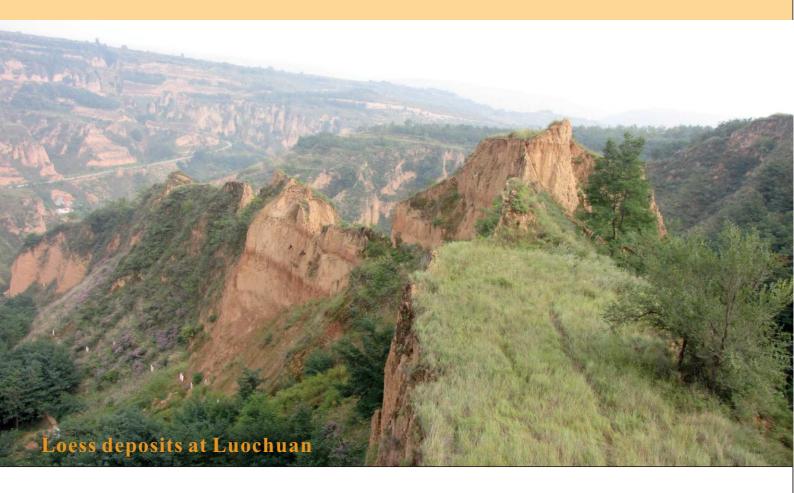
## The 2022 INQUA LoessFest

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Chinese Association for Quaternary Research



Institute of Geology and Geophysics, Chinese Academy of Sciences



INQUA Loess and Pedostratigraphy Working Group



Key Laboratory of Cenozoic Geology and Environment, Chinese Academy of Sciences



State Key Laboratory of Loess and Quaternary Geology

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**Abstract book** 

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## New data on the structure of the loess-paleosol series of the middle Kuban Rivervalley

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**Abstract:** Loess-paleosol series (LPS) are the most significant paleogeographicarchive containing information on landscape and climatic changes during glacial and interglacial epochs. These deposits are widespread in Eurasia and studying them is ofgreat importance for paleoclimatic reconstructions. Currently, one of the urgent tasks studying is to clarify the stratigraphic position of specific loess-paleosol horizons of the sections according to the existing chronostratigraphic scheme of the EastEuropean Plain. Our study area is located in a transit position between Siberian, Central Asian loesses and loesses of Eastern and Western Europe; however, it is stillpoorly studied. We carried out field work in the south part of the Russian Plainbetween Tbilisskaya and Kazanskaya villages (N 45°22'54.055" E 40°19'34.961) on the right bank of the Kuban river valley. A 25-meter section named Kropotkinsky wasstudied in the upper part of the natural outcrop. The field study included: lithologicalcharacteristics of deposits, identification of the stratigraphic units, description of thepaleosols, detailed sampling for a set of analyzes (magnetic susceptibility, grain size measurements, micromorphology, OSL and paleomagnetic dating, morphoscopy ofsandy quartz grains, etc.).

At the moment, the first results have been obtained on the general structure of theunits of this section. The upper half of the sequence is represented by subaerial deposits consisting of four intervals which correspond to different structure of paleosols and loess horizons separating them. Thick layers of alluvial sands lie at the base of the section.

The upper interval of the subaerial stratum, formed during the last glacial cycle, is distinguished by a large thickness of loess deposits and the presence of three poorly developed paleosols. In the second interval, three well-developed pedocomplexes (PC)are noted, alternating with thin horizons of loess. The paleosols are brown in color, enriched in carbonates and gypsum accumulations.

The third interval is represented by a thick PC4 consisting of 3 paleosols with characteristic red color. Specific feature of the paleosols of this interval is the presence of slickinsides, increased clay content and a platy structure.

The fourth interval is represented by two well-developed brown PC5 and PC6, separated by thick loess horizons (2-3 m), also affected by soil formation processes.

Thus, a thick subaerial stratum is distinguished in the Kropotkinskiy section in the middle part of the Kuban River valley, consisting of 6 pedocomplexes formed during periods of warming

separated by loess horizons accumulated during glacial periods. The alternation of paleosols and loess in the section reflects climate changes over the past 800 ka.

Keywords: Loess-paleosol sequences; East European Plain; Kuban loess; Cis- Caucasus

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