TECTONIC FEATURES AND STRUCTURAL EVOLUTION OF THE YALVAÇ - YARIKKAYA NEOGENE BASIN

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ABSTRACT— Yalvaç-Yarıkkaya Neogene basin, which has a triangular shape, with its margins bordered largely by normal faults, is located in the central pan of a regional-scale structure, the so-called Isparta flexure. Ordovician mete-sedimentiles comprising the Sultan Mountains, and Triassic-Cretaceous aged carbonate rocks border the basin in the east and north, respectively. The Anamas Mountains, bordering the basin in the south, comprise largely a carbonate rock sequence of Triassic to Cretaceous, whose thickness reaches 5000 m. An ophiolilic complex, described as the "inner Tauride ophiolitic complex nappe" by the former investigators, and whose emplacement in the region has been ascribed to Upper Lutetian, forms the boundary of the basin in south and west. The Neogene sequence, reaching a total thickness of 800 m. in the region, dominantly comprise alluvial fan, fluvial and lacustrine sediments. Alluvial and lacustrine sediments exhibit intervened stratigraphic relations laterally at the margins of the basin. Neogene sediments, which are distributed extensively in the region, have been deposited under the control of growthfaults. These faults, bordering the basin, have a general trend in the N, NE and NW directions, and exhibit parallel en echelon structural features. Structural elements in the study area and in near vicinity have developed under the influence of compressional and tensional tectonic regimes, that prevailed in different epochs. In Langian, due to the compressional tectonic regime that progressed in the N-S direction, many intersecting shear-faults developed in the NE and NW direction, which shaped the Isparta flexure, in addition to many folded and thrusled structures. In the period following the Langian compressional regime, Yalvaç Neogene basin opened by the transformation of previously formed strike-faults into normal-faults, due to tensional tectonics.