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Early Humans at the eastern gate of Europe: The discovery and investigation of Oldowan sites in northern Caucasus

Premiers hommes de la porte orientale de l'Europe. Recherches et découvertes sur les sites d'Oldowan, Nord du Caucase

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ABSTRACT

This article presents the results of excavations and multidisciplinary investigations of the extraordinary Oldowan site of Muhkai II in the northern Caucasus (Republic of Dagestan, Russia) from 2008 to 2012. Archaeological and palaeontological materials are summarized together with data from palaeomagnetic and palynological analyses, obtained from 34 cultural layers at the site. This gives an opportunity for a new approach to the question of the timing and route of the first human settlement of the middle latitudes of western Eurasian, including south-eastern Europe. Judging by the data obtained, this occurred around 2 million years BP and a route of migration was located along the western shore of the Caspian Sea.

Mots clés :
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Oldowan
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RÉSUMÉ

Cet article présente les résultats de fouilles et de recherches multidisciplinaires sur le site extraordinaire Muhkai II d'Oldowan, dans le Nord du Caucase (république du Dagestan, Russie) de 2008 à 2012. Les matériaux archéologiques et paléontologiques, de même que les résultats d'analyses paléomagnétiques et palynologiques obtenus à partir de 34 niveaux du site, sont ici présentés. Tout ceci fournit l'opportunité d'une nouvelle approche à propos de l'itinéraire et de l'époque des premiers peuplements humains dans les moyennes latitudes de l'Europe occidentale, incluant l'Europe sub-orientale. D'après les résultats obtenus, leur

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installation remonterait à environ 2 Ma BP et la trajectoire de migration a été localisée le long du rivage occidental de la mer Caspienne.

1. Introduction

Three decades ago the discovery of Dmanisi in the western Eurasia reliably established the earliest traces of human settlement in southern Eurasia, where remains date back to ca. 1.85 million years BP (Ferring et al., 2011). Also there was other evidence of human presence in this region even earlier than Dmanisi (Ronen, 2006). Regarding the North Caucasus and the steppes of the North Caucasus piedmonts, the region has been the gateway from western Asia to south-eastern Europe since the remote past, but Lower Palaeolithic archaeological sites were unknown there until recently. It was considered self-evident that "À l'est, nos ancêtres arrivent à Dmanisi, à 1,7 Ma maximum [. . .] mais ils ne dépassent pas le Caucase puisque derrière ces montagnes les biotopes sont très différents et la temperature plus froide. Ce qui explique l'absence de fossiles au nord du Caucase datés du Pléistocène inférieur" (Jibert et al., 2008).

In this context, the discovery and investigation of Early Palaeolithic sites in northern Caucasus (Amirkhanov, 2007; Amirkhanov et al., 2012) are important scientific events of the last decade. As a result, the Oldowan, the longest archaeological epoch, can be included in the earliest prehistory of this region for the first time. From the view of general human history, the results of these multidisciplinary researches have shown that the historical process in the region began one million years earlier than was previously recognized. Equally importantly, the material discovered sheds new light on the question of the chronology and route of the initial dispersal of people from their ancestral home—East Africa—to Asia and southeastern Europe.

Regular excavations aimed at searching for Early Palaeolithic sites in the North Caucasus were begun in 2003 by expeditions from the Institute of Archaeology of the Russian Academy of Sciences (RAS) in Moscow and the Institute of Archaeology and Ethnography of the Siberian Branch of RAS (Novosibirsk). In 2009 the Institute of History, Archaeology and Ethnography of the Dagestan Scientific Centre of RAS (Makhachkala) joined the project and since then has actively participated in the investigations.

The most impressive results of the decade-long archaeological researches were obtained from the territory of Dagestan (Fig. 1). It must be stressed that in the central mountainous part of the region no Palaeolithic sites with finds originating from an undisturbed geological context were previously known. However, ten sites containing archaeological material deposited in layers with excellent stratigraphy have now been discovered and are under investigation. An indirect result of this archaeological research is the fact that specialists in related sciences (such as geomorphology, palynology, palaeozoology, palaeopedology, and magnetostratigraphy) have at their disposal first-rate data from the region, which has remained practically unstudied by modern science.

The investigations are multidisciplinary in nature. The use of a range of scientific analytical methods has enabled us to obtain various data, which shed light on the sites' chronology, the formation of geological and archaeological layers, and the environmental and climatic characteristics of the period when early humans inhabited the territory. These data include palaeozoological and palaeobotanical materials essential for establishing the chronology of the phytoplankton remains, and the results of palaeomagnetic, palynological and sedimentological analysis. These studies have not been completed, since we have not yet finished sampling of the site's sediments. Nevertheless, the available data allow us to shape an idea of the principal characteristics of the site, concerning its chronology, material culture and the environmental conditions during the period of formation of its cultural deposits. The results of these studies have been partially published in publications in Russian (Amirkhanov, 2007, 2010, 2012; Amirkhanov and Ozherel'ev, 2011; Amirkhanov et al., 2012). But until now there was no publication summarizing the results from all the excavations, and especially taking into account data from the 2011 and 2012 excavations. This article largely rectifies this state of affairs.

2. Methods

While studying the site of Muhkai II, palaeomagnetic, palynological and palaeontological as well as archaeological methods were employed.

Samples from 74 microlevels of the section of Muhkai II from depths of up to 34 meters below the modern ground surface were used for palaeomagnetic analysis. To separate the most stable (primary) component of natural remanent magnetization (NRM–In^0) the samples underwent temperature cleaning (heating in unmagnetic space in 50 °C increments up to 600 °C and in 30 °C increments between 300–400 °C). Natural remanent magnetization was measured using the spin magnetometer JR-6 in the Palaeomagnetism Laboratory of the Geological Institute, RAS (Moscow).

Palynological analysis was carried out in accordance with standard procedures based on a modified Grichuk method. 64 samples were studied, deriving from the section at depths of up to 25 meters below the modern ground level.

Paleontological studies were performed in accordance with the usual approaches used for identification of osteological material based on morphological study.

3. Results

3.1. General geological characteristics

The Early Palaeolithic sites under discussion are Ainikab I-V, Gegalashur I-III and Muhkai I-II (Fig. 2). They are located