

Identification of ancient paths within the Late Bronze Age enclosure Cornești-Iarcuri, western Romania

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This study applies a landscape archaeological approach, combining geoscientific and archaeological data, to shed light into the Holocene landscape development in the environs of the Late Bronze Age enclosure of Cornești-Iarcuri, Romania. Cornești-Iarcuri is located at the eastern edge of the Great Hungarian Plain and represents with its four earth-filled wooden ramparts the largest known prehistoric enclosure in Europe. Late Bronze Age settlements are documented for the two innermost enclosures. However, the settlement history in its environs started already in the Copper Age.

The aims of this study are i) to link hydro-morphological relief anomalies to evidences of settlement occurrence and ii) to document the variations of Holocene geomorphic activity and stability in a selected sub-catchment. The spatio-temporal relation between unnaturally bending tributaries and settled areas is uncovered and the involved formation processes are discussed.

The morphometric analyses of the tributaries in the built-up area of Iarcuri show a clear tendency: unnaturally bending tributaries most often occur in the central valley and tend to cluster in the central part between the two innermost enclosures. By comparison of the locations of the strongly bending tributaries and the locations of the most densely settled areas it appears that both are related. It is well known that such linear features form in relation to settlements as a consequence of repeated passage of humans. Due to soil compaction along regular footpaths and the resulting reduced infiltration capacity gully erosion tends to occur forming hollow ways. Usually these hollow ways form contemporaneously with or subsequent to the occupation period of the site. As a consequence alluvial fans form at the outlet of the tributaries documenting former settlement and geomorphic activities. A sediment core obtained from the alluvial fan dumped by the tributary sourcing in the densely settled southern part of enclosure II shows daub bearing sediments dating to c. 4400 cal. BP and c. 2900 cal. BP.

The construction of the ramparts and the settlement activities had a substantial impact on the development of the local drainage system. The fact that the formation of settlements and hollow ways often coincides suggests that similar processes occurred during the time of occupation. The spatial association of the Copper Age to Late Bronze Age structures and the unnaturally bending tributaries indicates that they developed during the period of occupation as hollow ways and caused the deposition of the daub bearing fan sediments. This is also supported by the temporal concurrence of the maximum deposition ages of the ¹⁴C-datings roughly falling in the time between the Copper Age and the transition of the Late Bronze Age to the Early Iron Age.