

Balms of Gilead than is that species. Attacked trees may have the majority of leaves almost completely veined by the feeding of the adults alone.

Control.

Natural.—Egg parasites are numerous, particularly in *Z. abnormis*. A minute Hymenopterous fly was reared from attacked eggs, which has been determined as a Mymarid. Over 40 per cent. of the eggs of *abnormis* examined contained various stages of this parasite.

One specimen of a hymenopterous parasite only was found in large numbers of larvæ examined.

Artificial.—Experiments in spraying infested trees with Lead Arsenate or Paris Green indicated that the latter would prove more successful. It is a more rapid killer, thus reducing oviposition by the females after feeding on it.

The following spray gave good results; Paris green, 1 oz.; slack lime, 4 oz.; water, 10 gallons. Care must be taken that the spray is directed to the underside of the leaves, which necessitates the use of an angle nozzle, and the work must be done as soon as the beetles appear in sufficient numbers to indicate that the trees will suffer later in the season.

It is useless to spray with Paris green when the leaves begin to turn black. The spraying of only a few trees, however well done, in a badly infested area can at best diminish by a small amount the attack on those particular trees. This is due to the flying ability of the beetles. Were the majority of the trees in the district sprayed early in the season most of the beetles would be poisoned while they were feeding on various trees before selecting leaves for oviposition towards the end of June.

THREE NEW CRANE-FLIES FROM EASTERN CANADA.

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Late in the fall of 1917, I received from Dr. A. G. Huntsman, Curator of the Atlantic Biological Station, St. Andrews, N.B., a small collection of crane-flies, taken by him at Eastern Harbour, Cape Breton Island, N.S., and Amherst Island, Magdalen Islands, Que. Aside from the three species here described as new, the following species were represented:—*Limnophila inornata* O. S., Eastern Harbour, July 1st, 7 ♂'s; *Limnophila adusta* O. S., Eastern Harbour, July 4, 1 ♀; *Pachyrina pedunculata* Loew, Eastern Harbour, July 1st, 1 ♂; *Pachyrina ferruginea* Fabr., Amherst Is., July 15; Eastern Harbour, July 20, 5 ♂'s, 2 ♀'s; *Tipula angulata* Loew, Eastern Harbour, July 1st, 1 ♂, 2 ♀'s; *Tipula trivittata* Say, Amherst Is., July 15, 1 ♂; *Tipula caloptera* Loew, Eastern Harbour, July 1st, 1 ♀; *Tipula latipennis* Loew (*ottawaensis* Dietz), Amherst Is., July 15, 1 ♂; *Tipula rohweri* Doane, Amherst Is., July 12, 1 ♂; *Tipula inermis* Doane, Amherst Is., July 15, 2 ♂; and *Tipula tephrocephala* Loew, Eastern Harbour, July 1st, 1 ♂, 2 ♀'s.

Limnophila magdalena, n. sp.*

Black with a grayish bloom. Very similar to *Limnophila barberi* Alex. Legs dusky yellow, femora infuscate at apex only.

*Types of the new species are in the author's collection.