



An eastern Mediterranean analogue for the Late Palaeozoic evolution of the Pangaeon suture zone in SW Iberia

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It has long been recognized that the Late Paleozoic evolution of SW Iberia preserves a record of collision and suturing between Laurussia (South Portuguese Zone) and Gondwana (Ossa Morena Zone), which is one of the key events in the development of the Variscan orogen and the amalgamation of Pangea. The suture zone (Pulo do Lobo Zone) is classically considered to be an accretionary complex and is characterized by an assemblage of greenschist facies, polydeformed and imbricated meta-sedimentary rocks, mélanges, and mafic complexes. However recent work has shown some of the metasedimentary rocks and mélange were likely derived from neither the upper or lower plates. Mafic complexes in the mélange have NMORB compositions, highly depleted Sm-Nd isotopic signatures and geochronological data imply that their protoliths probably formed between ca. 350 and 340 Ma. Geochronological data also imply that components of the mafic mélange contain a paucity of ancient continental detritus. The Pulo do Lobo Zone was also intruded by ca. 360-310 Ma composite plutons and related dykes ranging from gabbro to granite in composition. The oldest phases of these intrusions are syn- to late-tectonic with respect to the deformation. Taken together these recent observations suggest that much of the tectonic evolution of the Pulo do Lobo suture zone post-dates the onset of collisional tectonics elsewhere in the Variscan orogen, and is broadly analogous to the complex Cenozoic tectonic evolution of the eastern Mediterranean oceanic tracts relative to the ongoing collision between the African, Eurasian and Arabian plates.