

fourth segment, about one and a quarter inches in length when full grown. They all remain together from the time they are hatched until mature, and are very ravenous. When occurring on small trees they frequently strip every leaf before they are discovered. This is a particularly objectionable looking larva and emits a strong acid odour when touched. When full grown they fall to the ground and spin a light cocoon amongst the leaves on the ground in which they remain as larvæ until the next spring. The perfect insect appears about 1st July and is a brownish moth, expanding about an inch and bearing on each of the wings a conspicuous spot and several longitudinal streaks.

Specimens of the caterpillars have been sent to me from three or four localities, amongst others from Mr. C. A. Patriquin, of Wolfville, Nova Scotia, Mr. W. A. Macdonald, agricultural editor of the *Farmer's Advocate*, London, Ont., and Mr. A. McNeill, M. P., of Wiarton, Ont. The experience of the last named was that of all the rest, he says: "I enclose an exceedingly ugly caterpillar which has been very troublesome for a year or two among my apple trees, stripping the leaves from a young shoot, in an incredibly short time. It commences operations generally near the point of a branch, and if not observed for a few days works great mischief."

One collection of five specimens was sent in, of which all were found to be parasitised by the Ichneumon fly *Ophion purgatum*, Say, and at Ottawa several specimens of *Limneria Guignardii*, Prov., were bred from this species.

#### GRAPES.

The grape crop of the past season has been exceptionally good, and although a few specimens of injurious insects have been sent in, there have been no complaints of serious injury.

An interesting but severe occurrence of the "Tomato gall of the Grape" has been brought under my notice in the garden of Captain D. K. Cowley, of the Richmond Road, Ottawa. This I hope specially to investigate for a remedy next year.

#### The Grape-vine Leaf Hopper (*Erythroneura vitis*, Harris.)

*Attack*.—Small four-winged active insects one-eighth of an inch long. The upper wings striped with deep brown and yellow. Generally keeping beneath the leaves, and sucking the sap, so as to leave them white and withered. This troublesome little creature has not been so abundant on the grape during the last year or two as upon the Virginian creeper (*Ampelopsis quinquefolia*, Michx.), for which in the Ottawa district it seems to a large extent to have deserted the cultivated grapevines. It shows a marked preference for the wild grape (*Vitis riparia*, Michx.), where that species is grown.

This grape-vine leaf-hopper, with one or two other species, generally found with it attacking vines, and all known by the inaccurate name "Thrips," hibernates in the perfect state and lays its eggs on the young leaves when they first open.

*Remedies*.—Destroying all winter shelters, such as dead leaves and rubbish, doubtless prevents the mature insects from hibernating in close proximity to vines; as they fly easily, however, this is insufficient. Several experiments have been tried for a remedy, and the one which gives the most promise of success is a weak Kerosene Emulsion in the proportion of 1 of kerosene to 30 of water, to be applied at the time when the young bugs have just hatched. Mr. John Lowe, the Secretary of the Department of Agriculture, tells me that he has never failed to drive these insects off his grape-vines by simply applying powdered sulphur, which, when liberally applied to the vines, gives off, on warm days, a perceptible odour of sulphurous acid gas which keeps the insects away.