
Procurement and exploitation of lithic raw materials in the Paleolithic of the Central Caucasus

Ekaterina Doronicheva*¹, M. Steven Shackley², Marianna Kulkova³, and Elena
Odinokova⁴

¹ANO Laboratory of Prehistory – St.Petersburg, Russie

²Geoarchaeological XRF Laboratory, Department of Anthropology, University of California, Berkeley –
États-Unis

³Herzen State University – St.Petersburg, nab. Moyki 48/12, Russie

⁴Herzen State University – St.Petersburg, Russie

Résumé

Strategies employed by Middle Palaeolithic (MP) Neanderthals and Upper Palaeolithic (UP) humans to acquire lithic raw materials often play a key role in assessing human movements through the landscape, contacts with neighbouring groups, and cognitive abilities. The north-central Caucasus – located between the highest volcanic mountain peaks of Europe – Elbrus (5642 m asl) and Kazbek (5034 m asl) – is notable as producing the only obsidian source known in the Northern Caucasus. The source (called Baksan or Zayukovo) is located north-east of Elbrus in the Baksan river valley (Terek river basin). Since the mid 1950s, several groups of researchers undertook attempts to find Paleolithic sites in the region. However, only three stratified sites, Sosruko and Alebastroviiy Zavod rockshelters excavated in 1955-1957 (Zamiatnin, Akritas, 1957a; 1957b), and Badyukovo rockshelter, which was investigated in 2004 (Zenin, Orlova, 2006; Seletsky et al., 2017), provide evidence of human settling in the Baksan river valley during the terminal Pleistocene and early Holocene. The Middle Paleolithic sites are known in neighbouring areas, such as those found during the 1950–1960s in small surface localities in the north-eastern Caucasus (Liubin, Beliaeva, 2001) and in Weasel Cave, located in the Gizeldon river (Terek River upper basin), at the border with north-eastern Caucasus (Hidjrati et al., 2003).

Our field surveys in 2016 discovered the first stratified Middle Palaeolithic site in the Baksan obsidian region. The site, Saradj-chuko Grotto, is located in the Saradj-chuko River valley (a tributary of the Baksan River), and approximately 6 km from known obsidian sources. Technical-typological peculiarities allow us to define the industry as Levallois-laminar Mousterian. The Levallois and laminar characteristics, and the absence of bifacial backed knives differ the Mousterian industry of Saradj-chuko from the Eastern Micoquian industry of the north-western Caucasus (Kuban River basin) and find analogs among the Mousterian industries known in the north-eastern Caucasus (Terek River basin) and southern Caucasus. Here we present data on lithic raw material exploitation, obtained from petrography and geochemical analyses, and studies of archaeological collections from MP (Saradj-chuko Grotto) and UP (Sosruko Rockshelter) sites in the region. Regional flint and obsidian outcrops were examined by us during special field surveys in 2016-2017. In the result, we identified in the region several outcrops and alluvial placers of flints having grey, pink, and black color. The

*Intervenant

flint, which we discovered in primary outcrops, occurs in the Jurassic and Cretaceous limestone. Since 2016, we have started to collect an etalon source collection (lithotheque) of flints from the north-central Caucasus, and performed over 60 petrography and 40 geochemical analyses of flint samples from this region.

The study shows significant differences in raw material strategies applied by UP humans and MP Neanderthals. Raw material characteristics, such as quality, morphology, and availability contributed to differences in acquisition, procurement, transportation and use of stone at the Paleolithic sites in the Central Caucasus. Also, results of our studies of lithic raw materials, especially obsidians, suggest not only local cultural interactions within the region, but also some contacts with the Northern and Southern Caucasus. Our studies indicate that obsidian from the Baksan source occurs in MP layers in Mezmaiskaya Cave, located in the north-western Caucasus, ~250 km to west from the source, and that the Baksan obsidian source was a centre of attraction for both MP Neanderthals and UP modern humans (Doronicheva, Shackley, 2014). This obsidian transportation points to contacts between the populations of the north-western and north-central Caucasus, but the nature of these relationships remains to be determined. The research was funded by the Russian Scientific Foundation grant for the research project 17-78-20082, "Human-nature interaction in the Past in the Central Caucasus: dynamics of environmental change and technological innovations, and subsistence strategies".

Mots-Clés: lithic raw materials, raw materials sourcing, obsidian, petrography, geochemistry, Middle and Upper Paleolithic, Central Caucasus.