



THE LATE DR. WILLIAM BRODIE.

# The Canadian Entomologist.

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VOL. XLI.

GUELPH, NOVEMBER, 1909.

No. 11.

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## DR. WILLIAM BRODIE.

We regret to have to record the death of another veteran entomologist in the person of the late Dr. William Brodie, who has recently been contributing a series of articles on galls found in the neighbourhood of Toronto. On Saturday, July 31st, on his return to his home he complained of feeling unwell, and a few days later became seriously ill. On Friday, August 6th, he expired. He was born in Peterhead, Aberdeen, Scotland, and came out to Canada with his parents when a child. His father settled on a farm in the County of York, about 30 miles from Toronto, and there hewed out of the forest a home for his family. From his earliest years Dr. Brodie exhibited an ardent love of nature in all its aspects, and became an omnivorous reader. This habit, formed in childhood, continued with him throughout his life. While fitting himself for the profession of dentistry he taught school for a time, and became one of the first graduates of the Dental College in Toronto. There he practised his profession very successfully for a long series of years. In 1903 he gave up his work and took charge of the Biological Department of the Provincial Museum.

While fully occupied during most of his time with the work of his profession, he most industriously devoted every spare moment to his much-loved study of natural history. He was a wonderful collector, and little or nothing, whether *flora* or *fauna*, came amiss to him in his rambles. He ranged over the whole domain of Natural History, and mastered in all branches information alike interesting and important; for with all his collecting there went great powers of observation and depth of insight. If he picked up a shell or a fossil, problems of antecedent conditions or of geological eras would be suggested; if he noticed a plant, some question of ecology or environment would present itself. Scientific theory on its philosophical side always delighted him. His favourite study was entomology. Galls and their inmates had a special fascination for him, and he made large collections of these and many other forms of insect life. His enthusiasm was infectious, and inspired many of his younger friends with a love for nature, and especially for the collection and observation of

insects. His work at the Museum was most congenial to him, and gave him a happy occupation when his age prohibited him from carrying on his ordinary work.

A remarkable feature about him was his mental activity; his mind seemed always active and keenly so. Though an omnivorous reader, he was entirely free from the fault so common among great readers—that of reading mechanically; and his power of assimilating what he read was extraordinary, as was his memory for verse; he could recite hundreds of Scotch ballads, or the lyrics of a long succession of the greater English poets. With his friends he loved to discuss questions of general interest in science and art or the books he was reading, and many a feast of reason and flow of soul took place at his home on Parliament Street, for his doors were always open to congenial spirits. These included not only men of science and contemporaries, but many another whose outlook on life was earnest, whether the chief interest lay in letters, in art, or elsewhere. He died at the good old age of seventy-eight years, and will be very much missed, not only by the members of his family, but by a large circle of friends. Of his family of six children, three daughters alone survive. To them we extend our deepest sympathy.

### A MASTER MIND.

["Guide, philosopher and friend."]

#### I.

Ah! you who own the sovereign sway  
Of commerce and the busy mart,  
You knew him not, he lived apart,  
The king who passed in state to-day.

A king who recked not worldly gear,  
A pauper—you who rate by gold,  
But rich in knowledge manifold,  
In Nature's lore without a peer.

He lived his threescore years and ten;  
He had his court of liegemen true;  
They loved him, like that chosen few  
Who served the Master scorned of men.

"He is no king of ours," you say,  
"We know him not"; yet bare the head,  
Pay you your tribute, he is dead,  
I saw him pass in state to-day.

## II.

To bow the knee he was not planned  
With willowy grace and pliant form ;  
Like stalwart oak he faced the storm  
And bore its brunt—a monarch grand.

A shock of rebel locks upreared  
Above the forehead bold and high ;  
'Neath shaggy brow the deep-set eye  
Challenged enquiry ; grizzled beard

Part hid the lip ; a man endued  
With power of thought, you read the face ;  
The Maker moulds in some for grace,  
For strength those rugged features hewed.

In mind and will maturest man,  
A boy at heart ; his eager quest  
Of Nature's ways the boy confessed,  
But through it all endurance ran ;

Bend as they might the sturdy frame  
And quell the lustre of the eye,  
Not years could daunt the purpose high  
Or quench the ardent spirit's flame.

## III.

Greybeard and youth, a thoughtful throng,  
Would gather round their Scottish sage,  
Right gladly youth give place to age,  
Listen and learn and ponder long.

Was life's dark riddle hard to read ?  
His vibrant tones would cheer. Were there  
Who questioned truth ? who fought despair ?  
He welcomed all, nor asked their creed.

Did they in earnest seek? He sought  
 In earnest too. From bounteous store  
 He loved with lavish hand to pour  
 Jewels of knowledge and of thought.  
 Responsive hearts, unwavering eyes  
 His steadfast gaze compelled again;  
 He loved the truth, his speech was plain,  
 He could not stoop to compromise.

## IV.

Oh! all too rare the thoughtful mind  
 That keeps abreast of Science' way  
 And still reveres the older day,  
 The simpler faith that lags behind.

Dead now, but while the ages run  
 His work shall live; 'tis such as he  
 Alone inspire posterity,  
 Fathering their kind from son to son.

We know not when our days are sped,  
 And I, who through his friendship stand,  
 Would lift some falterer by the hand  
 Ere I lie nerveless with the dead.

Trinity College School, Port Hope.

FRANK MORRIS.

### SYNONYMICAL NOTES ON NORTH AMERICAN HOMOPTERA.

BY EDWARD P. VAN DUZEE, BUFFALO, N. Y.

On the occasion of a recent visit to New England it was my privilege to examine three interesting collections of insects: Mr. Samuel Henshaw very kindly gave me access to the fine entomological collections of the Museum of Comparative Zoology at Cambridge; to Mr. C. W. Johnson I am indebted for an opportunity of examining the valuable remains of the Harris collection, now housed in the museum of the Boston Society of Natural History, many of the species in which were determined for Dr. Harris by Thomas Say, and are the nearest approach to Say types now available to the student of American insects; and, finally, on the way home I stopped over at Albany, where Dr. Felt very kindly opened up for my inspection the precious type specimens prepared by Dr. Fitch to accompany his "Catalogue of the Homopterous insects in the State

Cabinet of Natural History." While my time was all too limited, especially with the Harris collection, I made a careful examination of certain of the species, and in the present paper and in the one published in the October number of this journal I give some of the more interesting results of my studies.

At the end of this paper I add a list of the type species in the several genera of the Hemiptera thus far established by me. Many of these types have already been placed, either inferentially or directly, but all are repeated here for convenience of reference.

*Anotia Bonnetii*, Kirby.

In the Harris collection preserved in the museum of the Boston Society of Natural History, is an example of this insect which agrees entirely with my own determination of the species. It very closely resembles *Amalopota Fitchi*, but is paler, the elytra are more hyaline and have a different venation (see CAN. ENT., XXV, p. 280, Nov., 1893), the head is narrower before the eyes and more produced superiorly, and the antennæ are narrower and more terete. Judging from the form of the antennæ I would say that the specimen standing under this name in the Fitch collection is probably *Amalopota Fitchi*. I still think it best to retain the genus *Amalopota*, although it is scarcely more distinct from *Anotia* than is *Hynnus* from *Otiocerus*.

*Lamenia vulgaris*, Fitch.

An examination of the type preserved in the Fitch collection in the State Museum at Albany shows this to be the large form found on oaks throughout the Northern States. In this the male plates are very large, with their inner edges slightly parted at base, then feebly sinuated to their rounded apex, which is armed with a long inwardly curved tooth, as in the allied species. In my description of *L. Californica* (CAN. ENT., XXIII, p. 169, Aug., 1891), I applied the name *vulgaris* to another and a smaller species, which, perhaps, is not distinct from *obscura*, Ball. In most northern specimens of this smaller species there is a reëntrant angle on the inner edge of the male plates, but its depth is subject to variation, and a sufficient series might show a gradation into *obscura*, in which this angle is wanting.

*Ceresa bubalus*, Fabr.

Under this name in the Fitch collection is an example of *Ceresa borealis*, Fairm., as the species is determined by me in my studies in North American Membracidæ. The varieties "a" and "b" of Fitch are my *Ceresa albescens*.

*Ceresa patruelis*, Stal.

In the collection of the Museum of Comparative Zoology at Cambridge are examples of this species from Mexico and Florida, which convince me that this is a good species quite distinct from *testacea*, Fairm., of which the same museum has a series from Mexico and Guatemala. *Ceresa patruelis* is larger, the pronotum is higher, the supra-humeral horns are longer and more elevated, leaving the metopidium more concave transversely than in *testacea*, and the last ventral segment of the female is very short, with a broad shallow notch.

*Ceresa testacea* is a smaller and darker species, with the edge of the pronotal carina slenderly fuscous and the last ventral segment of the female longer and more deeply and triangularly notched almost to its base.

*Thelia Godingi*, VanD.

There is a specimen of this species in the Fitch collection under the name *univittata*, Harris. A specimen of the latter species in the Harris collection shows my former determination to be correct.

*Telamona fagi*, Fitch.

An examination of the type in the Fitch collection shows it to be but a slight variation of *cristata*, Fairm., and not identical with *scalaris*, Fairm., as supposed by me. In *fagi* the colour is more fuscous and the anterior foliole is less developed, but I cannot consider it a distinct species.

*Telamona concava*, Fitch.

The type in the Fitch collection agrees in every respect with the species as recognized in my studies in North American Membracidae.

*Telamona fasciata*, Fitch.

An examination of the Fitch type shows this to be a male, as suggested by me in *Psyche* (V, p. 391, 1890), and the synonymy of my 1908 list must stand.

*Telamona tristis*, Fitch.

The type of this species in the Fitch collection is a female, as indicated by Dr. Fitch. The crest is shorter and higher than in *coryli*, and it is perhaps specifically distinct. I have recently taken a dark female of *coryli* on the hop horn-beam.

*Carynota arcuata*, Say.

Under this name in the Fitch collection is a specimen of an *Ophiderma*, probably *salamandra*, Fairm. I noticed the same erroneous determination in the Harris collection.

*Cyrtosia fenestrata*, Fitch.

The Fitch type of this species is certainly identical with the form determined by me with some doubt as *muticus*, Fabr., in my Studies in North American Membracidae, and the same determination is found in the Fitch material in the National Museum. Whether this is the true *muticus* of Fabricius is open to some doubt, although it was so determined by Dr. Uhler for the Cornell University collection, and it agrees very closely with Stal's description of the Fabrician type. For the present I would use the name *Cyrtolobus fenestratus* for this species, placing *muticus*, Fabr., as a species still unrecognized in our present collections.

*Cyrtolobus vau*, Say.

My determination of this species is correct by both the Harris and Fitch material.

*Tettigoniella gothica*, Sign.

In the Harris collection is an example of this insect labelled *Tettigonia hieroglyphica*, Say, but as this specimen was not determined by Say, it need not affect the synonymy of the species. Dr. Harris may not have known the western form to which Dr. Ball has recently restricted the name *hieroglyphica*, Say.

*Pediopsis trimaculata*, Fitch.

An examination of the type in the Fitch collection shows that Osborn and Ball were right in placing my *insignis* as a synonym of this species. It is poorly described by Dr. Fitch.

*Idiocerus maculipennis*, Fitch.

I was unable to find the type of this species in the Fitch collection. It is, however, easily recognized by the description given by Dr. Fitch. Unfortunately, this name was preoccupied by *maculipennis*, Curtis. I therefore propose the name *IDIOCERUS FITCHI* for our American species.

*Deltocephalus Melscheimeri*, Fitch.

A careful examination of the Fitch type verifies Prof. Osborn's determination as made in his Jassidae of New York State (20th Rept., N. Y. State Ent., p. 521, 1905). The name *affinis*, G. & B., will designate the larger species formerly determined by me as *Melscheimeri*.

*Scaphoideus auronitens*, Prov.

In the Harris collection I find this species labelled *Jassus areatus*, Harris. I quote this MS. name, as it has already appeared in print, and in my Catalogue I suggested it as a possible misprint for *Platymetopius acutus*, which it now seems was erroneous.



*Phlepsius solidaginis*, Walker.

In the Harris collection is an example of what is doubtless *Phlepsius humidus*, Van Duzee, bearing the name *Selenocephalus solidaginis*, Harris. I see no reason why we should not identify this with the insect described by Walker as *Acocephalus solidaginis*, as he quotes Harris's MS. name, and his poor description applies as well to this as to any other. Mr. C. W. Johnson has kindly compared for me specimens of both *humidus*, V. D., and *turpiculus*, Ball, with the Harris specimen, and writes that he would be inclined to consider that species as identical with *humidus*. This opinion coincides with my own, formed after a careful study of the Harris specimen, and I would sink *humidus* as a synonym of *solidaginis*, Walker.

*Chlorotettix unicolor*, Fitch.

The type in the Fitch collection shows my determination of this species to be correct. The name *Vanduzeei*, Baker, must be placed as a synonym of this.

## TYPES OF GENERA ESTABLISHED BY THE AUTHOR.

- Brepholoxa, 1904, *type* Heidemanni, VanD.  
 Xerocoris, 1906, *type* Snowi, VanD.  
 Xestocoris, 1906, *type* nitens, VanD.  
 Eurocalia, 1907, *type* collaris, VanD.  
 Loxophora, 1908, *type* transversa, VanD.  
 Pelitropis, 1908, *type* rotulata, VanD.  
 Amalopota, 1893, *type* Uhleri, VanD.  
 Pissonotus, 1897, *type* marginatus, VanD.  
 Phyllostinus, 1897, *type* nervatus, VanD.  
 Laccocera, 1897, *type* vittipennis, VanD.  
 Macrotomella, 1907, *type* carinata, VanD.  
 Pentagramma, 1897, *type* vittatifrons, Uhler.  
 Xantholobus, 1908, *type* inflatus, VanD.  
 Tylocentrus, 1908, *type* reticulatus, VanD.  
 Idioderma, 1909, *type* virescens, VanD.  
 Xestocephalus, 1894, *type* pulicarius, VanD.  
 Neoslossonia, 1909, *type* Putnami, Osb.  
 Eutettix, 1892, *type* luridus, VanD.  
 Acinopterus, 1892, *type* acuminatus, VanD.  
 Chlorotettix, 1892, *type* unicolor, Fitch.  
 Tinobregmus, 1894, *type* vittatus, VanD.

NOTES ON *LACHNUS CARYÆ*, HARRIS, UNDER A NEW NAME.

BY H. F. WILSON, U. S. DEPT. AGR., BUREAU OF ENTOMOLOGY.

On comparing the descriptions of Harris, Monell and Riley, and specimens of this species collected from hickory, black oak, sycamore and basswood, I am of the opinion that *Lachnus longistigma*, Monell, and *Lachnus platanicola*, Riley, are synonyms of the above species, which conclusions were reached after collecting a large number of specimens, and a careful study of all forms from different host plants. I have also concluded that this so-called *Lachnus* is not a *Lachnus*, and have formed a new genus, with this species as the type of the genus.

## LONGISTIGMA, n. g.

The name *Longistigma* is given on account of the extremely long, slender stigma which reaches around the end of the wing.

The honey tubes are short, conical and of fair size. The stigma and honey tubes are the distinguishing characters. Antennæ and wing-veins similar to those of the genus *Lachnus*.

*Longistigma caryæ*, Harris.

Synonymy: *Aphis caryæ*, Harris, Ins. Inj. Veg., 1841; id., Flint, ed., 1862; *Lachnus caryæ*, Rept. Ins. N. Y., 3: 443, 1856; Walsh, Proc. Ent. Soc. Phila., 1: 302, 1861; Thos. Rept. Ent. Ill., 8: 116, 1880; Oestl. Aph. Minn., 32, 1887; Packard, Forest Ins., 299, 323, 1890.

*Lachnus longistigma*, Monell, Valley Naturalist, June, 1878; Thos. Rept. Ent. Ill., 8: 119, 1880; Townsend, Ins. Life, 2: 90, 1889; Oestl. Aph. Minn., 32: 1887; Osborn, Cat. Hem. Ia., 29, 1892.

*Lachnus platanicola*, Riley, Am. Nat., 17: 198, 1883; Townsend, Ins. Life, 1: 197-198, 1889; Oestl. Aph. Minn., 32, 1887; Weed, Ins. Life, 3: 286-287, pl. 1, fig. 1-4, 1892.

Collected by myself, September 27, 1909, on hickory, black oak, basswood, sycamore and silver-leaf maple.

This is without doubt the largest species yet known in America, and should not be easily mistaken. Those specimens on the oak have wings darker than those on the other host plants, but this is probably due to the food. On the same host plants this species varies considerably in size and colour.

In the vicinity of Washington the eggs hatch as early as March 11th, and the egg-laying females can be found as late as Dec. 2nd.

November, 1909

*Aphis caryæ*, Harris, Ins. Inj. to Veg., 1841.

"The largest species known to me is found in clusters beneath the limbs of the pignut hickory (*Carya porcina*), in all stages of growth, from the first to the middle of July. It is the *Aphis caryæ* of my catalogue. Its body, in the winged state, measures one-quarter of an inch to the end of the abdomen, and above four-tenths of an inch to the tips of the upper wings, which expand rather more than seven-tenths of an inch. It has no terminal stylet, and the honey tubes are very short. Its body is covered with a bluish-white substance like the bloom of a plum, with four rows of little transverse black spots on the back; the top of the thorax and the veins of the wings are black, as are also the shanks, the feet and the antennæ, which are clothed with black hairs; the thighs are reddish brown. This species sucks the sap from the limbs and not from the leaves of the hickory."

I have used the description of Mr. C. M. Weed as given to this species under *Lachnus platanicola*, p. 286, Vol. III, Insect Life, which also helps to explain the synonymy, and is complete except the mention of the long, slender, curved stigma, which is shown in his illustrations.

#### DESCRIPTION.

"Apterous viviparous female: Body, 6 millimeters long by 3.5 millimeters wide across middle of abdomen; antennæ 3 millimeters long; posterior legs 9 millimeters long.

"General colour light brown, with a glaucous bloom. Antennæ, eyes, most of head, two triangular spots united basally on middle of pronotum, a large quadrangular spot on middle of mesonotum, one row of small spots on each side of the dorso-meson on the segments posterior to this, another row along each side margin of all the dorsal segments, and a few smaller spots between the middle abdominal terga, together with cornicles, black; coxæ dusty; trochanters and femora, except tips, reddish-brown; tips of femora, together with tibiæ and tarsi, black, except that the middle of the tibia is often reddish-brown. Cornicles very short, conical, truncate. Ventral surface dusky, with a glaucous bloom. Rostrum dusky, reaching posterior coxæ. Body, legs and antennæ furnished with rather long, light-brown hairs. Antennæ roughened; joint iii very long, equal to iv plus v, the latter being subequal, though v is slightly longer than iv; vi short, with a well-developed thumb, forming vii; v slightly enlarged near tips by a distinct sensorium; and another on vi, at the base of the projecting thumb.

"Winged viviparous female: Body, 6 millimeters long by 3.5 millimeters wide across middle of abdomen; head to tip of folded wings, 10 millimeters; wing expanse, 18 millimeters; antennæ, 3 millimeters; posterior legs, 11 millimeters.

"Head and thorax bluish-black, with a glaucous bloom; antennæ and cornicles black; dorsum of abdomen whitish, with two rows of black spots on each side of median line, and a transverse series of small, black, indented dots on each segment. Cornicles short, conical, truncate. Ventral surface of abdomen yellowish-brown, with a glaucous bloom. Coxæ concolorous with thorax; trochanters and femora, except tips, reddish-brown; tips of femora, together with tibia and tarsi, black. Rostrum dusky, reaching posterior coxæ. Body, legs and antennæ clothed with rather long, light brown hairs. Joints of antennæ of same relative length as in apterous viviparous form. Wings clouded, especially towards base; insertions reddish-brown; veins piceous.

"Oviparous female: This form does not differ in external appearance from the apterous viviparous female.

"Winged male: Body, 5 millimeters long by 2 millimeters wide, across middle of abdomen; head to tip of folded wings, 9 millimeters; wing expanse, 16 millimeters; antennæ, 2.4 millimeters; posterior legs, 8 millimeters.

"Head and thorax bluish-black, with a glaucous bloom; antennæ piceous; eyes black. Abdomen small, dorsum whitish, but nearly covered with two rows of large black spots on each side of the dorsomeson, and having transverse rows of less distinct indented black dots. Ventral surface of abdomen yellowish-brown, with a glaucous bloom, except posterior extremity, which is black. Coxæ concolorous with thorax; trochanters and femora, except tips, reddish-brown; tips of femora, together with tibiæ and tarsi, black. Rostrum dusky, reaching slightly behind posterior coxæ. Cornicles black, conical, truncate. Body, legs and antennæ clothed with rather long, light-brown hairs. Antennæ roughened; joints of same relative length as in apterous viviparous female. Eyes as seen from above subtriangular in form. Wings clouded; insertions light yellowish-brown; veins piceous.

"Egg: Length, 1.8 millimeters; width, 0.5 millimeter. Elongate-ovoid. Orange-brown at first, but changing on exposure to shining black. Covered when first laid with a viscid substance by which it is securely attached to the bark of the twig or limb. Great numbers deposited together."

## HEMIPTERA, OLD AND NEW, No. 2.

BY G. W. KIRKALDY, HONOLULU, HAWAIIAN ISLANDS.

## Fam. Lygæidæ.

57. *Lygæus Ugandicus*, nom. nov., = *Hoplopterna affinis*, Distant, 1908  
(||in *Lygæus*).
58. *Oriterus aruacanus*, nom. nov., = || *varicornis*, Westwood.

## Fam. Myodochidæ.

59. *Aphanus persicellus*, nom. nov., = || *Pachymerus luridus*, Jakovlev,  
1878.

## Fam. Nabidæ.

60. *Nabis guttula*, var. ?

I possess a single female from Tunis, which is brachypterous, but differently so from the usual forms of that kind. The tegmina reach to about the middle of the third tergite, and are elongate, somewhat rounded apically, the membrane being about twice as long as usual. I cannot perceive any specific differences.

## Fam. Reduviidæ.

61. *Xystonyttus*, nom. nov., = *Cosmonyttus*, Stal, 1872 (not 1866), type  
*ichneumoneus*.
62. *Myocoris*, Burmeister, = *Cosmonyttus*, Stal, 1866 (type *nigriceps*).
63. *Graoptocleptes*, Stal, = *Amaurospodrus*, Stal, 1866 (not 1872).
64. *Neotropiconyttus*, nom. nov., = *Amaurospodrus*, Stal, 1872, type  
*alboannulatus*.
65. *Reduvius Reuterianus*, nom. nov., = || *Reuteri*, Horváth.
66. *Rhynocoris amazulu*, nom. nov., = || *interruptus*, Stal.
67. *R. hovanus*, nom. nov., = || *nigripes*, Reuter.
68. *Dmesa choctawana*, nom. nov., = *brevipennis*, Dohrn (not Say).

## Fam. Hydrometridæ.

69. *Hydrometra caraiba*, Guérin. Costa Rica, Rio Machuca, 150 m.,  
Pacific Coast (coll. Montandon).
70. *H. lentipes*, Champion. Costa Rica, Rio Tiribi, 1,100 m., environs  
of San Jose, also on the Pacific Coast (coll. Montandon).

In both *caraiba* and *lentipes*, Champion writes that the fourth segment of the antennæ is longer than the third; this is the reverse of the case in every other species of the genus, and the specimens identified above as these two species have the usual proportions. I suppose, therefore, that an accidental transposition has been made by Champion.

71. In the ENTOMOLOGIST, 1902, p. 281, I renamed *mentor*, Champion, "*naiades*," on the ground that Champion's redescription did not agree with White's diagnosis. A specimen from Brazil, recently received, now confirms my former opinion. *H. mentor*, White, differs from *naiades* (= *mentor*, Champion) as follows: The anteocular part of the head is only one-half longer than the postocular part; the labium scarcely extends to the middle of the latter part; the second segment of the antennæ is two and a half times as long as the first, the third is two and a quarter times as long as the second, and two and a seventh as long as the fourth; the pronotum has a distinct (though not distinctly margined) pale line on the pronotum, this line extending a little way onto the head.

72. *Cylindrostethus naiades*, sp. nov.

Allied to *C. persephone*, Kirkaldy, but the under side is yellowish throughout, except laterally. The upper side is blackish, with a metallic greenish gleam, tending a little to brown on the abdomen; a fulvous spot on the base of the head, a very narrow fulvous line on the pronotum; the exterolateral margin of the pleurites, on both sides, narrowly fulvous. The pale vitta on the fore femora is wedge-shaped, and is only basal.

Length, 14-15 mill.

Hab.: Malaca, Perak (my coll.).

73. *Cylindrostethus vittipes*, Stal.

Through the kindness of Prof. Aurivillius and Prof. Sjöstedt, I have been able to examine Stal's type of this species. It is not a *Cylindrostethus*, and is not an adult.

74. *Ptilomera luzonica*, sp. nov.

Apterous ♂. Fulvous; antennæ, 4th and apex of 3rd, labial segments, an elongate ovoid spot on 5th basal three-fourths of the mesonotum, the metanotum (except laterally), the 2nd-6th tergites, and down the middle of the 7th-9th, a lateral line down the fore femora (except at base), fore tibiæ and tarsi, hind and middle legs (except coxæ and trochanters), and a lateral stripe on the middle and hind ambulacra, black or blackish, sometimes verging on piceous. Under side, ambulacra, coxæ, trochanters, labium, etc., pale luteous. There is scarcely any trace of silvery pubescence laterally on the thorax, and there is no black lateral line, but the poverty of the pubescence may be due to the poor condition of the unique type. The metanotum is divided transversely, but not longitudinally. The hind part of the metanotum is transverse, and nearly

four times as wide as long, anteriorly rounded. The hind ambulacra are lateral, or sublateral, instead of dorsal, as in the typical species, and the abdomen basally is proportionately much wider. The head in profile, is also wider and fatter beneath.

This species may be separated off as a subgenus, based on the lateral aspect of the ambulacra, the non-sutured metanotum, the legs not ciliate, the hind ambulacra not spined, the fore tibiæ shorter, and the different genital segment. It may be termed *Rheumatogonus*.

Fam. Miridæ.

75. *Chlamydatus Uhlerianus*, sp. nov., = || *Agalliastes signatus*, Uhler, 1895.  
 76. *Calocoris pinicola*, nom. nov., = || *pinus*, Uhler, 1895.  
 77. *C. neotropicalis* ! = *Coranus neotropicalis*, CAN. ENT., 1909, p. 32 (laps. cal. !)  
 78. *Kangra ravana*, nom. nov., = || *Capsus antennatus*, W. F. Kirby.  
 79. *Teratocoris caricis*, nom. nov., = || *longicornis*, Uhler, 1895.

Fam. Cicadidæ.

- 79a. *Cicadetta Surinamensis*, n. n., = || *marginella*, Olivier.  
 79b. *C. calliope*, Walker, = || *parvula*, Say.  
 80. *C. Walkerella*, n. n., = || *connexa*, Walker.  
 81. *C. strepitans*, n. n., = || *obscura*, Hudson.  
 82. *C. minor*, Hudson, = || *cincta*, Walker.  
 83. *C. fusconervosa*, Stal, = || *leucoptera*, Germar.  
 84. *C. Fieberi*, n. n., = || *parvula*, Fieber.  
 85. *C. subapicalis*, Walker, = || *adusta*, Hagen.  
 86. *C. euphorbiæ*, Fieber, = || *dubia*, Rambur.  
 87. *C. decorata*, n. n., = || *picta*, Germar.  
 88. *Xosopsaltria capicola*, n. n., = || *annulata*, Germar.  
 89. *X. tabaniformis*, Walker, = || *punctata*, Thunberg.  
 90. *X. scurra*, Germar, = || *lutea*, Olivier.  
 91. *Betulia moluccana*, n. n., = || *stigma*, Walker.  
 92. *B. subnotata*, Walker, = || *innotabilis*, Walker.  
 93. *Stagira virescens*, n. n., = || *viridula*, Walker.  
 94. *Mapondera capicola*, n. n., = || *pulchella*, Stal.  
 95. *M. hottentota*, n. n., = || *abdominalis*, Stal.  
 96. *Calopsaltria hottentota*, n. n., = || *elongata*, Stal.  
 97. *Diemeniana Tasmani*, n. n., = || *coleoptrata*, Walker.  
 98. *Quintilia umbrosa*, Stal, = || *diaphana*, Germar.

99. *Abricta euronotiana*, n. n., = || *aurata*, Walker.  
 100. *Tibicen pictus*, Fabricius, = || *tomentosus*, Olivier.  
 101. *Herrera ancilla*, Stal, = || *marginella*, Walker.  
 102. *Fidicina semilata*, Walker, = || *viridis*, Olivier.  
 103. *F. Cayennensis*, n. n., = || *bicolor*, Olivier.  
 104. *Ariasa quærenda*, n. n., = || *torrida*, Walker.  
 105. *A. Brasilianorum*, n. n., = || *marginata*, Olivier.  
 106. *Pomponia linearis*, Walker, = || *fusca*, Olivier.  
 107. *P. buddha*, nom. nov., = || *adusta*, Walker.  
 108. *Tettigia Australensis*, nom. nov., = || *interrupta*, Walker.  
 109. *Cicadatra concinna*, Germar, = || *atra*, Olivier.  
 110. *C. persica*, nom. nov., = || *lineola*, Hagen.  
 111. *C. geodesma*, Kolenati, = || *hyalina*, Fabricius.  
 112. *C. anoea*, Walker, = || *striata*, Walker.  
 113. *Tosena albata*, Distant, var. *melanopteryx*, nom. nov., = || *melanoptera*, White.  
 114. *Psaltoda plaga*, Walker, = || *argentata*, Germar.  
 115. *Cicada atrovirens*, Guérin, = || *bimaculata*, Olivier, = || *viridis*, Fabricius.  
 116. *C. hieroglyphicalis*, nom. nov., = || *hieroglyphica*, Goding and Froggatt.  
 117. *C. atrofasciata*, nom. nov., = || *sinensis*, Distant.  
 118. *C. Queenslandica*, nom. nov., = || *graminea*, Distant.  
 119. *C. azteca*, nom. nov., = || *pallida*, Distant.  
 120. *C. Brasiliensis*, nom. nov., = || *obtusa*, Uhler.

## Fam. Fulgoridæ.

121. *Nersia dioxys*, Walker, 1858, = *curviceps*, Stal, 1862.

## Fam. Derbidae.

122. *Afakia*, nom. nov., = || *Arfaka*, Distant, 1906. Into this name, presuming it to be derived from the Papuan village "Afak" (or, as it used to be called, "Offak"), Distant has written an intrusive "r," which I have omitted in the replacing name.

## Fam. Issidæ.

123. *Hysteropterum Mexicanum*, nom. nov., = || *angulare*, Fowler.

## Fam. Pækillipteridæ.

124. *Pochazia antica*, Westw., = || *fuscata*, Fabricius, = *obscura*, Melichar.



125. *P. Papuana*, nom. nov., =|| *antica*, Walker.  
126. *Ricania Guineensis*, nom. nov., =|| *tenebrosa*, Walker.  
127. *Nogodina oceanica*, nom. nov., =|| *hyalina*, Kirby.  
128. *Mindura obscura*, Fabricius, = *fuscata*, Melichar, = *sundana*, Kirkaldy.

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#### MORE ENNOMOS SUBSIGNARIUS.

BY WM. H. BROADWELL, NEWARK, N. J.

In the CAN. ENT., Vol. XL, 327-328, of Sept., 1908, I gave some observations on the above species, the occurrence being rather extraordinary. This year, on July 30th, they were in evidence again to nearly the same extent as last year.

I first noticed them on July 13th, when I saw about one hundred of the moths round each light; the next night and thereafter none were to be seen until the night of the 30th.

In all three instances they made their appearance about 11 p.m., and were to be seen for the rest of the evening.

Last year I captured about two dozen, of which all were males; this year I took two hundred, of which four were females. I took that number merely to find out if there were any females at all among them; so females are evidently scarce among them, or else they are good wives and stay home while they let their husbands stay out as late as they desire. At the light where I took these few, the upper part of the pole was white with them; the rope to hoist the light was even more so, there not appearing to be a place large enough for another to alight. Also on the buildings near-by it was the same. The street, paved with asphalt, was well covered with them; toads, bats, cats and several varieties of beetles in rather large numbers were on the job and having quite a banquet.

I was surprised to see them this year in such quantities after seeing them last year, as I think it is something out of the ordinary for them to be abundant for two successive years. For the ten years previous to 1908 I have never seen more than about a half dozen the whole season.

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MR. EDW. M. EHRHORN, at present Deputy Horticultural Commissioner of California, with Entomological Inspector's duties, stationed in San Francisco, has received and accepted the appointment of Superintendent of Entomology of the Hawaiian Board of Agriculture, beginning October 1st. Mr. Jacob Kotinsky resumes the post of Assistant Entomologist with the Board.—JACOB KOTINSKY, Honolulu, Hawaii.

## NEW NORTH AMERICAN BEES.

BY T. D. A. COCKERELL, UNIVERSITY OF COLORADO.

*Melitta Willardi*, n. sp. (Fossil.)

♀.—Thorax and legs apparently black; tegulae pallid; thorax robust, 5 mm. wide; scopa of hind tibia and basitarsus abundant, coarse; no floccus at base of hind legs; hind femur about  $2\frac{1}{2}$  mm. long, tibia about 3, basitarsus about 2; middle tibia short and very broad, about  $1700\ \mu$  long and 850 broad at end. Anterior wings about 9 mm. long, hyaline, stigma and nervures pale brown; stigma long and narrow, but very distinct; venation normal for *Melitta* (e. g., *M. leporina*), except that the upper segment of the basal nervure is shorter; in the description here given all the measurements are in microns.

Marginal cell 2414 long, 629 deep, pointed on costa; stigma 340 deep; three submarginal cells, the *first much the longest, the second much the shortest, and receiving the first recurrent nervure at about the end of its first third*; length of first submarginal from lower basal to upper apical corner 1717, from lower basal to lower apical corner (not allowing for curve) 1530; length of second submarginal above (on marginal) 408, below (measured in a straight line from corner to corner) 493; second submarginal on first discoidal 187, on third discoidal 340; third submarginal cell on marginal 374, on third discoidal 680, its total length 952, the distance from second recurrent nervure to apical appendiculation 221; third transverse-cubital nervure with its upper part, before the strong curve, nearly straight; total length of first discoidal cell (lower basal to upper apical corner) 2805; outer side of third discoidal practically straight (as in *Andrena*, etc.); basal nervure on first submarginal cell 374, on first discoidal 1241; basal nervure meeting transverso-medial, the latter oblique, the lower end more apical.

*Hab.*—Fossil in the Miocene shales of Florissant, Colorado (*Willard Rusk*, 1909). The reference of this insect to *Melitta* seems safe; the hind legs are so preserved that a floccus would be visible on the trochanters were it present; and the form of the stigma, the proportions of the submarginal cells, and the second submarginal receiving the recurrent nervure well before the middle, are all extremely characteristic. *Melitta* is a rather isolated and probably ancient genus, with few living species, all palæarctic except three, two in the north-eastern United States, and one in Lower California.

*Colletes lippiarum*, n. sp.

♀.—Length about 11½ mm., anterior wing 7; black, shining, the first two abdominal segments with a strong glaucous-blue tint; pubescence white and black, nowhere at all yellowish except on legs, and here only conspicuously so on inner side of anterior tibiæ and tarsi; head broad, its copious hair white except some black on the vertex; facial foveæ narrow at apex, but rapidly broadening below; *supraclypeal area not punctured, but very finely, longitudinally striate*; clypeus prominent, very shiny, depressed in the middle, irregularly and coarsely, but not densely, striate-punctate; malar space short, more than twice as broad as long; labrum with a deep central groove and weaker lateral ones; mandibles with the apical half ferruginous, inner tooth strong; antennæ black, the flagellum after the first two joints dark reddish-brown below; middle joints of flagellum broader than long; prothoracic spines rather short but evident; hair of thorax rather dull white, black on scutellum and mixed with black on mesothorax, but dense and white in scutello-mesothoracic suture; mesothorax with strong, rather dense punctures; scutellum with large, well-separated punctures; base of metathorax with the usual plicate area, the plicæ numerous and close together, making the pits numerous and narrow, legs ordinary, the middle and hind basitarsi rather broad and flat; hind spur minutely ciliate; tegulæ dark, distinctly reddish; wings hyaline, stigma dark reddish, nervures dark sepia; second submarginal cell very broad, receiving the first recurrent nervure in the middle; abdomen very shiny, with rather narrow, but dense and very conspicuous pure white hair-bands on apices of first four segments; *no trace of a band on base of second*; first segment with very minute punctures, extremely sparse in middle, but rather close at sides; second segment with very fine punctures all over; ventral segments only moderately fringed.

*Hab.*—La Cueva, Organ Mts., New Mexico, prox. 5,300 feet, at flowers of *Lippia Wrightii*, Sept. 5 (*C. H. T. Townsend*). Related to *C. Texanus* and *C. scopiventer*, but readily known by the total absence of a band at base of second abdominal segment, and other characters. *C. Texanus* and *scopiventer* are spring-flying species.

*Megachile megagyna*, n. sp.

♀.—Length, 16 mm. or a little over, black, with the general form and appearance of *M. generosa*. Cresson, but very much larger, with conspicuous white hair in the scutello-mesothoracic suture, and yellowish-white

hair on the postscutellum ; wings dilute, fuliginous all over. Head large; eyes olive-green ; vertex broad, strong and extremely densely punctured, but at sides, behind summits of eyes, sparsely punctured ; lateral ocelli considerably nearer to eyes than to hind margin of head ; antennæ black ; clypeus densely punctured, rather more sparsely in the middle, the punctures throughout conspicuously of different sizes ; clypeal margin with a small median tubercle, and a slight dentiform angle some distance on each side of it ; mandibles broad, obtusely quadridentate ; maxillary palpi small ; first joint of labial palpi about as long as second ; hair of head and thorax white, with more or less of a yellowish tinge ; vertex with extremely scanty short dark hair ; mesothorax denuded, dull and densely punctured, with remnants of a pair of anterior lines of white hair, in the manner of allied species ; tegulæ very dark reddish-brown ; legs with light hair, that on inner side of tarsi pale orange ; claws with basal tooth poorly developed ; middle tarsi broad and flat, densely covered with pale yellowish hair on outer side ; hind basitarsus very broad and flat ; abdomen broad, with narrow but conspicuous yellowish-white hair-bands ; surface between the bands with very short black hair ; when the abdomen is seen from above the black hair projects at sides, but is very short ; sixth segment convex, with no differentiated lip, its base with dark hairs like those of the other segments, its apical half with appressed yellowish hair ; last ventral segment projecting a little beyond last dorsal ; ventral scopa creamy-white, black on last segment.

*Hab.*—Lee County, Texas, June, 1908 (*Birkmann*). Nearest, I think, to *M. Newelli*, Ckll., but much larger, with the vertex much broader, and the punctures of mesothorax much larger and not so dense. It is easily known from *M. generosa*, Cress., by the larger size and the extreme brevity of the black hair on the abdomen. The dark wings readily separate it from *M. sexdentata*, Rob.

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#### GEOMETRID NOTES—*EUPITHECIA MISERULATA*, GROTE.

BY L. W. SWETT, BOSTON, MASS.

In "Entomological News" (Vol. XIX, July, 1908, page 312), Mr. R. F. Pearsall gives us an excellent article on *Eupithecia miserulata*, and has without doubt established its identity correctly. This summer I have been gathering material from all parts to find out more about this troublesome species, with a fair degree of success. It evidently has more than

two broods, as in a series of 100 specimens before me I have three specimens dating May 22-27, a number July 10-22, more from Aug. 1 to 20, and a few from Sept. 1-5. Separating them into groups, according to months, I find great variation in size, and ochre colouring in the extra-discal line; the specimens range from 13 mm. to 20 mm. The ochreous colouring does not seem to be confined to those of any one month, but the September specimens perhaps are a trifle more highly coloured. It was from two small-sized males that I drew up my description of *E. Grossbeckiata*, *nebulosa* and *miserulata*, males not being known at that time. Mr. Chas. R. Eby, of Washington, D. C., has kindly furnished me with a large series collected at East River, Conn., and has bred the species on Joe Pye Weed, which is, I believe, a new food-plant for it. Mr. Dimmock, of Springfield, Mass., gave me specimens which he had bred on Aster, and Mr. Pearsall in his article mentions that Patton reared *miserulata* on Composite flowers. Packard in his Monograph, page 55, gives the food-plant as juniper, but I believe he bred only the true *interruptofasciata* on this, as he evidently did not know *miserulata*, Grote, which, I believe, has not so far been found on the juniper. In the collection at Albany, N. Y., are two of Packard's male types of *Eupithecia interruptofasciata* (in error), on which I wrote an article in the CAN. ENT. (Vol. XI., No. 7, page 246). One of the specimens, No. 1833, with heavily-ciliated antennæ, is the male of *Eupithecia miserulata*, Grote; the other male, No. 1833a, is *Eupithecia conformata*, Pearsall, recently described. This does not affect the standing of *interruptofasciata*, as I retained the name on the female specimens in the Packard collection at Cambridge, but it clears up the identity of the males at Albany, N. Y.

Thus the species *miserulata* stands :

*Eupithecia miserulata*, Grote (Proc. Ent. Soc. Philadelphia, II, 32, 1863).

= Syn. *nebulosa*, Hulst (Trans. Am. Ent. Soc., XXIII, 266, 1896).

= Syn. *Grossbeckiata*, Swett (CAN. ENT., XXXIX, p. 378, 1907).

*Eupithecia miserulata*, Grote, probably is labelled correctly in very few collections, but is easily distinguished by the heavily-ciliated antennæ. Plate VIII, fig. 5, in Packard's Monograph is a very good figure of the ochreous form which seems to come later in the season. The species seems to be far more common in the South Atlantic States, but is comparatively local in Massachusetts, though common in Connecticut and southward.

NOTES ON TENTHREDINOIDEA, WITH DESCRIPTIONS OF  
NEW SPECIES.

BY S. A. ROHWER, BOULDER, COLO.

PAPER VII. — NEW BLENNOCAMPINÆ.

*Claremontia*, n. gen.

Malar space linear; clypeus truncate; antennæ long and slender, almost as long as the body, the third and fourth joints equal in length; venation very much like *Blennocampa alternipes* (fig. 72, pl. XXXVI, Proc. U. S. Nat. Mus., XXIX), the third cubital cell is shorter on the radius than the second; the transverse radius and the third transverse cubitus running in about the same direction; hind wings without a discal cell; the lanceolate cell of the hind wings longly petiolate, the radial cell rounded at the apex and without an appendiculation; there is no surrounding nervure in the hind wings; the tarsal claws with an inner tooth; the hind basitarsus shorter than the remaining joints.

This genus is nearest to *Blennocampa* in venation, but it differs from that genus in the long antennæ. The long antennæ are suggestive of *Phymatoceros*, but that genus has the third cubital cell longer and the tarsal claws are cleft. Type, *Claremontia typica*, Roh.

*Claremontia typica*, n. sp.—Female: Length, 6 mm. Anterior margin of the clypeus truncate; middle fovea and the ocellar basin wanting; the ocellar furrows reduced to foveæ, which are confined to the ocellar region; scape globose, the antennæ clothed with short black pile; the entire insect shining and nowhere densely sculptured. Stigma rounded on the lower margin, broadest in the middle; the transverse radius interstitial with the third transverse cubitus. The sheath is parallel-sided, the apex obliquely truncate. Colour black; legs below the femora brownish, paler at the base of the tibiæ. Wings dusky hyaline, strongly iridescent; venation black.

Male: Length, 5 mm. The male agrees in general with the female, but the legs below the femora are, as a rule, paler. The antennæ are as long as the body; the hypopygidium is very obtusely rounded at the apex.

Type locality: Mountains near Claremont, California. Four males and two females collected by C. F. Baker.

*Periclista leucostoma*, n. sp.—Female: Length, 5 mm. Anterior margin of the clypeus semicircularly emarginate, the lobes broad and rounded; the ocelli in a low triangle; the ocellar basin wanting, the furrows around the ocelli distinct; the front finely punctured; the antennæ normal, the third joint distinctly longer than the fourth, which is equal in

length to the fifth; dorsulum and the scutellum sculptured like the head; the inner tooth of the tarsal claws large; the stigma is rounded on the lower margin, broader at the base; the third cubital cell receives the transverse radius near the apex. Colour black; the head and thorax with a distinct greenish tinge; clypeus, labrum, mandibles, angles of the pronotum, tegulae, apex of the abdominal segments (very narrowly above, but broadly on the sides and beneath) *yellowish-white*. Legs yellowish; a line on the coxae, trochanters, femora and posterior tibiae above black; tarsi blackish. Wings hyaline, iridescent; venation brown, the stigma a trifle paler.

Male: Length, 4.5 mm. The male is like the female in all ways, except the reduced amount of black on the abdomen. The hypopygidium is large and rounded at the apex. The wings are a trifle dusky, and there is no surrounding nervure in the hind wings.

Type locality: Claremont, Calif. Two females and five males, collected by C. F. Baker; also a female collected in the mountains near Claremont.

This species has its nearest ally in *emarginata*, MacG., (Boston, Mass.), but the femora are black above, and the male has the abdomen black above.

*Fericiasta occidentalis*, n. sp.—Female: Length, 5 to 5.5 mm. Anterior margin of the clypeus truncate; the ocellar basin not well defined; the furrows all present, and some of them narrow and distinct; ocelli in a low triangle, the anterior ocellus the largest; the antennae rather short, the third joint longer than the fourth, the fourth and fifth equal; the mesonotum shining, with a few scattered punctures; the scutellar appendage is smooth, shining; the tarsal claws with a large inner tooth; stigma broader at the base; the transverse radius received in the apical third of the cell. Colour black; anterior margin of the clypeus, the labrum, a spot on the mandibles, pronotum, tegulae, the sutures of the mesonotum, the upper half of the pleurae, sides of the abdomen and narrow margins of the segments above and beneath, *white* or *yellowish-white*. Legs yellowish or pallid, the femora darker and the tarsi somewhat infuscated. Wings hyaline, iridescent; veins pale brown, the costa and stigma paler. Sheath broad, obliquely truncate.

Var. A: The transverse radius is near the middle of the third cubital cell, and the stigma is narrower in a female collected in the mountains near Claremont.

Male: Length about 4 mm. The male is much like the female, differing in having the markings orange-colour, and more reduced. There

is no yellow on the mesonotum, the legs have a black line above on the femora and tibiae. The venation is darker and the stigma is dark brown; there is no surrounding nervure in the hind wings.

Type locality: Claremont, California. Three females and three males collected by C. F. Baker.

The following table will separate the female from its allies:

Orbits pale (Texas) .....	<i>mutabilis</i> , Knw.
Orbits black .....	..... 1.
1. Coxæ black (legs reddish) .....	<i>purpuridorsum</i> , Dyar.
Coxæ pale .....	..... 2.
2. Abdomen beyond the second segment pale; the transverse radius in the middle of the third cubital .....	<i>marginicollis</i> , Nort.
Abdomen above black; the transverse radius in the apical third of the third cubital cell .....	<i>occidentalis</i> , Roh.

*Aphanis lenis*, n. sp.—Female: Length, 5 mm. In the middle the clypeus is convex, the anterior margin is truncate; labrum triangular, the apex obtuse. Supraclypeal fovea deep; the middle fovea large, open below, the lateral walls very strong; the walls of the ocellar basin rounded; the lateral ocellar furrows interrupted on the front; at the top of each lateral ridge of the middle fovea is a deep oval pit; head shining, polished. The scutellum with a few rather small punctures; the scutellar appendages smooth; tarsal claws deeply cleft, the inner tooth a little the shorter; the stigma angled beneath, tapering to an acute apex; transverse radius curved and joining the radius a little before the apex of the third cubital cell; the third cubital cell much broader below, due to the bent third transverse cubitus; the second recurrent nervure received near the base of the third cubital cell. Sheath straight above, rounded below. Black; pronotum, tegulae, a longitudinal oval spot on the abdomen above and beneath at the base luteous. Legs black; the four anterior knees, all the tibiae and the tarsi whitish; the tarsi are more or less infuscated. Wings hyaline, slightly dusky, iridescent; veins and stigma black.

Male: Length, 4 mm. The male differs from the female in having the pronotum largely pale, the pale of the legs more luteous, the posterior tibiae brown (not whitish), and the luteous spot of the abdomen is larger. The hypopygidium is rounded at the apex.

Type locality: Mountains near Claremont, California. One female and two males collected by C. F. Baker.

A very distinct species, easily recognized by the oval luteous spot on the abdomen. The marking of the abdomen is much the same as in *Lycoata lenis*, Cress., and *Epitaxonus multicolor*, Nort., male.



THE LARVA OF *NEOARCTIA BEANII*, NEUM.

BY ARTHUR GIBSON, OTTAWA.

On May 19th, 1908, the late Dr. Fletcher, received from Mr. N. B. Sanson, of Banff, Alta., two arctian larvæ, which had been found on Sulphur Mountain. These larvæ were given to the writer. Both specimens moulted on May 22nd, but one died immediately afterwards. The plant *Antennaria racemosa* was sent with them. *Antennaria rosea*, some plants of which (from British Columbia) were growing on the Experimental Farm, was offered to the larvæ, as well as plantain, willow, grass and dandelion. The only food which the remaining larva would eat was plantain. This it ate readily. On May 28th the following description was taken :

*Mature larva*.—Length, 32 mm. Head, 2 mm. wide ; somewhat quadrate, only slightly depressed at vertex, jet black, shining ; hairs on face black. Dorsum and sides of body, above spiracles, dull green, densely mottled with brown ; skin on lower portion of sides, enclosing tubercles iv, v and vi, almost wholly orange ; venter greenish. An indistinct, dull orange, dorsal stripe is present. Tubercles all black and shining, bristles very faintly barbed. Tubercle i as large as ii, iii and iv, which are all about the same size. Bristles from tubercles i and ii all black, from iii black, with a few white ones intermingled. From lower half of iv, and from v and vi, the bristles are bright rust-red ; from vii and viii dark rust-red, spiracles black. Thoracic feet black, shining ; plates on prolegs dark shiny brown.

The larva did not feed on May 28th, and before evening it had spun a few threads of silk. By the morning of the 30th it had changed to the pupa. The cocoon was simply a very thin covering of whitish silk. The moth emerged on June 15th.

*Pupa*.—Length, 21 mm.; width at widest part, 5.5 mm. Colour dark bluish-black ; very faintly pruinose ; shining, particularly at folds of abdominal segments. Abdomen bears sparsely, very short, thick, reddish hairs. Spiracles black. Cremaster round, dark reddish-brown, shining, terminating in a bunch of about 18–20 reddish bristles of varying lengths, each with a distinct tendril-like curve at the tip.

In the CANADIAN ENTOMOLOGIST, June, 1891, p. 124, a short description of the larva is given by Mr. Bean. Since this note appeared, Mr. Bean tells us that he found a further larva in the middle of July, 1893, at about 7,000 feet altitude, on Mount St. Piran. This larva produced a male moth on Aug. 20th.

November, 1909

## EUROPEAN HETEROPTERA SUPPOSED TO OCCUR IN AMERICA.

BY J. R. DE LA TORRE BUENO, NEW YORK.

The eminent Hemipterist, Dr. G. Horváth, gave in 1908 a list of the Hemiptera common to the Old and the New Worlds,<sup>1</sup> which I reviewed in the same year,<sup>2</sup> calling attention to one or two points at variance with later unpublished observations. Subsequently, Dr. Horváth having studied the material he had obtained in this country in 1907, made known his results late in 1908, under the title, "Remarques sur quelques Hémiptères de l'Amerique du Nord."<sup>3</sup> His critical comparison of those of our native forms hitherto considered the same as the European, clearly revealed the burden of misidentification under which American Hemipterists of this generation had laboured, and from which some appear not to have escaped as yet. A review of this paper appeared in the CANADIAN ENTOMOLOGIST,<sup>4</sup> in which were noted the full synonymies for the new species created out of what we had complacently regarded as common to both continents. By an oversight, the new species, *Chlorochroa persimilis*, Horv., described from what we had known as *Pentatoma juniperina*, L., was omitted from the list of new species on p. 294 of this review.

And yet, although Horváth's papers appeared in 1908, and were received in this country early in 1909, in the current number of the Journal of the New York Entomological Society,<sup>5</sup> the minutes of the meeting of March 2 give a list of nine species of Palaearctic Heteroptera exhibited, which were declared to occur also in the United States. Unfortunately four of these are but a repetition of the old errors, the species being *Pentatoma juniperina*, *Cymus clavicularis*, *Ischnorhynchus reseda*, and *Emblethis griseus*.

Possession of a specimen of the true *P. juniperina*, L., for the last four years, and comparison with what purported to be that species from America, gave rise to great misgivings as to ours being the same species as the European form, and long before Horváth's publication Van Duzee had recognized the two as distinct. As to *Emblethis griseus*, a mere glance at this in comparison with our *E. vicarius*, Horv., would settle any doubts as to their non-identity. Similarly, our *Ischnorhynchus geminatus*

1. Ann. Mus. Hist. Nat. Hung., VI, pp. 1-14.

2. CAN. ENT., XL, pp. 300-302.

3. Ann. Mus. Hist. Nat. Hung., VI, pp. 555-69.

4. Aug., 1909, Vol. XLI, pp. 294-6.

5. Vol. XVII, No. 3, p. 138.

of Say is readily distinguishable from *E. resedæ*, Panz. I have not compared the *Cymus*. Dr. Horváth in the second paper cited sets forth the distinguishing characteristics of the new species, and they need not be cited here.

As to the others, *Nezara vividula* is practically of world-wide distribution, and is said to occur in Florida, but I have never seen it from that section; *Zicrona coerulea* is credited to the Western States, but I have not yet succeeded in getting an example from this country; *Corizus crassicornis* and *Nysius thymi* also occur in this part of the country, but nothing short of an abundance of good material and a critical investigation could fix the fact beyond doubt.

I sincerely hope that the day is now at hand when American Entomologists will break the enslaving shackles of tradition and emerge from the frame of mind so akin to ancestor worship that seems to still obsess them. While we should respect the work of our predecessors, the pioneers in a sterile field, I fail to see the necessity of following in their footsteps, stepping cautiously into each footprint, like Indians on the warpath. It is really distressing, when expecting new light on an old subject, to meet with nothing but a repetition of the old errors which make the clear waters of science as murky as the ocean from the cuttle's ink.

## TWO NEW SPECIES OF SAW-FLIES.

BY ALEX. D. MACGILLIVRAY, ITHACA, N. Y.

The two following descriptions are offered at this time in order that the species may be properly recorded in the new list of New Jersey insect in course of preparation:

*Pæcilostoma convexa*, n. sp.—Body black, with the labrum, the clypeus, the angles of the pronotum, the tegulæ, the trochanters in part, the femora above more or less, and at apex, the front and middle tibiæ, more or less infuscated on the apical half, the tarsi at base, and an ovate spot on each side of each abdominal segment, white or brownish-white; the antennal fovea large, angled above; the antennal furrows entering the angle in the antennal fovea, punctiform adjacent to the antennæ, somewhat obsolete or broadly indicated on the front, becoming a fine line-like furrow opposite the lateral ocelli, becoming broader on the vertex and extending to the occiput; the median fovea small, well-like; situated

between and above the antennæ ; the pentagonal area elevated, with broad rounding walls ; the ocellar basin convex, with a short longitudinal furrow in front of and behind the median ocellus, the posterior furrow joining the interocellar furrow ; the interocellar furrow straight, extending between the lateral ocelli, but not joining the antennal furrows at side ; the body uniformly, densely covered with short white setæ ; the clypeus emarginate at apex, but not carinate at middle ; the antennæ with the third segment longer than the fourth and shorter than the fourth and fifth together, the fourth longer than the fifth, the sixth to ninth subequal, the ninth bluntly rounded at apex ; the wings hyaline; the veins, stigma and the costa black ; the stigma twice as long as broad, convex behind ; the saw-guides straight above, straight and converging below, obliquely truncate at apex, the lower angle broadly rounded, the upper more pointed, the margin fringed with setæ. Length, 7 mm.

Habitat.—New Brunswick, New Jersey. Received from Dr. J. B. Smith.

*Schizocerus Johnsoni*, Ashm., MSS.—Body black, with the pronotum, the tegulæ, the base of the wings, the lateral lobes of the mesonotum and the lateral margin of the median lobe adjacent to them, the knees, the front and middle tibiæ and the basal half of their tarsi, the basal half of the hind tibiæ, and a broad band along the lateral margin of the abdomen, the side of the band straight on the ventral side, angulate in front on each segment on the dorsal side ; the head, thorax, and abdomen polished ; the clypeal fovea deep and continuous with the antennal fovea, the antennal furrow a deep channel extending from the antennal fovea to the lateral ocelli, where the ridge shelves off and the furrow becomes broadly linear around the lateral ocellus and indistinct opposite the postocular area ; the postocular area distinct, strongly elevated ; the interocellar furrow sharply impressed, distinct, concave behind, continuous ; the pentagonal area sharply outlined by the inner walls of the antennal furrows, triangular in outline, long and narrow ; the median fovea a deep pit in the tip of the pentagonal area, round ; the ocellar basin distinct, sharply depressed, ring-like around the median ocellus, the depression connected with the interocellar furrow ; the hypoclypeal area produced into a high, thin ridge between the antennæ, broadly, convexly expanded below ; the posterior orbits flat ; the saw-guides straight above and below, slightly concave near the middle of the ventral surface, convexly, obliquely

truncated at apex, the angles broadly rounded, the lower angle most protuberant. Length, 7 mm. \*

Habitat.—Riverton and Avalon, New Jersey.

This species will fall near *plumiger*, Klg. It differs from a male from Florida, which I take to be this species, in lacking the circular depressed ring around the median ocellus, and in lacking the interocellar furrow. A female from Colorado has the circular depression around the median ocellus indicated, but the interocellar furrow is wanting. Both of the above specimens are differently coloured from the species here described.

Described from two specimens received from the Wagner Free Institute of Science of Philadelphia, and a female from the U. S. National Museum bearing Mr. Ashmead's label. Unfortunately, Mr. Ashmead had never published a description of this species. The specimens were all collected by Mr. C. W. Johnson, to whom Mr. Ashmead had dedicated the species.

*Melanoselandria Zabriskiei*, Ashm., MSS.—This species is recorded by Ashmead in the New Jersey List from the Delaware Water Gap, VII, 5, and as collected by Mr. C. W. Johnson. I have before me a single specimen from the U. S. National Museum, bearing Ashmead's label, collected by J. L. Zabriskiei at Flatbush, N. Y., 12, VI, 1897. Mr. Ashmead's name, both generic and specific, is undescribed. The only record of the name that I can find is the one given in the New Jersey List, p. 606. An examination of the National Museum specimen proves it to be Norton's *Selandria fumipennis*. I made this species the type of a new genus, *Hypargyricus*, the description was published in the CANADIAN ENTOMOLOGIST for August, 1908, p. 290. This specimen has the rudiment of the third anal vein especially distinct, it was evidently this that misled Mr. Ashmead, causing him to place it in the subfamily Hoplocampinae, from all the members of which it is strikingly different.

COLEOPTERA OF INDIANA.—Prof. W. S. Blatchley, of Indianapolis, Indiana, has almost ready for the press a descriptive catalogue of the Coleoptera known to occur in Indiana. It will be along the same lines as his "Orthoptera of Indiana," published in 1903, and will be issued as one of the reports of the Indiana Department of Geology and Natural History. Any person outside of the State having examples of rare or interesting species *known to have been taken in Indiana* will confer a favour by sending him data regarding them.

## THE FAMILY NAME LYGÆIDÆ.

BY E. BERGROTH, FITCHBURG, MASS.

Mr. Kirkaldy has shown that *Lygæidæ* cannot be used as a name for the family that has hitherto borne this name, the type of the genus *Lygæus* being a Coreid. He has also, without ostensible reasons, transferred the name *Lygæidæ* upon the family Coreidæ, a procedure which has already brought on considerable confusion, and which must be dismissed as entirely unwarranted. The genera *Coreus*, Fabr., and *Lygæus*, Fabr., were described for the first time in the same work (1794). Moreover, the description of *Coreus* is printed some pages ahead of *Lygæus*. There is thus absolutely no reason to follow Kirkaldy in this point. The same is true of several generic alterations and transpositions introduced by Kirkaldy and too rashly accepted by some contemporary hemipterists.

## BOOK NOTICES.

A MONOGRAPHIC REVISION OF THE COLEOPTERA BELONGING TO THE TENEBRIONID TRIBE ELEODINI inhabiting the United States, Lower California and adjacent Islands. By Frank E. Blaisdell, Sr., United States National Museum, Bulletin 63, Washington, 1909.

The above monograph by Dr. Blaisdell furnishes us a striking example of the application of thorough methods of entomological study. Discarding the superficial criteria employed by most of his predecessors in discussing this difficult group, he has made exhaustive anatomical investigations of the exoskeleton, and especially of the genital organs, basing his subgeneric classification particularly upon these latter structures. In *Eleodes*, however, the female characters are those upon which special stress is laid, while in general, not only in this country, but in the numerous European papers in which the genitalia are employed in classification, the male has served as the chief guide. The supplementary table, based upon features which may be seen without dissection, will doubtless be more readily followed by the great mass of students. The importance of the sexual organs in defining species (as understood by Dr. Blaisdell) is easily appreciated when we read on page 32 that "each species may have its extreme large (gigantism) and small (nanism) forms; its smooth and rough forms, elongate and robust forms, while the sculpturing varies from comparatively smooth to rough, independently of size or form. This may be accounted for by environment to a great extent and to certain

inherent factors." Our own field experience gained among the numerous mountain ranges and intervening valleys of the Western States leads us to fully agree with this belief in specific variation. Others may view all these visible expressions of the influence of surroundings upon the organism as "species," but in this case the analysis of each type by Dr. Blaisdell is so close that the process of further "specific" division resolves itself into a matter of changing the relative rank of his names. Where necessary, the species are divided into named "varieties," to which the author frequently alludes as "races," but which might as properly be called subspecies; these varieties are often subdivided into "formæ," or "incipient races," to which descriptive Latin names are given "as an aid in recording data and as a compromise between unscientific lumping and splitting."

The monograph proper occupies 524 octavo pages, and is illustrated by 13 plates, eight of which deal with genitalia, one with general anatomical structures, three with outlines of pronota and one with the early stages. The table of contents enumerates 73 recognized species and 31 varieties of *Eleodes*, besides three specific names representing types unknown to the author. In *Trogloclerus* we find two species, in *Embaphion* seven, with one variety. The genus *Eleodimorpha*, founded on *E. bolcan*, n. sp., is described as new, as are also a number of species and varieties belonging to the other genera. Unfortunately, neither the table of contents nor the index give any clue as to which of the included names are new, and recourse to the text is necessary to discover the author. This trouble might have been obviated by the inclusion of a complete bibliographic and synonymical list enumerating all the species, varieties and formæ, which would serve not only to indicate the novelities, but also as a convenient guide to cabinet arrangement.

A special feature of the work is the fullness of specific and varietal descriptions. The genealogical diagrams given for each subgenus are interesting. In the arrangement, a few inconsistencies have attracted our attention, for instance, in the table of contents *Eleodes arata* is given as a specific term, while in the text, page 187, it is cited as a synonym of *obscura*, and on page 194 is described as a "forma" of variety *sulcipennis*. Again, *E. tenuipes* and *E. Wickhami* are indicated as specifically distinct in the table of contents, and in the headings of the body of the work, but in the description of the latter the remark is made (on page 299) that "at most *Wickhami* can be only a race of *tenuipes*," which would, by Dr. Blaisdell's system, reduce the name *Wickhami* to varietal rank. On page

29 the heading, "Analytical Key to the Genera of Eleodiini," is somewhat misleading, since it includes also *Blaps*, of the Blaptini.

Nothing comparable to this monograph has ever been attempted by American coleopterists. It represents years of labour, largely of a most tedious nature, and the few oversights noted are undoubtedly due to interruptions of a busy professional life. We must rejoice that the author's enthusiasm survived the shock of the great San Francisco disaster, and welcome his work as a valuable contribution to the knowledge of a neglected but most interesting group of beetles.—H. F. WICKHAM.

Bulletin de la Société Lépidoptérologique de Genève. Décembre, 1905 ;  
Décembre, 1906 ; Juin, 1908 ; et Avril, 1909.

Four numbers, completing the first volume of this important publication on the Lepidoptera, have been published. The number 4, April, 1909, has just been received.

It is an inspiration to read the annual address of the President, Mons. A. Pictet, telling of the aims, ambitions and accomplishments of this enthusiastic body of genuine, mostly non-professional, entomologists. It is just by that class of students, and in that spirit, that a great deal of the interesting and valuable biological work of the past has been done. This Society consists of four honorary members, eight charter members, one corresponding member, one life member, and forty-one active members. The Society has an auxiliary Society, called the "Album," consisting of their "jeunes amis," who have not attained the age limit, but are enthusiastic young collectors, who will eventually form the larger Society, in more advanced studies. The President calls attention to the "curieuse" abundance of blue females of several species of *Lycæna*, in the canton of Geneva. This is of great importance to biology, as marking an approach to the disappearance of sexual dimorphism in the group. He then considers some factors which might have operated to produce this phenomenon, *i. e.*, conditions of weather in previous years, but he considers this as not a satisfactory explanation, and that we are powerless, in the present state of science, to explain the phenomenon. This would be a point of great interest to observe and study in this country. The President also speaks of the effect of feeding on the variation of several species of lepidoptera, and considers it of great importance in biology ; "là est un domaine fécond en observations nouvelles, un champ vaste d'investigations." He then discusses an immigration of *Vanessa cardui* in 1906, and its consequences.



Following the President's address, the proceedings of the monthly "séances" are given, and the papers given and the discussions undertaken are of such interest, that one only wishes he could have been present.

The main body of this "fascicule" is made up of more or less lengthy contributions, which are of great interest to the students of insect bionomics. I will here just mention these:

Dr. J. L. Reverdin continues his studies of the forms *Erebia tyndarus* in Switzerland and Savoy.

Dr. Paul Denso continues his long studies, from the last two numbers of the Bulletin, on the hybrid palæarctic *Sphinxidae*, followed by a "Katalog der Schwärmerhybriden," 33 pages.

M. A. Pictet gives some notes on the biology of *Macrothylacia rubi*. A good number of new aberrations are described by Lacreuze, Blachier, Reverdin and Culot.

There are 394 pages to the complete volume, with 12 plates. An alphabetical index to the species, varieties, aberrations and hybrids mentioned in the volume, an index of the new things described, and an author-article index, completes this valuable contribution.

All lepidopterists and students of bionomics should have this volume, which can be obtained through the firm of R. Friedländer & Sohn, Berlin.

FORDYCE GRINNELL, JR.

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#### EXTERMINATING FLIES.

"The best exterminating agent is a weak solution of formaldehyde in water, say two teaspoonfuls to the pint, and this experience has been confirmed by others. It would appear that flies are attracted by a weak solution of formaldehyde, which they drink. Some die in the water, others get as far only as the immediate vicinity of the plate of water, but all ultimately succumb, and where they occur in large numbers hundreds may be swept from the floor. It is consoling to know that by this method the flies have died under a dose of a fluid which is fatal to disease organisms, a fluid also which is inoffensive and for practical purposes nonpoisonous. The method at once provides a means of diminishing the scourge and of securing to some extent what is most desirable, the disinfection of the slain."—*The Lancet*.

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Mailed November 1st, 1909.