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The benthic marine assemblages of the estuarine and shallow marine Upper Burdigalian deposits of the Korneuburg Basin in Lower Austria

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In the course of highway constructions (Wiener Außenring-Schnellstraße (S1)) a detailed sedimentological transect of 1.8 km length was logged in deposits of the Central Paratethys near the village of Stetten, N of Korneuburg in Lower Austria. A total of 324 sediment- and 118 molluscan samples was studied. The siliciclastic succession consists of pelitic and sandy sediments and sandstones and is rich in fossils. The fossil remains consist of sponges, corals, serpulids, molluscs, balanids, echinoderms, fish and micromammals. Quantitatively the molluscs dominate and have been studied in detail. 139 species were determined from more than 11,000 shells. Two gastropod species, Agapilia pachii und Granulolabium bicinctum make up more than 53% of the assemblage. Another 11 species (Nassarius edlaueri, Bittium spina, Loripes dujardini, Hydrobia spp., Paphia subcarinata, Cyllenina ternodosa, Turritella gradata, Corbula gibba, Cerastoderma praeplicata, Striarca lactea, Sandbergeria perpusilla) each contributes more than 1% to the total molluscan composition, but all other 126 species are quantitatively unimportant. A conspicuous alternation between intertidal and shallow subtidal mollusc associations is evident. The intertidal is dominated by the superabundant Agapilia pachii and Granulolabium plicatum, whereas the heavily bioturbated fully marine subtidal is characterized by a more diverse assemblage including Turritella gradata, Nassarius edlaueri, Anadara diluvii and various venerids. Additionally, layers with large fragments of Crassostrea and thin coal deposits with Terebralia bidentata are quite abundant in the section. Washed in land snails (e.g., Planorbidae) and river snails (Melanopsidae) occur occasionally. This faunal composition, along with its typical alternation points to a vivid dynamic within this Lower Miocene, subtropical ecosystem in the paleo-estuary of the southern Korneuburg basin.