



Role of Carboniferous accretionary units in the closure of Palaeotethys in the E. Mediterranean region

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The unmetamorphosed Chios, Karaburun and Tekedere (=Tavas) units, and the Alpine-metamorphosed Konya unit further east are fragments of a regional melange terrane related to closure of Palaeotethys. These units include variably sized slices and blocks of Silurian-U. Carboniferous shallow-water carbonate platforms, locally underlying WPB-type volcanics (i.e. Tekedere unit), and Silurian-L. Carboniferous slope/deep-water/oceanic lithologies (e.g. black chert, pelagic carbonate, basaltic volcanics). The melange matrix comprises Carboniferous deep-water siliciclastic turbidites. Petrographic studies indicate variable, mainly terrigenous and basic/silicic (arc-type) volcanic provenance. The melange units are unconformably overlain by Permian/Triassic sediments (with volcanics in Karaburun). The Permian limestones and sandstones are lithologically similar to the coeval facies of the Hadim and Bolkar nappes of the Taurides, and contain microfauna commonly (but not universally) correlated with Gondwana. One interpretation is that the melange accreted to the southern margin of Eurasia during the Carboniferous, followed by further subduction until Palaeotethys finally closed during latest Triassic (i.e. with collision of Gondwanan (Tauride) and Eurasian (i.e. accretionary melange) units. However, the Tauride units and the Permian/Triassic cover of the melange show little evidence of pre-Alpine-aged compressional deformation, effectively ruling out a regional-scale latest Triassic collision. Alternatively, the melange was accreted to the north-Gondwana margin prior to Late Permian, either in response to southward subduction, or (eastward?) terrane migration. The siliciclastic turbidite matrix of the melange, at least in the west (Chios, Karaburun, Tekedere) is likely to have been shed from the unroofing of a Hercynian collision zone in the Balkan region into a remnant Palaeotethys that still remained open to the east.