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The Canadian Entomologist.

VOL. III. LONDON, ONT., OCTOBER, 1871. No. 7.

ANNUAL ADDRESS

OF THE PRESIDENT OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO, 1871.

TO THE MEMBERS OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO:

Gentlemen,—It is with no ordinary feelings of pleasure and satisfaction that I offer you my congratulations upon the continued success and prosperity of the Entomological Society of Ontario. We are now met together to hold our *first* Annual Meeting under our Act of Incorporation, and as a public Society duly recognized by the Government of the Province, and closely associated with the Agricultural and Arts Association of Ontario, who are now holding their great Annual Exhibition in this city of Kingston. As we have now attained to a position so much superior to anything we anticipated a few years ago, it may not be amiss to give a brief account of the origin and progress of the Society, and of the work it has been able to accomplish.

The origination of the Society may be traced to the publication in the number of the *Canadian Naturalist and Geologist* for June, 1862, of a "List of Entomologists in Canada," prepared by Mr. Saunders of London, Ont., and myself. As this List contained the names of thirty-six persons interested in the collection and study of Insects, it was resolved to hold a meeting and endeavour to form a Society or Club of those engaged in this branch of Natural Science. In the following September, accordingly, ten gentlemen assembled at the residence of Prof. Croft in Toronto, and decided upon the formation of an Entomological Society whose objects should be (1) the preparation of as complete a collection as possible of Canadian Insects, to be kept in some central place for general information and reference; (2) the charge of a depository of duplicate specimens contributed by Entomologists for distribution amongst its members; and (3) the holding of meetings from time to time for mutual information and the advancement of the science throughout the country at large. As so few were present at this meeting, no definite organization was attempted at the time, but the matter was laid over until the following spring.

On the 16th of April in the following year (1863), the Society was at length duly organized under the Presidency of Prof. Croft, and with Mr. W. Saunders as Secretary-Treasurer, and the late Rev. Prof. Hubbert as Curator. The names of about twenty-five persons were enrolled as original members. During the year, meetings were held from time to time, and several more names were added to the list of members.

The next year (1864) was one of great progress, being signalized by the formation, in March, of a Branch, with ten original members, at Quebec, Canada East; and of another in July, at London, Canada West, with thirteen original members. A preliminary list of Canadian Lepidoptera, embracing 144 species of Butterflies, Bombyces and Sphinges, was published by the Society during the year. In 1865 many additions to the roll of membership were made, and much good work was done, including the publication of a second list of Canadian Lepidoptera, containing the names of 350 more species. During the following year (1866) the Society held but few meetings and effected little, owing to the disturbance caused by the Fenian Raid, and the call made upon many members to leave their homes and join the ranks of the Volunteer service. The year 1867 was marked in the annals of the Society, by the publication of a valuable list of Canadian Coleoptera, which included no less than 55 families, 432 genera, and 1231 species, being many times more than had ever been previously enumerated in a Canadian List.

In August 1868, the Society issued the first number of the CANADIAN ENTOMOLOGIST, a small monthly periodical devoted to the publication of original papers on the classification, description, habits and general history of Insects. This little serial has been received with much favour by the leading Entomologists of America, many of whom have from time to time contributed to its pages. It has now reached the middle of its *third* volume, and has increased to three times its original dimensions; it has also improved much in style and typographical appearance, as well as in the excellence of its illustrations.

Until December 1869, the Society received no extraneous assistance nor public recognition, but depended wholly for its maintenance upon the efforts of its members. At that time, however, it was voted a grant of $400 for the year 1870 by the Board of the Agricultural and Arts Association of Ontario, on condition that it furnished an Annual Report, formed a cabinet of insects useful and prejudicial to agriculture and horticulture, and continued the publication of the CANADIAN ENTOMOLOGIST. These conditions were severally complied with by the con-

tinuance and improvement of our periodical, the formation of a cabinet of insects arranged in an economical point of view, and placed in the rooms of the Association at Toronto, and by the publication of a Report upon the Insects affecting the Apple, Grape, and Plum, prepared by Messrs. Saunders and Reed and myself. The singular favour accorded by the public to this Report, and the fact that an edition of three thousand copies was speedily exhausted, sufficiently attest its value.

The present year (1871) has been signalized by the Incorporation of the Society by the Legislature of Ontario, at the instigation of the Bureau of Agriculture, and the grant to its funds by the Government of $500 a year. By the same Act, moreover, your President is entitled to take his seat as an *ex officio* member of the Board of Agriculture and arts. Among the ranks of progress of the year, mention must by no means be omitted of the formation of a *third* Branch of the Society at Kingston, which we trust will long continue to grow and prosper.

Such, gentlemen, is a brief account of the origin and progress of our Society, the recital of which has not, I trust, proved uninteresting to you. When we look back upon our growth and development, we must all, I am sure, feel cheered and encouraged to continue our work and strive by our united efforts to make the ENTOMOLOGICAL SOCIETY OF ONTARIO a credit and a blessing to our land.

Before concluding, I feel that it is my painful duty to remind you of the loss which our Society and the cause of Natural Science generally in this Province has sustained in the recent death of Prof. Hincks, of University College, Toronto. He joined us in our first attempts at organization, and continued our steady friend and supporter till a few months ago. Though his special studies were chiefly devoted to another department of Nature, he yet took a lively interest in Entomology, and was a frequent attendant at our meetings. He died at a ripe old age, and has left a mark upon the scientific records of our country which will not soon be effaced.

Thanking you, gentlemen, for the honour you have done me in calling upon me to preside over you during the past year, and trusting that our Society will continue to grow and prosper, and be zealously maintained by us all,

I have the honor to be, gentlemen,
Your obedient servant,
CHARLES J. BETHUNE.

Kingston, Sept. 27, 1871.

DESCRIPTIONS OF LEPIDOPTERA FROM ALABAMA.

(Continued from Page 105.)

BY AUG. R. GROTE.

Specimens of the species alluded to in the present paper and types of the species described, are deposited in the Museum of the Peabody Academy of Science, Salem, Mass.

PYGARCTIA ABDOMINALIS *Grote*. ♀ This genus, allied to *Ctenucha*, is structurally characterized by the very small labial palpi, which are not porrected but concealed beneath the head; the dark scales which tip the small terminal joints are projected straightly forward but do not exceed the front. The antennæ are somewhat long and stout, shortly bipectinate. The legs are comparatively short, stout, feebly armed and closely scaled. The body parts are moderately heavy, smoothly and closely scaled; the abdomen is linear, terminates bluntly, and resembles that part in *Euchaetes*. It is not tufted at the anus. The moth is laden with Arctian analogies. The hind wings, of which alone the neuration has been examined, are 7-veined: veins 3, 4, 5, (*H.S.*) spring from one point, vein 2 is thrown off from the median nervure at about its middle, widely separate from the rest. The costal nervure is furcate at the outer third and throws off both nervules (veins 6 and 7, *H.S.*) on to the external margin. The internal nervure (vein 1, *H.S.*) is without accessory veins.

The wings are lead color; in certain lights the primaries show a bluish reflection as in *Ctenucha*. The costal region of the forewings above and below is striped with dark yellow as is the internal margin. The hind wings are concolorous immaculate. Abdomen above orange, with a dorsal series of distinct segmentary black spots as in *Spilosoma*, and other genera of *Arctinæ;* there is also a lateral series of black points; beneath it is lead color. Palpi, throat and head behind and between the antennæ bright orange; front dark as are the palpal tips. Legs dark lead color; fore coxæ orange. Collar tegulæ and thoracic disc lead color with a light reflection, and more or less obviously margined with orange scales and shades. Exp. 44 m. m. ♂ ignot.

PARORGYIA LEUCOPHLEA *Smith* sp. ♂ ♀ Specimens of this species have been collected by Mr. Ridings in Georgia, and Prof. Townend Glover has figured the female. Both the ♂ specimens I have seen have the primaries suffused with blackish. I have received specimens collected by a friend within a few miles of Demopolis. It closely resembles *P.*

paler, and the course of the inner transverse line is different. Hubner has figured the Northern species in illustration of *P. leucophæa*. Smith's *achatina* remains to be discovered; Dr. Packard's identification of it in the "Synopsis" being erroneous and not improbably founded on *Parorgyia tephra* Hubner sp. This latter, together with *P. plagiata* Walk. sp., and *Parorgyia clandestina* Walk. sp., as well as *Parorgyia rossii* Curtis sp., remain to be confirmed as distinct species.

Botys argyralis *Hubner* sp. The peculiar dark ventral stripe had not been noticed at the time that *Botys ventralis* G. R. was described synonymously. There is a considerable variation in the color of this species. I have taken here a specimen in which the primaries above and thorax are of a deep ochrey yellow. The exterior white dotted line is also variable in appearance; being at times partially obsolete. The abdominal stripe beneath varies in color with the fore wings and thorax.

Botys ecclesialis (*Samea ecc.* Guenee). I have taken a specimen of the form of this species described by Guenee from the United States. It has a distinct dot on the secondaries above at base. The specimens in the British Museum registered under the names of Samea elealis, Samea liparalis and Botys tædialis, appeared to me identical with our Northern Botys adipaloides. However, Lederer seems to have had the two latter before him from Brazil. I may then have mistaken closely allied species as identical. Undoubtedly some species of our U. S. Pyralidæ may be found in Brazil, but there appears to exist closely allied and what is termed representative species in the two countries. However, I can find no difference between our U. S. Cindaphia bicoloralis *Guenee* sp., and the figure and description of the Brazilian C. incensalis, *Lederer*. It will be better then to retain the name *adipaloides* for our species until its identity with any of the three mentioned above is more clearly established. I do not find the disproportional spurs on the hind legs of my specimens of *Samea ecclesialis;* it would appear then to belong to Botys.

Pilocrosis ramentalis *Lederer*. ♂ Antennæ with a tuft above the thickened basal joints, somewhat bent or crooked towards the middle, otherwise simple and in all my specimens rigidly elevated, curling over towards the tips. Primaries with a large hair-tuft at base extending along the costa to just beyond the first transverse line and drooping downwardly to internal margin. Hind legs with two pair of unequal spurs. Ornamentation of *Botys*. Above wings and body parts are concolorous obscure smoky brown, the former with a slight iridescent reflection. Two obscure

Clintonii, from the middle and Eastern States. The female is, however, yellowish-white lines on primaries and a concolorous luniform discal streak; the outer line very sinuate, and with the discal streak margined darkly inwardly. A single line, corresponding to the outer line of the primaries, crosses the secondaries above, and these show a dark discal streak near the paler costal region. Abdominal segments above very finely lined with pale scales posteriorly. Beneath whitish; the terminal palpal joints dark. Exp. 28 m. m. The abdomen extends for ¼ of its length beyond the secondaries. I think I have also the female of this species; if so it does not differ from the male in its interesting antennary and alar characters. Lederer had only a defective specimen before him, the habitat of which was unknown. The present discovery of this singular genus in Alabama has, then, enabled me to supplement Lederer's description in one or two particulars.

DESMIA SUBDIVISALIS *Grote*. ♀ Antennæ simple. Lustrous black. Primaries with two ovate white spots above situate as in *D. maculalis*, but a little rounder in shape. The very black external transverse line, in its usual sinuate course, may be seen outside these spots edging the upper and outer spot entirely externally, the lower spot but partially. On the secondaries the usual white median band is medially constricted and separated by black scales, so that two ovate transverse and overlapping white spots are formed. Fringes dark, very faintly tipped with white. Abdomen with the usual sub-basal white band and spot above; anal segment entirely black. Beneath, the white spots of the wings are iridescent, and the division of the band on the secondaries is incomplete. Exps. 19 m. m. One third smaller than *D. maculalis*; the wings are relatively broader while similarly shaped: the fringes are less distinctly touched with white and appear shorter. I regret not to have found the male.

The above may be added to the list of Pyralidæ I have taken in my locality, as well as *Asopia farinalis*, *Botys marculeata* G. R., and *Botys flavidalis* Guenee.

ERRATUM.—In the last communication of our esteemed correspondent, Mr. Aug. R. Grote, we regret the appearance of a rather remarkable typograpical error, which escaped the eyes of both printer and proof-reader, on page 105, third line from top. For "bread," read "head."—ED. C. E.

MICRO-LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KY.

Continued from Page 112.

LITHOCOLLETIS.

18.—*L. desmodiella* Clem., *loc. cit.*, p. 320.

This is the smallest known American species of the genus, if not the smallest of all known species of it, measuring scarcely 1/6 in. *alar. ex.* It is very pretty—to the naked eye sparkling like microscopic gems of different colours, or like diamonds set in rubies. The pattern of coloration resembles that of *corylisella*, but still more that of *Leucanthiza ornatella*, which it resembles closely, except that it is much smaller and lacks the iridescence and changeable colours of that insect.

Larva of the first group.—Mines the under surface of leaves of different species of Desmodium. I have met with it only in August and September and rarely then. Pennsylvania and Kentucky.

** *With a basal streak.*

† *With fasciae.*

19.—*L. ambrosiaella. N. sp.*

Face, palpi, undersurface, and legs (except a reddish-orange patch on the outside of the posterior tibiæ) deep steel-blue metallic. Antennæ dark brown, annulate with white. Tuft reddish-orange with white scales on each side. Thorax and anterior wings reddish-orange, with a snow-white streak crossing the anterior margin of the thorax, passing back over the tegulæ and continuous with a short median basal white streak on the wings and which is faintly dark margined behind. A wide snow-white costal streak about the basal 1/4th dark margined behind; a snow-white fascia about the middle of the wing dark margined distinctly behind and faintly so before. A costal white streak and an opposite dorsal one at the base of the ciliæ, both dark margined behind and faintly so before. A white fascia just before the apex becoming indistinct near the dorsal margin and faintly dark margined behind. Ciliæ of the general hue. *Al. ex.* 1/4 *in.*, Kentucky; common.

Larva cylindrical, yellowish, with the head streaked and suffused with fuscus. It makes a very small tent mine on the under side of the leaves of the "great hog weed" *(Ambrosia trifida).* There is a very similar mine on the under surface of the leaves of *Helianthus gigantea*, but I have

not bred the moth from it. It is very different from another *Helianthus* mine yet to be described. The cocoon is fusiform, suspended in the mine by a thread from each end. So is the cocoon of the large *Helianthus* mine, and the larva only differs from this by wanting the fuscus marks about the head. But the mine is very different and resembles on the upper side a tubercular swelling of the leaf. I have not yet bred the moth from either *Helianthus* mine. I once found a large mine differing from all of these, but with the same kind of cocoon on the under surface of a weed *(Eupatorium ?)* at Macon, Georgia.

20.—*L. celtifoliella. N. sp.*

Face and palpi silvery white, the palpi on their outer surfaces saffron, flecked with brown. Antennæ brown, annulate with white and flecked with blackish scales. Tuft reddish-saffron with white scales intermixed. Thorax reddish-saffron anteriorly, passing into brown towards the apex, sparsely flecked with white, and with the usual white line (sometimes absent) across the anterior margin produced backwards over the tegulæ and on to the wings, where it is confluent with a narrow median white basal streak which is strongly dark margined dorsally, the dark margin being produced beyond it nearly to the middle of the wing. Anterior wings reddish-saffron, the dorsal margin nearly to the ciliæ thickly dusted with dark brown on a white ground, and with a streak of dark brown extending to the basal streak not far from the base. Three fasciæ, rather indefinitely bounded, of dark brown upon a white ground; all strongly angulated posteriorly about the middle, the third one slightly interrupted near the costa and passing gradually into a costo-apical patch of dark brown on a white ground. The first fascia is just before the middle; the second is about the middle and each sends a white streak from its angle nearly to the next fascia. There is a dorso-apical patch of dense dark brown dusting on a white ground, larger than the costo-apical one above mentioned. Ciliæ pale reddish-saffron with a dark brown hinder marginal line in the ciliæ. (Sometimes almost the entire thorax and dorsal margins of the wings are densely dusted with dark brown on a white ground, whilst the first and second fasciæ blend with each other near the dorsal margin, and the third fasciæ blends with the dorso-apical dusting. It varies in the extent and intensity of the dusting). Under surface silvery white with a patch of dark brown dusting on each side of each abdominal segment. Legs silvery white with the anterior tibiæ and tarsi reddish-saffron dusted thickly with dark brown, and the intermediate and posterior tibiæ and tarsi spotted and annulate with dark brown.

Alar. ex. ¼ inch. Kentucky. Not common.

The larva is cylindrical, yellowish, and makes a tent mine on the under surface of the leaves of the Hackberry *(Celtis occidentalis.)*

21.—*L. celtisella. N. sp.*

Face, palpi, and under surface silvery white, the under surface and legs tinged with yellowish; antennæ silvery, annulate above with dark brown. Tuft, thorax, and anterior wings saffron-yellow, with a white patch in the centre of the tuft and the usual white line across the anterior margin and sides of the thorax, which, however, as in other species, is sometimes wanting. When present it is confluent with the rather long narrow median basal white streak which is faintly dark-margined towards the dorsal margin. Just before the middle is a white fascia angulated near the costa and produced backwards at the angle, and strongly dark-margined *internally*. Near the base of the ciliæ is another straight white fascia not definitely bounded, anteriorly margined with dark brown and with many dark brown scales interspersed in the white, and sometimes divided into two or three rather indefinite spots. The apex of the thorax is white, and from it a narrow white line pass along the posterior margin of the wing to the first fascia, and sometime is faintly indicated to the base of the ciliæ and is margined with dark brown. Apex dusted with dark brown on a white ground, the dusting margined by an oblique white line internally. Sometimes the dusting is not thick, and the whole apical half of the wings is sparsely flecked with dark brown scales. The markings of the apical half of the wing are all indefinite, the colors not being separated by distinct well-marked lines, but to some extent running into each other. *Al. ex.* less than ¼ in. Kentucky. Very abundant. There is some variation in the intensity of the color: some species being much paler than others, and one specimen in my possession has the thorax entirely white.

The larva mines the under surface of the leaves of the Hackberry *(Celtis occidentalis)*. The mine begins near the midrib and the first portion of it is only discernible under a lens. It is only by observing this part of it that it is possible to tell on which side of the leaf the larva enters, as the remainder of the mine presents the same appearance on both sides of the leaf. It is a short narrow crooked line ending in a small ovoid dead-looking blotch which is slightly puckered along the centre on both surfaces. Like all other species it leaves the mine upon the same side on which it entered.

22.—*L. acericlla.* Clem., *loc. cit., supra*, p. 323.

This is a very variable species both in the larva and imago. Frequently the anterior margin and sides of the thorax are white. Sometimes the basal streak is very short, at other times extending nearly ¼ the length of the wing. Dr. Clemens says there are two fasciæ; but in none of my specimens does the first one quite attain the costal margin, and usually it is only a short dorsal streak extending to, and confluent with, the basal streak; and sometimes nearly the entire portion of the dorsal margin included between it and the basal streak is white. Frequently also the second fascia does not quite attain the costal margin, and when it does, it is sometimes interrupted near the costa. Many of these specimens I should have considered as distinct species if I had not bred them from identical mines on the upper side of the leaves of Sugar Maples *(Acer Saccharinum)*. So in a collection of several leaves scarcely any two larvæ will be found alike, the general shade of colour and the distinctness of the maculæ and translucent spots varying with each moult, and finally, when just ready to become pupæ, no traces of either maculæ or translucent spots are visible. *Alar. ex.* ¼ inch. Common in Kentucky, Wisconsin, and Pennsylvania.

ERRATA.—*Ante* p. 84, line 5 from bottom, for *thinner*, read *thence;* pp. 111 & 112, for *Ostryarella*, read *Ostryæella;* for *Corylisella*, read *Coryliella*.

NOTES ON THE LARVA OF

PRIOCYCLA ARMATARIA *Herr. Sch.*

BY W. SAUNDERS, LONDON, ONT.

Specimens of a nearly black geometric larva which afterwards proved to belong to this species, were taken last year on the 15th of July on currant and gooseberry bushes, on which they were feeding. They fed on the foliage of the black currant as well as of the red, and in fact seemed to prefer it.

When first taken they answered to the following description:

Length .45 in. Body tapering a little anteriorly, thicker on middle and hind segments.

Head small, bilobed, brownish black spotted with white, a streak of white in the upper part of each lobe, a patch of the same color across the middle, produced to a point in the centre, a smaller patch of the same just

above mandibles, and besides these several small scattered whitish dots. Mandibles tipped with brown, palpi pale whitish.

Body above dark brown nearly black, dotted and streaked with bright pale yellow. On each segment from fourth to terminal, is a whitish dorsal crescent composed of whitish dots and streaks, most striking on 5th, 6th, and 7th segments, on the others, pale and less distinct. The 5th, 6th, 7th, and 8th segments are enlarged at the sides and projecting, while the spaces between segments are unaltered; the 6th and 7th segments bulge out more than the others. On the sides of 8th, 9th, and 10th segments is a patch of bright yellow. There is also a subdorsal row of raised dots, those on the anterior and middle segments dark brown, while those on the posterior segments are tipped with yellow. The terminal segment has a fleshy hump or prominence composed of two round tubercles with a patch of yellow on the outside of each. A few short brownish hairs are scattered over the surface of the body.

The under surface is blackish brown, feet and prolegs of a similar hue, the anterior pair of prolegs has a stripe of yellow on the outside.

Before maturing, this larva attained a length of ¾ths of an inch or more, but retained the same markings excepting on the head, which became pale brown, dotted with black.

The larva entered the chrysalis state early in the fall. It constructed a slight web composed of silk interwoven with portions of leaf and frass, and stretched across a corner of the wooden box in which it was confined, and within this the change was effected.

One specimen produced the imago on the 1st of June following; the other on the 8th of the same month.

The accompanying figure (30) represents the moth, which is a little below the average size. The color of its wings is yellowish brown shaded with purplish, especially on the hind wings; the streaks and dots are of a deeper shade of brown. The under surface is of a deep yellow dotted with reddish brown and with a line of the same color crossing the wings a little beyond the middle. Behind this line on the posterior wings the color becomes pale purplish brown.

Fig. 30.

While this insect may be ranked among those that are injurious to the fruit grower, inasmuch as it is destructive to the gooseberry and currant, still it is comparatively rare, and has not, thus far, at any time presented itself in such numbers as to attract the attention of those interested in this department of industry.

ANNUAL GENERAL MEETING

OF THE

ENTOMOLOGICAL SOCIETY OF ONTARIO.

The Annual General Meeting of the Society was held at Queen's College, Kingston, Ont., on Wednesday evening, September 27, 1871.

The President, Rev. C. J. S. Bethune, being unavoidably detained, the Vice-President, Mr. W. Saunders, of London, Ont., took the chair.

The Secretary-Treasurer then read the following Financial Statement for the year ending September 25, 1871.

RECEIPTS.

By Balance from 1870			$34 97
" Members' Fees Arrears Members	$12 00		
" " " " Branches	10 00		
" " " 1871 Members	75 00		
" " " " Branches	15 00		
		112 00	
" Sale of Cork			10 69
" " Pins			44 83
" Grant from Bureau of Agriculture			500 00
" List and Labels			0 45
" Sale of Back Nos. of CAN. ENT.			16 07
" Donation			1 00
" Various small accounts			10 30
" Exchange of Am. and Eng. Cy			4 59

EXPENDITURE.

To Expense acct	$77 92	
" Engraving	27 25	
" CANADIAN ENTOMOLOGIST, Printing Nos. 10, 11, 12, Vol. II., and Nos. 1 6, Vol. III	330 91	
" Pins	11 80	
" Library account	41 95	
" Balance in Bank of Montreal	233 73	
" Various small accounts	11 34	
	$734 90	$734 90

We certify that the above is a correct statement of accounts for the

year ending Sept. 23, 1871, as shewn by the Treasurer's Books with vouchers for all disbursements.

JOHN H. GRIFFITHS. } Auditors.
CHAS. CHAPMAN. }

London, Sept. 23, 1871.

The Treasurer stated that the balance now in hand would be entirely spent this year in completing the remaining six Nos. of the CAN. ENT., which the Editor purposed to do before Christmas.

After December it is intended that the numbers should be issued monthly, but at present it is necessary to issue double numbers in order to complete the current volume during the year.

The Secretary also stated that in accordance with their statute of incorporation, an annual report of insects injurious to the farm and garden would be furnished to the Commissioner of Agriculture, and that a printed copy thereof would be forwarded to each member of the Society.

The following officers were then elected for the ensuing year:

PRESIDENT. Rev. C. J. S. Bethune, M. A., Trinity College School, Port Hope.

VICE-PRESIDENT. W. Saunders, Esq., London, Ont.

SEC.-TREAS. E. B. Reed, Esq., " "

COUNCIL.—Prof. Croft, Toronto; Prof. J. Macoun, Belleville; R. V. Rogers, Esq., Kingston; J. M. Denton, Esq., London; J. Pettit, Esq., Grimsby.

AUDITORS.—John H. Griffiths, London; Chas. Chapman, London.

The President's Annual Address will be found on another page.

Prof. Dupuis, of Kingston, laid some information before the meeting with regard to Lithographs for the CAN. ENT. Several members of the Kingston Branch expressed their pleasure at the meeting being held in their city, and from the spirit evinced by their remarks it is evident that Entomology will not be allowed to languish, but that some good work may be expected from the "Limestone City."

Before adjourning, the Secretary took occasion to reciprocate the kindly sentiments that the President of the Fruit Growers' Association had so courteously expressed in his Annual Address the night previous with regard to the Entomological Society of Ontario. It is sincerely to be hoped that the two sister Societies may long continue to work together in such harmony, and that the results of their respective labours may be felt and appreciated by the country at large.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from page 116.)

[95.] 133. CREOPHILUS VILLOSUS *Grav.*—Length of body, 7 lines. Taken in Lat. 54° in Canada, also by Dr. Bigsby, and in Nova Scotia by Capt. Hall. I have specimens likewise, taken in Britain. [Quite common throughout Ontario.]

This species is extremely similar to *C. maxillosus*, and its American representative. The following circumstances principally distinguish them. The anterior angles of the prothorax in *C. maxillosus* are *thinly* cloathed with shortish *black* hairs: in *C. villosus*, these hairs are *cinereous*, longer, more numerous, and cover a larger portion of the angle; in the former, the band of the elytra is whiter and wider than in the latter: in the former also the back of the abdomen, especially the third and fourth segments, is mottled with cinereous hairs; in the latter the second and third have each a cinereous band interrupted in the middle: again the *four* first ventral segments in *C. maxillosus* are thickly covered with decumbent cinereous hairs, with each a lateral black spot on both sides, while in *C. villosus* only the *three* first segments are so distinguished; and finally, in the former the sides of the postpectus are covered with black hairs, and in the latter with cinereous.

[FAMILY SILPHIDÆ.]

[96.] 134. NECROPHORUS VELUTINUS *Fabr.*—Length of body, 8 lines. Taken in Nova Scotia by Dr. MacCulloch. [Common in Ontario.]

Body black; nose separated posteriorly from the front by a straight line, anteriorly furnished with a submembranous rhinarium, above which is a round flattened tubercle; knob of the antennæ black: prothorax dilated anteriorly, thickly covered with golden pile: elytra with two orange-coloured bands, toothed as it were on both sides, the anterior being the widest: epipleura pale yellow: postpectus covered with golden pile: posterior trochanters truncated at the apex and emarginate.

135. NECROPHORUS HEBES *Kirby.*—Length of body, 7 lines. Taken in Nova Scotia by Capt. Hall.

[97.] Like the last, but the nose is separated from the front by a

curved line, it is also marked on each side by a deep longitudinal furrow, and is depressed longitudinally in the centre: but what more strongly characterizes it, is the want of the rhinarium or nostril-piece discoverable in most of the other species: the anterior part of the prothorax is less conspicuously dilated and naked: the elytra anteriorly have a strongly toothed orange band including a black dot at the suture; posteriorly they have a large toothed spot of the same colour; the epipleura is orange in the middle, black at the tip with a black spot at the base connected with the black disk: postpectus not brilliant with golden pile. [Unknown to Dr. LeConte.]

136. NECROPHORUS OBSCURUS *Kirby*. Length of body 9- 10 lines. A pair taken in the journey from New York to Cumberland-house.

Body black. Nose separated from the front by a straight abbreviated line, with a deep oblique furrow on each side and no distinct rhinarium; three last joints of the knob of the antennæ ferruginous: prothorax anteriorly dilated: elytra with two rather obscure deep red bands, the anterior one broad, dentated and reaching from the epipleura to the suture: the posterior one externally broad, internally narrow, and reaching neither epipleura nor suture; epipleura deep red, narrower than usual: posterior trochanter emarginate. [Taken in Canada: at Toronto by Mr. Couper, and at Grimsby by Mr. Pettit.]

137. NECROPHORUS MELSHEIMERI *Kirby*.—Length of body 9 lines. A single specimen taken in the journey from New York to Cumberland-house.

[98.] Body black. Nose separated from the front by an obtusangular line; rhinarium orange-coloured, subtrapezoidal; three last joints of the knob of the antennæ ferruginous: prothorax dilated anteriorly: elytra with two orange-coloured subundulated toothed bands reaching from the epipleura to the suture; epipleura broad, orange-coloured: posterior trochanters truncated at the apex with the external angle recurved; tibiæ dilated, especially the anterior part, or cubits: postpectus on each side covered with tawny hairs. [Taken at Toronto by Mr. Couper.]

138. NECROPHORUS HALLII *Kirby*.—Length of body 8-9 lines. Taken in Nova Scotia by Capt. Hall, and in Massachusetts by Mr. Drake.

Body, as usual, black. Nose separated from the front by a straight line, channelled; rhinarium distinct, membranous, tawny, anterior angles elongated; knob of the antennæ with the three last joints dull-orange: prothorax nearly circular, anteriorly emarginate: elytra with an anterior

angular band which does not reach the suture, and a posterior crescent or kidney-shaped spot, both of a deep orange: epipleura black; wings dusky: trochanters emarginate at the tip.

139. NECROPHORUS PYGMÆUS *Kirby*.—Plate ii., Fig. 3.—Length of body 6 lines. A single specimen taken in the Rocky Mountains. [Taken at Grimsby, Ont., by Mr. Pettit; north shore of Lake Superior (Agassiz).]

[99.] This is the smallest known species of the genus. Nose separated by a nearly straight line from the front: rhinarium transverse, not membranous; knob of the antennæ black: prothorax nearly circular, there is a slight sinus on each side, and a deeper anterior one: elytra with an anterior angular band dilated at the epipleura, and a nearly semicircular spot at the apex of a dull deep red; epipleura of the same colour but black at the apex, and with a black spot at the base: posterior trochanters emarginate at the tip.

140. NECRODES [SILPHA] SURINAMENSIS *Fabr.*—Taken in Nova Scotia by Dr. MacCulloch. [Abundant on carrion in all parts of Canada.]

[100.] 141. OICEOPTOMA [SILPHA] MARGINALE *Fabr.*—Length of body 6 lines. Several specimens taken in Lat 54°, taken also by Dr. Mac Culloch in Nova Scotia.

Body oblong, black, very thickly punctured. Head with an oblong punctiform impression in the space between the eyes: the margins of the prothorax, the lateral more widely, are of a pale-red: the whole disk is covered by a large three-lobed black spot, with the lateral lobes the smallest and shortest: the elytra are reddish-brown with three longitudinal ridges, the external one, as usual, stopping short of the apex. In the female the elytra at the apex are subsinuated and subacuminated. [Very common throughout Canada.]

142. OICEOPTOMA [SILPHA] LAPPONICUM *Linn.*—[101.] Taken abundantly both in the journey from New York to Cumberland-house, in Lat. 65°, and in Canada by Dr. Bigsby. This species abounds in the huts of the Laplanders, devouring every thing—skins, flesh, and dried fish. [Very common throughout Canada. For description *vide* Say's Ent. Works ii., 122, who described it as a new species under the name of *S. candata*.]

143. OICEPTOMA [SILPHA] TRITUBERCALATUM *Kirby*.—Length of body 4¼ lines. Several specimens taken in the journey from New York to Cumberland-house, and in Lat. 54°.

[102.] This species appears to be the American representative of *Silpha opaca*, from which it differs in being smaller, and proportionally

narrower; the prothorax is longer in proportion to its width, and has an obsolete channel: the elytra are more distinctly punctured, and besides the ordinary elevation at the termination of the external ridge, have two smaller ones at that of the other two ridges; the ridge next the suture also is more elevated at its termination than in *S. opaca*, of which in every other respect it is the exact counterpart. The elytra of the female are slightly sinuated at the apex, and obtusely acuminate. Variety B. Quite black.

144. OICEOPTOMA [SILPHA] INÆQUALE *Fabr.*—Length of body 5¼—6 lines. Same localities as the preceding.

Body black, not at all glossy, minutely punctured: punctures not visible except under a good lens. Three last joints of the antennæ cinereous: prothorax anteriorly emarginate with four discoidal obtuse ridges, the lateral ones undulated and oblique and the intermediate ones straight and parallel: elytra with the three customary longitudinal ridges, the outermost the shortest and most elevated, and the intermediate one towards the apex curving inwards; in the female the apex of the elytra is subacuminate and very acute, but with scarcely any sinus: in the male it is rounded. [Quite common in Canada.]

MISCELLANEOUS NOTES.

ACORN WEEVILS.—I see that in the last CANADIAN ENTOMOLOGIST, Mr. J. Pettit refers the Acorn Weevil to *Balaninus nasicus* Say. It is true that Say's descriptions are so brief that, not knowing how many specimens he described from, it is difficult to fully recognize his species, and Dr. Horn may, in this sense, be quite right in stating that the acorn-feeding species cannot be referred to any that are described. Yet the species I have bred must evidently be referred to Say's *rectus*, which is easily distinguished from *nasicus* by the finer, more rectilinear rostrum. If Mr. Pettit has specimens of *nasicus*, I think he will have no difficulty in distinguishing the two species, and I shall be greatly obliged if he will send me a few of his acorn-bred specimens.

In what I take to be *nasicus*, the rostrum is on an average darker, thicker more curved, shorter, and with the antennæ springing from its middle in the ♂ and from its basal third in the ♀. Two thoracic paler vittæ are observable on the thorax, and there is always a pale transverse band be-

hind the middle of the elytra and a sutural vitta. In the ♂ the rostrum is equal to three-fourths the length of the body; in the ♀ it is equal to five-fourths. I believe it breeds entirely in hickory nuts.

What I take to be *rectus*, on the contrary, has a finer, lighter-coloured rostrum which is much more rectilinear, especially in the ♀; and it always differs from *nasicus* in having no bands or *vittæ*, the elytra being uniformly spotted as in *sparsus* Schœn. This is the species I breed from acorns, and I believe it also infests hazel-nuts.

There are several other species which closely resemble these two and seem to connect them, and I am satisfied that we can do very little in classifying them until their habits and variations are better understood.—

C. V. RILEY.

A PHENOMENON.—The Ashy Blister Beetle, *Lytta cinerea* Fab. (*Macrobasis Fabricii* LeConte) was very destructive to the potato vines in several parts of the Province of Quebec during last July. In some places it was exceedingly abundant, and attacked the Windsor bean as well as the potato. Five years ago it was also very common. Its appearance this year gave occasion to an article in one of the French newspapers published in Three Rivers, which is such a wonderful production that it is well worthy of being placed on record. Entomologists will have a smile at it, and think that a little better acquaintance with insect life would do our farmers and journalists no harm. The following is a free translation of the article:—

"A NEW PLAGUE.

"We are threatened, it would seem, by a new plague. A citizen, a good observer, reports to us that he has noticed the following phenomenon in a fine field of potatoes on his grounds in this town. He tells us that he has found on his potatoes a large quantity of blue beasts (winged, and the colour of blue stone), which rapidly devoured all the leaves of the plants, leaving only the bare stems. He gathered more than a quart of these insects. After some time, the insect undergoes a change. It dries in the sun, an opening appears beside the shoulders, near the neck, and a very active fly emerges, at first of a blue colour, which alights on the cabbages, and doubtless continues its ravages there. As it grows older, this fly becomes grass-coloured, probably on account of feeding on the cabbage leaves. This subject is a most important one, and merits the close attention of our agriculturists."

What can the "active fly" be, which makes its appearance in such an

extraordinary manner, issuing (as the Abbe Provancher well expresses it), like Minerva from the brain of Jupiter? The mystery will probably remain forever unsolved. The only solution that can be offered is, that as the "good observer" has mixed things so promiscuously, he may have mistaken the larva of *Pieris rapæ* for a fly, and fathered (or mothered) it on the unfortunate Blistering Beetle, which has enough to do in attending to the potatoes, without providing for the cabbage also.

This beetle seems to be the most injurious of the insects infesting the potato crop in Lower Canada, and its attacks cease about the beginning of August, when the insect is supposed to enter the earth to deposit its eggs. Cutworms, however, did some harm last spring by nipping off the young shoots; and a larva (perhaps of the same family), destroyed the seed in some places, by eating it in the ground, as I was informed by a farmer in the vicinity of Quebec.—G. J. Bowles, Quebec.

Butterfly Pictures!—In the woods, near Stamford Bridge, *Argc Galathea* formerly abounded, but it has not been seen for some years: indeed, several of our most conspicuous butterflies (notably *Io*, *Paphia*, *Rhamni*, and *Galathea*), have lately become rare, or disappeared from the neighbourhood of York, Leeds and Sheffield, and this not from any "improvement" of the land, or, so far as appears, any alteration of the former conditions of their existence, but simply from their merciless pursuit and wholesale slaughter by the makers of butterfly pictures. The numbers thus annually destroyed are almost incredible. I have known 250 peacocks used in the construction of an elephant, and upwards of 500 *Vanessa Urticæ* in the figure of a crocodile 3 feet long! *Galathea* was an especial favourite with the tribe; a portrait of Lord Brougham in butterflies, the checked trousers depicted by *Galathea's* wings, is considered a very clever work of art!—E. Birchall, in *Newman's Entomologist.*

Grasshoppers.—Under the pressure of necessity, a Salt Lake City blacksmith has invented a machine to kill grasshoppers. It can be manufactured for $75. It consists of a frame drawn by two horses, having an apron extending forward close to the ground to scrape up the locusts, with a hood above it, forming a box open in front. At the rear of the machine is a pair of rollers geared together, the upper one driven by the carrying wheels, of which it forms the axle. Whatever may find its way into the front of the machine is obliged to pass between the rollers at the back, which, being capable of being forced close together, are described as completely demoralizing the "ironclads."—*Times.*

EXCHANGES, &c.

The undersigned would be pleased to open communications with any Entomologist in Canada, United States or England with a view to exchanging specimens. Address JAMES COLWELL, care of A. CHOUN, Kingston, Ont.

THE undersigned would be pleased to correspond with Lepidopterologists (Southern and Western U. S. preferred), with a view to exchanges. Address EDW. L. GRAEF, 40 Court St., Brooklyn, N. Y., U. S.

LEPIDOPTERA, &c.—I have a collection of Birds' Eggs, Lepidoptera (including some from Florida) and Coleoptora, duplicates of which I should like to exchange, giving preference to the two first named.—JOSEPH E. CHASE, Lock Box 46, Holyoke, Mass.

An American Entomologist, who has made a speciality of Lepidoptera, would like to correspond with collectors in any part of the world.—Address H. K. Morrison, care of E. K. Butler, 68, Pearl-street, Boston, Mass.

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