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Features of Quaternary pedogenesis in loess-paleosol sequence of Tajikistan (Obi-Mazar section)

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Loess-paleosol sequences of Tajikistan contain more than 40 paleosols covering the period for the last 2-2,5 million years. The most complete and detailed loess-paleosol series are located in Afghan-Tajik depression in the Khovaling Loess Plateau. Series of outcrops were actively studied over the past 40 years by V.A. Ranov, A.E. Dodonov, I. Shaefer and others. These studies were mainly focused on description of general regional stratigraphy and palaeolithic archeology. There is a shortage of data on the structure and formation of major stratigraphic pinpoints – pedocomplexes, with which the main findings of stone tools are connected. For the first time we conducted detailed study of structure of paleosols and pedogenic processes in the upper part of the Obi-Mazar section that formed during the MIS several last glacial-interglacial cycles. Studied section is located on the right band of the Obi-Mazar river just opposite the Lakhuti village in Khovaling region of Tajikistan. There are a number of unique palaeolithic sites with abundant collection of stone tools in pedocomplexes 4, 5 and 6. Based on the micromorphology and chemical analysises, grain size measurement and magnetic susceptibility data we reconstruct stages of loess accumulation and paleosols development in pedocomplexes. The detailed stratigraphic chart and main properties of studied horizons of paleosols will be reported in our presention.

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Pedogenesis of the MIS 5 paleosols of the Otkaznoye Section (Ciscaucasia)

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A problem of numerous hard-to-date events synchronization in the Late Quaternary history of the south of the East European Plain can be solved through correlation with loess-palesol sequence (LPS), which are reliably dated by luminescence methods. The loess paleoarchives of Ciscaucasia contain a detailed and almost continuous record of landscape changes for the last 800 ka (Velichko et al., 2012).

LPS of the Ciscaucasia are unevenly studied from the paleosol point of view. In the west of the region (in the Sea of Azov), pleistocene paleosols in the LPS have been studied in dozens of sections, detailed morphological and physicochemical characteristics of paleosols and long series of luminescent dates have been obtained (Velichko et al., 2012; Mazneva et al., 2021). In the east of the region (in the Tersko-Kuma lowland), the level of knowledge is significantly lower, especially for Late Pleistocene paleosols, which were not previously studied in outcrops, but were recovered only in cores (Konstantinov et al., 2022). At the same time, in the east of the region, as a result of higher rates of sedimentation, the thickness of the LPS is significantly higher, which makes the paleosols thicker and more preserved.

For the first time for the key section Otkaznoye (Tersko-Kuma lowland), the structure of the Mezin pedocomplex (MIS 5) was uncovered in profile, which is 4.3 m thick. Morphological features of the Krutitsa (MIS 5c) and Salyn paleosols (MIS 5e) were studied. The Krutitsa paleosol (1.0-2.7 m) developed according to the type of modern *Calcic Gypsic Kastanozem Cambic Siltic*