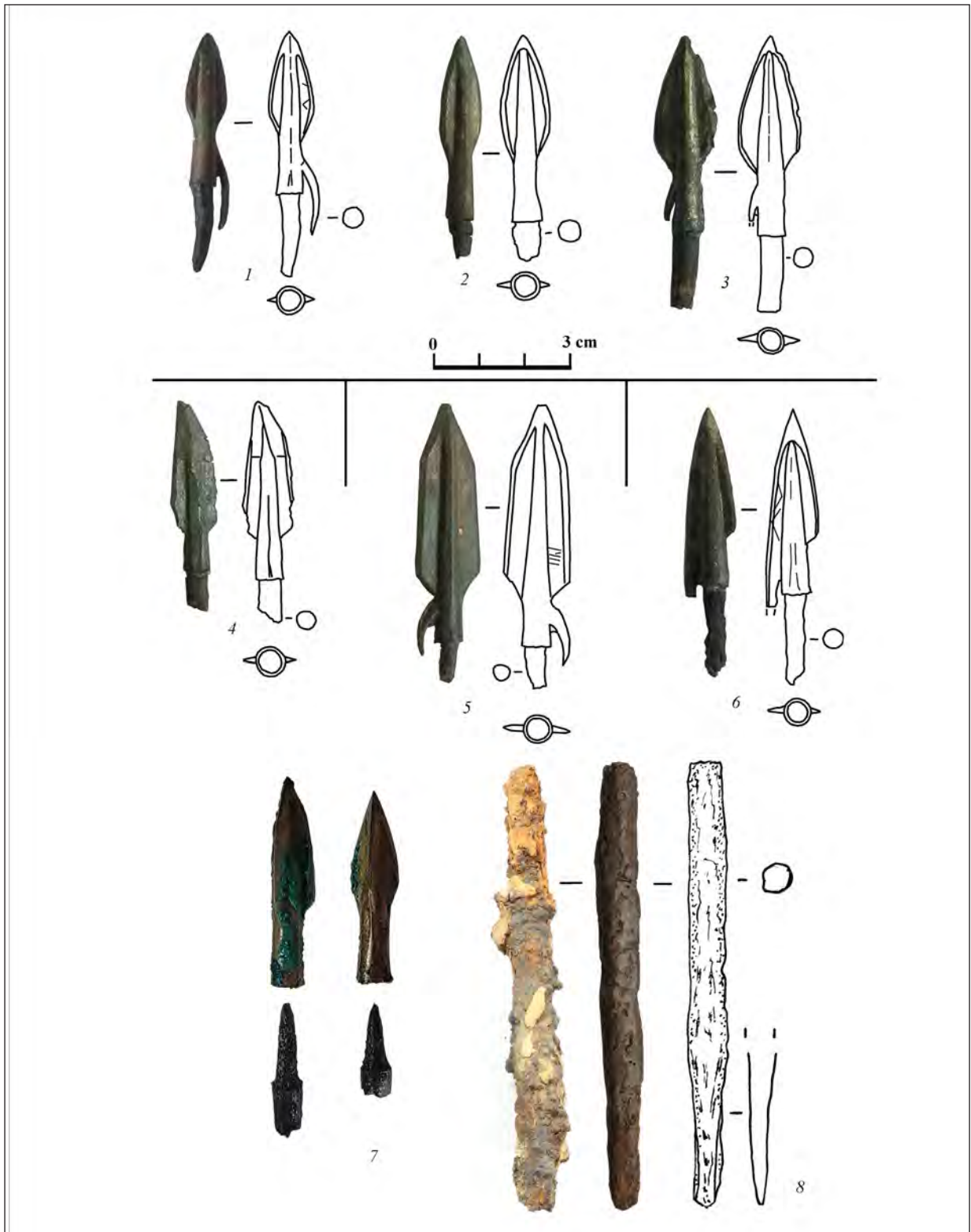


Fig. 7. Burial of the Barrow 57 of the Skorobir necropolis. Two-winged arrowheads, wooden parts of the arrows (7) and iron tool from the quiver (8) (photos and drawings by D. V. Karavaiko)

tower-shaped head, could be resulted from the convenience of the new method of sharpening and the economy of metal.

Apparently, the appearance of arrowheads with a triangular head and a short socket (fig. 8: 14—17) also belongs to the manifestation of the same



tendency. However, such arrowheads were not widely distributed in the next period.

Three-winged arrowheads with a tower-shaped head, an outer socket and blades that form spikes are known among the burials of the beginning of the transitional period (pre-invasion time) (Skorobir, Barrow 57, Perebykivtsi, Barrow 2, Novozavedennoe II, Barrows 6 and 17 (Петренко, Маслов, Канторович 2006). They have prototypes among the items of the Early Scythian period, which had an arch-shaped head and blades — bards (for example Khapry, Barrow 1/25, Likhachivka, Barrow 1/1983) (Daragan 2016, fig. 4, 28—29; Daragan, Didenko 2021, p. 173, fig. 16, 40—48). They are represented in a high frequency in the barrows of the second quarter of the 6<sup>th</sup> century in the Transcaucasia (Петренко, Маслов, Канторович 2006) and from the Don to the Southern Urals, where they were very common in complexes of the 6<sup>th</sup> century BC (Смирнов 1964, с. 297, рис. 5, 3г, 4а; с. 299, рис. 7, 3, 5, 6а, 7а, 9а, 10а, 11 and etc.).

Absolutely identical cast marks in the form of a downward angle (fig. 10: 1, 6, 8) on arrowheads similar in shape and parameters with an arch-shaped head were found in the complexes of the end of the transitional period/beginning of the Vitova Mohyla horizon (post-invasion time) — Vovkivtsi, Barrow 478 and Basivka, Barrow 482 (Daragan, Didenko 2021, p. 178, fig. 19: 7, 9, 10—11; p. 180, fig. 21: 3—5)<sup>9</sup>. M. V. Daragan argues that similar marks appear in complexes of the second half of the 5<sup>th</sup> — early 4<sup>th</sup> centuries BC<sup>10</sup>, and cast marks in general in the Northern Black Sea region appeared in high frequency after the middle of the 5<sup>th</sup> century BC. She

thinks that before that time, the marks were incised (Daragan, Didenko 2021, p. 182). The discovery of numerous arrowheads with similar cast marks in a well-documented complex from the Skorobir, Barrow 57 questions these conclusions and forces us to return again to the issue of the possibility of using the Vovkivtsi, Barrow 478 and Basivka, Barrow 482 complexes in chronological constructions. Nearby cast marks were found *en masse* in the complexes of the 6<sup>th</sup> century BC of the Volga-Don confluence and the Southern Urals (Смирнов 1964, с. 297, рис. 5, 14; с. 307 рис. 14, 1; с. 314, рис. 21, 1; 317, рис. 24, 7; с. 319, рис. 26, 3д; с. 328, рис. 35А, 4; с. 330, рис. 36, 1д and etc.).

In the burials of the beginning of the transitional period, arrowheads of the combined type were found, which have two three-winged sides and one trihedral one with blades/faces (Skorobir, Barrow 57, Perebykivtsi, Barrow 2). We can assume a significant number of experiments to find new effective forms for tips at the beginning of the transition period, which caused their significant variety.

The analysis of the quiver set content of Barrow 57 of Skorobir shows that its innovativeness in relation to the latest complexes of the Early Scythian period makes up 63%. It is worth noting that the percentage ratio of arrowheads' types is quite specific for all sets of this time and it is currently impossible to draw any conclusions on this basis.

All this makes it possible to place this complex on the scale of relative chronology immediately after the final complexes of the Early Scythian period, together with the base complex for this time of Perebykivtsi, Barrow 2.

The weight of the arrowheads of the pre-invasion period indicates that on the eve of the campaigns in Eastern Hallstatt and Lusatian lands and immediately after returning to the Eastern European forest-steppe, the types of bows of the previous period (Early Scythian period) continued to be used.

### ***Quiver sets' changes as a basis for identifying the chronological horizons of the first half of the 6<sup>th</sup> century BC: innovation in war vs conservatism of daily life***

Survival of any collective of people depended and depends on the constant improvement of weapons and everything that is one way or another connected with war. Great inventions had always spawned waves of conquest (chariots, cavalry, stirrups, etc.) until they became widespread and this advantage was eroded. During the Early Iron

<sup>9</sup> I can agree that one arrowhead (Daragan, Didenko 2021, fig. 21: 8) from Vovkivtsi, Barrow 478 accidentally got there during the formation of the museum collection (Daragan, Didenko 2021, p. 182). However, in general, these two sets can be attributed to the end of the transitional period/beginning of the Vitova Mohyla horizon. Thanks to the high-quality publication of these materials, we have an idea about the composition of quiver sets of the period, which is extremely poorly provided by the source base. The absence of complexes in Eastern Europe during the active phase of the campaigns to the west can be explained by the presence of the horde (?) outside the region, and the first complexes that were created immediately after returning from the campaigns — by the fact that their participants died after a certain time, such as Skorobir, Barrow 1/2017 (Шрамко І., Задніков 2018, с. 7-16). Vovkivtsi, Barrow 478 and Basivka, Barrow 482 can fill this gap (conditionally 540—530 BC).

<sup>10</sup> Analogies of arrowheads with cast marks of the 5<sup>th</sup> — 4<sup>th</sup> centuries BC have a different shape of the head and dimensions, which fundamentally distinguishes them from items of Posullia and Skorobir (Daragan, Didenko 2021, p. 178, fig. 19: 8, 10—11).

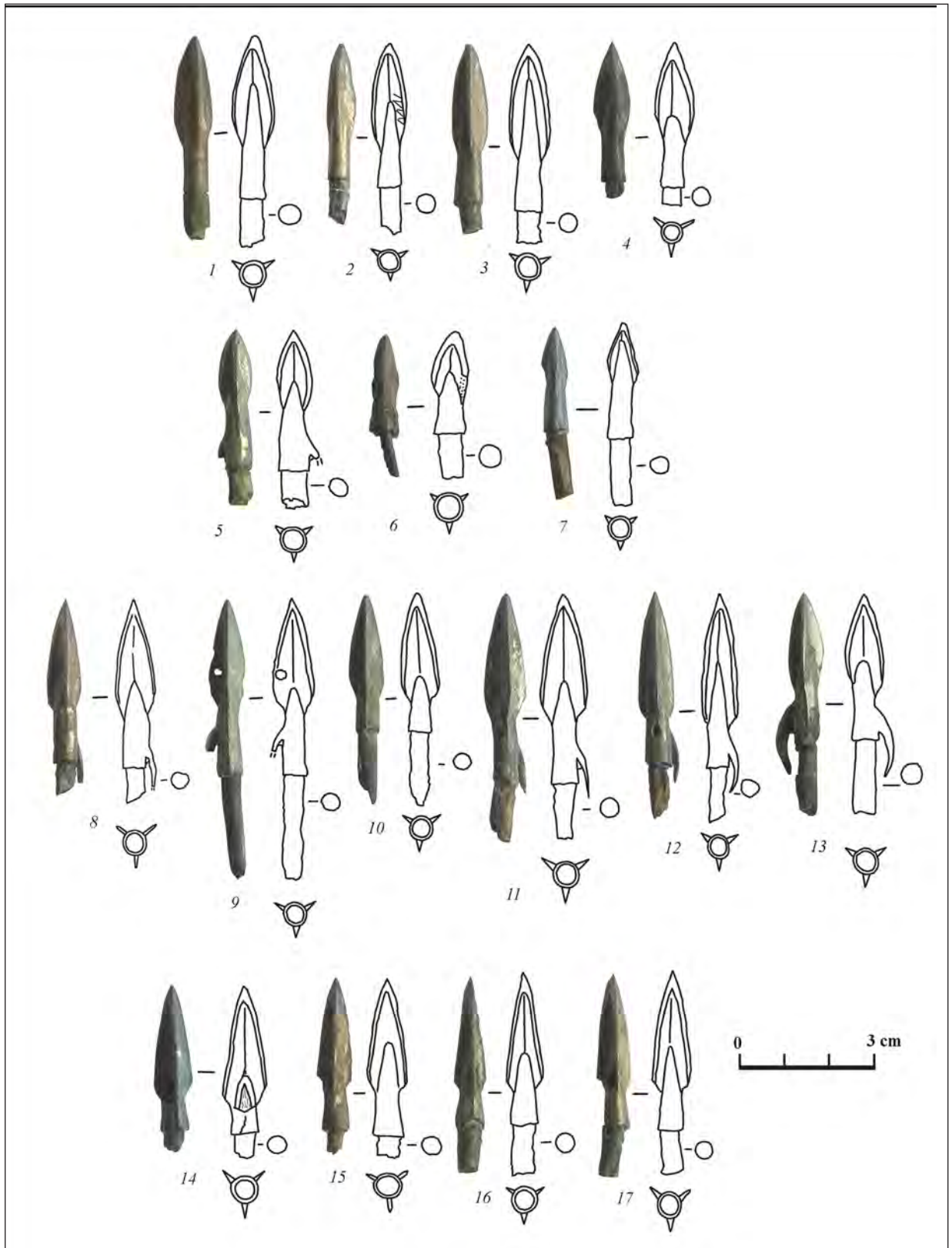


Fig. 8. Burial of the Barrow 57 of the Skorobir necropolis. Three-winged arrowheads (photos and drawings by D. V. Karavaiko)

Age in the “steppe belt” of Eurasia, together with the spread of nomadism, bows and arrows played a prominent role in the battle. The wars of nomads

with various tribes made it necessary to constantly take into account new experience, the emergence of new combat tactics, armours, which led to the need

of improving the effectiveness of defeating the enemy at a distance (range, accuracy, rapid fire). The shortage of non-ferrous metals also required considering the need to save it. All this made arrowheads, which were mass-produced and expendable during the battle, the most sensitive to changes. Increasing intensity of conflict leads to a shorter use-life for arrowheads, and thus to an increase in their rate of production, which in turn increases variability of shapes (see: Diachenko, Sobkowiak-Tabaka 2022 and references therein). Various transmission biases related to the effectiveness, amount of material used etc. should be also considered (Boyd, Richerson 1985). Therefore, sensitivity to change is especially the case of periods of instability and migrations of various tribes. At the same time, the complexes continued to include other categories of material culture of previously widespread types (pottery, decorations, tools, etc.), which indicates that they did not change so rapidly.

Complex processes of constant renewal of material culture makes it possible to carefully distinguish chronological horizons that are interconnected by transitional periods. Increasing the number of records and clarifying the dating of complexes can gradually refine these chronological constructions. The following version represents ongoing work and reflects the current state of research on this topic. The proposed conclusions serve for a starting point of further discussion.

For the 6<sup>th</sup> century BC, the dating capabilities of synchronous arrowhead sets can be compared to antique imports. At the same time, pottery sets, tools and most of the decorations may not change so dynamically. All this complicates the dating of settlement materials and parts of burial complexes in which no antique imports or sets of arrowheads were found<sup>11</sup>.

In the complexes of the end of the Early Scythian time/beginning of the transitional period (pre-invasion time), a significant number of antique imports and whole arrowhead sets were found, which allows them to be placed sequentially on a chronological scale. Absolute dating of horizons/complexes cannot be narrowed to less than 20–25 years at the moment.

Changes took place in an evolutionary way, so the sets always contain a part of the arrowheads of previous chronological horizons. The beginning of a new era is indicated by the appearance of new types

<sup>11</sup> Single finds of the arrowheads cannot be a reliable chronological marker. In each specific case, they can indicate only terminus post quem.

of arrowheads, changes in outlines and parameters, and a gradual increase in their number in relation to previously used shapes. The sufficiently large variability of types does not allow us to clearly fix this proportion — in all cases, the composition of the quiver sets of the transitional period was different. The presence or absence of arrowheads of the same series (cast in the same mold) is interesting, which may allow making assumptions about the nature of the set formation<sup>12</sup>.

At the between, within the end of the 7<sup>th</sup> and the beginning of the third quarter of the 6<sup>th</sup> century BC, three consecutive chronological groups of quiver sets/burials can be distinguished: the second phase of the Kelermes period, the late group of burials (610/600-570 BC), the beginning of the transitional period/pre-invasion<sup>13</sup> time (570 — 560/550 BC) and the time of the invasion to the Central Europe (560/550 — 540 BC).

**Second phase of the Kelermes period, late group of burials (610/600 — 570BC).** The complexes and quiver sets of the end of the Early Scythian period (the first half of the 6<sup>th</sup> century BC) were clearly distinguished and analysed by S. V. Makhortykh (2022). I also paid attention to this topic (Гречко 2012; 2016). It is possible to establish a microchronology, primarily related to this layer of burials, taking into account new discoveries and progress in refining the dating of the 6<sup>th</sup> century BC complexes.

Considering the composition of the quiver sets of the Repiakhuvata Mohyla, Burial 2, these can be attributed as the oldest in this horizon (Ильинская, Мозолевский, Тереножкин 1980).

Then, taking into account the appearance of certain types of two-winged arrowheads, there are complexes with antique imports from Khapry, Burial 1/25; Bushuika, Burial 2/10) and barrow near in the Kytaihorod village (Беспальный, Парусимов 1991; Ильюков, Пашинян 1999; Ромашко, Скорый, Филимонов, 2014).

Complexes with ancient imports in District 7, Point 8 Novoaleksandrovka (Кореняко, Лукьяшко, 1982), Burial 7/8 on Lower Don and

<sup>12</sup> This issue requires a distinct analysis, because at the moment it cannot be argued that the absence of a series of identical arrowheads indicates the long-term participation of warriors in combats and the replenishment of the stock with what could be found on the battlefield, and not received from the smelter master.

<sup>13</sup> The term is not felicitous, as it can be confused with the campaigns of the Cimmerians and Scythians to Asia Minor in 7th century BC, but for now I will use it for a sake of simplicity.



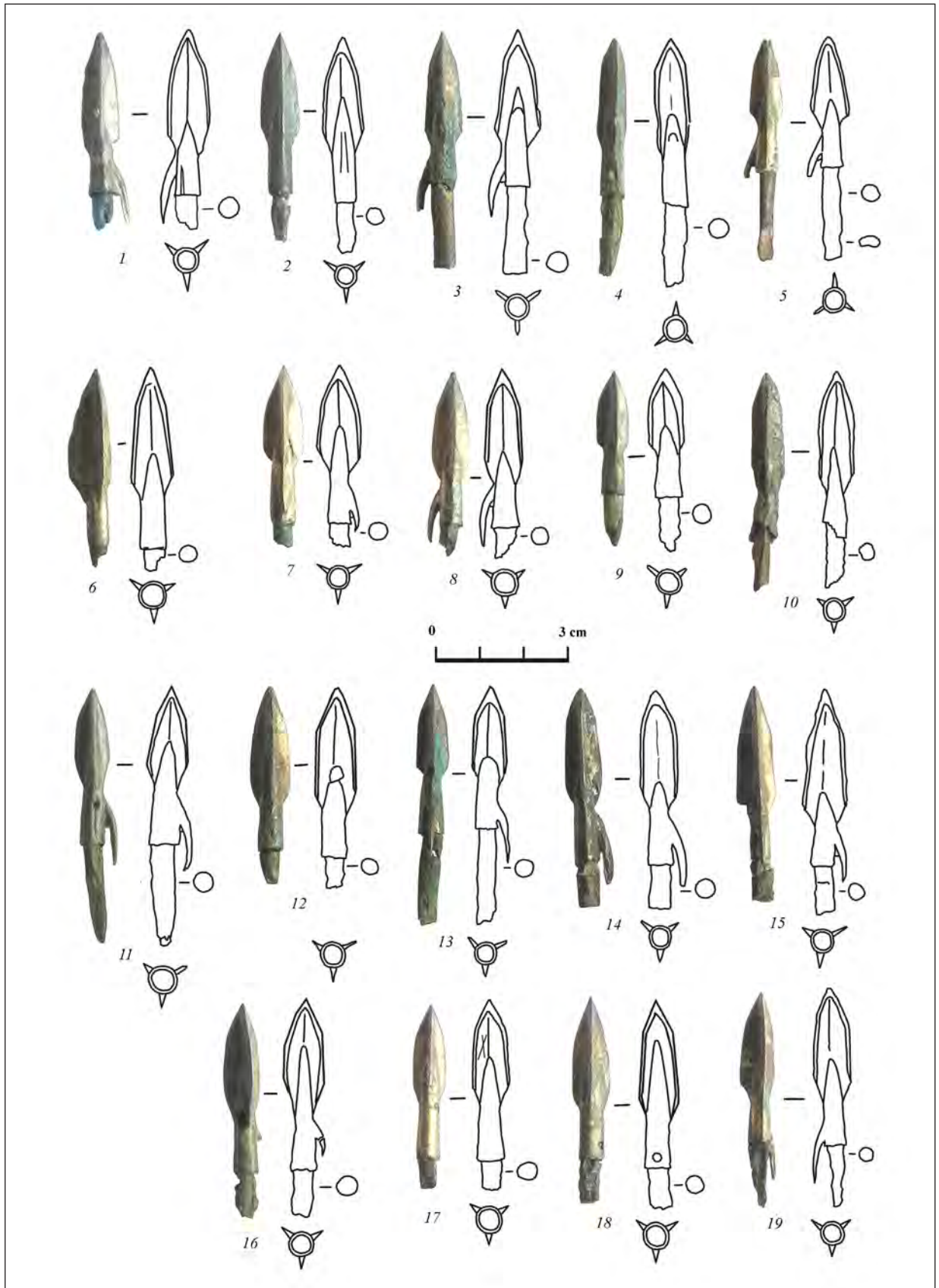


Fig. 9. Burial of the Barrow 57 of the Skorobir necropolis. Three-winged arrowheads with tower-shaped heads (photos and drawings by D. V. Karavaiko)

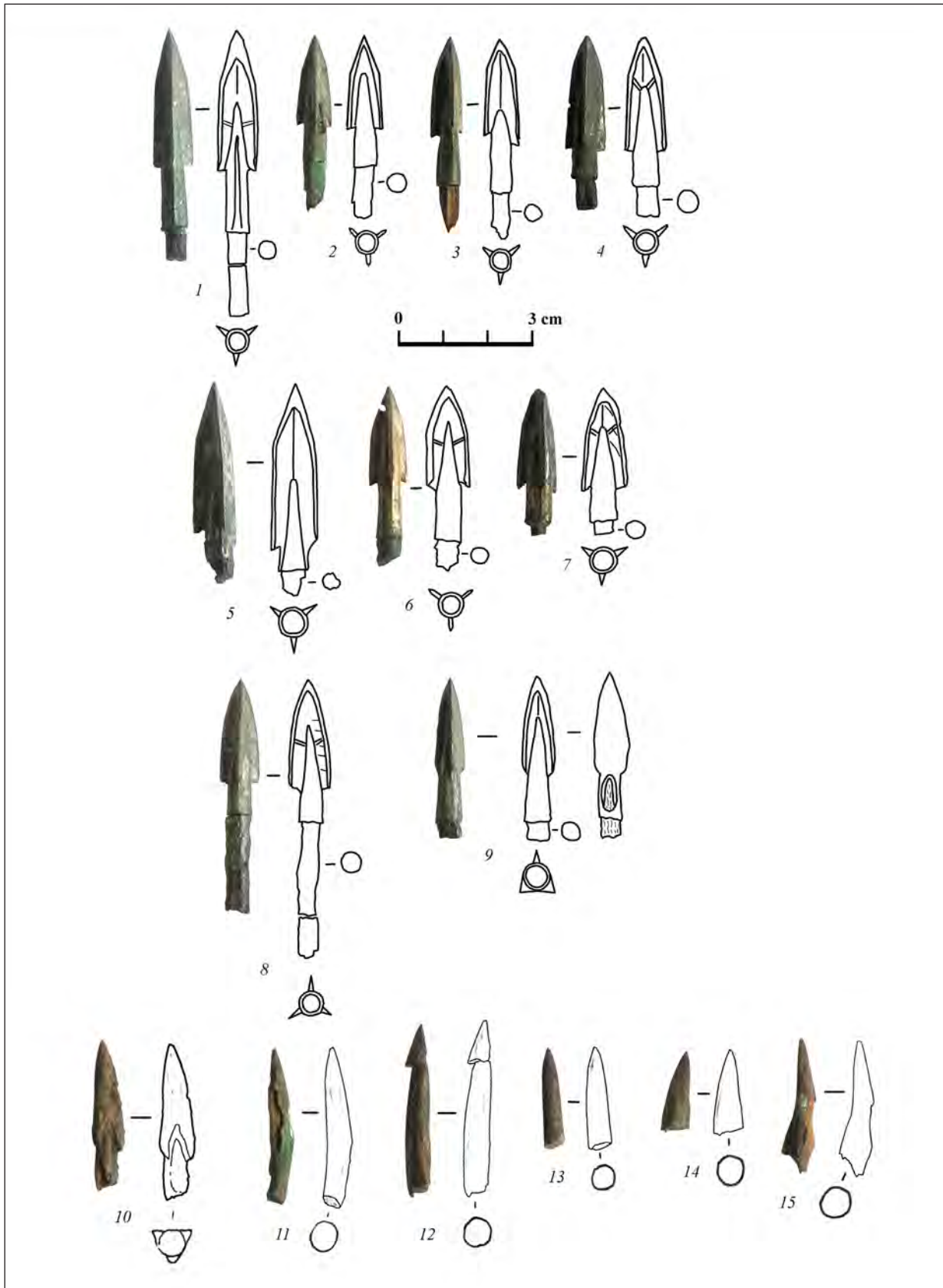


Fig. 10. Burial of the Barrow 57 of the Skorobir necropolis. Three-winged bronze arrowheads and wooden arrows (photos and drawings by D. V. Karavaiko)



Fig. 11. Burial of the Barrow 57 of the Skorobir necropolis. The marks on the arrowheads. 1 — fig. 1: 5; 2 — fig. 1: 1; 3 — fig. 7: 6; 4 — fig. 8: 2; 5 — fig. 9: 17; 6 — fig. 10: 7; 7 — fig. 10: 8; 8 — fig. 10: 1; 9 — fig. 10: 6; 10 — fig. 10: 4 (photos by D. V. Karavaiko)

Tsukur-Liman in Kuban region can be considered relatively the latest in this horizon (Копылов, Русаков 2015, с. 92, табл. 1).

In general, to this horizon can be attributed the Huliai-Horod, Barrow 38 (Ильинская 1975) and Ohorodne (Мурзин 1984) complexes. The arrowhead set from the defense structures of Trakhtemyriv hillfort also corresponds most precisely to this time (Фіалко, Болтрик 2003).

For this horizon, Serhii Mahortykh mentions the following innovations (Махортых 2022, с. 109). Among the two-winged arrowheads are examples with an oval head and a long socket without spikes and ones with an arched-shaped head, spikes, the greatest width of which is at the base, and the ends of the blades are obliquely cut to the socket. Among the three-winged ones are arrowheads without spikes with a tower-shaped head; arrowheads with a leaf-shaped head that has the greatest

expansion at the bottom with a long socket that is up to half the length of the arrowhead. We can agree with all these observations, except for the attribution of the Lebedi-5, Barrow 11, Burial 8 to this chronological group. A significant number of tower-shaped arrowheads indicates that it belongs to the beginning of the next, transitional period.

**The beginning of the transitional period/pre-invasion time (about 580/570—560/550 BC).** The transitional complex to this chronological horizon is represented by Lebedi-5, Barrow 11, Burial 8. According to the dating of the repaired amphora and tower-shaped arrowheads, it can be dated to the Late Early Scythian/early transitional periods<sup>14</sup>.

<sup>14</sup> The amphora from the burial dates to the end of the 7th — the first half of the 6th BC (Sezgin 2017, p. 15), but it has traces of repair and can only determine the terminus post quem.



The composition of the quiver set of Skorobir, Barrow 57 is typologically older compared to the time of the active phase of the “Scythian invasion” to Central Europe, while it is fundamentally innovative compared to the sets of the second phase of the Kelermes period, which allows attributing this complex to this stage.

Chronologically similar complexes of Мамай-Нора, Barrow 337, Burial 1<sup>15</sup>(Андрюх Тощев 2022), Perebykivtsi, Barrows 2 and 3 (Смирнова 1979, рис. 8; 9; рис. 12: 1—5), Novozavedenoye II, Burials 6 and 17 (Петренко, Маслов, Канторович 2006), Aksay-1, Barrow 3, Burial 3 (Дьяченко и др. 1999) can also be attributed to this time.

The percentage of arrowheads of the previous horizon in the set from Skorobir is quite significant and counts 37 %. Various types of two-winged and three-winged arrowheads with a tower-shaped head (fig. 9), three-winged arrowheads with a triangular head of slender proportions with a short outer socket (fig. 8: 14—17) and the first tower-shaped items with inner socket are innovative (Perebykivtsi, Barrow 2, close to II.4.V.a according to A. Hellmuth). This time is characterised by a significant variability of sets, which enables us to suppose both the experiments in search of the optimal form, and the appearance of different groups of warriors with their own traditions of making weapons.

It is interesting that, in general, all these complexes have material culture, including a horse bridle, of the Early Scythian type, and only the quiver sets clarify the dating. The change of sets of arrows obviously happened much faster than other categories of material culture, which is not surprising.

It is worth noting once again that the series of arrowheads with cast marks from the set from Skorobir, Burial 57 and the later Basivka, Barrow 482, Vovkivtsi, Barrow 478 have numerous analogies in the sets of the Volga and Don confluence and the Southern Urals (Смирнов 1964, с. 297, рис. 5, 14; с. 307 рис. 14, 1; с. 314, рис. 21, 1; 317, рис. 24, 7; с. 319, рис. 26, 3д; 328, рис. 35А, 4; с. 330, рис. 36, 1д and etc.). Part of the categories of material culture and new fine arts traditions (Гречко 2016, с. 46—55) and their absence in the North Caucasus in the 6<sup>th</sup> century BC do not allow us to reject the option of the arrival of some nomads from the East to the East European forest-steppe. Unfortunately, the small number of clear chronoindicators, first

<sup>15</sup> A gray clay amphora was discovered in the burial, to which the dating of the Lesbos amphoras should not be transferred (Андрюх, Тощев 2022, с. 415). This find does not have a narrow dating and cannot specify the dating of the complex.

of all antique ceramics, prevent the complete synchronisation of the «Scythian», «Sauromatian» and «Sakian» chronologies. It is possible that the complexes to the east of the Don may be suppressed and then the origins of new types of things will become more obvious. The “Hallstatt Plateau” complicates the involvement of radiocarbon dating into solving this issue.

**Time of invasion to Central Europe (560/550—540 BC).** The sets of this time can be characterised mainly by finds in the layers of destruction in Central Europe, because burials in the Northern Black Sea region are not known. At this time, arrowheads of early Scythian types and those that appeared at the beginning of the transitional period were still used. Among the innovations, we can note the appearance of three-winged tower-shaped arrowheads of types II.E, F according to A. Hellmuth, products with a short outer socket of slender proportions (II.3.C.b according to A. Hellmuth, which will be common in the subsequent period). At this time, three-winged arrowheads with an arch-shaped head and pointed ends of the faces disappear, and III.3.a with faces that go to the socket at a right angle, with a short outer or with an inner socket, appear. As single archaisms from the Early Scythian period can be considered III.3\* IVBz, I.I\*, III.2\*.

**The Vitova Mohyla horizon (540/530—520 BC)** corresponds to the time of the return of nomads from their campaigns to the forest-steppe (Гречко, Котенко, Крютченко 2020, с. 54-64) and referred to a post-invasion time. Very similar tower-shaped arrowheads with an inner socket and a cast mark at Hellbrunnerberg (Moosleitner 1979) and in the Basivka, Barrow 482<sup>16</sup> are notable.

### *On the eve of the invasion to the Eastern Hallstattian and Lusatian lands: From the Transcaucasia to the Carpathian passes*

The current state of the records allows arguing that as of the middle of the 6<sup>th</sup> century BC several regions of Eurasia did not have a permanent population: the steppes of the Northern Black Sea and the Azov region, the Volga-Don watershed and the Southern Urals, that is, in fact, the entire steppe from the Danube to the Urals. This was probably due to the climatic conditions in this region at that time. In the east, the potential source areas of migration to the West could be Southern Trans-

<sup>16</sup> Such an observation became possible thanks to the high-quality publication of images of arrowheads from this complex (Daragan, Didenko 2021, p. 178, fig 19: 6).

Urals, Northern and Central Kazakhstan (Tasmola tribes), Eastern Kazakhstan, Altai, Tuva, Southern Siberia and the Aral Sea (Гречко 2016, с. 36). The initial territory of new nomads' migration is difficult to determine. During migration, the tribes, through whose lands the migration had taken place, were often involved in the movement. All this makes the process of reconstruction of population migrations in the absence of data in written sources more complicated.

Analysis of changes in the burial rites and material culture of the new complexes of the transitional period show that, apart from relatively small groups of nomads from Central Asia, people from the Northern Caucasus and Kuban region prevailed among the warriors (Гречко 2016, с. 55-56). This is consistent with the view of some researchers about the returning of a part of the Scythians from Asia Minor to the Northern Black Sea region after staying in the Northern Caucasus after the bloody feast of Суахаes in 585 BC (Мозолевський 1990, с. 27, 28). These new groups of nomads were the "culprits" of the beginning of the transition period and large-scale changes in the ethno-cultural map of Central and Eastern Europe.

One of the oldest complexes with a cross-shaped plate, a remarkable innovation of the transitional period, is the burial of a teenager in the Aksay 1, Barrow 3, Burial 3 in Don-Volga watershed (Дяченко та інші 1999, с. 96, 108). The most acceptable date for today is the second quarter of the 6<sup>th</sup> century BC (570/560—550 BC). The quiver set belongs to the beginning of the transitional period. This complex can mark the movement of nomads to the Northern Black Sea region from the East directly or via the Northern Caucasus and Kuban region.

Traces of fire and destruction were recently identified in Panticapaeum. Arrowheads from the destruction layer are close to the pre-invasion time ones. V. P. Tolstikov dates the attack around the middle of the 6<sup>th</sup> century BC, while the ceramics' sets are dated to the first half of the 6<sup>th</sup> century BC (Толстиков 2017). It is important that antique ceramics (Northern Ionia), which were found in the layers of the destruction, allow to some extent the synchronization of this event with the burial in Aksay and the assault on the Trakhtemyriv hillfort at the end of the first third of the 6<sup>th</sup> century BC (580's — middle of the 6<sup>th</sup> century BC). It should be noted that no other traces of the movement of new groups of nomads to the Northern Black Sea coast via the Crimea have been recorded.

The mapping of the nomadic burials of the transitional period indicates the path of the new no-

mad to the Northern Black Sea region through the Lower Don. A convenient crossing of the Lower Don is located near Dugino village. Then the path ran through the watershed of the rivers of the Dni-pro basin and the Sea of Azov.

The appearance of new groups of nomads in the Northern Black Sea region is marked by the discovering of the early transitional period warrior graves on the convenient roads to the Dni-pro ferries, in which stone sculptures were found (Sholokhove, Barrow 13, Velykomykhailivka, Gladkoe, Roblena Mohyla). Such complexes were absent in the Northern Black Sea in the Early Scythian time (Гречко 2016, с. 41). The tradition of placing anthropomorphic sculptures in a grave is known in the early Scythian barrows in the Northern Caucasus (Nartan, Barrows 11, 16, 17, 20 etc.) (Бессонова 2009, с. 25-26).

Interesting burials were investigated near the village Hladkivshchyna on the steppe territory along the left bank of the Dni-pro. These complexes represent a chronologically monolithic group. The arrowheads set from Barrow 4 belongs to the beginning of the transitional period<sup>17</sup>. The Ionian kylix (Type B2 according to Villard-Vallet or Type 9 according to Schlotzhauer) was found in the Burial 499 (Галанина 1977). It can be dated to 590/580—540 BC.

At the end of the Early Scythian period, the forest-steppe regions of Eastern Europe had a large settled and semi-nomadic population. A few more complexes of the Left Bank Dni-pro, which can be dated to the end of the Early Scythian time — beginning of the transitional period, were found in Bilsk necropolis in Skorobir tract, *i.e.* Barrows 57 and 2/2019 (Шрамко І., Задніков 2020, с. 9-10). Early Scythian period hillforts were not found in Left Bank Dni-pro forest-steppe (Гречко 2016, с. 56), and perhaps because of this no traces of assaults were found. It cannot be ruled out that the local population recognised the power of the new nomads without armed resistance. Some of the warriors from this region could have joined the march (Grechko 2021).

Traces of warfare at the end of the Early Scythian period/beginning of the transitional period were discovered in the Eastern Bank of the Dni-pro forest-steppe. Trakhtemyriv hillfort is located on the Eastern Bank of the Dni-pro near Zarubskyi ford (Фіалко, Болтрик 2003, с. 84). Arrowheads, which were found in the rampart and moat, belong to the end of the Early Scythian pe-

<sup>17</sup> Publication of photos of arrows from the Burial 4/1 made by M. M. Darahan fundamentally influenced the characteristics of the typological set of this quiver (Даран 2016).

riod. It is important that in the moat, together with the arrowheads, an oenochoe was found. It belongs to the group Wild Goat Style “B” (mixed style) and is dated by experts around 80s of the 6<sup>th</sup> century BC. At the territory of the citadel of the settlement, the remains of killed locals were found. Trakhtemyriv hillfort stopped functioning after the assault (Фіалко, Болтрик 2003). Accordingly, groups of nomads could cross the Dnipro not earlier than the 580s BC. Taking into account that we have only the *terminus post quem* dates, the fording of the river could happen later.

Traces of the assault were recently discovered at the Khotiv hillfort near Kyiv. The small collection of arrowheads from this excavation belongs to the Early Scythian period (Шелехань 2017, с. 66, рис. 64, 13). The authors of the excavation date the assault of the settlement to the end of the 7<sup>th</sup> century BC (Кравченко 2017, с. 119-120). It can be assumed that this assault could have happened simultaneously with Trakhtemyriv's.

Further on, the path of nomads could turn to the south and pass along the Black Shliakh. O. Ye. Fialko and Yu. V. Boltryk argue that after the assault of Trakhtemyriv, the Scythians on this route went to Central Europe, which led to the destruction of the settlements in Central Europe (Фіалко, Болтрик 2003, с. 86-87). Jan Chochorowski thinks that for such a route the nomads had no “back-ground” (Chochorowski 2014, p. 32).

It is possible to associate the abandonment of the Nemyriv and Severynivka hillforts in the South Buh basin (East Podillian group) with the advancement of the nomads along the Black Shliakh. Materials which can be dated to the beginning of the Middle Scythian period (second half of the 6<sup>th</sup> century BC) were not found at the Severynivka hillfort (Shelehan, Lifantii 2016, p. 244). Antique ceramics from its fortifications are dated no later than by the second quarter — middle of the 6<sup>th</sup> century BC, but earlier dating of the oenochoe with a “striped” ornament is not excluded. Researchers date the abandonment of the hillfort to the first third of the 6<sup>th</sup> century BC (Кашуба, Вахтина 2017, с. 219, 220, рис. 8: 225). Despite of this dating of the end of the settlement's functioning, among the arrowheads from the Nemyriv hillfort, the types characterising the transitional period are known (Смирнова, Вахтина, Кашуба 2018, с. 180, рис. 150, 1, 10—12). It is worth noting that two bronze three-winged arrowheads with an inner socket, the edges of which form spikes, are typical for Sauromatian complexes of the Don-Volga watershed and further to the east

(Смирнов 1964, с. 297, рис. 5: 4а; с. 299, рис. 7: 5, 7а, 11). Unfortunately, all the arrowheads do not have a certain context (Смирнова, Вахтина, Кашуба 2018, с. 181) and it is impossible to claim that they are related to the causes for the cessation of the settlement functioning.

The time of functioning of the Western Podillian group was determined by G. I. Smirnova around the middle of the 7<sup>th</sup> — beginning of the 5<sup>th</sup> centuries BC. The upper (late) date was based only on one complex — Verkhni Panivtsi (Смирнова 2006). O. D. Mohylov argued that this complex was re-dated to the first half — middle of the 6<sup>th</sup> century BC (Могилов 2010, с. 124). M. S. Bandrivskyi dates the latest sites of the Western Podillian group (Stage IIIb) to first quarter of the 6<sup>th</sup> century BC (Бандрівський 2014, с. 308). Perebykivtsi, Barrow 2 may be considered for the one of the latest sites of this group (fig. 8: 2) (Смирнова 1993, с. 115-116; Мелюкова 2006, с. 28). The quiver set no. 2 finds direct correspondences with burials of the beginning of the transitional period like Skorobir, Barrow 57.

The Kotsiubynchyky 2 burial complex included a horse harness, a fragment of a bronze mirror, and a set of bimetallic tops of the funeral carts and bronze bells. The author of the excavation found the closest analogy to the whole set in Volkivtsi, Burial 477 at the Sula River (Бандрівський 2009, с. 37), which is dated to the end of the Early Scythian period — the beginning of the transitional period (Гречко 2016, с. 43-44). The hypothesis of M. S. Bandrivskyi about the connection of these burials with complexes with tops of funeral carts and bells in the Carpathian basin is interesting (Бандрівський 2009, с. 37-38).

Finds of the East-Hallstatt origin in the tombs of the Western Podillian group indicate that the nomads of this region knew well how to pass the Carpathians and whom they would meet there.

At the end of the first third of the 6<sup>th</sup> century BC this group ceases its operation, judging by the materials available today, and the westernmost outpost of the forest-steppe tribes becomes the Chotyńiec agglomeration (Grechko 2020b, p. 597-598). S. Czopek assumes the participation of its population in the raids of nomads to the west (Czopek 2021, p. 384). The arrowheads of the ash-hill of the Chotyńiec hillfort do not belong to the time of the destruction of hillforts in the Lusatian and Eastern Hallstatt lands, but correspond instead to the earlier Kelermes period (Гречко 2013, с. 133-154; Grechko 2020a, p. 12-19). The lack of later arrowheads in the collection, even those of the transition period, as in the settlements and hillforts of the Western Podil-



lian group, once again indicates that these groups did not experience nomadic raids to the west. It is very likely that the end of the Chotyniec agglomeration and both Podillian groups is precisely connected with this global destabilisation of the military-political situation around the middle of the 6<sup>th</sup> century BC in the broad areas of Eurasia.

I can agree with the researchers that the nomads of the Middle Dnister joined the march through the Carpathians to Central Europe<sup>18</sup> (Transylvanian and Western Podillian nomadic aggression (Хохоровски 2013, с. 67)). I. V. Bruiako thinks that the region was their last stop before moving to the Hungarian Plain (Бруяко 2005, с. 291). It can be assumed that the nomads passed through Chotyniec and turned to the south in the area of modern Rzeszów in the direction of Kosice (Chochorowski 1985, taf. 5). This corresponds to the direction of roads in the Middle Ages. A significant number of complexes with eastern materials in North-Eastern Hungary (Dédestapolcsány, Gyöngyös, Miskolc, Diósgyőr, Sajószentpéter, etc.) confirms this assumption regarding the route along which the participants of the western passage crossed the Carpathians.

### *Concluding remarks*

The Skorobir, Barrow 57 can be attributed to the beginning of the transitional period / pre-invasion time (580/570—560/550 BC).

This chronological horizon follows the latest group of Early Scythian burials and precedes the time of the destruction of the fortifications in Central Europe. It was characterised by the emergence of new groups of nomads from the Transcaucasia and more eastern regions of Eurasia and their establishment of control over the tribes of the Eastern European forest-steppe, and continued while the new rulers of the region were preparing (?) for a campaign to the west.

It can be assumed that after the conquest of the tribes of the Eastern European forest-steppe and probably the plundering (?) of the European Bosphorus by the Greek colonists, the new rulers of the region probably stopped for a certain time to restore their strength and replenish their army with representatives of the newly conquered tribes. It is complicated to identify archaeologically how long this period lasted, but it was not long. This is indicated by certain changes in

<sup>18</sup> The disappearance of the Western-Podillian group, the researcher rightly links with the migration of its people to the Carpathian Hollow (Хохоровски 2013, с. 67).

the composition of the quiver sets with which fortifications in Eastern Hallstattian and Lusatian lands were assaulted. That is, the chronological horizon with arrowheads from Central Europe (ca. 560/550—540 BC) immediately follows the previous one (580/570—560/550 BC, Skorobir, Barrow 57, Perebykivtsi, Barrow 2). Burials with sets of arrowheads that would clearly correspond to the finds in the destroyed fortifications of Central Europe are unknown to me in the East European forest-steppe. This may be due to the absence of the main mass of warriors in the region who went on a campaign to the west.

Specifying the picture of large-scale destabilisation of the military-political situation in Central and Eastern Europe around the middle of the 6<sup>th</sup> century BC, we can argue about the scale of events that had significant consequences for the tribes of Central and Eastern Europe. These events were not reflected in written sources, in contrast to the early Middle Ages, therefore, about the real scale of the tribes, movement during the 6<sup>th</sup> century BC we can only guess. It is interesting that the nomadic campaigns impacted the development of the economics and material culture of the East Hallstattian and Lusatian tribes at the final stage of the HaD1 phase<sup>19</sup> (Grechko 2020b, p. 597-599). This largely indicates the synchronicity of global changes in Eastern and Central Europe. The period of prosperity (Early Scythian period for the forest-steppe and HaD1 for Hallstatt) was interrupted and the time of significant changes and military-political instability (transitional period/early Middle Scythian time and HaD2-3) had begun. This tumultuous period resulted in the isolation of these two regions in the 5<sup>th</sup> — 4<sup>th</sup> centuries BC, when two powerful forces entered the historical arena: the Northern Black Sea Scythians and the Celts. This balance of power and stabilisation of the situation again leads to the flourishing of these two worlds.

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<sup>19</sup> This topic needs more comprehensive analyses and special research.

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## НАПЕРЕДОДНІ «СКІФСЬКОГО ВТОРГНЕННЯ» В ЦЕНТРАЛЬНУ ЄВРОПУ: НОВЕ ПОХОВАННЯ ВОІНА У БІЛЬСЬКУ

Під курганом №1/2020 (№57) в ур. Скоробір (ділянка «4-е поле») було виявлено поховання початку перехідного періоду (580/570—560/550 рр. до н.е.). Поховальний інвентар складався з набору ліпленого посуду, залізних вудил та наконечника списа. Особливу увагу привертає перший випадок у східноєвропейському Лісостепу виявлення частини шкіряного сагайдака зі стрілами. Сагайдачний набір складався з 51 стріли з бронзовими наконечниками та 6 дерев'яних стріл. Склад сагайдачного набору поєднує типи наконечників ранньоскіфського часу та нові форми перехідного періоду. Це дозволяє поставити цей комплекс на шкалі відносної хронології відразу після фінальних комплексів ранньоскіфського часу (610/600—570 рр. до н.е.) серед комплексів початку перехідного періоду / передпохідного часу (умовно, 580/570—560/550 рр. до н.е.). Цікаво що в цілому всі ці комплекси мають матеріальну культуру, включаючи вузду, ранньоскіфського типу і лише сагайдачні набори уточнюють датування. Зміна наборів стріл, очевидно, відбувалась набагато швидше, ніж інших категорій матеріальної культури, що й не дивно.

Можна припускати, що після підкорення племен східноєвропейського Лісостепу нові володарі регіону на певний час зупинились для відновлення сил та створення нового війська з новопідкорених племен. Поховання з наборами стріл, які б чітко відповідали знахідкам у знищених фортифікаціях Центральної Європи, у східноєвропейському Лісостепу мені невідомі. Це може бути пов'язано з відсутністю основної маси воїнів у регіоні, які пішли у похід на захід.

Деталізація картини масштабної дестабілізації військово-політичної обстановки у Центральній та Східній Європі близько середини VI ст. до н. е. може говорити про масштабність подій, які мали визначні наслідки для племен Центральної та Східної Європи. Період розквіту (ранньоскіфський час для Лісостепу та HaD1 для Гальштату) було перервано та розпочався час кардинальних змін і військово-політичної нестабільності (перехідний період / початок середньоскіфського часу та HaD2-3).

*К л ю ч о в і с л о в а:* Дніпровське лісостепове Лівобережжя, Більське городище, перехідний період, HaD1, курган, наконечники стріл.

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