

MULTIDISCIPLINARY RESEARCH AT THE AGIGEA MARINE ZOOLOGICAL STATION. THE BEGINNINGS OF MARINE GEOLOGY AND GEOECOLOGY RESEARCH IN ROMANIA

DOI: 10.xxxx

It is known that the Agigea Marine Zoological Station was established at the initiative and through the efforts of Professor Ioan Borcea, Corresponding Member of the Romanian Academy, in accordance with the provisions of Royal Decree no. 810 of March 1, 1926. It was an exceptional achievement for Romania, being the first scientific station dedicated to the study of the Black Sea, especially from the biological oceanography and marine ecology points of view.

In 1939, the station was entrusted with the administration, scientific monitoring, and management of the natural reserve "The Marine Dunes of Agigea." Initially, the reserve covered approximately 25 hectares, but in 1940, according to the provisions of Decree-Laws no. 3052 and 3072, the location was reduced by 15.68 hectares. This area was used by the Ministry of National Defense for the construction of the defense system of the Port of Constanța, known as the "Elisabeta II Coastal Defense Battery," consisting of an observation and fire-control tower, four 120 mm gun emplacements, communication galleries, and shelters for these military objectives.

More recently the Agigea Reserve was classified under IUCN Category IV as a "Habitat/Species Management Area," Natura 2000 site ROSCI 0073, and since 2016 it has been considered a „protected natural area of national interest“.

The station is located in the immediate vicinity of the Port of Constanța South and of the sea entrance to the Danube–Black Sea Canal. The station consists of a main building housing laboratories and researchers' offices, a building used to accommodate researchers working at the station (in the former fire-control tower), and a smaller building that hosted the station's administrative services.

In 1970, in accordance with a Presidential Decree signed by Ceaușescu, all units conducting scientific research on the Black Sea were consolidated into a single research entity: the Romanian Institute for Marine Research (RIMR). Consequently, the "Prof. Borcea Agigea Station" and Marine Geology activities were attached to this institute and the Laboratory of Marine Geology was formed and operated at the Agigea station.

The station's history had also some moments of "crisis." Between 1975 and 1980, the administration of the Danube–Black Sea Canal moved into the station's buildings while the sea lock at the exit from the canal into the Port of Constanța South was nearing completion. Consequently, all research activities at the Agigea Station were relocated to Constanța. Moreover, the southern expansion of the Port of Constanța and the construction of the southern protective breakwater separated the "Prof. Borcea Station" and the Agigea dune reserve from the coastal and marine area, substantially altering environmental and working conditions.

During the same period, marine seismic surveys began to identify the hydrocarbon potential of the Romanian Black Sea shelf and to construct the first offshore drilling platforms intended to exploit these marine energy resources. The Marine Geology Laboratory within the Marine Research Institute of Constanța was tasked with studying geotechnical and stability conditions for the safe placement of drilling platforms operating on the continental shelf of the Black Sea, on geological structures with hydrocarbon potential identified through marine seismic research.

Geological mapping of the Black Sea shelf under Romanian jurisdiction was initiated at scales of 1:200,000 and 1:50,000. Geological research in the Danube Delta continued

in order to discover new reserves of heavy minerals (mainly for zirconium and titanium, as well as other strategic metals). Research on the dynamics and structure of the coastal zone, both in the delta front area and in the southern Romanian littoral, was further developed, focusing on sectors of major economic and social interest. These studies were carried out within the RIMR, by the Marine Geology Laboratory in the buildings of the Prof. Ioan Borcea Marine Research Station at Agigea.

The aforementioned activities faced difficulties due to the absence or insufficiency of appropriate research infrastructure – namely a research vessel, specialized scientific equipment, and adequate personnel expertise. However, thanks to the support of Academician Ioan Ursu and Academician Mihai Drăgănescu, leaders of the National Council for Science and Technology (NCST), as well as advisers N. Cernescu and A. Manilici, these issues gradually began to be resolved. The only problem that could not be solved at that time was the acquisition of an appropriate research vessel for direct geological investigations at sea.

In 1975, a Presidential Decree decided the transfer of Marine Geology research activities to the Institute of Geology and Geophysics (IGG) in Bucharest and the establishment of one of its branches in Constanța.

In the following years, close collaboration existed between the IGG, RIMR, and the Marine Research Station at Agigea.

In 1993, the Romanian Center for Marine Geology and Geoecology was established, which in 1996 became the National Institute for Research and Development in Marine Geology and Geoecology – GeoEcoMar. Through considerable effort, it succeeded in converting a decommissioned ocean trawler into the multidisciplinary marine research vessel “Mare Nigrum”.

It can therefore be stated that the beginnings of systematic marine geological and geophysical scientific research were laid at the “Prof. Ioan Borcea” Marine Research Station in Agigea.

On the occasion of the centenary of its establishment, the community of geologists and geophysicists in Romania wishes to convey to the “Prof. Ioan Borcea” Station its warmest wishes for continued success and development in the years ahead, to follow in the distinguished footsteps of the Professor who founded this institution, and to carry out high-quality scientific research worthy of the prestige of the station's founding father.

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