

side of a leaflet right up to the edges. When parasitised they were of a dark leaden hue. Several of these egg-patches were enclosed in glass jars and in a few days thousands of specimens of a species of *Trichogramma* and about an equal number of a tiny black parasite, were found in the jars, the former of these was named by Prof. Riley *T. pretiosa* and the latter *Telonomus* (new species). Of the large number of egg-patches of *M. picta* which were collected, not one per cent gave the caterpillars of the moth, owing to the attacks of these parasites.

**PARASITE OF THE LESSER GRAPE-VINE SPHINX (*Ampelophaga myron*, Cram.) AND TOMATO SPHINX (*Protoparce celeus*, Hüb.).**—During the past summer, both of the above caterpillars were unusually abundant in western Ontario; very few however, apparently came to full growth, on account of the attacks of the small Braconid, *Apanteles congregatus*, Say. The eggs of this insect are laid by the female fly within the body of a caterpillar by means of a needle-like ovipositor, with which she pierces the skin. Sometimes as many as 200 eggs are laid in a single caterpillar (207 cocoons of this parasite were actually counted on a large specimen of the Tomato Sphinx found in London, Ont.) The young maggots upon hatching feed on the fatty parts of their victim and, when full-grown, force their way through its skin, and work themselves out as far as the last joint of their bodies, when they begin spinning their



Fig. 16.—Cocoons of *A. congregatus* on Sphinx caterpillar.

small white cocoons, which stand on end and present the appearance of fig. 16. From these eventually the small active black four-winged flies emerge. Besides several parasitised specimens of the Lesser Grape-vine Sphinx, which I received from correspondents, there were also some caterpillars of the Tomato Sphinx sent in for report. Mr. W. W. Hilborn, of Leamington, Essex Co., Ont., says: "I am glad to learn what you write with regard to the parasite of the Tomato worm. Never until this season, has the caterpillar of the Sphinx moth done much injury. This year both tomatoes and potatoes have suffered. In some places whole fields have been destroyed. I have about three-quarters of an acre of early tomatoes that have been injured very much, although we hand picked the caterpillars every day for some time. A week or two ago we found a few which were parasitised like the one I sent you. We did not disturb any of the caterpillars which were thus affected and now there are hundreds of them. In fact, there are now (21st August) very few that are not parasitised. I sincerely trust that this parasite will continue its good work." I found on enquiry that practically the same state of affairs as is described by Mr. Hilborn, existed over a large district in western Ontario. I give herewith a figure from which the appearance of a sphinx caterpillar bearing the cocoons of the beneficial parasite is plainly shown. It will be well if all who see such will endeavour to restrain what appears to be an instinct in man, to destroy everything belonging to the animal world, which they do not understand or which they are not afraid of.

## DIVISION OF BOTANY.

### POTATO-BLIGHT AND POTATO-ROT.

The disease known as Potato-rot (*Phytophthora infestans*, de By.) is now well established in all the potato growing countries of the world and causes more loss to the potato crop than all the other sources of injury combined. In rainy seasons it is considered inevitable by most farmers, as a result of the wet conditions alone. This, however, is not the case, and it is important to have it well understood, as soon and as widely as possible, that this disease is due to the attack of an easily recognized vegetable organism belonging to the class of fungous parasitic plants, and further that careful experimentation has proved the possibility of preventing a large proportion of the loss by a systematic treatment with certain chemical mixtures as described below.

Many letters of inquiry having been received from farmers in all the eastern provinces of Canada, I considered it advisable to write the following letter, copies