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# Phytolith analyses in the Early Pleistocene sediments containing tools of early hominids in the Northern Armenia and paleoclimatic reconstruction

Alexandra Golyeva\*<sup>1</sup>, Olga Khokhlova<sup>2</sup>, Elena Belyaeva<sup>3</sup>, and Vasily Lyubin<sup>3</sup>

<sup>1</sup>Institute of Geography Russian academy of science – 119017 Staromonetnij per., 27, Moscow, Russie

<sup>2</sup>Institute of Physical, Chemical and Biological Problems in Soil Science of RAS – Pushchino, Moscow region, 142290, Russie

<sup>3</sup>Institute of History of Material Culture, Russian Academy of sciences – Russie

## Résumé

One of the most promising challenges for the Pleistocene paleopedology is an analysis of environments of the initial hominid dispersal in Eurasia. The Caucasus Mountains are one of the main routes of the ancient hominid from the African homeland to Eurasia. The starting point for the early prehistory of the Caucasus is currently the Early Paleolithic site Dmanisi, located in South Georgia, which dates back to  $1,81 \pm 0,05$  Ma. The recent results of archaeological research showed the Early-Middle Pleistocene stage of occupation of the Caucasus, which is clearly seen on the sites of northern Armenia.

We have studied 3 sections in the northern part of Armenian upland which included archaeological artifacts and possible Pleistocene pedosediments. The heterogeneous lithology of the sections studied is related to pulsating volcanic activity. The SIMS U–Pb dating of the zircons from volcanic ashes contained Early Acheulian lithic artifacts in the Karakhach site showed  $1.942 \pm 0.046$  Ma –  $1.750 \pm 0.020$  Ma and in the Kurtan site –  $1.432 \pm 0.028$  Ma (Presnyakov et al., 2012). The set of methods have been applied including the micro- and submicromorphological observations, phytolith analyses, measurement of magnetic susceptibility and isotopic composition of carbon and nitrogen, bulk chemical composition. We aimed to reconstruct the paleoenvironments in the period of the initial hominids dispersion. The abundance of well-preserved phytoliths were detected as well as single spiculators and parts of diatoms. According to our results we believe that the earliest stages of the formation of the Armenian pedocomplex proceeded under paleoenvironmental conditions similar to those of a humid (sub)tropical climate.

**Mots-Clés:** Initial hominids, paleoenvironmental reconstruction

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\*Intervenant