

late in June or early in July. Soon again eggs are deposited, from which another brood of worms are sent forth upon their destructive mission, which complete their growth before summer closes, and in most instances change to chrysalids before winter. With regard to their location during the winter months, Mr. G. J. Bowles, of Quebec, communicates the following (see *Can. Ent.*, vol. 3, p. 9): "I had occasion during October to remove two gooseberry bushes which had been infested with the saw-fly larva, and although I carefully examined the earth from their roots, I could not find any cocoons. About the same time I examined a dying plum tree which grew near, the bark of which was loose and full of holes, in which, as well as in the forks of the branches within three feet from the ground, I discovered many of them. From this it might be inferred that these larvæ do not *invariably* seek the earth before pupating in autumn, but sometimes follow the example of their predecessors, and construct their cocoons in a sheltered place above ground."

Whether there are more than two broods during the season, we are unable to decide; certain it is, that there are not many weeks during the summer months when you cannot find the larvæ on the bushes in some stage of their growth. It is well known that the flies composing the separate broods do not all make their appearance at once; some are weeks later than others, and hence it follows that their progeny are considerably behind time as compared with the first comers; but whether this tardiness in maturing, on the part of some specimens, is sufficient to account for the continual presence of the larvæ during almost the entire season, from May to September, or whether there are more than two broods, is a question we cannot at present undertake to settle. Suffice it to say, that constant watchfulness is required by the cultivators of the gooseberry and currant, if they wish to preserve the foliage of their bushes from destruction by these foes.

These insects do not confine their attentions to the cultivated gooseberry, for we have repeatedly taken them on the wild gooseberry bushes in the woods. We have also, in one instance, found them feeding on the leaves of the black currant, and also on those of the plum. (See *Can. Ent.*, vol. 2, p. 147.)

With regard to their spread in Canada, it is not more than three or four years since their ravages first attracted much general attention in Ontario; but within that period they have increased to an enormous extent, so that there is now scarcely a farm or garden anywhere free from them. In the sister provinces, too, they are making rapid headway. Mr. G. J. Bowles, of the City of Quebec, in the *Can. Ent.*, vol. 3, p. 8, says, "they have become very troublesome there in some gardens, while others are (or were last year) still exempt." Mr. J. M. Jones, of Halifax, Nova Scotia, notes their appearance in that locality during the past summer, and if these extreme points have been reached, there is little doubt but that the intervening country is also occupied. In the United States, its occurrence as far east as Boston is reported by Philip S. Sprague. It is also becoming troublesome in Illinois; and in Indianapolis, Indiana, it was found by J. W. Byrket, in June, 1870, and there is little doubt but that it is common enough in other States adjoining.

REMEDIES.

These may be divided into *natural* and *artificial*, the former of which will first claim our attention. There is scarcely an injurious insect but what has its one or more parasites, either internal, feasting and fattening on its victim, till it is gradually consumed and dies, or external, attacking with greater violence, and causing more sudden death; and fortunately our gooseberry saw-fly is not without its enemies in both these classes. As early as 1866, the late Mr. Benjamin D. Walsh, State Entomologist of Illinois, published in the *Practical Entomologist*, p. 120, some notes on a parasite which he had observed attacking this species. It was a small fly (*Brachypterus micropterus*, Say), indigenous to North America. Unfortunately this fly is rare, Mr. Walsh having taken only two specimens in the course of some years' collecting. It often happens, however, that when an insect, previously rare, finds food abundant and suitable, it soon becomes plentiful from the facilities thus offered it for the propagation of its species; still there has not as yet been much help received from this friend. More recently, Mr. J. A. Lintner, of Albany, N. Y., has found a minute parasite attacking the eggs of this insect, and with him they were so abundant, that out of fifty eggs which he collected, he only found some four or five which hatched into currant-worms; all the others produced the little parasitic fly. We have not heard of this friend being found in any other locality as yet; but it is doubtless capable, where it prevails, of rendering efficient aid.

In the Walsh, under fly, by our history he says *ventricosus* at the ground, a attack upon this parasite has been found reached; hence pest, thus should imported insect 1870, we observed the facts to the quarter past ing the manip They were fed the shape of a number, and through the s failed to shake upon fulfilling sudden movement their further more. The last site could not referred to.

FIG. 29.



a dozen nearly consumed them all. The assumption was a time we fed the have over-fed the friendly mission the natural inc

While we admit that thus tide of the inva collected several failed to find a s crease sufficient must be had to nately a very sin bore mixed in p which is a native