

## **A Middle Miocene endemic freshwater mollusc assemblage from an intramontane Alpine lake (Aflenz Basin, Eastern Alps, Austria)**

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Modern European freshwater faunas display little biogeographic differentiations. This pattern is contrasted by an extremely high endemism during the Miocene (HARZHAUSER & MANDIĆ, 2008). This endemism, however, may be overemphasised by the simple fact, that only few stratigraphic coeval lake faunas are well studied. Especially small and geologically short-lived lakes and their faunas are virtually unknown. This lack of data is obvious for the many tectonically induced lakes that formed during the Early and Middle Miocene in the young Eastern Alps. Despite the considerable basin fills of several hundred meters, no mollusc faunas have been described from these lakes so far. Now, the discovery of a new early Middle Miocene lake fauna from the Aflenz Basin in Austria allows a direct comparison with the coeval faunas of the Rein and Graz basins and that of the Sinj Basin in Croatia, which was part of the Dinaride Lake System. This enables to test the proposed endemism at least for these lake faunas. The new mollusc fauna is of early Middle Miocene (Langhian) age and dwelled in the intramontane Alpine Lake Groisenbach. The shells derive from the Feistring Formation in the Aflenz Basin in Austria, which was covered by Lake Groisenbach. The assemblage is moderately diverse with 12 gastropod and 2 bivalve species, suggesting shallow lacustrine and fluvial settings. Among the gastropods, only *Theodoxus crenulatus* (KLEIN, 1853) is known from other Miocene localities whilst all other species are documented so far only from Lake Groisenbach. None of the Early and Middle Miocene lake systems of the Alpine-Carpathian Foredeep and the Balkan Peninsula displays any faunistic resemblance with this new fauna. Even coeval lake faunas from the close by Graz Basin have no species in common with Lake Groisenbach. This pattern points to a surprising endemism and biogeographic fragmentation in the Central European freshwater systems during the Early and Middle Miocene. The uniqueness of the newly described fauna is also indicated by the completely erratic occurrence of the otherwise African-Mediterranean genus *Bulinus*, which is unknown from all other central European Miocene freshwater systems.

### **Literature**

HARZHAUSER, M. & MANDIĆ, O. (2008): Neogene lake systems of Central and South-Eastern Europe: Faunal diversity, gradients and interrelations. – *Palaeogeography, Palaeoclimatology, Palaeoecology*, **260**, 417–434, Amsterdam.