D. Ozherelyev
T. Mamirov

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Dmitry Ozherelyev[1], dmit.ozherelyev@gmail.com,
Talgat Mamirov[2], talgatmamirov@gmail.com
[1]Institute of Archaeology of the Russian Academy of Sciences,
Moscow, Russia;
[2]Margulan Institute of Archaeology,
Almaty, Kazakhstan

Research of the Stone Age in the western part of the Trans-Ili Alatau
(Southeastern Kazakhstan) in 2021-2022*

The article outlines the brief results of the study at the new sites of the Upper Paleolithic Uzynagash 1–9 and Saryzhazyk 1–2. The archaeological monuments were discovered in 2021 in the western part of the Trans-Ili Alatau (Northern Tien Shan). The sites contain cultural layers from both the initial and final stages of the Upper Paleolithic period. Most of the layers include areas and clusters of stone artifacts. These archaeological sites play a crucial role in reconstructing cultural shifts during the Upper Paleolithic era in the foothills of the Northern Tien Shan and the surrounding areas.

Keywords: Upper Paleolithic, Tien Shan, stone industry, Saryzhazyk 1–2 sites, Uzynagash 1-2 sites

Дмитрий Викторович Ожерельев[1],
Талғат Базарбайұлы Мамиров[2]
[1] РҒА Археология институты,
Москва қ., Ресей
[2] Ә.Х. Марғұлан атындағы Археология институты,
Алматы қ., Қазақстан

2021–2022 жж. Іле Алатауының батыс бөлігіндегі тас дәуірінің зерттелуі
(Оңтүстік-Шығыс Қазақстан)

Мақалада кейінгі палеолиттің жаңа Ұзынағаш 1–9 және Сарыжазық 1–2 жаңа тұрақтарында жүргізілген зерттеулердің қысқаша нәтижелері сипатталады. Ескерткіштер 2021 жылы Іле Алатауының (солтүстік Тянь-Шань) батыс бөлігінен анықталды. Тұрақтар кейінгі палеолиттің ерте және кейінгі уақыттарының мәдени қабаттарынан тұрады. Мәдени қабаттардың үлкен бөлегін ошақтар мен тас жәдігерлер құрайды. Ескерткіштер солтүстік Тянь-Шань мен іргелес аймақтардың кейінгі палеолит кезеңіндегі мәдени өзгерістерін реконструкциялауда маңызы зор.

Түйін сөздер: кейінгі палеолит, Тянь-Шань, тас индустриясы, Ұзынағаш 1–9, Сарыжазық 1-2

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Дмитрий Викторович Ожерельев[1],
Талгат Базарбаевич Мамиров[2]
[1] Институт археологии РАН, г. Москва, Россия;
[2] Институт археологии им. А.Х. Маргулана, г. Алматы, Казахстан

Исследования каменного века в западной части Заилийского Алатау
(Юго-Восточный Казахстан) в 2021-2022 гг.

В статье описываются краткие результаты исследования на новых стоянках верхнего палеолита Узынагаш 1–9 и Сарыжазык 1-2. Памятники были обнаружены в 2021 году в западной части Заилийского Алатау (Северный Тянь-Шань). Стоянки содержат культурные слои ранней поры и поздней поры верхнего палеолита. Большая часть культурных слоев включает очаги, прокалы и скопления каменных находок. Памятники имеют важное значение для реконструкции культурных изменений в эпоху верхнего палеолита в предгорьях Северного Тянь-Шаня и прилегающих территорий.

Ключевые слова: верхний палеолит, Тянь-Шань, каменная индустрия,- Сарыжазык 1–2,- Узынагаш 1-2

In 2021-2022, a joint Palaeolithic expedition both of the Institute of Archaeology of the Russian Academy of Sciences (Moscow) and the Margulan Institute of Archaeology (Almaty) conducted comprehensive studies of Palaeolithic sites in the western part of the Trans-Ili Alatau (Northern Tien Shan, Southeastern Kazakhstan). The work was carried out within the framework of a long-term research program on the basis of a cooperation agreement between two academic institutions [Ozherelyev *et al*. 2021]. In this region, exploration and the first excavations were carried out on new sites of the Upper Palaeolithic.

During the exploration in the autumn of 2021, a new complex of archaeological sites was discovered – Uzynagash 1–9. The sites are located 52 km south of Almaty (Zhambyl district, Almaty region). They are situated in the valley of the eponym river, at the mouth of the river as it emerges from the gorge. Nine sites were found here at a distance of about 1 km on the right and left banks. In the surveyed area, there are two terraced levels of the Uzynagash River. The distance in height between them exceeds 20 m. The discovered Palaeolithic sites are in loess deposits of the first floodplain terrace (Fig. 1). This terrace was formed in the second half of the Late Pleistocene. The absolute height of the sites is 1100–1125 m above sea level.

The lithic finds were found in small loess outcrops and in scree in talus deposits as accumulations, sometimes as isolated finds. The accumulations of finds seem to come from archaeological strata. Hight concentrations of finds were numerated as one Palaeolithic complex. A sample collection of 125 objects was collected from different sites (1–9) (Table 1). Among the findings of primary reduction, various categories of products are presented: core preform (1 object), lithic cores (6 objects), core rejuvenation flake (1 object), crested blades (3 objects), blades (4 objects), bladelet (1 object), blade fragments (13 objects), bladelet fragment (1 object), flakes (36 objects), flake fragments (38 objects), shatters (6 objects), debris (1 object). The tool set contains 14 finds: scrapers (6 objects), scaled piece (1 object), notched tool (1 object), retouched blade fragment (1 object), retouched flakes (3 objects), retouched flake fragments (2 objects).

A similar lithic industry based on the same kinds of raw materials is determined at all sites. The most indicative implements from the collection are cores, blanks and tools. Four of six cores show the parallel prismatic flaking technique. Two of them are unifacial, two are bifacial, but all of them are one-sided cores. The flake surface is large and convex. Its back was intentionally flattened. The striking platforms in three cases were prepared with faceting. The angle of detachment of blanks from the cores ranging from 74 to 84 degrees. The dimensions of the cores vary between 12.4 cm and 4.2 cm. The width of the striking platform is slightly larger or slightly smaller than the length. The required blanks removed from such cores were either large blades or elongated flakes (in this case, the term “blade-like flakes” is quite appropriate). The well-worked cores allow to produce small blade-lake

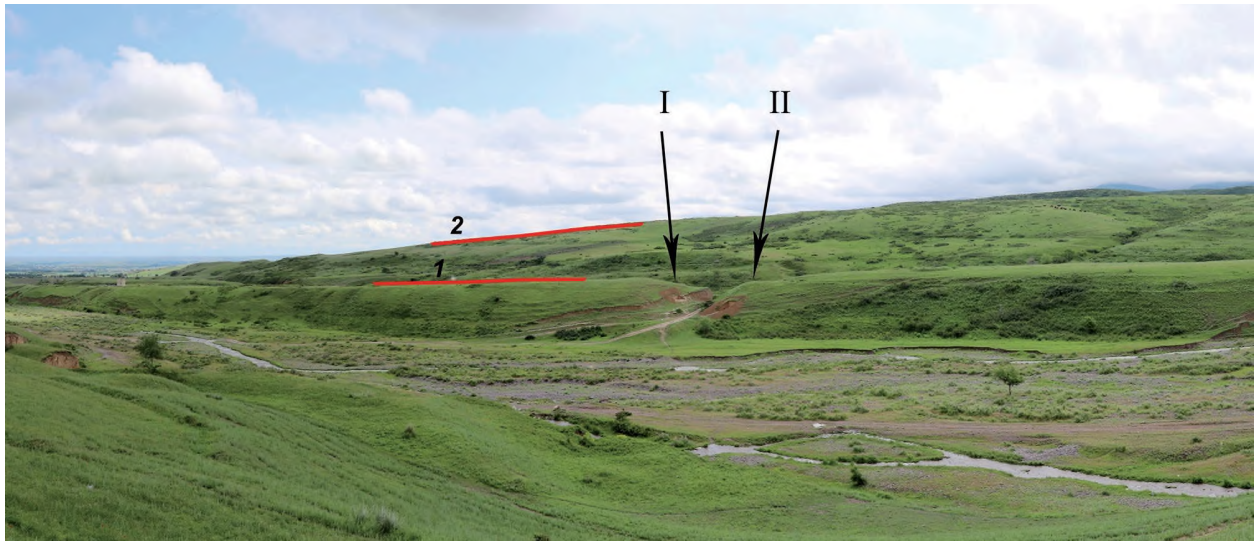


Fig. 1. View of the Uzynagash 1 (I) and Uzynagash 2 (II) archaeological sites.
The red lines indicate two terraced levels of the Uzynagash River in the archaeological sites area
1-сур. Ұзынағаш 1 (I) және Ұзынағаш 2 (II) тұрақтарының көрінісі.
Қызыл сызықтармен тұрақ аймағындағы Ұзынағаш өзенінің екі қапталының деңгейі көрсетілген
Рис. 1. Вид на стоянки Узынагаш 1 (I) и Узынагаш 2 (II).
Красными линиями обозначены два террасовых уровня реки Узынагаш в районе стоянок

flakes. The blades and their fragments from the collections correspond to the flake scars on the cores both in terms of raw materials and dimensional characteristics. The collection includes a large blade of 10.8×5.4×2.0 cm in dimensions and bladelets of about 4-5 cm in length. An important technological indicator is that: the width of blade-like flakes almost always approaches ½ of the length, *i.e.* a wide-width of blade-like flakes and similar ones was determined. It is noted, bladelets (one complete and one fragmented) are few, both curved. One of them is twisted.

The tool assemblage is predominated by a significant and representative subgroup of scrapers. The scrapers are made on elongated flakes (blade-like flakes), or on retouched large blades. They are grouped into end scrapers and double-end scrapers with convex or unilaterally beveled edges. The retouch is large, abrupt, sometimes stepped. Regular and intensive retouching of the lateral sides is observed only on one scraper. More often, small fragments of the laterals are retouched with irregular, fine, and medium flat retouch.

Retouched flakes and their fragments (5 objects) have quite large dimensions. Except for one specimen measuring less than 5 cm, the others are over 5 cm along one axis. The tools cannot be classified into series; all of them are unique.

By general technical and typological characteristics, the lithic assemblage from all the sites can be attributed to the early periods of the Upper Palaeolithic without further detailed specification. The sites form a large unified complex with a great research potential. The complex indicates high occupation of the valley at certain periods of the Upper Palaeolithic. It should be noted that two cores showing a more archaic characteristics with centripetal knapping were found at the Uzynagash 3 site. One of them is a Levallois-type core of large size (18.0×17.2×6.1 cm), well worked, one-sided, unifacial with a prepared striking platform. It served to produce large blade-like flakes. The other core is for flakes. It is small, discoidal (4.0×3.8×2.5 cm), bifacial. Such cores can highlight earlier complexes at the third site, preceding the blade industries of other sites. At the same time, the presence of similar cores was attested in some other early Upper Palaeolithic sites (layers of settlements) in Southern and Southeastern Kazakhstan (Valikhanov and Maybulak site). There, they are an integral part of a unified lithic industry [Taimagambetov, Ozherelyev 2009].

In May-June 2022, excavations were conducted for the first time at the Uzynagash 1 and 2 Upper

Table 1 – Stone inventory of the complex of Paleolithic sites – Uzynagash 1–9
1-кесте – Ұзынағаш 1–9 палеолит ескерткіштері кешенінің тас құрал-саймандары
Таблица 1 – Каменный инвентарь комплекса палеолитических памятников – Узынагаш 1–9

No.	Item name	Uzynagash 1-2	Uzynagash 3	Uzynagash 4	Uzynagash 5-6	Uzynagash 7	Uzynagash 8-9	single finds above Uz. 7	TOTAL
LITHIC REDUCTION GROUP AND PRODUCTION WASTE									
1	Core preform						1		***1***
2	Cores	1	3	1			1		***6***
3	Core rejuvenation flake		1						***1***
4	Flakes	5	8	1	9	7	3	3	***36***
5	Blades	2					2		***4***
6	Crested blades	1			1		1		***3***
7	Bladelets		1						***1***
8	Fragments of blades	3			8		1	1	***13***
9	Bladelet fragments				1				***1***
10	Flake fragments	2	1		31	4			***38***
11	Shatter				5	1			***6***
12	Debris				1				***1***
TOOL ASSEMBLAGE									
13	Scaled piece				1				***1***
14	Notched tool				1				***1***
15	Scrapers	3	1		2				***6***
16	Retouched flakes		3						***3***
17	Retouched flake fragments				2				***2***
18	Retouched blade fragments				1				***1***
TOTAL PRIMARY REDUCTION GROUP AND PRODUCTION WASTE		*14*	*14*	*2*	*56*	*12*	*9*	*4*	***111***
TOTAL TOOL ASSEMBLAGE		3	4	0	7	0	0	0	***14***
TOTAL		***17***	***18***	***2***	***63***	***12***	***9***	***4***	***125***



Fig. 2. View of the Uzynagash 1 archaeological site at the end of the excavations in 2022
2-сур. 2022 жылғы қазба соңындағы Ұзынағаш 1 тұрағының көрінісі
Рис. 2. Вид на стоянку Узынагаш 1 в конце раскопок 2022 года

Palaeolithic sites (Fig. 1). At the Uzynagash 1 site, three archaeological layers with lithic artifacts were discovered in loess deposits at depths of -6.05/-6.80 m (S=19 sq. m.) (Fig. 2). Given that the site was only investigated in a limited stratigraphic area, the actual number of archaeological layers may be greater. The lithic assemblage totals 4,390 artefacts, including cores, core blanks, hammerstones, flakes, blades and bladelets, scars, debris, scales (Fig. 3).

The tool assemblage includes different categories of many types of scrapers carinated cores-scrapers and cores-burins, retouched blades, end scrapers, and some others. The raw material is various and local: porphyries, various effusive rocks (tuffites), quartz, chalcedony, jaspers, marls, siltstone, flint, sandstone, rhyolites, granites. In addition to the lithic industry, typical settlement features were found at the site: two in-depth fireplaces, a hearth, and a household pit. Based on the characteristics of the lithic assemblage, the site is attributed to the early Upper Palaeolithic period (~ 33000–28000 thousand BC). It is considered as a typical long-term occupation site [Ozherelyev, Mamirov 2023].

Another site, the Uzynagash 2, is located 20 m south of the Uzynagash 1 site across a small natural saddle (Fig. 1). At the Uzynagash 2 site, an excavated stepped stratigraphic trench showed 10 m of loess deposits. Two archaeological layers were identified at the site: layer 1 (depth -5.50/-5.70 m) and layer 2 (-7.50/-7.60 m). The upper archaeological layer contains two human occupations with hearths and concentrations of finds (270 objects). There is a close analogy with the industry from the Uzynagash 1 site. The lower layer includes rare small-



Fig. 3. Stone finds from archaeological layers 1–3 of the Uzynagash 1 site. 2022: 1–6 – carinated cores-scrapers; 7-8 – cores; 9-10, 16 – plates; 11-12, 17–29, 42 – scrapers of various types; 13 – knife with a spine; 14-15 – end racloirs; 30–41 – plates and microplates

3-сур. Ұзынағаш 1–3 тұрақтарының мәдени қабатынан табылған тас құралдар. 2022 ж.: 1–6 – кареноидты нуклеус-қырғыштар; 7-8 – нуклеустар; 9-10, 16 – пластиналар; 11-12, 17–29, 42 – әртүрлі қырғыштар; 13 – үгіткіш пышақ; 14-15 – үшкір қырғыштар; 30–41 – пластинкалар мен микропластиналар

Рис. 3. Каменные находки из культурных слоев 1–3 стоянки Узынагаш 1. 2022 г.: 1–6 – кареноидные нуклеусы-скребки; 7–8 – нуклеусы; 9-10, 16 – пластины; 11-12, 17–29, 42 – скребки различных типов; 13 – нож с обушком; 14-15 – концевые скребла; 30–41 – пластинки и микропластины

sized lithic artifacts (27 objects) in porphyry of undiagnosted forms. In general, the archaeological material from the Uzynagash 1 and 2 sites has analogies with the many sites characterised by Aurignacian assemblages.

Thus, a new group of sites with highly representative archaeological *in situ* material is distinguished. For future, it allows to research the early Upper Palaeolithic period in the foothills of the Northern Tien Shan.

In 2021-2022, excavations were conducted at the new Saryzhazyk 1 site (S=16 sq.m.). The site is located at an altitude of 1776 m above sea level in the intramontane area of the Kastek Valley (Almaty region). Only one archaeological layer is found in loess deposits overlying the Late Pleistocene terminal moraine (Fig. 4).

The total lithic collection is 633 objects. The raw material is burgundy porphyry. Presumably, the Saryzhazyk 1 site dates to the late Upper Palaeolithic period. The site is defined as a short-term site and workshop. Another the Saryzhazyk 2 site is located 235 m north of the Saryzhazyk 1 site, on an earlier terminal



Fig. 4. View of the Saryzhazyk 1 (excavation trench) and Saryzhazyk 2 settlements (indicated by an arrow).
The red line on the excavation trench indicates the level of the archaeological layer

4-сур. Сарыжазық 1 (қазба) және Сарыжазық 2 (меңзермен көрсетілген) тұрақтарының көрінісі.
Қазбадағы қызыл сызық мәдени қабаттың деңгейін көрсетеді

Рис. 4. Вид на стоянки Сарыжазык 1 (раскоп) и Сарыжазык 2 (указана стрелкой).
Красная линия на раскопе указывает на уровень культурного слоя

moraine. It highlights early Upper Palaeolithic finds. The discovery of two Upper Palaeolithic industries of several periods on different terminal moraines allows to correlate Upper Palaeolithic cultures with late Pleistocene climatic events [Ozherelyev et al. 2023].

Thus, further research at the Uzynagash 1–9 and Saryzhazyk 1-2 sites will allow us to detail the chronology, cultural context and periodisation of the early Upper Palaeolithic period in the foothills of the Northern Tien Shan, as well as outlining the dispersal area of these industries compared to neighboring cultural areas.

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