

ROSE SAW-FLIES.

A new saw-fly made its appearance this year upon my roses, so that there are now three species attacking these favorite plants. One of these has been known for many years to the lovers of the rose as a troublesome pest, which rapidly destroys the foliage if not promptly looked after. This is *Monostegia rosea*, Harris, described in 1841 and then placed in the genus *Selandria*, which has since been sub-divided. Although named in America there is very little doubt that it came from Europe, where it is well known as a troublesome insect, and where several names have been subsequently bestowed upon it. The small stout black flies are abundant in May and June, and the eggs are deposited in the under surface of the leaf, generally near the edge.* The slug-like larvæ feed, at night, upon the upper surface of the leaf and cause it to become brown and withered. In about a fortnight they are fully grown and drop to the ground in which they construct an earthen cell to shelter them until they pupate and emerge the following May or June. There appear to be but two mentions of this saw-fly in our reports: The first by Mr. Gott, of Arkona, in 1878 (Ann. Rept. No. IX, page 57), who stated that it was becoming very abundant and troublesome; the second in my paper on Saw-flies (Ann. Rept. XV, page 70) where its habits are concisely stated.

The second of our pests has not been long known to us, as such, but probably it crossed the ocean many years since, as it was named by Harris about fifty years ago as a new species. This insect is called *Cladius pectinicornis*, Fourc., (*C. isomera*, Harris), and its larva may be called the Bristly Rose-worm to distinguish it from that of the previous species. Dr. Riley, in an interesting article on "Rose Saw-flies in the United States," records this species as first discovered on his rose-bushes (Washington) in 1880 (Insect Life, vol. V, page 7), and it is also several years since I first bred the insect from larvæ taken on a rose-bush in Ottawa, although I cannot find a record of the exact date. I have since bred the species on two or three occasions, and find that it is becoming more abundant. In 1891 I took a specimen at the High Falls on the Des Lievres about 50 miles from the city. The species is apparently double-brooded here (in Washington three-brooded) as the flies appear from May to July. The eggs are laid in the leaf-petioles and hatch in a few days. The larva feeds on the under surface of the leaf, remaining concealed there, and at first making small holes; but these holes increase in size and number with the rapid growth of the grub, and in a few days nothing will remain but the midrib and some of the stronger laterals. The larva is greenish, with an almost orange head and with rows of small warts from which rise rather stiff bristles or hairs.† When fully grown a delicate thin cocoon, with a more or less complete outer one, is spun upon the under side of the leaves or branches, or in rubbish upon the ground. The pupal state of the first brood lasts about a fortnight, but the second brood passes the winter in this form. The flies are considerably larger than those of *M. rosea* and have the legs and wings paler.

The third species, which has been noticed here for the first time this year, is *Emphytus cinctus*, Linn., of which the larva may be distinguished as the curled Rose-worm, from its position when at rest. This is also a well-known European species, which received a new name (*cinctipes*) from Norton in 1867. This species was first reported as a rose-pest in America by Mr. John G. Jack, who found it very injurious in Boston and Cambridge in 1887 and following years. The eggs are laid singly on the under side of the leaf, but there may be several on a single leaf. The larvæ are smooth cylindrical worms, somewhat stouter toward the head, (which is tawny with a black patch on vertex) and are greenish or yellowish-green above and whitish below. They feed on the edges of the leaves until these are consumed, and when at rest are coiled spirally beneath a leaf, or on the stripped stems. When fully grown they are said to generally pupate in the rose-branches, or in rotten wood or pith. Those that I bred this summer, however, buried in the ground in preference to using the pieces of corn pith which I had provided for them. There are probably two or more broods of this species here, as in the United States and

*Cameron states of the European insects that, "The eggs are laid in the midrib in May," and that, "The small oval cocoons are spun in the earth."

†It may be mentioned here that the description given by Dr. Riley does not quite agree with that given by Cameron of British larvæ.