

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title on header taken from: /
Le titre de l'en-tête provient:

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The Canadian Entomologist.

VOL. V.

LONDON, ONT., JUNE, 1873.

No. 6

ON SOME OF OUR COMMON INSECTS.

6. THE RASPBERRY SAW-FLY—*Selandria rubi*, Harris.

BY W. SAUNDERS, LONDON, ONTARIO.

Although this insect is quite generally distributed and very destructive to the foliage of the raspberry, it has, strange to say, been but little noticed by Entomologists in their publications. There is a short reference to it in "Harris' Entomological Correspondence," in a letter from Darling to Harris, written in 1846, where a very correct account is given of the manner in which the egg is deposited. There is also a much briefer notice in "Packard's Guide," and these are all the references we have been able to find.

The perfect insect, which is a four-winged fly, appears on the wing about the middle of May. We noticed them this year first on the 10th, last season they were not observed until the 21st, and they may be found from this time until early in June. The wings, which are transparent, with a shining surface and metallic hue, measure when expanded about half an inch across; the veins are black with a streak of black along the front margin, extending more than half way towards the tip. The anterior part of the body is black, the abdomen dark reddish. In common with some other species of *Selandria*, these flies have a habit of falling to the ground when disturbed, especially in the cool of the morning, and remaining in this position long enough to enable one to catch them; with the increasing heat of the day they are, however, much more active, and take wing readily when approached.

The egg, as it appears when squeezed from the body of the female, is about one-thirtieth of an inch long, and a little over one-hundredth of an inch wide at its widest portion. In form it approaches a long oval, rather

obtuse at the ends, with its greatest diameter a little before the middle. Colour white, with a faint yellow tinge and a smooth, glossy surface, semi-transparent. The enveloping membrane is very thin and easily ruptured, discharging watery looking contents. Only seven or eight eggs were obtained from the body of the female examined; possibly it might have previously deposited most of its stock. The eggs are buried beneath the skin of the leaf, close alongside of the ribs and veins, placed there by means of the saw-like apparatus with which the female is provided, where it swells somewhat and produces a slight discoloration of the cuticle on the upper surface. The skin covering the under surface of the swelling is so thin and semi-transparent that the movements of the larva may be observed a day or two before hatching, by the black spots on the side of the head showing through. The larva escapes through an irregular hole made on one side of the swelling.

The young larva as it appears when fresh from the egg. Length, when in motion, about one-twelfth of an inch. Head large, semi-transparent, greenish-white, with a large black eye-like spot on each side and with a number of short whitish hairs; mandibles pale brown.

The body above is nearly white, semi-transparent, and thickly covered with transverse rows of white spines, nearly all of which are forked towards the tip; some of the spines on the anterior segments are more compound, having four or five branches; the tips of all the branches of the spines are blunt, nearly rounded. The under surface is similar to the upper in colour and semi-transparency, feet and prolegs partake of the general colour.

After the first moult the head is medium sized as compared with the body, of a pale yellowish green, covered with short fleshy looking hairs of the same colour. The body above is of a uniform pale greenish-yellow colour, excepting along the dorsal region, where, owing to the transparency of the skin, the internal organs show through of a deeper shade of green. The surface of the body is thickly set with short greenish-yellow tubercles, most of which are forked at the tips, the two branches spreading in opposite directions, the greater portion of them extending anteriorly and posteriorly. Out of three specimens of this age examined, one varied from the others in having a pale brownish-yellow head. The under surface, feet and prolegs all pale greenish-yellow.

With the subsequent moultings slight changes take place in the colour of the head, first pale brownish or greenish-brown, then bluish-green, and

sometimes the branches of the spines assume a brownish tint, especially on the anterior segments.

When full grown this larva measures a little over half an inch; it is nearly cylindrical, tapering slightly towards the hinder segments.

The head is rather small, nearly globular, pale green with a faint yellowish tinge, and a dark brown dot on each side, and a few very fine short hairs visible only with a strong magnifier. The mandibles are tipped with brown.

The body above is dark green, thickly set with green tubercles, from which proceed fleshy looking, forked, pale green, hair-like branches, most of them with their branches extending anteriorly and posteriorly. On the anterior part of the second segment there is a row of four spines with five branches each, most of the others are forked, but some few of them have three branches each. There are eight spines or tubercles on most of the segments, arranged more or less perfectly in a double transverse row. In some specimens the hair-like branches or appendages are black at the tips, and occasionally entirely black from the point of divergence.

The under surface is similar to the upper; feet and prolegs green.

When mature—from the middle to the latter end of June—these larvae penetrate below the surface of the ground, where they construct little oval earthy cocoons, formed by glueing together particles of earth with silky and glutinous matter. These cocoons are toughly made, and may be taken out of the earth in which they are embedded and even handled roughly without much danger of dislodging the larvae. The specimens which we have bred, when examined a week or two after the cocoons were constructed, were still in the larval condition, although somewhat contracted in length. They all dried up and died before changing to pupae, so we are as yet unable to indicate when this change takes place, the appearance of the chrysalis or its duration. As we have not met with more than one brood in the season, it is probable that the larvae remain in the ground for some weeks unchanged, gradually transform to pupae and remain under ground in this condition until early the following spring.

SCIENTIFIC PUBLICATIONS.

BY THE EDITOR.

From both sides of the Atlantic we continue to receive a continuous and ever-welcome stream of serial publications, on various scientific subjects. In all of those devoted to general Natural History our favorite department of Entomology receives its due share of attention, while there has been no recent diminution in the number of publications specially devoted to this branch of Zoology. To Practical Entomology we find more and more space and attention directed, year by year, in the leading agricultural magazines and newspapers; few, indeed, of the latter are now considered complete without the regular contributions of an Entomological Editor. The various State Entomologists continue, too, to afford us their annual Reports, filled with great stores of most valuable information, not only for the farmer and gardener, but for the student of nature as well.

As we have not for some time directed the attention of our readers to the scientific serials that we are constantly receiving, we propose to devote rather more space than usual in this issue to the enumeration of the principal papers that are of interest to the Entomologist. We take the opportunity also of returning our grateful thanks to the Authors, Editors and Publishers who, month by month, and year by year, favour us with their much valued productions.

To turn to the old world first.—No more welcome visitor comes to our table than the weekly numbers of *Nature* (London: Macmillan & Co.) This most interesting publication has now entered upon its eighth half-yearly volume, and is evidently thoroughly well established in public estimation. Recent numbers contain numerous articles and letters by leading men of science on the much vexed subject of Instinct and Perception in Animals. During the last month there have also appeared the first two of a series of illustrated articles by Sir John Lubbock on "The Origin and Metamorphoses of Insects," and a paper by Mr. A. Murray on "Venomous Caterpillars."

Science Gossip (London: Hardwicke) is replete with matter of a lively and popular character. During many months past there have been published in its pages a useful series of articles on "Collecting and

Preserving" objects of Natural History in all departments. No. 101, for May, 1873, is now before us ; it opens with an illustrated account of the plant-crystals, Raphides, &c., by Prof. Gulliver ; then follows "Notes on Collecting and Preserving Land and Fresh-Water Shells ;" "Records of Rare Plants," the "Origin and Distribution of the Insects of the British Isles," "Comparative Size of Animal Hairs," 'Gossip' on Microscopy, Zoology, Botany, Geology, &c.

The Scottish Naturalist (Perth, Scotland) is an excellent quarterly magazine of Zoology and Phytology, published by the Perthshire Society of Natural History. With the number for January last the second volume was commenced, and the size of the publication enlarged from 32 to 48 pages—a notable sign of progress. Among the articles of interest in the last two numbers we may mention that on "The Occurrence of the Hooded Seal at St. Andrews," by Mr. R. Walker ; "Memoirs on Scottish Tenthredinidæ," with a beautiful colored plate of *Nematus gallicola*, by Mr. P. Cameron, jun. ; a paper by the Editor (Dr. F. Buchanan White) on the extraordinary occurrence of *Vanessa antiopa* in Great Britain last year ; papers on Scottish Diptera, Spiders, Tortrices, Galls, &c., by various authors ; an article on "Polarity in the Geological Distribution of Genera," by the Rev. J. Wardrop ; and instalments of an excellent "Insecta Scotia"—Lepidoptera and Coleoptera. We heartily wish the publication the fullest success.

Newman's Entomologist (London: Simpkin, Marshall & Co.) and *Zoologist* (Van Voorst)—for which we are indebted to our friend Mr. Reeks—continue to maintain their respective characters: the former as a recorder of captures, varieties, 'exchanges,' &c. ; the latter chiefly as an Ornithological magazine, though singularly enough, we always find in it the fullest and best reports of the meetings of the Entomological Society of London.

The Entomologist's Monthly Magazine (London: Van Voorst) appears to us to be better maintained and of more general interest than formerly.

From the authors we have received *Notes on Chalcidie* (Parts i to vii), by Francis Walker, Esq. ; *Note on a Chinese Artichoke Gall*, by Albert Muller, Esq. (from the Linnean Society's Journal) ; and two papers *On Modern Glacial Action in Canada*, by the Rev. W. Bleasdel (from the Quarterly Journal of the Geological Society).

Turning to this side of the Atlantic, we may notice first the *Proceedings and Transactions of the Nova Scotian Institute of Natural Science* (Part ii.,

vol. iii). The number opens with the conclusion of Mr. J. M. Jones' paper on "Nova Scotian Lepidoptera;" among the other articles we would especially mention "The Mammalia of Nova Scotia," by Dr. Gilpin, "On Parallel Lines of Elevation in the Earth's Crust," by Mr. A. Ross, and "The Human Teeth," by Dr. A. C. Cogswell.

The *Proceedings of the Boston Society of Natural History* (vol. xv., part i., Jan.—April, 1872), are chiefly occupied with an able geological article by Mr. John B. Perry, on the "Post-Tertiary History of New England."

The *Annals of the Lyceum of Natural History of New York* (vol. ix and vol. x, Nos. 1-7) contain, amongst a large number of able papers on all branches of Natural Science, two portions of the late Mr. Coleman Robinson's "Lepidopterological Miscellanies." The *Proceedings* of the same Society from April, 1870 to April, 1871, contain a number of short interesting articles, among which we notice a large proportion on Microscopy, by our friend Prof. A. M. Edwards.

The *Proceedings of the Academy of Natural Science of Philadelphia* (parts ii and iii, May—Dec., 1872) contain but one short article that bears any reference to Entomology—"On the Agency of Insects in Obstructing Evolution," by Mr. Thos. Meehan.

The American Naturalist (Salem, Mass.), vol. vii, Nos. 1-4. This excellent publication is maintained with undiminished vigour by its energetic proprietors, Profs. Packard & Putnam. The numbers of the current volume now before us contain the following articles on Insects:—"Harvest Mites," by Prof. Riley; "Controlling Sex in Butterflies," by Mrs. Mary Treat, in which the authoress is unkind enough to suggest that male butterflies are produced only from half-starved larvæ, the full fed specimens producing females!—this new phase of 'women's rights,' though based upon experiments, we cannot but regard as a fortuitous coincidence in the cases referred to, and by no means a law of nature; "A Viviparous Fly," by Rev. S. Lockwood; and "The Cotton Caterpillar," by Mr. L. A. Dodge.

The Bulletin of the Buffalo Society of Natural Sciences—vol. i, No. 1, April, 1873—is a new addition to the list of scientific serials, and one that we trust will be warmly supported by all naturalists throughout America. It is to be published quarterly, in octavo form, thirty-two pages at least forming a number. The copy before us contains four valuable articles, all

from the pen of Mr. Aug. R. Grote, viz.: 'Descriptions of new North American Moths,' illustrated with a plate; 'Catalogue of the Sphingidæ of North America,' 'Catalogue of the Zygenidæ of North America,' and 'Conclusions drawn from a Study of the Genera *Hypena* and *Herminia*.' This list of contents will, we trust, be sufficient to cause our Entomological friends to send for the publication, and thus aid its permanent establishment.

Monthly Report of the Department of Agriculture (Washington, D. C., April, 1873). The "Entomological Record" in this number contains an illustrated paper by Prof. Townsend Glover, on the Tobacco and Potato worms (*Macrosila Carolina* and *quinque-maculata*).

The Canadian Journal (Canadian Institute, Toronto, May, 1873) and *The Canadian Naturalist* (Montreal: Dawson Brothers, vol. vii, No. 1) maintain their respective characters as literary and scientific periodicals.

The Canada Farmer (Toronto, vol. x, No. 9—May 15, 1873) is now issued fortnightly instead of monthly, and is much improved both in form and matter.

The Canadian Patent Office Record and Mechanics' Magazine (Montreal: G. E. Desbarats) is a new and attractive candidate for public favour. The first number, now before us, is profusely and handsomely illustrated; it consists of two parts, the official portion giving a record of inventions patented at Ottawa during the preceding month, with illustrations of the majority—the present issue contains no less than 237 diagrams; and the unofficial or magazine paper affording elaborately illustrated articles on Engineering, Mechanics, Manufactures, &c. The work is well got up and deserves to become a great success.

Our limited space forbids our doing more at present than briefly acknowledging with thanks the receipt of the following publications:—*The American Agriculturist*; *The Horticulturist*; *The Weekly Sun*, and the *Rural New Yorker*, from New York; *The Prairie Farmer*, Chicago; *The Maine Farmer*, Augusta, Me.; *The North Western Farmer*, Indianapolis; *The Journal of Education*, Toronto; *Geological Survey of Canada*, Report of Progress for 1870—'71, and *The Statutes of Canada*, 1872, from the Department at Ottawa; *The Canadian Almanac*, 1873, Copp & Clark, Toronto; *Catalogue of the Birds of Canada*, by Dr. A. M. Ross, Toronto; *Directions for Collecting Coleoptera*, and a *Catalogue* of species of the order, by Geo. Dimmock, Springfield, Mass. The Reports of State Entomologists, now being issued, we hope to notice in our next number.

OUR SPECIFIC NOMENCLATURE.

BY THEODORE L. MEAD, NEW YORK.

In the article published in the April number on the subject of nomenclature, it is stated that Mr. Scudder, in his Revision, has followed the same principles which govern all other departments of Zoology. It would be interesting to know what these universally adopted principles may be, for, judging from the recent publications on the subject, they must be yet unknown to a great number of those eminent in science. Mr. Wallace, than whom we have no higher entomological authority, in his address to the London Ent. Soc., recommends English naturalists to follow the British Association rules until others may be assented to, while these same rules find scant acceptance in Germany or France.

In regard to species having been described, not by naturalists but by amateurs, this may be conceded in Hubner's case, but the term will hardly apply to Linnæus and Fabricius and the other authors whose species are the cause of most dispute.

Mr. Kirby's Catalogue is said to combine the results of the labor of European students, but Dr. Staudinger's elaborate and conscientious Catalogue no less had the benefit of all these investigations, with the result of hopeless variance as far as both works cover the same ground, and that too when the principles of nomenclature adopted by either author are almost identical with each other and with those which Mr. Scudder apparently follows. In the group of insects best known and most studied, the British Diurnals, these two authors differ as to the specific names of one seventh of the entire number. This is the result of rigidly following the law of priority, which *should* at once and forever decide every possible case of synonymy. That does not seem encouraging, for both authors in nearly all cases make the references to the same obsolete and unrecognizable descriptions.

The rule of absolute priority, adopted as paramount law by a few investigators, has already brought about such a state of things as this, and alone is capable of continuing it.

Let the first law be stability of already accepted names, then the law of priority takes its proper subordinate place to decide between names in use. Rather than the term "law of convenience," used by the opponents of this rule, though it is suggestive and to some extent appropriate, I would propose the name "*Law of Stability*" as most applicable.

All nomenclature is but a means to the end of increasing our knowledge of the organisms themselves, and for this, unchangeability of names is the first requisite. Whatever the strict law of priority theoretically should accomplish, we have seen but the beginning of the permanent confusion in which its practice results, and which its continuance as the fundamental law will hand down to the remotest generation; each inexact description, as published, adding new material to increase the complexity of the tangled web of names.

NOTES ON HYPERCHIRIA IO (FABR.)

BY C. V. RILEY, ST. LOUIS, MO.

I have obtained many egg-masses of this species the present season and have had them deposited by moths reared in confinement. Even in a state of nature they are deposited quite irregularly, some fastened on one of the compressed sides, some piled on top of others, but most of them on the small end as in the closely allied *Maia*. The average length is 0.07, largest width 0.05, and greatest thickness 0.03 inch. They are compressed on two sides, and flattened at the apex, the attached end smallest. When first deposited they are pure cream color, with a translucent yellow spot on the flattened apex. Toward maturity the colour changes to a more intense white with a faint lilaceous tint; the yellow spot at apex becomes mostly black and the compressed sides are more or less translucent, especially the upper half, through which the yellow of the enclosed larva and some of the darker spines may easily be seen just before the hatching period. Mr. Lintner's description as "elliptical, somewhat flattened," and Mr. Minot's "top-shaped" are neither, strictly true, and would hardly enable one to distinguish this egg from many others; while my own description is not as ample as it should be. Hence these notes. The larval changes are given in my 5th Report (p. 135.) The spines of the larva in the first stage are too weak and pliant to enter the most tender skin; and the urticating property is only ascertainable after the first moult.

MICRO - LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

Continued from Page 91.

ERRATA.—For *T. eunitaræella*, ante p. 85, read *T. cœmeteriella*.

PITYS.

(This is a section of *Tinea* having the wings tufted and narrower than in *Tinea*.)

Head and face rough (as in *Tinea*), tongue very short. Maxillary palpi folded; labial palpi drooping, with the terminal joint more than half as long as the second, which has a few bristles beneath; eyes globose; no ocelli. Antennae two-thirds as long as wings, filiform. Anterior wings with raised tufts of scales, the tufts generally rather brightly coloured; lanceolate, narrower than in *Tinea*; the costal vein attains the margin before the middle; discal cell closed by a straight distinct discal vein, which gives off four branches, two of them to the costal and two to the dorsal margin, one of the latter near the apex. The subcostal attains the costal margin, giving off a long branch before the middle and a shorter one near the end of the cell; the median is three branched, the two last arising together from the end of the cell; submedian simple, fold thickened at the end.

Posterior wings linear, lanceolate; costa excised from the middle to the tip? the costal vein attains the margin about the middle; the subcostal is straight to the margin before the apex; the cell is closed by a curved discal vein which gives off two branches, one to the apex, the other below it; the median vein is three branched, the terminal one having a common origin with the lower discal branch; the two others arise from the apical half of the cell. Ciliae long; submedian and internal obsolete.

1. *P. auricristatella*. *N. sp.*

Pale gray, with intermixed brown scales. Head hoary; a small scattered patch of raised golden scales within the costal margin near the

base, and a similar one opposite near the dorsal margin; another large one just before the middle, another small one within the costal margin behind the middle, and a fascia of raised golden scales before the ciliae; a few scattered golden scales in the apical portion behind the fascia. *Al. ex.* over $\frac{1}{4}$ inch. Kentucky.

2. *P. fusco-cristatella*. *N. sp.*

Head and palpi sordid yellowish-gray; antennae pale fuscous; thorax brown above, with a brown patch on each side under the base of the wings; basal three-fourths of the anterior wings sordid white, yellowish, and brown scales intermixed, the apical fourth fulvous and separated by a distinct line, which is convex towards the apex. An obscure cloudy spot near the base of the wing; at about the basal third are two dark brown patches of raised scales, one of which is on the disc, the other within the dorsal margin; about the apical third are two similar tufts similarly situated. About six small white costal streaks on the apical half of the costa. *Alar ex.* $\frac{3}{4}$ inch. Kentucky.

3. *P. fasciella*. *N. sp.*

Grayish fuscous, overlaid with golden yellow. Anterior wings with a narrow brown border along both margins; a tuft of silver gray raised scales on the disc at about the basal third, and another opposite within the dorsal margin; a row of small oblique silvery streaks along the costal margin; just before the ciliae is a narrow fascia of raised silver gray scales, behind which, near the apex, are two indistinct narrow white fasciae not raised, the first of which is especially indistinct. In the brown dorso-apical margin are about eight small white spots. Ciliae gray. There is a brown patch on each side of the thorax just underneath the base of the wings; thorax brown; vertex brownish-red; antennae pale fuscous; palpi and face white, the second palpal joint white without. *Alar ex.* $\frac{1}{2}$ inch. Kentucky.

In the general color of the wings and the costal markings this species seems somewhat to resemble *Homosctia costisignella* Clem. The genus also resembles *Homosctia* as described by Clemens, in the palpi and neuration, but differs somewhat in these respects, and *Homosctia* has no raised tufts.

4. *P. misce-cristatella*. *N. sp.*

Palpi whitish, the labial pair externally fuscous; lower part of the face white, upper part and vertex sordid gray; antennae pale fuscous;

thorax grayish fuscous; primaries whitish, sparsely dusted with golden-brown scales and with three or four transverse patches of golden brown; about the basal fourth, in one of the golden brown patches, are two small spots of yellow scarcely raised scales opposite to each other and just within the margins, the dorsal one being the smallest. (In one specimen in place of the dorsal yellow spot is a distinct patch of brown raised scales.) In another of the transverse patches, about the middle, is another larger spot of yellow scarcely raised scales, with a small opposite dorsal patch of raised scales, and in another transverse fuscous patch, about the beginning of the ciliae, is another transverse patch or streak of whitish and brown scales with a few yellow ones intermixed. Costal margin brownish, with seven white streaks, the first three pointing a little obliquely backwards, and the last four, which are in the apical part of the wing, nearly straight or a little oblique forwards; the last two cross the wing and are concave—especially the last one—towards the apex. The brownish portions of the wing with golden reflections in some lights. *Al* ex. ♂ $\frac{3}{8}$ inch. Kentucky.

The specimen above mentioned in parenthesis has the apex of the wings a little worn and I cannot distinguish the costal streaks in that part of the wing. Possibly it may be a distinct species, but I think not.

The foregoing sub-genus is allied to *Tinea* both in the trophi and the neurulation of the wings. Nevertheless, it differs decidedly from that genus in the neurulation. In the neurulation of the wings and their tufts of raised scales it is allied to *Xylesthia*, but differs decidedly from it in the trophi; and the antennae differ decidedly by their increased length. In this respect and in the neurulation and palpi it approaches nearer to Clemens' sub-genus (of *Tinea*) *Homosetia*, but that sub-genus has no raised tufts upon the wings, and the neurulation is not exactly the same.

CYANE, *gen. nov.*

This genus is very near to *Tinea*, the principal differences being in the form and neurulation of the hind wings (in which respects different species of *Tinea* by no means agree with each other), in the absence of bristles on the palpi, and the ciliated antennae. The general appearance of the insect in repose is that of a *Glechia*, and such I supposed it to be when it was captured. It also approaches that group in the form and neurulation of the hind wing:

Primaries lanceolate, ovate: the costal vein attains the margin about the middle; discal cell wide and closed; the subcostal is obsolete towards the base, and sends a long branch from near the base to the margin behind the cell, two shorter branches from near the end of the cell, and then proceeds to the costal margin before the apex; the median sends one branch from near the end of the cell to the closed margin, and then proceeds from the end of the cell to the dorsal margin; the discal gives off four branches, one to the costal margin near the apex and three to the dorsal margin. Submedian simple.

Secondaries a little wider than the primaries, with the costal margin very faintly excised from the base to near the middle, and slightly arched thence to the apex. Posterior much and regularly curved and apex rounded. The costal vein is close to the margin, but only attains it in the apical fourth of the wing. Subcostal obsolete towards the base, nearly straight and attaining the costal margin just before the apex; discal cell wide and closed: the discal vein gives off two branches to the dorsal margin: the median sends from about the middle of the wing a curved branch to the dorsal margin and proceeds to the end of the cell and thence to the dorsal margin: submedian and internal veins distinct and simple.

Head roughened (as in *Tinea*). Antennae little more than half as long as the primaries, tapering from the base to a point at the apex, with a distinct shoal of ciliae on each joint. Tongue? (concealed by the maxillary palpi, which are folded); labial palpi drooping in the dead insect (or perhaps more properly called incurved), without bristles, long enough to reach the eyes if recurved (as I think they are in the living insect), with the second joint as long as the first and third united, the third vertically compressed and with the scales roughened. Eyes, globose, moderate; ocelli none.

C. visaliella. *N. sp.*

Maxillary palpi white; labial palpi white, outer surface of the second joint, except at the apex, and a spot on the outer surface of the third joint brownish; head whitish gray with some brown scales intermixed; antennae with alternate white and brown annulations; thorax and primaries pale or whitish gray, sparsely dusted with brown, a small brown spot on the base of the costa, a smaller one about the basal fourth, and a very large one just behind the middle touching the costa and crossing the fold; apical portion of the wing brownish, with some whitish and gray

scales intermixed, and with two small oblique costal white streaks just behind the large brown spot; costal ciliae dark brown, dorsal ciliae grayish. *Alar ex.* $\frac{3}{8}$ inch. Several specimens captured in June resting on forest trees, at Visalia, Kentucky.

CLYMENE, *gen. nov.*

Clothed with longish hair-like scales, those of the head and face roughened, standing out in every direction, many of those of the anterior wings also standing out (or rather reversed, suggesting a resemblance to the breed of chickens with reversed feathers).

No tongue; labial palpi short; maxillary palpi long, three jointed, the second and third joints sub-equal, drooping together or sometimes folded in the dead insect (folded in the living?). Antennae more than half as long as the wings, hairy, somewhat roughened in the living insect, carried projecting together straight in front; eyes small, not visible from above.

Forewings lanceolate; there is a long semi-opaque space on the costal margin; discal cell unclosed; costal vein short; subcostal nearly straight, passing to the apex, giving off to the costal margin four branches, the first from about the basal fourth, the second and longest from just before the middle and attaining the margin just before the other two, which are given off in the apical part of the wing; the median passes nearly straight to the dorsal margin behind the apex, from about the basal fourth it gives off a long branch which attains the margin just behind the vein itself, which is trifurcate in the apical part of the wing; fold very distinct; submedian furcate at base.

Posterior wings lanceolate; costal vein almost coincident with the margin; subcostal straight to the apex, sending to the costal margin two short branches, the first behind the middle, the second in the apical portion; median vein nearly straight to the dorsal margin behind the apex, sending to the dorsal margin two branches, one not far from the base, the other about the middle; submedian distinct. Ciliae moderate.

The imago is very shy and active, running very rapidly till it finds a place of concealment, and taking flight easily. The larva of the species described below is unknown; the imago is abundant in May and June upon the trunks of Beech trees.

C. aegerfasciella. *N. sp.*

Head luteous with intermixed dark brown scales; palpi dark grayish fuscous; legs and body sordid luteous; antennae sordid luteous, mixed

with dark grayish fuscous: thorax and anterior wings dark purplish brown with a faint whitish spot on the dorsal margin near the base, a faint narrow whitish fascia about the middle, and a faint whitish costal and similar dorsal spot opposite, just before the ciliae, and another similar spot at the apex; these spots are all very indistinct. Ciliae fuscous. Posterior wings grayish fuscous. The ends of the fascia on each margin are visible as whitish spots in the wing itself after it is denuded. *Alar. av.* $\frac{1}{4}$ inch. (The wings are much longer than the body.) Kentucky.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Page 99.)

[223.] 300. *DONACIA FEMORALIS* Kirby.—Length of body $3\frac{1}{4}$ lines. Taken in Nova Scotia by Dr. MacCulloch.

Body bronzed, gilded, with a greenish tint, very minutely and thickly punctured, not conspicuously hairy underneath. Frontal channel slight; antennae, except the scape which is bronzed, and mouth rufous; prothorax with an impression above the scutellum; anterior tubercles more than usually prominent; scutellum rather large; elytra with single slight anterior impression adjoining the suture; legs rufous, but the thighs, which are much incrassated, except the base and summit, are green-bronzed; posterior thigh without any tooth; abdomen as in the preceding species.

This species seems nearly related to *Donacia pusilla* Say.

301. *DONACIA FLAVIPES* Kirby.—Length of body 4 lines. A single specimen taken in Lat. 65° .

Body bronzed-copper with a golden lustre; clothed below with very short, somewhat silvery, decumbent hairs, the metallic splendor of the body being visible through them. Head thickly, minutely, and confluent punctured or wrinkled, channelled between the eyes; antennae testaceous, longer than the prothorax; prothorax subquadrangular, longer than usual in the genus, widely channelled, very minutely, thickly, and

confluently punctured and wrinkled; anterior tubercles large and not prominent; elytra with two impressions adjoining the suture, elevated at the base; legs testaceous.

[Taken in Ontario and at Lake Superior].

302. *DONACIA AFFINIS* Kirby.—Length of body $3\frac{1}{4}$ lines. Taken by Dr. MacCulloch in Nova Scotia.

Body minutely punctured, copper-coloured brilliant with the splendor of gold; underneath very slightly hairy, Head channelled between the eyes; antennae and mouth testaceous; prothorax widest anteriorly, channelled, punctured but not thickly, lateral anterior tubercles levigated; scutellum small; elytra with a single impression, not far from the base, adjoining the suture; base elevated; margin of the ventral segments of the abdomen of a fine bright, the anus of a deeper orange; legs testaceous.

Very near *D. flavipes*, but the sculpture of the prothorax, the impressions of the elytra, and the colour of the underside of the abdomen are different. It differs from *D. discolor* in having the prothorax much more thinly punctured, the anterior tubercles, which in that species are near obsolete, more prominent, and the scutellum much smaller.

[Named *D. Kirbyi* by Lacordaire.]

303. *DONACIA EMARGINATA* Kirby.—Length of body $3\frac{2}{3}$ lines. Taken with the preceding.

[225.] Body black-blue, clothed underneath with pile, in certain lights, glittering like silver. Antennae black; tubercles of the prothorax prominent; elytra with an impression near the suture; last dorsal segment of the abdomen emarginate; thighs very thick, bronzed, posterior one with a stout tooth.

This species comes very near *D. sericea*, but it is sufficiently distinguished by its deeply notched podex, and the silver pile that clothes its body underneath, which in that species has a golden lustre.

[Taken in Canada and at Lake Superior.]

304. *DONACIA PROXIMA* Kirby.—Length of body 5 lines. Taken in Canada by Dr. Bigsby.

Body a little flattened, covered underneath with a dense coat of glittering silver pile resembling satin. Head a little bronzed, channelled between the eyes, minutely punctured; palpi testaceous; antennae entirely black; prothorax in the disk dark violet and channelled, sides bronzed

and impressed ; anterior tubercles not prominent ; scutellum bronzed ; elytra nearly black with a slight tint of violet, punctures green-gilt, interstices of the rows not wrinkled ; an anterior impression near the suture ; rounded at the apex ; posterior legs long, with thighs somewhat curved, attenuated at the base, armed at the apex with two teeth placed consecutively, the first long, slender, and acute ; the last wide, short, and denticulated posteriorly.

This species is nearly related to *D. crassipes* Fab., but the antennae and the legs are entirely black, the teeth on the posterior thighs are not equal.

[Probably synonymous with *D. episcopalis* Lac. Taken on shore of Lake Superior.]

MISCELLANEOUS.

PERSONAL.-- In part No. 2, "Lepidoptera, Rhopaloceres and Heteroceres," the author, Mr. Herman Strecker, makes a most uncalled for and ungentlemanly attack on me, which in justice to myself, much as I dislike introducing matters of this sort into a scientific periodical, I can scarcely allow to pass unnoticed.

It appears that Mr. Strecker received last summer, from Mr. Couper, specimens of a *Papilio* which he had taken on the Island of Anticosti while on a collecting tour there. At first Mr. S. says he thought it might be my *P. brevicauda*, described in a foot note in "Packard's Guide," but on comparing the description there given with his specimens, he found them to differ in some important particulars. He then proceeds to say (I copy *verb. at lit.*,) "I now again had the pleasant excitement incidental to endeavoring to study out bare descriptions, unaccompanied by figures, and in my misery I wrote to Mr. Couper, in Montreal, requesting him to try to see the types of *Brevicauda*, and compare his examples with them, or if that was impossible, to write to Mr. Saunders, of Ontario, Canada, who described it and with whom he was acquainted, concerning the species ; after some time Mr. Couper wrote 'I communicated with the Rev. Canon Innes (in whose collection are specimens of *Brevicauda*) and Mr. W. Saunders, asking for information regarding *P. Brevicauda* ; up to this instant no answer from either ;' this certainly was not very satisfactory, but as I was not particularly anxious to make a fool of myself by re-christening old species, I importuned Mr. Couper to try the gentleman

with another epistolary shot ; in due time, under date March 17, 1873, came another letter from Couper thus : ' I have purposely delayed a reply to your favor of 2nd, because since its receipt I wrote again to Mr. W. Saunders for the desired information, and my letter was written in terms which could not deter him from answering ; however, no answer has been received.' After receiving this letter, I, of course, concluded that Mr. Saunders' time was of too much value to be encroached upon, and requested Mr. Couper to by no means trouble him again, as his dignified silence at last brought me to a proper sense of my true position, and was a merited punishment to both Couper and myself for our temerity."

I did receive the two letters referred to from Mr. Couper. In the first, dated Jan. 21, Mr. C. asks me where I obtained the *Papilio* described as *brevicauda*, and whether I would loan him a specimen, as he wished to compare it with some *Anticosti* *Papilio*'s which had been named for him by his U. S. correspondents as *P. polyxenes*. There were other matters referred to in the letter which I wished to attend to before replying to Mr. Couper, and as I was then extremely busy, and was obliged to leave home for a while, not knowing either that there was any pressing need of an immediate answer, I deferred writing for a time. In the second letter, dated March 3rd, Mr. C. refers again among other matters to *P. brevicauda*, expresses no disappointment at my not answering his first, does not even now ask for a prompt reply, or hint that any of the information he desires was for anyone but himself. Indeed, after referring to some differences which he thought existed between his *Anticosti* specimens and my *brevicauda* from Newfoundland, he says : " It is *my intention* to investigate this matter further," and referred to the opportunities he hoped to have on revisiting the Island. To this second letter I replied as promptly as possible, within a few days, and gave Mr. C. all the information in my power in reference to *brevicauda*, as well as satisfactory reasons why I had not written sooner.

It was scarcely kind of Mr. Couper to give me no hint of the terrible state of excitement under which his friend, poor Mr. Strecker, was at that time laboring, boiling over, as he evidently was, with indignation towards one who was perfectly innocent of all knowledge of his wants. Had I known the state of his mind my sympathies would at once have been aroused and I should have written promptly, when I suppose this formidable bull of his would never have been fulminated against me, and I should have been spared from being impaled on the sharp end of Mr.

Strecker's irony, where, like a beetle on a pin, I am now supposed to be wriggling and writhing in great discomfort.

I do not know Mr. Strecker and have never had any correspondence with him, but I do feel sorry for him, that he should in his anger have allowed himself to use language so discorteous in reference to one who was a perfect stranger to him, without taking pains to enquire whether it was deserved or not. I can scarcely designate such a proceeding under such circumstances, as anything less than contemptible, and quite unworthy of a naturalist or a gentleman.

Mr. Strecker further remarks in the paragraph following that last quoted: "However, I believe this is distinct from *Brevicauda*, and if it be not, *it is an absurdity to retain that name*; the probability after all is that *Brevicauda* and *Anticostiensis* (if they be not the same) are both varieties of *Asterius*." Why Mr. Strecker considers it *absurd* to call a species *brevicauda* he does not deign to inform us; can it be that he has a conscientious objection to any further references to the tails of insects under any circumstances, or is it the *evident superiority* in length and grandiloquence of sound which *Anticostiensis* has over *brevicauda* which makes the use of the latter to his mind so absurd? It does seem strange that with all Mr. Strecker's anxiety to avoid "re-christening old species," he should astonish the Entomological world with such a name as *Anticostiensis* nov. sp., when at the same time he states his belief in the probability of its being but a variety of *asterias*. Such a proceeding seems at least contradictory, and, it will appear to some, as if he had thus placed himself, in his anxiety to have his name attached to a species, in the very position he professes a wish to avoid, and which he has designated in such choice! language.—W. SAUNDERS, London, Ontario.

TO COLLECTORS.—I am very anxious to obtain the eggs, larvæ in different stages, and chrysalis of *Grapta faunus*, and I will offer as a reward to any one who will obtain them for me, Vol. I of the "Butterflies of North America," or Vol. II, as it shall appear. Where this species is common, that is, in the highlands of New York and New England, or British America, it would not be difficult to obtain eggs at the proper season, and from these all the rest would follow. In the Catskill Mountains, the fresh specimens of *Faunus* appear about the 1st of August, and by the 15th are plenty. Allowing eleven days for chrysalis, the mature larvæ would be found between the 20th of July and the 5th of August. From egg to chrysalis

will be about fifteen days, and allowing four days for duration of the egg, we may conclude that this is deposited from 1st to 15th of July. Therefore, an effort should be made to take the females the last of June or first of July; and when taken, they should be enclosed in a gauze bag, on a stem of Hop, or on Nettle, Elm, and perhaps Currant or Wild Gooseberry; or enclosed in a keg, if convenient (nail or powder keg), from which the heads have been removed, and the upper end covered with a cloth, held down by one of the hoops. Care should be taken to stop up all holes next the ground by which the insect would escape. In this way eggs will infallibly be had, if the insect is confined with the food plant of the larvæ. In the present case, as that is not certainly known, if after 24 hours no eggs are found to be deposited, I should try one of the other plants named. If eggs are obtained, two or three should be placed in a small vial of water, to which has been added a few drops of carbolic acid solution, which preserves them effectually, and should be sent by mail to Miss Mary Peart, Pauling, Chester Co., Pennsylvania, for drawings for me. In the same way, the larvæ at different stages may be sent, in tin or wooden (not paper) boxes, by mail, with a supply of the food plant, advising by letter of such sending. The chrysalis may be sent in the same way as soon as formed. It is desirable that as full notes as possible should be taken of the changes of the larvæ. These I will publish, as well as the drawings, in Vol. II of But. N. A., with credit to the discoverer and observer.

In the same way, it is desirable that the larva of *G. gracilis* should be found, and I will give a similar reward for the discovery of the preparatory stages of this species, if attention is given to my directions in forwarding the eggs, larvæ and chrysalids for drawings.—WM. H. EDWARDS, Coalburgh, West Va., May 24th, 1873.

ADVERTISEMENTS.

EXCHANGE.—I am desirous to exchange English for Canadian or American Lepidoptera. J. C. WASSERMAN, Beverly Terrace, Cullercoats, North Shields, England.

COLEOPTERA FOR SALE.—A number of Rocky Mountain Coleoptera will soon be for sale in sets by JOHN AKHURST, 19, Prospect Street, Brooklyn, N. Y.