

MARINE BIOLOGICAL AND OCEANOGRAPHIC INSTITUTIONS OF THE WORLD

VI. THE MARINE LABORATORY, UNIVERSITY OF MIAMI, FLORIDA

By THE DIRECTOR

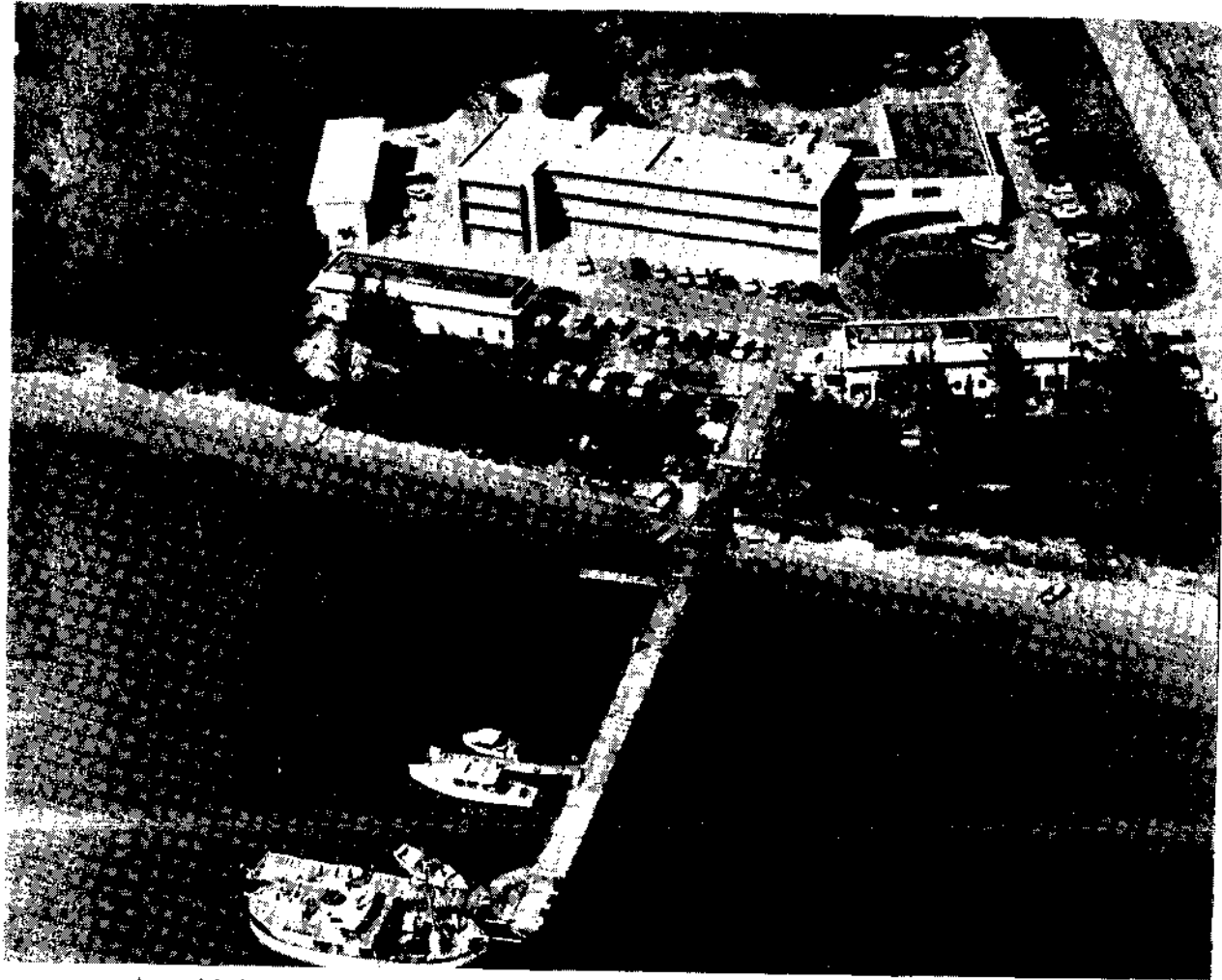
The Marine Laboratory, University of Miami, Florida

THE Miami Marine Laboratory was established in 1943 as an Institute of the Miami University. Miami, though geographically in latitude 27° N is actually within the West Indian region faunistically. It is thus the only station in the continental U.S.A. where the tropical marine environment is now being studied. Since no other tropical marine stations exist under similar favourable conditions the laboratory has developed a comprehensive programme which includes the functions of all three temperate zone research institutions at Woods Hole, namely an oceanographic institute, a fisheries institute and a marine biological institute. In addition, as part of a University, it is able to combine research with specialized graduate study and undergraduate study throughout the year.

This combination of functions has been extraordinarily stimulating, both to teaching and research. Students are trained partially on an internship basis in an atmosphere of original investigation. Oceanographic scientists are constantly exposed to the stimulation of ideas and techniques developed in cognate discipline by visiting investigators. Equally well the academic programme is enriched by outstanding visiting investigators who contribute lectures to it. The value of the unique location and unusual concentration of objectives and attitudes in our Laboratory is reflected in the growth of the staff from one or two to over 100 graduate scientists in a period of about 15 years, without the help of endowments and with little publicity. It is basic to the expansion of oceanography and aquatic biology which is demanded in recent Committee reports of the National Academy of Sciences and the National Research Council that the training of competent investigators be greatly expanded. The Miami station offers such training.

Two buildings with seawater circulation ; a three-storey air-conditioned main laboratory building ; a workshop and storage building ; and a radar meteorology antenna tower comprise the physical plant, with total floor space of about 42,000 square feet. Seagoing vessels and shallow draft craft are docked at the Laboratory. The entire 5-acre tract is on an entrance to Biscayne Bay, within about two miles of the Gulf Stream and deep water. Efficiency apartments for twenty-four students and visiting investigators are now being erected. Additional units are planned for the near future. Apparatus and equipment is available for a wide range of investigation, and includes a mass spectrometer, X-ray and emission spectrometry, alpha and beta radiation Laboratories, physiology, biochemistry, chemistry and submarine sound laboratories.

A commodious and well equipped library occupies about 2,200 square feet of floor space on the third floor of the main laboratory building. About 18,000 titles



An aerial view of the new buildings of the Marine Laboratory of the University of Miami, Florida.



The bottom sediments and their living contents are collected by means of special bottom grabs for laboratory study.

are catalogued, covering all branches of marine science, including meteorology. Complete files of the principal journals of the countries active in this field are maintained. The Main Library and the Medical Library of the University may also be consulted at a distance of a few miles from the Laboratory.

The instrument shop and the carpenter's shop are concerned with the design, building and maintenance of seagoing and laboratory equipment. A well equipped and stocked paint shop is part of the workshop. Equipment in the photo room includes still and 16 mm. motion picture cameras. Underwater photographic equipment includes a 35 mm. movie camera with pressurized case and a 120 Fenjohn Goggler still camera.

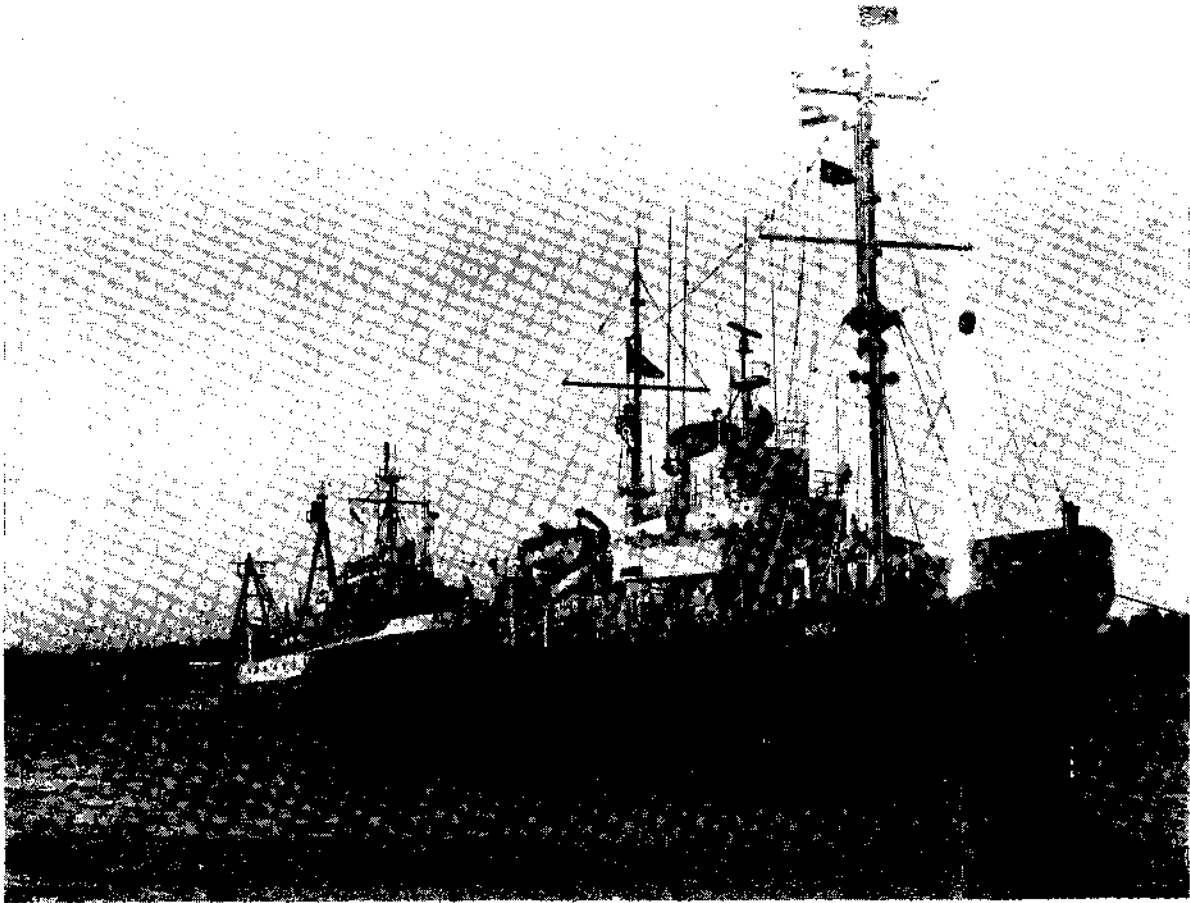
The Marine Laboratory operates a number of research vessels. Mostly, these vessels work in local inshore and nearshore waters, but the largest vessel, R. V. *GERDA*, regularly works in the Florida Straits and eastern Bahama Islands and has operated in the Caribbean and the Gulf of Mexico. Research Vessel *GERDA* is a converted Danish-built North Sea Trawler of 75 feet length over-all, 20 foot beam, and 9 foot draft, powered by two 120-horsepower Caterpillar Diesels. She is outfitted with a deck laboratory for chemical, biological and electronics work, a large wet laboratory for hydrographic work and berthing accommodations for ten crew members and scientists. Her special equipments includes radio, radar, loran, a deep water fathometer fitted with a precision Depth Recorder, and a small high speed B-T winch. It is planned to add to the research fleet a 300 ton vessel in 1962 and a 1500 ton vessel at a later date, in order to provide more adequately for present needs and for planned increase in personnel and research activities. Research Vessel *PANDA* is a cruiser design of 50 feet length over-all, 12.8 foot beam, 4.6 foot draft, powered by two 150 horsepower GM diesels. She is outfitted with a small winch and boom, radio, and accommodations for six scientists and crew members. Research vessel *SEA GOOSE* is an auxiliary powered ketch with a length over-all of 43 feet, beam of 12.9 feet, and draft of 3.2 feet. Her auxiliary power consists of two 28.5-horsepower Mercedes Diesels. *SEA GOOSE* has accommodations for six crew members and scientists and is equipped with radio and radio direction finder. In addition to several small outboard-powered skiffs, The Marine Laboratory has a Lap Skiff design inboard of 22 feet length over-all, 7 foot beam, and 16 inch draft, powered by a 90-horsepower Chris Craft. A recent addition is the 35 foot motor cataraman *ARIUS* experimentally designed and equipped for research on shallow banks within a cruising range of 500 miles. Hydraulic winches and ample deck and laboratory space with good cruising range and excellent seagoing qualities are unusual accompaniments to a shoal draft of about 15 inches. This vessel conforms to coastguard regulations for transporting classes of twenty-five students.

The Marine Museum contains a research collection of marine animals and plants which are representative of the fauna and flora of the West Indian zoogeographical region of which south-east Florida is a part. Facilities are not available for a public display, but the collections are contained, both wet and dry, in typical museum stacks where they are readily accessible for study. The boundaries embraced by the collections are from northern Florida to the northern coast of South America, including the West Indies and the Gulf of Mexico.

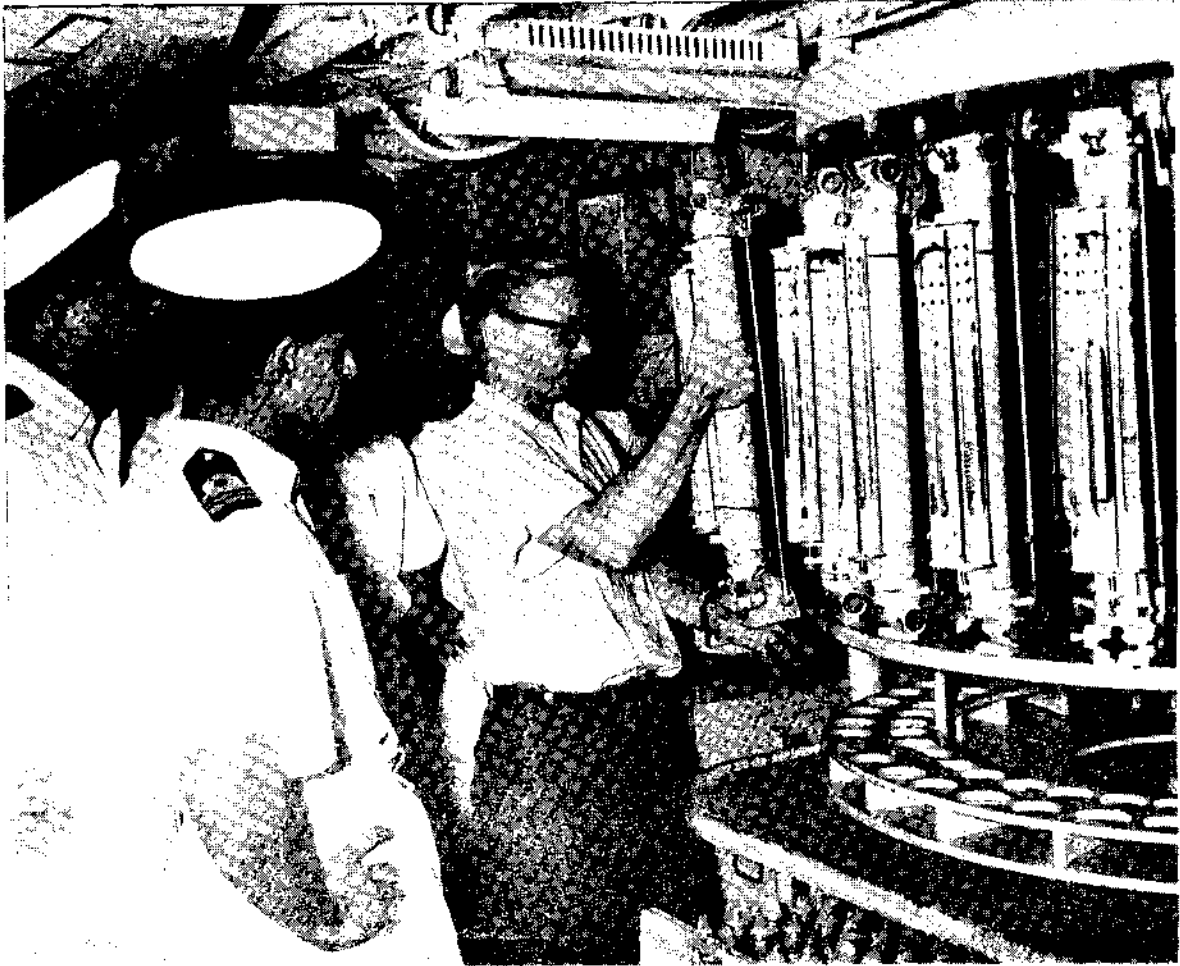
The Laboratory publishes quarterly *The Bulletin of Marine Science of the Gulf and Caribbean*. Papers concerning physical, chemical and biological oceanography in relation to the region extending in the western Atlantic from Brazil to the southern United States are considered for publication.

The Laboratory is a fishery research agency for the State of Florida and publishes two sets of publications for the State Board of Conservation. The *Educational Series* is devoted to reports on subjects of wide public interest. It is distributed by the Board and is available upon enquiry. The *Technical Series* consists of more technical papers. Other publications are *The Annual Proceedings of the Gulf and Caribbean Fisheries Institute* and the *Fisheries Newsletter*, a popular account of work in progress.

An information series, *The Special Service Bulletin*, is issued in mimeographed form when sufficient enquiries concerning a particular subject warrant their publication. They include such diverse subjects as tests for ambergris and instructions to crab plant operators. The Laboratory publishes for the International Oceanographic Foundation the illustrated popular science quarterly, *Sea Frontiers* and a monthly question and answer information letter, *Sea Secrets*. A list of all publications is available upon request.



The Argo and the Horizon



Dr. D. James Baker, a physical oceanographer who helped in the studies of the currents in the Indian Ocean aboard the *Argo*, takes out a Nansen bottle.