# NEW DATA ON THE EVOLUTION OF THE NEOTETHYAN OCEANIC BRANCHES IN TURKEY: LATE JURASSIC RIDGE SPREADING IN THE INTRA-PONTIDE BRANCH

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## ABSTRACT

Tectonically disrupted outcrops of a mélange (Arkotdağ Mélange) between the Rhodope-Pontide and Sakarya micro-continents in NW Anatolia are considered as remnants of the little-known Intra-Pontide oceanic branch of Neotethys. A tectonic sliver of this mélange to the east of the town of Bolu comprises a mega-block of massive and pillow lavas that includes radiolarian chert interlayers and intra-pillow mudstones. The silicified mudstones from the upper part of an intact section yielded moderately preserved but diverse radiolarians of late Kimmeridgian to early Tithonian age.

Geochemical data (major, trace and REE) obtained from the tholeiitic basalts suggest generation in a mid-ocean ridge setting. Magma was likely derived from a spinel lherzolite source by 5-10% partial melting and fractional crystallization processes. The Nd isotopic data suggests heterogeneity of the source. Combined with comparative evidence from a number of similar mélanges along the inferred suture belt in NW Anatolia, it is concluded that the ridge-spreading in the Intra-Pontide Ocean continued at least from middle Middle Jurassic to middle Late Cretaceous.