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ON SOME OF OUR COMMON INSECTS.

15.—THE COCCINELLIDÆ.

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“Of all the painted populace that live in fields and live ambrosial lives,” there is scarcely a family better known than those which compose the last of all the tribes of Hard-shells, the Coccinellidæ. To the young and to the old, to the illiterate and to the scientist, they are equally familiar and equally interesting. Popular sympathy is extended towards them by the elders because they do much good in preventing the excessive multiplication of Aphides; by the juveniles because they are very pretty little things and tamely pitter-patter to and fro, and their supposed misfortunes affect deeply sensitive little hearts, while infantile accents lisp “Lady-bird, lady-bird, fly away home; your house is on fire, your children are burned.” They are distinguishable chiefly by the colors of and the spots upon their wing covers; the different species are sometimes difficult to discriminate; they number upwards of one thousand, and more than thirty species are known to inhabit Canada.

The general colors of the Coccinellidæ are yellow, red or orange, with black spots, and black with red, white or yellow spots, the spots being either lunate or round. Their shape is hemispherical, and although of variable size, an average specimen “bears a considerable resemblance in size and figure to an ordinary split pea; they have but very short legs and therefore creep but slowly; their powers of flight, however, are considerable.” When alarmed or laid hold of, they fold up their tiny limbs and eject from the joints a yellow, mucilaginous fluid, which has a somewhat strong and disagreeable odor. This fluid entitles the pretty Lady-birds to be ranked among the *materia medica*, and to be assigned a place in the *Pharmacopœia*, for it is a superior, cheap and never-failing

remedy of that most harrowing of pains, the tooth-ache. The learned President of the Entomological Society of Ontario says that he has never possessed sufficient courage to test its qualities himself, but a well-known American brother of the net and bottle tells us that he tried this application in two instances, and the tooth-ache was immediately relieved; but he confesses that he was uncertain whether the remedy or the faith of the patient acted therapeutically, or the tooth ceased troubling of itself. Let us be charitable and give the benefit of the doubt to the pretty little beetle.

The Germans call these insects *Marien-kaefer*, Lady beetles of the Virgin Mary; while in France they have the equally fine names of *Vaches de Deice*, or *Betes de la Vierge*, Cows of the Lord or animals of the Virgin. And they have good claims to be held in such esteem, for they are most beneficial to man in destroying the plant-lice, which, if allowed to go on propagating and increasing unchecked, would soon reduce the most fertile country into a barren and a howling wilderness. Lady-birds both in their perfect and in their larval state, feed on these lice, and, providentially, few trees, plants or shrubs infested by these disgusting and destructive creatures are to be found whereon is not also this antidote for them. The grubs, which are of a flattened shape and darkish color, spotted usually with red or yellow, and furnished with six short legs near the fore part of the body, are far more voracious than the mature insect; they creep along on the leaves of plants until they find the helpless Aphides, among which they ravage and riot like wolves in a sheep-cot, and then, doubtless, many a heart-broken Aphis parent, pointing to the aldermanic proportions of the lady, exclaim: "Foul murder hath been done; lo! here's the proof!"

Occasionally Lady-birds occur in immense swarms. Kirby and Spence relate that on one occasion the banks of the Humber were so thickly strewn with the common species, that it was difficult to walk without treading upon them; at another time they covered in great numbers the sand-hills of Norfolk, and again, the cliffs of Kent and Sussex, "to the no small alarm of the superstitious, who thought them the forerunners of some direful evil."

The eggs of these little creatures are long and oval, of a yellowish color and deposited in patches, oftentimes among a colony of plant-lice, so that, thanks to the wondrous instinct of the mother, the larvae have not far to crawl to get their first hearty meal.

The larvae consume immense quantities of Aphides, and may be seen chasing, or rather, stalking the plant-lice, and eating them one after the other, taking the whole set on a leaf or stem in regular order. "The larvæ (see fig. 9) are rather long, oval, soft-bodied and pointed behind, with the



prothorax larger than the other rings, often gaily colored and beset with tubercles or spines." After having eaten voraciously for the appointed time, the larva attaches itself by its tail to a leaf or a twig—after the fashion of a caterpillar—and either throws back its skin or else keeps it loosely folded about it as a protection; in this position it remains quiescent for some ten or fifteen days, and then emerges a perfect insect.

We will now briefly refer to some of the well known Coccinellidae which make the Dominion of Canada their home.

The Two-spotted Coccinella, *C. bipunctata*, Linn., is our most common species. They appear to have two broods each season; the eggs are of an orange yellow, and attached in bunches of about twenty-five to the bark of trees. They hatch out when the leaves and their natural article of diet, the Aphis, appear. The body of the larva is black, with flattened tubercles, adorned on top with spines; on each side of the first abdominal segment is a yellowish spot, and there is another broad one in the middle of the fourth segment, and one on each side. Packard thus describes the *modus operandi* of the larva becoming a pupa, and the appearance of the pupa itself: "The larva begins the operation by attaching very firmly, with a sort of silky gum, its tail to the leaf, the point of attachment not being the extreme tip, but just before it, where the tip of the abdomen of the pupa is situated. Meanwhile the body contracts in length and widens, the head is bent upon the breast, and in about 24 hours the skin splits open and discloses the pupa. The body of the pupa is black; the head is also black, and the prothorax is black and yellowish pink, with a black dot on each side, and a smaller black dot on each edge. The meso-thorax, wing-covers, scutellum and legs are shining black. The abdominal rings are pale flesh-colored, with two rows of large black spots on each side, the spots being transverse; the terga of the fourth to the seventh segments are separated, the body being arched and leaving a deep furrow between."

Fig. 10.



The Nine-spotted Coccinella, *C. novem-notata*, Herbst. (see fig. 10), is one of our most common beetles, and may be found in all parts of our Dominion; it is of a red brick color, somewhat

larger than the Two-spotted, and ornamented with nine black spots.

The Plain Lady-bird, *C. munda*, Say. (see fig. 11), is rather smaller than the others of its kind, of a light brick red, but with its elytra unadorned with any spots.

Fig. 11.



The Three-banded Coccinella, *C. trifasciata*, Linn, is of a red brick color, marked with two irregular black bands across the elytra, and a black spot near the posterior angle. It is of an intermediate size between its cousins, the Two-spotted Lady-bird and the Fifteen-spotted Mysia.

The Spotted Lady-bird, *Hippodamia maculata*, De Geer (see fig. 12) is a small pinkish beetle, but occasionally of a pale red, with large black blotches twelve in number; two of them on one elytron are opposite to and touch two on the other. Mr. Riley says that this insect commits great havoc upon the Chinch Bug, and upon the eggs of the Colorado Potato Beetle.



Fig. 12.

The Thirteen-dotted Lady-bird, *H. 13-punctata*, Linn. (see fig. 13) is rather larger than the preceding: it has thirteen black spots on a brick red ground.



Fig. 13.

The Convergent Lady-bird, *H. convergens*, Guer. (see fig. 14) is of a deep orange red color, marked with black and white. It has been of great use in checking the ravages of that destructive pest, the Colorado Bug; its larva is blue, orange and black, and in its pupa state it is of the exact color of the larvae of the Colorado Beetle, for which it is often, doubtless, mistaken and ruthlessly destroyed.



Fig. 14.



A

B

C

The Parenthetical Lady-bird, *H. parenthesis*, Say, is a small beetle of a dull red color, and can be easily distinguished at a glance by the dark marks, curved like the bands of a parenthesis (), one on the hinder part of either wing cover; there are two black spots on each elytra, besides the parenthesis, one on the anterior part and the other on the inner margin, touching the one on the other cover.

The Fifteen-spotted Mysia, *Mysia 15-punctata*, Oliv., is black on the head and prothorax, with seven black spots on each of the brownish red elytra, and another on the scutellum, according to Packard. But it appears to vary much in its perfect form and in color from a very light

grey to a deep chestnut brown. The larva, which is about half an inch in length, black on the upper surface, with a pale spot on the under edge of the prothoracic ring, and furnished with six rows of stout spinulated spines, is an inveterate foe to the larvae of the Colorado Beetle, and on page 169 of the third volume of the ENTOMOLOGIST we have a most graphic account of the summary way in which the young lady despatches the grub.

The *Chilocorus bivulnerus*, Mulsant (see fig. 15) is an obese little thing, with minute legs, of a black color, and beautified with two yellow spots.



Such are a few of the very many Lady-birds that creep among our trees and adorn our Entomological cabinets.

REMARKABLE VARIATIONS IN COLORATION, ORNAMENTATION, &c., OF CERTAIN CREPUSCULAR AND NOCTURNAL LEPIDOPTEROUS LARVÆ.

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Having spent considerable time during the past season in the collection and study of various larval forms of our twilight and night-fliers, I was peculiarly impressed with the novel colors, markings, and external structural characters presented by those that were taken late in the autumn, at the period when the leaves were donning their autumnal hues. To one who has rendered himself familiar with their usual outward characters, a moment's inspection was sufficient to show a marked contrast between those taken early in the season, when the leaves were fresh and green, and those captured later, when the foliage of the trees had sustained a check to their vitality. That these larval changes have a producing cause it shall be my aim to show in the conclusion of the present article.

Of the many specimens taken by the writer during the past season, and they were confined to but a few species of as many genera, none exhibited these variations more clearly and prominently than *Telea poly-*