

The Canadian Entomologist.

VOL. II.

TORONTO, MAY 16, 1870.

No 7

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's *Fauna Boreali-Americana: Insecta.*

(Continued from page 82.)

[Kirby divides the genus *Calosoma* into two sub-genera: *Calosoma* proper having the maxillary palpi with the last joint of the length of the last but one, and the elytra gilded; *Chrysostigma* having the maxillary palpi with the last joint shorter than the last but one, and the elytra obscure with gilded punctiform impressions. The two species that he describes both belong to the latter sub-genus. Dr. Le Conte (Pro. Acad. Nat. Sci. Phil., Feb. 1862, p. 52) has given a more complete classification of the species of this genus into six groups, based upon the differences of the anterior tarsi of the males. Kirby's division has not been adopted by subsequent authors.]

[19] 15. *CALOSOMA CALIDUM*, *Fab.* This species is very common in all parts of North America; several specimens were taken in the expedition.

16. *CALOSOMA FRIGIDUM*, *Kirby.*—Length of the body $9\frac{1}{2}$ lines. Taken in Drummond's Island, Canada, by Dr. Bigsby

Not unlike *C. calidum*, but longer in proportion and more depressed. Body black, not glossy above. Head confluent punctured and wrinkled: mandibles obliquely but less densely wrinkled, and frontal impressions longer than in *C. calidum*: prothorax scarcely at all bronzed, lateral margin obscurely green, with the same number of elevated lines as in *C. calidum*, but in the furrows formed by them is a series of punctures, and the transverse lines are less conspicuous; there is a triple series of punctiform impressions, but they are bilobed, smaller, and the gilding is greenish and less conspicuous; they are also less numerous, there being only seven or eight in the series next the suture, eight or nine in the intermediate one, and three only towards the apex in the external one: at the base there is also a pair on each side: the sides of the body underneath are greenish, punctured and wrinkled.

[20] 17. *HELOBIA* [*NEBRIA*] *CASTANIPES*, *Kirby.*—Length of body 5 lines. Two specimens were taken in lat. 65°

Body black, glossy. Antennæ, mouth, mandibles, and palpi pale chesnut or mahogany colour; the former more dilute at the apex; front with three or four slight furrows between the eyes; upper-lip very short; prothorax heart-shaped, constricted posteriorly, convex in the disk; sides and base depressed and lightly punctured: elytra dark piceous, striated or slightly furrowed: furrows very obsoletely punctured; interstices very flat; between the 2nd and 3rd furrows, adjoining the latter, are from three to five shallow but rather large impressions: the legs are slender, of a pale chesnut or mahogany colour, in one of the specimens the thighs are darker than the rest of the leg. *N. B.*—In one specimen there are three and in the other five impressions.

18. *CHLÆNIUS SERICEUS*, *Forst.*—[*Say's Ent. Works*, ii. 483.]—Several taken in the journey from New York to Cumberland-house. In Canada by Dr. Bigsby. [Very common throughout Canada.]

[21] 19. *CHLÆNIUS IMPUNCTIFRONS*, *Kirby.*—[This name is pre-occupied by Say; Kirby's species is probably identical with LeConte's *C. brevilabris.*] Length of body 5-5½ lines.

Smaller than *C. sericeus*, though like it. Head without punctures; antennæ black, with the three first joints testaceous: scutellum not acuminate: elytra black with with a shade of green; apex of the epipleuræ or side-covers and legs testaceous; coxæ chesnut. In other respects this agrees with the preceding species.

20. *CHLÆNIUS NEMORALIS*, *Say.*—[*Ent. Works*, ii. 487]

A pair taken in the journey from New York to Cumberland-house. [Rare in Canada.]

[22] 21. *CHLÆNIUS QUADRICOLLIS*, *Kirby.*—Length of the body six lines. Taken by Dr. Bigsby in Canada.

Body hairy like the others, black underneath. Head and prothorax bronzed-green; mandibles piceous; palpi and three first joints of the antennæ testaceous; the latter are longer than the thorax, with the 4th joint as long as the 3rd; prothorax rather square, a little narrower before, with the sides curving, sculptured like the preceding species; scutellum sub-acuminate; elytra blue-black, furrowed with deeper furrows very visibly punctured, interstices minutely punctured.

[Placed, with a mark of interrogation, as a synonym of *C. Pennsylvanicus*, Say, in Le Conte's List, p. 11.]

22. *CHLÆNIUS CORDICOLLIS*, *Kirby.*—Length of the body 8 lines. Taken in Canada by Dr. Bigsby.

Body black. Head impunctured; palpi rufous; antennæ dusky, with the three first joints rufous, the third much longer than the fourth: prothorax

obcordate, constricted behind, deeply channelled, disk gibbous on each side of the channel, centre of each gibbosity smooth, remainder of the prothorax punctured; posterior lateral impression longitudinal: elytra black with a shade of green, sculptured as in the preceding species, but the interstices of the furrows are more visibly punctured: legs testaceous, thighs darker.

[23] 23. *CHLÆNIUS EMARGINATUS*, Say.—Length of the body $6\frac{1}{2}$ lines. Taken in the journey from New York to Cumberland-house.

Body hairy, punctured; black underneath. Head glossy green, with a tint of copper between the eyes, and a net-work of very minute, confluent, transverse wrinkles; maxillæ and palpi rufous, maxillary palpi very long; upper-lip transverse, rufo-piceous, anteriorly subemarginate; mandibles piceous; antennæ rufous, longer than the prothorax, with the third joint rather longer than the 4th; prothorax dusky-green, transverse, rather narrowest at the apex, very thick and minutely punctured; basilar impressions double, the inner one the longest; elytra black with a very faint tint of blue: legs rufous.

This is most probably the *C. emarginatus* of Say, but it does not exactly accord with De Jean's species. [Say's *C. emarginatus* belongs to the genus *Anomoglossus*, Chaud.; the species here described is *C. impunctifrons*, Say.]

24. *PLATYNUS ANGUSTICOLLIS*, DeJean.—Length of the body 5 lines. Taken in lat. 54° and 65° . Not uncommon in Britain.

[24] Body very black, glossy, somewhat narrowed. Head smooth, narrower than the prothorax, including the neck sub-rhomboidal, without it triangular; palpi and antennæ piceous; frontal impressions large; prothorax narrower than the elytra, obcordate, longer than wide; dorsal channel deep terminating anteriorly in a transverse obtuse angular impression; lateral margin dilated, especially at the base, reflexed, somewhat piceous in a strong light, basilar impressions single, large, round, with a few scattered indistinct punctures: elytra rather deeply furrowed; furrows very slightly punctured; between the second and third are two punctiform impressions, the anterior one being adjacent to the former furrow, and the posterior to the latter.

[This is considered an erroneous determination by Dr. Læ Conte (List, p. 7) and is inserted by him as a race of *P. sinuatus*, Dej.]

25. *AGONUM (ANCHOMENUS) EXTENSICOLLE*, Say.—[Ent. Works, ii. 478.] A pair taken in lat. 54° . [Belongs to *Platynus*; has been taken in Ontario.]

26. *AGONUM PICIPENNE*, Kirby.—Length of the body $3\frac{1}{2}$ to 4 lines. Several specimens taken in lat. 54° .

[25] Body black, glossy. Mouth and its organs rufous, except the upper-lip, which is edged with that colour; antennæ longer than the prothorax, piceous with the scape paler than the other joints: prothorax longer than in the

following species, oblong-ovate, with the lateral margin piceous, and not dilated posteriorly as in the majority; basilar impressions rather shallow, oblong: elytra oblong, rufo-piceous slightly furrowed, furrows impunctured; five punctiform impressions between the second and third; the three anterior ones adjacent to the latter, and the two posterior to the former: legs dusky rufous.

Variety B. With only four punctiform impressions, legs paler.

C. With the 2nd, 3rd and 4th joints of the antennæ piceous, the rest ferruginous: impressions of the elytra as in B.

D. Larger, elytra with five impressions, in other respects like C.

This species appears very like *A. lenum*, Dej., which is also North American, but the colour of the underside of the body and of the head and prothorax is different. [Belongs to *Platynus*.]

27. *AGONUM SORDENS*, Kirby.—Length of the body three lines. Two specimens taken in lat. 54°

Body black, glossy. Head rhomboidal; mouth, mandibles at the tip, palpi at the base, and scape of the antennæ, rufous; frontal impressions very slight: prothorax scarcely longer than wide, narrowest behind; dorsal channel rather deep; lateral margin underneath testaceous; basilar impressions oblong, deepish: elytra dusky-testaceous, in one specimen a little bronzed, slightly furrowed, furrows impunctured; between the second and third are five punctiform impressions placed as in the last species: epipleura and legs testaceous.

[26] *AGONUM MELANARIUM*, De Jean.—Length of the body 4½ lines. Taken in lat. 54°.

Body black, glossy. Mandibles at the tip, mouth and scape of antennæ, piceous: prothorax nearly as long as wide; disk transversely wrinkled; lateral margin at the base much dilated, rather incrassated, and sub-angular; posterior impressions large and distinctly punctured: elytra wider than the prothorax, sub-emarginate at the base; distinctly furrowed with very minute and inconspicuous punctures in the furrows; three punctiform impressions in the third furrow from the suture: legs piceous.

This species is the American representative of *A. versutum*, which it much resembles. [Belongs to *Platynus*; taken at Ottawa by Mr. Billings.]

29. *AGONUM SEMINITIDUM*, Kirby.—Length of body 4½ lines. Taken in lat. 54°.

Body smooth, glossy, black underneath. Head greenish-bronzed, very glossy, with frontal impressions lunular; antennæ longer than the prothorax; prothorax greenish-bronzed with a copper tint, very glossy, channelled, disk transversely and minutely wrinkled; basilar impressions longitudinal, lateral

margin, particularly at the base, reflexed: elytra black-bronzed, less glossy than the head and prothorax, lightly furrowed; furrows punctured; in the interstice between the second and third furrows are five punctiform impressions, two nearer the base and three nearer the apex of the elytrum, so that the interval between the second and third is greater than that between the others.

Variety B. Second and third punctiform impressions not more distant than the others. In this specimen, on the left hand elytrum, there are only four impressions and on the other five, but in neither are the second and third situated as in A. It may be a distinct species, but I can discover no other difference.

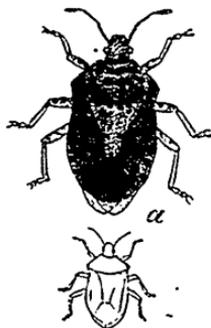
[27] 30. AGONUM SIMILE, Kirby.—Length of the body $3\frac{1}{4}$ lines. Locality not stated.

Body glossy, underneath very black, above black slightly bronzed. Antennæ scarcely longer than the prothorax: prothorax rather longer than broad; basilar impressions roundish, impunctured: elytra more bronzed than the head and prothorax, lightly furrowed; furrow adjoining the suture more depressed and deeper than the rest; in the space between the second and third furrows are five equi-distant punctiform impressions, the two anterior adjoining the latter furrow, and the three posterior the former.

This little species greatly resembles *A. seminitidum*. It is however much smaller, less bronzed, the prothorax is longer in proportion, the sutural furrow is deeper, and the impressions are differently arranged.

AN INSECT FRIEND.

Arma placidum, Ulke.



The accompanying figure correctly represents the mature form of the friendly bug referred to in the "Canadian Entomologist," Vol. ii. No. 2, which was found feasting so energetically on the larvæ of the gooseberry saw fly (*Nematus ventricosus*). For a description of the appearance and habits of the immature form of this beneficial insect the reader is referred to the above number of the "Canadian Entomologist."

The perfect insect has been determined by Mr. Ulke, of Baltimore, Md., who found it to be an undescribed species of *Arma*, to which he has given the specific name *placidum*. Hence our friend will in future be known as *Arma placidum*, Ulke

The excellent drawing of the insect is the work of our esteemed and able friend, C. V. Riley, Esq., State Entomologist of Missouri, who has kindly

furnished us with an electrotype of the plate for the use of this journal. The smaller figure is the natural size of the bug, the larger one a magnified representation of the same.

W. SAUNDERS, London, Ont.

HINTS ON DESCRIBING CATERPILLARS.

BY W. SAUNDERS, LONDON, ONT.

When comparing descriptions of larvæ made by different writers, the labor of the student is often greatly increased by the want of order and method in their compilation. With a view of simplifying details and lessening labor, the following suggestions are offered, with the hope that they may serve to stimulate some to enter earnestly into this interesting branch of our favorite study.

When we take up a caterpillar with the intention of describing it, the many ornamentations, markings and diversities of color belonging to it, are sometimes quite confusing, unless we begin to classify them, when the most complex appearance is soon markedly simplified. We have for some time past made it a rule to take descriptions precisely in the following manner and order. First, the full *length* of body when in motion; then *form*, whether cylindrical, onisciform, or otherwise; if strongly annulated or ringed, a note is made of that also.

Beginning with the *head*, which we call the first segment—making the total number thirteen—take first its size, large, medium, or small. Next *form*, flattened, rounded, or pointed, and whether strongly bilobed or not. Then color, markings and appendages, such as spines or hairs; giving also the color of mandibles.

Commencing the body with the upper surface, give first its general color; next markings, such as stripes, lines or spots, working from anterior to posterior segments; then ornamentations or appendages, such as hairs, spines, horns, tubercles or granulations, with their size, form and color.

Under surface—first general color, then markings, &c., finishing with color and form of feet and prolegs.

By steadily observing a particular arrangement of this sort, descriptions may readily be compared with one another and their identity or distinctness established with little labor.

It is also an excellent plan to underline some of the most prominent and striking features in the appearance of a larva, by which one may often at a glance decide whether it is likely that a certain caterpillar before you is or is not identical with a particular description. In Stainton's "Manual of Butterflies and Moths" this plan is carried out, and the prominent characteristics thus given in a few italicised words will frequently relieve one of the labor of reading a description throughout.

LIST OF LEPIDOPTERA TAKEN AT QUEBEC.

BY G. J. BOWLES.

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|---|--|---|
| PAPILIONIDÆ | | |
| 1. <i>Papilio turnus</i> , <i>Linn.</i> | 21. <i>Pyrameis atalanta</i> , <i>Linn.</i> (rare). | |
| PIERIDÆ. | | |
| 2. <i>Pieris oleracea</i> , <i>Harr.</i> (rare). | 22. <i>cardui</i> , <i>Linn.</i> | |
| 3. <i>rapæ</i> , <i>Linn.</i> | 23. <i>Hunera</i> , <i>Sm.</i> | |
| 4. <i>Colias philodice</i> , <i>Godt.</i> | 24. <i>Limenitis arthemis</i> , <i>Drur.</i> | |
| 5. <i>eurytheme</i> (<i>Chrysotheme</i> ?) | SATYRIDÆ. | |
| <i>Boisd</i> (very rare). | 25. <i>Chionobas jutta</i> , <i>Moschler</i> , (<i>C.</i> | |
| DANAIDÆ. | | <i>Balder</i> , <i>Boisd.</i> & <i>Lec.</i>) |
| 6. <i>Danais archippus</i> , <i>Fab.</i> (rare). | 26. <i>Neonympha Boisduvallii</i> , <i>Harr.</i> | |
| NYMPHALIDÆ. | | 27. <i>Erebia nephele</i> , <i>Kirby.</i> |
| 7. <i>Argynnis cybele</i> , <i>Godt.</i> | 28. <i>Satyrus alope</i> , (?) <i>Fab.</i> | |
| 8. <i>myrina</i> , <i>Cram.</i> | LYCÆNIDÆ. | |
| 9. <i>bellona</i> , <i>Godt.</i> (very | 29. <i>Thecla Augustus</i> , <i>Kirby.</i> | |
| rare). | 30. <i>clothilde</i> , <i>Edwards.</i> | |
| 10. <i>aphrodite</i> , <i>Godt.</i> | 31. <i>Polyommatus Americana</i> , <i>D' Urb.</i> | |
| 11. <i>Melitæa phæton</i> , <i>Cram</i> (rare). | 32. <i>epixanthe</i> , <i>Boisd</i> & | |
| 12. <i>Harrisii</i> , <i>Scudder.</i> | <i>Lec.</i> | |
| 13. <i>tharos</i> , <i>Cram.</i> | 33. <i>lucia</i> , <i>Kirby.</i> | |
| 14. <i>Grapta interrogationis</i> , <i>Godt.</i> | HESPERIDÆ. | |
| (very rare). | 34. <i>Eudamus tityrus</i> , <i>Smith</i> (v. rare). | |
| 15. <i>comma</i> , <i>Harr.</i> | 35. <i>bathyllus</i> , <i>Smith.</i> | |
| 16. <i>faunus</i> , <i>Edwards.</i> | 36. <i>Nisoniades brizo</i> , <i>Boisd</i> & <i>Lec.</i> | |
| 17. <i>Vanessa J-album</i> , <i>Boisd</i> & <i>Lec.</i> | 37. <i>catullus</i> , <i>Smith.</i> | |
| 18. <i>Milberti</i> , <i>Encyc.</i> | 38. <i>Hesperia mystic</i> , <i>Edwards.</i> | |
| 19. <i>progne</i> , <i>Cram.</i> | 39. <i>hobomok</i> , <i>Harr.</i> | |
| 20. <i>antiopa</i> , <i>Linn.</i> | 40. <i>wamsutta</i> , <i>Harr.</i> | |
| | 41. <i>abatou</i> , <i>Harr.</i> | |
| | 42. <i>mandan</i> , <i>Edwards.</i> | |

NOTES.

I have followed the authorities given in the Society's list. *Papilio asterias* is common one hundred and fifty miles east and west of Quebec. *Pieris oleracea* is subject to great variation. I have seen specimens with the nervures on the under side as fully covered with greyish scales as *P. napi* of Europe, and others with secondaries of a greenish tinge underneath. *Argynnis Atlantis* has been taken fifty miles west of the city, and on the lower St. Lawrence. Quebec is the only known locality for *Chionobas jutta* in Canada. I retain the two species, *Erebia nephele* and *Satyrus alope*, though some of our best entomologists consider them to be identical. I have never seen a Quebec specimen with the band on the fore wings of a yellow colour. Those

that I have (hesitatingly) labelled *S. alope* have a perceptible band of a brown colour, a shade lighter than the rest of the wing,—those labelled *E. nephele* have no trace of a band. There is certainly a great contrast between the coloration of the latter and the *S. alope* I have received from other localities. Several species will no doubt be added to the Hesperidæ, as those found about Quebec have not been properly studied as yet.

NOTES OF SOME OF THE COMMON SPECIES OF CARABIDÆ, FOUND IN TEMPERATE NORTH AMERICA.

BY PHILIP S SPRAGUE, BOSTON, MASS

ARTICLE NO. III.

Harpalus herbivagus, Say. Long. .37 in. (30 to 40).

Oblong-oval, piceous; legs, mouth, antennæ and sides of prothorax, rufo-testaceous. Head black, shining, rather large; antennæ short, scarcely reaching the base of thorax, the latter nearly twice broader than long, basal angles broadly rounded, sides scarcely depressed at the apical angle, very much so behind, the margin narrowly reflexed, basal foveæ shallow scarcely punctured. Elytra male black shining, female semi-opaque and distinctly reticulate, striæ not deep, interstices somewhat convex, with a dorsal puncture behind the middle near the second stria, apex slightly and obliquely sinuate with a small but distinct sutural spine in the female; beneath rufo-piceous.

In this species the male is decidedly smaller than the female, and the reticulations of the elytra are so fine as to be nearly obsolete, the basal foveæ on the prothorax in some specimens are well defined with a few distinct punctures, but they are usually broad, shallow and smooth, the basal angles above are much flattened and at the margin strongly rounded; in this respect resembling *H. amputatus*. The thorax in some specimens very closely resembles that of *H. opacipennis* in outline, but the latter is more narrowed in front and with the sides not or scarcely depressed, and the elytra of both sexes are reticulate and semi-opaque.

H. foveicollis, Lec., and *H. proximus*, Lec., are varieties. Examples of these are sometimes found in a small series, which make them appear quite distinct, but with larger numbers these differences insensibly merge into the common general form of *herbivagus*. The epipleura in immature specimens are sometimes ferruginous, and in this respect resembling *H. pleuriticus*.

Harpalus pleuriticus, Kirby. Long. .35 inch.

Oval rufo-piceous, shining; legs, mouth, antennæ and epipleura rufo-testaceous. This beetle resembles in size and general characters the preceding, but differs by being lighter colored, more robust (convex); both male and female, are smooth, shining above, with the reticulation of the elytra nearly obsolete,

the thorax behind the middle is subparallel, not broadly rounded, as in *H. herbivagus*, the basal angles nearly right-angles, with only the extreme apex slightly rounded, the sides are feebly depressed, the basal foveæ are well defined and with the margin and basal angles strongly and almost confluent punctured, the elytral striæ are deep and the interstices convex, epipleura ferruginous or testaceous.

Harpalus fallax, Lec. Long, .38 inch.

Oval, black piceous; legs, mouth, antennæ and side margins of prothorax rufo-testaceous. Head and disk of thorax rufo-piceous, the latter at the sides rounded and depressed behind; basal foveæ not very deep with a few fine and scattered punctures; elytra in both sexes shining, deeply striate and the interstices quite convex; epipleura black, never testaceous. This beetle is very closely allied to the two preceding, partaking of the characters of both; it is larger than *pleuriticus*, and more robust, but about the size of the female *herbivagus*; the elytra in both sexes are smooth and shining, the thorax is more rounded at the sides than in *pleuriticus*, but less so than in *herbivagus*.

If three series of these beetles be arranged side by side, we shall have

H. pleuriticus, smallest, reddish-brown, convex.

H. herbivagus, male small, black shining; female larger, black, elytra semi-opaque and reticulate.

H. fallax larger, more convex, elytra in both sexes black shining.

The following table will further assist in determining these closely allied species.

Black piceous, thorax at sides and basal angles strongly rounded, basal foveæ shallow, scarcely punctured, elytra, male, smooth, shining; female reticulate, semi-opaque, striæ shallow.....*herbivagus*.

Rufo-piceous, robust, thorax at sides scarcely rounded or depressed, basal foveæ sufficiently deep with the angles and side margins strongly punctured; elytra reddish-brown, male and female, shining, striæ deeper, epipleura usually testaceous.....*pleuriticus*.

Piceous, more robust, thorax at the sides depressed and with the basal angles more rounded, basal foveæ and angles less punctured; elytra, male and female, shining, striæ deep, interstices quite convex, epipleura black, never testaceous.....*fallax*.

Harpalus opacipennis, Hald., Mass. Long, .30 inch.

Elliptical, black opaque; mouth and antennæ testaceous; legs rufo-testaceous. Thorax narrowed in front, sides slightly rounded, scarcely depressed, basal angles nearly rectangular, somewhat rounded, basal foveæ distinct, linear, impunctured, sometimes rugose. Elytra reticulate and opaque in both sexes, striæ fine with a dorsal puncture as in the preceding. This beetle

differs from the others by its smaller size, by having the thorax narrowed forward, and with the elytra giving it a more elliptical form, and by the elytra in both sexes being reticulate and opaque.

Harpalus nitidulus, Chaud., Mo. Common. Long. .20, .28 in.

Elliptical, rufo-piceous shining; legs, mouth and antennæ testaceous. Head and thorax perfectly smooth, the latter narrowed in front, sides and basal angles rounded, sides not depressed, basal foveæ nearly obsolete, not punctured. Elytra smooth and shining in both sexes, striæ not deep, interstices somewhat flattened, with a dorsal puncture as usual. This is our smallest species of the true genus *Harpalus*.

GALLS FOUND ON PLANTS OF THE GENUS RUBUS.

BY H. F. BASSETT, WATERBURY, CONN.

I think the gall described in the last number of the *Entomologist*, by Mr. Wm. Couper, as found on the roots of the raspberry, has never been noticed before. I have in my collection a species of gall fly, hitherto undescribed, belonging to the genus *Diastrophus*, which I reared in great numbers from galls found on the roots of *Rubus villosus*, the common blackberry; these galls were polythalamous, however, and are undoubtedly distinct from his species.

Mr. Couper says his galls are from the roots of the common raspberry. Does he mean the *Rubus strigosus*, so common in northern New England, or *Rubus occidentalis*, which is the most common species in northern Ohio? or does he refer to some other species? I shall be glad to learn the species and also to receive specimens of the galls and gall insects, as I have made the Hymenopterous gall-flies a special study for several years, and I have several species from this same genus of plants, some of which are undescribed. The only *monothalamous* species yet described as occurring on plants of the genus *Rubus*, is *Diastrophus cuscuteformis*, O. S. *Diastrophus potentillae*, Bassett, is found on a plant belonging to the same order (Genus *Potentilla Canadensis*) and is *monothalamous*. It is developed from the axillary buds of the stems.

I submit for publication a description of the Blackberry root gall and gall fly,—*Diastrophus radicum*, N. Sp.

Galls. On the roots of *Rubus villosus*, of very irregular shape, and varying in size from those of the shape and size of a pea to those two inches or more in length, and nearly an inch in diameter, and containing few or many larvæ according to size. The galls are occasionally found on the part of the stalks of the blackberry which is below the surface.

Insect, female. Head black, smooth, ocelli small, face black, hairy, the hairs close and converging towards the mouth; Antennæ 13 jointed, joints short,

distinct, hairy, and all of nearly equal length, color dull brownish yellow; *Mesothorax* black, shining, smooth, parapsidal grooves not deep, the two short median lines very obscure, a short faint line over the base of each anterior wing; *Scutellum* black, deeply and somewhat regularly grooved and ridged, foveæ large, shallow and finely rugose; *Abdomen* black, smooth, ventral sheath clear, shining, brown; *Wings* of a dusky hue, veins dark red, areolet large, distinct, radial area open, but the second transverse vein extends along the margin of the wing one-third of the length of the area, and *the radial vein is thickened at the margin of the wing and in most specimens throws back a very short branch along the margin of the radial area, showing a tendency towards a closed radial area.* *Legs* a clear dark amber with base of trochanters and middle of femora and tibiæ shining, brown. Length, dry specimens, .11.

Male smaller, 14-jointed antennæ, third joint deeply incised, color of antennæ and legs slightly darker than female. Length, .09.

I have numerous specimens male and female, though the females are far more numerous than the males. This species is remarkably distinct from the three species of *N. Am.* *Diastrophus* hitherto described, and in the darker veins and the partially closed radial area from the species described below.

Looking over my collection of galls, I find a gall from the stalk of *Rubus strigosus* and several gall insects reared from the same. The gall is an inch long, and three-fourths of an inch thick—an abrupt swelling involving the whole circumference of the stalk. Quite a large number of insects seem to have escaped from it, though many of them were parasites; I have only five specimens of the true gall-fly, and these are all females. The description is as follows:—

Diastrophus turdigus, *N. Sp.* Female. *Head* black, shining; *Antennæ* reddish brown, 13-jointed, joints of nearly equal length, but longer, less hairy and less distinctly annulose than in *D. radicum*. Upper part of the *face* rough, lower with fine grooves, converging to the mouth; *Mesothorax* smooth, black and shining, parapsidal grooves narrow, intermedial lines very short, and only seen in a favorable light. A faint linear depression over the base of the anterior wings. *Scutellum* finely wrinkled, foveæ deep, smooth; *Pleura* finely striate; *Abdomen* black, smooth, but the ventral sheath reddish brown; *Wings* dusky, veins distinct, but not heavy, areolet *very small* and in some individuals obsolete, radial area open—the radial vein stops short of the margin of the wing—cubital vein slender, reaching to the first transverse; second transverse spreads out at the base of the radial area into a dark reddish brown cloud; *Legs* dark amber, changing in the trochanters and middle of the femora and tibiæ to a clear dark brown. Length, dry specimens, .12. Five females, no males.

I have a male gall-fly, reared from a similar gall, found this spring on the cultivated red raspberry. I could not learn the variety of the raspberry. It would be strange if it should prove an introduced variety, for the fly seems to be identical with *D. turgidus*; the only difference I can see, besides the sexual, is that the legs are darker. The antennæ are 14-jointed, the third joint deeply incised.

As I have several galls from this variety of raspberry, and shall probably rear both male and female flies, I shall have an opportunity to compare the females reared from the wild and cultivated raspberry, and shall then be able to decide the question of their identity.

My raspberry galls and also several species of oak galls in my collection, are much pecked by birds. With the countless tribes of parasitic insects, and the birds that prey upon them, it is a wonder the whole family of gall makers does not become extinct.

MISCELLANEOUS NOTES.

COCOON OF THE CECROPIA.—In the last number of the *Amer. Ent & Bot.*, mention is made of kernels of corn being found in the cocoon of the *Cecropia*. Two similar instances have come under my notice. Twice I have found beech-nuts in the inside of the cocoon at the small end, between the caterpillar and the innermost layer of silk. The explanation offered by Mr. LeBaron seems hardly admissible under these circumstances. On the other hand, the fact of no beech trees being within an eighth of a mile would indicate that they must have been placed there by the blue-jays or some other bird as he supposes.—C. S. MINTON, Boston, Mass.

FOOD PLANTS OF C. PROMETHEA.—The following list is compiled from actual observation and various authorities:—Barberry, birch, cherry, maple, sassafras, azalea, oaks, sometimes arbor vitæ and pine, apple, peach, plum, syringa, silver bell, beech.—C. S. MINTON, Boston, Mass.

HOW TO PRESERVE SPIDERS.—From Thorell's *Essays on European Spiders* ('*Nova Acta regie Societatis Scientiarum Upsaliensis*, ser. III. vol. vii. fasc. I, 1869,) we extract the following observations, first suggested by M. Westring, a Swedish naturalist, on the best mode of preserving spiders in Natural History collections. The essential feature of the method is that the spider's *abdomen*, and that part only of its body, is *hardened by heat*. The spider is first killed, either by the vapour of ether or by heat, and is impaled by an insect pin, which is passed through the right side of the cephalo-thorax; the abdomen is then cut off close to the cephalo-thorax, and the cut surface dried with blotting-paper. The head of another insect pin is cut off, and the blunt

extremity introduced through the incision into the abdomen, up to the spinners. The abdomen thus spitted is inserted into a large test-tube held over the flame of a candle, the preparation being constantly rotated till dry, avoiding the extremes of too much or too little heat—the firmness of the abdomen being tested every now and then with a fine needle, till it is so firm as not to yield to pressure; the front extremity of the pin is now cut off obliquely, and the point thus made inserted into the cephalo-thorax, the two halves of the body being thus again brought into apposition. The animal may then be mounted as usual. This method is stated by Mr. Thorell to preserve the appearance of animals almost entirely unchanged.—*Nature*.

MUMMIED BEETLES.—In the year 1835 the late Professor Audouin exhibited before the (French) Entomological Society a vase of red clay, resembling an orange in size and form, with a short neck, which had been taken from an ancient tomb at Luxor (the Egyptian Thebes). There was a slight fracture where the neck joined the body, and, on examination, the vase was found to be filled with a black lumpy matter, consisting entirely of the bodies of a small ptinoid beetle (*Gibbium Scotias*). The mass was quite compact, so that the number of beetles must have reached several thousands. How are we to explain the presence of such an enormous quantity of individuals of this species in a vase, into which they could not have themselves penetrated, because, previously to the fracture occurring, it was hermetically sealed? It is a problem which it is not easy to solve. M. Brulle who quotes the story in his "*Histoire des Coleopteres*," believes without doubt that the circumstance is connected with some superstitious usage of the ancient Egyptians. We leave to archæologists the task of appraising this theory at its proper value, which, if it be well founded, will go far to settle the difficulty.—(*Duponchel*, "*Dict. d'Hist. Nat.*") *Science Gossip*.

SPIDERS AND LARVÆ.—In the April part of *Science Gossip* is a query with the above heading, which I can answer in the affirmative. If Mr. Roberts wishes to see a spider thoroughly puzzled, let him put a leaf-rolling caterpillar into its web; the spider (provided the larva be proportionate to its own size) seizes it fearlessly and winds it up; but as fast as he winds, so fast does the larva slip out of its bonds, until it either escapes from the web altogether or gets weakened by the repeated bites of its adversary. The larva of a *Noctua* also astonishes a spider, from the fact that it cannot be made to lie still in the web, though wrapped in ever so many grave-clothes; when the spider has given it two or three bites, however, its activity decreases, when the spider sucks its juices at pleasure. The larvæ of certain species of *Lepidoptera* and *Hymenoptera* are distasteful to spiders, as I observed in a short paper read before the Entomological Society in March, 1869.—*A. G. Britten*, *British Museum (Scientific Gossip)*.

LIST OF COLEOPTERA,

TAKEN AT GRIMSBY, ONTARIO, BY J. PETTIT.

(Continued from page 86.)

BUPRESTIDÆ.	AGRILUS, <i>Sol.</i>	HYLOCHARES, <i>Latr.</i>
CHALCOPHORA, <i>Sol.</i>	<i>Arcuatus, Say.</i>	* <i>Nigricornis, Say.</i>
* <i>Lacustris, Lec.</i> 1	<i>Ruficollis, Fab.</i>	MICRORHAGUS, <i>Esch.</i>
<i>Virginiensis, Drury.</i>	* <i>Obliquus, Lec.</i>	* <i>Imperfectus, Lec.</i>
<i>Campestris, Say.</i>	<i>Otiosus, Say.</i>	* <i>Humeralis, Lec.</i>
DICERCA, <i>Esch.</i>	<i>Bilineatus, Web.</i>	* <i>Rufiolus, Lec.</i>
<i>Divaricata, Say.</i>	* <i>Subcinctus, Gory.</i> 2	ADELOCERA, <i>Latr.</i>
<i>Lurida, Fab.</i>	<i>Plumbeus, Lec.</i>	<i>Impressicollis, Say.</i>
<i>Spreta, Lap.</i>	<i>Politus, Say.</i>	<i>Pennata, Fab.</i>
* <i>Asperata, Lap.</i>	* <i>Puncticeps, Lec.</i>	<i>Aurorata, Say.</i>
<i>Tenebrosa, Kirby.</i>	* <i>Lacustris, Lec.</i>	<i>Marmorata, Fab.</i>
* <i>Chrysea, Mels.</i>	TAPHROCERUS, <i>Sol.</i>	* <i>Maculata, Lec.</i>
* <i>Punctulata, Schonh.</i>	<i>Gracilis, Say.</i>	ALAUUS, <i>Esch.</i>
* <i>Manca, Lec.</i>	BRACHYS, <i>Sol.</i>	<i>Oculatus, Linn.</i>
ANCYLOCHIRA, <i>Esch.</i>	<i>Ovata, Weber.</i>	* <i>Myops, Fab.</i>
<i>Fasciata, Fab.</i>	<i>Terminans, Fab.</i>	CARDIOPHORUS, <i>Esch.</i>
<i>Maculiventris, Say.</i>	* <i>Æruginosa, Gory.</i>	<i>Amictus, Mels.</i>
<i>Striata, Fab.</i>	THROSCIDÆ.	CRYPTOHYPNUS, <i>Esch.</i>
CINYRA, <i>Lap.</i>	THROSCUS, <i>Latr.</i>	<i>Abbreviatus, Say.</i>
* <i>Gracilipes, Mels.</i>	<i>Constrictor, Say.</i>	* <i>Pectoralis, Say.</i> 2
MELANOPHILA, <i>Esch.</i>	* <i>Punctatus, Bonv.</i>	ELATER, <i>Linn.</i>
<i>Longipes, Say.</i>	DRAPETES, <i>Redt.</i>	<i>Nigricollis, Germ.</i>
<i>Fulvoguttata, Harris.</i>	<i>Extriatus, Say.</i>	<i>Linteus, Say.</i>
ANTHAXIA, <i>Esch.</i>	ELATERIDÆ.	* <i>Discoideus, Germ.</i>
* <i>Cyanella, Gory.</i>	THAROPS, <i>Lap.</i>	* <i>Semi-cinctus, Rand.</i>
<i>Subaenea, Lec.</i>	* <i>Obliquus, Say.</i>	<i>Vitosus, Lec.</i>
* <i>Viridifrons, Say.</i>	EUCNEMIS, <i>Ahrens.</i>	<i>Apicatus, Say.</i>
CHRYSOBOTHRIS, <i>Esch.</i>	<i>Amœnicornis, Say.</i>	<i>Phœnicopterus, Germ.</i>
<i>Femorata, Fab.</i>	FORNAX, <i>Lap.</i>	* <i>Xanthomus, Germ.</i>
<i>Quadriformis, Lap.</i>	* <i>Orchesides, Newm.</i>	<i>Luctuosus, Lec.</i>
<i>Dentipes, Germ.</i>	<i>Cylindricollis, Say.</i>	<i>Socer, Lec.</i>
	<i>Calceatus, Say.</i> 3	<i>Impolitus, Mels.</i>

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

1 A single specimen taken by Dr. Milward.

2 Taken at the margin of the creek.

ELATER, <i>Linn. (contin.)</i>	MELANOTUS, <i>Esch.</i>	SERICOSOMUS, <i>Esch.</i>
*Manipularis, <i>Cand.</i>	*Cuneatus, <i>Lec.</i>	*Fusiformis, <i>Lec.</i>
Fuscatus, <i>Mels.</i>	Scrobicollis, <i>Lec.</i>	Silaceus, <i>Say.</i>
Pedalis, <i>Germ.</i>	*Castanipes, <i>Payk.</i>	OXYGONUS, <i>Lec.</i>
Rubricus, <i>Say.</i>	Communis, <i>Gyll.</i>	Obesus, <i>Say.</i>
Obliquus, <i>Say.</i>	*Pertinax, <i>Say.</i>	CORYMBITES, <i>Latr.</i>
Protervus, <i>Lec.</i>	LIMONIUS, <i>Esch.</i>	Hamatus, <i>Say.</i>
DRASTERIUS, <i>Esch.</i>	Aurifer, <i>Lec.</i>	Triundulatus, <i>Rand.</i>
Dorsalis, <i>Say.</i>	Confusus, <i>Lec.</i>	*Furcifer, <i>Lec.</i>
Amabilis, <i>Lec.</i>	Plebejus, <i>Lec.</i>	Hieroglyphicus, <i>Say.</i>
MONOCREPIDIUS, <i>Esch.</i>	*Quercinus, <i>Say.</i>	Splendens, <i>Zieg.</i>
Auritus, <i>Herbst.</i>	CAMPYLUS, <i>Fisch.</i>	Inflatus, <i>Say.</i>
LUDIUS, <i>Latr.</i>	Denticornis, <i>Kirby.</i>	Rotundicollis, <i>Say.</i>
Abruptus, <i>Say.</i>	PITYOBIUS, <i>Lec.</i>	Sulcicollis, <i>Say.</i>
AGRIOTES, <i>Esch.</i>	*Anguinus, <i>Lec.</i>	Cylindriciformis, <i>Herbst.</i>
Mancus, <i>Say.</i>	ATHOUS, <i>Esch.</i>	Spinosus, <i>Lec.</i>
*Pubescens, <i>Mels.</i>	Brightwelli, <i>Kirby.</i>	Pyrrhos, <i>Herbst.</i>
Fucus, <i>Lec.</i>	Acanthus, <i>Say.</i>	Falsificus, <i>Lec.</i>
Stabilis, <i>Lec.</i>	*Maculicollis, <i>Lec.</i>	*Athoides, <i>Lec.</i>
DOLOPIUS, <i>Esch.</i>	Cucullatus, <i>Say.</i>	*Tessellatus, <i>Linn.</i>
Pauper, <i>Lec.</i>	Scapularis,	ASAPHES, <i>Kirby.</i>
		Memnonius, <i>Herbst.</i>
		Melanophthalmus, <i>Mels.</i>

EXCHANGES.

STAPHYLINIDÆ.—I have for some years been engaged upon exotic *Staphylinidæ* and have already a numerous collection of American species of this family of Coleoptera. Desiring to increase it as much as possible I should like to enter into correspondence [with a collector in North America for the exchange or purchase of these insects. I would give in exchange either European Coleoptera or exotic *Staphylinidæ*; if necessary I would pay so much a hundred or named specimen, as desired. Having already published descriptions of several new American species, especially from Chili and Mexico, I venture to hope that I may obtain one or more correspondents in North America.—ALFRED FAUVEL, Bibliothecaire, Societe Linneenne de Normandie, 16 Rue d' Auge, Caen, France.

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

3 A specimen of this rare insect was taken on the lake shore, July 17th.

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

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