

PERMO-TRIASSIC TRANSITION IN THE TETHYS: GEOCHEMICAL CHANGES AND ANACHRONISTIC FACIES

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Described as the turning point in the Pangean environmental history, the Permo-Triassic Transition (PTT) records global events including a major biotic extinction and extensive volcanic activity. The increasing number of geochemical studies across the PTT have outlined variations of unusual amplitudes. The global character of the major shift in seawater carbon isotope ratios has been confirmed. Strontium and sulfur stable isotope also display abnormally steep increases. Mass extinction and global change strongly affected carbonate productivity, stratal patterns and biofacies. A bloom of disaster forms: -fungi, -cyanobacteria, -blue-green algae was the intrinsic biotic response. The first step of the very rapid and large scale lowermost Triassic transgression included planar or domal stromatolites, thrombolites and other microbial structures growing on giant carbonate platforms of the Southern Alps, the Taurus, the Southern Armenia, the Elburz, the Central Iran and the Northern Oman. An early differential lithification of the microbial lime mud is attested by the frequency of the edge-wise conglomerate beds. At the dawn of Triassic time, the widespread proliferation of normal marine stromatolites, of platy limestone with edge-wise conglomerates and thin bedded vermicular limestone are interpreted as anachronistic facies that are similar to those in benthic environments from middle Cambrian - early Ordovician. In some localities of Armenia and Oman, carbonate crust occur with fan crystals (seafloor carbonate precipitates?).