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EARLY PALEOLITHIC OF EURASIA: NEW DISCOVERIES

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ABSTRACTS

EARLY PALEOLITHIC SITES ON THE TAMAN PENINSULA (SOUTHERN AZOV SEA REGION)

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The currently available evidence allows one to think that shortly after their appearance in the rift zone of East Africa, the first humans began to colonize other regions, including Eurasia. This is evidenced by the presence of Oldowan sites in the Arabian Peninsula (Amirkhanov, 2006), Northern and Eastern Mediterranean (Bosinski, 1996), the Balkans (Sirakov, Guadeli, 2004), and the Southern Trans-Caucasus (Gabunia et al., 2001). Recently they have also been discovered on the northern slope of the Caucasus, in Dagestan (Amirkhanov, 2007).

The problem of the initial occupation of the temperate zone of Eurasia, which includes nearly all regions in the south of Russia, provokes a particular interest. Of special importance in this respect are the Early Paleolithic sites, which have been discovered recently on the Taman Peninsula in the south of the Azov Sea region (Shchelinsky, Kulakov, 2005, 2007). It should be noted that some materials indicative of the presence of Early Paleolithic sites in this region were found in the last century. They came from the sand quarry of Tsympal on the shore of the Taman Gulf. Initially this site attracted scholars owing to numerous finds of fossil animal bones coming from fluvial cemented pebble beds and layers of ferruginous sand. According to N.K. Vereshchagin (1957), bone materials belong to the Taman faunal complex. The complex is dated to the period of 1.1–0.8 Ma (Vangengeim et al., 1991). The faunal remains found at the site include fractured long bones, scull fragments, and isolated teeth of *Archidiskodon meridionalis*, *Elasmotherium caucasicum*, archaic horses, deer, etc. It is thought that the bones belong to animals, which died due to natural causes. At the same time, judging by the composition, preservation, and occurrence of the bones, one may assume that Early Paleolithic humans could have

played some role in their accumulation at the site (Shchelinsky, 2005). This is quite possible, as Vereshchagin (1957) also noted the presence of bones broken by man. Stone tools found at the site confirm this assumption. Some of them were found on the surface (Formozov, 1962). We have discovered several stone objects with apparent traces of intentional modification, which occurred together with animal bones. One may hope that in future this site will yield true Early Paleolithic materials.

Especially informative are two newly discovered Early Paleolithic sites: Bogatyri/Sinyaya Balka and Rodniki. They are situated on the northern shore of the Taman Peninsula, in 15 km SE of Tsymbal and 1 km west of the Peresyp settlement.

The archaeological site of Bogatyri/Sinyaya Balka is confined to the famous paleontological site of Sinyaya Balka, which serves as the stratotype of the Taman faunal complex dated to the Eopleistocene (Early Pleistocene). The absolute height of the site is 28–30 m, and it is associated with a coastal area strongly affected by landslides. The excavations have shown that the deposits containing cultural remains are in a dislocated position. However, the hypothesis of the mudflow origin of these sediments, widely accepted by earlier investigators, cannot be confirmed. It has been established that the culture-bearing deposits are sharply delimited from the south by dark gray Pliocene clays. The line of contact between these two different units is quite clear; it stretches from east to west. The observed thickness of the culture-bearing deposits does not exceed 5–6 m.

The deposits that encompass archaeological materials show a sequence of layers with subvertical occurrence. Probably, this is due to tectonic processes and mud volcanism, both of which are very active in the region under consideration. All in all, three layers can be distinguished.

The lowermost one (layer 3) is rich in clastic products and shows signs of water origin. It consists of rolled round and amorphous fragments (from 5 to 20–30 cm) of solid sand-detritus conglomerate, encompassing animal bone fragments and teeth, isolated blocks of dolomite, thin lenses of light-gray sand and silt with shell detritus. There are also thin streaks of dark-gray and brown clays. The contact with the dark-gray Pliocene clays is clear, uneven, with signs of displacement. The thickness of the basal layer is 0.4–0.9 m. It is overlain with layer 2, formed by light-gray and yellowish sand with small lenses of rubble, brown clay balls, rare rock debris, and isolated spheroid sand-carbonaceous concretions with inclusions of bone fragments. The thickness of this layer is about 2 m. Superposed on it is layer 1. It is remarkable for the abundance of big and small bone fragments, belonging mainly to *Archidiskodon meridionalis tamanensis* and *Elasmotherium caucasicum*. Many of the bones dip at a high angle or occur nearly vertically (dislocated together with the layer). There are many broken and almost intact skulls, teeth, pelvis, scapulae, vertebrae (not infrequently in anatomical articulation), fragments of long bones and ribs. The

bones occur in the substrate of sand and small compacted rock debris, containing an admixture of dolomite fragments and inclusions of dark gray clay. The contact with the sands of layer 2 is clear, uneven, with erosion pockets. The observed thickness of this layer is 1.5 m. Its upper part seems to have been disturbed by hill slope erosion.

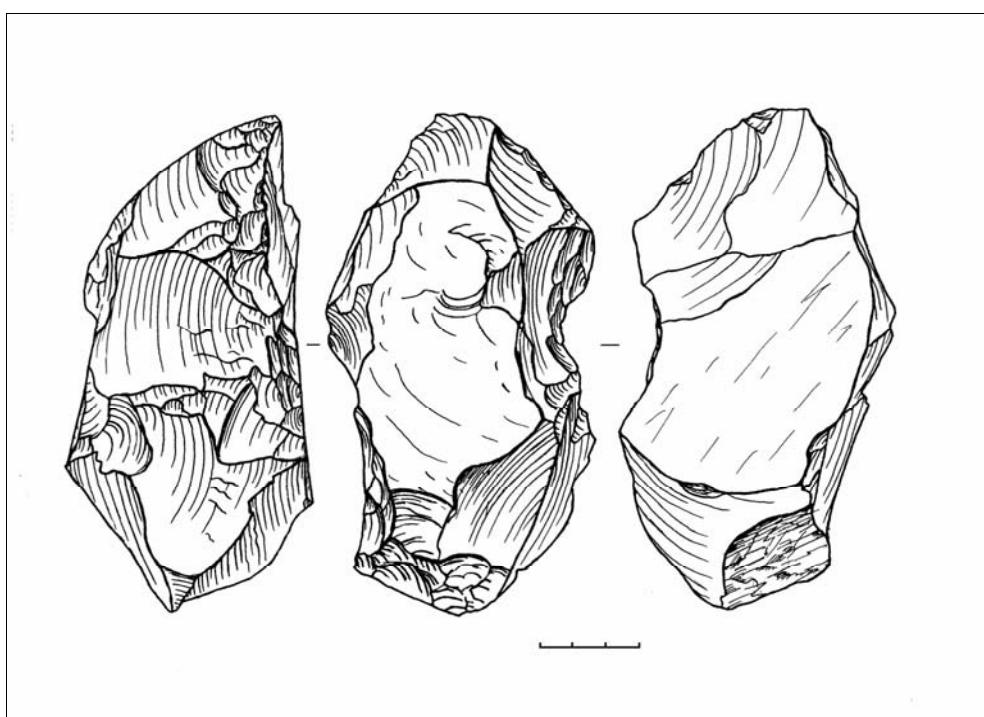


Fig. 1. Early Paleolithic site Rodniki. Pick of oviform-elongated form at the flinders of dolomite

Four main stages of the site formation can be reconstructed. In the first stage layers 3 and 2 formed in the conditions of a shallow estuary or lagoon. They contain isolated stone artifacts and bones, which experienced some rolling and partial ferrugination. They are covered with cemented sand cortex. The sands of layer 2 display no lamination, which points either to unevenness of the stream or reworking of the sand. Layer 1 formed in littoral conditions. Subsequently it was partly reworked and eroded by a mudflow (most probably of mud-volcanic origin). Finally, in the last stage due to tectonic processes and hillslope erosion all the strata were deformed by a diaper fold, slid down the slope, and overturned at about 100°.

The palynological analysis of the deposits has shown the presence of redeposited Pliocene pollen, which is particularly well represented in the bone breccia.

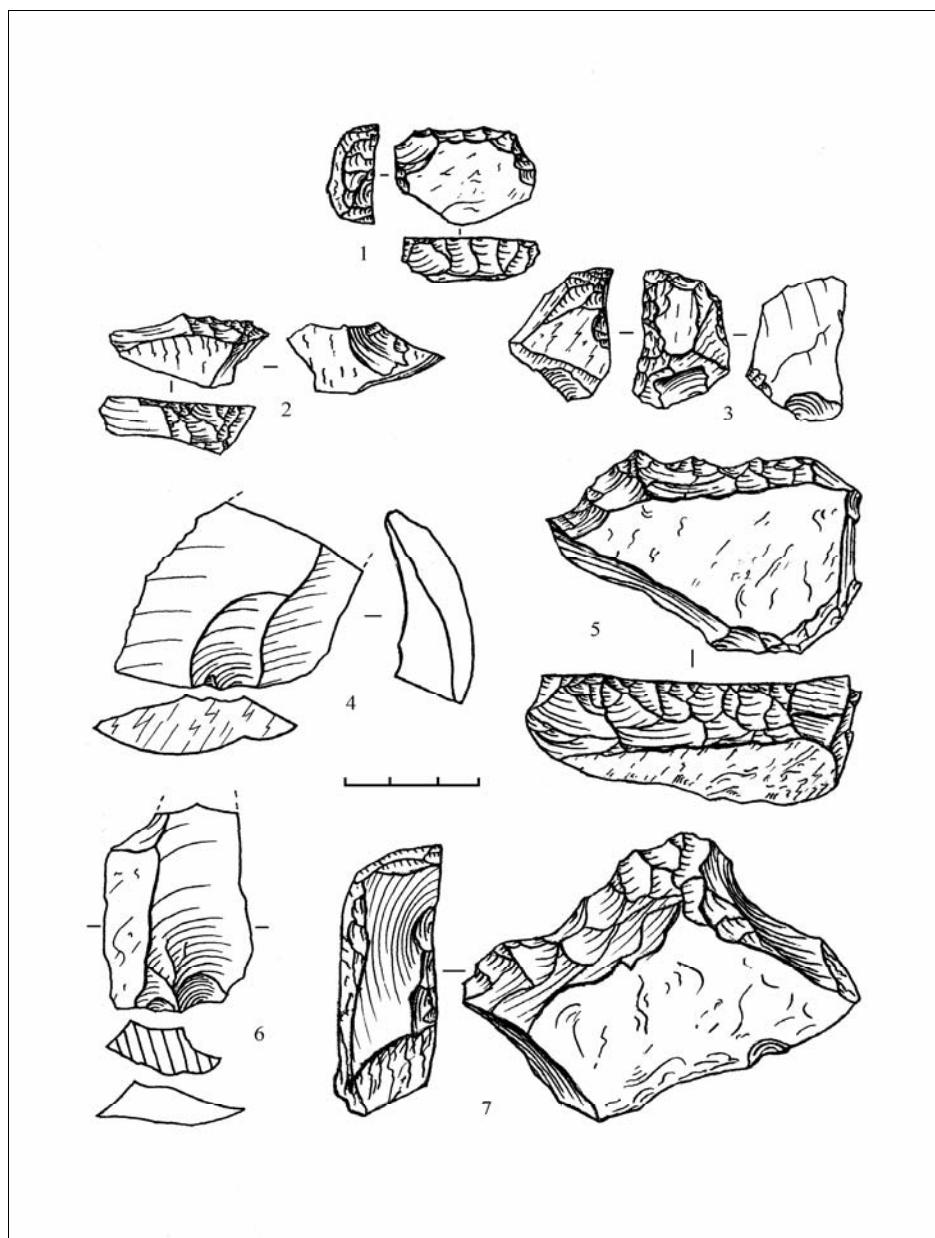


Fig. 2. Early Paleolithic site Rodniki. Dolomite tools: 1 – endscraper 2 – small tool with indented blade; 3, 7 – beaked tools; 4, 6 – flakes; 5 – scraper-like tool with a pike on blade

The pollen spectra from the basal part of the section (layer 3) are dominated by *Asteraceae* and *Chenopodiaceae*. The arboreal group is represented by single grains of *Pinus*, *Tsuga*, *Abies*, *Quercus*, *Betula*, *Salix*, *Corylus*, and

Carpinus. These spectra are indicative of forest-steppe and steppe landscapes, with herbs dominating on watersheds, and pine/small-leaved forests (with some participation of broad-leaved species) growing in river valleys. Layer 2 yielded no pollen.

The pollen spectra from the bone breccia (layer 1) are dominated by redeposited pollen of the Upper Pliocene age (up to 90 %). There is pollen of *Pinus* sp., *Tsuga*, *Taxodiaceae/Cupressaceae*, *Podocarpus*, *Picea* sp., *Abies*, *Ulmus pumila*, *U. suberosa*, *U. foliaceae*, *Juglans*, *Pterocarya*, *Platycarya*, *Engelhardtia*, *Fagus*, *Tilia*. The available palynological data and correlations suggest the Eopleistocene-Early Pleistocene age of this (Kuznetsova, 1964; Bolikhovskaya, 1995; Grichuk, 1989).

Small mammal remains were found in the course of our excavation in layer 3 (*Lagurodon arankae*) and 1 (*Mimomys* ex gr. *savini*, *Lagurini* gen.). They point to the Eopleistocene age of the encompassing deposits.

Cultural remains and animal bones were found in all three layers. Layers 3 and 2 produced sporadic bones and stone artifacts. Layer 1 yielded numerous bones, while stone artifacts were relatively rare. They occur in close association with the bones, and therefore the distribution of finds is reminiscent of the picture characteristic for occupation sites. In fact, it does not differ much from the pattern observed in open air Paleolithic sites.

The collection of indisputable stone artifacts coming from Bogatyri/Sinyaya Balka consists of some 200 objects. They are identical by raw material (solid varieties of brown and gray dolomite available in the form of plates and platy fragments) and degree of patination. Single cores represent fragments of plates with either no special preparation at all or minimal preparation of the striking platform. Well pronounced is the technique of fragmentation of slabs and plates with the purpose of obtaining massive blanks for tool manufacture. There are tools of different size and shape. Handaxes are absent, tools on flakes are very rare. Most conspicuous are high massive sidescrapers, core-like endscrapers, picks, beaked tools, small thick points, notches and denticulates. There are also sporadic choppers. In many of its typological and technological characteristics the industry of Bogatyri/Sinyaya Balka is similar to the Oldowan industry. At the same time it has a number of well pronounced specific features, too. Most of them seem to have been caused by the character of raw material. Thus the industry can be defined as the Taman variant of Oldowan.

The site Rodniki is situated in less than 100 to the west from Bogatyri/Sinyaya Balka. It has, however, different geological settings. The layer, which encompasses archaeological finds, lies at the base of the series of deposits, forming a terrace-like surface with the absolute height of 32 m. The site is conventionally divided into two parts: the eastern part or Rodniki 1, and the western part or Rodniki 2. These parts have not yet been correlated with each other, and they differ in the character of the culture-containing layer.

The section of Rodniki 1 can be divided into three units. The upper one is formed by slope sandy loams and a weakly developed modern soil. The underlying unit (8-10 m thick) consists of yellow and yellow-gray laminated littoral sea sands. The lower unit (1 m) is formed mainly by coarse-grained materials. It can be subdivided into three layers. The basal layer, resting on the dark-gray Pliocene clays, is represented by poorly rounded rock debris with dolomite blocks and rare dolomite pebbles, and gray sand as a matrix. It is overlain with a layer consisting of rubble and rock debris with brown clay rolls and intermittent streaks of gray silt. The top of the unit is formed by a layer of brown clay with sand. Cultural remains come from the basal layer. Its age can be assessed on the basis of the small mammal fauna from the overlying layer. Among other species, this fauna includes *Allophaiomys ex gr. pliocaenicus* and *Lagurodon arankae*, which are characteristic of the Eopleistocene (Early Pleistocene) of South Europe.

The excavation area of 12 m² gave 40 indisputable artifacts. They lay in sand among blocks and rock debris and formed a horizon (15–20 cm thick) in the lower part of the layer. Some artifacts lay on the contact with the Pliocene clays. There are small and big tools (picks, high massive sidescrapers, choppers, core-like endscrapers, beaks, etc.) as well as cores and flakes (fig. 1–2). All these artifacts are made of the same raw material that was used at Bogatyri/Sinyaya Balka, and from the techno-typological point of view the two industries have much in common too.

Rodniki 2 was found thanks to a big landslide on the coastal slope, which created a high natural exposure. The absolute height of the brow of this section is 32 m. The section is very similar to that of Rodniki 1. Its basal layer, resting on the dark gray Pliocene clays, also is formed by weakly rounded rock debris with blocks, rare pebbles, and light-gray sandy matrix. It also contains cultural remains. However, as distinct from the basal layer of Rodniki 1 it is clearly laminated and consists of 2–3 sublayers separated by sand. Archaeological finds here are not so numerous. The layer yielded 28 stone artifacts (flakes, tools) and small bone fragments. The first impression is that the stone tools of Rodniki 2 show no substantial difference with those of Rodniki 1. It seems highly probable that Rodniki 1 and 2 are parts of the same Early Paleolithic site. As to the chronological correlation of this site with Bogatyri/Sinyaya Balka, the question still remains to be explored. The only thing one can say now is that the two sites date to the Eopleistocene (Early Pleistocene).

The discovery and study of the Early Paleolithic sites on the Taman Peninsula greatly contributes to our knowledge of the Early Paleolithic in Eurasia. It is becoming more and more obvious that the steppe regions of South-Eastern Europe were first populated by people as early as at least the middle of the Eopleistocene (Early Pleistocene). It appears that the initial occupation of the region was facilitated by favorable environmental conditions, which existed here in the beginning of the Quaternary period.

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