

MASS-FLOW DEPOSITS IN THE LATE TRIASSIC SEDIMENTARY SEQUENCE OF THE SLOVENIAN TROUGH (SOUTH KARAVANK MOUNTAINS, AUSTRIA)

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The South Karavank Mountains of Austria show a complex geological structure of large-scale mega-imbriate zones to the south of, and parallel to the eastern Periadriatic Lineament. These zones display a suite of individual stratigraphic successions of partly different palaeogeographic origin and can be distinguished in stratigraphic range, facies as well as in late diagenetic/thermal history. Our study area is located between the Maria-Elend Sattel to the east and the Rosenbach Alm to the west where two laterally differing sequences are developed: the eastern sequence, located between the Maria-Elend Sattel to the Kahlkogel peak is characterized by Carnian recrystallized dolomites, directly and discontinuously overlain by grey bioturbated Upper Norian radiolarian-rich wackestones and grey Rhaetian bioturbated limy wackestones followed by Jurassic argillo-calcareous mudstones. The western sequence, located in the area of the Bärengraben to the Rosenbach Alm, is composed of Carnian recrystallized dolomites, followed by ~200 meter thick grey Early to Middle Norian cherty dolomites (= Baca dolomite in the Slovenian Trough), and is overlain by grey thin bedded limestones of late Middle to Late Norian age with interbedded mass-flow deposits in the upper part (Krystyn et al., 1994, Lein et al., 1995). From the two departing successions we assume a primary basin inclination towards the Bärengraben sequence which received from a higher located part components and breccias now missing in the Lower to Middle Norian Maria Elend sequence. The resedimented breccia components are dated by conodonts and radiolarians. The occurrence of Late Triassic radiolarians from the polymict Late Triassic mass-flow deposits of the Bärengraben is reported for the first time in the Karavank Mountains. The mostly poor preserved, pyritized radiolarians again indicate an early to late Norian age. Interestingly, almost all breccia components are limy and not dolomitic, as one would expect from the reworked sedimentary unit (= Baca Dolomite). One may

thus assume that the breccia components might have eventually derived from a palaeogeographically different source area no longer exposed in the study area.

The predominantly matrix-supported clast layers are interpreted as debris-flow deposits triggered by local(?) iterative tectonic pulses rather than by sea-level changes because of the several million years (Middle to early Upper Norian) lasting breccia formation. In the late Alaunian to early Sevatian the northwestern Neotethys shelf was affected by transtensional tectonic events forming asymmetric basins in the Hauptdolomite/Dachstein carbonate platforms of the Northern (Seefeld formation, Aflenz basin, Pedata basin – e.g., Gawlick 1998) and Southern Alps. Coeval events have probably similarly affected the Southern Karavanks and may be more widespread developed in the Alpine-Mediterranean domain than previously known.

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