

NATURE-STUDY OF ANIMALS.

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[ERRATA We regret the occurrence of the mistakes indicated below in Professor Perry's article in the September REVIEW. P. 58 for "H. E. Perry" read "H. G. Perry." P. 58, l. 21, and elsewhere where the word occurs for "neutral" read "ventral". P. 59, l. 20, for "knob" read "knot." P. 60, l. 10, for "progency" read "progeny." P. 58, Fig. 1, the cut is placed upside down, as inspection of the letters will show.]

Meadows, gardens, orchards, woods, ponds and streams abound with insect life at this time of year, and each supplies a good variety for nature-study work.

Among other forms the large green sphinx caterpillars are found along roads and foot paths, the stout polyphemus larva in similar situations and near dwellings, the tussock—moth larva, with its brush-like tufts on its first four abdominal segments, on our shrubbery, and the cabbage butterfly larva (cabbage-worm) on its favorite food plants. These and similar forms should be collected and placed in suitable cages with food for further development. All cages for insects that burrow in the ground in their resting stage should be supplied with three or four inches of loose damp earth.

When collecting cabbage-worms note its butterfly as it flits gaily over nasturtium, cabbage, or turnips. What is it doing? Search the leaves for eggs. They are small, elongated and yellow in color, and always placed singly and on end. Capture some of these butterflies, and spread and dry according to directions to be found in any good insect book, and afterwards keep in an insect box. An empty cigar box, with a suitable bottom for pinning specimens to, answers this purpose very well. Preserve several specimens of each kind of larva you find in 90% alcohol, or 4% formalin.

Watch for changes in the cages, and keep records. If the sphinx larva is nowhere to be seen some morning, do not be anxious; wait a few days and then carefully dig up the mud; a surprise is in store for you. Note how different the resting stage of this larva is from that of other larvæ. Which does it more closely resemble—that of the cabbage butterfly or the polyphemus?

Sphinx caterpillars are often found with the body adorned with little projecting bodies, like those in Fig. 1. These protruding portions are not eggs, but the cocoons of a little four-winged

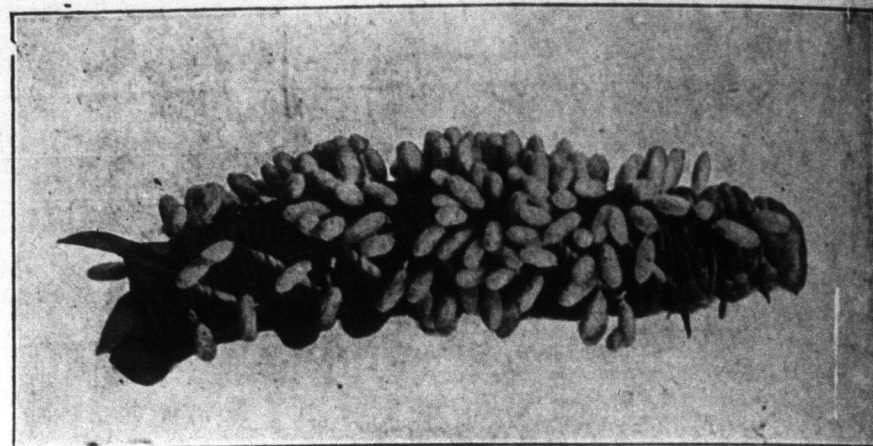


Fig. 1. Sphinx caterpillar with cocoons of braconid parasites.

fly, that somewhat earlier stung the larva and left eggs in its flesh. These eggs soon hatched and the larvae of the fly fed upon the tissues and juices of the sphinx, and then in due time passed into the resting forms we now have before us. Such, in brief, is the wonderful life history of this little fly.

When one animal lives upon another in this or in a similar way it is said to be a parasite, while the one upon which the parasite lives is called the host. These terms are also applied to plants. Name several parasitic animals and the host of each. What is the general effect of parasites upon hosts, e. g. ticks on sheep, and lice on poultry, etc., etc? Keep several parasitized larvae sphinx and note the effect on this particular host.

Fig. 2, shows the winged form of a similar insect which is parasitic upon the tent caterpillar.

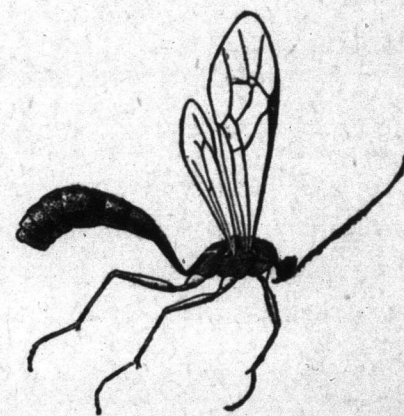


Fig. 2. *Limneria*, an ichneumon parasite of the tent caterpillar. (Twice natural size)

As these flies are four-winged forms, they are not true flies, diptera, but belong to a family called ichneumon-flies. The small ichneumon-flies have of late years been called braconid-flies. The sphinx parasite is a braconid-fly.