

CORRESPONDENCE.

A Biological Station in Greenland.

Editor of the American Naturalist.

Sir:—The great liberality shown in the United States in distributing money for educational purposes, both from the State and from wealthy people is, as is well known, not shared in other countries. It, therefore, still more becomes our duty to take interest in any cause which will further the study of biology in any part of the world where the biologist has to deal with financial difficulties.

Dr. Morten P. Porsild, a Danish botanist, has asked his government to erect a biological station in Greenland, and as science, in the truest sense of the word, is international it is of just as great interest to us in America, as it is to the Danish biologists that such a station should be erected. In order to show our interest in the proposed station I thought it worth while to consider, in a few words, the importance of such a station from a scientific point of view.

The importance of biological stations has been more and more emphasized as our views of biological problems have widened. We have just passed over a crisis in which the entire time of the zoölogist was spent in the laboratory, in microscopical study, and have passed into a wider field, have enlarged the meaning of the word biology. It does not mean the study of structure merely, but function, not merely morphology but physiology, and all the factors which influence it; not individuals only but groups and relations between groups; it means the science of life in all its branches and their mutual dependence on each other. The recent investigations of Professor J. Loeb have emphasized this fact. The whole field of experimental zoölogy emphasizes the importance of studying animal life and of studying it scientifically. Many of our greatest biological problems are to be solved by studying outdoor zoölogy. A great work is yet to be written on how and to what extent selection works in Nature. The question of variation is left to the student of the complex phenomenon of environment under which these animals live and develop and how these conditions effect a given species; it is not a question for the mere systematist but the student of animal life, of

microphysiology for the student of biology in the widest sense of the word. To study phylogenetic development from structures only is to study results without causes. The important study of *relations* is a study of animal life. The whole field of economic zoölogy asks for better knowledge of outdoor zoölogy. In a word, the recent path of zoölogical investigation has been to go back to the methods of our great master, Charles Darwin, and use as an aid our detailed microscopical study which has absorbed almost the entire time of the zoölogist for years.

If these are true interpretations we must hail every new opportunity given the student of zoölogy in any part of the world to study animals in their natural surroundings, and on a scientific basis. Especially is such the case when we are hoping to get a biological station in Greenland where the conditions and fauna are so different from those of any place where similar stations are found. The student of variation will then have an opportunity of transferring animals from one extreme climate to another. A thorough knowledge of how the fauna is adapted to the surroundings in a land where the sun never sets for three months and never is seen for a still longer period of the year will surely yield some interesting results.

All the great groups of invertebrates, and vertebrates with the exception of the amphibians and reptiles, are represented in Greenland. The flora is surprisingly large so there is no lack of opportunities for study as soon as a well equipped laboratory is established there. According to the estimate of Mr. Porsild the trip from Copenhagen and return and one year's study in Greenland would, under those conditions, be reduced to one third of the present expense or to \$375.

The economic importance of such a station I have had various opportunities to show, and I need not point them out here but enough to say that Denmark ought to learn from the United States to protect her industries of hunting and fishing, and this can only be done in Greenland by having competent people there to protect these industries.

It is to be hoped that the government of Denmark will do its share in furthering the study of biology by offering the small sum of a few thousand dollars for such a station which will be of great value both from a scientific and an economic point of view.

MARTIN E. HENRIKSEN.

OHIO STATE UNIVERSITY.