

For the REVIEW.]

NATURE LESSONS.

THE SCHOOL-BOY ZOOLOGIST — No. VII.

July, and life everywhere, especially insect life. How shall we know these insects, without books and without learning? Books are the results of learning. How, then, came learning? By learning. But how shall we learn? First get your objects. Catch your butterfly, moth, beetle, bug, caterpillar, or worm. Then see what it is like. You will at first see very little. Draw all you can see, if you can draw a line at all. You will be ready then for a book. It will give you names for the parts which you have observed. But no one should use a book instead of his eyes. Sometimes even school teachers are afraid even to encourage their pupils to collect specimens and bring them to the school-room, just because they cannot give the proper name of the specimen. They are afraid of showing their ignorance. It is just the ignorant who are afraid of showing their ignorance. And then what is in a name? It is not knowledge necessarily. A person may know the name of the potato beetle, of the wheat midge, of the gipsy moth, and yet know next to nothing about them. A person may not know their names, and still know enough about their structure, life, habits and industrial effects to form a valuable book.

Commence your collection any way at all. Catch the butterfly with your hat, if you do not know how to make a butterfly net. Catch the beetles with your fingers. But how shall we kill them? Transfixing them with a pin will not do. That might come under the cognizance of the S. P. C. A. Kill a butterfly or moth by a strong pinch of the thorax or breast, right below the wings. The brains of insects are much more in this region of the body than in the head. If properly done it produces instant death. Or let a drop of chloroform, ether, benzine, or gasoline from a small vial which can be carried in the pocket, fall on its head and thorax. Gasoline, worth fifteen cents a gallon, will kill the largest moth more effectively than the more costly chloroform, etc. Spread the wings of your moth or butterfly until they become fixed by drying. Keep the specimens in position by running a pin through the thorax and into the bottom of a cardboard box. This is not the proper way of doing things. For within one year your whole collection of butterflies and moths will be in dust,—eaten by small, nearly invisible insects, the bane of such collections. You will then understand the necessity of paying strict attention to some of the points in my future description of how I mount and have managed to preserve my collections.

Drench the beetles with gasoline or creosote in a wide mouth well corked bottle or jar. A few drops below some paper in the jar or bottle will suffice. Or drop them into a bottle of alcohol. Mount them by pinning through one of the wing covers. They are not attacked by insects as are the moths and butterflies.

Put cocoons in glass jars, etc., and watch for the emergent insect.

Put caterpillars into confinement with their natural food, and watch them develop into the cocoon wrapped pupa state, and finally emerge as the perfect insect or imago.

This do immediately. Next month, if possible, I may give illustrated deviations for making permanent museum collections; and you will be in a position to understand better, and even to criticize, if you first try what you can do without the benefit of the experience of others.

For the REVIEW.]

A Week's Talk About Plants.

At this season of the year, when the children are bringing in the wild flowers, it is most desirable to arouse their interest in plant life, and lay a foundation for the science of botany. This study can be made very interesting even to little children. They can be taught, while still very young, how to distinguish one plant from another, can learn how they grow, and are nourished by the ground, rain, and the air. The following suggestions may be of some use:

MONDAY.

"Children, I have brought something to you to-day. I was in the woods yesterday, and saw some little friends who were very anxious to visit you. So I resolved to bring one. Here it is" (presenting plant with all parts complete).

They all examine it, and then I proceed with my lesson.

"Who can tell me how I got this plant from the ground?"

"You picked it up," cries one; "You pulled it out by the root," says another.

"Yes, I pulled it out by the root; now, Johnny, can you come and show me which part is the root? Yes. Now, children, where does the root grow?"

"In the ground." "That is right. Now, who can tell me another part of this plant besides the root?"

"Leaves." "Flower." "Yes; but there is still another. What do the leaves and flowers grow on?"

"A stalk." "The stem." "Yes; then there are four parts, the root, stem, leaves and flower. Now, I wonder if any one knows of what use the root is to