I.I. Bakhshiev, V.V. Kufterin, and N.N. Grigor’ev

The Samarsk II Kurgan [Barrow] Burial Site

A New Yamna Culture Necropolis in the Trans-Ural Region of Bashkortostan

The article describes barrow [kurgan] 5 of the Samarsk II barrow burial site at the village of Samarsk in today’s republic of Bashkortostan. Although the burials were highly disturbed, research has permitted them to be correlated with sites of the Bronze Age Yamna culture funerary rituals of the Volga-Ural region.

This article presents the results of salvage archeological research on barrow [kurgan] 5 of the Samarsk II barrow burial site at the village of Samarsk of Khaibullin [Haibullah] raion, Republic of Bashkortostan, conducted in 2011 by a joint expedition of the GBUK [State Budgetary Institution of Culture] Scientific-and-Production Center for the Protection and Use of Immovable Objects of Cultural Heritage of the Republic of Bashkortostan under the Ministry of Culture of the Republic of Bashkortostan (city of Ufa) and the Sibai Institute (Branch) of BashGU [Bashkir English translation © 2014 M.E. Sharpe Inc. from the Russian text, “Samarskii II kurgannyi mogil’nik—novyi nekropol’ iamnoi kul’tury v bashkirskom Zaural’e.”

I.I. Bakhshiev is chair of the Department of Urals Region Archeology. V.V. Kufterin is a senior researcher at the M. Akmullah Bashkir State Pedagogical University. N.N. Grigor’ev is a PhD student at Bashkir State University.

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State University] (city of Sibai) under the direction of I.I. Bakhshiev.

The aim of the archeological work was to conduct salvage research in a zone of intensive economic development (yearly plowing). Remains of two highly disturbed burials that did not contain accompanying archeological material were identified during the researching of barrow 5. Unique features of the relevant funeral rite allow the complex under examination to be identified with the circle of sites and monuments of the Yamna culture of the Volga-Ural region.

**History of archeological study**

Iu.A. Morozov made the first scholarly examination of the necropolis in 1989. He documented five earthen mounds 20 m to 33 m in diameter and from 0.3 m to 1 m in height (Morozov 1990; APB–463). It was noted in the preliminary archeological examination of the site that all the barrow mounds of the necropolis had been subjected to intensive plowing.

We note that Iu.A. Morozov erroneously indicated a probability that the burial site was mentioned as early as 1945 by B.A. Koishevskii (Koishevskii 1948; AKB–1782).

The significant deterioration in the physical integrity of the barrow mounds—due to the continuation of intensive plowing—was documented during an inspection of the necropolis by GBUK NPTs [State Budgetary Institution of Culture Scientific-and-Production Center] archeology researchers in 2010–11. In addition, traces were uncovered of another four mounds that were practically undefined in the terrain due to plowing over many years. Nine mounds are now numbered in the barrow group, one of which (no. 5) was researched by a GBUK NPTs and SIBGU [Sibai Institute of Bashkir State University] expedition in 2011.

**Topography and general characterization of the monument**

The Samarsk II barrow burial site is situated on the plowed flat summit of a high native-rock terrace on the right bank of the Tanalyk River (at a height of 14 m to 16 m above the floodplain), 3 km to the north–northwest of the cemetery of the village of Samarsk of Khaibullin raion, Republic of Bashkortostan (azimuth 335°), 1.2 km to the west of the Ak’iar–Iuldybaevo automobile road and 250 m south of the road leading to the village of Iulbarsovo (Figure 1).
Figure 1. Republic of Bashkortostan, Khaibullin Raion, Village of Samarsk. Samarsk II Barrow Burial Site. Topographic Layout.
The burial site consists of nine deeply plowed barrows. All the mounds besides barrow 6 are practically destroyed and are not clearly defined in the terrain. The barrow group takes up a significant area (400 x 200 m), oriented east–west.

The barrows of the necropolis form several local groups.

*Group A (central).* The barrow mounds are situated in the provisional center of the burial site, forming two subgroups of mounds stretching north to south (barrows 2–4 and 5–6).

*Group B (eastern).* Barrow mounds 7–9, oriented along an east–west line.

*Group C (western).* One mound (barrow 1) situated at a considerable distance (180–200 m) from the main burial site.

Considering the elongated distribution of the mounds along the barrow field, as well as the significant empty areas between separate localized groups within the necropolis, it cannot be ruled out that there were more barrows in antiquity.

All the barrows are earthen, with a rounded form protruding horizontally. The visually documented diameter of the mounds varies from 20 m to 30 m. The height of the barrows above today’s surface level is 0.25–0.35 m. The only exception is barrow 6, which differs from the rest in that it has the largest and highest mound (a diameter of 40 m and a height of 1.2 m).

On the whole, the overall condition of the monument is alarming; all the barrows are being plowed.

**Methodology**

Proceeding from the generally accepted principles of the preferability of maintaining an archeological monument’s integrity, barrow mound no. 5 (subjected to the most plowing) was selected as the object of research. It occupies a central position in the burial site. The archeological research thus had the least impact on the overall structure of the necropolis and permitted determination of the site’s cultural affiliation, dating, and cultural-historical potential.

The mound was divided into equal sectors with perpendicular shoulder lines oriented along the cardinal points of the compass (length 28 m, width 1 m). The excavations were carried out by hand, by sectors and layers, with complete removal of earth beyond the perimeter of the excavation. The layers were removed in provisional horizons of 18–20 cm.
Starting with the buried soil layer, the earth was removed by stripping, using provisional horizons of 10 cm. After the removal of the native soil and the plotting of identified objects and spots, the native-soil clay loam was subjected to additional digging. A horizontal stripping of the earth was done at the level of each provisional horizon, as well as at the level of the buried soil and the native soil. The sections were sketched out from the west and the north. The grave pit was examined by the horizontal stripping method, recording their contents, filling in a field journal and making sketches.

A cutback along the lines of removal of the section (length 4 m, width 1–2 m) was carried out to research the dark spots documented at the level of the native soil and extending beyond the excavation boundaries.

The height of the mound was 0.15 m, and around 0.3–0.35 m in relation to the steeper southern slope.

**Stratigraphy and planigraphy**

The linear expanse of the section measures 28 m. The upper *topsoil* is loosely clumped coarse-grained “black” earth of a dark-gray color, of loose composition and with insignificant small stone occlusions, homogeneous, with a depth of 0.2–0.3 m. It becomes denser in the lower part. It was well defined visually in the section. The distinct boundary with the underlying layer was documented along the entire section.

The next layer *ashen humus* (earlier mound)—is lightly packed humus of a whitish shade, grainy-powdery in structure, and characterized by occlusions of ash and significant interspersions of fine grains of charcoal. It extends over an expanse of 13–15 m, and is confined to the central part of the mound. The depth of the seam is 0.2–0.35 m. Contact with the underlying layer of buried soil is obvious. The transition is gradual.

The *buried soil* is a humus dense clay loam of light-gray color, loosely clumped, and coarse-grained. The structure is not homogeneous; the layer is riddled with the tunneling of earth-burrowing animals. The length of the section is 14–15 m. It is located under the central part of the barrow mound. Depth is 0.3–0.5 m. Contact with the underlying layer of buried soil is indistinct. The transition is gradual.

*Prenative earth* is clay loam of a light-yellow color with significant pockets of humus.

*Humus sandy clay of a dark-gray color* (later mound)—is medium-clumped, loosely packed, and large-grained, with insignificant pockets
of native light-yellow clay loam. It is documented along the edges of
the section, situated between the topsoil and the prenative/native earth.
In the horizontal protrusion, it contacts with the layer of ashen humus
and the burials. The contour is clear, the transition distinct. Visually, the
layer is clearly defined in the section.

Native earth is clay loam of a light-yellow color, homogeneous and
compact, with insignificant gravel occlusions. It has been disturbed by
numerous tunnels of burrowing animals (Figure 2).

As a consequence of the homogeneous soil stratifications of the
mound and the buried soil, a planigraphic [diagram] of the distribution
of the layers of the mound and the contours of the burial structure at
the level of the buried soil could not be drawn. On the other hand, the
stratigraphic data allow for the initial burial platform to be definitively
retraced and the possible sequence of the erection of the barrow mound
to be reconstructed.

Thus we can be fairly certain about some manipulations (anthropo-
genic influences) with the ancient surface, manifested in the following
features:

— an “undercutting” of the buried soil layer along the edges of the
section and its removal to the level of prenative and native clay loam on
the adjoining territory has been documented;

—the gradual (blurred) transition between the buried soil layer and
the mound and the absence of separator-markers between the ancient
surface and the piled-up earth, as well as the nonuniformity of distribu-
tion of the “bury” layer documented in the section, points to a removal
of sod from the ancient surface and/or its having been dug up during the
erection of the burial platform.

After a control dig and additional stripping of the native-soil dark
spots with unclear contours—little ditches—were revealed in the north-
ern sectors of the excavation (A–B). In order to determine their base
characteristics, cutbacks were made in the direction of the shoulder line
sections. Sectors of a small ditch/ditches filled with humus sandy clay
from a later mound were revealed in all four directions.

Characterization of the small ditch/ditches

Northern sector. Width along the upper edge—2.3 m; width along the
base—1.9 m; depth—0.25 m.

Southern sector. Width along the upper edge—1.9–2 m; width along
the base—1.8 m; depth—0.1 m.
Figure 2. *Samarsk II* barrow burial site, barrow 5. General view of excavation and shoulder line sections. 1—topsoil; 2—ashen humus (earlier mound); 3—discharge from grave pit; 4—humus sandy clay of dark-gray color (later mound); 5—buried soil; 6—prenative earth; 7—native earth; 8—animal burrows; 9—wood; A—half-timbered wood beams (remains of overlay covering).
Eastern sector. A rounded edge on the little ditch has been documented. Width along the upper edge—1 m; width along the base—0.6 m; depth—0.3 m. The eastern (outer) edge is marked out by an erected clay wall with a packed apex. Width at the foundation of the wall—0.3–0.35 m; width at the top—0.1 m; height—0.3 m. The wall is constructed of tightly packed native clay with clearly documented streaks of dark-gray sandy clay, insignificant interspersions of fine grains of charcoal and an obvious occlusion of crushed bones with traces of thermal action [exposure to high temperatures].

Western sector. Width along the upper edge—1.4 m; width along the base—1 m; depth—0.2 m.

Archeological and osteological material was not detected in the researched parts of the ditches.

After removal of the buried soil layer and stripping of the native earth a large grave pit was revealed in the center of the barrow.

The process of the formation of the burial complex can be reconstructed in the following manner.

1. At the initial stage, the future burial platform was stripped of sod while its edges were cropped.
2. The territory beyond the platform’s confines was cleaned down to the level of the prenative and native clay loam. The ditches were constructed. The burial platform was thereby presented in the form of an improvised platform/pedestal with a size of 16 x 19 m and a height of about 0.8–1 m. The configuration of the platform has not been determined.
3. The grave pit was constructed in the center of the platform. The discharge from the grave was laid atop the buried soil.
4. The burial platform was overlaid with a layer of ashen humus.
5. Not long afterward, the entire territory of the burial complex, including the little ditches, was overlaid with a single mound—a layer of humus sandy clay of a dark-gray color.

There is no data about later additional filling-in of the barrow, because the upper part of the fill has been plowed up.

Characterization of the burials

Burial 1 (female, age 25–40) (Figure 2). Discovered in the mound, 5 m southwest of the barrow center (provisionally “0”) in sector A. The grave site was situated in the ashen humus layer (depth of occurrence –50 to –55). The contours of the grave pit are not discernible. Human bones not
in any anatomical order have been discovered. The burial is completely
destroyed by the activity of destructive animals. The skeletal fragments
that have been preserved are oriented along a northwest–southeast line.
The provisional northern edge of the burial is edged with an ash seam
(contour of the grave pit—?) with a depth of 1 cm, with interspersions
of charcoal. Accompanying archeological material is absent.

**Burial 2 (the main one) (female, age 25–40) (Figure 3).** The location of
the grave pit was discovered at the native-earth level (depth of occurrence
–120). The grave is subterranean and oval in form, oriented with the long
walls along a northeast–southwest line. The dimensions of the grave pit at
the native soil level are 2.25 x 1.6 m. The maximum depth is 1.54 m. The
fill of the grave pit is not homogeneous—humus dark-gray sandy clay with
significant occlusions of lenses of light-yellow clay loam. The walls of the
grave are vertical. The pit’s fill and side walls are highly disturbed by large
tunnels of burrowing animals. Bones of a human, and of the burrowing
animals, were encountered at different depths. A distinctive feature is the
presence of fine-grained charcoal and small pieces of ochre at all depth

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**Figure 3. Samarsk II Barrow Burial Site, Barrow 5. Layout of Burial 2.**

1—layer of gray organic matter; 2—ochre seam; 3—charcoal; 4—bottom of
grave pit; 5—layer of decomposed loose white organic matter; 6—contour of the walls of the grave pit at the level of maximum incidence of decomposed animal burrows.
levels of the grave fill. Their greatest concentration is observed in the upper horizons of the fill (depth of occurrence –120 to –190). In particular, a sector of ochre fill with a defined oval perimeter, stretching along the long axis on a north-northwest/south-southeast line, was documented at a depth of 65 cm from the edge of the grave pit (–185). The dimensions are 48 x 26 cm, with an overall seam depth of 1.5–2 cm. The layer is not homogeneous, and is powdery, with a significant proportion of dark-gray sandy clay. The southern edge of the filling adjoins a half-timbered wood beam situated in a west–east direction (dimensions: 20 x 5 cm). In addition, in the upper fill layers at a depth of 28–30 cm from the grave edge (–148) are the remnants of a lateral wooden covering.

Another transversely oriented ochre seam was cleared away at a depth of 1.1 m from the edge of the grave pit (–230); it was 70 cm in length, 35 cm in width, and approximately 5 cm in depth. The layer is loose [spongy], with a significant light-gray sandy clay occlusion. Uncovered under the layer of ochre were human bones not in anatomical order, including fragments of a cranium tinted with ochre. The bone material and ochre layer were situated on a seam of compacted gray clay loam (thickness 10 cm) with insignificant occlusions of ochre particles. Documented below the clay loam layer (–250 to –252) were seams of organic matter of a gray and white color (thickness 2–3 mm), on top of which was a compacted and homogeneous layer of ochre (thickness 3 mm).

The complex that was revealed was situated on a pronounced base constructed out of dense, compacted light-yellow clay with numerous interspersions of fine-grained charcoal. The base is oriented relative to the grave pit in transverse projection, with an elongated-oval form with maximum dimensions of 93 x 50 cm. The height relative to the undisturbed native earth is 20–25 cm. Another interesting feature is a small ditch bounding the northern, eastern, and southern base perimeter (width 16–22 cm, depth 11–15 cm).

Since the skeleton was quite destroyed, it does not appear possible to determine details of the treatment of the corpse. The orientation of the grave pit along a northeast–southwest line, and the concentration of bone material in its northeastern part, allows us to assume provisionally that the corpse had been buried in a northeasterly direction.

**Analysis of osteological (paleoanthropological) material**

The mound and the burials had been subjected to significant zoogenic influence. As a result of this burrowing activity of destructive animals,
the skeletal remains were dispersed throughout the various horizons of
the mound (see Table 1).

Research was conducted relying on universally accepted method-
ological guides: Alekseev 1966; Alekseev and Debets 1964; Bass 1987;
Brickley and McKinley 2004; Buikstra and Ubelaker 1994; France 2009;
Istoricheskaia ekologiia cheloveka 1998; Pashkova 1963; White and

A general visual inspection of the skeletal elements indicates that 32
whole bones and 52 identified and 48 unidentified fragments (Table 1)
belong to humans. 30 skeletal elements, or 18.5 percent of the overall
volume (16 whole bones, 10 identified and 4 unidentified fragments), are
bone remains of animals (Table 2). With the exception of a small horned
livestock astragal (sector D, horizon 2) and the rib and tibia of a small
mammal (sector B, horizon 2; genus not determined), all the skeletal
remains appear to belong to the steppe marmot (*Marmota bobak* Müller).
The greatest concentration of animal remains was in sectors B (11, or
36.7 percent) and C (8, or 26.6 percent). The rest of the sectors (including
the burials) summarily account for 11 skeletal elements (36.7 percent).

*Burial 1.* The right radius bone, fragments of the left clavicle and left
rib, the first and second right metacarpal bones, one metatarsal bone,
one phalanx, the fourth or fifth cervical vertebra, and seven fragmented
thoracic vertebrae of an adult human. A woman of adult or mature age
(25–40) (*adultus*—*maturus* I).

Pronounced osteophytosis can be observed on the fragments of the
thoracic vertebrae (a score of 2—individual osteophytes are as large
as 10 millimeters). The circumference of the middle of the diaphysis
of the left clavicle is 33 mm. The left radius bone is characterized by a
smoothed macro-relief (score of all elements—1). It is rather short (great-
est length—214 mm, physiological—203 mm), gracile according to the
hardness index (15.8) and of the smallest circumference (32 mm). The
diaphysis is slightly flattened (transverse diameter—13 mm, sagittal—
10 mm, cross-section index—76.9). The provisional body length (height),
calculated using three formulas on the basis of the greatest length of
the radial bone, turned out to have been the following: 152.4 cm (per
K. Pearson and A. Lee), 156.45 cm (per C. Dupertuis and J. Hadden),
and 156.5 cm (per M. Trotter and G. Gleser). The given parameters fall
into the average category per R. Martin’s provisional rubrics.

*Burial 2 (the “main” one).* Five brainpan fragments, five fragmented
vertebrae (from all the areas), seven rib fragments, fragments of the ster-
um and the left clavicle, five shoulder blade fragments, two fragments
of the left hipbone, fragments of paired shoulder bones, a fragment of the
distal part of the diaphysis and of the epiphysis of the left elbow bone,
a fragment of the proximal part of the diaphysis of the left radial bone,
a fragment of the head of a femur, the left tibia and calcaneal bones, the
right ankle bone, three elements of a wrist, two metacarpal bones, six
phalanges, and seventeen unidentified fragments. A woman of adult or
mature age (25–40).

Table 1

Breakdown by Elements of Human Skeletal Remains from Mound No. 5
of the Samarsk II Barrow Burial Site (whole bones/fragments)

<table>
<thead>
<tr>
<th>Skeletal element</th>
<th>Sector</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Burial 1</th>
<th>Burial 2</th>
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<td>Isolated teeth</td>
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<td></td>
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<td>2/0</td>
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<tr>
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<td>2/0</td>
<td></td>
<td></td>
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It was possible to carry out one measurement on the skull fragments—the smallest width of the forehead turned out to be average (92 mm). The superciliary arches are insignificantly pronounced (a score of 1). Evident to the right and to the left are solitary supraorbital foramens—a discretely varying feature. Likewise, traces of ramification of vessels have been documented on the frontal bone—a likely result of their calcification or of enlargement of the sulci of the arteries.

The left clavicle is rather long (144 mm) and massive (index—27.1, circumference—39 mm). The width of the shoulders, reconstructed by doubling the length of the left clavicle (D.I. Razhev’s formula) generated a value of 344.16 mm (Razhev 2003, p. 203).

The lateral parameter of the shoulder bones were not determined. The diaphysis cross section is platybrachial (index of the cross section of the left bone—70.8, greatest diameter of the diaphysis—24 mm, smallest—17 mm; index of the cross section of the left bone—66.7, greatest diameter of the diaphysis—24 mm, smallest—16 mm). The width of
the right bone’s lower epiphysis is rather large (59 mm). The circumference of the middle of the right bone’s diaphysis is 70 mm, and the left bone’s, 69 mm. The relief of both bones is moderately developed, with the exception of some hypertrophy where the deltoid muscle attaches on the right bone (score of 2.5) and the greater tubercle of the humeri on the left (score of 2.5). Moderate DDCs [degenerative-dystrophic changes] were observed on the epicondyles of the right shoulder bone. The smallest circumference of the right shoulder bone is 39 mm. The place where the pronator quadrates muscle—responsible for turning the forearm and hand inward (pronation)—attaches is well pronounced (score of 2.5). The diaphysis of the left radial bone is compressed by an average amount (index—70.6, transverse diameter—17 mm, sagittal—12 mm). Tuberosity development is average (score of 2). DDCs have been documented on the right first metacarpal bone in the area of the proximal articular surface.

The left tibia is very long (375? mm), and of average density (index—18.9, smallest circumference—71 mm). The diaphysis cross-section contour is characterized by platycnemia (index—61.8, the transverse diameter at the level of the foramen nutricium is 21 mm, the sagittal is 34 mm). The macro-relief is moderately or weakly defined. Additional glenoid surfaces (squatting facets) are on the front side of the distal end. The length of the body, estimated by three formulas, was found to be 163.0 cm (per K. Pearson and A. Lee), 167.56 cm (per C. Dupertuis and J. Hadden), and 170.5 cm (per M. Trotter and G. Gleser). The individual in burial 2 was characterized by great height. The ratio of the reconstructed shoulder width to the estimated body length (M. Trotter’s and G. Gleser’s formula) is 20.2, corresponding to the dolichomorphic type of proportions in P.N. Bashkirov’s classification (1937).

We analyzed the results obtained against the background of Bronze Age comparative materials with the aim of comparing the data on the morphometry of the crus [shin]. This is considerably complicated by the isolated observation \( N = 1 \), but it permits certain morphological predilections to be identified in the circle of groups being compared and individual representatives of the ancient population. Analysis was made using twelve isolated observations and a series that conformed to a concurrent or later time period. The comparison was conducted on two attributes: overall tibia length (T1) and its smallest circumference (T10b). Data on the left bones were used in the majority of cases; if unavailable, the bones of the right side or consolidated data on elements of both sides
were used. Given the insignificant asymmetricality of the long bones of the lower extremities (Razhev 2009, pp. 79–80), such an allowance appears legitimate (Table 3, Figure 4).

The data in the table and shown on the dispersion scatter chart allow us to conclude that the greatest values of the lateral parameter of the crus are demonstrated by the data series of Yamna people from Transnistria and Altaian Afanas’eva people. The individual being researched is in close proximity to these. The smallest circumference of the tibia from burial 2 of barrow no. 5 of the Samarsk II burial site falls within the range of average values. The greatest mass for the latter parameter is seen in the Afanas’eva group of Gornyi Altai, and the smallest, as expected, is indicated by females of the Sapalli[-Tepe] culture of southern Uzbekistan.

A more visually graphic picture is displayed by the results of cluster analysis (rough classification analysis). The method can be used even in a simple grouping, and cluster analysis does not impose restrictions on the kind of objects examined, and allows virtually random raw data to be researched (Khalafian 2008, pp. 241–242). Presented in Figure 5 are the results of dendriform [tree remains] clustering of the groups and individuals being compared using the metric parameter of the crus (T1, T10b) (Euclidean metric, hierarchical aggregation by the rule of perfect associations).

The main results of the paleoanthropological analysis conducted can be formulated as follows.

1. The paleoanthropological material comes from a minimum of two individuals and apparently from two distinct burials. Research without context and insufficient preservation render it considerably more difficult to make a full identification and reconstruction of the skeletons. A large portion of the skeletal elements from the sectors belongs to the individual from burial 2 (“individual A”).

2. The gender of both buried individuals has been determined as female, age 25–40. Establishing a more precise age range is problematic.

3. Research of the metric parameter of the crus of the individual from burial 2 has allowed the nearest analogies to be discovered in the circle of Yamnians of Ukraine and Afanas’evans of the Altai. A detailed reconstruction of specific features of the osteometric body build is impossible from the material studied. The results do not establish unequivocally whether the individual from the Samarsk II burial site belongs to the morphological variant characteristic of the steppe groups (balanced linear proportions, increased lateral parameter of the long bones) or to the
Central Asian population (a relatively elongated crus and lower extremity in general) (Mednikova 1995).

**Conclusion**

Our research in barrow 5 of the Samarsk II barrow burial site permits identification of the two destroyed burial remains. In view of its consider-
Figure 4. Differentiation of Groups and Individuals by Overall Length (T1) and Smallest Circumference of the Tibia Diaphysis (T10b) (numbers correspond to ordinal numbers in Table 3)

Figure 5. Clustering Tree Diagram of Compared Groups and Individuals by Overall Length (T1) and Smallest Circumference of the Diaphysis (T10b) of the Tibia (Euclidean metric, hierarchical procedure, rule of complete associations; numbers correspond to ordinal numbers in Table 3)
able destruction, it is impossible to determine chronological or cultural affiliation of the reused and overlaid burial 1. Aggregate analysis of the features of a funeral rite documented in the main burial 2—the under-barrow burial rite, the little ditches around the burial platform, the large grave pit, and the use of ochre, charcoal, and organic underlay—allow us to confidently identify the burial complex as belonging to the Yamna culture of the Volga-Ural region (Bogdanov 2004 and 2006; Merpert 1974; Morgunova 2006; Morgunova and Kravtsov 1994; Vasil’ev, Kuznetsov, and Turetskii 2000). More precise dating of the burial is impossible, since it does not contain accompanying implements, while aspects of the burial structure indicate a broad chronological interval.

A unique distinguishing feature of the examined barrow is the distinctive architecture and construction used in the design of its burial platform—the undercutting of buried soil in a local sector and excavating of the ancient surface from space around the kurgan. The semblance of an elevated burial platform (a “pedestal”) thereby took shape, with the buried body at its center. We observe a process of altering the landscape by accentuating the base element of the funeral rite—the burial platform-pedestal. Thus, for example, we can already see an association of Yamna burials with natural elevations in the Pershin burial site (barrow 1), where the main burial of the adolescent—the “foundryman”—is in a knoll overlaid with an individual small [proportional] mound (Chernykh, Kuz’minykh, Lebedeva, and Lun’kov 2000, p. 65). This example points to a reverse process of adaptation of the rite to the natural structure of the landscape.

The arrangement of the clay wall along the outer contour of the ditch likewise can be considered a nonstandard element of funeral ritual; at least we are not aware of analogues in the range of Yamna sites. In contrast with known Yamna necropolises of the territory adjacent to the western slope of the Ural Mountains [Priural’ia], the small ditches of the Samarsk barrow are not very deep in the native soil. While in Yamna barrows of the Mustaevo and Shumaevo burial sites, the earth from such ditches was used for designing the mound, in our situation we have a suggestion of their ceremonial significance. In general, they are close to the little ditches of the Skvortsovka barrow burial sites (Morgunova et al. 2010, p. 66).

The rite of erecting the plinth documented in burial 2 likewise does not fit a standard pattern of the Volga-Ural Yamna funeral rite. Only as a distant analogy may it be possible to mention the burying of a skull
mounted on a kind of clay “dais” (barrow 8, burial 2 KM Mustaevo V, Morgunova, Kraeva, and Matiushko 2004, pp. 15–16).

No less interesting, our evidence reveals that Yamna complexes that had previously originated mainly from the territory adjacent to the western slope of the Urals, began to be observed as well in southern Trans-uralia, where little had been known about them. This relates to the II Ak”’iar and Turkmenovo kurgans (Sungatov and Sultanova 2001), and the Aleksandrovsk IV (Zdanovich, Gavriliuk, and Maliutina 2006; Maliutina, Zdanovich, and Gavriliuk 2010) and Kizil’sk I (Khodzhaiov 1977) kurgan burial sites.

References


Sungatov, F.A., and Sultanova, A.N. “Piamiatniki drevneiamnoi kul’tury v Bashkirskom Zaural’e.” [In I.M. Akbulatov,] *Problemy kul’turogeneza narodov*