

BERMUDA DEEP-SEA EXPEDITION TO BEGIN PROBING OCEAN FLOOR MYSTERIES

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The lightless depths of the sea afford one of the last strongholds of the unknown for descriptive zoology. Remarkable and bizarre creatures had long been known from occasional corpses washed ashore in regions of upwelling currents and from the food of deep-diving whales, when the first systematic trawling at great depths in the last half of the 19th century brought to light a whole fauna of previously unknown creatures. Deep-sea dredging also disclosed the fact that the lightless zones of the sea are illuminated not only by pinpoints of light from the light organs of fishes and crustaceans and squids, but by whole masses of diffuse light from the bacterially lighted bodies of sea fans and types of animals with the plant-like habit of being fixed to the bottom.

The life of the deep sea is remarkable among the great faunas of the world for its state of unbalance. Since there is no plant life, other than bacteria, green plants being completely dependent upon sunlight, the animals of the lightless depths are dependent on the rain of falling bodies from the rich life of the lighted surface zone. Thus the deep-sea animals must be scavengers or must prey voraciously upon each other.

The remarkable discovery of male parasitism in the deep-sea angler fishes, in which a minute male becomes permanently attached at some point on the body of the female and is fed through her blood circulation, reflects the fact that a major problem for deep-sea creatures lies in the finding of

each other by the opposite sexes. The development of light organs of the most diverse arrangement, each type characteristic of a species, reflects the same difficulty.

These represent some of the particular matters that are to be presented in the Museum's proposed exhibits of deep-sea animal life. In drawing up plans for such an exhibit, paintings made by Staff Taxidermist Leon L. Pray were found to be of such evident interest that they were placed on temporary exhibition in a case at the end of the Hall of Fishes (Hall O).

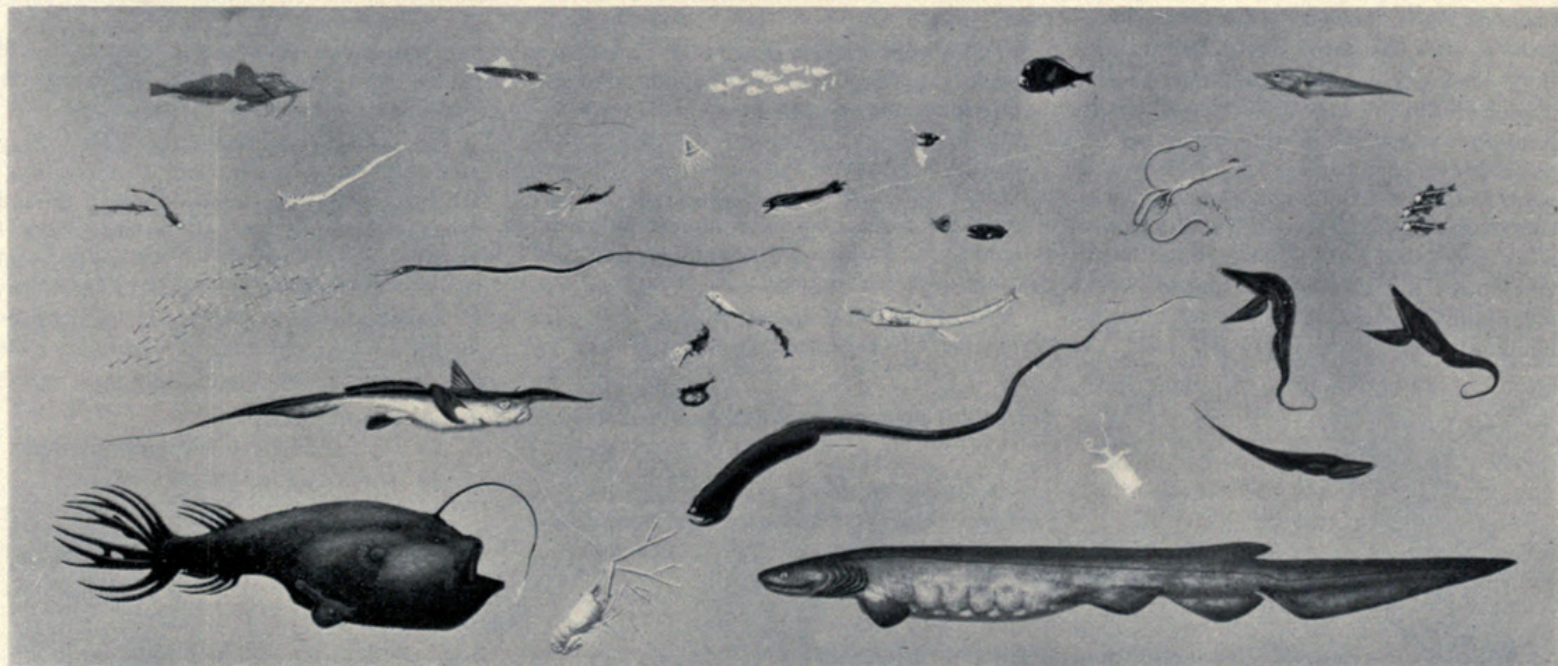
The extreme novelty in inland Chicago of the creatures of the deep sea to be searched for by the Museum's Bermuda Deep Sea Expedition of 1948, plus the inevitable aspect of the greatest game of chance in the world represented by hauling a trawl net at great depths in the open ocean or dredging on sea-bottom a mile beneath the surface, has lent an air of more than usual excitement and anticipation to the preparations for engaging in this activity.

Oceanographic research and collecting would ordinarily be beyond the scope of Chicago Natural History Museum. The offer of co-operative participation in a program of deep-sea collecting from Dr. Dugald E. S. Brown, Director of the Bermuda Biological Station for Research, at St. George's West, Bermuda, in which the Museum could sponsor a new oceanographic vessel, provided and equipped for deep-sea collecting by the Woods Hole Oceanographic Institution, affords a unique opportunity and this was cordially accepted by the authorities of the Museum. The

vessel to be used is the *Caryn*, a 98-foot ketch-rigged yacht with auxiliary power.

The staff assembled under the leadership of Dr. Fritz Haas, Curator of Lower Invertebrates, will be based at the Bermuda laboratory. It will consist of Dr. Haas, Mrs. Marion Grey, Associate in the Division of Fishes, and Mr. Ronald J. Lambert, Assistant Taxidermist. Mr. Loren P. Woods, Curator of Fishes, at present "on loan" to the United States National Museum, will join the expedition for the first three weeks of its operations. Dr. Lyell J. Thomas, of the Department of Zoology of the University of Illinois, will be the guest of the Bermuda Station during the last six weeks of operation of the *Caryn* and, in co-operation with the Museum party, will engage in the examination of deep-sea fishes, crustaceans, and squids for their as yet largely unknown parasites.

Dr. Haas' life-long studies on mollusks and other invertebrates include examination of the coral-reef fauna of Bermuda in 1947, while studying at the Bermuda Station; Mrs. Grey is qualified especially for the work envisaged by ten years' study of the literature of deep-sea fishes; and Mr. Lambert has had broad experience in preparation of specimens of marine creatures both for study and exhibition, gained on the Leon Mandel Galapagos Expedition of 1941, in which Mr. Woods also participated. It may be pointed out that the operations of the *Caryn* and the studies of the party will be greatly facilitated by the opportunity of working from a shore base.



SOME OF THE DEEP-SEA FISHES TO BE SOUGHT BY THE BERMUDA EXPEDITION DEPARTING THIS MONTH

Represented now only by a temporary exhibit in the form of a painting by Staff Taxidermist Leon L. Pray, it is hoped that the Museum will acquire actual specimens of the above grotesque creatures and many others when this summer's work on the research ship *Caryn* is completed. At the lower left is the

bizarre angler fish (*Reganula gigantea*), which carries its own fishing rod and bait to lure the smaller fishes that it consumes. The fishes shown are all conditioned by nature for life in the face of intense pressures, frigid water, and complete darkness in the sub-depths of the seas. New species await discovery.



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