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The Canadian Entomologist.

VOL. IV.

LONDON, ONT., AUGUST, 1872.

No. 8

THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

Our readers will no doubt be pleased to learn that the condition and prospects of the Entomological Society are now eminently satisfactory. The roll of membership has been increased by upwards of forty names of new members during the current year. The Library, which now begins to form a very important feature in the attractions and usefulness of the Society, has been largely added to; among the rare and valuable books lately acquired, we may mention an excellent copy of Westwood's edition of Drury's Exotic Entomology, in three volumes, quarto, containing one hundred and fifty well executed coloured plates; Boisduval & LeConte's North American Lepidoptera, a scarce old book, containing 78 coloured plates; a complete edition of Kirby & Spence in four volumes, published in 1822; a good copy of Curtis' Farm Insects, containing 16 coloured plates, and a host of admirable wood-cuts; Boisduval & Guenee's Lepidoptera, in seven volumes, handsomely illustrated; Westwood's Classification of Insects; Agassiz's Lake Superior; besides many new works of value, and sets, more or less complete, of the publications of several leading scientific societies. We aim at the formation, in time, of a complete library of works upon American Entomology, supplemented by the leading publications of European countries. In this object it is in the power of many of our readers to afford us material assistance. Authors' own publications, the proceedings of Societies, gifts of books or donations in money to the Library fund, will always be most acceptable.

The Society has recently transferred its quarters from the City Hall, London, where it occupied a room kindly provided free of rent for some years by the City Corporation, to more accessible and convenient apartments on the corner of Dundas and Clarence Streets. Members and visitors will find in these rooms the cabinets and library of the Society, and every facility for the comparison and study of specimens.

The property of the Society has recently been enriched by the thoughtful bequest of its late lamented member and former Secretary-Treasurer, the Rev. James Hubbert, Professor at St. Francis College, Richmond, P.Q. Shortly before his death, which occurred in Florida, whither he had

gone for his health, he bequeathed to the Society his large cabinet of fifteen drawers, and a good useful microscope. The former will be devoted to the reception of a collection of local insects, while the latter will at all times be at the service of members for the purposes of study and investigation.

It has been a source of no small gratification to the editor and his coadjutors to receive so many kind expressions of appreciation of their "Annual Report to the Legislature of Ontario," which has been recently distributed among all the members of the Society. The favorable notices, too, that have appeared in many English and American publications, afford them much encouragement in the prosecution of their entomological labours, to which they regret they are unable to devote more than a small proportion of their time, each of them being necessarily engaged in other deeply engrossing pursuits, and having but little leisure at his command. They are happy to be able to record that the issue of the CANADIAN ENTOMOLOGIST during the current year has so far been regular and punctual, and they trust that it will continue to be so in future. They very gratefully acknowledge the valuable assistance they have received from many friends in various parts of the United States and elsewhere, whose contributions have given their publication a scientific status that it would not otherwise have attained. They earnestly trust that these favours will be continued to them, and that many others also will be led to join their corps of correspondents, and afford tidings of the insect world from all parts of the continent of America.

ONE WORD MORE.—The Secretary-Treasurer desires the attention of members in arrears to the fact that the financial year of the Society closes in September, when a report of receipts and expenditures has, by law, to be presented to the Legislature. As there are still nearly fifty who have not yet paid their subscriptions, he trusts that this intimation will suffice, and that they will kindly send him the amounts respectively due by them at their earliest possible convenience.

DESCRIPTION OF THE FEMALE OF
ANAPHORA AGROTIPENNELLIA.

BY AUG. R. GROTE, DEMOPOLIS.

In this sex, the labial palpi are short, not exceeding the front to which they are closely applied, porrect. In the male they are reflexed

and thrown back over the dorsum of the thorax, which they equal in length. In colour and appearance the sexes do not differ. In repose, the ♂ labial palpi are closely applied to the thorax in the living specimen, and from their pale ochrey outer colour have the effect of thoracic vittæ. In my original description I call them blackish "outwardly;" the exposed upper portion is pale or ochrey, else they are blackish. In the dried specimen they are apt to become a little elevated. *A. agrotipennella* varies in the obsolescence of the discal ochrey shades, while the pale submedian dash itself is sometimes a little indistinct. I have already noted that Dr. Clemens' *A. Popeanella* disagrees with *A. agrotipennella* by, among other characters, its being described as luteous along the inner margin; that author's description of *A. arcanella* better agrees, but this must be decidedly distinct also, since Dr. Clemens places *A. arcanella* in a distinct section; labial palpi shorter in the ♂ than in the other species: ascending but not recurved. This character is totally opposed to our species, in which the ♂ labial palpi are as long as in *A. plumifrontella*, which latter species I have taken at night at Hastings, on the Hudson, N.Y., in July. There is a certain correspondence in the position of the dark spots on the fore wings in this genus, which gives a similarity to the specific diagnoses.

NOTES ON ATTELABUS BIPUSTULATUS, Fabr.

BY MARY E. MURTFELDT, KIRKWOOD, ST. LOUIS, MO.

In the spring of 1871, my attention was attracted by the peculiar manner in which many of the leaves of the Laurel Oak (*Q. imbricaria*) were rolled up. The cases thus formed were compact and cylindrical, varying in length from one third to one half an inch, by an average diameter of one-fifth of an inch, and very neatly finished up. Several of them were opened, and each found to contain a single, smooth, spherical, translucent-yellow egg, about 0.04 inch in diameter. Desirous of rearing the insects, I collected quite a number of the interesting little nests, and watched, with much curiosity, for the larvæ to appear—not knowing, at that time, what to expect. But my observations were not rewarded; and, after several weeks of impatient waiting, I made another examination into the contents of the now blackened and shriveled up cases, and found two or three very small larvæ, dead and shrunken, but evidently of some curculio.

During the latter part of April of the present year, I again found the cases in considerable number on the same species of Oak; and one evening, about the 1st of May, after sunset, I was so fortunate as to discover the parent beetle in the act of finishing up one of her nests, trimming up and tucking in the ends with her beak. After watching her movements for a short time, I secured both beetle and case. The former was at once submitted to Mr. Riley for determination, and pronounced to be *Attelabus bipustulatus*, of Fabricius.

If one of these nests be very carefully unrolled, the *modus operandi* of its construction can readily be seen. The egg is first deposited near the tip of the leaf, and a little to one side: the blade of the leaf is then cut through on both sides of the mid-rib, about an inch and a half below; a row of punctures is made on each side of the mid-rib of the severed portion, which facilitates folding the leaf together, upper surface inside, after which the folded leaf is tightly rolled up from the apex to the transverse cut, bringing the egg in the centre; the concluding operation is the tucking in and trimming off the irregularities of the ends. No trace of any gummy substance to assist in keeping the case in shape can be perceived, except the slight extravasation of sap caused by the punctures and pressure of the beak of the little artisan.

As I have never been able to observe these beetles working on their cases in the day-time, except on the occasion referred to, when it was already growing somewhat dark, I conclude that their period of greatest activity is during the night.

Observing that the cases invariably dropped to the ground a few days after completion, I collected a number, and placed them upon moistened sand in a breeding jar. By May 15th, several of the eggs had hatched, the tiny larvæ produced from them being oval, translucent-white, with strong brown jaws; they seemed to be feeding upon the dry substance of their nest. An examination a few days later showed this to be the case, as the larvæ had grown considerably, and had excavated quite a cavity in their dwelling. On opening one of the nests about the last of May, I was much surprised to find the inhabitant already in the pupa state. Several of the remaining cases—which were by this time reduced to mere shells—contained full-grown larvæ, of which the following are the general characteristics:—

Average dorsal length 0.22 inch, diameter on abdominal segments 0.06 in., tapering anteriorly from fourth segment. Color shining yellowish-white; thoracic segments slightly depressed on dorsum and swollen on

venter; abdominal segments convex above and flat beneath, each one divided into three irregular shallow transverse folds, lateral surfaces with a double row of smooth polished oval tubercles, most symmetrical in form and position from segments 4 to 11 inclusive; above the tubercles on each segment is a deep depression; a few fine light hairs are scattered over the general surface. Head horizontal, rounded, small—about half the diameter of first segment, into which it is somewhat retractile—shining, translucent white; mandibles and other mouth parts reddish-brown, surrounded by longish hairs. Some of the larvæ have from three to five fine purplish longitudinal lines on dorsum, the medio-dorsal one being most distinct; in others these lines are wanting. They always remain curled up, and move sluggishly on one side if placed upon a flat surface.

The pupa is cream-white in color. 0.12 inch in length, broadly shouldered with an almost triangular outline; thorax bent forward, beak pressed down and extending below wing cases; on top of thorax is a shallow depression surrounded with short brown hairs; abdominal segments sharply ridged and roughened with minute hairs, posterior extremity terminates in a pair of bristly points, white, tipped with brown. The change to pupa takes place inside the larval nest, and the insects remain in this state only from five to seven days, the first beetles issuing on the 2nd of June.

The perfect insect is well known: a small, highly polished, black curculio with two large orange-red spots at bases of elytra. It has been figured by Harris in his "Injurious Insects," but his description of the cases of *Attalabus* as "of the size and shape of thimbles," does not apply to this species, nor does he record any observations upon the habits of the larvæ.

I have also found the cases of this curculio on the leaves of Red and Post Oak, and recently took a single one, some larger than the others, on Hazel. The Laurel Oak, however, seems to have the preference, and the cases formed from its leaves are much neater and more symmetrical than those found on other trees.

The second brood of larvæ may be found early in July.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Rev. C. J. S. Bethune and Mr. W. Saunders, the President and Vice-President of the Entomological Society of Ontario, have left for Dubuque to attend the meeting of the Association as representatives of Canadian science.

MICRO-LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

Continued from Page 133.

CIRRHA, *gen. nov.*

At page 92, ante, I have described as *Depressaria albisparsella*, a species which, on examination of other specimens, I have concluded to make the type of a new genus. As stated on a preceding page, the species was described from a single captured specimen, the wings of which were not spread. The specimen was also slightly injured, so as to cause the brush on the palpi to appear to be divided, and to obscure some of the markings of the wings, which are faint even in perfectly fresh specimens. Since then I have bred and captured other specimens, and find that it differs from *Depressaria* in the following particulars:—

The antennæ are more distinctly pectinated, the brush on the palpi is long, ragged, and *not divided*, and the abdomen, though depressed, is not flat enough for *Depressaria*.

Having ascertained its food plant, I have given it a more appropriate specific name, and annex the following more correct description:—

C. platandella.(*Depressaria albisparsella*, ante, p. 92.)

Dark gray-brown, the head a little paler and somewhat iridescent; palpi and antennæ dark brown; anterior wings dark gray-brown; about the middle is a small pale or whitish spot, and there is another of the same hue and equally indistinct about the end of the disc, behind which is an indistinct whitish narrow fascia sometimes obsolete in the middle. *Alar ex.* $\frac{5}{8}$ in; Kentucky.

The larva feeds on the underside of leaves of Sycamore trees (*Platanus occidentalis*.) It is yellowish-white, with contents green, and it lives in a roll or short tube formed of the down of the underside of the leaves. Imago in the latter part of June.

DEPRESSARIA.

Further study induces me to make the following additional remarks and changes of the species which I have placed in this genus. Dr. Clemens, in his account of his *Depressaria Lecontella*, states that it is the only true *Depressaria* "he has thus far met with," adding that "we possess numerous nearly allied species." Mr. Stainton, in his edition of

Dr. Clemens' papers (a copy of which he has kindly sent to me), suggests that these species probably belong to *Cryptolechia* (Dr. Clemens having also suggested that they were intermediate between *Gelechia* and *Depressaria*). I have little doubt that the majority of the species which I have placed in *Depressaria* belong to this intermediate group. But from an unwillingness to multiply genera, I have placed them in *Depressaria*, indicating the points in which they structurally differ from that genus, and giving, when known, the food plant of the larvæ, so that the insects may be identified and disposed of in other genera by future students having easier access to European specimens, and to the works of European authors. I will, however, indicate my views as to their generic affinities a little more fully. *D. cryptolechiella* I have already removed to *Ilago*, and *D. albisparsella* to *Cirrho*.

D. dubitella, I am satisfied, should be removed, at least provisionally, to *Gelechia*; though even the elastic limits of that accommodating genus (the Micro-Lepidopterist's "waste-paper box") will hardly stretch to receive it. Still it is nearer to that genus than to *Depressaria*.

D. cererisella, I think, will hereafter be placed in *Cryptolechia*, but I have not sufficient knowledge of that genus to be certain. Mr. Riley informs me that he has known the species long, and has referred it doubtfully to *Gelechia*. I think, however, that it is nearer to *Depressaria*.

D. bimaculella must accompany *D. cererisella*.

R. Rileyella I consider a true *Depressaria*.

D. bistrigella, *D. fusco-ochrella*, *D. fuscoluteella*, *D. obscurusella*, *D. pseudacaciella*, *D. bicostomaculella*.

In these six species the palpal brush is longitudinally divided, but the brush is rather too small, the anterior wings are too narrow, and the colours are too dark brown for *Depressaria*, and the abdomen, though depressed and tufted at the sides, is hardly flat enough for *Depressaria* proper. Yet as I cannot place them in *Gelechia*, and from the divided brush they cannot belong to *Cryptolechia*, I leave them for the present in *Depressaria*. The division of the brush is much more distinct in the living insect than in the mounted specimen.

D. querciella has the same structure as the six preceding species, except that it possesses a small double tuft at the apex of the thorax. It is not a true *Depressaria*, and is probably the type of a new genus.

D. pallidochrella and *D. versicolorella*.

These species have the abdomen as distinctly flattened and tufted at

the sides as the true *Depressaria*, and the brush is as distinctly divided. Their small size, narrow fore wings, and deep emargination of the hind wings beneath the apex, suggest doubts as to the propriety of their location in *Depressaria*.

I have described the neuration of these species as compared with *Depressaria* in a previous paper.

In all of these species (except *dubitella*?) the wings in the living insect are carried almost horizontally, or but little deflexed, in repose.

One colourational peculiarity is common to many of the species which I have placed in *Depressaria* and to many species of *Gelechia*: that is, the costal pale streak at the beginning of the ciliae, and the opposite dorsal one. Another peculiarity, though possessed by some *Gelechie*, is more characteristic of *Depressaria*: that is, the small ochreous or brown spot or spots on the disc. *Gelechia dubitella* (*Depressaria dubitella*, ante), has the discal ochreous spot, but not the costal or dorsal streaks. *D. ? cercerisella* has the costal and dorsal streaks and about four small ochreous spots on the disc. (By an oversight, I omitted to mention these in the description). In *D. ? bimaculella*, the costal and dorsal streaks are white, and there is a rather large white spot on the disc. In *D. Rileyella* and *D. fuscoluteella*, the costal and dorsal streaks are absent, and the discal spots are minute, indistinct, and dark brown. *D. ? pseudacaciella* has the costal and dorsal streaks, but not the dots on the disc. So have *D. bistrigella* and *D. bicostomaculella*. In *D. querciella*, *D. pallidochrella*, *D. versicolorella*, *D. fusco-ochrella*, and *D. obscurusella*, neither the marginal streaks nor discal spots are perceptible.

Though I think that hardly enough weight is given to the "pattern of colouration," as characteristic of genera, and even perhaps of higher groups, nevertheless its value is subordinate to that of structure, and in the genus allied to *Gelechia*, one is soon at a loss as to what value really should be attached to it. As the genus *Gelechia* is at present constituted, I do not doubt that many, perhaps most entomologists, would place the majority of the above described species in that genus. But a genus which contains them, and such species as *G. roseosuffusella* (which Mr. Stainton says is a true *Gelechia*), to say nothing of such species as *G. Hermonella*, is certainly a heterogeneous assemblage. Perhaps, however, that is not a very serious objection, for in my humble judgement no well defined and constant line exists between *Depressaria* (including in it *Exaeretia* and *Orthotelia*) *Cryptolechia*, *Gelechia* and other allied genera, and the more

thoroughly the allied species are made known, the more completely will the supposed distinction vanish.

ADRASTEIA, *gen. nov.*

The two following species resemble each other very closely, not only structurally, but in ornamentation. They are closely allied to *Gelechia*, or rather to some species of that genus. The second joint of the palpi is clothed beneath with a dense *spreading*, but scarcely divided, brush; the basal joint of the palpi is distinctly clavate, and the wings have distinct though small tufts of raised scales, and rows of separate raised scales not in tufts. Having but a single specimen of each species, I have not denuded the wings to examine the neuration. It, however, can be seen to approach closely that of *Gelechia*, if it is not identical with it. In all other respects the genus agrees with *Gelechia*.

A. Alexandriacella. *N. sp.*

Head and second joint of the palpi grayish-white flecked with dark brown; third joint dark brown, with the tip and an annulus about the middle, white. Antennæ dark brown, faintly annulate with white; thorax, to the naked eye, gray; under the lens, white, flecked densely with dark brown, and with a minute ochreous or yellowish-white tuft on each side at the tip; anterior wings to the naked eye gray, mottled with dark brown spots and with a few small white spots; under the lens they appear dark brown, largely intermingled with grayish-white, and the white spots are seen to be four minute tufts of raised scales placed An irregular white fascia, angulated in the middle towards the apex, crosses the wing at the beginning of the ciliæ. To the naked eye, this fascia appears as two small white streaks, one at the beginning of the costal, and the other of the dorsal ciliæ. Apex dark brown, with a row of small white spots around the base of the ciliae; ciliae pale luteous, dusted with dark brown. Posterior wings pale fuscous; abdomen pale fuscous, somewhat iridescent. *Alar* *ex.* $\frac{5}{8}$ inch. Captured at Alexandria, Kentucky, in June.

A. fasciella. *N. sp.*

Head yellowish-white, dusted with dark brown; antennæ dark brown; first and second joints of the palpi dusted with dark brown, third joint dark brown, scarcely flecked with white, and white at the tip; thorax and anterior wings pale gray mottled with small dark brown spots, one of which is just within the dorsal margin near the base, another behind the

first and on the costal margin, another just within the dorsal margin, about the middle, with a small one near it on the disc, a larger one about the end of the disc, with a small one near it on the costal margin, just behind which is a narrow angulated white fascia indistinct in the middle. There is a small tuft of ochreous scales on each side of the apex of the thorax, a scattered patch of raised scales about the basal fourth of the wing just within the costal margin, another behind it near the dorsal margin, another further back near the costal margin, and a row of scattered raised scales within the dorsal margin. Viewed along the surface from the direction of the base of the wings, these raised tufts and scales exhibit prismatic colors. *Alar ex.* $\frac{5}{8}$ inch. Kentucky, in June.

ERRATA.—Ante p. 127, for “costalous” read “costal pale ochreous.” In the description of *D. pseudataciella*, line 4, place the ; before “especially” instead of after it.

NOTES ON LIMOCHORES BIMACULA, Scudd.

BY C. S. MINOT, BOSTON.

The following is a description of *Limochores bimacula*, Scudd ♂, *Hesperia acanoetus*, Scudd., which I drew up some time ago :—

Dark brown marked with chrome yellow.

Above: head, thorax, abdomen and antennæ black, the head and abdomen having a few yellow hairs. Both wings dark olive brown; primaries with an indistinct spot a little above and beyond the outer termination of the disk; a large patch extends over the middle third from the outer margin to the disc, and is crossed by a black velvety dash, which if continued would bisect the apical angle. *Secondaries* with chromaceous hairs over the central and basal portions.

Beneath: palpi, femurs, thorax, abdomen, and the fringes of the wings whitish, both wings chromaceous. *Primaries* with three bright spots, and black at the basal, grey along the interior part of the wing. *Secondaries* with the costa slightly and the abdominal fold more or less covered with black scales and hairs.

♂♂ ♀♀ taken in the last of July and first of August in company with *Euphyes metacomet*, Harr., to which it is closely allied.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Page 115.)

FAMILY ANOBIDÆ.

[190.] 253. ANOBIUM FOVEATUM *Kirby*.—Length of body 2 lines. A pair taken in Lat. 65°.

This species very closely resembles *A. striatum*, of which it may be regarded as the American representative. It differs principally in having a rather large excavation in the middle of the elevated back of the prothorax, the sides of which are armed with a triangular tooth or prominence.

The male is obscurely rufous, both above and below, the female is browner above. [Taken in Canada by Mr. Billings. Belongs to the genus *Hadrobregmus*.]

254. CIS MICANS *Fabr.*—Length of body 1 line. Two specimens taken in the Expedition.

Body subcylindrical, black-brown, glossy, with numerous short upright pale rather glittering hairs; minutely but not very visibly punctured. Head rather flat and lacunose; antennae and legs testaceous. Prothorax anteriorly sinuated on each side with the middle lobe rounded and projecting a little over the head; sides slenderly margined; posterior angles rounded. Punctures of the elytra seem almost, but very indistinctly, arranged in rows.

[191.] FAMILY SCOLYTIDÆ.

255. TOMICUS PINI *Say*.—Length of body $1\frac{3}{4}$ —2 lines. Frequently taken in the journey from New York to Cumberland-house, and also in Lat. 65°.

Body cylindrical, deep chestnut, glossy, hairy underneath. Head above with scattered granules; nose fringed with yellowish hairs; antennae testaceous: prothorax rather oblong, angles rounded, anteriorly granulated with minute elevations, posteriorly punctured with scattered punctures, hairy next the head and on the sides: elytra hairy on the side, with five rows of transverse punctures next the suture, which reach only to the truncated part: punctures of the side and apex scattered; apex truncated

obliquely and excavated, with the external edge of the excavation armed with four denticles, of which the second and third are the largest: legs pale chestnut; tarsi testaceous.

In the other sex? the elytra are entire and unarmed, and the dorsal rows of punctures on the disk of the elytra are more numerous.

VARIETY B. Entirely rufous, or pale-chestnut. [Quite common in Canada under bark of Pine trees.]

[192.] 256. APATE BIVITTATA Kirby.—Plate viii., fig. 5.—Length of body $1\frac{3}{4}$ lines. A pair taken in the Expedition.

Very near *A. domestica* (*A. limbata* F.) but distinct. Body piceous or nigro-piceous, cylindrical; underneath with some scattered pale hairs. Head rough with minute elevations or granules; nose terminating in a transverse ridge; antennae testaceous with a very large knob: prothorax subglobose, reddish, rough behind with numerous transverse rugosities; before with sharp points or denticles; elytra with several rows of punctures, and two luteous stripes which unite at the apex of the elytrum; or perhaps it might be better to say, luteous, with two piceous stripes, one of the disk and the other of the side, but not reaching the apex: anus and legs testaceous.

In the other sex the front, or rather face, is hollowed out into a concavity; the prothorax is black anteriorly, and less rough from rugosities and points. [Belongs to the genus *Xyloterus*, Er. LeConte (Trans. Am. Ent. Soc., 1868) states that this species is taken from "Maine to Alaska. In the ♂ the head is concave, and the thorax finely transversely asperate before the middle; in the ♀ the head is convex, and the thorax much more roughly asperate. This species varies greatly in colour, the black elytral vittæ sometimes occupy nearly the whole surface, and sometimes are almost wanting."]

[193.] 257. APATE RUFITARSIS Kirby.—Length of body $1\frac{3}{4}$ lines. Two specimens taken in the Expedition.

Body cylindrical, black, hairy underneath. Head hairy; face concave; antennae pale testaceous: prothorax rufous posteriorly, granulated especially anteriorly; elytra punctured in rows, rufous, with a black humeral blotch: tarsi rufous.

The face of the other sex is probably plane; and the prothorax with more prominent points and asperities. [Unknown to LeConte.]

258. APATE (LEPISOMUS) RUFIPENNIS Kirby.—Plate viii., fig. 2. Length of body $1\frac{1}{4}$ line. Two specimens taken in Lat. 65°.

[194.] Body black, minutely punctured, hairs white, decumbent; those of the prothorax and elytra looking like minute scales. Head with a pair of minute tubercles, not easily discovered, in the space between the eyes, anteriorly transversely impressed; mouth and antennae pale rufous: prothorax very thickly and minutely punctured, with a rather obsolete longitudinal dorsal ridge: elytra dull-red, with several rows of larger punctures, the interstices of which are very minutely and thickly punctured, at the base rough with minute elevations: legs rufous. [Belongs to *Polygraphus* Er. Taken according to LeConte in "Alaska, Canada, Maine, Louisiana." (*Vide* Trans. A. E. Soc., Sept. 1868, p. 169).]

259. APATE (LEPISOMUS) NIGRICEPS Kirby.—Length of body 1 line. A single specimen taken in Lat. 65°.

Smaller than the preceding. Body rufous, minutely and thickly punctured. Head black, with a very minute tubercle between the eyes; nose impressed; antennae and underside of the head pale rufous: elytra sculptured as in the preceding species, but the rows of punctures are less conspicuous. [Synonymous with the preceding, according to LeConte.]

260. APATE (LEPISOMUS) BREVICORNIS Kirby.—Length of body 1 line. A single specimen taken in Lat. 65°.

Body black, covered with hoary hairs, above resembling scales. Antennae very short with a small knob, rufous: front without a tubercle, nose not impressed; elytra not striated. This species seems to indicate another section of the genus. [Unknown to LeConte.]

[195.] 261. HYLURGUS RUFIPENNIS Kirby.—Length of body 3 lines. Many specimens taken in the journey from New York to Cumberland-house, and in Lat. 65°.

Body dusky, hairy, rather glossy, punctured. Head black, confluent punctured; vertex obsoletely channelled; antennae rufous: prothorax constricted anteriorly, and dusky-rufous; base with a double slight sinus, and dorsal ridge terminating in an impression at the angle between the sinuses: elytra rufous, furrowed; furrows punctured; interstices of the furrows rough with minute elevations, especially at the base, which is inflexed: tibiae and tarsi dull-rufous; the former denticulated on one side.

N. B. In some specimens the elytra and anterior part of the prothorax are piceous or nearly black; in others the elytra are testaceous, and the prothorax piceous and paler anteriorly. [Belongs to *Dendroctonus* Er. Taken in Alaska. "The punctures of the thorax are not very dense, and of two sizes intermixed."—LeConte.]

FAMILY CURCULIONIDÆ.

[196.] 262. *CALANDRA PERTINAX* Olivier.—Length of body 7 lines. Taken in Canada by Dr. Bigsby.

Body obversely pear-shaped, black, naked. Head immersed in the prothorax, smooth; rostrum rather shorter than the prothorax, compressed, impunctured, channelled above at the base and tumid; antennae a little longer than the rostrum, scape as long as the rest of the antennae, knob pear-shaped: eyes immersed, lateral, subovate, not meeting below: prothorax oblong, rather narrowest anteriorly, tricostate, the two lateral costae sending a branch towards the base; four depressed broad punctured dull-red stripes occupy the intervals between the elevated parts; sides a little elevated and punctured; the punctures of the stripes and sides are whitish; scutellum an isosceles triangle, excavated at the base: elytra oblong, very slightly furrowed with whitish punctures in the furrows; suture, and alternate interstices, elevated; the others or depressed ones dull-red: body underneath with scattered whitish punctures varying in size; postpectus and tarsi chestnut. [Belongs to the genus *Sphenophorus* Schonh., of the family *Curculionide*. Not uncommon in Canada.]

263. *HYLOBIUS CONFUSUS* Kirby.—Length of body $4\frac{1}{4}$ lines. Taken in Canada by Dr. Bigsby, also in Massachusetts by Mr. Drake.

[197.] Body oblong, of a dark pitch-colour, hoary from decumbent hairs, confluent more or less punctured. Rostrum thickish and rather shorter than the prothorax; thickly and confluent punctured: prothorax with a dorsal levigated line not reaching the base; disk with numerous confluent irregular excavations or wrinkles; sides confluent punctured: elytra with ten rows of oblong deep punctures, the interstices of which are confluent punctured, mottled confusedly, except at the base, with whitish hairs: thighs armed with a short tooth; tibiae, as in the other species of the genus, armed at the apex with an inflexed stout spine of claw; tarsal claws reddish.

264. *LEPYRUS COLON* Linn.—Length of body 6 lines. Several specimens taken in Lat. 65° . Also taken by Dr. Bigsby in Canada.

Body black covered with decumbent gray hairs. Rostrum arched, thickish, a little longer than the prothorax, confluent punctured, having also a dorsal longitudinal ridge, terminating between the eyes in a little narrow excavation: prothorax narrowest anteriorly, covered with minute elevations producing wrinkles, and having also a dorsal longitudinal ridge

and two oblique, rather curved stripes formed of dense white hairs: the elytra have several rows of punctures, with the interstices minutely granulated; each elytrum has a discoidal white dot a little below the middle, and, in several specimens, there is also an indistinct one between it and the apex: on each side of the abdomen underneath, as in *L. arcticus*, are four yellowish round spots formed of hairs. In some specimens the pubescence has a tawny hue, in others the indistinct spot is obliterated. [Taken in Canada.]

[198.] 265. *LEPYRUS GEMELLUS* Kirby.—Plate v., fig. 7.—Length of body $7\frac{1}{4}$ lines. A single specimen taken in Lat. 65° .

Body very black, covered more or less with decumbent white hairs, and also with minute tubercles. Rostrum as in *L. Colon*: prothorax ridged, confluent tuberculated, minutely punctured between the tubercles, marked on each side with an oblique stripe composed of white hairs: elytra confluent tuberculated, with five pairs of longitudinal streaks, converging towards the apex: the first and fifth including the rest.

[199.] 266. *CLEONIS VITTATUS* Kirby.—Length of body $3\frac{1}{2}$ —5 lines. Several specimens taken in the Expedition.

Body narrow, black, covered with decumbent hoary pile. Head thickly covered with hairs, but on each side from the eye to the insertion of the antennae, the hairs are less dense, which gives the appearance of a blackish stripe; rostrum thick, shorter than the prothorax, obsoletely ridged, punctured: prothorax obsoletely ridged, punctured with rather large scattered punctures, often concealed by the hairs, with three blackish stripes, produced as in the head by the hairs being thinner: the elytra also have three similar stripes, and are punctured in rows: the abdomen underneath appears as if dotted with black from the same cause.

ZOOLOGICAL PARALLELISM.

BY PROF. JAMES T. BELL, BELLEVILLE.

In making a general survey of the Animal Kingdom, it is impossible to avoid being struck by the remarkable parallelism which exists between the several orders and families, and even genera and species, that compose the respective classes into which it is divided, and which reveals itself in the representative types that abound throughout its whole extent.

Thus if we take the mammalia as our starting point, we shall find that the carnivora are represented among the birds by the raptores, among the reptiles by the crocodiles and serpents, among the insects by the predaceous beetles, ichneumons, and dragon-flies, among the annulosa by the spiders, crabs, lobsters, &c., among the mollusks by the cuttle-fish and by some of the gastropods and a few brachiopods, and among the radiates by the sea-urchins, star-fish, sea-anemones, and many of the animalculæ.

Confining our observation to the parallelism between the mammalia and the birds on the one hand, and the insects on the other, we find that the carnivorous mammals are well represented among the Coleoptera as follows:—The felidæ, the typical carnivora, by the Cicindelidæ, whose resemblance is acknowledged in their vernacular name of “tiger-beetles.” The canidæ, dogs, wolves, foxes, are fitly represented by the Carabidæ, the weasel tribe by the Staphylinidæ, and the hyænas and vultures by the Silphidæ; while the marine carnivora, the seals and whales, find their representatives in the Dytiscidæ and Hydroidæ; and the various species of raptorial birds are no less fittingly typified by the Libellulidæ, ichneumon-flies, sphexes, and the predaceous wasps and hornets; not forgetting the ants, which have a highly developed carnivorous organization.

I shall not follow out in detail the obvious resemblances that may be observed between the pachydermatous animals and the Lucanidæ and other dendrophagous insects, as well as between the bovine, equine, and ovine tribes, and the gallinaceous and cursorial birds on the one hand, and part of the Scarabeidæ and Chrysomelidæ, and most of the Orthoptera on the other; or those not less remarkable that exist between the goat, deer, and antelope families, and the Cerambyx, Clytus, and Leptura genera.

If the hints I have thrown out should induce some of my younger entomological brethren to study more closely the relation of the Insects to the other members of the Animal Kingdom, my intention will be amply fulfilled.

PERSONAL.

BARON OSTEN SACKEN.—We regret to announce that this eminent Dipterist has returned to Europe “for an indefinite period, several years, or perhaps for ever.” His last contribution to American Entomology will,

he informs us, be the Third Volume of the Monographs of N. A. Diptera, written by Mr. H. Loew, of Meseritz, Prussia, and translated by the Baron. It will shortly be published by the Smithsonian Institution, uniform with the preceding volumes. Baron Osten Sacken, as our readers are no doubt well aware, is the great, if not the only, authority of American Diptera, and was always, during his long residence in the United States, most ready and willing to afford any information or assistance that was sought from him. We deeply deplore his removal from us, and trust that it will only be temporary after all. He bears with him our best thanks for his many kindnesses, and our hearty wishes for his continued welfare and prosperity, wherever he may be.

MR. C. V. RILEY. —We are desired to announce to our readers that Mr. Riley is making a special study of Galls, with the intention, before long, of publishing a full and illustrated paper upon the subject. He will be glad to receive the co-operation and assistance of all who can aid him in his investigations. It is in the power of every collector to do something in this way, for no one can be much afield in quest of insects without observing many specimens of these wonderful structures. Samples can be easily transmitted by mail to Mr. Riley at a very trifling expense. He expresses himself willing to assist others, as much as he is able, by exchanges, etc. He purposes henceforth making the *habits* of insects of all orders, and the study of Galls more particularly, his specialty. His address is C. V. RILEY, office of the State Entmologist, cor. 5th & Olive streets, St. Louis, Mo.

CRAMBIDÆ.—Mr. W. Saunders (London, Ont.) is engaged in working up the history of the various species of *Crambidæ* inhabiting Canada and the adjoining States. He will be thankful for any assistance that may be afforded him by loan of specimens, and information as to locality, time of appearance, etc.

HEMIPTERA.—Mr. E. Baynes Reed (London, Ont.) is preparing a list of Canadian Hemiptera. As nothing has hitherto been done in this order in Canada, the co-operation of all members of the Society is much required in order that the catalogue may be rendered as complete as possible. Specimens will be gratefully received by Mr. Reed, and returned when desired.

PROF. MACOUN.—This gentleman started about the middle of last month upon a five weeks' collecting tour along the North Shore of Lake

Superior. He devotes his attention chiefly to Botany, but intends collecting Coleoptera at a few special localities. We look for some good results.

NEW ILLUSTRATED WORKS ON AMERICAN LEPIDOPTERA.

The Lepidopterist of the present day—be he merely a collector of these beautiful “winged flowers,” or a student of the order—possesses vastly improved advantages over his predecessor of even ten years ago in the accurate and artistic drawings that are being so copiously issued from the press. There are now no less than three serial works in the course of publication, whose chief object is to afford faithful coloured illustrations of Butterflies and Moths. Foremost amongst these is a work that bears off the palm beyond all competitors in this or any other land—one that we have often before noticed in these pages, but which we cannot too often or too highly commend—*Edwards' Butterflies of North America*. This magnificent publication has now reached its Ninth Part, and will with the next issue complete its First Volume. We earnestly trust that its talented author will not rest content with this splendid monument of his industry and ability, but will go on with the work till the beauties of all our Butterflies have been faithfully portrayed. Since our last notice, two new numbers have appeared: Part viii., containing illustrations of *Nephasia menapia*, *Pieris Beckerii* (*N. sp.*), *P. vernalis*, *P. virginicensis*, *Argynnis Nevadensis*, *Grapta comma*, and *G. dryas*; Part ix., containing *Papilio Ajax*, varieties *Walshii*, *Telamonides* and *Marcellus*, *Grapta interrogationis*, varieties *umbrosa* and *Fabricii*.

Next to Mr. Edwards' work comes a new serial by Mr. R. H. Stretch, of San Francisco, Cal., entitled *Illustrations of the Lygæniæ and Bombyciæ of North America*, whose object is “to furnish, in a compact form, good coloured illustrations of all the species of these two families of Moths found north of the Mexican boundary, with accompanying letterpress, embodying everything of interest in relation to each species which may have appeared in print, together with additional information from original sources.” Two parts out of the proposed thirty have thus far appeared; the remainder are to be issued at intervals of about six weeks. Part i. contains good coloured drawings—not equal indeed to those in the above-mentioned work, but still very good and reliable—of eight species of *Alypia*, *Scopsis fulvicollis* Walker, six species of *Ctenucha*, and

Psychomorpha Epimenis Drury. Part ii. contains coloured figures of no less than twenty-one additional species, many of them new and rare. The price of each part is only one dollar, or with plain instead of colored plates, seventy-five cents. (Address:—R. H. STRETCH, P.O. Box 1802, San Francisco, Cal.)

The third work to which we desire to draw attention is entitled "Lepidoptera, Rhopaloceres and Heteroceres, Indigenous and Exotic; with descriptions and coloured illustrations, by Herman Strecker," Reading, Pa. It is the intention of the author to issue the work in monthly parts, each containing one plate. As yet we have received only the first number, which illustrates a new species of Emperor Moth, *Platysamia Gloveri* Strecker, and exhibits both male and female of the insect, with upper and lower surfaces. The price of each part is but fifty cents.

We sincerely trust that all these handsome publications will meet with such hearty support from the entomologists of America as will encourage their public spirited authors to carry them on till the work is fully completed.

MISCELLANEOUS.

PRIZES FOR INSECT COLLECTIONS AT THE APPROACHING EXHIBITIONS.

-We are glad to observe that so much appreciation is shown of the value of Entomology in the formation of the prize lists of our various exhibitions throughout the Province. At the Provincial Exhibition, to be held in Hamilton Sept. 23--27, the following prizes are offered:—

"Collection of Native Insects, with common and technical names attached, and classified so as to show those injurious and those beneficial to Agriculture and Horticulture; 1st Prize \$15; 2nd do \$10."

At the Western Fair, to be held at London Oct. 8—11:—"Collection of Native Insects, with common and technical names attached: 1st Prize \$10; 2nd do \$8; 3rd do \$4.

"Collection of Native Insects, with common and technical names attached, injurious to field crops and fruits; 1st Prize \$6; 2nd do, \$4.

"Collection of Foreign Insects, with common and technical names attached; 1st Prize \$6; 2nd do \$3."

At the Central Exhibition, to be held at Guelph Oct. 1--4:—"Collection of Native Insects, common and technical names attached; 1st Prize \$7; 2nd do \$4.

"Collection of Native Insects, common and technical names attached, injurious to field crops and fruits; 1st Prize \$7; 2nd do \$4."

HYPERCHIRIA VARIA.--The remarkable larva described by me in the CANADIAN ENTOMOLOGIST, Vol. II., 28, is that of *Hyperchiria varia*, Walk. I have in my collection specimens of *Macaria liturata* (of Europe) collected at Jamaica Plains in June and July. -C. S. MINOR, Boston.

MOTHS AT SEA.--Captain Robert Fuller, of the S. S. Northumbria, informs me that last September, when about twenty miles off Oporto, "weather fine," a very considerable number of moths made their appearance during the evening, and settled on the masts and sails of the ship by hundreds. So numerous were they, that with one grasp of the hand you could secure four or five moths. Several specimens were caught for me; but until yesterday I had not been able to see them. They all prove to be our common *Plusia Gamma*; and Capt. F. told me he did not observe any other kind on that occasion. These must have been part of a large flight, as he described them as clustering in masses all over the ship. I certainly think that many of the rare insects occasionally captured round our coasts are brought here in the above manner: after a long and almost exhausting flight over the sea, they very often gain foothold on some passing vessel, and some day or two may elapse before they again take wing; then it may often happen to be near the English coast; the fugitive possibly captured, and dubbed an English specimen, worth a considerable sum, of course. These particular insects, *P. Gamma*, are most common here; but it is just as likely to happen to a continental species. Doubtless we owe many of our present extensive list of new species to homeward-bound shipping.—*W. H. Tuzwell, in Newman's Entomologist.*

ADVERTISEMENT.

TRINITY COLLEGE SCHOOL, Port Hope, Ont. *Visitor*:—The Lord Bishop of Toronto; *Head Master*:—The Rev. C. J. S. Bethune, M.A.

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