



Paleomagnetic Evolution of Pontides (N Turkey)

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The Pontides are situated in northern Turkey and are delimited in the north by the Black Sea and by the Izmir-Ankara-Erzincan Suture Zone (IAESZ,) which demarcates the former position of the Neotethyan ocean, in the south. The Pontides are thought to have an Eurasian affinity and collided with the Tauride-Anatolide Platform (of Gondwana affinity) by the end of the Late Cretaceous. It has a northwards directed convex arc geometry centre of which corresponds approximately to the northernmost tip of the so-called Kirsehir Block (KB) and the Çankiri Basin which straddles the IAESZ. This arc geometry is thought to result from the indentation of the KB, from the Early Paleocene to Earliest Miocene. To test this hypothesis, more than 300 paleomagnetic samples were collected from both limbs of the arc, ranging in age from Early Cretaceous to Eocene. Paleomagnetic declinations indicate that there are considerable rotations in the Early Cretaceous on both limbs of the Pontides. There are very consistent (and conclusive) counter-clockwise rotations, about vertical axes, in the samples collected from the western and clockwise rotations from the eastern limb of the arc, ranging in age from Late Cretaceous to Eocene. There is a slight decrease in the amount of rotation away from the centre of the curve and from older to younger. The smallest (or no) rotations are obtained from the apex of the arc and from the Eocene samples. Based on this information and regional structural data, it is concluded that the northwards convex arc geometry of the Pontides is caused by the collision and indentation of the KB during the Late Paleocene to Early Miocene interval, as previously proposed by Kaymakci et al. (2003, *Geological Magazine*, V.140, No.3, pp.343-355).