

INSECTS AFFECTING THE APPLE.

ADDENDA TO THE REPORT OF 1870.

BY THE REV. C. J. S. BETHUNE, M.A.

- | | |
|--|---|
| 1. The Oyster-shell Bark-louse (<i>Aspidiotus Conchiformis</i> , Gmélín.) | 3. The Fall Web-worm (<i>Hyphantria texator</i> , Harris.) |
| 2. The White-marked Tussock Caterpillar (<i>Orgyia leucostigma</i> , Sm. and Abbott.) | 4. The Codling-worm (<i>Carpocapsa pomonella</i> , Linn.) |

In our "First Annual Report on the Noxious Insects of Ontario" (published in the Report of the Honourable the Commissioner of Agriculture for 1870), we gave some account of twenty different species of insects that are injurious to the Apple-tree, in one portion or another of its growth, foliage or fruit. To these descriptions we purpose now to add a few remarks, in order to set before the reader any further information that we have obtained during the past year.

1. THE OYSTER-SHELL BARK-LOUSE (*Aspidiotus Conchiformis*, Gmélín).—Since the publication of our remarks upon this insect (First Report, page 73), Dr. Le Baron, the State Entomologist of Illinois, has described a new parasitic insect that, he has good reason to believe, is doing valuable service in reducing the numbers of this noxious insect. In the Western States, and—judging from the cessation of complaints on the subject—in this country also, the Bark-lice are steadily diminishing in number. This decrease is not to be attributed to human agency, but to the increase of parasitic insects that feed upon them, and especially to the labours of the tiny Chalcis fly, now made known to us by Dr. Le Baron. We may judge of the immense service performed by this little creature from the statement of Dr. Le Baron, that among eight hundred and forty-four scales on twigs, taken from different localities in Illinois, he only found fifty-seven, or about one in fifteen, that contained any eggs for another year's crop, and that twice as many of these were destroyed by Chalcides as by all other agencies combined. He gives the following account of the insect in an article in the *American Entomologist*, vol. ii, p. 361 (a most valuable publication, whose suspension we much regret):

"In the early part of the season, whilst examining the lice upon an apple tree, I noticed two or three little yellow Chalcides running along the infested twigs, which I conjectured might be the parasites of the Bark-louse, but had no proof that this was the case. But about the first of August, upon raising one of the scales, I happened to uncover one of these insects in the last stage of its transformation. Its wings were not yet unfolded, but it ran so rapidly that I had some difficulty in keeping it within the field of the lens. As soon as it paused long enough to be examined, it was easily recognized as a Chalcis by its general aspect, and especially by the peculiar vibratile motion of its short geniculate antennae."

"Having once become familiar with its appearance, I have had no difficulty in capturing, in the latter part of August and September, all the specimens I desired on the infested trees. I have repeatedly watched the female Chalcis in the act of inserting her ovipositor through

the scale of the
always places
and then her
Usually she h
the middle of
forces it throu
plished this s
the egg is car
in this delicat
hopes, but th

"The egg
described by
tion: 'Unde
an inch long,
ing to an acut
ing, with an
viscera, and di
"The only
of its body, p
fied.

"There
In the earlier
found in the

"The Ch
less than half
mens consider
that these sm
proved to be f
this colour is i
ocelli on the s
of the abdom
whole surface,
Dr. Le B
the Apple-tree



FIG. 1.

insect in all its
sizes. (1) Th
as it appears
(4) The scale
losing its mem