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### 339-9 Diversification of the Ostracod Genus *Cyprideis* in Lake Pannon Triggered by Environmental Changes (Late Miocene, Austria)

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The turnover from the Middle Miocene Paratethys Sea into Late Miocene Lake Pannon around 11.6 Ma seriously impacted aquatic biota like ostracods and triggered their adaptation to the changed environments. One survivor of this ecological switch is certainly the genus *Cyprideis*, which is well known for its radiation in Lake Pannon.

A high-resolution micropaleontological study of a transgressive–regressive sedimentary cycle just above the Middle/Late Miocene boundary focused on the taxonomy of the *Cyprideis* species. Qualitative as well as linear and geometric morphometric valve analyses allows to differentiate three co-occurring *Cyprideis* species (*Cyprideis* ex gr. *pannonica*, *Cyprideis kapfensteinensis*, *Cyprideis mataschensis*), which were probably adapted to different microhabitats. *C. kapfensteinensis* is only recognized in the interval at the peak of the transgression, which corresponds to the maximum deepening of the lake, and with meso- to polyhaline conditions. *C. mataschensis* seems to be a more euryplastic species because it appears well before this event and is also recorded in the regressive prodelta sediments up section. The remarkable low quantity of *C. ex gr. pannonica* reflects its diverging paleoecological demands, since it mainly occurs in the littoral facies.

Size, posteroventral spines, hinge structure, ornamentation and outline are appropriate diagnostic characters to define sympatric, synchronous species in the sense of a multidimensional species concept. This implies that these characters are valid features to define *Cyprideis* populations in Lake Pannon as segments of evolutionary lineages and thus phylogenetic species. For this reason the high number of *Cyprideis* taxa in Lake Pannon seems not to be an effect of taxonomical over splitting but rather the result of adaptive radiation. Maybe similar to Recent Lake Tanganyika and the Late Miocene Amazon Basin the number of ostracod taxa in this long-lived lake is probably much higher than previously thought and recorded.

See more of: [Field and Quantitative Paleontology, Micropaleontology, and Taxonomy: A Memorial to Roger L. Kaesler](#)