Ostracods as sensitive recorders of small-scale environmental changes in Late Miocene Lake Pannon

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The onset of Lake Pannon provides a unique opportunity to study species adaptations to a rapidly changing environment. Here we focus on paleoecological high-resolution analyses of a *c.* 2.3 m long part of a *c.* 30 m thick succession in the Mataschen clay pit (Styrian Basin, SE Austria). The interval was deposited within a maximum of 3,500 years. Five cores covering the 2.3 m section were sliced into 5 mm thick samples (representing only a few years each).

Based on ostracods, the basal part of the section reflects a gradually deepening environment with slowly increasing salinities. This initial phase was most likely influenced by a nearby fluvial system. It was followed by a pronounced transgressive phase with higher saline brackish waters leading to a turnover in the faunal composition. Above, a switch in the ostracod record coupled with plummeting abundances hints to the development of a meromictic lake system induced by increasing fluvial influence. Several declines in ostracod abundances could be related to either oligotrophic phases or eutrophication events. These eutrophication events are caused by increasing fluvial influx leading to a stratified water column and, thus, oxygen-depleted bottom-waters. Some of the ostracod taxa occurring in the Mataschen clay pit can be associated with different salinities, while others reflect varying oxygenation of the bottom waters.