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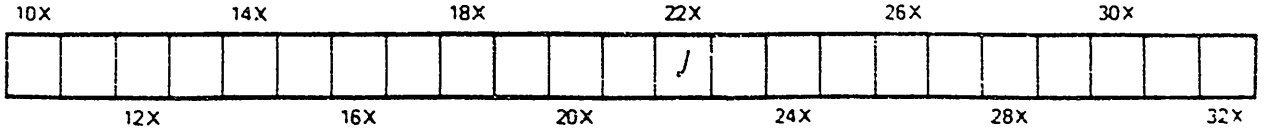

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VOLUME II.

EDITED BY

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SECRETARY TO THE ENTOMOLOGICAL SOCIETY OF CANADA.

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INDEX TO VOLUME II.

D.

E.

F.

G.

H.

I.

K.

L.

M.

N.

O.

P.

R.

S.

T.

V.

W.

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LARVA INFESTING THE PARSNIP.

(Depressaria Ontariella, n. sp.)

BY THE EDITOR.

Last year our bed of garden parsnips turned out so badly, in consequence of the protracted drought of the season, that most of them were not worth digging; thinking, however, that we might as well get some seed from them as they were a good variety, we left them where they were for the winter. When spring came they looked beautifully fresh and green, and soon grew most luxuriantly, sending up tall stems and producing huge umbels of flowers. There was a grand prospect of a fine crop of seed, and we began to promise supplies of it to some of our neighbours, who complained that their's was not satisfactory,—all, indeed, looked fair and promising till the last week in June, when "a change came o'er the spirit of our dream!" The fine umbels of flowers began to look rather unhappy. Decidedly *seedy* in one sense, but by no means "seedy" in another. Webs appeared over them, tiny caterpillars were seen to be thick about them, and very soon the big umbels were contracted into shapeless masses of web and excrement, the flowers were all eaten up, the prospect of seed was utterly and entirely gone! After the flowers were all consumed, some of the more juvenile caterpillars tried the uppermost green leaves, but not finding them to their taste they soon left them, and followed the example of the seniors, who had burrowed into the hollow stems, and were quietly eating the soft white lining, out of sight of all their enemies. Most of them entered the stems at the axils of the leaves, but some few burrowed directly into them, making a round hole in the sides. By the 14th of July, the majority of them had disappeared inside the stems, and there they lay so thick, some in the larval and some in the chrysalid state, that one could hardly cut a stem in two, at a venture, with a knife, without performing the same operation on a pupa or larva as well. Some of the caterpillars were so unkind as to wander off to a bed of the newly sown parsnips and eat a goodly quantity of them, after having destroyed all our

second year's crop; in this case they seemed to relish the young green leaves, while in the older plants they would hardly touch anything but the flowers and the lining of the stems.

The following is a description of the mature larva :—

Length 0·70 inches. General color dirty green above, yellowish on sides and beneath. Head deep shining black, emarginate posteriorly ; second segment with a similarly shining black trapezoidal shield above, divided in the middle by a fine suture, the rest of the segment greenish yellow, with three small black warts on each side ; remaining segments, except the eleventh, dirty green above, yellowish on sides and beneath ; eleventh segment entirely dull yellowish; all the segments, except the first two, have four dorsal, eight lateral (four on each side), and four ventral, shining black warts, each emitting a fine hair, black tipped with white,—some of the ventral warts are absent, while their place is occupied by the feet ; dorsal line dark green, fine, rather indistinct. Legs shining jet black; prolegs dirty greenish yellow ; three pair of the former, five pair of the latter—sixteen feet in all.

Young larva :—Length 0.30 inches. Similar in all respects to the mature larva, except that the color of the first four segments is rather darker, and of the remainder more yellowish.

Pupa :—Length 0.40 inches; dark brown, abdomen a little paler; enclosed in a slight silken cocoon inside the hollowed stem.

The insects remained a fortnight in the pupa state, the moths beginning to appear on the 1st of August. They proved to belong to the genus *Depressaria*, of the family *Gelechidæ*, group *Tineina*. A full description of the characters of this genus is given by the late Dr. Clemens in his article on "American Micro-Lepidoptera," (Proceed. Ent. Soc. Philada., vol. ii., No. 2, page 124). The most striking peculiarities are the indentation of the hind margin of the secondaries toward the anal angle, the brush-like second joint of the labial palpi, and the flattened abdomen with its projecting scales at the sides.

But very few American species of this genus have yet been described, though no doubt many will be found when collectors begin to turn their attention more particularly to the Micro-Lepidoptera ; at present most of us find that we have quite enough to do in trying to investigate the Macros, the field in this department being large enough to occupy the attention of an immensely increased number of Entomologists for years to come. The species before us has evidently not been described by any American writer, nor do we find that it corresponds to the brief description of any of the British species contained in Mr. Stainton's *Manual*. Mr. Curtis relates that *D. applana, depressella*, and *daucella*, affect carrots and parsnips in England,

but they appear to differ very much from our species. *D. pastinacella* resembles ours in color, but the description does not otherwise tally; its food-plant, judging from the specific name, is the same, though no account is given of the larva in any books that we have access to. As then the ravager of our parsnips is in all probability a native and not an imported insect, affecting some wild plant of the same character, we may call it from the name of this Province, *Depressaria Ontariella.*

The following is a description of the imago :—

Depressaria Ontariella, n. sp.—Alar exp. 0.90 inches; length of body 0.40 inch; wings with a satiny lustre. Primaries greyish fuscous, varied with black scales and blotches; a small black spot at the base of the costa; basal third irregularly marked with black spots and blotches, and with a few whitish spots—these vary very much in different specimens; termination of the disk with a whitish spot, partially margined with black: a very much curved transverse fascia composed of parallel longitudinal black streaks, proceeding from the costa and terminating before the hind margin; then a somewhat conspicuous outwardly angulated narrow dusky white fascia, forming a more or less distinct V across the wing; and next an indistinct dusky fascia, a narrow subterminal line, and a terminal row of deep black points. Fringe fuscous, broadly edged with whitish.

Secondaries semi-transparent, whitish, darker towards apex and exterior margin; nervures distinctly marked with dusky scales. Fringe long and dusky, longer and much paler towards the anal angle.

Under side of primaries dusky, without any markings, except a terminal rim of black points; secondaries much paler, with black points towards the apex on the exterior margin.

Head, thorax, and abdomen above fuscous; labial palpi fuscous above, brush of second joint black beneath, third joint black tipped with white; abdomen with a row of black spots along each side.

These moths, or possibly a late brood, though we do not see what a later brood would have to feed upon, hybernate and may often be seen flitting about rooms and emerging from behind curtains even in the depth of winter. They are usually mistaken for clothes-moths, and indeed we always hitherto regarded them as such ourselves, and were immensely surprised when we found them to be the product of our parsnip worms.

As some of our horticultural readers may be troubled with a superabundance of this insect, and be desirous of learning a mode of getting rid of it, we may suggest a remedy. As soon as the young caterpillars appear upon the flowers, dust the umbels well over with powdered white hellebore, and repeat the operation occasionally, as all the larvæ do not appear at once,

Should they escape notice at first, and the flowers be destroyed, cut off and burn the affected stalks before the moth has time to emerge from the pupa, and thus reduce the numbers of the destroyer for the ensuing year. As the caterpillars are very active and wriggle about or drop down upon the slightest disturbance, they may easily be dislodged from their haunts and collected in a pan or seive, and then burnt in the fire. It is possible that various parasites prey upon these insects, and assist in keeping them in check, though none have as yet been hatched from our specimens. Their numbers in our garden are, however, being rapidly reduced by a Wood-pecker (*Picus villosus*), who daily visits the parsnip stalks and pegs away with right good will at the larvæ and pupæ within.

ON A SUPPOSED NEW ARCTIAN.

BY W. SAUNDERS, LONDON, ONTARIO.

On the 24th of April, 1868, I found under a log, near the Port Stanley Railroad track, a short distance from London, a young larva of an Arctian, which I supposed to be *Parthenice*, but since it differed slightly in appearance from the young of this species which I had reared before, I resolved to trace its history. In common with other allied species, this had evidently hybernated the winter through in the larva state, and had just awoke from its torpor. The following description was taken at the time of capture:

Length, 0.40 inches; head rather small, bilobed, black, and shining, with a few short hairs.

Body above, dark brown, with transverse rows of shining black tubercles from which arise spreading tufts of black hair, a few hairs in each tuft on hinder segments much longer than the others; a faint dorsal stripe a little paler than general color.

Under surface of the same shade as upper, but a little paler; 5th, 6th, 11th and 12th segments with a transverse row of tubercles in continuation of those above, with a few short brownish hairs arising from each; feet brown, banded with black; prolegs, pale brown.

In common with most other Arctians its appetite was not dainty. It would eat almost any green herb. I fed it on dandelion and lamb's quarter (*Chenopodium album*).

After the next moult, the body assumed a pale dirty brown tint, darker along hinder segments, with tubercles as before; hairs somewhat shorter; body strongly annulated. The under surface paler, with a faint reddish tint; feet black, with bands of yellowish brown.

About the middle of May it moulted again, and on the 18th the following description was taken:

Length 0.85 in.; head larger in proportion to body than before, not so strongly bilobed, rather flattened in front, deep black, with a few short hairs; palpi dull reddish tipped with black.

Body above distinctly annulated, of a deep velvety black color, with tubercles as before, hairs much longer, chiefly black, those on hinder segments longer than the others, with a few whitish ones mixed with them. Along each side of body, close to under surface, is a row of tufts of reddish-orange hair.

Under surface dark brown, with a row of tubercles on 5th, 6th, 11th and 12th segments, with short tufts of reddish-orange hair; feet black, with pale streaks; prolegs reddish-orange.

From the 20th May to the middle of June the larva made very little growth, and about the latter date began to contract previous to entering the pupa state. On the 20th of June I observed that it was spinning a light web, and about to undergo its change when another description was taken:

Length 0.80 in.; head medium size, black and shining.

Body above pale brown, with dull black tubercles and spreading tufts of black hairs; a dorsal stripe pale, dull, whitish pink.

Under surface dirty brownish white; hairs on tubercles on 5th, 6th, 11th and 12th segments short, blackish; feet blackish brown; prolegs pale brown and hairy.

On the 22nd of June it changed to a dark brown chrysalis, producing the imago July 6th, which proved to be a female.

ARCTIA BIMACULATA, n. sp.—Expands one inch; palpi reddish; head, antennæ and thorax reddish brown; abdomen stout, dull red with a faint broken dorsal line; body below, brownish red; feet of a little darker shade.

Primaries above *dull reddish brown, with a round white spot within the middle* and just below the median vein.

Secondaries dull red, with a black spot about the middle, and a *wide, irregular band along the hind margin*, extending from the anal angle to near the tip, where there is a small black dot. The hinder part of this band lies close to the hind margin; beyond, it is slightly advanced, having a streak of red between it and the edge; margin edged with a blackish line, fringe reddish.

Under surface of both wings red, of a little brighter shade than secondaries above.

Primaries have a blackish irregular bar across the end of the discal cell and extending a little way above it, nearer the tip is a brown dot. The white spot above is scarcely produced below, being red, a little fainter than general color.

Secondaries have the same markings as above, the central spot is a little larger and the marginal band narrower, not extending to the hinder edge of wing.

NOTES ON ALARIA FLORIDA, *Guén.*

BY W. SAUNDERS, LONDON, ONT.

In July of last year there bloomed in my garden a fine plant of that variety of evening primrose known as "*Lamarckiana*" (*Œnothera Lamarckiana*). I had been advised by an Entomological friend to procure this flower with the view of attracting moths at night, and found it to succeed admirably. Its lovely yellow petals expand suddenly about seven o'clock every evening, and diffuse a fragrance all around very attractive to Sphingidae and other nocturnal moths. The flowers expand about three inches and are very beautiful; they remain expanded until some time after sunrise the following morning, when they close to open no more. The plant flowers abundantly, fresh ones appearing every evening.

I was surprised at the number of specimens of *Alaria Florida* which were attracted—a charming little moth with the greater part of its fore wings covered with brilliant rosy red. It had always been a rarity with me before, indeed for several years I think I had not met with it at all; but now, night after night I found them hovering around these flowers, and on several occasions found three or four specimens the morning following buried amidst the closing petals.

After a few days I saw no more, but soon observed a smooth green cater pillar feeding on my favorite plant. Not content with eating the leaves only, these marauders had a special preference for the flower buds, eating away into their tender substance and utterly destroying them. It did not occur to me at the time that this might be the larva of *A. Florida*, but so it afterward proved. After killing most of them, several were reserved and fed for some time on the leaves of the plant, after which they changed to pale brown chrysalides. The following is a description of the full grown larva:

Described July 25th—Length 1.10 inches; cylindrical.

Head rather small, slightly bilobed, pale yellowish green; mandibles tipped with dark brown.

Body above pale green semi-transparent; a dorsal line of a darker green, due to the transparency of skin showing the internal organs; a lateral line of the same shade of color, but fainter; *second segment with a patch of pale dull red on each side; entire upper surface downy, with very short* pale brown and whitish hairs scarcely visible without a magnifier; spiracles pale brown.

Under surface similar to upper, a little darker shade of green prevailing on anterior segments; feet and prolegs green, the latter faintly tipped with brown.

These remained in the chrysalis state during the fall, winter and spring, producing the perfect insect early in July, 1869.

NOTE BY ED.—In July, 1866, and again in the same month of 1868, I had the pleasure of spending a short time at Weston, with the Rev. W. A. Johnson. On both occasions we took a number of specimens of *A. Florida* on the flowers of a variety of Evening Primrose; some were taken at various hours of the night, and others in the morning, entangled in the closing petals; we also found a number of larvæ, similar to those described above, eating into the flower buds, and ruining the beauty of many of the blossoms. I was anxious to trace the history of these caterpillars, fancying they must have some connection with the pretty Alarias, but having no Œnothera plants at home, I thought it was useless trying to rear the larvæ; I am very glad to find that Mr. Saunders has solved the question for us. During my last visit Mr. Johnson gave me an enormously magnified drawing from the microscope of an egg of this insect, which was laid at 4.30 a. m., on the 15th of July, 1868. In shape it resembles an orange, being circularly flattened at the top, and supported at the base on a short stem-like attachment to the flower bud; the sides are slightly crenate longitudinally, and ornamented with minute circular prominences. I have also taken the moth on the flowers of the wild species of Œnothera in this neighbourhood, but always in the evening, and during the month of July; this year I have examined numbers of these plants, but have not found a single specimen of the moth or its larva; last year they were tolerably common.

LIST OF COLEOPTERA,

TAKEN AT GRIMSBY, ONTARIO, BY J. PETTIT.

(Continued from page 107.)

CARABIDÆ.

PLATYNUS, *Bon.*
Hypolithos, *Say.*
Marginatus, *Chaud.*
Sinuatus, *Dej.*
Extensicollis, *Say.*
Decorus, *Say.*
*Moerens, *Dej.*
Melanarius, *Dej.*
*Metallescens, *Lec.*

PLATYNUS (*continued*).
Harrisii, *Lec.*
Cupripennis, *Say.*
Punctiformis, *Say.*
*Subcordatus, *Lec.*
*Vagans, *Lec.*
Retractus, *Lec.*
Ruficornis, *Lec.*
Octopunctatus, *Fab.*

PLATYNUS (*continued*).
Placidus, *Say.*
Obsoletus, *Say.*
Stigmosus, *Lec.*
OLISTHOPUS, *Dej.*
*Parmatus, *Say.*
*Micans, *Lec.*
PTEROSTICHUS, *Bon.*
*Sustentus, *Lec.*

(To be Continued.)

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* Species marked with an asterisk have not been before included in the list of Canadian Coleoptera.

MISCELLANEOUS NOTES.

BUTTERFLIES IN JULY.—The present season, though cool and wet, I have found very much better for collecting Lepidoptera than the two previous hot and dry summers. During the month of July, I have captured, or seen, specimens of the following butterflies, although I have had but few opportunities for making anything like an Entomological excursion. *Papilio turnus, troilus, asterias; Colias philodice; Danais archippus; Argynnis cybele, aphrodite, bellona, myrina; Melitæa tharos; Grapta interrogationis; Vanessa J-album, milberti, progne, antiopa; Pyrameis atalanta, cardui, huntera; Limenitis arthemis, disippus; Neonympha eurythris; Erebia nephele; Thecla inorata; Polyommatus americana; Eudamus tityrus; Hesperia hobomok, Leonardus, Peckii, ahaton.* Twenty-nine species in all. I have no doubt that many of our Canadian collectors have done much better than this, and I trust they will let our readers know it, though I think the above list is not bad for a single month, characterized as it was by so many cold and rainy days. Some species have been excessively abundant; *e. g. C. philodice, D. archippus, V. antiopa, P. cardui;* others unusually numerous; *e. g. V. milberti, P. huntera* and *atalanta, L. arthemis,* which is usually very rare, *N. eurythris, E. nephele,* and *Thecla inorata.*

On the 3rd of August, a lovely bright warm morning, after an excessively wet night, I drove about ten miles along country roads. Every few yards there was a patch of mud, the effects of the heavy rain, and at every patch of mud there were from half a dozen to twenty specimens of *Colias philodice,* —at least one, I should think, for every yard of distance that I travelled. I must, then, have seen at a very moderate computation, about 10,000 specimens of this butterfly! There were also, I should judge, about one-fifth as many specimens of *Vanessa antiopa* flying about, besides numbers of other common butterflies.—C. J. S. B.

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