

Palaeoecology of the Lower Oligocene 'Zementmergel' Formation of the Lower Inn Valley (Tyrol, Austria)

JAMES H. NEBELSICK AND SONJA- B. LOEFFLER

*Institut für Geologie und Paläontologie, Universität Tübingen, Sigwartstrasse 10,
D-72076 Tübingen, Germany*

The Lower Oligocene 'Zementmergel Formation' of the Lower Inn Valley (Tyrol, Austria) has been investigated with respect to palaeoecological and palaeoclimatological reconstructions. This includes not only the interpretation of different lithologies, especially carbonates, but also a detailed study of the rich mollusc associations. This study is part of a Collaborative Research Initiative (SFB 275) of the Faculty of Geosciences at the University of Tübingen.

Carbonates occur either at the base of the marls of the 'Zementmergel Formation', or as intercalations within the latter. These intercalations are interpreted as mass- flow deposits due to the allochthonous nature of the included components and the internal sedimentary structures of the beds. Microfacies analysis show that the carbonates consist of very poorly- sorted rudstones dominated by coralline algae, corals, large and small benthic foraminifera, bryozoans, bivalves and echinoderms in a muddy matrix.

The well- preserved molluscs of the 'Zementmergel Formation' include both aragonitic shelled gastropods and bivalves, as well as calcitic pectinids and oysters. Although historically described, a thorough taxonomic revision is necessary. At least two different faunal associations can be recognized: an autochthonous soft-bottom, deeper water fauna; as well as an allochthonous shallow water fauna which was swept into the basin along with the carbonate sediments.

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