

SOME REASONS WHY A NATURAL HISTORY SURVEY IS NEEDED IN OHIO.

The bill to be presented to the General Assembly providing for a Natural History Survey specifies in part the purposes of such a Survey, but some notes concerning the scope of such work, the reasons why it is needed and the extent to which such work is in progress in adjacent states may be desirable.

It will be generally recognized that the plant and animal life in a region such as Ohio must undergo marked changes as the result of the settlement and cultivation of the state, and some reflection upon the character of these changes must make it apparent that the record of the kinds of animals and plants that exist and that may be disappearing is desirable. Such forms have a distinct place in nature and the conditions under which they can flourish must be such as to affect other organisms of the same nature, and the recognition of these conditions may have the greatest importance in reference to the introduction of crops or of animals for economic purposes. Aside from this consideration, however, a knowledge of what has actually been in existence in the state has distinct scientific importance, and such knowledge may at any time be found to have a most important bearing on some questions vital to human interests. We know for instance, that the life of many of our streams is being greatly depleted either as a result of the contamination of water from the refuse of factories or other sources, or to other conditions less evident, and the disappearance of these forms of life in streams and lakes has a most important bearing upon the possibilities of growth for fishes and some other forms which have distinct importance to mankind. A careful survey and record, therefore, of what forms are now found in our streams, and comparison, so far as previous records makes it possible, with what has been present in the past, and careful future records as to the changes which may occur in the aquatic life of the state, will have a value that may be beyond estimate.

Aside from this economic feature, however, we may particularly consider the value that such a knowledge has in the educational work in every school in the state, and hence to the future citizens of the state. Without such knowledge teachers must depend upon statements made regarding the animal life of other localities, and even where this applies very closely to the conditions in our own state, the difficulty of securing the works in which such records are to be found makes it practically out of the question for the majority of teachers to take advantage of them. If all the teachers of Ohio could be furnished with definite information concerning the kinds of animals, birds, insects and plants that are

accessible in their immediate neighborhoods, they would have a basis for teaching which would be of the utmost service in their work. Such knowledge is more particularly in demand since there has been such a general movement in nature study, and so much demand for instruction in those branches which are closely related to agriculture and the industries.

In another direction such a survey is desirable because it is becoming known that many diseases have their means of transmission in the lower forms of organisms such as the fly, mosquito, flea, etc., and to the physician it is a matter of distinct importance to know what animals capable of bearing these diseases are to be found in the locality in which he is at work.

In connection with the distribution of plant life there is an important work to be done in recording areas of timber and the proportion of the different kinds of timber trees in the state. While this may in its details belong to a distinct division of forestry, the general distribution could naturally be determined in such a survey as is here contemplated, and unless provided for in other directions would be an important subject for study. The distribution of plants with special reference to soil and conditions would form a very important basis for the experimental work carried on by the state experiment station, and the necessity for such a Survey has been very pointedly urged by the director of the Experiment Station.

A feature of the proposed Survey that will concern the various schools in the state particularly is that of the distribution of the identified material through the schools, to form local collections in the colleges, city museums or high schools where they may be desired. Such a distribution is carried on in Illinois and has been a means of large service in the state. One advantage of this policy will be to distribute the services of the Survey widely over the state rather than to centralize a large collection in any one place. It means also that the different communities throughout the state will have an opportunity to co-operate with the Survey both in the collection of material, the preparation of reports, and in the direct use of the materials obtained.

Work of the kind here proposed is in progress in Connecticut, Vermont, Maryland, North Carolina, Alabama, New York, New Jersey, Pennsylvania, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Nebraska, Kansas, Missouri, Michigan and probably some other states, and it will be noted that of the northern and central portion of the country Ohio stands alone in not providing for such work. The surveys in these different states are organized on somewhat varied lines, but in all cases provide for more or less of the work here proposed. In Connecticut the Survey is practically along the lines here suggested, although it does not provide for distribution of collections to schools. In New York it is carried on

under the State Museum of Natural History, which includes the work of several bureaus. In Pennsylvania it is provided for in the form of an office of state zoologist who collects material and makes frequent reports on progress. In Michigan the Biological Survey has been in force for a few years only, but its scope is practically the same as here outlined, except that no provision is made for the distribution of collections. In Indiana it is associated with the Geological Survey, but a large amount of work has been done upon the plant and animal groups. In Illinois where the work has been continued for some thirty years or more a great deal has been accomplished in determining the character and distribution of the organic life of the state, extended studies upon the food habit of birds, fishes and other forms have been carried through, and extended series of collections have been distributed to the high schools of the state. A number of very valuable reports have been published, many of them inaccessible to people outside of the state, except as they are distributed to the libraries or specialists. The organization in Illinois is termed the State Laboratory of Natural History but its scope is practically that of the Survey proposed for Ohio. It may be noted, however, that there is a movement started in that state for a further ecological survey which would enlarge the scope of the present work. In Wisconsin the Natural History Survey has been associated with the Geological Survey and has been in progress for over a quarter of a century, and the same may be said of Minnesota. In Iowa the present Survey has been in progress for about twenty years and the survey work of this character in Missouri, Kansas and Nebraska has been carried on to about the same extent.

In Ohio practically nothing in this direction has been done since the publication of the reports on birds, mammals and fishes in the earlier Geological Survey reports, except such as has been done by individuals. As these older reports are now not only inaccessible but are entirely out of date the data presented in them is of service only so far as it may serve as a record for the time of its publication. The need of a definite Biological Survey was urged in the report of Director Thorne for the year 1890, but apparently no definite steps were taken to organize or provide for such a survey. The Ohio Academy of Sciences has during the last fifteen years through the efforts of individual members published a number of papers upon local collections or materials representing a greater or less portion of the state, a considerable number of these having been provided for by the generosity of Mr. Emerson McMillen. These studies, however, have necessarily been restricted in their scope, and of course without any correlation or connected effort on the part of different individuals to make their studies blend into a systematic study of the state at large. In fact such a systematic study of the state at large cannot be hoped

for except under some arrangement which will provide for a general direction and the means for carrying investigations into all sections of the state where it is necessary to secure the material for such a complete Survey. While the amount called for in the present bill is very modest as compared with what is expended in some other states, it is believed that with the numerous trained workers whose time could be employed for certain periods, that a great amount of work could be accomplished, provided it be connected and the results brought together in systematic form published in such manner as to be capable of distribution to those persons in the state who desire it.

HERBERT OSBORN.

The Tallant Collection. The Department of Zoology and Entomology of the Ohio State University has recently received as a donation a fine collection of Lepidoptera from Mrs. Catherine Tallant of Richmond, Indiana. The collection was made by Mr. W. N. Tallant during a series of years in the nineties and up to about 1905. It contains mainly species occurring in central Ohio, especially at Columbus, where Mr. Tallant resided for a number of years, but has also a number of species from different parts of the United States, and also some fine examples of species occurring in South America, Japan, China, India, Ceylon, and Africa. The collection contains about 10,000 specimens in most excellent condition, very beautifully mounted, and many of the species contain very full series, showing variations, etc., which will make them of special value for scientific study. They are, for the most part, carefully identified, included in good cases and cabinets, and will be kept under the name of the "Tallant Collection."

Taken with the other collections in Lepidoptera, the collection of Odonata left by Professor Kellicott, and those in various groups which have been accumulated by the efforts of the members of the Department, the University is now provided with an excellent collection of insects, including representatives in all the different orders, the total number of specimens probably coming close to 100,000.

H. O.