

The early Middle Miocene mollusc fauna of Lake Rein (Eastern Alps, Austria)

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The knowledge on Miocene continental mollusc faunas of the circum-Mediterranean area is still poor compared to the much better described marine assemblages. Moreover, data on Miocene freshwater molluscs are biased towards lake systems with spectacular endemic radiations such as the Dinaride Lake System, Lake Pannon, Lake Steinheim and several others. Lakes with a “normal” fauna, being comparable to modern Central European lake assemblages in generic composition and species numbers, have been somewhat neglected so far. One of these lakes formed during the early Middle Miocene (Early Langhian, Badenian) in the Rein Basin along the south-eastern margin of the Eastern Alps at the junction to the Styrian Basin. At that time, this less than 4 km long and c. 2 km broad basin was covered by wetlands and a shallow ephemeral lake that is termed Lake Rein.

The total mollusc assemblage of the Rein Basin and the adjacent Graz Basin consists of 48 taxa comprising 47 gastropod and 1 bivalve species. Only 13 of these species are aquatic, whilst the terrestrial fauna is represented by 35 species. About one third of the species is only known from the Rein and Graz basins so far (16 species). Thus, the Lake Rein faunas comprise two thirds of species that are also known from other Middle Miocene faunas of Central Europe. The composition of the aquatic assemblage, which is dominated in species and individual numbers by planorbids, differs completely from the hydrobiid-dominated one of the coeval Lake Groisenbach, which is situated only 45 km northwards. Similarly, the coeval Dinaride Lake System, with numerous melanopsids, has nothing in common with Lake Rein. Obviously, the species of these deep and long-lived lakes were not able to settle the comparatively small, shallow and ephemeral Middle Miocene lakes of Central Europe such as Lake Rein.

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