



The Islinger Mühlbach Fen (Central Bavaria, Germany) as an archive for the reconstruction of natural and anthropogenic environmental change within a prehistoric settlement area

Alexandra Raab and Jörg Völkel

Technische Universität München (raab@wzw.tum.de)

Situated within the prehistoric settlement area Burgweinting (City of Regensburg, Central Bavaria, Germany), the peat deposits of the Islinger Mühlbach Fen provide the possibility to obtain information about natural and anthropogenic induced environmental change. The fen lies in close proximity to the archaeological excavation site in Burgweinting, which documents an almost continuous settlement history since the Neolithic Period. Primarily, palaeoenvironmental investigations were carried out to reveal past settlement conditions and human impact on the environment.

The main study object is a topogenic mire at a small creek (Islinger Mühlbach) which lies in about 500 – 1000 m distance in southward direction from the archaeological excavation site. The spatial extent and peat stratigraphy of the topogenic mire was investigated by manual drillings. The base of the 362 cm long peat profile 7038-302 from the centre of the mire was radiocarbon dated to 12150 ± 78 a BP (Erl-7516, 337-338 cm sediment depth). This age proves a start of peat formation during the Late Glacial and therefore, this peat profile contains the complete settlement history since that time. Based on this information two further peat profiles were gained in the middle part of the mire with a Russian peat sampler. Another three sediment cores were drilled at the margin of the mire with percussion drilling using plastic liners. These three sediment sequences have peat/colluvial-interbeddings which prove alternating periods of peat growth on the mire and soil erosion on the adjacent hillslope.

The analyses of the sequences comprise stratigraphic, geochemical and microscopic charcoal analyses. For chronological information, radiocarbon dating was conducted on a total of ten assays. Thus, the first long-term fire record was reconstructed from the investigation area and the results were correlated, based on radiocarbon dating, with the available environmental information and settlement history in Burgweinting. The fire record reveals an almost continuous, but alternating fire history. Furthermore, it shows that fire played an important role at Burgweinting and that most likely already the Mesolithic hunter-gatherers deliberately used fire.

Further information about the human-landscape interrelationship, and especially the relationship between fire and vegetation, is expected from pollen analyses which are in progress.