

DEMISE OF LATE TRIASSIC CARBONATE PLATFORM: A CASE STUDY FROM PIZ LAVARELLA (DOLOMITES, NORTHERN ITALY)

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The Dolomites of the Southern Alps are well-known for the large-scale Ladinian and Carnian prograding carbonate platforms. Platform growth stopped in the Carnian and both platforms and former basinal areas were covered by mixed carbonate-siliciclastic sediments (Raibl Group). The influx of siliciclastics is a widespread phenomena of the western Tethys and marks a major interruption of platform growth. We present an example of a Carnian (Julian) carbonate platform, whose slope progradation came to a halt prior to the advancing siliciclastics. This paleo-slope was covered by mounds of coral-colonies, draped by algae-dominated beds, mollusc rudstones and finally by siliciclastics. The formation of mounds on the platform flank was only possible, because the downslope transport of detritus from the platform and/or upper slope was shut down. The colonization of corals on the slope is already a sign of suppression of carbonate production on the platform top. The sedimentary record in the coeval basin indicates an increasing restriction with locally oxygen-deficient environment and deposition of shallow-water carbonates. Based on the preserved slope geometry, as exposed at Lavarella, a sea-level drop of about 100 metres or more is inferred to form shallow-water sediments in the former deep basin. Sea-level was associated with subaerial exposure of the platform, karstification and the influx of clastics combined with an increase of filter- and suspension feeding organisms. The platform demise was caused by interaction of subsidence stagnation, sea-level drop and environmental stress related to increased content of nutrients.