

THE ERATOSTHENES SEAMOUNT AND SOME STRUCTURAL  
OUTLINES OF THE SOUTHEASTERN MEDITERRANEAN

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The Eratosthenes Seamount is a folded structure found some 120 km south of Cyprus. It is found in the overlap zone of two regional NW-SE trending faults. One of them extends from the northern part of the seamount north-westwards to the Gulf of Fethie, and the other extends from the southern part of the seamount to the southern continental margin of Israel. Secondary faults, which are parallel or normal to these regional faults, build the structural framework of the seamount.

Former studies of the Eratosthenes Seamount indicated that it was uplifted prior to the Messinian (Ross and Uchupi, 1977) and that its magnetic field shows a counterclockwise rotation of some 20° (Ben-Avraham et al., 1976). However, seismic reflection profiles indicate that many of the faults in the region of the seamount have been active after the Messinian and their activity has been continuous until Recent time.

It is suggested that the Eratosthenes was formed as a secondary folding to a pre-Messinian dextral strike slip faulting trending to the NW, and its uplift was associated with rotation due to the strike slip displacement. The post Messinian to Recent faulting phase is considered to be the rejuvenation of the former faulting system, and it can be detected in the continental slope off Israel and northern Sinai as well. There is ground to presume that this rejuvenation is associated with crustal spreading activities across the Jordan Rift, which is considered to be the northern extension of the Red Sea spreading center.

References

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