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NEW DATA IN THE RESEARCH OF SETTLEMENTS OF THE SAKA TIME IN CENTRAL KAZAKHSTAN

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Abstract: The article is devoted to an overview of the results of new studies of the Saka era settlements discovered in the eastern regions of Central Kazakhstan. The source base of modern research was made up of over 70 settlements found over the past 20 years. The author attributes these settlements to the tasmola culture of Central Kazakhstan and dates them within the framework of the 8th — 5th centuries BC. Archaeozoological, traceological, and carpological analyzes are being carried out based on the materials from the excavations of the Kulzhan-1 and Abylai settlements and other sites carried out in recent years. According to the author, the settlements of Central Kazakhstan of the Saka era were the winter habitats of the tribes of the Tasmola culture. Materials from over 50 Kazakh wintering sites make it possible to draw ethnographic data. A comparative study of these sites has shown that the topography of the Kazakh wintering grounds and Saka settlements coincide.

Keywords: Central Kazakhstan, tasmola culture, Saka era, settlements, Kazakh wintering grounds, multidisciplinary research

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НОВЫЕ ДАННЫЕ В ИССЛЕДОВАНИИ ПОСЕЛЕНИЙ САКСКОГО ВРЕМЕНИ ЦЕНТРАЛЬНОГО КАЗАХСТАНА

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Резюме: Статья посвящена обзору результатов новых исследований поселений сакской эпохи, открытых в восточных районах Центрального Казахстана. Источниковую базу современных исследований составили свыше 70 поселений, найденных в течение последних 20 лет. Эти поселения автор относит к тасмолинской культуре Центрального Казахстана и датирует в рамках VIII–V вв. до н.э. По материалам раскопок поселений Кулжан-1 и Абылай и других памятников, проводимых в последние годы, выполняются археозоологический, трасологический, карпологический анализы. По мнению автора, поселения Центрального Казахстана сакской эпохи являлись местами зимнего обитания племен тасмолинской культуры. Материалы свыше 50 казахских зимовок позволяют привлечь данные по этнографии. Сравнительное изучение этих памятников показало, что топография казахских зимовок и сакских поселений совпадает.

Ключевые слова: Центральный Казахстан, тасмолинская культура, сакская эпоха, поселения, казахские зимовки, мультидисциплинарные исследования

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Introduction

Settlements of the Saka time in Kazakhstan are known in many regions, including Northern Kazakhstan, Zhetysu, Aral Sea region, Kazakh Altai [Levina, 1979; Khabdulina, 2003; Benecke, 2003; Chang et all., 2003; Merz, 2015; Beisenov, Shulga, Loman, 2017; Bazarbaeva, 2017; Duisenbai, Dzhumanazarov, Ahijarov, 2020; Samashev, 2020]. Also, the settlements on the territory of the Russian Federation: in Khakassia, the Southern Urals, in the steppe Altai are known [Amzarakov et al., 2015; Saveliev, 2015; Frolov, 2013; Stepanova, Frolov, 2017; Prishchepa, 2018]. Among the regions adjacent to Kazakhstan, materials on the settlements of the Saka time in Gorny Altai, collected and studied by the Siberian archaeologist P. I. Shulga, are of particular importance. In the monograph of this researcher, a large amount of data related to the existence of the Bike and Pazyryk cultures was analyzed and summarized [Shulga, 2015].

The proposed report provides an overview of new studies of Saka settlements in the eastern regions of Central Kazakhstan, as well as some of their results. In the region, the study of these sites is carried out almost continuously; in recent years, work has been focused on the settlements of Abylai and Kulzhan-1 (Fig. 1).

The first settlement of the Saka era in the eastern regions of Central Kazakhstan was found by the author in 2001. Thanks to intensive archaeological exploration, about 30 settlements were discovered in 2–3 years, and the first excavations began. At this time, a comprehensive study of excavation materials began, including ceramic and traceological analyzes [Beisenov, 2015], which continue up to this day. Recently begun archaeozoological studies bring important results. Grains of millet, barley, wheat, identified by flotation of

the cultural layer of the Abylai settlement, also open up certain prospects for studying the economy of the population (carpological analyzes are carried out by N. E. Ryabogina at the Tyumen Scientific Center of the Russian Academy of Sciences). A recent study of the diet of the Saka population of the era of Central Kazakhstan showed the presence of millet in their diet [Beisenov et al., 2020]. All these results characterize only the initial stage of a comprehensive study of settlements in Central Kazakhstan.

Fig. 1. Map of the location of the Kulzhan-1 and Abylai settlements
Рис. 1. Карта расположения поселений Кулжан-1 и Абылай

As of July 2021, over 70 Saka-era settlements are open in this region. The presence of a large number of settlements with absolutely identical features in topography and planigraphy makes it possible to study the issues of landscape placement of these sites. This task is posed for the first time in Central Kazakhstan. Data analysis and study of the problem of landscape placement are an important part of scientific work related to such a category of sites as settlements. These aspects have important points of contact with such scientific fields as landscape archaeology and ecological archaeology [Environmental Archeology, 2001; Reitz, Shackley, 2012; Handbook of Landscape…, 2016]. At the same time, these aspects are directly related to such a special direction as the Settlements archaeology, the recognized founder of which in Europe was the German archaeologist Werner Haarnagel [Behre K.-E., 1984; Haarnagel, 1961; 1979; 1983].

Speaking about the settlements of Saka of the era of Central Kazakhstan, we must proceed from the fact that we are dealing with both specific sites and specific tasks of their search and research. These settlements created human collectives, whose way of life was highly dependent on the natural and climatic conditions of each region.

For many decades, the settlement of the Saka era in Central Kazakhstan was completely unknown. In addition to some scientific skepticism, the problem was in the peculiarities of

the topography of these sites, located, as it turned out, on the banks of rivers, and the upper slopes of the mountains.

The importance of using ethnographic data in the search and study of Saka settlements should be noted [Shulga, 2015a; Beisenov, Shulga, Loman, 2017].

As of July 2021, a group led by the author found over 50 Kazakh winterings located in the same areas where the settlements are located. It turned out that the topography of the Kazakh winterings and Saka settlements coincides exactly, and this gives good opportunities for further searches.

Materials and Discussions

In recent years, the bulk of research has been focused on two sites — the settlements Abylai and Kulzhan-1. Excavations have been going on at Abylai for several years, while Kulzhan-1 is a new site that has been selected for new excavations. It is one of the settlements located around the Edirei Mountains. To date, 28 settlements have been discovered here, of which one, the settlement of Edirey-2, dates back to the Dongal period, and all the rest belong to the Saka era.

Fig. 2. Settlements on the slope of Keregetas mountain:1 — Kulzhan-1; 2 — Karpyk-1; 3 — Karpyk-2; 4 — Karpyk-3. The numbers show the elevation marks
Рис. 2. Поселения на склоне горы Керегетас: 1 — Кулжан-1; 2 — Карпык-1; 3 — Карпык-2; 4 — Карпык-3. Цифрами показаны отметки высот

The settlement of Kulzhan-1 is located 5.4 km southeast of the village of Edirey, on the eastern slope of Mount Keregetas. The location of the settlement is the upper slope (Fig. 2). There is a small natural depression oriented from the southwest to the northeast and formed by the micro-relief of the upper slope of the mountain. The depression is about 100 m long and 40–50 m wide. From the southern, southeastern, and northern sides, this depression is surrounded by small but visible hills. An ancient settlement was built in the area of this depression.

Thus, the people of Saka of time, when choosing a place for a settlement, paid attention to 3 very important conditions of topography:

1) the upper slope of the mountain;
2) east, south-east exposure;
3) comfortable micro-relief in the form of a slightly deepened depression surrounded by low hills.

This picture is clarified and expanded by the general nature of the "slope topography", the correct understanding of which facilitates the task of studying the problems of the landscape distribution of Saka settlements in the eastern part of the Kazakh Upland.

The fact is that the "upper slopes" of the mountains are not a narrow strip of land on which a settlement is located. As it is shown by numerous facts of the topography of Saka settlements, this type of landscape is a large area of slopes, which are divided into categories such as "upper", "middle" and "lower".

The entire eastern side of Mount Keregetas has such convenient slopes, on which the micro-relief, every 300–500 m, forms a system of small depressions, where settlements of ancient pastoralists are arranged. To the north of Kulzhan-1, at a short distance, there are three synchronous settlements — Karpyk-1, Karpyk-2, and Karpyk-3 (Fig. 2), to the south, there is another settlement — Kulzhan-2. Further north of Kulzhan-1 are the settlements of Keregetas-1, Keregetas-2 [Beisenov, Shulga, Loman, 2017], Keregetas-3.

If we count from the settlement of Kulzhan-1, after about 150 m to the east the relief passes to the "middle slope" and after another 200 m the "lower slopes" begin, which extend for hundreds of meters. At a distance of 1.1 km to the east from the settlement of Kulzhan-1, on the lower slope, there is the Zhake-Bulak spring.

The bottom of the depression, where the settlement of Kulzhan-1 is located, is flat but has a general depression from the southwest to the northeast. The height difference is about 10 m. For ancient people, this condition was also important, since the water flowing down from the mountain during the melting of snow and rains did not collect around the dwellings, but went down into the valley.

Ancient buildings in the form of dwellings and utility structures occupy an area over 80 m long and about 30 m wide. Thus, the settlement covers an area of more than 2000 m^2. The settlement area is heavily overgrown with grass and bushes. It turned out that dense grass up to 40 cm high hides ancient structures and does not allow us to find out the features of stone structures. Therefore, before the start of excavations, vegetation was removed on an area of about 3000 m^2.

After removing the vegetation, it turned out that the ancient settlement consists of two main sectors located in the southwest and northeast. The distance between them is 15 m.

For excavations, the first group of structures was selected, which occupies the southwestern part of the settlement. At the same time, attention was drawn to the central structure, which has a clear rectangular shape and dimensions of at least 7×8 m. Judging by the thick walls made up of large stones measuring from 0.3×0.4×0.2 m to 0.8×1.0×0.5 m, this structure looked like a residential building.

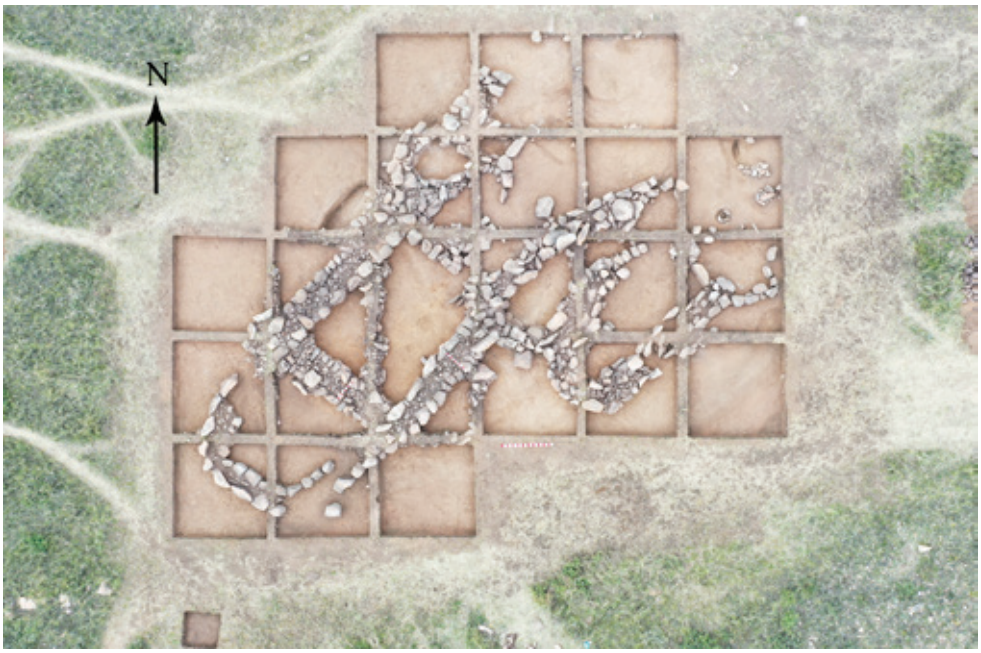

Fig. 3. Excavations on the settlements Kulzhan-1
Рис. 3. Раскопки на поселении Кулжан-1

It was on this group of structures that archaeological excavations were carried out in July 2021. An area of 368 m^2 was uncovered (Fig. 3). On the excavation area, 6 stone structures were revealed, animal bones, stone tools, and fragments of ceramics were found.

The two stone structures are located in a line from southwest to northeast and have the character of living quarters. Here is a rectangular structure with thick walls, which has a central position in relation to the entire excavated part of this settlement. The dimensions of this structure are 8×7.1 m. The internal space has dimensions of 5.4×4.2 m. The powerful walls are from 1.2–1.3 to 1.5 m wide. By the time of the excavation, the walls were preserved to a height of 0.7–0,8 m to 1 m. Judging by the numerous fallen stones, the wall was originally higher.

According to the materials of excavations of other settlements, the houses of the Saka tribes living in the eastern regions of the Kazakh Upland were squat, with thick walls. The interiors of such houses were not wide and had elongated and narrow proportions. This was due to the nature of the thick and massive roof, which consisted of wood and a layer of earth. It was difficult to cover large spaces of the interior with a heavy roof, which would require many supports, but narrow spans about 3–4 m long were easily covered with logs, the ends of which rested on the walls. The small size of the room was also dictated by the desire to save heat in the steppe regions, where there are no large reserves of wood fuel [Beisenov, Shulga, Loman, 2017]. The features of the dwelling space identified at Kulzhan-1 are close to previously obtained materials from the Saka settlements.

On the northeast side, this line of structures is adjoined by a second line, perpendicular to the first. Here, along a line from south-east to north-west, small rooms are located, which

played a secondary role in the rectangular living quarters. These are narrow, stretching from southwest to northeast and built parallel to each other. They all have common walls with each other. One of them is a narrow and small corridor for the entrance to the rectangular dwelling. The width of the corridor is about 1 m.

The stratigraphy is divided into 2 main layers. The first layer consists of sod, which is characterized by a large thickness. If in the southwestern part of the excavation the sod has a thickness of about 0.1–0.1 m, then in the southeast it reaches 0.15 m. Near the walls of the main structures, a sod thickness of up to 0.2 m is observed. Below the sod is the second layer of yellowish color, clay structure. The largest layer thickness is 0.25–0.28 m.

On the southeastern side of the excavation area, two fragments of a ditch were found, which has a width of 1.5–3 m and a depth of 0.2–0.25 m. Other parts of the ditch were outside the excavated area. The ditch was specially dug by the inhabitants of the settlement. It was oriented from the south-west to the north-east, that is, in the direction of the entire depression on which the ancient settlement is located. Apparently, this ditch completely bypasses this group of structures from the southern, southeastern, and eastern sides and served to drain melt and rainwater. Whether there is such a ditch on the northwest side of the structures remains unclear.

In the entire area of the excavation, a rectangular residential building occupies the highest position and the surface of the entire space around it has a decrease of 5–15 cm. Along with the natural features of this site, it is possible that the ancient inhabitants deliberately made such a decrease by removing the top layer of the earth. On the northeastern side of the excavation area, there are pits and elongated depressions, one of which is 0.45 m deep and 0.21 m wide. The end of this ditch is outside the excavated area. Two small hearths are also located in the northeastern part of the excavation site, from the side of the entrance.

Fig. 4. A pit with big stones
Рис. 4. Яма с большими камнями

On the outer side of the northwestern wall of the rectangular dwelling, there is a pit 3 m long, 1.1 m wide, and 0.7 m deep (Fig. 4). Stone tools, pottery fragments, and animal bones were found in the filling layer of the pit. The southeastern wall of the pit, which faces the wall of the dwelling, is filled with densely placed large stones. Perhaps this hole was specially dug to strengthen the wall of the dwelling, which began to sink in this area. In this case, large stones could serve as a support for the base of the wall of the dwelling. Hopefully, the purpose of these large stones will be clarified during the next excavations. The author plans to continue excavations of the Kulzhan-1 settlement and find answers to many more questions.

Fig. 5. Ceramics of the Kulzhan-1 settlement
Рис. 5. Керамика поселения Кулжан-1

Ceramic fragments (Fig. 5) from Kulzhan-1, as well as stone tools, are close to previously found materials from other settlements in the eastern regions of the Kazakh Upland. The flat-bottomed vessels were molded by hand; the ornament consists of pits and small rounded tubercles ("pearls"). Only a part of the vessels was decorated; some pots had plums in the upper part of the neck (Fig. 5.-*1*).

Fig. 6. Stone tools of Kulzhan-1 settlement
Рис. 6. Каменные орудия поселения Кулжан-1

The found over 200 stone tools (Fig. 6) are also close to the available materials. Among them, there are tools in the form of small hoes, cutting tools, graters, etc. Hoes from Kulzhan-1 have one interesting feature that was noticed in materials from other settlements. Trasologist I. V. Gorashchuk, as a result of a study of a group of stone tools from the Abylai settlement, noticed that along the longitudinal section, hoes are massive, with a triangular section, and thin. Hoes that have a triangular cross-section could be used on heavy soils, while hoes with plate cross-sections were intended for softer soils (materials in press). Among the hoes of Kulzhan-1, there are both of these types (Fig. 6.-*1, 2*).

In general, a preliminary study of the materials obtained from Kulzhan-1 shows the synchronicity of this site with the previously known settlements of the eastern regions of the Kazakh Upland. Excavations are to be continued, as well as a detailed study of new data, including multidisciplinary methods.

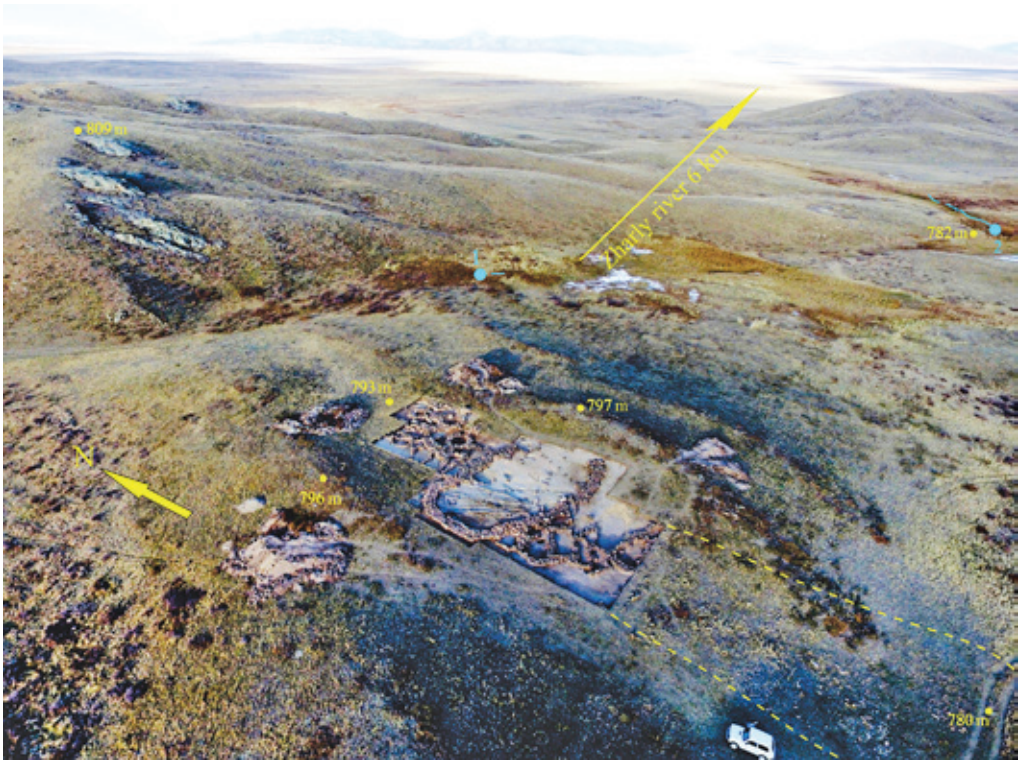

Fig. 7. Abylai settlement on the slope of Taskotan mountain. The numbers show the elevation marks
Рис. 7. Поселение Абылай на склоне горы Таскотан. Цифрами показаны отметки высот

The Abylai settlement was discovered by A. Z. Beisenov in 2004, excavations of the site began in 2016. Materials of previous years were partially introduced into scientific circulation in several publications, which considered the history of discovery, features of ceramics, the results of the first stage of archaeozoological research, and other data [Beisenov, 2021a; Beisenov et al., 2018; Beisenov et al., 2019; Kosintsev, Beisenov, 2020].

The Abylai settlement is located (Fig. 7) on the northeastern slope of Taskotan Mountain (absolute height 1005 m above sea level.). The settlement is located, like Kulzhan-1, on the upper slope, at the foot of the rocks. Here, too, a narrow and elongated from north to south depression, located between two low parallel ridges, was chosen for the development of housing and utility structures. This depression occupies a narrow and shallow pit, the bottom of which is soft and even, but has a general depression from north to south. The height difference is 13 m. There are two springs on the eastern side of the settlement. The first of them has dried up, the second, located below, has a current. On the eastern side of the settlement, we again see an extensive system of slopes, which gradually decrease and pass into the valley of the Zharly River.

To the north and northeast of the Tuskotan Mountain, a wide valley of the Zharly River opens. The distance from the settlement of Abylai to its channel is about 6 km. A detailed

survey of the banks of the Zharly River is still ahead, but the urgency of this task is obvious. On this river, there are two large irrigation ditches, built by the Kazakhs in the 19th century, with the help of which small arable lands for wheat and pasture meadows were irrigated. These ditches are mentioned in materials and archival documents of the 19th century, but they did not get into the works of historians and ethnographers. Valley of the Zharly River in the XX century intensively used for agricultural land. Nevertheless, the archaeological survey of the coasts remains relevant. The problem is that there can be found traces of the summer settlement sites of Saka time.

In 2016–2020. an area of over 1100 m^2 was excavated at the site. During five seasons of excavations at the Abylai settlement, numerous housing and economic structures have been identified, hundreds of fragments of ceramics, thousands of fragments of animal bones have been found. All materials are under research. In addition, excavations of this monument are planned to continue in 2021 and 2022.

In all regions where Saka settlements were discovered, these monuments are only partially studied. This circumstance affects the degree of the results obtained. We are dealing with specific settlements left by the steppe pastoralist tribes who led a semi-sedentary lifestyle. Important results can be achieved here with more complete studies of monuments of this category.

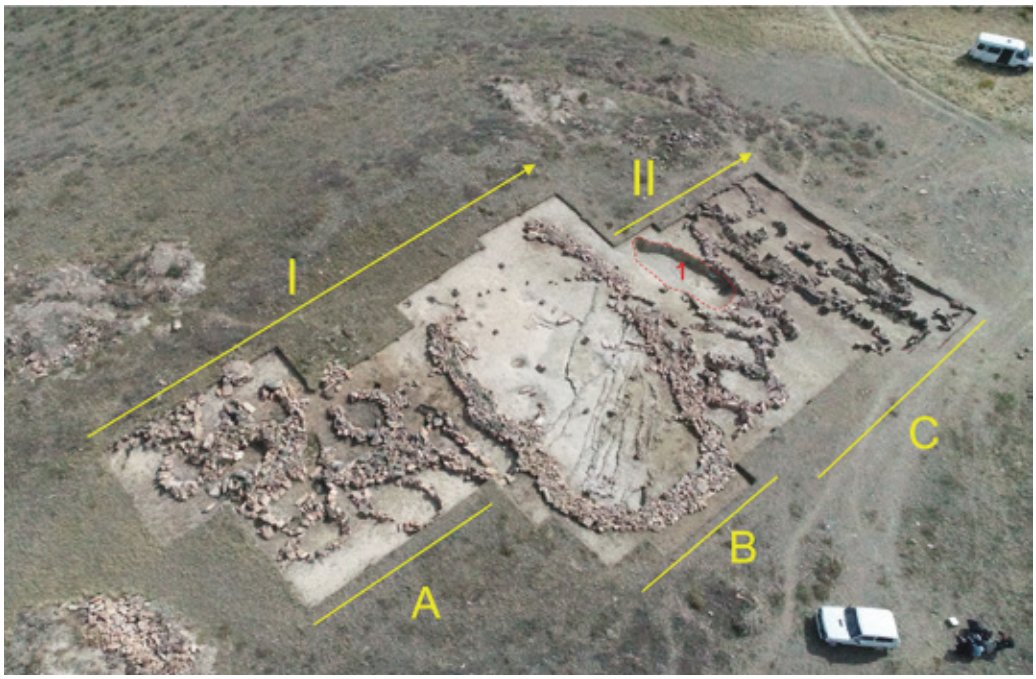

Fig. 8. Abylai settlement, excavations 2016–2019. I (A, B) – the first stage of development. II (C) – the second stage of development: 1 – a pit with animal bones
Рис. 8. Поселение Абылай, раскопки 2016–2019 гг. I (A, B) – первый этап застройки. II (C) – второй этап застройки: 1 – яма с костями животных

There are over 380 stone tools from the Abylai settlement. Of this number, 150 specimens were subjected to trace analysis (I. V. Gorashchuk, Samara, Russia). For 139 of them, functions were defined: it turned out that 130 guns were used in various types of work. According to the conclusion of the trasologist, tools for cultivating the land are in the first place — 57.3%, then tools for processing vegetation (24.5%), leatherworking (10.2%), for straightening metal products (whetstones, 8%). It is noteworthy that all whetstones bear traces of work with iron objects. At present, the results of the first stage of the traceological study of tools from Abylai are in print.

Excavations have shown that the Abylai settlement has two stages of development (Fig. 8). Judging by the excavation data, the development of the settlement proceeded from north to south. The first stage includes a group of small dwellings and outbuildings, an oval household structure, and a large pit with numerous animal bones (Fig. 8.-*1*). This pit was then backfilled and the second stage structures were built directly above it.

The excavation area 2016–2020 contained over 11,000 fragments of bones of domestic animals, which are now at the stage of archaeozoological research. In addition to such aspects as determining the composition of the herd, age categories, the most important were the results of determining the seasons of the slaughter of animals. Concerning the results of this work, 2 of the most interesting conclusions can be noted.

1) Over 5,000 bones have been found in the cultural layer of the settlement. Samples taken from these bones to determine the slaughter season showed that the animals were slaughtered during the period from late autumn to early spring. This conclusion proves that people lived in the settlement during the winter months. Thus, the previously expressed opinions about the winter character of the settlements [Beisenov, 2015] are confirmed by the results of archaeozoological studies.

2) In a large pit measuring 8×4 m, 0.7–0.9 m deep (Fig. 8.-*1*), over 6,000 bones of domestic animals were found. Samples taken from these bones showed that the animals died at the same time — during the early spring. According to the experts, this shows that in the settlement there was a fact of mass death of domestic animals due to hunger in the case of spring lack of food ("jute"in the ethnography of Kazakhs) or due to epizootics. These and other results carried out by a group of specialists led by P.A. Kosintsev are currently in print.

Pit No.4 from the excavations in 2019 is interesting. This pit is large (5.9×3.45×0.43–0.8 m) and is filled with ash soil. Only a small number of animal bones were found in it. It resembles the cesspools of ancient settlements. Along with this, it can be attributed to the type of catchment pits known from the ethnography of Kazakhs in the eastern regions of Central Kazakhstan. Such pits could be specially arranged in special areas of the settlement and serve for the drainage of rain and melt water. This was dictated by the conditions for the functioning of such settlements on the upper slopes, surrounded by rocky peaks. The streams of water flowing from them could create considerable problems for the inhabitants, as in ethnographic times. Similar pits filled with ash and ash-like soil, narrow ditches have already been encountered in previous excavations of the Edirei-3 settlements, excavation 2; Sarybuyrat; Abylai, excavation 1. Now you can add the settlement of Kulzhan-1 to them.

The burial of Korgantas time [Beisenov, 2017; Shulga, 2015b] discovered on the 2020 excavation area is already the second case for this settlement — the first was found in 2016

[Beisenov et al., 2018]. Such facts provide an additional and important basis for determining the upper date of settlements. The burials on the area of the Abylai settlement are not the first facts of identifying korgantas burials that cut through the layer of the Saka period. Earlier, one burial was opened at the areas of the settlements Kyzylsuir-2 and Shiderty-2. As it is stated above, these facts show that by the emergence of a new population group, by the 4th century. BC, the settlements of the tasmola culture were already abandoned. The new Korgantas burial once again brings the Abylai settlement closer to other previously studied sites of this category. If as the lower boundary of the date of the settlement of Abylai, like other settlements of Central Kazakhstan, take the period of the 8th — 7th centuries. BC, then the upper date should fit into the framework of the V century BC. Such a broad date for the settlement of the tasmola range is based on current evidence and clarification should be expected from future research.

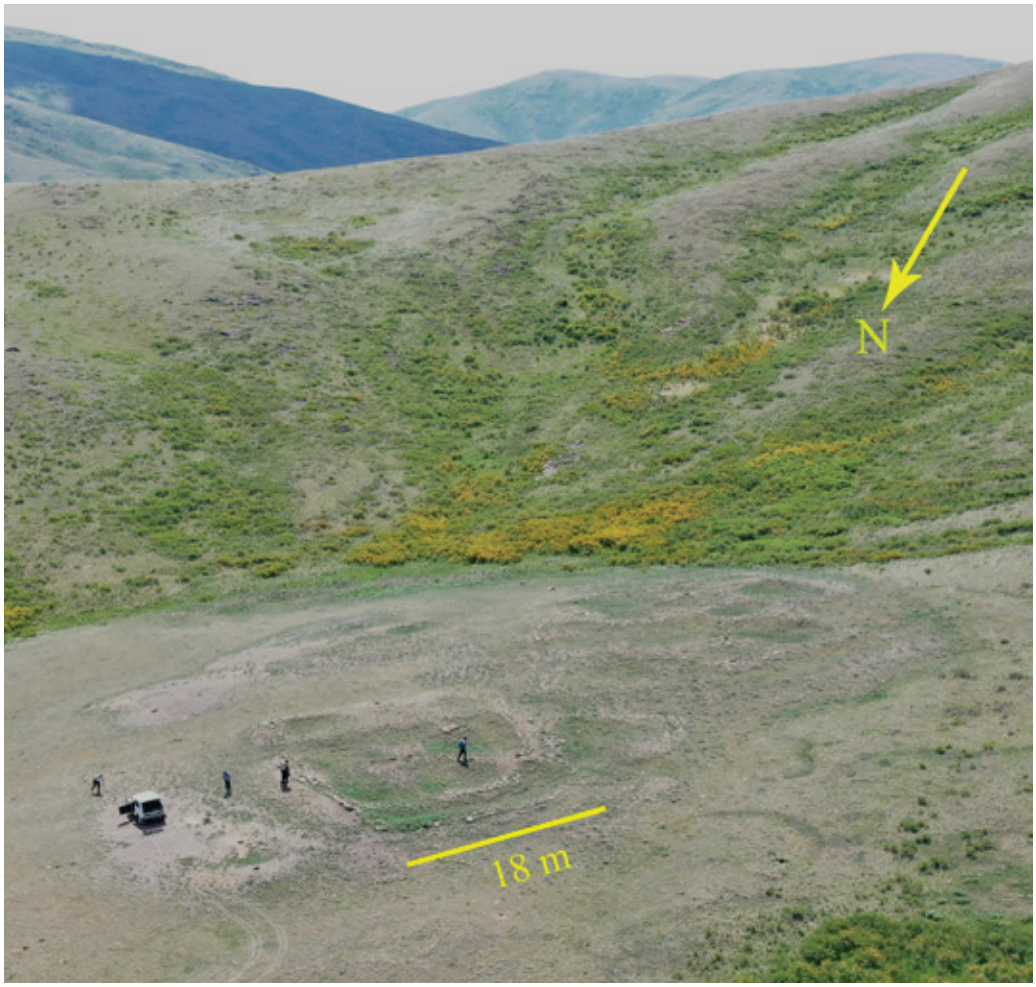

Fig. 9. Kazakh wintering Jibekschoky
Рис. 9. Казахская зимовка Жибекшокы

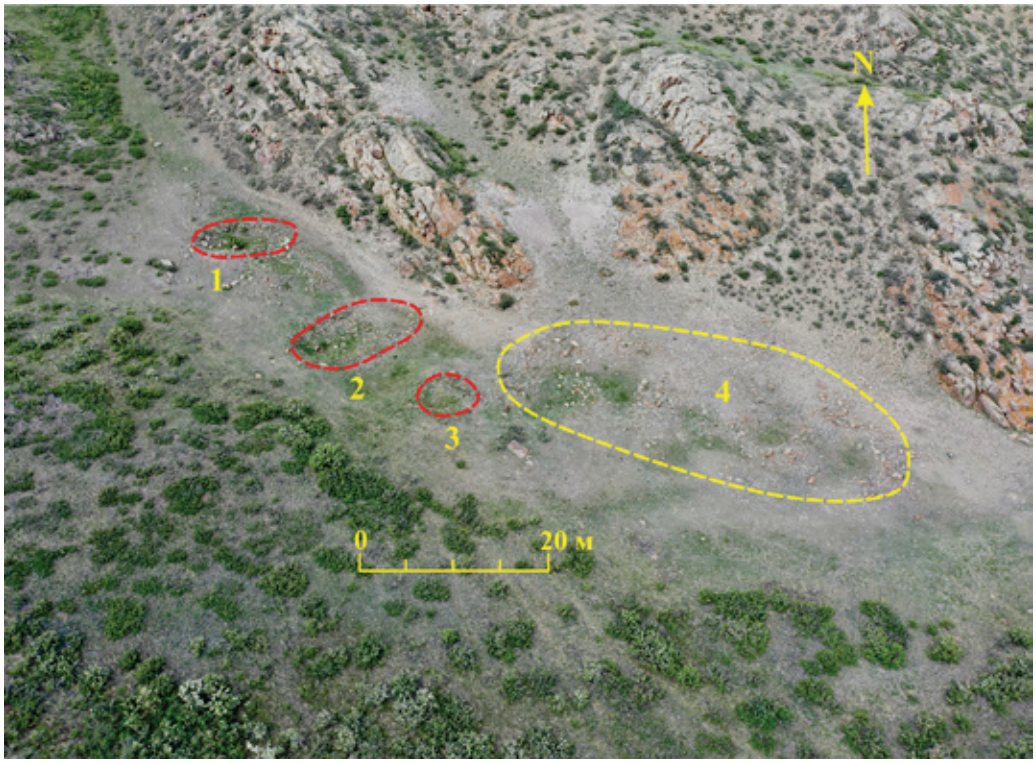

Fig. 10. Saka settlement and wintering of the Kazakh time on the slope of Ayrtas mountain: 1–3 — Kazakh dwellings; 4 — the area of the Saka settlement
Рис. 10. Сакское поселение и зимовка казахского времени на склоне горы Айыртас: 1–3 — казахские жилища; 4 — площадь сакского поселения

For ethnographic parallels, materials from 50 Kazakh wintering sites were used, which were found and examined by a group led by the author. All of them are located in the places where the Saka settlements are located. As already noted [Beisenov, 2021b], the topography of the Kazakh winterings and Saka settlements surprisingly coincide. Winterings are also located on the slopes of mountains and high hills (Fig. 9). It is well known from ethnography that Kazakh pastoralists chose winter places based on such practical considerations that there is not a lot of snow on the mountain slopes in winter, which is harmful especially for small livestock. On the slopes, which are blown by the wind, cattle graze in winter. In the spring, Kazakhs went to the plain, to the river banks.

In some cases, the wintering grounds of Kazakhs and Saka settlements are located in the same area, such as on the slope of Mount Ayrtas (Fig. 10). In addition, there are numerous facts of the discovery of stone tools from the Saka period in the areas of Kazakh wintering grounds (Fig. 11). Kazakhs of the eastern regions of Central Kazakhstan in the 19th century lived in cold and snowy winter, coupled, moreover, with frequent winds. The Saka tribes likely lived in the same natural and climatic conditions.

Fig. 11. Materials of Kazakh winterings: 1 — the remains of the walls of wintering Aznabai; 2–5 stone tools of the Saka era, wintering Aznabai; 6–11— stone tools of the Saka era, wintering Soltan
Рис. 11. Материалы казахских зимовок: 1 — остатки стен зимовки Азнабай; 2–5 — каменные орудия сакской эпохи на площади зимовки Азнабай; 6–11 — каменные орудия сакской эпохи на зимовке Солтан

Conclusion

Ceramics from the Saka settlements of Northern and Central Kazakhstan [Beisenov, Shulga, Loman, 2017] finds very close analogies in many adjacent regions. One of these regions is the Altai Territory (Russian Federation). First of all, we are talking about the ceramics of the Kulunda settlements [Frolov, 2013], which has important differences from the ceramics of the settlements of the Forest-Steppe Altai [Stepanova, Frolov, 2017] and Gorny Altai [Shulga, 2015a]. The early Saka appearance of the Kulunda sites does not raise any objections.

The author considers the settlements of the eastern regions of Central Kazakhstan studied at the present stage to be the wintering places of the population of the tasmola culture, which in the natural and climatic conditions of the eastern part of the Kazakh Uplands led a semi-settled way of life [Makhortykh, Ievlev, 1991]. This population had small winter camps assigned to individual communities, located in a system of hills.

One of the unexplored aspects is the lack of data on summer parking. Such places, according to some observations, should be expected at short distances from winter places, along river valleys.

Earlier, the author dated these settlements within the 7th–5th centuries BC. [Beisenov, 2015]. In any case, their date is within the entire period of the existence of the tasmola culture, within the 8th –5th centuries. BC [Arman Z Beisenov et all., 2016].

Fagan and DeCors wrote that "the settlements are not randomly distributed over the land" and "practical considerations lie behind their distribution" [Fagan, DeCors, 2007: 412]. Speaking about the "dynamic relationships" of settlements with the outside world, they also note that "some of them are almost impossible to discern without careful use of analogies with living communities" [Fagan, DeKors, 2007: 414]. In the study of Saka settlements, the use of ethnographic materials is a justified method. We do not know all the nuances of the natural and climatic conditions of Saka time [Frolov, 2016], except for general concepts. At the same time, the familiar conditions of life and everyday life of the Kazakh time can be used in scientific research on the Saka era.

The magnificent Saka gold of the Kazakh steppe cultures enchants archaeologists. Behind the glitter of this gold lies the life of an ancient people, many aspects of which remain little known to us [Beisenov, 2020].

REFERENCES

Amzarakov P. B., Kovaleva O. V., Lazaretov I. P., Polyakov A. V. Poselenie skifskogo vremeni Staraya Kop'-1 na vostochnoj okraine minusinskih stepej [Settlement of the Scythian Time Staraya Kop-1 on the Eastern Outskirts of the Minusinsk Steppes]. Zapiski Instituta istorii material'noj kul'tury [Notes of the Institute for the History of Material Culture]. 2015. № 12. S. 130–145. *(In Russ.)*

Arman Z. Beisenov, Svetlana V. Svyatko, Aibar E. Kassenalin, Kairat A. Zhambulatov, Daniyar Duisenbai and Paula J. Reimer. First Radiocarbon Chronology for the Early Iron Age Sites of Central Kazakhstan (Tasmola Culture and Korgantas Period). Radiocarbon. 58. 2016. Pp. 179–191. DOI:10.1017/RDC.2015.18.

Bazarbayeva G. A. Pamyatniki sakskogo vremeni Zhetysu [The Sites of the Saka Time Zhetysu]. Kazahstan v sakskuyu epohu [Kazakhstan in the Saka Era]. Almaty : Institut arheologii im. A.H. Margulana; NICIA «Begazy-Tasmola», 2017. S. 157–178 *(In Russ.)*

Beisenov A. Studies of the Saka Settlements in the East Part of Central Kazakhstan // Arheologiya Zapadnoj Sibiri i Altaya: opyt mezhdisciplinarnyh issledovanij [Archaeology of Western Siberia and Altai: Experience of Multi-Disciplinary Research]. Barnaul : Izd-vo Alt. un-ta, 2015. Pp. 289–293.

Beisenov A. Z. Korgantasskie pogrebeniya v Central'nom Kazahstane [Korgantas Burials in Central Kazakhstan]. Aktual'nye voprosi arheologii I etnologii Central'noj Azii [Actual Questions of Archaeology and Ethnology of Central Asia]. Ulan-Ude : Isd-vo BNC SO RAN, 2017. Pp. 103–108 *(In Russ.)*

Beisenov A. Z. Tasmola: A Ray of Gold, Glittering in the Steppe // Istoriya i arheologiya Turana [History and Archaeology of Turan]. 2020. №5. Pp. 138–162.

Beisenov A. Z. Raskopki poseleniya Abylaj (Rezul'taty issledovaniya "shlaka" iz kul'turnogo sloya) [Excavations of the Abylai Settlement (Results of the study of "slag" from the cultural layer)]. Drevnyaya i srednevekovaya kul'tura Central'noj Azii: preemstvennost' i transformaciya kul'tur [Ancient and Medieval Culture of Central Asia: Continuity and Transformation of Cultures]. Almaty : Kazak universiteti, 2021a. Pp. 63–68 *(In Russ.)*

Beisenov A. Z. Voprosy izucheniya i sohraneniya kazahskih zimovok [Issues of the Study and Preservation of Kazakh Winterings]. Sohraneniye i izucheniye kul'turnogo naslediya Altajskogo kraya [Preservation and Study of the Cultural Heritage of the Altai Territory]. Barnaul : Izd-vo Alt. un-ta, 2021b. Issue 27. Pp. 7–16. *(In Russ.)*

Beisenov A. Z., Gimranov D. O., Akhiyarov I. K., Duysenbay D. B. Poseleniye sakskogo vremeni Abylaj v Central'nom Kazahstane [Settlement of the Saka time Abylai in Central Kazakhstan]. Teoriya i praktika arheologicheskih issledovanij [Theory and Practice of Archaeological Research]. 2018. №2 (22). Pp. 150–171. *(In Russ.)*

Beisenov A. Z., Duysenbay D. B., Akhiyarov I. K., Dzhumanazarov N. Sh., Svyatko S. V. Issledovanie poseleniya i kurganov rannego zheleznogo veka v Central'nom Kazahstane [Study of the Settlement and Mounds of the Early Iron Age in Central Kazakhstan]. Polevye issledovaniya v Verhnem Priob'e, Priirtysh'e i na Altae (arheologiya, etnografiya, ustnaya istoriya i muzeevedenie) [Field Research in the Upper Ob, Irtysh and Altai (archaeology, ethnography, oral history and museology]. 2018 g. Issue 14. Barnaul : AltGPU, 2019. Pp. 4–17 *(In Russ.)*

Bejsenov A. Z., Shul'ga P. I., Loman V. G. Poseleniya sakskoj epohi [Settlements of the Saka Era]. Almaty : NICIA «Begazy-Tasmola», 2017. 208 p. *(In Russ.)*

Beisenov A. Z., Svyatko S. V., Duysenbay D. B., Akhiyarov I. K., Reimer P. J. New Isotopic Data on the Diet of the Saka Period Population from Central Kazakhstan. Povolzhskaya arheologiya [The Volga River Region Archaeology]. 2020. №3 (33). Pp. 208–218.

Benecke N. Iron Age Economy of the Inner Asian steppe. A Bioarchaeological Perspective from the Talgar Region in the Ili River Valley (Southeastern Kazakhstan). Eurasia Antiqua. 2003. №9. Pp. 63–84.

Behre K.-E. Abschied von Werner Haarnagel, dem Nestor der deutschen Marschen. Jahrbuch der Männer vom Morgenstern. 1984. 63. S. 259–263.

Benecke N. Iron Age Economy of the Inner Asian Steppe. A Bioarchaeological Perspective from the Talgar Region in the Ili River Valley (Southeastern Kazakhstan). Eurasia Antiqua. 2003. №9. Pp. 63–84.

Duysenbay D. B., Dzhumanazarov N. Sh., Akhiyarov I. K. Arheologicheskie issledovaniya na poselenii Balakungej-2 [Archaeological Research at the Balakungei-2 Settlement]. Margulanovskie chteniya — 2020: materialy Mezhdunarodnoj nauchno-prakticheskoj konferencii "Velikaya Step' v svete arheologicheskih i mezhdisciplinarnyh issledovanijy". Almaty, 17–18 sentyabrya 2020 g. T. 2 [Margulanovskie Readings-2020. Materials of the International Scientific-Practical Conference "The Great Steppe in the Light of Archaeological and Interdisciplinary Research". Almaty, September 17–18, 2020. Vol. 2]. Almaty : Institut arheologii im. A.H. Margulana, 2020. Pp. 223–232. *(In Russ.)*

Fagan B., DeKors K. Arkheologiya. V nachale. [Archaeology. At the Deginning]. M. : Tehnosfera, 2007. 592 p. *(In Russ.)*

Frolov Ya. V. Mesto kompleksov rannego zheleznogo veka Rublevskogo arheologicheskogo mikrorajona v krugu pamyatnikov ranneskifskogo i skifskogo vremeni Kulundy [The Place of the Complexes of the Early Iron Age of the Rublevsky Archaeological Microdistrict among the Sites of the Early Scythian and Scythian times of Kulunda]. Drevnosti Sibiri i Central'noj Azii [Antiquities of Siberia and Central Asia]. Gorno-Altajsk : GAGU, 2013. №5 (17). Pp. 45–57. *(In Russ.)*

Frolov Ya. V. Problemy izucheniya vliyaniya klimaticheskih izmenenij na dinamiku etnokul'turnyh processov na territorii yuga Ob'-Irtyshskogo mezhdurech'ya v I tys. do n.e. [Problems of Studying the Influence of Climatic Changes on the Dynamics of Ethnocultural Processes in the South of the Ob-Irtysh Interfluve in the 1st Millennium BC]. Izvestiya Altajskogo gosudarstvennogo universiteta [Bulletin of Altai State University]. 2016. № 4. Pp. 287–291. *(In Russ.)*

Chang C., Benecke N., Grigoriev F. P., Rosen A. M., Tourtellotte P. A. Iron Age Society and Chronology in South-east Kazakhstan. Antiquity. 2003. № 77. Pp. 298–312.

Environmental Archaeology: Meaning and Purpose. Albarella, U. (Ed.). Dordrecht, Boston; London : Kluwer Academic Publ., 2001. 336 p.

Handbook of Landscape Archaeology. Edited by David Bruno and Thomas Julian. Routledge, New York : Routledge, 2016. 719 p.

Haarnagel Werner. Die Marschen im deutschen Küstengebiet der Nordsee und ihre Besiedlung. In: Berichte zur deutschen Landeskunde, 1961. 27. S. 203–219.

Haarnagel Werner. Die Grabung Feddersen Wierde. Methode, Hausbau, Siedlungs und Wirtschaftsformen sowie Sozialstruktur. Wiesbaden. Nachrichten aus Niedersachsens Urgeschichte. 1979. 48. 364 s.

Haarnagel Werner. Das Handwerk im Verband der kaiserzeitlichen Marschensiedlung Feddersen Wierde. In: Herbert Jankuhn (Hrsg.), Das Handwerk in vor und frühgeschichtlicher Zeit, Abhandlungen der Akademie der Wissenschaften zu Göttingen, Phil.-Hist, Klasse. 1983. Folge 3, Nr. 123. S. 67–89.

Khabdulina M. K. Poseleniya rannesakskogo vremeni na r. Selety [Settlements of the Early Saka Time on the Seleti river]. Stepnaya civilizaciya Vostochnoj Evrazii. T. 1. Drevnie epohi [Steppe Civilization of Eastern Eurasia. Vol. 1. Ancient Epochs]. Astana : Kul Tegin, 2003. Pp. 189–214 *(In Russ.)*.

Kosintsev P. A., Beisenov A. Z. Loshad' iz poseleniya rannego zheleznogo veka Abylaj v Central'nom Kazahstane [A Horse from the Early Iron Age Settlement Abylai in Central

Kazakhstan]. Ekologiya drevnih i tradicionnyh obshchestv [Ecology of Ancient and Traditional Societies]. Tyumen' : Izd. TyumNC SO RAN, 2020. Issue 6. Pp. 179–182. *(In Russ.)*

Levina L. M. Poseleniya VII–V vv. do n.e. i "shlakovye" kurgany yuzhnyh rajonov Syrdar'inskoj del'ty [Settlements of the 7th — 5th Centuries BC. and "Slag" Mounds of the Southern Regions of the Syrdarya Delta]. Kochevniki na granicah Horezma [Nomads on the Borders of Khorezm]. M. : Nauka, 1979. THAEE. Vol. XI. Pp. 176–185. *(In Russ.)*

Makhortykh S. V., Iyevlev M. M. O putyah i vremeni formirovaniya rannekochevnicheskih obrazovanij na yuge Evropejskoj chasti SSSR v pozdnejshij predskifskij period [On the Ways and Time of Formation of Early Nomadic Formations in the South of the European Part of the USSR in the Late Pre-Scythian Period]. Drevnosti Severnogo Kavkaza i Prichernomor'ya [Antiquities of the North Caucasus and the Black Sea Region]. M. : Moskovskij arheologicheskij informacionnyj centr, 1991. Pp. 18–30. *(In Russ.)*

Merts V. K. Sistema adaptacii drevnih skotovodov v gornostepnoj zone Severnoj Evrazii i metody poiska ih poselenij [Adaptation System of Ancient Pastoralists in the Mountain-Steppe Zone of Northern Eurasia and Methods of Searching for their Settlements]. Arheologiya Zapadnoj Sibiri i Altaya: opyt mezhdisciplinarnyh issledovanij [Archaeology of Western Siberia and Altai: Experience of Interdisciplinary Research]. Barnaul : Izd-vo Alt. un-ta, 2015. Pp. 69–73. *(In Russ.)*

Prishchepa E. V. Problema rekonstrukcii zhilishch tagarskoj kul'tury hakassko-minusinskoj kotloviny [The Problem of Reconstruction of Dwellings of the Tagar Culture of the Khakass-Minusinsk Depression]. Vestnik Tomskogo gosudarstvennogo universiteta [Bulletin of the Tomsk State University]. 2018. №427. Pp. 153–163. *(In Russ.)*

Reitz E., Shackley M. Environmental Archaeology. New York : Springer US Publ., 2012. 554 s.

Samashev Z. Proizvodstvennyj centr rannih sakov v Kazahskom Altae (poselencheskij kompleks Akbauyr) [Early Sakov Production Center in the Kazakh Altai (settlement complex Akbauyre)]. Arheologiya Yuzhnoj Sibiri [Archeology of Southern Siberia]. 2020. Issue 28. Pp. 103–118. *(In Russ.)*

Savel'yev N. S. Rannesakskie poseleniya Yuzhnogo Zaural'ya [Early Saki Settlements of the Southern Trans-Urals] Sakskaya kul'tura Saryarki v kontekste izucheniya etnosociokul'turnyh processov Ctepnoj Evrazii [Saka Culture of Saryarka in the Context of Studying the Ethnosocial and Cultural Processes of the Eurasian Steppe]. Almaty : NICIA "Begazy-Tasmola", 2015. Pp. 246–254. *(In Russ.)*

Settlement Archaeology. Chang K. C. (ed.). Palo Alto, California : National Press Books, 1968. 229 p.

Stepanova N. F., Frolov Ya. V. Keramika s poselenij rannego zheleznogo veka Lesostepnogo Altaya [Ceramics from the Settlements of the Early Iron Age of the Forest-Steppe Altai]. Teoriya i praktika arheologicheskih issledovanij [Theory and Practice of Archaeological Research]. 2017. №1 (17). Pp. 71–85. *(In Russ.)*

Shul'ga P. I. Skotovody Gornogo Altaya v skifskoe vremya (po materialam poselenij) [Cattle Breeders of Gorny Altai in the Scythian Time (based on materials from settlements)]. Novosibirsk : NGU, 2015a. 336 p. *(In Russ.)*

Shul'ga P. I. O zahoroneniyah korgantasskogo tipa [About Burials of the Korgantas Type]. Sakskaya kul'tura Saryarki v kontekste izucheniya etnosociokul'turnyh processov stepnoj

Evrazii [Saka Culture of Saryarka in the Context of Studying the Ethnosocial and Cultural Processes of Eurasian Steppe]. Almaty : NICIA "Begazy-Tasmola", 2015b. Pp. 405–418. *(In Russ.)*

Wiseman James, Zachos Konstantinos. Landscape Archaeology in Southern Epirus, Greece. New York : American School of Classical Studies, 2003. 311 p.

БИБЛИОГРАФИЧЕСКИЙ СПИСОК

Амзараков П. Б., Ковалева О. В., Лазаретов И. П., Поляков А. В. Поселение скифского времени Старая Копь-1 на восточной окраине минусинских степей // Записки Института истории материальной культуры. 2015. № 12. С. 130–145.

Базарбаева Г. А. Памятники сакского времени Жетысу // Казахстан в сакскую эпоху. Алматы : Институт археологии им. А. Х. Маргулана; НИЦИА «Бегазы-Тасмола», 2017. С. 157–178.

Бейсенов А. З. Коргантасские погребения в Центральном Казахстане // Актуальные вопросы археологии и этнологии Центральной Азии. Улан-Удэ : Изд-во БНЦ СО РАН, 2017. С. 103–108.

Бейсенов А. З. Раскопки поселения Абылай (Результаты исследования «шлака» из культурного слоя) // Древняя и средневековая культура Центральной Азии: преемственность и трансформация культур. Алматы : Қазақ университеті, 2021a. С. 63–68.

Бейсенов А. З. Вопросы изучения и сохранения казахских зимовок // Сохранение и изучение культурного наследия Алтайского края. Барнаул : Изд-во Алт. ун-та, 2021b. Вып. XXVII. С. 7–16.

Бейсенов А. З., Гимранов Д. О., Ахияров И. К., Дуйсенбай Д. Б. Поселение сакского времени Абылай в Центральном Казахстане // Теория и практика археологических исследований. 2018. № 2 (22). С. 150–171.

Бейсенов А. З., Дуйсенбай Д. Б., Ахияров И. К., Джуманазаров Н. Ш., Святко С. В. Исследование поселения и курганов раннего железного века в Центральном Казахстане // Полевые исследования в Верхнем Приобье, Прииртышье и на Алтае (археология, этнография, устная история и музееведение). 2018 г. Вып. 14. Барнаул : АлтГПУ, 2019. С. 4–17.

Бейсенов А. З., Шульга П. И., Ломан В. Г. Поселения сакской эпохи. Алматы : НИЦИА «Бегазы-Тасмола», 2017. 208 с.

Дуйсенбай Д. Б., Джуманазаров Н. Ш., Ахияров И. К. Археологические исследования на поселении Балакунгей-2 // Маргулановские чтения — 2020: материалы Международной научно-практической конференции «Великая Степь в свете археологических и междисциплинарных исследований». Алматы, 17–18 сентября 2020 г. Т. 2. Алматы : Ин-т археологии им. А.Х. Маргулана, 2020. С. 223–232.

Косинцев П. А., Бейсенов А. З. Лошадь из поселения раннего железного века Абылай в Центральном Казахстане // Экология древних и традиционных обществ. Тюмень : Изд-во ТюмНЦ СО РАН, 2020. Вып. 6. С. 179–182.

Левина Л. М. Поселения VII–V вв. до н.э. и «шлаковые» курганы южных районов Сырдарьинской дельты // Кочевники на границах Хорезма. ТХАЭЭ. М. : Наука, 1979. Т. XI. С. 176–185.

Махортых С. В., Иевлев М. М. О путях и времени формирования раннекочевнических образований на юге Европейской части СССР в позднейший предскифский период // Древности Северного Кавказа и Причерноморья. М. : Московский археологический информационный центр, 1991. С. 18–30.

Мерц В. К. Система адаптации древних скотоводов в горностепной зоне Северной Евразии и методы поиска их поселений // Археология Западной Сибири и Алтая: опыт междисциплинарных исследований. Барнаул : Изд-во Алт. ун-та, 2015. С. 69–73.

Прищепа Е. В. Проблема реконструкции жилищ тагарской культуры хакасско-минусинской котловины // Вестник Томского государственного университета. 2018. № 427. С. 153–163.

Савельев Н. С. Раннесакские поселения Южного Зауралья // Сакская культура Сарыарки в контексте изучения этносоциокультурных процессов Степной Евразии. Алматы : НИЦИА «Бегазы-Тасмола», 2015. С. 246–254.

Самашев З. Производственный центр ранних саков в Казахском Алтае (поселенческий комплекс Акбауыр) // Археология Южной Сибири. 2020. Вып. 28. С. 103–118.

Степанова Н. Ф., Фролов Я. В. Керамика с поселений раннего железного века Лесостепного Алтая // Теория и практика археологических исследований. 2017. № 1 (17). С. 71–85.

Хабдулина М. К. Поселения раннесакского времени на р. Селеты // Степная цивилизация Восточной Евразии. Т. 1. Древние эпохи. Астана: Кул Тегин, 2003. С. 189–214.

Шульга П. И. Скотоводы Горного Алтая в скифское время (по материалам поселений). Новосибирск : НГУ, 2015a. 336 с.

Шульга П. И. О захоронениях коргантасского типа // Сакская культура Сарыарки в контексте изучения этносоциокультурных процессов степной Евразии. Алматы : НИЦИА «Бегазы-Тасмола», 2015b. С. 405–418.

Фаган Б., ДеКорс К. Археология. В начале. М. : Техносфера, 2007. 592 с.

Фролов Я. В. Место комплексов раннего железного века Рублевского археологического микрорайона в кругу памятников раннескифского и скифского времени Кулунды // Древности Сибири и Центральной Азии. Горно-Алтайск : ГАГУ, 2013. №5 (17). С. 45–57.

Фролов Я. В. Проблемы изучения влияния климатических изменений на динамику этнокультурных процессов на территории юга Обь-Иртышского междуречья в I тыс. до н.э. // Известия Алтайского государственного университета. 2016. №4. С. 287–291.

Arman Z. Beisenov, Svetlana V. Svyatko, Aibar E. Kassenalin, Kairat A. Zhambulatov, Daniyar Duisenbai and Paula J. Reimer. First Radiocarbon Chronology for the Early Iron Age Sites of Central Kazakhstan (Tasmola Culture and Korgantas Period). Radiocarbon. 58. 2016. Pp. 179–191. DOI:10.1017/RDC.2015.18.

Beisenov A. Studies of the Saka settlements in the East part of the Central Kazakhstan // Археология Западной Сибири и Алтая: опыт междисциплинарных исследований. Барнаул : Изд-во Алт. ун-та, 2015. Pp. 289–293.

Beisenov A. Z. Tasmola: A Ray of Gold, glittering in the Steppe // История и археология Турана. 2020. №5. С. 138–162.

Beisenov A. Z., Svyatko S. V., Duysenbay D. B., Akhiyarov I. K., Reimer P. J. New isotopic data on the diet of the Saka period population from Central Kazakhstan // Поволжская археология — The Volga River region archaeology. 2020. № 3 (33). Pp. 208–218.

Behre K.-E. Abschied von Werner Haarnagel, dem Nestor der deutschen Marschen. Jahrbuch der Männer vom Morgenstern. 1984. 63. S. 259–263.

Benecke N. Iron Age economy of the Inner Asian steppe. *A bioarchaeological perspective from the Talgar Region in the Ili River Valley* (Southeastern Kazakhstan) // Eurasia Antiqua. 2003. №9. Pp. 63–84.

Chang C., Benecke N., Grigoriev F. P., Rosen A. M., Tourtellotte P. A. Iron Age society and chronology in South-east Kazakhstan // Antiquity. 2003. №77. C. 298–312.

Environmental Archaeology: Meaning and Purpose. Albarella, U. (Ed.). Dordrecht, Boston; London : Kluwer Academic Publ., 2001. 336 p.

Handbook of Landscape Archaeology. Edited by David Bruno and Thomas Julian. Routledge, New York : Routledge, 2016. 719 p.

Haarnagel Werner. Die Marschen im deutschen Küstengebiet der Nordsee und ihre Besiedlung. In: Berichte zur deutschen Landeskunde, 1961. 27. S. 203–219.

Haarnagel Werner. Die Grabung Feddersen Wierde. Methode, Hausbau, Siedlungs und Wirtschaftsformen sowie Sozialstruktur. Wiesbaden: Nachrichten aus Niedersachsens Urgeschichte, 1979. 48. 364 s.

Haarnagel Werner. Das Handwerk im Verband der kaiserzeitlichen Marschensiedlung Feddersen Wierde. In: Herbert Jankuhn (Hrsg.), Das Handwerk in vor und frühgeschichtlicher Zeit, Abhandlungen der Akademie der Wissenschaften zu Göttingen, Phil.-Hist, Klasse. 1983. Folge 3, Nr. 123. S. 67–89.

Reitz E., Shackley M. Environmental Archaeology. New York : Springer US Publ., 2012. 554 s.

Settlement Archaeology. Chang K.C. (ed.). Palo Alto, California : National Press Books, 1968. 229 p.

Wiseman James, Zachos Konstantinos. Landscape Archaeology in Southern Epirus, Greece. New York : American School of Classical Studies, 2003. 311 p.

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