

An underwater valley in front of the Rumanian shore of the Black Sea

by

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Summary*

The works of C. BRATESCU indicate the fact that in front of the Rumanian shore there is an underwater system of valleys among which the most important is the old Danube valley.

In 1963 the Hydrographical Office (Constantza) started the researches in the region of Cap Tuzla, in order to find the mouth of an underwater valley, earlier reported in the works of V.P. GONCHAROV (1958).

The investigations started from 44° latitude southwards, in the zone in which are discovered previously, during some oceanographical expeditions, great variation of the bottom level. The cartographed area, registered by means of echosounder, is of about 1600 sq. miles. The results of investigations were somewhat surprising. The difference of level forms a veritable canyon which does not finish at 200 m isobate but is mostly developed on the abruptness of the continental shelf. The total length of this underwater valley surveyed on the thalweg is of 69 km with a medium slope of 0°55'. Between the isobate of 100 and 400 m the slope of the longitudinal profile attains almost 4°, but it gradually waves down at the zone of the big depth. In the transversal sections one could find the breadths between 5 km with a relative depth of 300 m with 12 km and a relative depth of 620 m. The slopes of versants presents values as high as 6-12°. The underwater valley strikes northwest-southeast on the continental shelf. On the continental abrupt it changes its direction eastward and finally it strikes south-east again.

The change of the direction may be determined by the underwater relief higher in the south part of the valley and formed of hard rocks. This problem is on the way to be clarified by the Hydrographical Office.

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