FAUNA OF MAMMOTH CAVE, KENTUCKY. BY R. E. CALL.

Published in the American Naturalist, May 1, 1897.

NOTES ON INDIANA CAVES AND THEIR FAUNA. BY W. S. BLATCHLEY.

Published in the State Geological Report for 1896.

A POSSIBLE RELATION OF THE ACADEMY OF SCIENCE TO THE TEACHERS OF BIOLOGY IN OUR SECONDARY SCHOOLS. BY L. J. RETTGER.

[Abstract.]

The purpose of the Academy of Science, as I understand it, is in the main two-fold. It aims to encourage original research work among its members, and so enhances the amount of scientific knowledge by valuable contributions. It also encourages younger observers to attempt more critical work and so prepare to continue the regular research work. By its organization and its meetings it is able to accomplish this to a very satisfactory degree.

The second purpose is probably the dissemination of scientific knowledge among the people. It is this second purpose that makes the first one peculiarly valuable to the State, and in the fullest way repays the favors which the State officially grants the Academy. But the dissemination need not be limited to the actual research work of the Academy. It may legitimately include that basal scientific information which any advanced work presupposes.

It will in this way create a more general and a more intelligent appreciation of true scientific work and may result in bringing out scientific talent that would otherwise have been missed.

The avenue along which the Academy may most efficiently exert its influence in this way is in the secondary schools of the State. By persistent efforts biological studies in some form or other are included in almost every high school curriculum and so the way is open as far as the subject matter is concerned. In many instances, too, there are teachers who have had a high grade laboratory training and who teach the subject in the high school in a most commendable way. But the fact remains that possibly in the majority of instances biological work in our high schools is still deeply mired in text book work. The utter worthlessness of biological work which does not bring the student into a direct contact with at least a reasonable number of actual things need not be restated. It is a maxim that such work is laboratory work or it is nothing.

In many instances this kind of work done is due to the lack of training of the teacher himself and for such a place there is no hope until by some good fortune the teacher gives way to a better. But there is a second class where biological work is handicapped in spite of a well trained teacher, and it is this class for which a possible remedy is here suggested. In few high schools indeed does the work in biology fall to a single teacher and occupy all his time. In practically all our secondary schools the teacher of biology has in addition to his zöology or botany classes, three or four other classes that may range from Greek through English Literature to mathematics. Usually his entire school day is occupied in "hearing" recitations. Time spent in laboratory work is usually "off time." There seems often but one thing left and that is to devote the recitation period in botany or zöology to an exposition of some text, and the actual study of things is very infrequent. If it be asked why the recitation period itself is not devoted to actual laboratory work, one needs but to be reminded that laboratory work requires material, good material, and a fairly large amount of it. And to continue this day after day with new forms means an amount of time spent in preparing this material which is not available to the high school teacher with his multiplicity of other duties. The teacher is further often quite unacquainted with the resources of his neighborhood, and is frequently not assigned to his place of duty until after the opportunities for collecting are gone. The writer has had the opportunity of visiting numbers of High Schools, and in almost all instances the apology for doing a low grade of work in botany or zoölogy was the one that specimens were, in spite of best efforts, not accessible. Sometimes the neighborhood would yield in abundance two or three different forms for study, and these would be studied as the material warranted, and yield all those desirable results which flow from the study of actual things. But these forms are soon exhausted, and the interest of the class is lost in attempts to put in the remaining time in this line of work which the program calls for.

For this difficulty it seems to me the Academy could offer a remedy. It could establish a central station of supplies from which all secondary schools could draw their material. Being controlled by the Academy, the following things would be assured in this matter: (1) Material well adapted for school work would be selected. This material could so be hardened, dried or otherwise preserved as to be in available form during any time of the school year. (2) Exchanges could be made subject to the approval of the station, and so a variety of forms secured for a collection of one or two forms which the teacher's own neighborhood easily afforded. A possibility to get a good assortment of forms without the direct outlay

of money is thus opened. As nearly every neighborhood has semething in abundance which is more or less rare in others, this plan can not be wholly impracticable. (3) Along with this high grade material the station could send carefully prepared directions for study in order to insure the proper use of the material. (4) This central station, being under the immediate control of the Academy, would preclude the suspicion that there was a mercenary element back of the affair, and would come to the teachers or school authorities with the force and influence of the Academy itself. (5) It would furnish all material to schools at actual cost, which would make the expense to equip a botany or zoölogy class through the winter a very slight one. (6) It would be a central station to which regular collectors could send the surplus of their collections for free distribution, and so materially widen the value of their work.

[Upon motion, the Chair appointed a committee to investigate the desirability of such a plan; the committee consisting of L. J. Rettger, Dr. C. H. Eigenmann and W. P. Shannon.]

The Occurrence of Uroglena in the LaFayette (Ind.) City Water. By Severance Burrage.

It not infrequently happens, even with the best public water supplies, that the attention of the consumer is attracted by some peculiar taste or oder in the water. This is particularly apt to be the case when the supply is derived from a lake or pond, or if it has to be stored for any length of time in a reservoir. In such instances the superintendent or water commissioners receive complaints to the effect that the water has a very disagreeable taste and smell, and that there must be dead fish or eels in the pipes. Just such complaints were heard in Lafayette in the early part of October, and vigorous attempts were immediately made to get rid of the trouble by flushing the pipes at different points in the city. But there was not much improvement.

The city water supply is derived from driven wells in the vicinity of the Wabash River, and is a remarkably pure water, both from the chemical and biological standpoints. This water is pumped directly into the pipes. There is a reservoir situated on a hill some two miles from the pumping station, and it has been generally understood that the water stored there was only used in case of an emergency, such as a large fire. But upon inquiry it was learned that the pumps were not kept working all night. Thus, as the supply from the pumps was stopped, the reservoir water must work back gradually into the pipes, replacing