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An essay on the ethnocultural history of the lower reaches of the Syr Darya in the second half of the I millennium BC: settlements of the Chirikrabat culture

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Keywords: archaeology, Syrdarya, early Iron Age, Chirikrabat archaeological culture, ancient settlement, fortress, mound, mausoleum, sword, tip

Түйін сөздер: археология, Сырдарыя, ерте темір дәуірі, шірікрабат археологиялық мәдениеті, қалашық, бекініс, оба, кесене, семсер, жебе ұшы

Ключевые слова: археология, Сырдарыя, ранний железный век, Чирикрабатская археологическая культура, городище, крепость, курган, мавзолей, меч, наконечник

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Abstract. The article examines one of the main aspects of cultural genesis – the relationship between the cultures of settled farmers and pastoralists of the Eurasian steppes on the example of the monuments of material culture of the lower Syr Darya, the territory of which was one of the contact zones in Eurasia. The main attention in the publication is paid to the Chirikrabat archaeological culture, which was formed on the territory of the southwestern part of the ancient Syrdarya delta no later than the turn of the 4th–2nd centuries BC. This culture originated in this territory, of course, on a local basis, when the nomadic Saks, who inhabited the lower reaches of the Syr Darya in the second third of the I millennium BC, switched to a sedentary agricultural and cattle-breeding method of farming based on irrigation agriculture. In the area of distribution of the Chirikrabat archaeological culture there are ancient settlements and settlements of various sizes and layout, a brief description of which is given in the article. Based on a comparative analysis of all these monuments, the characteristic features of a particular type of settlement are determined, which gives grounds to objectively identify a certain hierarchy within the entire array of these objects, which can be traced even at the highest taxometric level. Analysis of the entire corpus of currently known artifacts suggests that in the second half of the I millennium BC. In the lower reaches of the Syr Darya, all the prerequisites are being created for the formation of a single interconnected centralized economic system with a developed handicraft production based on artificial irrigation.

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Б.д.д. I мыңж. екінші жартысындағы Сырдарияның төменгі ағысының этномәдени тарихы туралы очеркі: шірікрат мәдениеті қоныстары

Аннотация. Мақалада мәдени генезистің негізгі аспектілерінің бірі – Еуразия даласындағы отырықшы егіншілер мен бақташылар мәдениеттерінің қарым-қатынасы, Еуразиядағы байланыс аймақтарының бірі болған Сырдарияның төменгі ағысындағы материалдық мәдениетінің ескерткіштері мысалында қарастырылады. Мақаладағы басты назар Сырдарияның ежелгі арналарынан оңтүстік-батыс бөлігінде б.д.д. IV–II ғғ. қалыптасқан шірікрат археологиялық мәдениетіне аударылды. Аталған мәдениет Сырдарияның төменгі ағысында б.д.д. I мыңж. екінші жартысында қоныстанған көшпелі сақтар егіншіліктің суландыру жүйесі негізінде отырықшы егіншілік пен бақташылық шаруашылығына ауысуы барысында пайда болды. Шірікрат мәдениетінің таралу аймағында көлемі мен орналасуы әр түрлі ежелгі қоныстар мен қалашықтар орналасқан, олардың қысқаша сипаттамасы мақалада келтірілді. Ескерткіштерді салыстырмалы талдау негізінде қоныстардың барлық түріне тән белгілері анықталды, бұл осы объектілердегі белгілі бір иерархияны объективті түрде қарастыруға мүмкіндік береді, оны тіпті ең жоғарғы таксонометриялық деңгейден де байқауға болады. Қазіргі таңда табылған жәдігерлерді талдау арқылы Сырдарияның төменгі ағысында б.д.д. I мыңж. екінші жартысында жасанды суландыруға негізделген дамыған қолөнер өндірісі бар екендігі анықталды және бұл жерде бір орталыққа шоғырландырылған шаруашылық жүйесін қалыптастыруға барлық алғышарттар жасалған.

Алғыс: Жұмыс ҚР БҒМ Ғылым комитетінің нысаналы-бағдарламалық қаржыландыруы жоба ЖТН OR11465466-ОТ-21, «Этномәдени зерттеулер контекстіндегі Ұлы Дала» тақырыбы шеңберінде орындалды.

Сілтеме жасау үшін: Утубаев Ж.Р. Б.д.д. I мыңж. екінші жартысындағы Сырдарияның төменгі ағысының этномәдени тарихы очеркі: шірікрат мәдениеті қоныстары. *Қазақстан археологиясы*. 2022. № 1 (15). 43-56 -бб. (Ағылшынша). Russian). DOI: [10.52967/akz2022.1.15.43.56](https://doi.org/10.52967/akz2022.1.15.43.56)

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Очерк этнокультурной истории низовий Сырдарьи во второй половине I тыс. до н.э.: поселения чирикратской культуры

Аннотация. В статье рассматривается один из основных аспектов культурогенеза – взаимоотношения культур оседлых земледельцев и скотоводов евразийских степей на примере памятников материальной культуры нижней Сырдарьи, территория которого была одной из контактных зон в Евразии. Основное внимание в публикации уделено Чирикратской археологической культуре, которая сформировалась на территории юго-западной части древней Сырдарьинской дельты не позднее рубежа IV–II вв. до н.э. Культура возникла на этой территории, безусловно, на местной основе, когда кочевые саки, заселявшие низовья Сырдарьи во второй трети I тыс. до н.э., переходят к оседлому земледельческо-скотоводческому способу ведения хозяйства, основанному на ирригационном земледелии. В ареале Чирикратской археологической культуры находят различные по площади и планировке древние поселения и городища, краткое описание которых дано в статье. На основании сравнительного анализа всех этих памятников определяются характерные особенности того или иного типа поселений, что дает основание объективно выявить определенную иерархию внутри всего массива этих объектов, которая прослеживается даже на самом верхнем таксонометрическом уровне. Анализ всего корпуса известных в настоящее время артефактов дают основания предполагать, что во второй половине I тыс. до н.э. в низовьях Сырдарьи создаются все предпосылки для формирования здесь единой взаимосвязанной централизованной экономической системы с развитым ремесленным производством, базировавшейся на искусственном орошении.

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Introduction

The lower reaches of the Syr Darya are located in the Aral basin and occupy part of the plain of the Turan lowland, most of which are the valleys of the Syr Darya, Sarysu rivers and the valleys of the Inkardarya, Kuvandarya and Zhanadarya rivers that passed through the sands of Kyzylkum in ancient times. The Aral basin covers the mouths of the largest rivers in Central Asia – the Amu Darya, Syr Darya and the southern coast of the Aral Sea.

In the lower reaches of the waters of the Syr Darya, they are divided into numerous winding channels and form a vast delta region, the watering regime of which has changed in various historical periods.

In the 3rd–2nd millennia BC, the main channel of the Syr Darya may have been Inkardarya, which in the west of the delta region was apparently connected with the northern delta of Akchadarya, which at that time was the main channel of the Amu Darya. In its lower and middle courses, numerous sites of the Neolithic and Bronze Age were discovered. The North Tagisken burial ground belongs to the final stage of this period, in the materials of which cultural contacts of the population of the lower Syr Darya at this time are clearly manifested, and not only with the territories of the steppe zone of Eurasia. In this case, we can talk about southern agricultural civilizations, with which, apparently, the construction of mausoleum made of raw bricks and the appearance of certain forms of vessels made using a pottery circle may be associated. With the undisputed dominance of pastoralism, these ties with highly developed southern civilizations, as well as the hypothetical possibility of the existence of floodplain agriculture in small areas of the delta, make us consider the economy of tribes of the late Bronze Age of the lower Syr Darya as a complex semi-sedentary – pastoralist-agricultural [Итина, Яблонский 2001: 101–109].

By the middle of the 1st millennium BC, many sections of Inkardarya begin to die off, and in its place a more straightened channel of Prazhanadarya is formed [Тажекеев 2013: 65–67]. In the 7th–5th centuries BC on the territory of the eastern Aral Sea, population groups belonging to the Saka-Massagetae circle of tribes settle. We do not know large settled settlements of this time, and apparently there were not any, because they were mobile cattle breeding groups, the material culture of which, judging by the excavations of the burial grounds Uigarak, South Tagisken and Sengir tam 1, 2, as well as a kind of “slag mounds”, introduces them into the circle of Saka-type cultures common in Eurasia in this time.

In the Uigarak burial ground of 80 mounds, 70 were excavated dating from the 7th–6th (occasionally 5th) centuries BC; in the burial ground of South Tagisken from 50 mounds, 38 dating back to the 7th–5th centuries were studied. In the burial ground of Sengir-tam 2, 23 were recorded, of which 8 mounds dating back to the 7th–5th centuries BC were examined, from the examined 23 so-called “slag” mounds (7th–5th centuries BC) only some are excavated [Итина, Яблонский 1997; Вишневецкая 1973; Толстов и др. 1963: 48–49; Левина 1979: 180–190; Курманкулов, Утубаев 2019: 138–144].

During this period, some channel canals of Inkardarya flowed into the Zhanadarya system, the rest turned into lakes that provided settlements with water during the period of antiquity. Around the same time, there is a system of ancient channels of Eskidarya, located south of the modern Syr Darya channel, which eventually merged with the Kuvandarya system. From this it follows that in the early antiquity, the waters of the Syr Darya flowed along with the waters of Zhanadarya and Eskidarya. Eskidarya was watered down until the early Middle Ages. The Zhanadarya system actively functioned until the end of the 1st millennium BC, after which the flow of Syr Darya to the west ceases. Again, the system of Zhanadarya is circling already in the Middle Ages. In the late Middle Ages, it was filled only sporadically.



Materials and methods

The subject of this study is the fortified and non-fortified settlements of the Chirikrabat archaeological culture, which have been studied with varying success for at least the past 50 years; particularly intense in the last decade (fig. 1). The purpose of the study is the systematization of archaeological material already known and newly obtained, which has not yet been fully introduced into scientific circulation. Based on the analysis of these data, the characteristic of the Chirikrabat archaeological culture is given as the earliest agriculture in Kazakhstan, very close to the culture of the population of the lower reaches of Amu Darya – Ancient Khoresm. At the same time, specific features in the economic way and, to some extent, in the socio-economic structure of society, inherent in the Chirikrabat archaeological culture, are distinguished.

The second half of the 1st millennium BC, should be considered one of the heyday of the culture of the population of the lower Syr Darya, which takes place in the middle and lower reaches of Zhanadarya in the western part of the ancient Inkardarya delta, that is, in the southwestern part of the ancient Syr Darya delta. At this time, the main drain into the Aral Sea passed along Zhanadarya, which, at certain periods of time, connected with the northern Akchadarya delta of Amu Darya [Андрианов 1991: 110; Вайнберг,

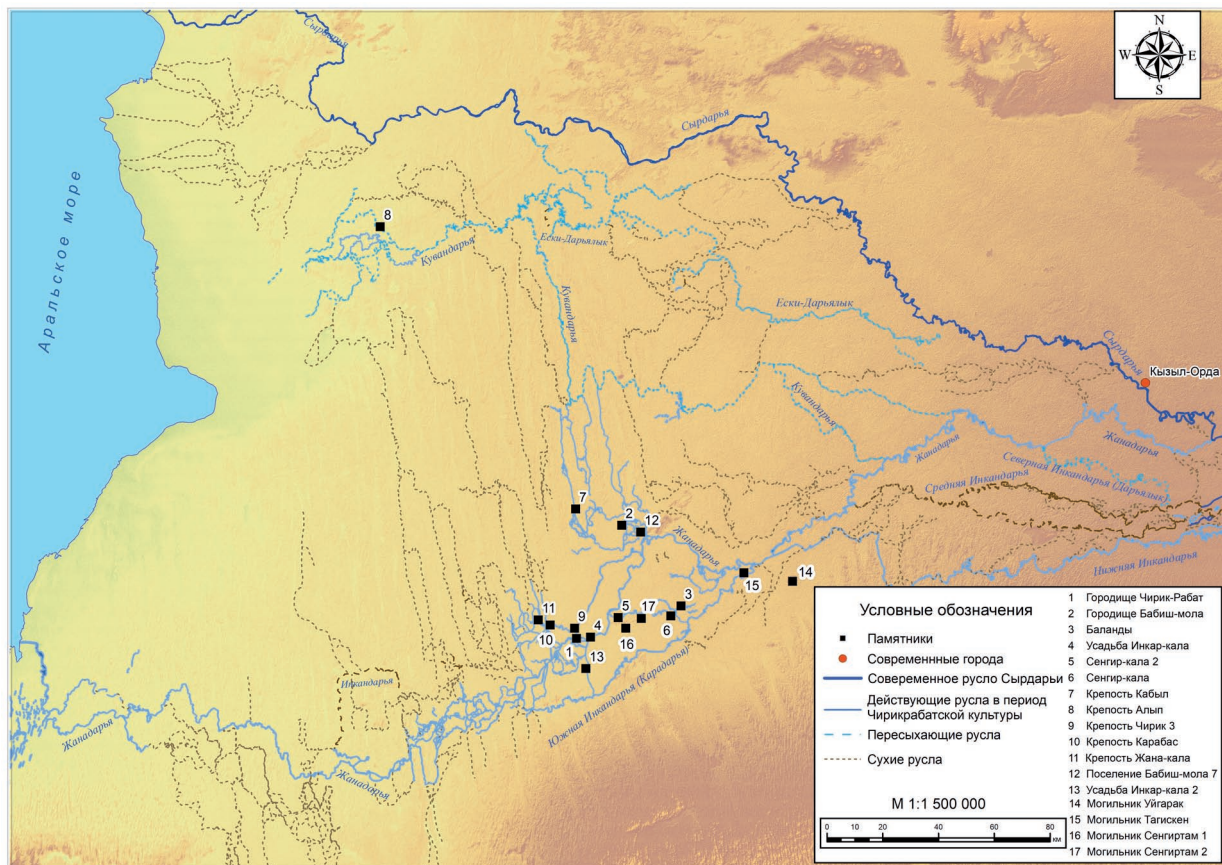


Fig. 1. Map of the location of monuments of Chirikrabat archaeological culture. Compiler E. Kazizov
1-сур. Шірікрабат археологиялық мәдениеті ескерткіштерінің орналасу картасы. Орындаған: Е. Казизов
Рис. 1. Карта расположения памятников чирикрабатской археологической культуры. Составитель Е. Казизов



Левина 1993: 7–14]. It was during this period, due to the very favorable ecological and hydrographic situation in this territory that all the conditions for the formation and development of culture, the economic and household basis of which was irrigation farming in conjunction with cattle breeding, developed.

There is no doubt that the Chirikrabort archaeological culture has developed on a local basis [Вайнберг 1999: 261], not without a certain influence of the ancient agricultures of Central Asia, primarily Khoresm. Thanks to the unique natural conditions of the northern Kyzylkums, where traces of human activity of various eras have been preserved for centuries, the remains of ancient settlements, traces of artificial irrigation systems, extensive agricultural oases that occupied tens of hectares reached us almost intact. This created a unique opportunity to explore settlements, and sometimes entire oases, not just as a sum or set of archaeological sites, but as a system or a single socio-economic complex, including estates, land, remnants of handicrafts, an interconnected irrigation system.

The population of this time left complex irrigation facilities, more than 200 large unfortified rural settlements, highly developed architecture, including monumental burial buildings and several fortified cities, fortresses. Chirikrabort settlements were located in the zone of artificial irrigation systems in several oases. The latter include, for example, the huge settlement of Chirik-rabort on Zhanadarya, Babish-mola – a fortified city of smaller size with a complex of rural settlements around it and a developed irrigation network, also based on the delta channels of Zhanadarya.

The most significant events in the field of scientific research of the lower Syr Darya are associated with the work of the Khoresm archaeological and ethnographic expedition (hereinafter referred to as KhAEE) led by S. Tolstov. As a result of the research of KhAEE, conducted in 1947–1949, on the territory of the southeastern Aral Sea, a significant part of the settlements, sites and towns dating back to the middle of the 1st millennium BC was discovered and examined. Starting since 1954, work was carried out in the southwestern and western parts of the ancient Syr Darya delta, where the northern Akchadarya and Zhanadarya deltas were connected. In 1955–1956 research in the Zhanadarya valley continued. In 1957–1963 and 1971–1972 work was carried out in the basins of Zhanadarya, Inkardarya, Kuvandarya and Yeski Kuvandarya. Buildings and settlements in the lower reaches of Zhanadarya made up almost a quarter of the monuments found. These settlements are located mainly in floodplains of channels, sometimes even in basins and tracts located closer to the source of water.

Excavations of Saka burial grounds and fortifications of the Chirikrabort culture were intensively carried out by KhAEE detachments from 1957 to 1964; at the same time, since 1962, research continued only on the Saka burial grounds Uigarak and South Tagisken [Археологические... 1952: 16–31; 1958: 235–241; 1963: 32–90; Толстов и др., 1960: 15–61; Итина, Яблонский 1997; Вишневская 1973].

After more than half a century, excavations of monuments in the middle reaches of Zhanadarya and Inkardarya were continued. Research is conducted by the Chirikrabort archaeological expedition led by Zh. Kurmankulov (Margulan Institute of Archaeology). In addition to archaeological sites known earlier (Chirik-rabort, Babish-mola, Balandy), several dozen new monuments were discovered and examined, including large unfinished settlements and burial grounds of Inkar-kala, Karabas, Sengir-kala 2, Zhanakala, Babish-mola 7, etc. [Курманкулов, Утубаев 2013: 79–146; 2017а: 397–413; 2017б: 191–211; Болелов, Утубаев 2020: 69–88].

The Chirikrabort archaeological culture has already been the subject of special research. The results of archaeological research of the late 50s – early 60s are published in the Materials of the Khoresm expedition. In 1991, B. Weinberg and L. Levina published a monograph, devoted entirely to this culture [Вайнберг, Левина: 1993]. However, since the publication of this edition, extensive material has been



accumulated during archaeological research of the last decade, which significantly expands our ideas about the appearance and nature of this archaeological culture. In some cases, based on these data, earlier findings are adjusted or fully revised.

The Chirikrabat archaeological culture dates back to the late 5th–2nd century BC. These chronologically defined frameworks are determined by numerous finds with clear temporal references.

The most massive category of finds are arrowheads. Bronze three-blade and three-sided arrows with a protruding and hidden bushing prevail. All of them belong to the types characteristic of Sarmatian monuments, and date from the 4th–3rd centuries BC [Смирнов 1961; Мошкова 1963]. Very representative collections of arrowheads are collected in the settlements of Balandy 1 and Inkar-kala. On the settlement of Babish-mola 7, in one of the early pits on the estate (excavation 3), a small bronze three-blade tip with a vaulted head, directly cut blades and a protruding bushing was found. In addition, a large number of bronze arrowheads of these types were found in burial structures, both in soil burials and in ground mausoleum (objects No. 2, 3, 9) on the Chirik-rabat settlement, Balandy mausoleum 3, Мунарал [Утубаев, Дарменов 2017: 25–34].

Of particular interest are tanged iron arrowheads found in funerary structures on the Chirik-rabat settlement. Iron arrowheads in the contour of the head and shape are divided into two types: three-lobed with lowered stings and forked (two-horned) tanged tips.

For the first time, the chronology of three-lobed tanged arrowheads from the Chirik-rabat settlement was developed by S. Trudnovskaya, who dated them to the border of the 4th–3rd centuries BC [Трудновская 1963: 210, рис. 8]. An iron tip with lowered stings from another complex of Chirik-rabat dates by 3rd–2nd centuries BC [Лоховиц 1963: 219–220, рис. 46, 2].

In 2007–2008, a raw square structure (object No. 6) was excavated on the Chirik-rabat settlement, where 23 iron tanged three-lobed and forked arrowheads were found. The mausoleum dates from the funerary inventory and epigraphic data of the 4th–3rd centuries BC [Курманкулов и др. 2008: 205–210; 2009: 198–201]. Iron three-bladed arrowheads were also found in ground burials on the Chirik Rabat settlement.

A detailed analysis of iron tips of this type was made by B. Litvinskiy, who quite convincingly, on the basis of numerous finds both in the settlements of the southern regions of Central Asia and in the burial mounds of the steppe zone, attributed the appearance of such tips to the 3rd–2nd centuries BC [Литвинский 2001: 92–97].

Thus, the large three-lobed tanged and forked arrowheads presented in the complexes of the Chirikrabat culture of the late 4th–3rd centuries BC are among the earliest in Central Asia.

In addition to arrowheads, weapons are presented in the archaeological complexes of the Chirikrabat archaeological culture, which also have certain chronological references.

A sword with an oval top on a flat handle and a fine butterfly-shaped crosshair was found in one of the mounds on the Chirik-rabat settlement. In addition, a fine sword was found in a non-robbed soil burial ground (object No. 1) [Утубаев, Дарменов 2017: 25–34]. This is a long straight iron sword with a length of more than 95 cm with a top in the form of a truncated cone and a straight rhombic crosshairs (length 4.2 cm, width 0.7 cm) made of bronze. By analogies from the Urals, Western Kazakhstan and other regions, the first sword was dated by 5th–4th centuries BC [Толстов 1962а: 143–144]. Long straight swords with a straight bar-shaped bronze crosshair are known on the territory of Eurasia and date back to the 2nd century BC – 1st century AD [Литвинский 2001: 236–237].

The Saka tribes of the eastern Aral Sea region – by the end of the 4th century BC already knew military armor made of iron plates – this is confirmed by the finds of significant fragments of such a shell



on the Chirik-rabat settlement. Iron plates were found in a square mausoleum (object No. 17). Part of the plate-flake iron armor was found in a round funeral building also on Chirik Rabat [Хазанов 1971: 56]. The appearance of the heavily armed cavalry of cataphracts S. Tolstov connected with Khoresm and the surrounding steppe world [Толстов 1948: 224–226; Толстов 1962б: 148–150].

The above far from complete list of dating artifacts seems to be very convincing to determine the time of existence of the Chirikrabat archaeological culture on Zhanadarya – this is in the period of 5th–4th – 2nd centuries BC. This dating does not contradict in any way with other categories of archaeological materials presented in the complexes obtained as a result of excavations of recent years – jewelry, import items, etc. This period was dated to the Chirikrabat culture also by previous researchers [Вайнберг, Левина 1993: 98–99]. In his monograph, B. Weinberg and L. Levin proposed a relative periodization of this archaeological culture. In their opinion, it is divided into three main periods, but the materials received in recent years give reason to slightly adjust the conclusions of these researchers.

Given the fact that the region of the lower Syr Darya is not mentioned in any of the known written sources of the period of antiquity, archaeological materials are, today, the only historical source for the study of the Chirikrabat archaeological culture.

The settlements of Chirikrabat culture differ in area and layout. According to structural and planning features, several types of monuments are distinguished. Only a brief description of the most significant settlements and sites is given here.

The Chirik-rabat settlement is the largest settlement of the Chirikrabat oasis. The monument is located on a fifteen-meter hill, on the left bank of the dry channel of Zhanadarya.

The settlement, surrounded by a strong fortress wall, covers the entire area of an oval natural hill measuring 850×600 m, elongated along the line of N–S.

At the base of the hill, a moat is dug up to 40 m wide, up to 4.5 m deep from the soil removed from the moat, an external shaft has been built, the height of which is currently 3 m. The moat is covered with a shaft on the inside, too. In addition, a fortress wall surrounds the uppermost part of the hill.

It should be noted that the settlement was settled several times. Its oldest part is on the north – higher part of the hill, with an area of over 40 hectares, surrounded by a double belt of fortifications. Perhaps the rectangular fortification in the central part of the settlement, with an area of 12.4 hectares, belongs to this time. A little later, a new strong adobe wall is being built on the outer shaft, up to 4 m high, up to 4.5 m wide with a shooting room up to 1.8 m wide, which was reinforced by rectangular and oval towers protruding beyond the wall line by 6 m. In the fortress wall and towers there were arrow-shaped loopholes up to 50 cm high, located on the same level. The entrance to the fortress was on three sides. In the southern, western wall and in the northeastern wall of the monument in the modern relief, the gate with the “Г”-shaped pre-gate labyrinth is well traced. The settlement of Chirik-rabat was also settled in a much later period. In the southern part of the monument, a rectangular fortified citadel is clearly traced, which was built in Khoresmshah time.

The most ancient monuments on the territory of Chirik Rabat are six large barrows. The later period includes ground burial structures and a temple located in the southern part of the settlement.

The center of the Babishmola oasis, based on the lateral latitudinal channels of Zhanadarya, is the fortified settlement of Babish-mola, which is located 40 km north of Chirik-rabat.

Babish-mola is a large settlement of irregular outlines, surrounded by a fortress wall (5.3 m thick), erected from raw brick on a rammed clay basement. The fortress wall is flanked by semicircular towers. Within the defensive walls in the modern relief, the contours of residential development are traced. In the



southwestern part of the monument, the remains of a separate raw clay building and a number of wall rooms in the form of the remains of frame-pillar structures were discovered.

In the northern part of the settlement there is a square citadel 100×100 m in plan, which is oriented with angles on the sides of the world and surrounded by a fortress wall made of rammed clay. On the corners of the citadel, as well as on the central segment of the eastern wall, semicircular towers are clearly traced. The wall and towers are cut through by three rows of arrow-shaped loopholes, located at an altitude of 1.15 m from the level of the shooting platform at the foot of the wall. The height of the loopholes is 40 cm.

The entrance to the citadel, which was flanked by two semicircular massive pylons, was on the south side. It was protected by a powerful pre-gate structure called the “donjon” (30×30 m). The walls of the latter were preserved to a height of 4–5 m, inside them were laid vaulted rooms of the first floor.

In the center of the citadel is a square in plan (44×44 m) monumental building – “Big House”, apparently, a palace. The outer walls were built of raw brick on the rammed clay basement. They had loopholes located fanwise in three. The corners of the building were strengthened by towers without internal premises.

The fortified estate of Balandy 1 and the settlement next to it is located 40 km southeast of the settlement of Chirik-rabat. The center of the settlement is the fortified estate of Balandy 1 – this is a rectangular in plan monument with an area of 80×130 m protected by fortress walls with arrow-shaped loopholes, oriented at angles on the compass points. The height of the loopholes is 55–60 cm, the maximum width is 34 cm, and the width of the bed is 20 cm. The walls are composed of rectangular raw brick, preserved in places to a height of 3 m. The walls were flanked by semicircular towers. Entrance to the estate on the northwest side. From the north-west, from the northeast, a rural settlement adjoins the fortification, consisting of several small, separate estates located along the banks of the main canal.

The fortified estate of Sengir Kala is located in the tract of Balandy, 7 km southwest of Balandy 1. The fortifications are an almost square 32×31.5 m large manor house oriented at angles on the compass points. The height of the preserved walls in some places reaches 4 m. At the southeast corner, towers have been preserved. The entrance to the estate was from the southeast side; it was here that a large washaway was formed. In the center of the estate, apparently, there was a large room or courtyard, measuring 15×18 m. Around the courtyard, the correct rows of rooms are traced along the inner perimeter of the outer walls; one row along the northeast and southeast walls and probably two rows along the northwest and southwest walls. According to M. Itina and B. Andrianov, the walls of the estate and the premises inside it, which had a width of 1 m, are composed of alternating layers of rammed clay blocks (40–45×40–45 cm) and rows of raw bricks (bricks dimensions 30–40×36–38×10 cm) and covered with a thick layer of clay plaster with sun-dried brick. On the floors of all rooms located along the inner perimeter of the walls, two rows of raw bricks were laid.

15 km west of Balandy 1 is the fortified estate of Sengir Kala 2. It is located on the left bank of a latitudinal dry channel belonging to the same hydrographic system of Inkardarya channels as Balandy. The route group of the Chirikrabort archaeological expedition opened the monument in 2014.

Sengir-kala 2 is a rectangular in plan structure with rounded corners (44×24 m), oriented by angles on the compass points. The towers are not traced on the outer wall of the estate. The walls have been preserved to a height of 0.70 to 2 m. The 4 m wide entrance is located on the central section of the northeast wall, closer to the northern corner of the monument. On the modern surface, the internal layout is quite clearly traced. In the northwestern part of the monument, apparently, there was a small (6×5 m),



rectangular in plan building – a residential building. Presumably, the rest of the area within the outer walls of the estate was an open courtyard. Ceramics are collected on the surface of the estate, an iron arrowhead was found here.

From the southeast, an open settlement adjoins the estate, consisting of separate estates located along the canal, often at a rather large distance from each other. In one of these estates, apparently, was a workshop. On the surface, traces of the production structure are clearly traced – a furnace (?) with a diameter of at least 2 m; the thickness of the walls of the structure tempered to red is 15–20 cm.

The fortified estate of Inkar-kala is located 5 km southeast of the settlement of Chirik-rabat. It was the center of a small agricultural oasis, which was based on the main canal that departed from the Zhanadarya channel in the vicinity of the Ak-kyr hill. The settlement was discovered in 2006 by the route group of the Chirikrabat archaeological expedition. The settlement consists of several large manor houses. The best preserved rectangular in plan estate is on the left bank of the canal. This is a rectangular structure in plan with an area of about 50×30 m, oriented by angles on the compass points. The outer walls have been preserved to a height of 2.2 m. There are no additional fortifications and towers on the outer wall. As you can assume, there were two entrances in the estate. In the northwest wall, apparently, a washaway formed on the site of the gate. In the southeast wall, the passage is more clearly defined; here a protruding flanking wall 9 m long protected it. According to the lifting material, as well as the archaeological complex obtained during excavations, the monument belongs to the Chirikrabat culture and dates from the 4th–2nd centuries BC.

On the borders of the territory occupied by the carriers of the Chirikrabat archaeological culture, there were fortified monuments, which can rightly be called fortresses. On the northern borders are the fortresses of Alyp and Kabyl, which controlled the borders of the Chirikrabat and Babishmola oasis in the northwest. In the southwest of the Chirikrabat oasis, on the right bank of Zhanadarya, there were “barracks for the garrison” Chirik 3 and Karabas, Zhana-kala.

Kabyl fortress is located 18 km northwest of the settlement of Babish-mola, behind a strip of desert sand ridges. It is located on the border of the oasis and was built on the banks of the canal withdrawn from Zhanadarya. The fortress has the shape of a not regular rectangle (55×50 m). In the southeast wall there is a gate with a pre-gate structure.

The length of the walls: northeastern and northwestern – 58 m, southwestern – 56.5 m, southeastern – 52 m. The height of the walls is 4–5 m, the thickness is about 1.5 m. The wall is equipped with two rows of arrow-shaped loopholes located in staggered order. The distance between the loopholes is – 2 m, there are no towers along the walls. The lower part of the fortress walls is made of rammed clay, above there is masonry made of rectangular raw brick.

The Alyb fortress is located on the north-eastern border of the Chirikrabat oasis, on a small elevation, which is surrounded on all sides by dry channels of the ancient delta channels of Kuvandarya. The monument is an almost square fortress (57×57×56×54 m) with rounded corners, with fortress walls preserved to a height of up to 6 m. A wall corridor (the width of the outer wall is 2.2 m) with many arrow-shaped loopholes with a height of 1 m, located on two levels at a distance between loopholes 1.6–2 m from each other. The entrance to the fortress, 1.3 m wide, was in the center of the southern wall.

The fortress of Chirik 3 is located on a natural hill, 600 m west of Chirik-rabat, on the right bank of the Zhanadarya. In plan, this is a rectangular (108×122 m) structure with rounded corners. The outer wall with a height of about 1.5 m and a width of just over 3 m has been preserved. Arrow-shaped loopholes with an inclined bed with a height of 1.3 m on the outer side are located in one row and begin at a height



of 1.2 m from the base of the wall. The distance between them is 2 m. Inside the structure there are traces of internal layout.

The fortress of Karabas is located 9.5 km west of the settlement of Chirik-rabat, on the right bank of the Zhanadarya. In general, the Karabas fortification in plan is a trapezoidal adobe structure, oriented at angles on the sides of the world. The length of the eastern wall is 130 m, the western – 105 m, the northern – 15 m and the southern – 40 m. The thickness of the walls, the maximum height of which is currently no more than 1.5–2 m, is about 2–2.5 m. Along the walls and at the corners, seven towers have been preserved. In one of them, arrow-shaped loopholes are traced. The entrance is located in the middle of the southeast wall, in the form of a washaway. Inside the fortress, in the southeast and southwest corners, the remains of separate structures with an area of 20×10 m and 10×10 m were recorded.

The fortress of Zhana-kala is located 14.2 km west of the settlement of Chirik-rabat, 4.6 km northwest of the fortress of Karabas, on the right bank of Zhanadarya. It was discovered in 2017 by the route group of the Chirikrabat archaeological expedition.

The monument is located on the northwestern border of the oasis. In the middle of the valley passes the channel flowing from Zhanadarya. Opposite the entrance southeast of the fortress, a reservoir was discovered, which was filled, presumably, directly from the canal. The main channel of the canal, on both banks of which the outlines of fields and agricultural planning are traced, passed on the south side of the fortress. The fortress of Zhana-kala is a rectangular structure with rounded corners. It is oriented by angles on the sides of the world. The length of the monument is 95–107 m, the width is 73–76 m. On the outer walls, which have been preserved to a height of 0.4 to 1 m, the towers are not traced and apparently they were not. The gate to the fortress 6 m wide is clearly defined on the central section of the southern wall. Fragments of ceramics were collected on the surface of the fortress and an iron arrowhead was found.

Discussion

The monuments described above, as well as materials obtained as a result of excavations and reconnaissance studies of these objects, actually, are the basis of archaeological sources, on the basis of which, it seems, conclusions can be drawn about the level of socio-economic and cultural development of society in the lower Syr Darya in the second half of the 1st millennium BC. Almost completely preserved settlement layouts provide a unique opportunity to reconstruct the settlement structure, define the principles of the organization of the settlement space within the irrigated territory, and hypothetically express assumptions about the social structure of society. In the range of the Chirikrabat archaeological culture there are ancient settlements and sites various in area and layout. Based on a comparative analysis of all these monuments, it is possible to identify the characteristic features of a particular type of settlement, which gives reason to objectively identify a certain hierarchy within the entire array of these objects, which is clearly traced even at the highest taxometric level. All these data give reason to express assumptions about the public and, possibly, administrative-state organization of the Chirikrabat archaeological culture as a whole.

Conclusions

Studies have shown that the East Aral region of agriculture arose on the basis of the cultures of the local population of the late Bronze Age – the end of 2nd thousand BC and the Saka population of the East Aral Sea, who inhabited this territory in the first half of the 1st thousand BC.



A study of objects of the middle and second half of the 1st millennium BC showed that the Chirikrabort archaeological culture, formed on the basis of the Saka culture of the early Iron Age, developed as a settled-agricultural culture. There is every reason to believe that the population of agricultural oases were descendants of pastoralists who left the Early Saka burial mounds of South Tagisken, Uigarak and Sengirtam 2 and were influenced by the Saka from the east, and from the north – by Savromat cattle breeding tribes. The process of forming the Chirikrabort archaeological culture at an early stage was significantly influenced by the agriculture of Khoresm. In addition, according to archaeological data, of course, traditional cultural ties with the Sarmatian population of the southern Urals (Prokhorov culture) are traced. At a later stage, starting from the 3rd century BC, cultural and trade ties of the population of the lower Syr Darya with the southern Hellenized regions of Central Asia – Sogdiana and Bactria – are clearly traced.

The presence of large settlements of specialized craft production, large fortifications, a mausoleum (pantheon), burials, a large number of small rural settlements and individual estates suggests that society in the lower Syr Darya of the middle and second half of the I millennium BC on the borders of the Chirikrabort archaeological culture was an early state entity.

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