



Successive structural events in the Hatay ophiolite of southeast Turkey: distinguishing oceanic, emplacement and post-emplacement phases of faulting

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Most ophiolites display a range of oceanic, emplacement and post-emplacement related structures. Distinguishing between structures relating to successive deformation events can be difficult and often leads to contrasting interpretations of their origins. The recognition and relative timing of deformation phases is important to understand an ophiolite's tectonic evolution and for interpretation in a regional context. Rare examples exist of ophiolites that have not experienced tectonic emplacement onto a continental margin, e.g. Troodos ophiolite, Cyprus. These are less complicated by emplacement-related structures but have still experienced a multi-stage deformation history. More commonly, the history of ophiolites includes tectonic emplacement and metamorphic soles aid recognition of structures forming during emplacement. Here, new data from the Hatay ophiolite, Turkey, are presented. This ophiolite was emplaced onto the Arabian margin in the Maastrichtian and lies in a complex tectonic zone between the Dead Sea Fault, East Anatolian Fault and the Cyprus Arc. Good control on post-emplacement deformation is provided through analyses of the transgressive Upper Cretaceous to Miocene sedimentary cover. Although lacking a metamorphic sole, a basal shear zone exposed in an erosional window provides information on emplacement. Combining structural measurements, palaeostress analyses and field observations has enabled five distinct structural events to be identified and related to successive phases of faulting. Earlier interpretations of structures are re-evaluated and the results interpreted in terms of the tectonic evolution of the eastern Mediterranean.