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THE ROMANIAN MARINE RESEARCH INSTITUTE

Virgil Iordănescu

Director - Romanian Marine Research Institute - Constanța

The Romanian Marine Research Institute was set up in Constanța in March 1970 following the tasks set up by the Draft Directives of the Congress of Romanian Communist Party regarding the development of the investigations into the sea life.

The Institute was created through the unification of the four existing units that unfolded their activity in the marine field, namely : the "Professor Ioan Borcea" Station in Agigea, the "Grigore Antipa" Station for sea researches and piscicultural planning, the Department of marine biology at the "Traian Săvulescu" Institute, and the Laboratory of marine hydrology of the Institute of Studies and Researches for Land Melioration and Water Management.

The above marine research units amalgamated into a single institute are unfolding their activity on various profiles; they have obtained promising results in the respective domains they are concerned with.

The researches at the "Professor Ioan Borcea" Station in Agigea have studied the biological problems linked with the stone facies of the Romanian littoral and, recently, have undertaken studies of ichthyology and radiobiology in the open sea, the research issues being completed by problems regarding the physiology of fish and other marine organisms.

Being also a field for practical work by students from faculties of biology of the entire country, as well as for professors of secondary

schools and lycees, organizing also summer courses and study trips, this station had a rich didactic activity.

The activity of the "Grigore Antipa" Station for piscicultural researches was focussed on the complex hydrological, hydrochemical, hydrobiological, ichtyological studies, as well as on fishing technology and fish breeding economy of the Black Sea, and lately, this station extended its activity also in the Atlantic Ocean, in the fishing area of the Romanian trawl-ships. Studying year by year the environment conditions, fish migration and reproduction, fishing tools and their efficiency, the researches there have established fishing prognoses for every year and have drawn the attention of the production sector to improved fishing equipment systems and further synthetic materials that can be introduced into the production process.

The researches at the Department for sea biology of the "Traian Săvulescu" Institute of Biology have made investigations into the sea flora and fauna and have studied, with remarkable results, the dynamics of sea plankton and of the major benthonic associations found in the characteristic areas of the Romanian Black Sea coast (the sandy facies with Corbula, the Danube mouth area, etc.).

The Station for sea researches was set the tasks of making hydrological studies; these consisted of measurements and observations on the water masses both near the littoral and in the open sea, as well as on the distribution over time and space of the major hydrometeorological elements and their action on the littoral and the hydrotechnical constructions.

Although in some fields the results were good, the scattering of forces devoted to marine researches led to a certain parallelism and overlapping of the preoccupations and hence to the incomplete and inefficient utilization of the material basis and of the scientific potentialities, preventing the cooperation and collaboration which are so necessary, between researchers, making impossible plan coordination and correlation, influencing negatively the activity of the researchers in our country.

The strengthening, modernization and expansion of the research

activity in keeping with the major significance of this activity, have asked for the setting up of the Romanian Marine Research Institute, as a measure meant to eliminate the negative effects generated by the dissemination of forces; capable of transforming the knowledge, exploration and exploitation of this wealth in the marine environment into a coordinated activity.

The imperative to develop and organize marine researches on new bases, in keeping with the requirements of the national economy, resulted in the setting up of the Romanian Marine Research Institute as a unity with an own economic management, subordinated to the National Committee for Science and Technology - the central forum for the coordination of the research activity.

The research field orientations adopted by the Romanian Marine Research Institute are, generally, similar to those existing on a world plane, its activity being unfolded particularly in the Black Sea.

In the domain of physical-chemical oceanography, the researches are oriented towards the establishment of the characteristic environment parameters both as concerns aquatic fauna and flora. The study of the chemism and thermic conditions existing in the Black Sea, the hydrological and dynamics issues, the level of the sea of the waves and currents are some of the preoccupations of this Institute, meant to provide data on the exploration and exploitation of resources, as well as for the adoption of measures in order to carry out hydrotechnical and tourist arrangement work on the Romanian littoral.

In the field of the marine biology, the Romanian researchers are concerned with an as exact as possible determination of the biomass, in order to evaluate the available resources and to establish the possibilities for their turning to account. In this direction, researches are under way on the fauna and flora of the Black Sea, the distribution of plankton and benthos (qualitative and quantitative variations) and the biology of fish species (reproduction, feed, migration, etc), so as to establish the condition for available reserves, to make prognoses and to organize a suitable fishing.

In order to achieve an uninterrupted efficiency of sea fishing,

studies, researches and tests aiming at improving fishing equipment and at introducing into the manufacturing process cheaper materials with a longer wear and tear are carried out concomitantly with the researches regarding the evaluation of reserves, of fish migration and concentration, and the establishment of environment condition determining and the conditioning these processes.

One of the major concerns of the Institute is to turn to good account algae and molluscs existing in the Black Sea, through stock evaluation operations, the quantitative and qualitative mapping of the former, the establishment of the fish stock restoration rate subsequent to large scale exploitation and of the most efficient means and methods for increasing these resources through artificial breeding.

Sea geology and geophysics are domains studied only recently in this country, and thus they are less developed.

The research problems envisaged for the forthcoming period include the determination of the nature of sea bottom and sediments, and of their substratum, so as to evaluate the resources of useful mineral substances available in the Black Sea, and first and foremost on the Romanian continental platform, so as to establish the possibilities of a profitable exploitation of these resources.

Mention should be made also of researches aiming at establishing the causes and consequences of pollution agents in the sea environment, of the methods for controlling sea pollution and of the researches aiming at establishing the dynamics of the littoral morphology that will allow the choosing of the best solutions for arranging the littoral, to extend the beaches, etc.

According to the complex nature of the investigation targets and the characteristic features of the new research fields of various specialties, the sea researches have acquired an interdisciplinary nature resorting to every specialty, starting from geology, geography, hydrology, meteorology and biology, up to physics, mathematics, energetics, constructions and medicine.

Sea researches assume a good knowledge of every ingredient of

marine environment, as well as of their mutual influence, starting from air-water interaction, up to the open sea bottom.

The complex and interdisciplinary nature of researches is completed by the vastitude of the area to be studied; that is why it was necessary to pass from isolated researches that could not lead to synoptical results, to a broad scientific cooperation on world scale.

The actual knowledge regarding marine environment is still insufficient, preventing mankind to unfold a sustained exploitation activity; the essential element in turning to account sea resources consists of the development of scientific researches and in the improvement of exploration and exploitation techniques.

The scientific and economic concern for developing sea researches is part of the logical evolution of events and of its progress, being determined by the necessity to find which are the available resources and to improve the exploration and exploitation methods without which these resources cannot be turned to good use.

The studies in the future aimed at evaluating and using the wealth of seas and oceans will be considerably expanded, and will require regulations for the access to this wealth which is outside the national jurisdiction; this will lead to an intense international cooperation activity.

The Romanian researchers in the field of the sea join in the ever bigger efforts made by mankind for the exploration and exploitation of seas and oceans as they are convinced of the utility and necessity of cooperation, because only through knowledge of sea environment this immense reservoir of resources can be turned to account in the interest of man progress and welfare.