

Landscape transformations and archaeological settlements in the Upper Danube Delta during Early to Middle Holocene: a palaeoecological insight

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The recent discovery of Chalcolithic sites in the upper Danube Delta at Taraschina – Mila 23 and Dâmbul localities (Romania) attest that this area was inhabited at least 6500 years ago. Here we propose a multidisciplinary approach to highlight the relationship between human activities and palaeogeographic transformations of the Danube Delta and its connexion with North Black Sea during Early to Middle Holocene.

In order to provide evidence for palaeoenvironmental changes and landscape evolution of this area, sedimentological analysis, geochemical (XRF) analyses and Magnetic Susceptibility have been carried out. More than 200 cumulated core length have been retrieved on the archaeological sites and surrounding wetlands. Palaeoecological (ie. pollen and phytolith) analyses have been also performed on selected cores. Pollen data are rare within the Danube Delta because of poor pollen preservation in the Delta sequences. However, since the Bronze Age, pollen results record a mixed deciduous forest dominated by *Quercus*, *Fagus*, *Carpinus*, *Tilia*. Poaceae pollen dominates, suggesting the presence of a large reed formation. Phytoliths are very abundant and exceptionally well preserved in the archaeological sequences, as well as in the sequences extracted around the site. Palaeoecological data revealed past vegetation dynamics of this area, while phytolith results agree with archaeological data, underlying the human presence and environmental change since Chalcolithic. The phytolith assemblages from Taraschina tend to demonstrate that Chalcolithic populations were able to grow cereal in this area. The analysis of the upper parts of cores reveals a gradual decline of the phytoliths characterizing cereal processing. Concurrently, the markers of aquatic environment, such as sponge spicules and diatoms, display an important increase, related to local hydrological variations. So, allows to document significant environmental changes in the Taraschina area, related to both anthropic and hydro-geomorphologic origins. From these data, we suggest a rapid adaptation of the Chalcolithic societies to environmental changes.

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