

# The Marine Biological Station of the Imperial University at Misaki.

By

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With Plates XXVIII-XXIX.

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Thanks to the liberality of the Department of Education and of the authorities of the Imperial University, a marine station in connection with the biological laboratories of the Imperial University has at last become a reality, and naturalists in Japan will not hereafter have to have recourse to dark and inconvenient fishermen's huts, when they wish to study marine life. A piece of ground in the town of Misaki on the west side of the entrance to the Bay of Tōkyō was ceded some years ago by the Imperial government to the then University of Tōkyō, but owing to unavoidable causes, building of the station was not proceeded with until last autumn. The laboratory of which a view from the sea is given in Pl. XXVIII was finished last March and is now ready for use. The building is of plain wood, and one story high, except in the middle part which has a second floor. The main laboratory room which occupies the whole sea front (See the plan in Pl. XXVIII.) is 48 feet long, 12 feet wide at the two ends and 18 feet in the middle, and is able to accommodate about ten workers. A number of small aquaria for the use of investigators will be placed in this room. Of the rooms at the back of the main laboratory, one (*B*) has a cement floor and is for assorting and preserving specimens brought in from the sea. Another (*E*) is to

be used as the library-room, and a third (*C*) as the store room. The second floor over the central part of the building is able to give sleeping accommodation for a few persons. From a tank placed outside the building, fresh sea-water is carried into the main laboratory room and the assorting room, and is delivered out of many facets.

Misaki, (see Map Pl. XXIX) the town in which the station is situated, is an important fishing town on the western side of the entrance to the Bay of Tōkyō. It is the southern end of the peninsula of Miura which divides the Tōkyō Bay from the Bay of Sagami. It is easily reached from Tōkyō and Yokohama in one day. In front of the town, there is an island called Jōgashima, making between it and the main land a spacious and well-sheltered strait which forms the harbor of Misaki. The strait is perhaps over two square miles in extent and about eight fathoms in the deepest place. It is this piece of water which the laboratory fronts. Several villages besides Misaki are situated along the strait. It is an interesting fact that there is a certain amount of division of labor among these fishing villages. For instance, the fishermen of Misaki itself are engaged mainly in deep-sea fishing, while those on the island of Jōgashima confine themselves to animals found close to the shore. These towns together supply the fish-market of Tōkyō with a large amount of marine produce.

Misaki has long been a favorite collecting grounds for naturalists. The harbor itself, the tide pools on the ocean side of Jōgashima, and the neighboring inlets of Muroiso, Koajiro &c. furnish all kinds of bottom, while out in the sea off the shore there are beds which furnish the world-renowned Hyalonema. Almost every group of marine animals is represented in this region in more or less abundance. I do not think we have, by any means, become acquainted with even a small part of all the interesting animals to be found, but I might mention here some of the more important ones

already known to us. From what little examination we have made, Foraminifera are likely to furnish a great many species for investigation. On this head, I expect that we shall know more before long, as an English gentleman, Mr. A. Durrand, who spent a week in the station, sent to England bottom-washings from Misaki to be examined by specialists. Of the Radiolarians we have seen some—mostly of the Acanthometridae. Sponges are well represented. Of these, the most renowned is of course Hyalonema. We have not yet had the pleasure of bringing this beautiful sponge up by ourselves, as we do not possess at present means for dredging in deep-sea, but the fishermen of Misaki often bring in magnificent specimens during the winter months. They are brought up clinging to the fishing-line. Specimens of Hyalonema in museums of Europe and America are in reality mostly from Misaki, although they are marked as from Enoshima where they are bought and sold. Not less interesting than Hyalonema, although not as beautiful, is *Tetilla Japonica*, *Lampe* (Arch. f. Naturgesch. 52 Jahrg. I Band I Heft). This is found in great abundance in the harbor of Misaki during summer months. Of the Coelenterata, hydroid colonies are not very numerous, although we found one species of *Aglaophenia* in great abundance in December. Hydro-medusæ, Acalephæ, and Sea-anemones are fairly numerous. Corals are found living, as also *Veretillum* and other Pennatulids. Of the Echinoderms, there are several species of sea-urchins, star-fishes, ophiurans and holothurians, some species being found in great number. A *Comatula* is also found. A magnificent *Pentacrinus* two or three feet long is brought up in the same manner as Hyalonema. The Mollusca are exceptionally abundant. Tide pools &c. may be said to be alive with them in the spring, and their egg-masses form conspicuous objects at the same season of the year. Some of the more noticeable molluscs are *Chiton*, *Haliotis*, *Aplysia*,

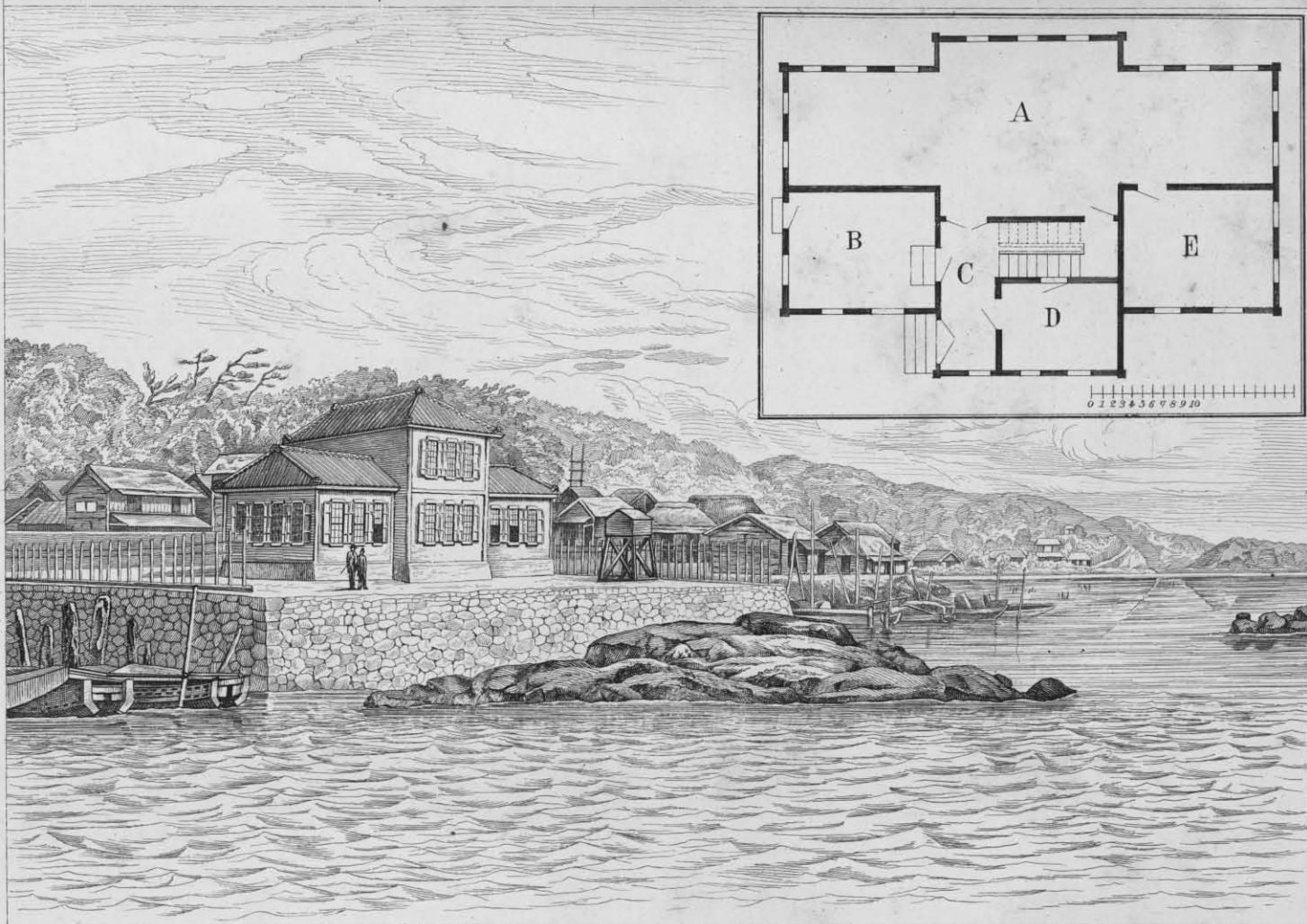
a curious Tethys and other beautifully colored Nudibranchs, Patella, &c. Cephalopoda are caught in abundance by fishermen. Crustaceans are very largely, and worms fairly well, represented. Lingula is found here as in almost every part of Japan. The inlet of Muroiso is fairly choked with Ascidians, and their bright red egg-masses form striking objects at the breeding season. Surface collection also furnishes many interesting animals. Besides the usual number of the Crustacean larvæ etc. we have caught Dolium, Salpa, Pteropoda, Heteropoda, (Atlanta, Pterotrachea) Actinotrocha, Tornaria, Siphonophora, Pilidium, Loven's larva etc. Physalia and Charybdea are also found. The Kuro-shio (Kuro-siwo) which passes off the coast of Japan has no doubt some influence on the surface fauna of this part.

Arrangements will be made by which students in the biological course of the University will be required to pass at least one term in this station.

Credit is due to Messrs Kojima and Yamaguchi, Architects of the Educational Department for designing the building. My colleague Prof. I. Ijima has also furnished many ideas in regard to the building and its internal fittings. Thanks are due to Dr. Anton Dohrn of Naples for kindly examining the plan of the station and for making several useful suggestions.

[For an account of a zoological excursion in this part of Japan, see Döderlein: Faunistische Studien in Japan, Arch. f. Naturgesch. 49 Jahrg. 1 Heft.]





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