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"PALEOSOLS, PEDOSEDIMENTS AND LANDSCAPE MORPHOLOGY AS ENVIRONMENTAL ARCHIVES"

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COMPARISON OF MIDDLE VALDAY INTERSTADIAL WEAK-DEVELOPED PALEOSOL AT THE SITES KHOTYLEVO I AND KOSTENKI 14

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Not much research has been dedicated to paleosols formed during the Middle Valdai (OIS 3) Interstadial in central part of East-European plane. There are even fewer studies on the spatial differentiation and component composition of the paleosols which have been preserved at sub-item positions in the river floodplain, aslope and in the flat-bottom valley rather than in the interstream areas. One of these key-site of studies of weak-developed paleosols of the second part of the Late Pleistocene is the famous Upper Paleolithic archaeological site Kostenki 14 (Voronezh Region). Five paleosol profiles have been highlighted here, four of which (K14/II-K14/V) had formed over the course of the Middle Valdai in a time interval from 28–38 C14 ka BP [1, 2]. In the work in question, we attempted to consider possible correlations of paleosol series from Kostenki 14 and Khotylevo I. In the process of the renewal of the studies, a series of three paleosols with Middle Palaeolithic industries was allocated at the site Khotylevo I (Bryansk Region) [3]. Based on properties of sedimentation of Late Pleistocene loess-soil series in this area and morphological features of soils we assume that the entire paleosol series formed within the Middle Valdai Megainterstadial. Going up the section, a directional trend towards of aridization and cooling of climate is reflected in the shift in types of soils. The profile of the upper paleosol is significantly perturbed by slope and cryoturbation processes. The two bottom paleosols highlighted from Khotylevo I section have retained clear marks of hydromorphis and have not been affected by cryogenesis during soil formation. Similar series of weak-developed soils, the lower paleosol unit of which had formed within the limits of floodplains and the upper paleosol unit of which are the slope versions of paleosol divergences, are also characteristic of the Kostenki 14 section. The paleosol unit K14/II marked as Bryanskaya by A.A. Velichko and S.N. Sedov [1, 2] has a morphologically similar structure to the first paleosol series of the Khotylevo I section. Paleosols K14/IV and K14/V are formed under hydromorphic conditions and are less perturbed by cryogenesis, as are the lower series of Khotylevo I. The age of the lower soil series studied at the Kostenki 14 is 28–37 Cal ka BP; radiocarbon data obtained from the second soil level of Khotylevo I are 42270±3300 (GIN-14414). And even though the cultural layers associated with paleosols appertain to Middle Palaeolithic (Khotylevo I) and Upper Palaeolithic (Kostenki 14) industries alike, we can still assume that they may have existed within the limits of the same chronological stage (OIS 3). Within the limits of the given interval, a similar directionality was observed in the formation of paleosols as a reflection of the complicated fluctuating dynamics climatic rhythm of the Middle Valdai Interval.

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