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The New Results of Correlated Onshore and Offshore Geological and Geophysical Studies in the Cyprus Area

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**Geological Survey of Cyprus

Two expeditions carried out with RV "Akademik B. Petrov" (1989) and RV "Akademik N. Strakhov" (1990) in the Cyprus area yielded new data on the onshore geology and marine geophysics of the region.

Many of the gravity and seismic refraction data obtained are still under-going processing, but some preliminary results merit a brief outline and discussion. They support previous conclusions that Cyprus is underlain by continental type crust, and that south of the island the crust is of oceanic nature (Makris et al., 1983). The base of the Mamonia rock complex seems to be a rootless nap of the Trodos ophiolites of about 4.5 km thickness, as indicated by the interpretation of the seismic refraction data. The upper and lower boundaries of the Trodos allochthoneons were traced and correlated for the continuous onshore-offshore seismic profiles. They are truncated by graben-like structures and disappear north of the Eratosthenes Seamount. The results of the onshore geological studies include a new biostratigraphic subdivision of the Diarisos group. It was established that the uppermost lava are lower Cretaceous and thus younger than previously suggested. Evidence for MORIS affinities of the basalts from the lower part of this sequence was found. Furthermore it was discovered that the serpentinite melanges related to the Diarisos group do not include any exotic blocks of Trodos affinity. These last two observations indicate that the upper Triassic basalts were generated under true oceanic conditions (as oceanic crust).

Sediments associated with these lavas are of pelagic type and do not include any terrigenous components. We intend to outline briefly the scope of our institute's "Tethys" project.

Reference

Makris, J., Ben-Avraham, Z., Behle, A., Ginzburg, A., Giese, P., Steinmetz, L., Whitmarsh, R.B. and Eleftheriou, S., 1983: Seismic refraction profiles between Cyprus and Israel and their interpretation. *Geophys.J.R.astr.Soc.* 75, 575-591.

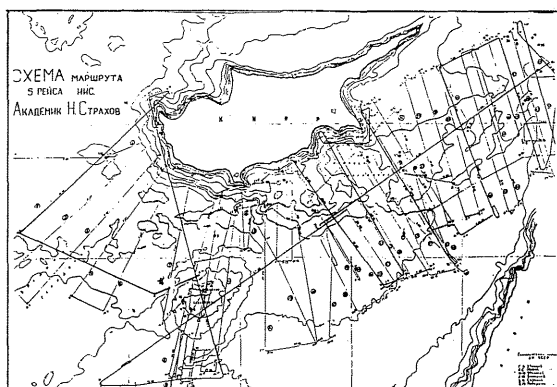
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New Geological and Geophysical Data from the Cyprus Island Arc and Eratosthenes Seamount and their Interpretation

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During the 5th cruise of RV *Akademik Nikolaj Strakhov* (1987) in the Cyprus Arc and Eratosthenes Seamount region we collected 6,000 n.m. of multibeam echosounding and continuous seismic profiles. In addition, several localities were dredged and sampled. The results show that the submarine ridge does not connect the Cyprus Arc with the Bassit Massif of Syria. This is particularly evident for the structures at basement level which are clearly discontinuous. A series of normal faults at the southern flank of this ridge controls the sharp diapiric crest and numerous diapiric structures, all associated with the Messinian evaporites. The diapiric ridge between the Heccata ridge off Cyprus and the Bassit Massif of Syria is a structural continuation between the two which is confined only in the deformation of the sediments.



The detailed survey and dredging of the Eratosthenes Seamount provided reliable proof of its continental origin since samples are typical for platform limestones and also metamorphic rocks of acidic affiliation. The top of the seamount submerged to depths of about 800 to 900 m. This subsidence is in good agreement with that observed for downfaulted seamount flanks that limit the Eratosthenes Seamount towards the adjacent floor of the Eastern Mediterranean.

