

## Some Results of the Study of Yeleke-1 Settlement

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### Abstract

Archaeological research in the Yelekesazy valley, which is located on the northern slope of the Tarbagatai ridge and is a closed bowl-shaped valley surrounded by low mountains (SaryShoky, Arshaly, Akshagyl, Akberen) and cut by small rivers - tributaries of the high-water river Kargyba. Kargyba, as well as with swampy areas and flat uplands, on which hundreds of barrows and memorial structures of the beginning - the first half of the I millennium BC are located in the meridional direction, which are structured in independent groups and chains. Until today the monument was known to the general public only due to the Saka elite barrows and gold items found in the burial ground. But as a result of reconnaissance work in the past years and reliable information from our colleagues A. E. Rogozhinsky and I. V. Merts in the field season 2021 our team found a multi-storey settlement complex. In their work archaeologists dated the monument XVIII-XVI centuries BC.

Excavations revealed 1015 fragments of pottery, more than 2000 animal bones, stone grain grinders and bronze arrowheads and fragments of a cauldron. The monument is the highest in East Kazakhstan and the first studied Andronovo settlement on Mount Tarbagatai between Kazakhstan and China.

In conclusion, we would like to add that the materials obtained from the monument are now undergoing various chamber processing, as well as various analytical works. As a result of the research work, we are confident that the monument provides comprehensive information about the life of the Bronze Age population in the foothills of Tarbagatai.

**Keywords:** Bronze Age, osteological materials, pottery, settlement.

### 1. Introduction

Archaeological research in the Yelekesazy valley, which is located on the northern slope of the Tarbagatai ridge and is a closed bowl-shaped valley surrounded by low mountains (SaryShoky, Arshaly, Akshagyl, Akberen) and cut by small rivers - tributaries of the high-water river Kargyba. Kargyba, as well as with swampy areas and flat uplands, on which hundreds of barrows and memorial structures of the beginning - the first half of the I millennium BC are located in the meridional direction, which are structured in independent groups and chains. As a result of numerous studies in the valley, only funerary monuments became known until 2021: in 2018, the Saka elite burials began to be studied, in 2019 - the Turkic cultural and Memorial Complex, in 2020 - the Golden Treasure [1]-[3]. But as a result of reconnaissance work in the past years and reliable information from our colleagues A. E. Rogozhinsky and I. V. Merts in the field season 2021 our team found a multi-layered settlement complex [4]. The walls of the dwelling have been identified from

stone slabs seen in the stratigraphy of the river cliff. In the field season of 2021, a two-sector excavation, measuring 5x3m, separated by a 0.4m thick stratigraphic berm, was laid near the cliff in the south-eastern part of the dwelling. This resulted in the stripping of a double row of masonry 70-80cm wide and up to 0.9m high [5].

Dwelling 2 of the Yeleke I settlement is located in the north-eastern border of the valley. It is located at the north-eastern border of the valley, at the confluence of three rivers - Big Kargyba, Small Kargyba and Koldenen. The cape on which the dwelling is located is somewhat elevated from the surrounding area. From the surrounding area. Such an elevation on the territory of the ancient dwelling was formed at the expense of raw building rubble of late time. Shallow pits are also well recorded on the periphery of the dwelling. Apparently, clay was taken from there for the cheesecloth walls of the construction of the 30s-60s of

the last century. Due to spring floods, the southern part of the settlement was being washed away and by the time the research work started, the outer side of the wall in the southern part was missing, its stones were lying near and far away from it. The convenient logistical location of the site also contributed to the acceleration of the collapse; a grazing path to the watering hole from nearby farms ran through the site, but despite the partial collapse of the walls of the dwelling, most of it was hidden under a thick layer of turf.



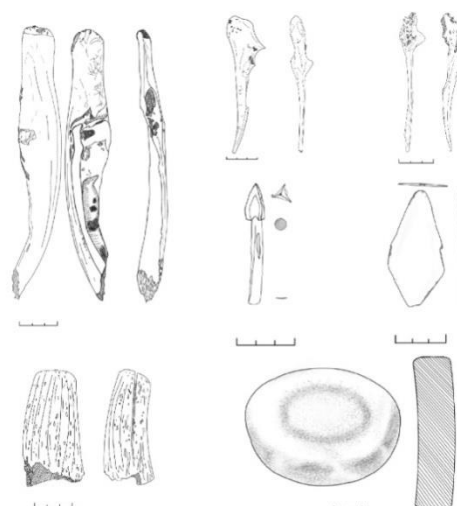
**The first excavation of the settlement in the 2021 field season.**



**General view of the area**

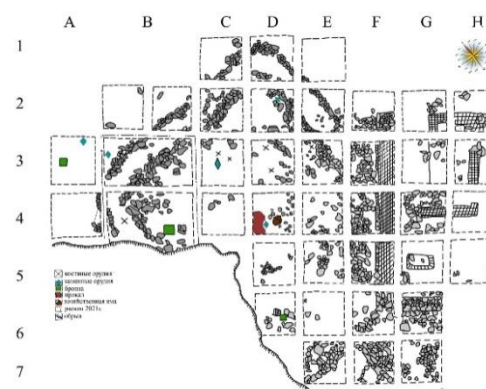
The 495 m<sup>2</sup> excavation, divided into 39 squares (3x3m), is a rectangle on the line NW-SE, i.e. it is not orientated strictly on the sides of the world and is laid in the direction of excavation works of the previous season.

The cultural layer was investigated in layers to the depth of a bayonet spade. After removing the first layer of one to one and a half bayonet shovels and sweeping, the stone walls of the structure began to be revealed. In the stratigraphy below the sod layer there is humus, loam and chernozem, saturated with ceramics, animal bones, etc. The excavations revealed a variety of material, a significant proportion of which are fragments of pottery. The excavation was carried out up to the mainland.



**Some specimens of the duffel complex**

The excavations defined the boundaries of Dwelling No. 2, cleared the walls and uncovered a large dwelling. The investigated part of the stone structure allows us to state that the building was a construction of rectangular shape, orientated by a long axis from east to west, with dimensions of 20x15 m, with well-defined and somewhat rounded corners.



**Plan of the dwelling**

The walls of the dwelling consist of two parallel stone linings - internal and external, mainly made of rock flagstone and broken stones. The internal masonry is characterised by greater thickness and large stone sizes. The space between the two stone walls was filled with loamy soil, which over time had become quite dense and hard.

All four walls are readable in the plan. But the western and part of the northern wall are better preserved. The size of the interior wall base stones varies from 0.4 to 0.8 metres. The stonework is most clearly preserved in squares B3 and C2. In some places the inner part of the wall is blocked by vertically set stone slabs. The length of the inner masonry of the west wall is 13.2 metres

and the outer masonry of the west wall is 15.1 metres. The outer walls of a stone structure are inferior to the inner walls in terms of stone massing and wall thickness. In terms of wall thickness, the outer masonry is noticeably smaller and has rounded corners at the edges, which is not the case with the corners of the inner masonry. The space between the stonework, as noted above, is filled with earth.



**Interior layout of the western wall (square C2)**

The northern wall has not yet been fully investigated, due to the passage of a later stone foundation over it. Therefore, its exact length has not been established. The fact is that the wall that emerged on the corner from the west wall extends for 11.1 metres, cuts into the aforementioned later structure and goes underneath it. For this reason, the junction with the east wall also remains undetermined for the time being. The north masonry differs from the rest of the walls in that it is constructed of stones of comparatively small size. The inner stone wall is collapsed in places. A complete study of this wall is not yet possible, due to the remains of a later structure above it.

The east wall is partially further reinforced and possibly insulated. In the infill of this wall, pieces of wood (tree bark?) were found in places. The internal masonry stones are more massive everywhere. The stones in the eastern wall collapsed inwards. A small part of another wall was also uncovered, which adjoins the inner masonry on the east side. This wall we could not open further as it was under the rubble of a later structure. In addition, the floor in this part of the dwelling was covered with flat flagstone. Work is planned in this part of the dwelling for the next field season.

The south wall, as already noted, is near the cliff and is completely destroyed. Its contours can be reconstructed from the direction of the preserved masonry in the eastern and slightly western part of the structure.



**View of the dwelling from the northwest corner**



**Utility pit (square E4)**

Excavations in the interior of the dwelling revealed several utility pits, ash pits and hearths. One such pit was recorded in square E4, at its southern end. At a depth of 0.3 m from the day surface a layer with ash began to stand out. A haphazard accumulation of stones was noticed in the central part. It was a later destroyed hearth, as evidenced by traces of fire and ash. Further excavation animal bones and fragments of clay vessels were found. The fixing and removal of this layer revealed a rounded pit, with an approximate diameter of 0.45-0.5m, filled with cattle and horse bones. To the west of this and the pit appeared an oblong east-west puncture measuring 0.5m x 0.7m, yellow in the centre and closer to an orange hue around the edges. The whole south-eastern part of the square has traces of ash 0.2 m thick.

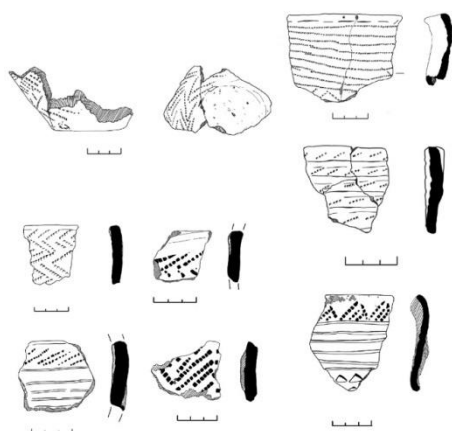
The hearth contours were also recorded in square D6 at a depth of 0.7 m from the day surface. As the excavation progressed, the hearth area began to take the shape of a 0.75m by 0.75m circle. Its foundations are reinforced with stones and clay, distinguishable by colour. Plate-shaped stones flank the hearth from southwest to northeast. The thickness of these slabs is 5-8 cm. The voids around the hearth are covered with clay of insignificant layer. The hearth itself has a regular rounded shape. In the course of the clean-up, burnt animal bones and incompletely burnt parts of firewood were found. Compared to other sites, this hearth

belongs to the upper stratum based on burnt organic remains and shallow depth.

In general, if we talk about cultural layers, we should add that the whole southeastern sector (squares D4-D6, E4-E7) requires further research and removal of at least two layers to obtain complete information on the monument. We are also planning this work for the next field season.

Total number of clay products: found fragments of ceramics - 1015, of which 763 are ornamented. 90 per cent of them are the majority of thin-walled vessels, 10 per cent are thick-walled. According to surviving fragments, the vessels can be divided into two types: flat-bottomed jars with slightly convex or straight walls and pots. The first form of vessels prevails over the second. Their sizes are diverse. The diameter of the bottom varies from 6 to 12 cm, the corolla from 11 to 24 cm. The ornamentation is rather rich, but in some places boring and primitive in technical terms.

On the corolla it is possible to observe the application of such technologies as scribing, dragging, embossing. Hence the poor preservation of whole vessels. In the area of the corolla often found cannellure element "grooves" stretching to the neck or to the shoulder. The furrows are also marked with comb-like stamps with fine teeth in the number from 3 to 10. The next frequently encountered compositional element is the scalloped and smooth slanted stamps. In all corolla fragments the edges are curved outwards. Cannellurae in the area of the corolla are rare. Vertical zigzags are also present, cramped all round. Sometimes elements of nail impressions are present [6].



**Popular ceramic ornamentation options in the settlement**

Neck. Here you can most often observe compositional variations such as "herringbones", nail indentations, made by the technique of receding sharp or blunt stick.

Tulovs are represented by several variations: embossed ornamentation in the form of deep pressings with a stick with leaving "tubercles", giving the vessel a rough appearance. There is also ornamentation created by ordinary indentations that do not have a strict sequence of arrangement and spacing between each other.

The second type is vertical herringbones embossed with nail guards along the top. Rarely, but there were pottery shards with plant ornamentation, with parallel stalks, presumably of wheat. The meander element is interesting. When applying these plots, a tool with 4 and 3 pointed teeth was used. In the available fragments of ceramics the 4-striped dashed ornament is found only once, in the rest there is a 3-striped ornament. Among the fragments there are also comb-like stamps with 4 and 5 teeth alternating with nail-like indentations, and dashed lines with deep grooves made with a sharp cone-shaped tool. V-shaped elements applied with a smooth stamp are encountered.

The number of preserved bottom parts and bottoms in good condition is rather small, but the existing ones have sporadic and rare incisions. The bottom parts were well exposed to firing. The composition is fireclay and fine sand.

In general, according to ceramic materials of dwelling 2 of Yeleke I settlement, there are many analogies with tableware from Kanai village of East Kazakhstan [7].

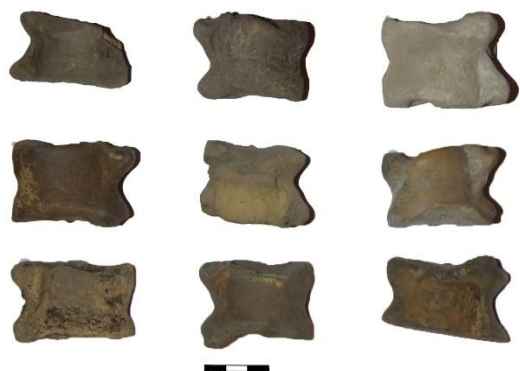


**Fragments of clay vessels from dwelling №1**



The osteological material is represented by approximately 2,000 fragments and whole animal bones, of which the vast majority of remains belong to livestock, most of which are food scraps. The largest percentage of the total number of bones of domestic animals belongs to small cattle, second place - to cattle, third - to horses. Of particular interest among the osteological complex are small cattle and cattle astragals, punctures, horny rod, spicules, deadlocks, etc.

A total of 39 astragalus specimens were found, 5 of which belonged to cattle and three of which had undercut sides, and of the sheep astragalus four specimens were treated.



**Astragalus of small cattle**

Of particular interest is a bone blunt made from the right jaw of a horse, very well preserved and polished to a high quality. Length - 22.5 cm, width - 4 cm. Several other types of this item have been found, but are poorly preserved or are represented only in fragments. This tool shows a high level of tannery production and finds analogies in the neighbouring monuments of the Late Bronze Age. There is an opinion that such "deadlocks" from the jaw of a cattle or a horse are a peculiar visiting card of the Late Bronze Age settlements of Eurasia [8].

The well-preserved spinet, found in square B3, is 0.8 cm thick with a diameter of 5 cm. The diameter of the hole in the middle is 0.7 cm.

The stonework consists of detachments, pestles and a rounded grain grinder mortar made of river pebbles, 16.6 cm in diameter and 5 cm thick.

The most important of the metal finds is a bronze, petiolate, three-bladed arrowhead with a total length of 6 cm. The tips of two blades are broken, there are small notches on both sides of the petiole 1-1.2 cm

long. A tip of the same type was found at the Trushnikov settlement in eastern Kazakhstan.

In addition, a spearhead and fragments of a bronze cauldron were found.

Preliminary analysis of the materials obtained from the upper layer of dwelling 2 of Yeleke I settlement gives grounds to attribute them to the Late Bronze Age period.



**Bone tools**



**Stone items**

Summing up, we note that the materials obtained from the monument still require further desk research, desk processing, and various types of analyses. To get a complete picture of the life of the inhabitants at the very foot of Tarbagatai in the Bronze Age and Early Iron

Age, it is necessary to continue research in the settlement part of the monuments of this cultural

microdistrict.

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