

SCIENCE

NEW YORK, APRIL 3, 1891.

THE MARINE BIOLOGICAL LABORATORY.

THE corps of instructors for the fourth season (1891) consists of Dr. C. O. Whitman, director, professor of zoölogy at Clark University, and editor of the *Journal of Morphology*; E. G. Gardner, Ph.D., instructor in zoölogy, Massachusetts Institute of Technology; J. Playfair McMurrich, Ph.D., docent in zoölogy at Clark University; T. H. Morgan, Ph.D., Bruce fellow, Johns Hopkins University; W. M. Wheeler, fellow in biology, Clark University; H. C. Bumpus, assistant professor of zoölogy, Brown University; W. M. Rankin, Ph.D., instructor in zoölogy, Princeton College; Ryoiche Takano, artist; G. M. Gray, laboratory assistant; J. J. Veeder, collector.

In addition to the regular courses of instruction in zoölogy, botany, and microscopical technique, consisting of lectures and laboratory work under the direct and constant supervision of the instructors, there will be two or more courses of lectures on special subjects by members of the staff. One such course of six lectures will be given by Dr. McMurrich on the *Otenophora* and the *Turbellaria*. Similar courses on the *Mollusca*, *Crustacea*, and *Echinodermata* will be given by Professor Bumpus and Dr. Rankin.

There will also be ten or more evening lectures on biological subjects of general interest. Among those who may contribute these lectures and take part in the discussions upon them may be mentioned, in addition to the instructors above named, the following: Dr. H. Ayers of the Lake Laboratory; Professor H. H. Donaldson, Clark University; Professor W. G. Farlow, Harvard University; Professor J. S. Kingsley, University of Nebraska; Professor W. Libbey, jun., Princeton College; Professor C. S. Minot, Harvard Medical School; Professor H. F. Osborn, Princeton College; Dr. S. Watase, Clark University; Professor E. B. Wilson, Bryn Mawr College.

The laboratory is located on the coast at Wood's Holl, Mass., near the laboratories of the United States Fish Commission. The building consists of two stories, — the lower for the use of students receiving instruction, the upper exclusively for investigators. The laboratory has aquaria supplied with running seawater, boats, a steam-launch, collecting apparatus, and dredges; it is also supplied with re-agents, glassware, and a limited number of microtomes and microscopes. By the munificence of friends, the library will be provided henceforth not only with the ordinary text-books and works of reference, but also with the more important journals of zoölogy and botany, some of them in complete series.

The laboratory for investigators will be open from June 1 to Aug. 29. It will be fully equipped with aquaria, glassware, re-agents, etc., but microscopes and microtomes will not be provided. In this department there are fourteen private laboratories supplied with aquaria, running water, etc., for the exclusive use of investigators, who are invited to carry on their researches here free of charge. Those who are prepared to begin original work, but require supervision, special suggestions, criticism, or extended instruction in technique, may occupy tables in the general laboratory for investigators, paying for the privilege a fee of fifty dollars. The number of such tables is limited to ten. Applicants for them should state precisely what they have done in preparation for original work, and whether they can bring a complete outfit; viz., microscope, microtome, camera-lucida, etc. Special attention is invited to the opportunities here offered, as it is believed that they are somewhat unusual.

For the completion of any considerable piece of investigation, beginners usually require from one to three full years. It is not expected, therefore, that the holders of these tables will finish

their work in a single season. The aim is rather to make a safe beginning, which will lead to good results if followed up between sessions, and renewed, if need be, for several successive years. No applications for less than the whole session can be received in this department.

The laboratory for teachers and students will be opened on Wednesday, July 8, for regular courses of seven weeks in zoölogy, botany, and microscopical technique. The number admitted to this department will be limited to thirty, and preference will be given to teachers and others already qualified. By permission of the director, students may begin their individual work as early as June 15 without extra charge, but the regular courses of instruction will not begin before July 8.

More advanced students who may wish to limit their work to special groups will have an opportunity to do so. The regular course in zoölogy, under charge of Professor Bumpus, will embrace a study of the more typical marine forms and elementary methods of microscopical technique. The laboratory work will be accompanied by lectures. The following is an outline of the course proposed: July 8–13, study of the lobster; July 13–20, (a) study of annelids (*Nereis*, *Serpula*, *Spirobis*, etc.), (b) *Balanoglossus* and *Phascolosoma*, (c) *Polyzoa*, (d) *Turbellaria*; July 20–27, study of the cœlenterates; July 27–Aug. 3, study of the mollusks (*Mya*, *Ostrea*, *Sycotypus*, *Loligo*); Aug. 3–10, echinoderms (starfish, sea-urchin, holothurian, etc.); Aug. 10–17, crustaceans (*Branchipus*, *Cyclops*, *Lernæa*, *Lepas*, *Idotea*, *Orchestia*, *Cancer*); Aug. 17–26, vertebrates (*Amphioxus*, elasmobranch, teleost).

Arrangements for instruction in botany have not yet been completed, but it is hoped that Mr. Setchell will again be able to take charge of the work in this department.

Applicants should state whether they can supply themselves with microscopes and microtomes. Microscope slides, dissecting and drawing instruments, bottles, and other supplies, to be finally taken from the laboratory, are sold at cost. The tuition fee is twenty-five dollars, payable in advance.

Further information, if desired, may be had by addressing Professor Hermon C. Bumpus, Wood's Holl, Mass.

Applications for places in either department should be addressed to Miss A. D. Phillips, secretary, 23 Marlborough Street, Boston.

Rooms accommodating two persons may be obtained near the laboratory at prices varying from two to four dollars a week, and board from four and a half to six dollars. By special arrangement, board will be supplied to members at The Homestead at five dollars a week.

A department of laboratory supply has been established in order to facilitate the work of teachers and others who desire to obtain materials for study or for classes. It is proposed to furnish, e.g., certain sponges, hydroids, starfishes, sea-urchins, marine worms, crustaceans, mollusks, and vertebrates, in good condition, at fair prices. Orders for the coming college year should be given as soon as possible. Circulars giving information, prices, etc., may be obtained by addressing the Department of Laboratory Supply, in care of the secretary.

Wood's Holl, owing to the richness of the marine life in the neighboring waters, offers exceptional advantages. It is situated on the north shore of Vineyard Sound, at the entrance to Buzzard's Bay, and may be reached by the Old Colony Railroad (two hours and a half from Boston), or by rail and boat from Providence, Fall River, or New Bedford. Persons coming by the way of Boston should buy round-trip tickets (\$2.85).

The Marine Biological Laboratory is intended to continue and extend the work of the laboratory at Annisquam, carried on for six years by the Woman's Education Association, with the cooperation of the Boston Society of Natural History. The annual reports of the trustees, containing an account of its organization and work, may be obtained from the secretary.