

be provided with a windmill to furnish running salt water for aquaria and a tank to retain rain water. The laboratory proper should be a large, well-ventilated wooden building having a good north light. No better room has yet been devised than that of the Newport laboratory designed by Alexander Agassiz, although the ventilation of a tropical laboratory should be provided for with special care.

A small working library and sleeping rooms should be attached to the laboratory, and the kitchen and alcohol storage sheds should be in small separate buildings. Six thousand dollars would be required to construct the laboratory and its accessory buildings.

A seaworthy launch at least 55 feet in length and of light draft would be required. This should be provided with sails, auxiliary naphtha for power, and sounding and dredging reels. Such a launch is necessary, in order to study the life of the Gulf Stream itself and of numerous reefs at the Tortugas and its neighborhood. It should be capable of making the journey to and fro between Miami or Havana and the Tortugas.

The time has come when American men of science should awaken to the fact that we have at our very door a tropical fauna far surpassing in richness that of Naples. With our great wealth and many able and energetic workers, we should begin to perform the task for science which is being so ably done at Naples. The great monographs of the Naples Laboratory should be our incentive to do even more and better things in the development of knowledge concerning the marine life of tropical America.

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EGG-LAYING IN *GONIONEMUS*.

In a preliminary report on the life-history of *Gonionemus* (*Jour. Morph.*, Vol. XI., p. 494) I stated that the cause of deposition of eggs was due to the withdrawal of light, as the animals could be induced to deposit the eggs almost any time of day by placing them in the dark for an hour. The next year

(1896) some experiments were made with colored light to find if egg-laying could be brought about in more than one way and thus get nearer the cause. As I was not able to continue these experiments and some one else may be in position to do so, I give the substance of a few notes made at the time and the conclusion. The medusæ were exposed in a blackened box, one end of which was closed with a sheet of the desired color glass.

First some medusæ were exposed to yellow-orange light for one hour. The sun was not shining into the box; no eggs were deposited. These were then exposed for one hour to blue light (cobalt glass) and eggs were deposited; they were abnormally slow in segmentation. Next some of the animals were exposed under darker orange glass for two hours and no eggs were deposited. This and a control set were then put in the dark for one hour and in both cases eggs were deposited normally. Two females and a male were exposed under blue glass for one hour. The sun was shining through the glass and it was, therefore, lighter than in the other exposure under the blue. No eggs were deposited within the hour.

Sixteen females and one male were exposed under dark ruby glass for one hour and ten minutes, the sun shining through the glass; no eggs were deposited. In two other trials under the ruby glass when the sun did not shine into the box eggs were deposited. Immediately after the first exposure to red, above, the animals were placed under blue glass and left for one hour and fifteen minutes, and still no eggs were deposited. It took over one and one half hours' exposure to darkness before extrusion took place. Whether the previous exposure to ruby light had a retarding effect or not was not determined. The conclusion drawn was that the colors were not effective as such, but merely as they obstructed the light. It was also found at that time that the gonads removed from the animal deposit the sex products just as well as the intact animal.

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