

Kazburun I barrow burial ground: barrow complex of and Alakul population of Bashkir Transurals archeological microdistrict: The Southern Urals barrow burial ground of the Late Bronze Age: the complex of Alakul and Srubnaya crosscultural actions

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The Late Bronze Age on the territory of Southern Transurals is represented by two major archeological cultures: Srubnaya and Andronovskaya (Alakul culture and Fyodorovskaya – type). Their interaction of constitutes a special mix of material cultures which preserves common features of two independent, Srubnaya and Andronovskaya cultures, but also creates novel local material features. These cultural groups are also known to have brought to the region the technology of bronze production. This is evidenced, amongst others, by the proximity of the largest copper mining in the region, Kargaly mines Chernykh (2002). New methods to produce ceramics and to work bones were also developed, combining two traditions, coming from Srubnaya and Andronovskaya cultures respectively. Importantly, the features of these cultures are commonly encountered together in a single cultural horizon across the distribution ares. These diffusion processes took place in a vast area (more than

120,000km²) and were reflected in archeological micro-district of the Urshak river basin. We present here the most recent results of the scientific examination of the Late Bronze Age settlements in southern Transurals and attempt to address a peculiar cultural co-habitation of two distinct cultural groups in this region. We also discuss their synchronism based on absolute dates and elaborate on this cultural syncretism in the entire territory of the Volga-Ural region.

Introduction

In modern Russian archeology investigation of the Bronze Age settlements of Southern Transurals in general and investigation of Bashkir Transurals ancestries in particular, plays a key role for defining the formation, development and changes in ethnocultural structure of the Bronze Age communities in this region (Figure 1, 5). Nevertheless, the lack of radiocarbon dating remains a critical issue for addressing these questions. Also, a need for creating 3D-models and building GPS-mapping emerges as essential for better visualization of dimensional and architectural features of settlement and burial sites landscapes in this region. A good example is shown in the study of Dema-Urshak interfluve archeological complex (Figure 2, 3, 6, 7).

The Late Bronze Age on the territory of Southern Transurals (1890-1750 BC) is generally characterized by two major of archeological cultures and population groups: Srubnaya and Andronovskaya (Alakul culture and Fyodorovskaya). The contact of these two distinct cultural groups constitutes a special mix of material culture, carrying both typical features of the Srubnaya and Andronovskaya cultures, as well as developing local features.

Beginning with the second half of 1990's in Volga-Ural Region traditional archeological chronology of the Late Bronze Age started to transform from Hanks, Epimakhov, Renfrew (2007: 353 - 367). These processes were connected with the fact that scientific methods started to be comprehensively applied (radiocarbon dating, paleopedology, trasology, osteologic analysis, methods of spectral, technical and process analysis of ceramics, etc.). The concept of successive population groups in the Late Bronze Age of southern Transurals was developed in the 1960's and 1970's. the concepts of successive population groups of the Late Bronze Age were developed. The Late Bronze Age was attributed to the period of XVII-X century BC by Morozov (1977) and Morozov and Nigmatullin (2003). Identified chronological borders inside the Late Bronze Age differed between researchers Kachalova (1978: 18 – 20) and Obydenнова (1985). The traditional archeological chronology of the Late Bronze Age revolutionized

with the work of Hanks, Epimakhov and Renfrew (2007: 353 - 367). Their chronology showed synchronism of two population groups in this region: Srubnaya and Andronovskaya. Their research pointed at the necessity to comprehensively applied various scientific methods (radiocarbon dating, paleopedology, osteologic analysis, methods of spectral, technical and process analysis of ceramics, etc.) in order to address cultural processes in this area.

The most recent radiocarbon chronology data were detailed by paleoclimatic investigations that provided information on more specific chronological borders of archeological monuments existence (c. 1890 – 1750 BC) (Shuteleva and Shcherbakov (2013: 95 – 101). These data were collected in the process of recent investigations of settlements and mounds of the Late Bronze Age in southern Transurals. The obtained results refined the chronology framework and pushed the boundaries by c.150-200 years.

Thus, performing integrated archeological, landscape, pedological, craniology and metallographic studies ensures holistic approach to the question of ethnocultural interaction of Srubnaya and Alakul (Andronovskaya) culture-historical communities, during their coexistence in the Late Bronze Age in the southern Transurals.

In global science such researches were actively held in scientific field of “New archaeology” Renfrew and Bahn (2000); Hodder (1991: 7 – 18). In Finnish-Scandinavian archeological science it was carried out by Meinander (1974: 18 – 28; 1982: 10 – 32), and in Germany by Kaiser (2010: 99 – 122) and Koch and Kupke (2012: 225 – 240). In national research such studies were performed in the Bronze Age of Volga region in the works of Khalikov (1991) and Goldina (1999). However, these investigations did not include a comprehensive approach to a specified scientific problem.

An attempt to investigate archeological microdistricts comprehensively was carried out in Western Siberia. Integrated investigation of such kind is presented in a multi-authored book “Kargaly” by the members of the Archeological Institute Russian Academy of Sciences, under the guidance of Chernykh (2002). Still, this magnificent work touches upon problems connected with ancestries of the Orenburg Region adjacent to the Republic of Bashkortostan, and not the regions in its north. For example, the investigation of the Bronze Age settlement and burial monuments in Dema-Urshak interfluvium of the Republic of Bashkortostan did not include integrated archeological, paleoanthropological, paleopedological, radiocarbon, trace and metallographic examinations. Overall, the territory of the Republic of Bashkortostan has not seen such kind of integrated studies thus far.

For a period of investigations of archaeological sites of the Late Bronze Age located at the territory of Central Bashkiria, we collected a significant quantity of artifacts, recorded the types of monuments, their location and related architectural features. We managed to locate a barrow burial ground, Kazburun, located in close proximity to two small settlements, which according to the existing literature was deemed unlikely.

At the opening of this complex burial ground in 1969, only 6 barrows were revealed Pshenichnuk (1970); Bader et al. (1976: 115). In 1987, 6 more barrows were revealed, two of which were destroyed by the modern road Morozov (1992). We estimate that the number of barrows has not changed since, and it was only in 1988 that their location was detailed. During the 1988 - 1995 period, Morozov investigated two adjacent settlements mentioned above – Usmanovo I and Usmanovo II. The expedition of the Bashkir State Pedagogical University named after M. Akmulla, led by N. Shcherbakov and I. Shuteleva, integrated investigations of another large settlement site, Muradim 8, were conducted. This site is located 12 km up the Urshak River from the settlement of Usmanovo I. It seems that the site of Muradim 8 was not related to any burial ground in the vicinity, likewise the sites of Usmanovo I and II. The Kazburun barrows thus remain the only potential burial ground for communities inhabiting the mentioned sites in its vicinity.

Previous Research

Despite the long-term investigation of the Bronze Age artifacts in Bashkiria, archaeologists did not make a detailed instrumental topographic map of settlements. This is why for the Muradim 8 settlement we was decided to make a detailed topographic instrumental survey across the area of occupation, which comprises more than 0,6 ha (Figures 2, 3).

The pedological investigation of cultural horizons at the Dema-Urshak interfluvium of Republic of Bashkortostan in particular and Southern Transurals was already carried out by and Golyeva et al. (2010 a: 131 – 132; 2010 b: 60 – 65). These results were also summarized in several publications, with peculiarities of archeological structure of sites reviewed by Shuteleva and Shcherbakov (2005: 238 – 239), and Shcherbakov et al. (2010: 29 – 36). The use of paleosoil method allowed specification of peculiarities of morphological structure of carbonate accumulations in buried soils of different chronological cuts and consider possibilities of palaeoclimatic reconstructions. Also, the preliminary craniology investigations attempted to determine disposition of inhabitants of several settlements and burial sites. Anthropological material

represented by graves of two adults (united burial) and two infants was found at the settlement Muradim 8 (Bely Kluch River). A paired grave of two adults – a man (40 – 45 years old) and a woman (50 – 59 years old) was found in the bank (Table 1).

The authors (Shuteleva, Sherbakov, Gorshkov (2010: 21 – 23)) noticed that the studied individuals shared similar paleo-diseases, had periods of “inadequate” nutrition and life activities across the Southern Ural (Figure 10). There were identified features of bone craft of one of the monuments of Dema-Urshak interfluvium that can be considered as a reference one – Muradim 8 settlement. We also performed radiocarbon dating, and metallographic analysis, both of which help address archaeology of this micro-region.

The Kazburun I barrows together with a group of Kazburun II barrows, and the settlement Usmanovo I were discovered in 1969 by the team led by Pshenichnuk (1970) as a part of the program “Archeological map of the Southern Urals”. Expedition of Stokolos (1970) in 1969 excavated one barrow (No 14). In 1969 the same team of Pshenichnuk (1970) discovered two Kazburun II barrows, one of which was a burial with a vessel belonging to the Srubnaya culture. Also in the same year excavations of Kazburun III revealed 16 earthen barrows. In 1970 two more barrows were excavated out of these 16 (in Kazburun III), revealing both Abashevo and Srubnaya burials.

In 1990, the project “Muradim barrows” excavated archaeological sites near the Kazburun village. In 1990 expedition of the Institute of History, Language and Literature of the Academy of Science of the USSR (Ufa research center), under the guidance of Pshenichnuk (1991) identified more Kazburun I barrows, in total amounting to 7: No. 6, Nos. 8-13. During inspection it was found out that eastern part of the barrow burial ground had been destroyed by the highway Kazburun-Turumbet. The three barrows were totally destroyed, while another one was destroyed only partially. Unfortunately, the numbers of these mounds can not restore. In 1990 the total amount of remaining barrows was 10. Four barrows were excavated for the purposes of rescue excavations in connection with the gas pipe-line construction (barrows Nos.1, 2, 5, 6) (Figure 6, 7).

In 1992 within the frames of the program “Historical and cultural monuments of Bashkortostan” Morozov (1992) held exploration works in the Aurgazinsky region of the Republic of Bashkortostan, in the Kazburun I barrows, Kazburun II barrows, Kazburun III barrows and Usmanovo I settlement. Morozov (1998; 2001) identified Usmanovo II settlement, located 1,5 km from the Usmanovo village (Kazburun) in the floodplain of the right bank of Urshak river. During studying of Kazburun I barrows he identified seven barrows at the site of the monument.

New Research

Since 2004, the expedition of the Bashkir State Pedagogical University named after M.Akmulla and under the guidance of Shuteleva and Sherbakov (2005: 238 – 239) started integrated investigations of Kazburun I barrow burial ground with the purpose of exploring its chronological and cultural attribution. After the first visual inspection of the site of burial ground, barrows were located at large terrace of the right bank of Urshak river, occupying the highest elevation above the floodplain of Urshak river. The extension of barrow site is established from south-west to north-east as 1980 m, and from west to south-east at 850 m. Kazburun I barrows are located on a hill (the height of cape from the foot is 5,0 m – 8,0 m) and on a site within an estimated area of 0,7 km² (Figures 6, 7, 9, 10). Nowadays this is the second large barrow burial ground in Bashkir Transurals after Staro-Yabalaklinsky, which is a barrow located in the Dema-Urshak interfluvium.

Initially, 7 new barrow barrows were identified, and they had rather moderate height parameters – from 0,08 m to 0,15 m. We assumed that insignificant dimensions of the barrows were a reason for not identifying them earlier. Shuteleva, Sherbakov and Gorshkov (2011: 21 – 23) carried out a detailed topographic instrumental survey, registering 28477 points in 3D-program Golden Surfer, which built a detailed model of the barrow site. Besides, creating of 3D-model gave an opportunity to identify embankments not known before. Currently, there is a possibility to confirm that the Kazburun barrow burial ground has actually got 31 barrows, and not less as previously assumed. Barrow burial ground site represents elevation with four drop levels in the line of north-south. Barrows form four groups: south-western group includes nine barrows; north-western group also includes nine barrows; central group represents three barrow embankments, forming triangle; south-eastern group is represented by six embankments, the group is split by highway Usmanovo (Kazburun) – Turumbet.

In July 2009, the expedition team of State Educational Institution of Higher Professional Training of Bashkir State Pedagogical University named after M.Akmullah and led by Shuteleva and Sherbakov (2011: 34) and Shuteleva, Sherbakov and Leonova (2011: 149 – 153) performed excavation works of one barrow (№ 16), located in north-western part of burial ground of Kazburun I barrow. (Figure 15). The diameter of the barrow embankment in the line of north-south is 9,0 m, in the line of west-east - 10,0 m, the height of the barrow - 0,20 – 0,23 m. The embankment was an earth one and had a shape circular in plan, its surface is grassy. The edge of north-eastern part of the barrow is being ruined by drainage trench from a farm. In the course of waste flow from the farm, north-eastern edge of the barrow became peaty.

In the central part of the barrow, at a depth of 35 cm, a stone enclosure was identified, sloping towards the depth of 84 cm (Burial №1). During the cleaning of this

stone “box”, we discovered that it was located almost centrally. The dimensions of the grave spot after cleaning of land area were equal to 2,15 m in the line of north-south and 1,4 m in the line of west-east. At a depth from 73 cm to 82 cm, along central axis of the grave in the line of north-south at a distance of 0,15 m to south-west from the center of the barrow, at a distance of 0,27 m from northern tip of the grave pit, a human skeleton was identified (Figure 12, 14). The individual was crouched in the left lateral position. Total length of cranial and post-cranial skeletons was equal to 0,95 m in the line of north-south. Integrity of bones is poor, skeleton ossicles, ribs, vertebral spine are not preserved, some bones of large pelvis are preserved. Long bones of arms and legs were in rather good condition and skull bones also. In north-eastern part of the burial, in front of the head of the inhumed there was found debris of Alakul ornamented vessel, consisting of 46 fragments (Figure 15).

Grave spot with dimensions 1,15 m x 0,96 m (Burial №2) was identified in south-western sector of the barrow 55 cm. At the bottom of the grave fragments of skull bones and four fragments of ribs of a child at the age of 7,5 – 9,5 years old were found. Integrity of bones is poor (Figures 11, 13).

Judging by the grave goods and ceremony barrow burial 16 belongs to Alakul culture and dates to the XVIII-XVII century BC (Table 1).

Site, year	Sample	Lab code	Measured Radiocarbon Age	$^{13}\text{C}/^{12}\text{C}$ Ratio	Conventional Radiocarbon Age	Lab code	Sample	$\delta^{13}\text{C}$	$\delta^{15}\text{N}$	Age (cal BC) 95%
Kazburun I burial mound 2009 Barrow №16, burial №1.	tooth	Beta – 347344	3420±30 BP	-19.7 o/oo	3520±30 BP	Beta – 439417	bone collagen		11.0 o/oo	1780-1630 BCE
Kazburun I burial mound 2004 Barrow №4, burial №1	bone	Beta-451577	3410 +/- 30 BP	-19,6			bone collagen	-19,6	10,7	1765 - 1630 BCE
Kazburun I burial mound 2004 Barrow №4, burial №2 (Inf)	bone		3460 +/- 30 BP	-19,6			bone collagen	-19,3	10,8	1735 - 1565 BC
Muradim 8 burial №3	bone		3450+/- 30 BP				bone collagen	-19.2 o/oo	11.3 o/oo	1880-1688
Muradim 8 burial №4	bone		3480+/- 30 BP				bone collagen	-19.1 o/oo	10.4 o/oo	1888-1697
Usmanovo - III, a settlement in 2013	bulk sherd organics	Beta – 352489	4130±30 BP	-30.7 o/oo	4040±30 BP					

Table 1

Comparing ceramic goods, found out in the sites of Muradim 8, Usmanovo and in the Kazburun barrow burial ground, it's possible to talk about ethnocultural processes of population from all mentioned sites.

Held by N.P.Salugina comparative technical and technological analysis of ceramics also proved presence of one source of clay deposits. Conducted preliminary analysis of anthropological material (paleodiseases) proves that inhabitants of the Muradim 8 settlement and inhumed in Kazburun barrow (N4, 16) which says about genetic relationship of this population. All the teeth much worn to the same level. Erosion of all teeth reached the total cross section of the dental crown exposing dentin and root canals. High wear of teeth exceeding the limit (in the modern, normal conditions) can probably be explained by the nature of the food. Comment on the type of occlusion is not possible due to the inability of the facial reconstruction of the skull. It may be noted a large amount of tartar, especially on the molars and the complete absence of caries. In the study detected significant vertebral degenerative changes in the strain body by a height of strong growth of bone tissue at the edges of the upper and lower surfaces of the bodies and processes at the edges. The hardest of these changes appeared on the lumbar vertebrae. Such changes typically occur vertebrae with systemic diseases of bone and connective tissue and cannot be explained by the age-related changes. In the study of the long bones of hands and feet found strong growth in the bone heads and along the edges of the articular surfaces, which also indicates the presence of diseases associated with impaired bone structure and cartilage. From all above mentioned it follows that population of these settlements left this burial ground that is a most singular phenomenon for archeological features of Central Bashkiriya. At the same time taking into account affinity of these population groups, we can extrapolate data of radiocarbon dating of ceramic samples, taken at Muradim 8 settlement, to Usmanovo settlement, as well as to Kazburun burial ground. Besides, nowadays the question of metallurgic peculiarities of bronze foundry at these sites is still not solved, though preliminary information about admixtures in copper and bronze items of Muradim 8 settlement is already acquired.

Conclusions

Thus we can see that this archeological complex is a unique one due to close neighborhood of large burial ground of Bronze Age – Kazburun barrows with I and II Usmanovo settlements, and also one of the largest settlement sites of Southern Transurals – Muradim 8 settlement, that gives opportunity to check gender methods in archeology and observe continuation of ancient population, and also define paleodiseases of ancient inhabitants of Southern Transurals. Besides, there is an opportunity of investigation of a complex of ancient yielding – working of stone, bone, metal and also ceramic production.

Figure captions

Figure 1: Map of Volgo-Urals area.

Figure 2: 3D-reconstruction of plan form Muradymovo settlement.

Figure 3: Aerial photography of Muradymovo settlement.

Figure 4: Skeletons of paired adult burial.

Figure 5: Map of basin Urshak river.

Figure 6: 3D-reconstruction of plan form.

Figure 7: Aerial photography.

Figure 8: Kazburun burial ground. Barrow №4.

Figure 9: Children's burial of barrow №4.

Figure 10: Man's burial of barrow №4.

Figure 11: General view barrow №16 and burial 2.

Figure 12: General view burial 2 of barrow №16.

Figure 13: The cranial fragments of children's burial 2.

Figure 14: Man's skeleton burial 1 of barrow №16.

Figure 15: Fragments of pottery vessels from burial 1.

Table legends

Table 1 - ^{14}C dates $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values from Kazburun (Usmanovo) archaeological micro-district of Central Bashkiria presented in or used for this study

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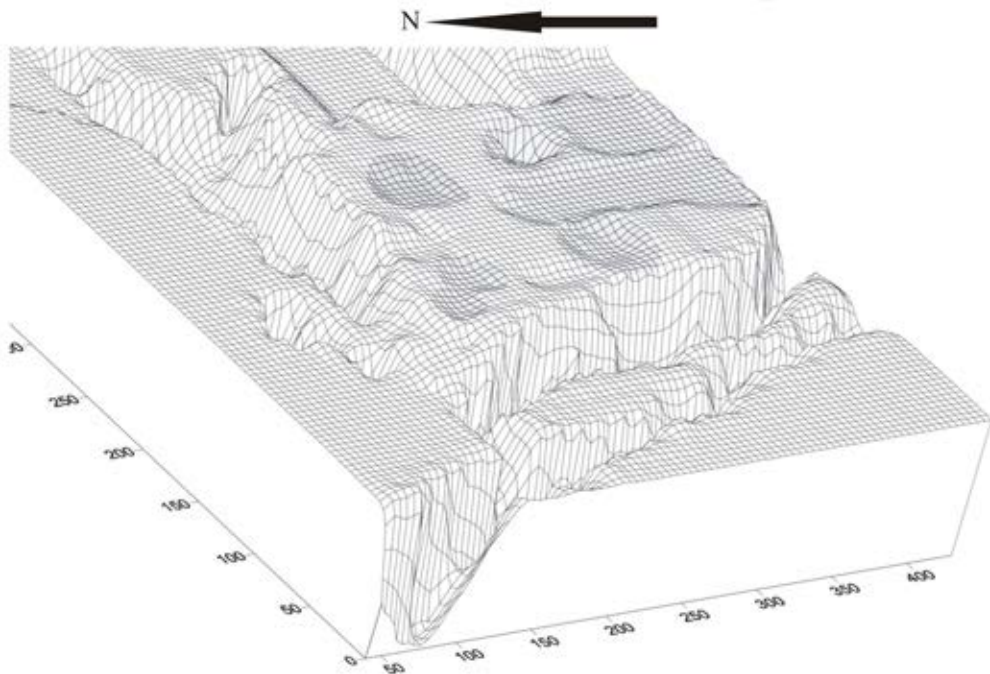
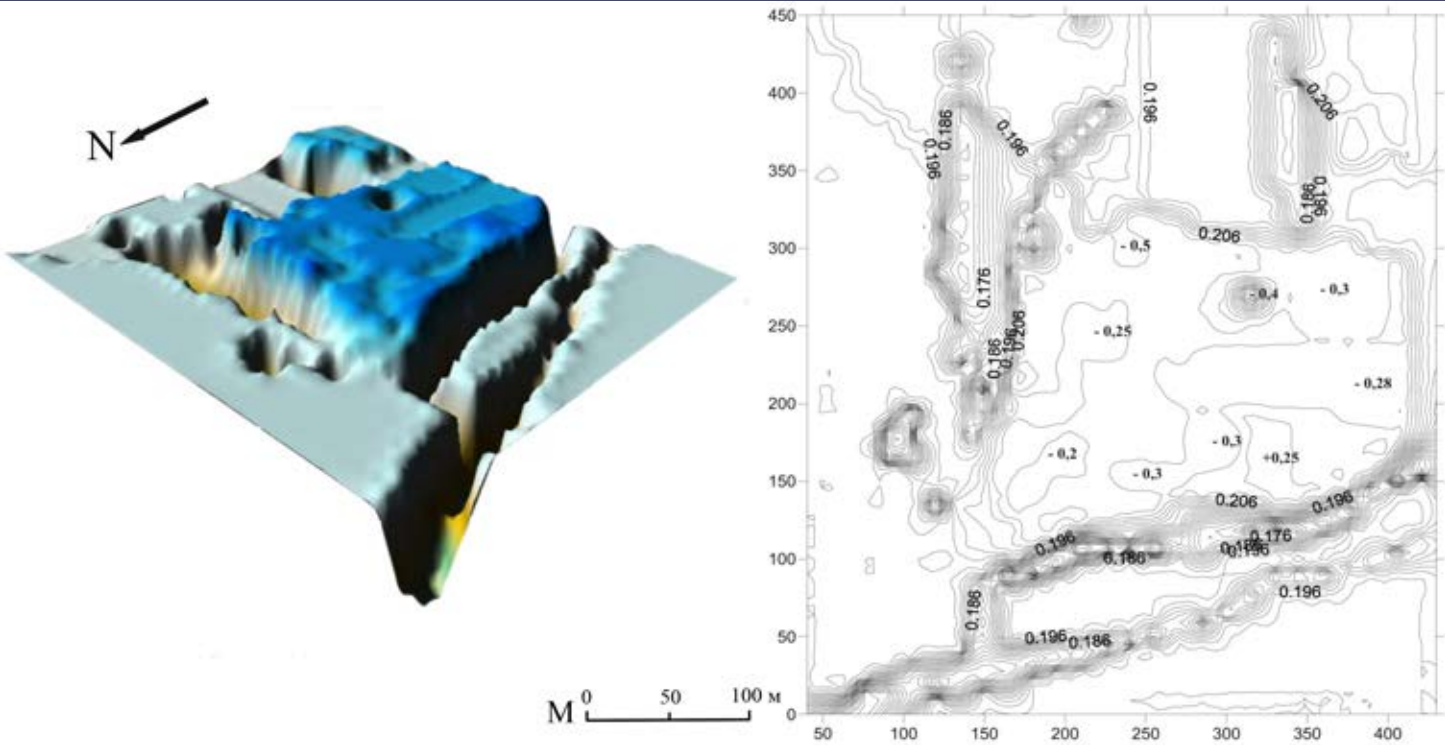
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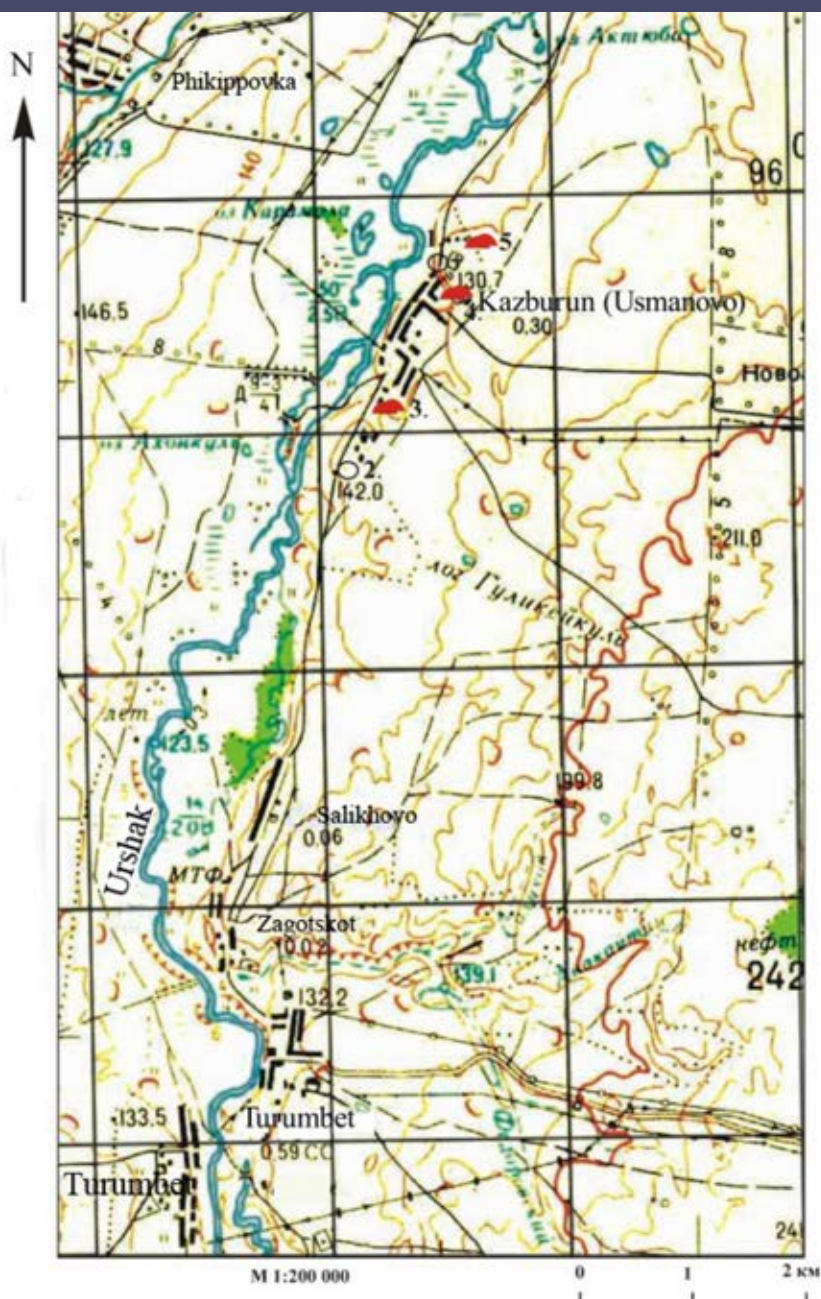


 Kazburun (Usmanovo)
archaeological micro-district









Kazburun barrow burial ground

nbols:

- Settlement monuments
- Barrow burial ground
- Cemetery

1. Usmanovo I settlement
2. Usmanovo II settlement
3. Kazburun I barrow burial ground

4. Kazburun II barrow burial ground
5. Kazburun III barrow burial ground

