Magnetostratigraphy and Biostratigraphy of the Carnian/Norian Boundary Interval from the Pizzo Mondello Section (Sicily)

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Abstract

We present new magnetostratigraphic and biostratigraphic data from an Upper Triassic limestone section named Pizzo Mondello. This section is 141m-thick and crops out in the Sicani Mountains of western Sicily (Italy). The Pizzo Mondello section is one of the Tethyan best in virtue of its high quality of exposure, accessibility, stratigraphic continuity and good magnetostratigraphic data. We recognize a sequence of six magnetozones, from M1 to M6, each subdivided into a lower predominantly normal and an upper predominantly reversed magnetozone. This sequence of magnetozones spans the Carnian/Norian boundary according to conodont biostratigraphy. The Carnian/Norian boundary should fall in the upper part of magnetozone M3 which should correspond to chron E14 in the Newark reference sequence of polarity reversals. The comparison of data from the Newark basin, Pizzo Mondello and the Late Triassic Bol&#xfffd;cektasi Tepe section from the literature seems to suggest the existence of a disconformity in the Tethyan marine domain at around the Carnian/Norian boundary which we tentatively relate to intra-Pangea tectonic mobility. A consistent correlation of Newark/Pizzo Mondello with published data from the Norian Tethyan marine Kavur Tepe and Scheiblkogel sections is still elusive, suggesting that the validity of the original polarity interpretation of the Kavur Tepe section could usefully be critically reviewed.