Kapova cave investigations

Kapova cave is situated in the Southern Urals (Bashkiria, Russia), on the territory of Shulgan-Tash nature reserve in UNESCO Bashkiriskiyi Ural Biosphere Reserve. The Upper Paleolithic wall paintings were discovered in Kapova cave in 1959. The archaeological research in the cave was conducted by O.N. Bader (1960-1978) and V.E. Shchelinsky (1982-1991) (Ščelinsky, Širokov, 1999). T.I. Shcherbakova and V.G. Kotov carry out research in the 2000s. The South Urals archaeological expedition of the Lomonosov Moscow State University started to work at Kapova cave in 2008 (Zhitenev, 2016).

Among the images depicted, one can come across such vivid representatives of mammoth fauna as horse, woolly mammoth, bison, woolly rhino, two-humped camel, figure of fish, unidentified carnivore (feline?). Single zooanthropomorphic figure are of special interest. The principal array of images in the Kapova cave are geometric signs, unidentifiable spots of red pigment, which are partially blurred shapes, partly the remains of erased drawings, and partially traces of Paleolithic artistic activities of unknown origin. The microstratigraphic position of the remains of intentionally erased images, above which the Paleolithic artist painted new animal shape and signs, has been revealed in some panels.

The age of the drawings in this panel cannot be accurately established yet, but the results of uranium-thorium dating of the calcite deposits on which the image is painted, and which cover it, unambiguously show that the time period during which the drawing was made was during the Upper Paleolithic age, which is no earlier than 37,700 years ago and no later than 14,500 years ago (Dublyansky et al., 2016). Only the upper part of cultural layers with traces of Paleolithic activity, about cal. 17,000 - 19,000 has been dated so far (Zhitenev et al., 2015).

Traces of short-term human presence found in cultural layers: hearths, charcoal, remains of organic objects; colorful pigments; pavements from fragments of limestone, stalactites and stalagmites; stone tools; lissoir-shaped tool, fragments of needles; ornamented marmot bones (fig. 1); personal ornaments from perforated fossil shells, ivory, fish vertebrae, deer's tooth, serpentinite and river pebbles. It should be noted among the numerous traces of human activity: dépôts from fragments of bones and stalactites; hidden concentration of colorful pigments and cave loam, broken palettes (fig. 2) and plaques (fig. 3) with fragments of drawings (not from walls); traces of manipulation with large blocks. A notable finding is a cup from burned loam.

Fig. 1. Fragment of an ornamented marmot ulna (Kapova cave, Dome Chamber, Upper Paleolithic cultural layer №5).
Discovery serpentinite raw materials and objects in the Upper Paleolithic layers on different floors makes it even more reasonable view of the Upper Paleolithic age serpentine cup, found outside the archaeological context. Using of serpentinite and the trans-Ural jasper in stone industry clearly indicates one of the movement’s directions of the Upper Paleolithic groups (between Kapova cave and Kraka Allochthon of Zilair Synclinoirium and Magnitogorsk Synclinoirium’s area) at a distance up to 150 km. Raw materials for personal ornaments made of fossil shells *Theodoxus cf. astrachanicus* Stew were delivered from Volga and the Caspian region at a distance from 500 km. Figure of two-humped camel (which did not live at this time in the Southern Urals) vividly confirms the theory of the Volga-Caspian direction of the connections among the people who created the sanctuary in Kapova cave.

![Fig. 2. Hidden broken palette (Kapova cave, the Dome Chamber).](image)

The artistic and stylistic features of the images, as well as features of the traces of human activity in the Kapova cave, show that the traditions of organization of underground sanctuaries are similar with
Upper Paleolithic caves in the Franco-Cantabrian region. However, at such a distance from the main European cluster of cave sites with wall paintings, local specifics in the development of graphic traditions inevitably arose. The long evolution of the traditions of cave art in the region is revealed by the fact that people living in the Southern Urals during the Upper Paleolithic painted not only the images of horses, bison, mammoths, and woolly rhinoceroses well known in European caves, but representations of the regional fauna as well. Analysis of stone industry (local Ural Upper Paleolithic culture, but with elements of Eastern European (?) features) confirms this assumption.

Monitoring of the state of the wall paintings will also continue, with the aim of studying the impact of dynamic factors of the underground environment on geochemical processes related to the destruction of wall paintings. It is carried out in a joint project with specialists from Shulgan-Tash Nature Reserve (Chervyatsova et al., 2016).

Bibliography

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