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PROGRAM AND ABSTRACTS

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SEM picture of *Harbinia* sp.

16th International Symposium on Ostracoda
Theme: Biotratigraphy and Applied Ecology

060 - Oral

HIGH-RESOLUTION RECORD OF PALAEOENVIRONMENTAL CHANGES IN LAKE PANNON (LATE MIOCENE; AUSTRIA; STYRIAN BASIN)

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Lake Pannon is a famous example of a Palaeo-ancient lake, which existed for approximately 6 My in south-eastern Europe. Its palaeogeography and hydrology was largely controlled by regional tectonics. However, climatic factors have affected the Lake history significantly. Evolutionary lineages of aquatic biota as well as immigration events of terrestrial mammals provide a detailed biostratigraphic framework that is successively refined by magneto-, sequence- and astrostratigraphic approaches. On the western coast of Lake Pannon (south-eastern Austria) a c. 30 m thick section was subject of a multi-proxy research programme. Based on combined stratigraphy the exposed transgressive-regressive, Lower Pannonian sedimentary cycle comprises a time interval of around 300 ky. The whole section was investigated continuously with a Gamma ray- and Kappa-probe (50 mm sample distance) and by geochemical and micropalaeontological bulk samples (c. 1 m sampling interval). Geochemistry (total carbon, total organic carbon, carbonate (calcite), sulphur), magnetic susceptibility and ostracod assemblages of the lower, transgressive part of the section were analysed in sample distances of 5 mm. Periodicities obtained by spectral analysis of the whole section correspond well with Milankovitch cycles (100 ky eccentricity and 41 ky obliquity cycle), which seem to be an important trigger for the general palaeoenvironmental development of this parasequence. However, beyond these long-term periods data gained by high-resolution geophysical/geochemical logging and by ostracods (dominant taxa: *Cyprideis*, *Loxoconcha*, *Hemicytheria*) reveal intense oscillations on estimated timescales of tens to hundreds of years, which are obviously much shorter than Milankovitch cycles. Thus, fluctuations of solar activity are discussed to have also modulated Lake Pannon's environments.