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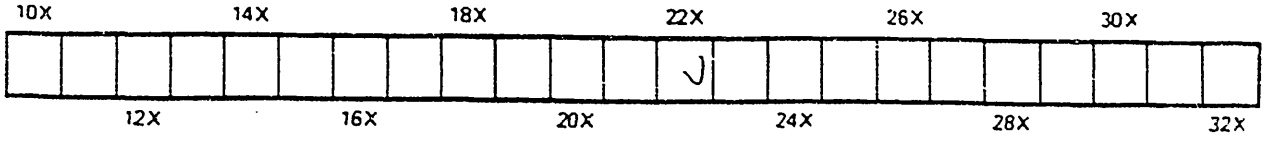

The Canadian Entomologist.

VOL. II. TORONTO, APRIL 8, 1870. No. 6.

NOTE ON *AMPHIPYRA TRAGOPOGONIS*, LINN.

BY THE EDITOR.

On the 6th of June, 1868, we observed for the first time a handsome green caterpillar eating some lettuce that we were growing in our grapery; thinking that it could not very well escape we merely took a rough description, as follows: Sixteen footed caterpillar, about an inch long, pale green (almost the color of lettuce leaves) above, deeper green below; a white dorsal line, two lateral white lines, the lower passing through the spiracles; all five lines proceeding from head to tail. Before we secured it, it did however escape, probably entering the ground.

The following year, in June and early in July, we observed many similar larvæ on a number of different plants, both in the garden and in the woods. The following description of a nearly full-grown specimen was taken on the 3rd of July :—

Length 1.00 inch. Colour beautiful apple-green. Head pale green, with a dark spot on each side in front; dorsal, sub-dorsal, and spiracular lines, narrow, pure white; the spiracular lines begin on the second segment, the others on the third; on all the segments except the head and second, there are a few minute white granulations tipped with black, and terminating each in a fine hair; spiracles white; feet green.

On July 11th it formed a slight silken cocoon in the box in which it was confined, having no earth to burrow into, and there assumed the pupa state. The imago appeared on the 3rd of August, and proved to be a specimen of *Amphipyra tragopogonis*, Linn.

This excessively common moth, found all over the Province of Ontario, and also in Quebec, appears to be an importation from Europe, where, according to Guénée and Stainton, it is very abundant. Its specific name is derived from the Salsify, or Vegetable-oyster plant (*Tragopogon*), on which, as well as on Spinach, Dock, and other plants, it feeds, according to Fabricius. In England it is called the "Mouse" moth, either from its colour or its habit "of creeping into houses, and secreting itself in blinds, and

when dislodged, if it falls on its back or belly, of shuffling along in a very peculiar manner" (Stainton). In this country we often find it about venetian shutters in the summer time, and through the winter its remains are very abundant in cobwebs about the windows of little-used buildings,—as, for instance, in the Cemetery Chapel at Cobourg a few years ago.

The imago may be at once recognized by the three black dots,—one on the disk, and two occupying the place of the reniform spot,—on the dull greyish-brown fore-wings; the hind-wings are much paler, shaded exteriorly, and immaculate; the abdomen is flattened; and the whole insect has a satiny lustre in certain lights.

There is another equally abundant species of this genus, the Copper Underwing (*A pyramidoides*, Guén.) which can usually be taken in great numbers in August and September. Its larva is stated (*Amer. Ent.* ii. 26) to feed on the leaves of the Grape, Poplar, and Red-bud (*Cercis canadensis*); and by Guénée, on Oaks (*Quercus*). Grote (*Pro. Ent. Soc. Phil.* iii. 86) describes, under the name of *A. inornata*, another species from Canada, taken by Mr. Saunders, but we have never met with it, and are inclined to think from his description that it is merely a variety of the foregoing.

ON THE LARVÆ OF SOME LEPIDOPTERA.

BY W. SAUNDERS.

ARCTIA CELIA, *Saunders.*

A single full grown specimen of the larva of this species was found under a log in a wood near London on the 11th of June. Length one inch. Head black and shining.

Body above *brownish black*, closely covered with tufts of moderately long, stiff hairs, proceeding from elevated shining tubercles. Hairs and tubercles a little darker than the surface of body *excepting along the sides, where, although the tubercles continue the same, the hairs are changed to a yellowish-brown color.*

Under surface brown, with a slight greenish tint; fifth, sixth, eleventh, and twelfth segments are each belted with a series of tufts of short yellowish-brown hairs, in continuation of those above. Feet black and shining. Prolegs yellowish-brown and hairy.

This larva changed to a chrysalis on the 13th of June, and produced the imago on the 30th of the same month.

CIDARIA DIVERSILINEATA, *Hubn.*

The date of the capture of these larvæ I failed to record. It was early in summer, and they were very abundant on the leaves of the American Ivy (*Ampelopsis quinquefolia*), on which they fed,

Length from one to one and a quarter inches. Head flat, with two prominent black points or processes above, mandibles yellowish-white.

Body above dark dull brown, with a slightly reddish tint, and patches of a darker shade along the dorsal region. On each side close to under surface is a longitudinal ridge.

Under surface similar in color to upper, excepting the spaces between the feet and the two pairs of prolegs, which are of a greenish color. Feet crowded closely together, of a brownish-black color, prolegs of a similar shade. The hinder pair tinged with green.

In some specimens the general color is lighter. When alarmed they straighten themselves out, and remain for some time in that position, and being so nearly of the hue of the twigs of the plant they feed on, they thus often escape detection.

MAMESTRA ARCTICA, *Encyc.*

In No. 3 of the present volume of the *Entomologist*, C. S. Minot, Esq., of Boston, published some interesting notes on the eggs of this species. Observations made last year enable me to add another fragment to the knowledge we have of the history of this—one of our commonest moths.

On the first of June two full grown specimens of the larvæ were found under turf—they probably fed on the roots of the grass, &c.

Length one and a quarter inches.

Head rather large, bilobed, reddish, with a polished surface; mandibles black.

Body above dull greenish-white, smooth, shining, and somewhat semi-transparent, a little darker between segments. Second segment with a horny plate above similar in appearance to head, but of rather a darker hue. There are on each segment a few very small brownish dots, from each of which there arises a single fine brownish hair. Sides of body much wrinkled; terminal segment small, brownish-black; spiracles black.

Under surface similar to upper, feet brown, prolegs tipped with black. These changed to chrysalides about the 3rd of June, and produced the imago in the latter part of the same month.

In a previous year I found the same larva full grown as late as the 26th of June.

DRYOCAMPA RUBICUNDA, *Fab.*

Larva found feeding on silver maple July 30th.

Length one inch, cylindrical. Head rather small, flattened, in front bilobed, pale orange, with a black dot on each side below, near mandibles.

Body above yellowish-white, thickly covered with minute whitish granulations, only visible with a magnifying lens, with a dorsal and three lateral

stripes of pale green, rather indistinct. Second segment greenish-white with a row of six black dots or minute tubercles, but slightly raised on its anterior edge. *Third segment with two black horns nearly one-tenth of an inch long*, one on each side of the dorsal line and spreading outwards, and forward below these on each side are two small black tubercles. Each segment behind this to eleventh inclusive has a transverse row of six of these black points or tubercles, those close to under surface being largest, those above much smaller, the upper ones scarcely visible without a magnifying glass. On twelfth and thirteenth segments these tubercles are a little more prominent and about equal sized throughout, numbering six on twelfth and three on thirteenth segments. Anal lid pale green, with its outer edge fringed with eight small black tubercles, so small as to be scarcely visible. On sides of twelfth segment, close to under surface, and extending slightly into the segments on each side, is a pale reddish-orange patch or short stripe nearly the color of head.

Under surface glossy green, with a faint whitish line down the middle and many small blackish dots or tubercles, some of which are arranged in a longitudinal row outside feet and prolegs. Feet dark-brown, nearly black, shining; prolegs pale green.

On the 28th of August these larvæ were about full grown.

Length 1¾ inches. Head as before. Horns on third segment fully one-tenth of an inch long. Upper tubercles on middle and hinder segments quite distinct. Reddish patch on sides of posterior segments larger, extending over 11th, 12th and part of 13th segments, but less bright in color than head.

Under surface deeper green, feet pale reddish, prolegs pale green dotted with black.

These entered the ground shortly after and changed to chrysalides, producing the imago early the following summer.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

I—COLEOPTERA.

For ten years we have been trying, and trying in vain, both in England and America, to obtain a copy of Kirby's descriptions of the insects of the Northern parts of British America, contained in the fourth volume of Richardson's *Fauna Boreali-Americana*, published at Norwich in 1837. Many of our friends have been making similar attempts, and always with the like ill-success. We have had, however, occasional access to a copy in the library of the University of Toronto, which, with the exception of

one in the Library of Parliament at Ottawa, is the only copy we know of in Canada. By the kindness of Prof. Croft we have obtained a loan of the copy belonging to the University, and, with the full approbation of many of our friends and correspondents, we now purpose republishing from it in the pages of the *Canadian Entomologist* Kirby's descriptions of new species, and such other matter as may be deemed of special value or interest. As the work consists of upwards of 300 quarto pages, it will be necessary for us to omit almost everything except the descriptions of species that cannot be obtained elsewhere, in order to accomplish the republication within a reasonable time, and without trespassing too much upon our limited space. Though we shall thus depart a little from our expressed intention of only publishing original matter in this Journal, we feel assured that all our readers will be pleased to have brought before them descriptions of Canadian insects to which they can hardly otherwise obtain access. For convenience of reference the paging of the original work, and any notes we may add, will be enclosed in square brackets.

[8] FAMILY CICINDELIDÆ.

**Labrum unidentate.*

1. CICINDELA HIRTICOLLIS, *Say.*—Locality not stated. [For description *vide* Say's Ent. ii. 423.]

[9] 2. CICINDELA REPANDA, *De Jean.*—Locality not stated.

Very like the preceding species, but the labrum is shorter and less prominent in the middle; the lateral margin of the elytra is not continuously white; the lower limb of the humeral crescent slopes towards the apex of the elytrum; the broken or S-shaped band terminates in a streak at the margin : all the markings also of the elytra are buff colored rather than white; and the minute mucro or point that terminates the suture, and the serrulations of the apex of the elytra are less conspicuous.

De Jean regards this species as synonymous with *C. hirticollis*, but, if I am correct in my reference to him, of which I have little doubt, they are clearly distinct.

3. CICINDELA PROTEUS, *Kirby.*—Length of body 5¾ lines. This species, of which several specimens were taken in the expedition, appears to abound in North America. Dr. Bigsby met with it in Canada, and there was a specimen in the late Mr. Marsham's collection, probably from the United States.

Similar to *C. repanda*, but instead of the humeral and terminal crescents, in all the varieties, are four white dots, two at the base and two at the apex of the elytra; the middle broken or tortuous band resembles the figure 7 reversed, and does not terminate in a marginal streak. The body

underneath, as usual, is golden-green, or green with clouds of blue, above it is dark-brown with a tint of copper.

Variety B. With the apical dots not larger than the humeral.

C. With a... interrupted crescent at the apex.

D. With three apical and two humeral dots; intermediate band internally abbreviated.

E. Like the last, but with only one humeral dot.

[This is *C. duodecim-guttata*, Dej.; it is commonly taken in many parts of Canada.]

**Labrum tridentate.*

[10] 4. CICINDELA OBLIQUATA, *De Jean.*—Many taken in the expedition, and apparently abundant in N. America. I received it many years since, but without a name, from my lamented friend Prof. Peck.

Body above greenish-copper, underneath golden-green clouded with blue. Labrum white, tridentate, slightly prominent in the middle; mandibles white at the base, black at the tip; palpi black; labial with the intermediate joint rufous, darker at the tip. Elytra with a large white humeral crescent, extended at the lower end obliquely beyond the middle; mesal band bent downwards, recurved at the end, and connected by a marginal line with a crescent at the apex. In the male the intermediate joint of the labial palpi is white, and the mesal band is not connected with the terminal crescent.

[Le Conte (Pro. Acad. Nat. Sci. Phil., Dec. 1866, p. 362) states that this species should hereafter be known as *C. Kirbyi*, since, as he learns from a drawing made by Mr. Andrew Murray, from the type in the British Museum, it is quite distinct from any species known to him.]

5. CICINDELA VULGARIS, *Say.*—A common species in all N. America.

[11] 6. CICINDELA PURPUREA, *Oliv.*—[Very common in most parts of Canada,]

[12] 7. CICINDELA ALBILABRIS, *Kirby.* Plate i, fig. 1.—Taken in lat. 64°, and also in Canada by Dr. Bigsby. [Previously described as *C. longilabris*, by Say. (Ent. Works, i. 176). We have received specimens of this species from Nova Scotia, collected by Mr. J. M. Jones, and from Quebec and New Hampshire.]

[FAMILY CARABIDÆ.]

[13] 8. CASNONIA PENNSYLVANICA, *De Jean.*—Two specimens taken.

9. CYMINDIS MARGINATUS, *Kirby.*—Piceous, thickly punctured; antennæ, mouth, dilated sides of the prothorax, lateral margin and shoulders of the striated elytra, and legs, rufous. Length of the body 4½ lines.

One specimen of this insect was taken in the route from New York to Cumberland House, and the other in lat. 65°. It is nearly related to *C. pubescens*, Dej., but appears distinct.

[14] Body depressed and flat, as in its congeners, piceous; above densely punctured; mouth rufous: antennæ longer than the prothorax, piceo-rufous: front between the eyes transversely wrinkled: prothorax convex, with a longitudinal channel; lateral margin dilated, reflexed, and rufous: elytra striated or slightly furrowed, with the furrows and their interstices punctured; viewed on one side they appear hairy with upright ferruginous hairs; their shoulders and lateral margin are obscurely rufous; their apex obliquely truncated, and subemarginate; the legs are rufous.

Var. B. Piceo-rufous; elytra concolorate.

[In Melsheimer's Catalogue, p. 4, this species is put down as a synonym of *C. cribricollis*, Dej., and in LeConte's List, p. 6, with a mark of interrogation under *C. reflexa*, Lec. The latter author, however, subsequently states (Trans. Am. Ent. Soc., Feb., 1869, p. 244), that both *C. Marginata*, Kirby, and *C. reflexa*, Lec., are identical with *C. cribricollis*, Dej. The species occurs in the most northern part of the United States and in Canada.]

10. CYMINDIS UNICOLOR, *Kirby.*—Thickly punctured, ferruginous; legs paler; lateral margin of the thorax not dilated. Length of the body 3½ lines. One specimen only taken.

This species greatly resembles variety B of the preceding. It is however smaller and paler; the prothorax has no longitudinal channel, and its lateral margin is not dilated.

[Placed, with a mark of interrogation, as a synonym of *C. neglecta*, Hald., in LeConte's List, p. 6.]

Genus SERICODA, *Kirby.*

Labrum transverse, sub-quadrangular: with the anterior angles rounded. *Mandibles* acute, incurved at the apex, not toothed? *Labium* [*mentum*] emarginate with a minute tooth in the sinus. *Palpi: maxillary* 5-jointed; first joint very minute, second longer than the rest, sub-cylindrical, attenuated at the base; third ob-conical; fourth as long as the third, fusiform, truncate; fifth very minute, retractile within the fourth; *Labial* 3-jointed; joints nearly equal in length; the two first conical; the last fusiform, truncated. *Antennæ* rather incrassated toward the apex; scape[1] incrassated; 2nd joint the shortest, and the third rather longer than the others.

[15] *Body* depressed, narrow. *Head* triangular. *Eyes* large and prominent. *Neck* very little constricted. *Prothorax* short, channelled, widest anteriorly: with the angles rounded. *Elytra* obliquely truncated at the apex and emarginate, so that internally they terminate in an acumen. *Cubit*

[1] *Scape.* The first, and often most conspicuous joint of the antennæ, terminating below in the bulb, which inosculates in the head and acts the part of a rotula. [Definitions, &c., p. xvii.

[*tibia* of 1st pair of legs] emarginate. *Tarsi* with the penultimate joint entire. *Claws* single, not pectinated.

The maxillary palpi of the genus here defined present an anomaly observed in no other known coleopterous genus, they appear to be furnished with a minute *fifth* joint retractile within the fourth. In one of these palpi, in the only specimen taken, this little accessory joint is not apparent, but in the other it is distinctly seen emerging from the fourth joint, or rather, as this last appears broken at the apex, it is uncovered. There is only one supposition that can reconcile this case to the general rule, that no *colcopterous* maxillary palpus shall exceed four joints, namely—that this is an effort of nature, by a reproduction, to restore the mutilated organ so as to fulfil its functions. Did the insect belong to the *Crustacea* or *Arachnida* this would be a satisfactory explanation of the anomaly, bnt I do not recollect any instance upon record of a genuine *insect* having reproduced a lost organ. I thought it possible that the palpi of other Predaceous beetles might contain a retractile joint, and this truncated apex seemed in some degree to favour the idea, but I did not succeed in my endeavours to discover one. [Mr. Scudder (Pro. Bost. Soc. Nat. Hist. xii. 99) describes the reproduction of lost limbs in the Walking-Stick Insect (*Diapheromera femorata*), specimens of which we have seen in his cabinet. We cannot but think that the case described above by Mr. Kirby is an instance of reproduction.]

The above structure of the palpi, if not accidental, seems to give our little insect some affinity with the *Subulipalpi* of Latreille, but its general characters and aspect appear to demand a place for it somewhere between those *Truncipennia* whose claws are not pectinated, and those who have those organs so armed.

11. SERICODA BEMBIDIOIDES, *Kirby*.—Plate 1, Fig. 2.—Black underneath, above black-bronzed, rather silky; prothorax subtrapezoidal, with a pair of impressions behind; elytra substriated, impunctured, somewhat clouded, with a series of impressions adjoining the suture. Length of body 3¼ lines. Only a single specimen taken.

[16] Body underneath black glossy; above the black has a brassy tint, with somewhat of the lustre of silk; head, between the eyes, marked with a short, anteriorly forked furrow; prothorax sub-trapezoidal, anteriorly subemarginate, sides oblique with the margin reflexed, transversely very minutely wrinkled, with a pair of anterior excavations in the disk, posteriorly also somewhat impressed on each side; elytra longer than the head and prothorax together slightly furrowed with impunctured furrows, obsoletely clouded; there is a series of about five shallow impressions near the suture.

[Included by LeConte in the genus *Platynus*. Has been taken in Oregon.]

12. BRACHINUS CYANNIPENNIS, *Say.*—[Say's Ent. Works, ii. 91.] Several specimens of this insect were taken in the journey from New York to Cumberland House, and in lat. 54°; it was also taken in Canada by Dr. Bigsby.

[17] 13. CARABUS VIETINGHOVII, *Adams.*—(Mem. Soc. Nat. Moscow, iii. 170; *Fischer* Ent. Russ. i. 98; *Dej.* Coleopt. ii. 61, 21.) Kirby, plate 1., fig. 3.

♀. Length of the body 10 lines. Body very black and glossy. Head punctured between the eyes with confluent but not minute punctures; anterior part of the front wrinkled on each side, but the nose and upper lip are quite smooth; the seven terminal joints of the antennæ are brown; the prothorax is nearly square with the sides rounded anteriorly and the posterior angles a little prominent; it is deeply channelled, transversely wrinkled in the disk, confluently but not minutely punctured on the sides; the disk also is black, but the sides exhibit shades of dark blue and green; at the margin they are of a most brilliant ruddy copper, some of the anterior punctures also appear as if gilded: the elytra are rough and as it were reticulated with longitudinal and transverse elevations, the former nearly arranged in lines which produce deep cavities; the disk is of a fine deep blue, the sides green and the lateral margin of the same ruddy copper as that of the prothorax. The body underneath is quite smooth in the disk, with some irregular elevations and depressions on the sides: the sides of the ante-pectus, or fore-breast, are of a fine green; the intermediate segments have each a pair of impressions from which a hair emerges. This is most visible in the ♂.

I at first regarded this splendid insect as a new species. I thought it, indeed, very near *C. Vietinghovii*, but as it did not altogether agree either with Dr. Fischer's figure or description, and was found in another quarter of the globe, I regarded it as distinct; but having received from my friend Mr. Hope, a Russian specimen of that insect, I find no difference sufficient to constitute a species. In that specimen the marginal gilding of the prothorax and elytra is greener with scarcely any of the ruddy hue of copper which gives such brilliance to the American specimen.

[A single specimen only of this magnificent beetle was brought to Mr. Kirby in the Richardson collection, and no locality is given of its capture; can it have come from Russia and not from British America? No specimen of it has been taken in this country, so far as we are aware, since the time of that expedition, a period of over 30 years. It might have been included in the collection by some accident,—a not infrequent occurrence. Prof. Croft, for instance, writes us that some years ago he had a collection of moths given to him "collected in or near Toronto," yet among them was

a gigantic Chinese Saturnia! He adds, that on looking into Fischer's work he finds the habitat for the insect is "Eastern Siberia—banks of the Lena."]

[18] 14. CARABUS LIGATUS, *Knoch.*—Taken in Canada by Dr. Bigsby. Length of body 7½ lines.

Body black and glossy. Head oblong, impunctured, separated from the neck by a transverse slender curving ridge forming anteriorly a deep sinus; ridge, defending the base of the antennæ, conspicuous; frontal impressions long, not deep; antennæ not much longer than the prothorax; prothorax nearly square, black slightly bronzed: sides lightly punctured, lateral margin reflexed; it is faintly channelled, depressed transversely at the base, with a punctured impression on each side; elytra bronzed, subdepressed with scarcely any sinus at the apex, lateral margin reflexed and carinated: each elytrum with 13 or 14 rows of impressed punctures; a triple series of oblong discoidal elevations; interstices with numerous transverse linear impressions: abdomen underneath smooth with a few minute punctures on the sides.

The insect here described agrees with Germar's description of Knoch's *C. ligatus*, but it is doubtful whether it be synonymous with *C. carinatus* of DeJean. In most respects, indeed, it accords precisely with his description, but the head is not slightly punctured, as he states his specimens to be.

[Both *C. ligatus* and *C. carinatus* are included as races of *C. vinctus*, Weber, by Le Conte, in his List of Coleoptera, p. 3.]

(To be continued.)

MISCELLANEOUS NOTES.

EGGS OF THE CECROPIA MOTH.—I should like to call the attention of the readers of the *Canadian Entomologist* to the fact, that *Platysamia cecropia*, Grote *(Attacus cecropia*, Linn.) always lays two eggs close together upon the food plant of its larva. When seeking for these larvæ early in the season you will usually find them both near to each other, and upon careful examination of the leaves in the vicinity you will find their eggs cemented to the underside, sometimes however upon the upper. They are about ·07 long, oval, somewhat flattened on top. They are not as round as *T. polyphemus* or *A. luna*. Colour yellowish white, with a light brown spot on top, and discoloured more or less at the bottom and sides. They are usually laid side by side. The larva gnaws a rough sided hole through the end and is nearly black, growing lighter each moult until of the normal colour. The larva when about to shed its skin deposits in a convenient place sufficient silk to firmly attach its posterior prolegs, and never should be dis-

turbed when in this position, because it depends upon this attachment to draw itself from the old larva skin. Of six pairs which I tried to raise from the eggs in only one case was I successful, not because they are difficult to rear, for I have had very excellent success heretofore, but I was obliged to trust to inexperienced hands for a short time, and they were not properly fed. This pair are now in the cocoon, and I anticipate that they will come out ♂ and ♀, presuming this to be the law of their nature from the fact of there being two eggs laid together. I hope for further facts the coming season, and that those who have conveniences for raising larvæ will give their attention to the subject.—PHILIP S. SPRAGUE, Boston, Mass.

INSECTS AS FOOD.—In this utilitarian age perhaps the most important question in entomology is to find out in what way insects can be employed for the benefit of mankind. A most curious instance has lately come to my knowledge which I think may interest some of our readers. My informant, M. Guerin-Meneville, a well known sericulturist and economic entomologist, showed me some dark-coloured cakes resembling somewhat brown bread. These cakes are eaten extensively among the poorer classes and natives in the City of Mexico. They are made exclusively with the eggs of two kinds of water-bugs (*Corixa femorata* and a species of *Notonecta.*) The natives cut quantities of reeds and other aquatic weeds, and strew them on the borders of the great lake near the city, and they are soon coated with eggs laid by the insects. These eggs, which are about the size of a mustard-seed, are deposited so abundantly as often to cover the plants entirely. The natives "harvest" these plants, and after exposing them some time in the sun to dry, scrape off the eggs, and either keep them in that state for future use or pound them at once into meal. The perfect insects themselves are not neglected, for they are caught in great numbers and hawked about the streets as food for cage-birds and poultry, which are very fond of them. It is surprising that the raids which are practised against these insects in two of their states do not apparently diminish their numbers; they, however, multiply to such a degree, that notwithstanding the tribute they have to pay, enough survive to supply the natives with food year after year, M. Guerin-Meneville received samples of the insects, the eggs, "seed," meal, and cakes; but unfortunately the latter accidentally became saturated with spirits of wine in which a snake had been preserved, so that it was impossible to taste them.—*E. L. Ragonot, 33 Rue de Buffon, Paris (Science Gossip).*

We hear that the "Ladybirds," which excited so much curiosity last autumn, have reappeared in large numbers in the neighborhood of New Wandsworth. So early an appearance will surprise most of us who have been wont to regard these visitors as summer guests.—*Nature*, March 3.

LIST OF COLEOPTERA,

TAKEN AT GRIMSBY, ONTARIO, BY J. PETTIT.

(Continued from page 66)

PHALACRIDÆ.
OLIBRUS, *Er.*
*Bicolor, *Er.*
*Pallipes, *Say ?*

NITIDULIDÆ.
CERCUS, *Latr.*
*Abdominalis, *Er.*
BRACHYPTERUS, *Kugel.*
Urticæ, *Fab.*
COLASTUS, *Er.*
*Semitectus, *Say.*
*Unicolor, *Say.*
Truncatus, *Rand.*
CARPOPHILUS, *Leach.*
Niger, *Say.*
Discoideus, *Lec.*
CONOTELUS, *Er.*
*Obscurus, *Er*
EPURÆA, *Er.*
*Nigra, *Maklin.*
Helvola, *Er.*
Boreela, *Er.*
NITIDULA, *Fab.*
Bipustulata, *Fab.*
OMOSITA, *Er.*
Colon, *Linn.*
PHENOLIA, *Er.*
Grossa, *Fab.*
STELIDOTA, *Er.*
*Octomaculata, *Say.*
CRYPTARCHA, *Shuck.*
Ampla, *Er.*
IPS, *Fab.*
Fasciatus, *Oliv.*
4-Signatus, *Say.*
*Obtusus, *Say.*
Sanguinolentus, *Oliv.*
Confluens, *Say.*
Dejeanii, *Kirby.*
PITYOPHAGUS, *Shuck.*
Bipunctatus, *Say.*
RHIZOPHAGUS, *Herbst.*
*Dimidiatus, *Mann.*
*Remotus, *Lec.*

MONOTOMIDÆ.
BACTRIDIUM, *Lec.*
Nanum, *Er.*
*Striatum, *Lec.*
MONOTOMA, *Herbst.*
Parallelum, *Lec.*

TROGOSITIDÆ.
ALINDRIA, *Er.*
Cylindrica, *Enc.*
TROGOSITA, *Oliv.*
*Corticalis, *Mels.*
*Intermedia, *Horn.*
Dubia, *Mels.*
*Collaris, *Sturm.*
Castanea, *Mels.*
Laticollis, *Horn.*
Bimaculata, *Mels.*
NOSODES, *Lec.*
Silphides, *Newm.*[1]
PELTIS, *Kug.*
*Fraterna, *Rand.*
4-Lineata, *Mels.*
THYMALUS, *Latr.*
Fulgidus, *Er.*

COLYDIIDÆ.
DITOMA, *Illig.*
4-Guttata, *Say.*
SYNCHITA, *Hellw.*
*Fuliginosa.
CICONES, *Curtis.*
Marginalis, *Mels.*
COLYDIUM, *Fab.*
*Lineola, *Say.*
BOTHRIDERES, *Er.*
*Geminatus, *Say.*
ENDECTUS, *Lec.*
*Hæmatodes, *Fab.*[2]
CERYLON, *Latr.*
Unicolor, *Zieg.*
Angustulum, *Lec.*

RHYSSODIDÆ.
RHYSSODES, *Dalm.*
*Exaratus, *Ill.*

CUCUJIDÆ.
SYLVANUS, *Steph.*
Surinamensis, *Linn*
NAUSIBIUS, *Redt.*
*Dentatus, *Mars.*
CATOGENUS, *Westw.*
Rufus, *Fab.*

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

[1] A single specimen picked up on the shore of the lake, October 1, 1868.

[2] Under pine bark, May 27th.

CUCUJUS, *Fab.*
Clavipes, *Fab.*
PEDIACUS, *Shuck.*
Planus, *Lec.*
*Subglaber, *Lec.*
LÆMOPHLŒUS, *Lap.*
Biguttatus, *Say.*
Fasciatus, *Mels.*
Adustus, *Lec.*
*Geminatus, *Lec.*
DENDROPHAGUS, *Sch.*
Glaber, *Lec.*
BRONTES, *Fab.*
Dubius, *Fab.*

CRYPTOPHAGIDÆ.

ANTHEROPHAGUS, *Latr.*
Ochraceus, *Mels.*
TOMARUS, *Lec.*
*Pulchellus, *Lec.*
PARAMECOSOMA, *Curtis.*
Denticulata, *Lec.*
Inconspicua, *Lec.*

DERODONTIDÆ.

DERODONTUS, *Lec.*
Maculatus, *Mels.*

LATHRIDIIDÆ.

LATHRIDIUS, *Ill.*
*Pulicarius, *Mels.*
*Minutus, *Linn.*
CORTICARIA, *Mars.*
*Cavicollis, *Lec.*
*Pumila, *Mels.*

MYCETOPHAGIDÆ.

MYCETOPHAGUS, *Hellw.*
Punctatus, *Say.*
Flexuosus, *Say.*
Pluripunctatus, *Lec.*
*Obsoletus, *Mels.*
*Bipustulatus, *Mels.*
TRIPHYLLUS, *Latr.*
Ruficornis, *Lec.*
LITARGUS, *Er.*
Sexpunctatus, *Say.*
TYPHÆA, *Curtis.*
*Fumata, *Linn.*[3]
DIPLOCŒLUS, *Guér.*
*Brunneus, *Lec.*[4]

DERMESTIDÆ.

DERMESTES, *Linn.*
Caninus, *Germ.*
Nubilus, *Say.*
Pulcher, *Lec.*[5]
Lardarius, *Linn.*
ATTAGENUS, *Latr.*
Megatoma, *Fabr.*
TROGODERMA, *Latr.*
*Ornatum, *Say.*[6]
ANTHRENUS, *Fab.*
Varius, *Fab.*
ORPHILUS, *Er.*
Ater, *Er.*

BYRRHIDÆ.

CYTILUS, *Er.*
Varius, *Fab.*
BYRRHUS, *Linn.*
Kirbyi, *Lec.*
Americanus, *Lec.*
*Cyclophorus, *Kirby.*
Geminatus, *Lec.*
LIMNICHUS, *Latr.*
Punctatus, *Lec.*[7]

PARNIDÆ.

HELICHUS, *Er.*
Striatus, *Lec.*
Lithophilus, *Germ.*
STENELMIS, *Duf.*
Crenatus, *Say.*
LIMNIUS, *Müll.*
*Fastiditus, *Lec.*
ELMIS, *Latr.*
Vittatus, *Mels.*

HETEROCERIDÆ.

HETEROCERUS, *Fab.*
Mollinus, *Kies.*

LUCANIDÆ.

LUCANUS, *Linn.*
Dama, *Thunb.*
Placidus, *Say.*
DORCUS, *McL.*
Parallelus, *Say.*
PLATYCERUS, *Geoff.*
Quercus, *Weber.*
Depressus, *Lec.*
CERUCHUS, *McL.*
Piceus, *Weber.*
PASSALUS, *Fab.*
Cornutus, *Fab.*

SCARABÆIDÆ.

CANTHON, *Hoff.*
Lævis, *Drury.*
COPRIS, *Geoff.*
Anaglypticus, *Say.*
ONTHOPHAGUS, *Latr.*
Latebrosus, *Fab.*

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[3] Found in scores under rails from which a hay-stack had been removed; January and April.

[4] In moss on a fallen maple tree; latter part of July.

[5] Taken in January under the bark of a dead elm.

[6] Bred from larvæ found in a case of insects.

[7] Found under stones at the margin of a creek; in July.

*Canadensis, *Fab.*
APHODIUS, *Ill.*
Fimetarius, *Linn.*
*Ruricola, *Mels.*
Granarius, *Linn.*
Vittatus, *Say.*
Inquinatus, *Fab.*
*Stercorosus, *Lec.*
Bicolor, *Say.*
*Oblongus, *Say.*
Striatulus, *Say.*
EUPARIA, *Lep.*
Stercorator, *Fab.*
*Cognata, *Lec.*
ODONTÆUS, *Klug.*
Cornigerus, *Mels.*
GEOTRUPES, *Latr.*
Egerici, *Germ.*
Excrementi, *Say.*
Splendidus, *Fab.*
Blackburnii, *Fab.*
NICAGUS, *Lec.*
Obscurus, *Lec.*
TROX, *Fab.*
Sordidus, *Lec.*
Porcatus, *Say.*
Erinaceus, *Lec.*
Capillaris, *Say.*
Æqualis, *Say.*
HOPLIA, *Ill.*
Trifasciata, *Say.*
DICHELONYCHA, *Kirby.*
Elongatula, *Schon.*
Albicollis, *Burm.*
SERICA, *McL.*
Vespertina, *Schon.*
Sericea, *Ill.*
MACRODACTYLUS, *Latr.*
Subspinosus, *Fab.*
DIPLOTAXIS, *Kirby.*
Tristis, *Kirby.*
LACHNOSTERNA, *Hope.*
Fusca, *Frohl.*
Cognata, *Burm.*
*Subtonsa, *Lec.*
*Hirsuta, *Knoch.*
*Villifrons, *Lec.*
PELIDNOTA, *McL.*
Punctata, *Linn.*
COTALPA, *Burm.*
Lanigera, *Linn.*
LIGYRUS, *Burm.*
Relictus, *Say.*
APHONUS, *Lec.*
*Tridentatus, *Say.*
Frater, *Lec.*
XYLORYCTES, *Hope.*
Satyrus, *Fab.*
EURYOMIA, *Burm.*
Inda, *Linn.*
Fulgida, *Fab.*
OSMODERMA, *Lep.*
Eremicola, *Knoch.*
Scabra, *Beauv.*
GNORIMUS, *Lep.*
Maculosus, *Knoch.*
TRICHIUS, *Fab.*
Affinis, *Gory.*

EXCHANGES.

SILK MOTHS.—Eggs of *B. Yama-mai*, *Pernyi*, and of the white variety, free from disease, also of *B. mori*, for rare species of Canadian Lepidoptera.—W. V. ANDREWS, Room 17, No. 137 Broadway, New York.

COLEOPTERA.—Species desired from Canada, especially the eastern region; can give in exchange Southern and Californian forms, as well as those from New England States. —P. S. SPRAGUE, 227 Broadway, South Boston, Mass.

BOOKS RECEIVED.

Hand-book of Zoology, with examples from Canadian Species, Recent and Fossil. By J. W. Dawson, LL.D., F. R. S., &c. Part i.—Invertebrata. With 275 illustrations. Montreal: Dawson Brothers, 1870. Toronto: Adam & Stevenson. We are glad to welcome another addition to the scientific literature of Canada from the pen of Dr. Dawson, Principal of McGill College, the well-known author of Acadian Geology, Archaia, etc. The little work before us is an elementary treatise on Zoology designed for the use of teachers and isolated students or collectors, and will, we are sure, prove o much value to all beginning the study of the natural history of this country or engaged in the instruction of others. The copious illustrations from Canadian examples render it

particularly useful, as we have generally to resort to British or American publications for scientific information of an elementary character. The work opens with an outline of Physiological Zoology, and an account of Zoological Classification, with divisions into Provinces and Classes based upon the system of Cuvier; the greater part of the volume is occupied with illustrated descriptions of the leading divisions of Radiata, Mollusca and Articulata. In an appendix is given an outline of the classification of Vertebrata, and also valuable instructions for collecting and preserving invertebrate animals. Should the present volume be well received—which we earnestly trust will be the case—the author purposes completing the work by another on the Vertebrata.

The Canada Bookseller: A Quarterly Record of British, American and Native Literature, for the use of the trade and book-buyers: published by Adam, Stevenson & Co., Toronto. March, 1870 (50 cents per annum). We beg to commend to our book-buying and book-loving friends this beautifully printed venture of a most enterprising Canadian firm. It contains much interesting matter relating to the trade, and full information respecting recent or forthcoming publications by Canadian, British and Foreign houses. It is certainly one of the best specimens of typography ever issued in this country.

The American Entomologist. Vol, ii. No. 5. March, 1870. In addition to the usual supply of varied and interesting matter, including several contributed articles, the Editor of this valuable periodical presents us with an admirable steel-plate portrait of his late esteemed coadjutor, Benj. D. Walsh.

Second Annual Report on the Noxious, Beneficial, and other Insects of the State of Missouri. By Charles V. Riley, State Entomologist. Jefferson City: H. Wilcox, 1870. Much of the matter contained in this valuable Report has very naturally appeared already in the pages of the *American Entomologist*, of which the Author is now sole Editor, and is therefore not entirely new to us; it is a great convenience, however, to have the matter thus collected together in moderate compass and in a systematic form, while to those who do not see the magazine, and who yet are interested in the economic study of insects, the treatise must be invaluable. It is illustrated by about a hundred excellent wood-cuts, and contains accounts of the Chinch Bug, the Army Worms, Tortoise-Beetles, the Pickle Worm, Insects injurious to the grape-vine, the Canker-Worm, Cabbage Worms, etc. The following new species of insects are described and figured in the course of the volume:—Diptera, *Exorista flavicauda*, and *Asilus Missouriensis*; Lepidoptera, *Plusia brassicæ*, and *Acronycta populi*.

The Bowdoin Scientific Review. A fortnightly Journal, edited by Professors Brackett & Goodale, Bowdoin College, Brunswick, Maine, and devoted chiefly to Chemistry and Physiology.

Twenty-second Annual Report of the Regents of the University of the State of New York, on the condition of the State Cabinet of Natural History. Albany, 1869 (from Mr. J. A. Lintner).——*Proceedings of the Boston Society of Natural History.* Vol. xiii., pages 193 to 224——*Hardwicke's Science Gossip.* No. 63, March, 1870.——*Nature.* Nos. 16 to 21.——*Le Naturaliste Canadien.* Vol.

ii., No. 4.——*The American Naturalist.* Vol. iii , No. 12; Vol. iv., No. 1.——*The Rural New Yorker.*——*The American Agriculturist.*——*The Canada Farmer.*——*The Maine Farmer.*——*The Bunker Hill Aurora.*——*The Orcad.*——*Arthur's Home Magazine* and *The Children's Hour.*——*Petites Nouvelles Entomologiques.*

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