

# Scientific analysis of the excavation of the Tata-Porhanyóbánya site

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A complex geological and palaeontological analysis was carried out in connection with the archaeological excavations of the Tata site between 1995 and 1998. The tetrata basin enclosing the terrestrial sediments was very segmented from a micromorphological aspect, so the development and the layer thickness of the accumulated sediments ranged within very wide limits. We observed that the archaeological finds lay not in a single level but in a 30 cm thick zone. So a human settlement of a longer duration or the cyclical appearance of the culture can be supposed in the territory of favourable conditions.

In the milder and more humid level that contained the overwhelming majority of the archaeological finds, the micromorphological and geochemical analyses proved that the fossil soil, which developed in the course of a strong weathering process, was covered by a loessy layer, the product of a colder and dryer climate. The *Dicrostnyx* find recovered in this layer suggests that the loessy layer above the fossil soil, which developed within the 5<sup>th</sup> climatic zone, between 96 and 101 kyr, can be associated with the cooler climatic phase that developed between 90 and 95 kyr. The comparative analysis of the vertebrate fauna of the excavation seasons indicates that it would be worth re-examining the layers and collecting vertebrate fauna in a finer stratification since a more refined picture can be drawn about the environmental and climatic changes in the early Würm than formerly. Similar trends appeared in the molluscan fauna as well. The geochemical data also imply that short-range climatic changes can be reconstructed at the site.