DYNAMICS OF AN EARLY MIOCENE TURRITELLINE GASTROPOD MASS OCCURRENCE (NORTH ALPINE FORELAND BASIN)

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The mass occurrence of gastropods is a frequently observed, though poorly understood sedimentological and (palaeo)biological phenomenon. One of the fairly well-known groups forming such low-diversity accumulatons are turritelline gastropods, which can occur in high local densities from the Cretaceous until today. Present-day turritelline gastropods are well known and occur worldwide from the shallower to the deeper seas (c. 0-1500 m water-depth, more typically 10-100 m). They are suspension feeders living partly digged into the substrate, +/- parallel to the sea-floor surface. Mass occurrences usually occur in shallow-subtidal, siliclastic environments rich in nutrients due to upwelling

A spectacular example of a fossil turritelline mass occurrence is the so-called 'Erminger Turritellenplatte' west of Ulm. This occurrence is part of the Early Miocene 'Upper Marine Molasse' unit ('Obere Meeresmolasse') in SW Germany, which represents a mainly siliciclastic marine stage of the development of the Alpine Foreland Basin. The 'Erminger Turritellenplatte' was deposited relatively close to the northern shoreline and is supposed to having developed during the maximum flooding of the Molasse Sea.

The 'Erminger Turritellenplatte' is an erosional relic, forming an at least 3.5 m (probably up to 7 m) thick, well-cemented bed with a lateral extension of a few kilometres. The succession is dominated by sandy limestone, sandstone and sand with the gastropod *Turritella turris* occurring in rock-forming quantities, as well as clayey sediments that lack gastropods. Furthermore, the bivalve *Pitar helvetica* as well as oysters and fragments of barnacles occur. Based on detailed sedimentological, palaeontological and taphonomical studies, this paper discusses the sedimentary and biological dynamics behind this unique mass occurrence, the interpretation of which is highly biased by diagenetic and, probably, biostratinomic effects.