

10-4. - SHELF TOPOGRAPHY AND SUBMARINE CANYONS OF CYPRUS AND RHODES, EASTERN MEDITERRANEAN

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ABSTRACT

Previous investigations of submarine canyons on the continental shelf of Lebanon have been extended to include surveys along the south, east and north coast of Cyprus and the east coast of Rhodes.

These preliminary investigations have disclosed the presence of a number of submarine valleys and canyons and some terraces. The greatest concentration of these canyons was found to be on the north coast of Cyprus, where 13 canyons were located. Most of these seem to be situated in the extension of short, steep river valleys which out the north slope of the Kyrenia range.

Six canyons were located on the east and southeast coasts of Cyprus. With the exception of the Dhekelia canyon on the south coast, most of the canyons in this group are not associated with river valleys. Atoll and Branco Canyons are situated at Cape Greco, and Cheetah canyon starts on the 100 fathom depth contour in Famagusta Bay. There is some evidence that an increasing number of canyons will be found at the edge of the continental shelf and extending down the slope in this area.

Some evidence of submerged terraces at depths of 70, 80 and 100 meters was obtained from fathograms from the north and east coasts of Cyprus.

Five canyons were surveyed on the east coast of the island of Rhodes between Rhodes and Lindos. One major canyon was surveyed south of Lindos and preliminary data indicate the presence of two other canyons immediately north of Lindos. The landward heads of all of these canyons are in close proximity to the mouths of rivers.

This close connection between river valleys and submarine canyons resembles that found on the continental shelf of Lebanon where five of the seven canyons investigated are connected with the very youthful steep "V" shaped river valleys of the west flank of Mount Lebanon.

It can be concluded that the canyons of Cyprus, Rhodes and Lebanon investigated so far can be placed in four groups :

- 1) Canyons in almost immediate continuation of land river valleys,
- 2) Canyons occupying the centers of bays.
- 3) Canyons which start at the edge of the shelf and have no apparent connection with land topography.
- 4) Canyons that start near the points of headlands.

The genesis of most of these canyons can be explained in the light of the late Miocene sea level lowering of the Mediterranean, as being caused by subaerial erosion at that time. It is hoped that during the coming year surveys with equipment yielding sub-bottom echoes, recently installed on board R/V ATOLL II will provide further data in this connection.

Intervention à la suite du 10-4.-

RYAN - Are there valleys on land which continue down to the coast without a seaward continuation into submarine canyons ?

Reply : We have just found a one, recently, in Lebanon.