



Relics of high - pressure metamorphism in the Bitlis massif (Van region, E Turkey)

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The Bitlis Massif is generally considered as part of the Anatolide-Tauride Block, which was separated during Mesozoic and Tertiary times from the Arabian Platform by the southern branch of the Neo-Tethys Ocean. It forms an arcuate metamorphic belt, about 30 km wide and 500 km long, north of the Arabian Plate in southeastern Anatolia. The Bitlis massif is made up of Precambrian to Cretaceous rocks, which rest directly on top of Cretaceous to Eocene flysch and ophiolitic melanges that are related to the suture between Arabia and Eurasia. It has therefore to be considered as a nappe complex.

Cretaceous ophiolitic melanges occur below the Bitlis complex. Contacts clearly dip southwards. Along this northern contact, glaucophane, relics of carpholite in chloritoid-bearing schists and pseudomorphs after aragonite in marbles document a low-temperature high-pressure (LT - HP) metamorphic evolution. Towards south the basal contact re-emerges, overriding Eocene melange sequences. There, contacts dip northwards and fresh carpholite occurring in Triassic marbles also indicates a LT - HP imprint. The metasediments of the base of the Bitlis complex document a HP evolution. Similarly some of the underlying Cretaceous and Tertiary meta-olistostromes and melanges contain low-grade LT - HP metamorphic minerals. It is obvious that they Region at the eastern end of the Bitlis massif was involved in a subduction-related setting. A situation very similar to western Anatolia must be envisaged. The findings of carpholite and other HP minerals in the Bitlis complex add to the plate tectonic scenario of a continuous long-lived suture zone, extending from Western Anatolia (Lycian nappes, Afyon zone) to Eastern Anatolia. The present association of low-grade LT - HP continental rocks on top of ophiolitic rocks pleads for a complex bimodal setting.

Basement and platform sediments of the promontory of the Arabian continental margin were involved in an accretionary wedge to suffer LT – HP metamorphism and then thrust over ophiolitic members of an oceanic suture.