

several species of saw-flies, as I have endeavored to give somewhat special attention to the extensive and injurious section of phytophagous (plant-eating) Hymenoptera, to which these insects belong. I have not yet had time to catalogue all the species recorded from Canada, but I find that we have in the immediate neighborhood of Ottawa about one hundred and sixty species, of which several are decidedly obnoxious pests. Saw-flies are so named because the female has the ovipositor saw-like in form, and fitted to cut a slit in the leaf or twig in which she desires to deposit her egg. The worm hatched from this egg is not a footless maggot, such as that of the other sections of the Hymenoptera, but is provided with both thoracic and abdominal feet, is able to travel about in search of fresh food, and has much resemblance to the caterpillars of certain moths. The worms feed upon the tissues of the leaves, and, when numerous, soon strip the plants attacked. A good example of the ordinary saw-fly larva is the worm that is so troublesome on gooseberry and currant bushes, when they are not carefully sprinkled with hellebore.

#### THE LARCH SAW-FLY (*Nematus Erichsonii*, Hartig.)

It would be almost impossible to calculate, and very difficult even to imagine, the enormous loss occasioned in the tamarack forests of Canada, during the past decade, by the inconspicuous insect which has become known to Entomologists as the Saw-fly of the Larch. The first mention of it in the Annual Reports of the Entomological Society of Ontario is found in that for the year 1883 (No. XIV., page 17) where, in the account of the proceedings of the Annual Meeting, the Rev. Mr. Fyles, of Quebec, is reported as stating: "That much injury had been caused to the tamarack trees, *Larix Americana*, in Bury and the neighboring townships, by a species of saw-fly, the same, probably, as that which has caused so much injury in Maine and the other eastern States, *Nematus Erichsonii*."

The following year the same gentleman reported that: "The larch saw-fly had extended its ravages along the Beauce Valley to the neighborhood of Quebec, where it had stripped the tamaracks bare. A second growth of leaves had appeared, and this, probably, would save the trees."

Mr. Fletcher also spoke of the "enormous damage" done by this insect. He had first noticed it near Quebec, and had traced it down the Intercolonial Railway wherever any larch trees occurred, as far as Dalhousie (N.B.), where he found it abundant. He also exhibited a species of bug, *Podisus modestus*, which had been found destroying the larvæ at Brome, Que. (Ann. Rept. No. XV., p. 22.) The same Report (pages 72-77) contains a carefully prepared paper by Mr. Fletcher, on the habits and appearance of the insect.

In 1885 (Ann. Rept. No. XVI., page 12), Rev. Mr. Fyles reported: "That the insect had again been abundant at Quebec, and that tamaracks that had survived the attack of last year, now showed tokens of decay, some of the branches only putting forth a second crop of leaves, and that but a sparse one." He described the manner in which one of the fossorial wasps, *Odynerus capra*, had been observed to prey upon the larvæ. At the same meeting in "Some Notes on Tenthredinidæ, 1885," (Canadian Entomologist, Vol. XVIII., page 39), I mentioned the finding, at Ottawa on 24th June, of several colonies of the larvæ of this saw-fly upon trees near the line of the Canada Atlantic Railway.

Mr. John G. Jack, of Chateauguay, Que., in a paper read before the Montreal Branch on 9th Feb., 1886, records (Ann. Rept. XVII., page 16,) the occurrence of the destroying insects in his neighborhood as follows: "On July 5th I found some larch trees with the foliage very much destroyed by saw-fly larvæ, and on examining the trees in the woods and surrounding country, I found that they were all attacked. At this time most of the larvæ seemed to be a little more than half-grown, and they continued to feed until about July 15th, when some of them made cocoons. Many of the trees were now entirely defoliated, and the branches and twigs literally covered with the larvæ, many of which were dropping to the ground, and with the falling 'frass' made a sound like fast falling rain-drops."

Prof. Saunders, in the Montreal Branch, reported "that in the Montreal saw-fly (*Nematus Erichsonii*) (page 31.)"

Mr. Fletcher, to the spread of the saw-fly in Ottawa, and rendered almost impossible.

The Rev. Mr. Fyles, briefly: "The saw-fly is nearly so abundant in Ottawa. It is to be hoped that it will be in subjection and again stated that it is a kind of attack (page 14.) At the time of the Montreal Branch, *Nematus Erichsonii* is present."

I have now to report the results of our investigations to which it may be said we have seen that the saw-fly had been in Canada where it came from.

My own observations in the Provinces, during the past decade, extend to the injury done by the saw-fly. Up to the Island of Cape Breton, showing the presence, and all the saw-flies were in this year.

The next year, just after our annual meeting, the surrounding country, which (with spruce) appeared caused by the summer they had and small trees had to be killed. That was very serious.

Whence came the saw-fly? Whence have come the saw-flies, and whence have come the saw-flies, its appearance in the Notes", (Can. Ent. Notes), from Harvard A. of *Nematus Erichsonii* European larches.

In Maine it occurred in Maine had multiplied and logical Commission districts, and in its (1896), Dr. Pack-