

## Paleotethys born or made? Keys from subduction relics from Iran

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The tectonic processes involved in Pangea birth and death resulted in the creation and destruction of oceanic lithosphere. Remnants of the involved oceans now occur along the margins of the Atlantic, Mediterranean, Black and Caspian seas, as well as in the Alpine-Himalayan and adjacent orogens. Of those oceans, three (Iapetus, Tornquist and Rheic) were closed during the amalgamation of Pangea and another (Neo-Tethys) is the main witness of its break-up.

However, there is an ocean, the Paleotethys, whose origin is under strong debate. Allegedly it was born during the latest stages of the amalgamation (Devonian-Carboniferous) and closed when Pangea was an “stable” supercontinent (Permian). However, Is the Paleotethys a remnant of Rheic or it opened as a new ocean? If the latter, why the Paleo-Tethys developed in a collisional area? And how? The geodynamic relationship between the ocean and the tectonic and paleogeographic evolution of Pangea are crucial.

To solve those questions is capital to found remnants of this ocean. The Shanderman eclogites, in NW Iran are a potential candidate. They are metamorphosed oceanic rocks (protolith oceanic tholeiitic basalt with MORB composition). Eclogite occurs within a serpentinite matrix, accompanied by mafic rocks resembling a dismembered ophiolite. The eclogitic mafic rocks record different stages of metamorphism during subduction and exhumation. In this talk I will show the new petrological, geochemical and geochronological results from this eclogites to shed light on the Paleotethyan problem.

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