

THE SIBIRYACHIKHA FACIES OF THE ALTAI MIDDLE PALEOLITHIC

**A.P. Derevianko¹, S.V. Markin¹, V.S. Zykin², V.S. Zykina²,
V.S. Zazhigin³, A.O. Sizikova², E.P. Solotchina²,
L.G. Smolyaninova², and A.S. Antipov¹**

¹*Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences,
Pr. Akademika Lavrentieva 17, Novosibirsk, 630090, Russia
E-mail: derev@archaeology.nsc.ru; markin@archaeology.nsc.ru*

²*Institute of Geology and Mineralogy, Siberian Branch, Russian Academy of Sciences,
Pr. Akademika Koptiyuga 3, Novosibirsk, 630090, Russia*

E-mail: zykin@igm.nsc.ru; zykina@igm.nsc.ru; sizikova_a@ngs.ru; solot@igm.nsc.ru; lsmol@yandex.ru
³*Geological Institute, Russian Academy of Sciences,
Pyzhevsky Per. 7, Moscow, 119017, Russia
E-mail: zazhvol@gmail.com*

CHAGYRSKAYA CAVE: A MIDDLE PALEOLITHIC SITE IN THE ALTAI

This article presents the results of multidisciplinary studies conducted at Chagyrskaya – an Upper Pleistocene karst cave in the northwestern Altai where Middle Paleolithic stone tools and fossil remains of Neanderthals were found. Taphonomic aspects of the site are addressed, and results of science-based analyses including radiocarbon and paleomagnetic dating are presented. The deposits are similar to loess-like Upper Pleistocene loams of Western Siberia. Among the Middle Paleolithic industries of the Altai, the Chagyrskaya industry is paralleled only by that of Okladnikov (formerly Sibiryachikha) Cave. Both represent a local Middle Paleolithic Mousteroid facies, named Sibiryachikha after the eponymous site.

Keywords: *Geology, granulometric analysis, chemical analysis, micromorphological analysis, paleomagnetic analysis, loess, small mammals, Middle Paleolithic.*

Introduction

In North Asia, the Middle Paleolithic is primarily represented by the sites located in the Altai and contiguous regions of southern Siberia. The Middle Paleolithic began to form in the Altai at the end of the Middle Pleistocene (282–133 ka BP). Most sites date to 100.0–44.8 ka BP; the latest assemblages are 33.5 thousand years old

(Arkheologiya..., 1998; Prirodnaya sreda..., 2003). The material culture of the Altai Middle Paleolithic is generally homogenous (Prirodnaya sreda..., 2003). However, the technocomplexes from Okladnikov Cave dated to 44.8–33.5 ka BP possess specific technological and typological features (Derevianko, Markin, 1992). It was previously believed that the specificity of Okladnikov industries was mostly determined by both environmental

factors and cultural specificity. The analysis of lithics from the recently discovered Chagyrskaya Cave (Derevianko, Markin, Zykin, 2008; Derevianko et al., 2009) which are close to those from Okladnikov Cave, suggest that the cultural factor was critical.

Geological structure of the Charysh River valley in the Chagyrskaya Cave region

The cave is located in the ‘middle elevation’ mountain zone of the northwestern Altai, on the left bank of the Charysh River which drains the offshoots of the northern slope of the Tigirek Ridge (Fig. 1). The river elevation in the vicinity of the cave is 337.3 m asl. In the cave environs, approaching subhorizontal valley surfaces (50–70 m high and over 70 m wide) based on the Paleozoic bedrock are clearly observed. The elevated surfaces have smooth rear seams and indistinct edges. The cave faces north and is situated at the elevation of 25 m above the Charysh water level. The cave mouth opens on the vertical surface of an erosion terrace 50–60 m high. The terrace is composed of gray, thick Lower Silurian sandstone of the Chagyrskaya suite.

The cave consists of two chambers measuring approximately 130 m². Running from one of these chambers are three horizontal and vertical galleries

that are nearly completely filled with soft sediments. Well-rounded pebbles and boulder fragments of various rocks occur under a thick layer of modern soil on the horizontal terrace surface right above the cave. Rounded stones are also available in the filling of the cave and the vertical galleries. These stones were associated with the unpreserved ancient alluvium that originally occurred on high terrace-like surfaces. The secondary depression in the left bank of the river valley opposite the cave is filled with Pleistocene deposits, suggesting that the high terraces formed no later than the late Middle Pleistocene. They apparently mark the subsequent rise of the river, after which the karst cave emerged.

Cave sediments, their characteristics and deposition conditions

Numerous profiles, made to the depth of 3.6 m near the entrance and inside Chamber 1 of the cave revealed the following succession of strata:

Stratum	Thickness, m
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1. Light sandy loam of gray and dark greenish-gray color, non-carbonaceous, slightly compacted, with abundant small and well-rounded pebbles and rubble; contains	
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Fig. 1. General view of Chagyrskaya Cave.

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