



PALEOMAGNETIC EVIDENCE ON THE TECTONIC EVOLUTION OF UPPER CRETACEOUS OPHIOLITES FROM SE ANATOLIAN OROGENIC BELT

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ABSTRACT

The Southeastern orogenic belt in SE Anatolia is classified from north to south by a nape zone, imbrication zone and the Arabian platform. The origin of the ophiolitic rocks emplaced along these zones were a) the products southern Neotethys ocean b) emplaced as a result by two different subduction products which considered as the Berit and South Neotethys ocean c) products of a northerly located ocean known as the Izmir-Ankara-Erzincan ocean. This study shows the paleomagnetic results from 157 different sites obtained from the sheeted dyke complex, cumulate gabbros and extrusive sequences of the the Hatay, Goksun, Komurhan, Kocali, Ispendere and Guleman ophiolites in SE Anatolia. Our new paleomagnetic results from the ophiolitic rocks emplaced in Arabian platform and the SE Anatolia show important implications to the spreading centre of the former ocean (s). Large counterclockwise declinations up to 80° are obtained from ophiolites. The ophiolite emplacement from Late Cretaceous to Miocene show counterclockwise rotation of 50°, when removing the efficient of Miocene declination at about 30°. A paleolatitudinal variation between 24-26°N is obtained from sheeted dykes of the Hatay and Kocali ophiolites emplaced in the Arabian platform, while those from Goksun and Ispendere ophiolites indicate a paleoaltitude of 22-23°K. In contrast gabbros and lavas from Goksun and Guleman ophiolites show a paleolatitude of 16°N. A paleolatitudinal difference of 3 and 5° is obtained between sheeted dyked and gabbros. The relative difference between the paleolatitudes show a northerly emplacement of 5° of Hatay- Kocali ophiolites when compared to Goksun- Ispendere- Guleman ophiolites. This study was supported by Turkish Scientific and Technical Research Council-TUBITAK (Project number 114R024).

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