

Buday'ah (Oman) and Arrow Rock (New-Zealand): from a similar to a divergent evolution of Permian-Triassic oceanic successions.

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The Oman Mountains expose the middle Permian to lower Triassic Buday'ah section of oceanic sediments close to the Tethyan Gondwana margin. The tectonically truncated Permian litho-units start with a basal volcanic sequence composed of pillow basalt showing transitional and enriched MORB signatures (Maury et al., 2003; Lapierre et al., 2004). In different parts of the pillow lava succession, inter-pillow cavities are filled up with red lime-mudstone with rare middle Permian ammonoids, and lenses up to 1.2 m thick red ammonoid- limestone cover the irregular upper surface of the pillows. A *Clarkina* conodont fauna of latest Capitanian age occurs near the top of the limestones (C. Henderson and A. Nicora in Baud & Bernecker, ed., 2010 and in Baud et al., submitted). The following red radiolarian chert spans the latest Capitanian to Wuchiapingian age with the radiolarian assemblage *Follicucullus ventricosus* – *F. scholasticus* (F. Cordey in Baud & Bernecker, ed., 2010, and in Baud et al., submitted).

Described by Spörl et al. (2006, 2007) and by Takemura et al. (2007), a similar Permian chert-dominated ocean floor sequence, but accreted from Panthalassa, occurs at Arrow Rocks, Northland, New Zealand. Latest Capitanian to Wuchiapingian red radiolarian cherts overlies middle Permian red limestone lenses in basaltic rocks with the same radiolarian assemblage in the lower part. The Changhsingian succession consists of dark grey siliceous mudstone in Buday'ah and bedded siliceous mudstone and chert in Arrow Rocks. The main change between the two oceanic sections occurs in the Late Changhsingian: Arrow Rocks sedimentation grades again to pale green bedded cherts in late Changhsingian whereas Buday'ah displays calcareous clay mudstone across the Permian-Triassic boundary. Reported from Arrow Rocks there is a thin Permian/Triassic boundary interval consisting of alternating black siliceous shale and grey chert (Spörl et al., 2006) and above the basal Triassic (Induan) succession consists of red cherts and siliceous mudstone. No more chert nor siliceous mudstone are present in Buday'ah but Induan platy lime mudstone and calcareous shales with calcispheres (casts of radiolarians?) followed by Olenekian papery lime mudstones, thus showing a highly divergent evolution.

The difference could be explained by differential plate tectonic displacement. Arrow Rocks sequence moved over a long distance from a relatively low latitude position in the Middle Permian to a high latitude one in mid-Triassic times (Spörl et al., 2007). Meanwhile Buday'ah's succession on the Gondwana margin was displaced towards a lower latitude position from Middle Permian to Triassic. Consequently, these oceanic successions differences from the late Changhsingian onward may be related to the divergent geodynamic evolution.

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