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Palaeoceanic trigger for Lower Triassic shelfal conodont evolution?

Leopold Krystyn (1), Micha Horacek (2), and Rainer Brandner (3)

(1) Department of Paleontology, Vienna University, Vienna, Austria, leopold.krystyn@univie.ac.at, (2) HBLFA Francisco-Josephinum - BLT Wieselburg, Wieselburg and Department of Lithospheric Research, Vienna University, Vienna , Austria, (3) Institute of Geology and Paleontology, Innsbruck University, Innsbruck, Austria

The documented Tethyan-wide time-corresponding appearance of the enigmatic conodont genera Eurygnathodus and Platyvillosus in shallow shelfal and epeiric seas is a characteristic feature of Lower Triassic conodont evolutionary development. These appearances are closely linked to changes in ocean water chemistry, sea-level and major carbon isotopic events. Their common and widespread distribution around the Induan-Olenekian boundary (Eurygnathodus) and the Smithian-Spathian boundary (Platyvillosus) is marked by large positive C-isotope excursions which hints to a link between their evolution and oceanographic changes of presently unknown background. As the two genera morphologically mimic conodonts of platform-type, which normally prefer open marine deeper neritic habitats, their spread in shallow shelf areas could be linked to a palaeoceanic change towards short-termed more open-marine conditions. The successive but punctuated occurrence of these morphologically similar forms therefore suggests a palaeoceanically controlled evolution.