

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. IV. LONDON, ONT., NOVEMBER, 1872. No. 11

REMARKS ON LEPIDOPTERA COLLECTED AT FOX BAY,
ANTICOSTI, AND THE NORTH SHORE OF THE ST.
LAWRENCE, BETWEEN JUNE 18TH AND AUGUST 1ST.

BY WILLIAM COUPER, MONTREAL.

When I decided on an Entomological tour during the past summer to the Island of Anticosti and the coast of Labrador, I fully expected to bring home sufficient material, not only to satisfy the few subscribers to the enterprise, but (after supplying them) enough to remunerate myself for the risk of the voyage and loss of time. Your readers are already acquainted with my misfortune; still, I hope that the lost species will be replaced, as it is my intention to go over the ground again (if God spares me) next summer. Entomologically speaking, the region is totally new. A great deal of knowledge can yet be obtained from another research in these regions, as the following brief remarks sufficiently show. For years past I wished for an opportunity to explore the Island of Anticosti, in order to collect its insect *fauna* and obtain a knowledge of the species occurring thereon. Before I visited it, I had an idea that it would be found deficient in many of the Coleopterous forms which exist on the shores of the St. Lawrence, to the north and south of it. So far, therefore, my surmises are correct, as I found it meagre, indeed, in Geodephaga. No Cicindelidae occurred in my rambles, and but two or three species of Carabidae were met with during the time I remained there. The species obtained belonging to the latter were evidently brought there by commerce. The island is evidently rich in Lepidoptera and Hymenoptera, and probably Longicornia and Curculionidae. No doubt its fresh water ponds, when carefully examined, will be found to contain nondescript species of aquatic Coleoptera. The few species belonging to the latter order and Hymenoptera, collected on the Island, also those occasionally picked up on the Labrador coast, will, in due time, be described in the
CAN. ENT.

There is nearly one hundred miles between the West point of Anticosti to Fox Bay, near the East, and where I collected. Heretofore,

it was almost inaccessible to the Naturalist, who could only visit it to undergo much privation and hardship. Its forest is dense, and in many places almost impenetrable, but a great portion of the flora resembles that found in the mountain region north of the city of Quebec, and I have no doubt that the bulk of the Lepidoptera to be met with on the West Point will be found similar to those occurring in high northern latitudes. Mr. Strecker says that "the moths, with a few exceptions, are the same as some I took in the mountains of Luzerne Co., Penn. In fact, when I opened your box, I was struck with the similarity of its contents to a box I brought home from that trip—thirteen species of moths like thirteen species out of the twenty-two you sent me. Is not this curious? But, after all, if we consider that Luzerne County is the most mountainous part of this State, almost impenetrable and wild, and fire feels comfortable there in June, it is not such great matter for wonder."

PAPILIO POLYXENES Fabr., var. *BREVICAUDA*, Saunders.—I took four specimens of this species on the Island. It appears to be rare at Fox Bay. The specimen sent to Mr. H. K. Morrison, Boston, corresponds with the description of *brevicauda*. Regarding the ♂ and ♀ which I sent as *P. asterias* to Mr. Herman Strecker, of Reading, Pa., he writes that the ♀ of *asterias* has not got the yellow macular band on the wings as the ♂ has, or, at least, it is only represented by a few small spots, whereas the ♀ from Anticosti has the yellow band of unusual size, even broader than on the ♂ which accompanied the latter, and that the Anticosti ♂ has the band twice as broad as any specimen seen by him from the United States, Canada, or Central America. He adds, that it comes as near to the South American *P. Sadulus* as it does to *asterias*. I am, therefore, inclined to believe that there are two Northern black and yellow varieties of *Papilio*, viz. :—one of *asterias*, occurring along the north shore and coast of Labrador to Newfoundland, while *P. polyxenes* Fabr., var. *brevicauda*, is so far confined to the Island of Anticosti.

PIERIS FRIGIDA Scudder.—This species was quite common in Labrador during my visit in 1867, and I met with it on the 20th of last June, at Fox Bay, Anticosti, where it was not abundant. In October of the above year, a ♀ *frigida* was forwarded to Mr. Scudder, who thought it was the above species, but as I did not send the ♂, he was not positive. It would be well, therefore, to compare it with congeneric species.

COLIAS INTERIOR, Scudder.—This butterfly occurs on the north coast of Labrador, from Sawbill River to Natashquan. It is not frequently seen

near the sea; but generally met with in the woodland and mountain regions in the interior. The specimens collected were destroyed, and the only one brought home was sent to Mr. Strecker, who writes as follows:—“I have strong doubt about the genuineness of this species. I compared the female you sent me with five females of *Pelidne* (from above Rupert's House, B. A., and Labrador), and the only difference I can detect is the color of the upper surface of the wings. The one you sent me is yellow, while my examples of *Pelidne* are white, which is no distinction at all in the *Coliades*, as most of them are blessed with two kinds of females, one the color of the *male, and the other albino.”

ARGYNNIS CHARICLEA *Esp.*—One of the earliest and most common butterflies in Labrador. In my opinion, distinct from *Boisduvalii*, which appears at least a month later in the north. I took fresh specimens of the latter at Mingan, six years ago, on the 22nd of July, when *chariclea* had terminated its season. Mr. Morrison pronounces the above as a variety of *Boisduvalii*, stating that he possesses specimens from the Alps.

ARGYNNIS ATLANTIS *Edws.*—When on my way home, about the end of July, I took a specimen of the above at Sawbill River. It agrees in every particular with specimens taken by my friend, Mr. Strecker, in Luzerne County, Pa. He states that the Pennsylvania specimens are darker and more reddish than those in his collection from Lake Superior.

PHYCORIDES THAROS *Cram.*—I took a few specimens of this butterfly at Sawbill River, Labrador, which I regarded as a *Melitaea*, but, being in doubt regarding the species, I sent an equal share to those who were entitled to them. Mr. Morrison named it as above, stating that it occurs from Labrador to Texas, and the Atlantic to the Rocky Mountains. The

* I have noticed this curious connection with *Pieris Rapae*, which have extremely yellow males, occurring here in the fall. On my return from the North, I captured near this city, last September, a yellow male in *coitu* with a white female. I sent the former to Mr. Morrison, of Boston, who states that it is “the var. *Novanglia* Scudder, and that it is not uncommon in the spring around Boston.” I am of opinion that white and sulphur yellow varieties of *rapae* may be found constantly wherever they occur. The food plants of *rapae* are cabbage, mignonette, nasturtium, and various cruciferae, therefore it may be that the American specimens exhibited by Mr. Scudder in Europe, were what the late Mr. Walsh termed *phytophagic*. There is no doubt, in my mind, that the food of caterpillars produces the varieties which lead to so much confusion in the determination of butterflies. My friend, Mr. F. B. Caulfield, of this city, informs me that he has reared caterpillars of *rapae*, found on mignonette, which produced imagoes of a deep sulphur yellow.

specimens sent to Mr. Strecker were identified by him as *Melitea Batesii*, *Reakirt*, described in Pro. Ent. Soc. of Phil., 1865.

VANESSA (GRAPTA) PROGNE *Cram.*—A single specimen taken at Fox Bay, Anticosti, on the 20th June. Similar to the same species taken at Quebec.

VANESSA ANTIOPA *Linn.*—One specimen captured at Fox Bay, Anticosti, on the 19th July.

PYRAMEIS CARDUI *Linn.*—This species occurs early on Anticosti. On my arrival at Fox Bay, they were worn and unfit for collection.

PYRAMEIS ATALANTA.—Fox Bay, rare in June.

CHIONOBAS?—At Thunder River, Labrador, in July, I took one specimen of a species belonging to the above genus, which I sent to my esteemed friend, Mr. Strecker, who writes as follows:—"I have compared it with *Ch. Semidea*, *Crambis jutta*, *Balder*, also, *Uhlerii*, *Taygete* (*Bootes*), the only ones in my collection that could possibly have any affinity with it, but am afraid to pronounce it the same as any one of them. It is nearer to *jutta* than to any other, but I won't say it is it. After it is expanded, I will give it another examination." Probably this is another instance in which we see the external change produced on the imago through the food plant of the caterpillar, and I have no doubt but it will turn out to be a variety of *jutta*.

LYCÆNA? (*N. S.*)—I collected a few specimens of this species at Musquaro, Labrador, in July, 1867, a specimen of which was sent to Mr. Scudder, of Boston, in September following. Mr. S. wrote to me that it was, to the best of his knowledge, *L. Lygdamus* Doubl., but he wished me to inform him whether the Labradorian specimens "were all marked with a single spot on the secondaries, where his Hudson Bay specimens have two." Not having a sufficient number to examine, the identification could not be determined at that time, but on my arrival at Fox Bay, Anticosti, it was the first butterfly that attracted my attention, and I was fortunate in obtaining twelve dozen of them. On lately referring to Mr. Scudder's letter of Oct. 1st, 1867, the remarkable difference pointed out by him was discernible in all my specimens, but, not knowing the species, I sent them to my subscribers as *L. Lygdamus*. Mr. Morrison writes as follows:—"Lycæna? (*N. S.*)—You named this species *L. Lygdamus* Doubl. I have compared your specimens very carefully with my specimens of the true *Lygdamus* from Northern New York, and am satisfied that it is a distinct species. The color of the whole underside is different; also, the

arrangement of the spots on the underside of secondaries slightly, but constantly. The black ocelli to the spots, very conspicuous in the true *Lygdamus*, are almost wanting in your species." Mr. Strecker has also suspicion regarding it. However, I have no doubt but that this *Lycæna* will turn out to be one of a few new species yet to be discovered on the dividing line between the Canadian and Arctic Lepidopterous faunas.

LYCÆNA—? (*N. S.*)—I sent one specimen of a species of this genus to Mr. Morrison, who informs me that it is "closely allied to *epixanthe*," but I think different. Congeneric with the *castro* of California and the *xanthe* of Europe. It is nearer *castro* than *epixanthe*." This butterfly was taken at Sawbill River, Labrador, on 20th of July, and, after all my misfortune, I was pleased that day. I trust that my talented friend, Mr. M., will shortly describe it in the CAN. ENT.

LYCÆNA LUCIA *Kirby*.—Common in the woods at Fox Bay during the month of June. It also occurs abundantly on the south-western coast of Labrador. Mr. Morrison appears to notice no difference between the Anticosti specimens and those taken in Western Canada, and the middle and the Eastern United States, but Mr. Strecker says that they are darker underneath than the United States specimens generally are.

LYCÆNA SCUDDERI.—This is one of the most permanently marked species in North America. The Entomologist may occasionally obtain an obscure specimen, but upon thorough examination, it will be found prototypic of its congeners of the valley. The specimens forwarded to my correspondents differ in no particular from United States and Canadian examples.

HESPERIA PANISCUS *Fabr.*—A single specimen captured at Fox Bay, Anticosti, on the 26th June. It was sent to Mr. Morrison, who informs me that it does not differ in the slightest from the European specimens of *paniscus*. It is close to *Mandan* Edw. I feel convinced that the latitude of Quebec is the most northern limit of the *Hesperidans*. *Alypia Langtonii* Couper. I was astonished when I met this beautiful moth in Fox Bay, Anticosti. Mr. Strecker states that "he found it in the mountains of Luzerne, Pa." It is curious that since I described this insect, some years ago, it appears now in Western Canada and in high latitudes many miles south of Quebec. *A. octomaculata* was also taken at Fox Bay.

SESIA RUFICAUDIS *Kirby*.—Fox Bay, Anticosti; uncommon. This species is very common at Quebec.

DEILEPHILA GALLII *Bott.* (*Gallii* Schiff.)—Fox Bay, Anticosti, and Sheldrake River, Labrador; uncommon, but abundant at Quebec. Mr.

Strecker writes as follows:—"In spite of all American Lepidopterists in a bunch, this is the *D. Chæmancrii* Harris, but it is identical with the *Gallii* of Europe. I have compared specimens from New York, Pennsylvania, Massachusetts, Canada, Ohio, France, Regensburg, the Hartz and various other parts of Europe, and neither I now, nor any other living human being can detect any difference."

MICRO - LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

Continued from Page 195.

ADRASTEIA.

A. quercifoliella.

Depressaria bicostomaculella, ante p. 127.

The former description of this species was made from a single old specimen, on which no tufts were visible (having, no doubt, been removed in setting the specimen, which was, however, otherwise undenuded.) Since the publication of that description, I have bred the species, and the tufts in the fresh specimen are distinct, and the insect unquestionably belongs to this genus. The following description of the fresh specimen is more accurate than the preceding one. I have changed the specific name, giving it that of the food-plant.

Head and its appendages, thorax, and primaries, with a somewhat indistinct dark purplish lustre, especially on the darker portions. Second joint of the palpi blackish, with white and a few ochreous scales intermixed; the third joint blackish, with but few white or ochreous scales, with the extreme tip pale ochreous. Head whitish; face with few blackish scales intermixed; vertex densely dusted with blackish. Antennæ dark fuscous, with a faint narrow pale ochreous annulus at the base of each joint. Thorax and primaries—to the naked eye, dark iron gray with blackish irregular spots, some of them large—under the lens, blackish freely dusted with pale blue, white, and some pale ochreous scales, with large velvety blackish spots not dusted. Ciliæ yellowish white, the basal half of the dorsal ciliæ freely dusted with blackish. The thoracic tuft is pale yellowish, those on the wings are small and whitish; the largest is nearest the base and within the dorsal margin; the other two are just behind the middle, one before the other, and both nearer to the costal

than to the dorsal margin; there is a small whitish streak at the beginning of the dorsal ciliae, and an opposite costal one, and another faintly indicated costal one near the base. *Alar ex.* $\frac{1}{8}$ inch.

The larva feeds on the under side of leaves of the black oak, in a web. It is pale yellowish, with the head and first three segments dark brown, the first segment shining brown.

A. querciella. *N. sp.*

Depressaria querciella, ante p. 127.

As before mentioned, this species has the thoracic tuft; and though I cannot detect any raised tufts upon the wings, yet, as in other parts of its structure, it is identical with the above described species, as well as in the ornamentation, it belongs more properly in this genus than in *Depressaria*. The statement at p. 127, that "it is a *Depressaria* in all respects, except the tuft," is too broad. It would be more correct to say that it closely approaches *Depressaria* in all respects, &c. The brush on the palpi is scarcely long enough for *Depressaria*, the primaries are too narrow and the style of ornamentation is different. In the fresh specimens also, the abdomen is somewhat convex, as in the other insects which I have placed in this genus. In all of these insects the brush is spreading, and sometimes appears to be distinctly divided.

This species and *A. quercifoliella* were bred from Oak leaves, and the two other species were taken in Oak woods, and probably feed either upon Oak or Hickory leaves.

VENILIA, *gen. nov.*

The insect which I make the type of this genus is related to *Anarsia*, *Cleodora*, and *Ypsolophus*, perhaps more nearly to the first named than to either of the others. The tuft at the end of the second joint of the palpi resembles that of *Anarsia*, and the neuration is nearer to that of *Anarsia* than to that of *Ypsolophus*. I am not acquainted with the neuration of *Cleodora*. It resembles the latter genus in the slender antennæ; but the wings are wider and the terminal joint of the palpi too long and slender.

Terminal joint of the labial palpi as long as the second, slender, almost acicular. Tuft at the end of the second joint scarcely concealing the base of the third joint, and pointing downward rather than forward. Antennæ very slender, indistinctly pectinated, and microscopically pubescent, scarcely reaching the apical third of the wings.

Wings rather wide. Primaries ovate, lanceolate, faintly falcate beneath the tip. The costal attains the margin; the subcostal sends from before

the middle a long branch to the costal margin, and two other approximate branches from the end of the cell, from the first of which it bends down to its union with the discal vein, whence it proceeds towards the apex, before which it divides, sending one branch to the costal and one to the dorsal margin near the apex. Discal cell wide at the end, closed, the discal vein emitting two branches to the dorsal margin; the median emits two branches before the end of the cell, from which it curves to the dorsal margin. Submedian furcate at the base. Hind wings with the costal margin, nearly straight, a little arched towards the base; costal vein straight, long, attaining the margin before the apex; subcostal very faint from the base to the discal vein, distinct from thence to the apex, straight; cell closed by a distinct discal vein which sends two branches to the dorsal margin; median oblique, nearly straight, furcate at the end of the cell, and with a branch to the dorsal margin before the end of the cell. Hind margin regularly curved, not emarginate; narrower than the fore wings.

V. albapalpella. *N. sp.*

Apical joint of the palpi snowy white, with a narrow brown ring at the base; second joint white at its apex and on the inner surface; grayish-brown on the outer surface. Antennae grayish-brown, annulate with white. Head, thorax and primaries grayish-brown, with a row of yellowish-ochreous spots around the apex of the wings at the base of the ciliae. *Alar ex.* $\frac{1}{3}$ of an inch. Captured in June in Kentucky.

ANARSIA.

A. ? pruniella, Clem. *Proc. Acad. Nat. Sci., Phila, 1860, p. 169.*

In Mr. Stainton's valuable collection of Dr. Clemens' papers (for which Mr. S. is entitled to the lasting gratitude of every student of the American *Tineina*), page 36, Dr. Clemens uses this language: "Yesterday I found the ♂ of *Anarsia ? pruniella*. It is the same as the European, and the genus is no longer doubtful." The italics are mine. Same as the European what? I suppose Dr. C. means the European *A. lineatella* Zeller. My specimens were taken on Plum trees, and I recognize them easily in Dr. Clemens' description of his specimens, which were bred from the Plum. But I have received from Mr. Townend Glover a specimen which he bred from Peach leaves, and which is identical with mine. And Mr. C. V. Riley informs me that specimens which he bred from Peach leaves, and sent to Prof. Zeller, were recognized by Zeller as his species. There can be no reasonable doubt that the species is the same as Zeller's, and that his name has priority.

BEGOE, *gen. nov.*

The insect described below as the type of this genus I have been unable to place in any genus known to me. I do not deem it necessary to give any further diagnosis of the genus than to say that it is an *Ypsolophus*, except as to the antennæ and palpi. The former are minutely pectinated, and are otherwise like those of *Ypsolophus*. The terminal joint of the palpi is, perhaps, a little more robust than in *Ypsolophus*; the second joint is clavate, rounded at the apex, laterally compressed, vertically thickest just before the end, forming a thick, rather compact, undivided brush. As to the length of the palpi and the relative lengths of the joints, it agrees with *Ypsolophus*.

B. costolutella. N. sp.

Tongue and face brownish-ochreous; palpi ochreous yellow; head brown on top, ochreous yellow above the eyes; thorax dark shining brown, except the anterior margin and patagiæ, which are ochreous yellow. A line drawn from the base of the anterior wings, near the dorsal margin, to the beginning of the costal ciliæ, will divide the wing into a narrower anterior (or costal) ochreous yellow portion, and a wider posterior (or dorsal) portion, which is shining dark brown. The anterior or ochreous yellow portion, however, becomes furcate about the apical third of the wing, sending a curved branch into the dark brown portion; this branch is at first wide, but curved, gradually narrowing towards the dorsal ciliæ, which it does not quite reach. There is a faint, narrow, ochreous yellow hinder marginal line at the base of the ciliæ, which are paler than the dark portion of the wing, their basal half being darker than the apical half. Posterior wings and their ciliæ grayish slate color. *Alar* α . $1\frac{1}{2}$ in. Kentucky.

If one could believe that the projecting brushes had been removed so evenly and smoothly as in this insect, without otherwise injuring them, and leaving no trace that they had ever been other than they now are, then this insect would be an *Ypsolophus*, resembling *Y. cupatoriella* (*vid. post-prox.*).

NOTES ON SOME GENERA OF CANADIAN INSECTS.

BY FRANCIS WALKER, F. L. S., LONDON, ENGLAND.

The geographical distribution of *Smicra* differs much from that of *Leucospis*. Unlike the latter genus, which is spread thinly and somewhat

equally over the warm and temperate regions of the earth, *Smicra*, with very few exceptions, is limited to the New World, where there are some species in North America, many in Mexico and in the West Indies, and great abundance in the tropical parts of South America, and the genus has thus much more influence than *Leucospis* in regulating, by means of transfer, the increase of other insect tribes. Its body is ornamented with very various patterns of black on a yellow or red ground hue, except a few species, which are mostly or entirely black. The family *Chalcididae*, to which it belongs, is even more free than the *Leucospidae* from metallic lustre, the only exception being the isolated genus, *Notaspis*, a native of St. Vincent's Isle, in the West Indies. The very few species in Asia and Africa hardly possess the typical form, but the three or four European species are as characteristic of the genus as those of America. The American species from Georgia, which I have mentioned as a variety of the European *S. nigrifex*, may be considered as a distinct species. It was not known to Cresson, who has described many new species of the genus, but will probably be soon distinguished and named in America. It is a little smaller than *S. nigrifex*; the forewings are a little narrower; the petiole is a little longer; the hind coxæ are a little shorter: the hind femora are not black at the tips, and have beneath smaller and more numerous teeth; the tibiæ are piceous, red at the base, not wholly black, as are those of *S. nigrifex*. The only Canadian species is *S. Canadensis*.

ANNUAL ADDRESS

OF THE PRESIDENT OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO, 1872.

To the Members of the Entomological Society of Ontario:

GENTLEMEN,—It is my happy privilege once again to congratulate you upon the completion of another year of progress in the annals of our Society. As you have already learnt from the very satisfactory Report of our excellent Secretary-Treasurer, the list of members of the Society has been largely added to during the past twelve months; the Library has been increased by the purchase of a number of valuable Entomological works; a cabinet and microscope have been bequeathed to us by our late lamented member, the Rev. Professor Hubbert, and our collections have been much improved; a comfortable and commodious suite of rooms has been procured in a central locality in London, Ont.,—the present head-

quarters of the Society; the CANADIAN ENTOMOLOGIST has been regularly issued with, we trust, no diminution in the value and interesting character of its contents; our Second Annual Report on Noxious and Beneficial Insects, prepared by Messrs. Saunders and Reed, and myself, and containing notices of the insects affecting the Apple, Grape, Plum, Currant and Gooseberry, Wheat crops, Potato, Cabbage, Cucumber, Melon, Pumpkin and Squash, has been duly published by the Legislature of Ontario, and no doubt has long since been in the hands of you all—Such, gentlemen, is our record for the year that is now brought to a close, and, having in addition, a satisfactory balance-sheet from the Treasurer, we feel that mutual congratulations are not out of place, and that we who have been honoured with official positions in the Society, can look back upon our efforts in its behalf with at least the agreeable feeling that they have not been altogether in vain.

If we turn, moreover, from our own especial interests to the condition and prospects of American Entomology in general, we find much to afford us satisfaction and encouragement. No large work, indeed, on any particular order of insects has appeared during the past year, but many valuable reports of State Entomologists and portions of serial publications have been issued from the press,—among the latter, I may be pardoned, I am sure, for especially drawing attention to the exquisite illustrations of North American Butterflies contained in Mr. W. H. Edwards' invaluable work, which has now reached its Tenth Part. It speaks well, too, for the growing popularity of this branch of Natural Science, that Dr. Packard's useful "Guide to the Study of Insects" has already reached a *third* edition. A pleasing recognition of American Entomological work has recently, I may add, been manifested in England by the publication therein in a collected form, of the writings of the late Dr. Brackenridge Clemens, on the *Tincina* of North America, under the editorial supervision of Mr. H. T. Stainton, the well-known authority in that department of Lepidoptero-logy.

Apart, however, from the position attained by the growth of our Entomological literature, the Science has this year received a recognition that cannot fail to be of great and permanent benefit to it. I allude to the formation of a special sub-section of Entomology at the recent meeting of the American Association for the advancement of Science. It will now be practicable for American Entomologists—to whatever part of the Continent they may belong, whether to a Province of the Dominion

or a State of the Union, from the Atlantic to the Pacific—to meet together for mutual conference on matters Entomological. Questions affecting the Science in general can hardly fail to arise from time to time, and demand the consideration, and, possibly, the decision of some such united council. Certainly, the proceedings of such a gathering will be of great interest and value to all who take part in them, if not, indeed, to the whole circle of Canadian and American Entomologists.

At the informal meeting at Dubuque, in August last, one subject was specially brought forward for discussion, which I cannot forbear alluding to more particularly here, especially as it may justly be considered the great question of the day in the Entomological world. I refer to the subject of the Specific and Generic Nomenclature of Insects. For some few years past indications have not been wanting of a growing inclination amongst the mass of Entomologists to resist the efforts made by some few able and distinguished writers to impose, year after year, new sets of names upon our common insects. This has been done partly by the revival of the long-forgotten names published at the close of the last century, or the beginning of the present one; and partly by the perpetual formation of new genera, and the re-distribution of species. The ability of the writers and the good work they have done in other respects, have caused these annoying changes to be acquiesced in for the most part, even though the object in view appeared to be rather the exhibition of their powers of research among antiquated tomes, or the supposed immortalization of themselves by the attachment of their own names to those of our familiar insects. I do not say that these men were actuated entirely by such motives, but assuredly one can hardly be accused of ill-natured criticism in ascribing much of the work to such causes. All must admit, I think, that nomenclature is but a means to an end, and that end is surely best attained by the preservation of all names that have been in universal acceptance for a period of years, and that cannot be set aside without disturbing the cabinets of every Entomologist in the land.

Matters in this respect have been brought to a climax by the recent publication of Mr. Scudder's "Systematic Revision of some of the North American Butterflies." I esteem Mr. Scudder so highly as a friend, and value so greatly the good scientific work that he has done, that it pains me exceedingly to say a single word against anything that he may put forth. His projected "revision," however, is so sweeping and so revolutionary that I cannot forbear to make some remarks upon it. I know that his scientific labours are perfectly unselfish, and that he is entirely destitute of

any of the conceit that I have just now referred to; I feel sure, too, that he is actuated only by the desire to benefit the science; yet I do deeply deplore the mode that he has adopted, and am convinced that if his views are pressed, a very great obstacle will be thrown in the way of the advancement and popularization of this department of Natural History. We all, I am sure, look forward with eager anticipation to the publication of his great work upon North American Butterflies, and have no doubt that it will be the most complete, the most scientific, and the most conscientious work of the kind in America, but assuredly its value will be very greatly marred and its general acceptance impaired, if he continues to insist upon all these radical changes.

To show you what these changes are, I will briefly state that in the pamphlet already published, and which is intended as a forerunner of the author's great work on the Butterflies, the following alterations are made in the received nomenclature:—The 228 species enumerated are distributed among 96 genera—almost a genus for every two species; of these 96 genera, 42 are entirely new, and 39 others are obsolete names of Hubner and others that have never been generally adopted; there are thus 15 familiar generic names left, but of these several are transferred from their present position to entirely different groups of species; for instance, the name of *Papilio* is removed from the genus of 'Swallow-tailed Butterflies,' and handed over to the sole use of the insect at present known as *Vanessa antiopa*! Further, among the 96 genera there are no less than 45 that include but a single species apiece; and among the 228 species there are only 16 left with their present names unchanged! These figures are surely quite enough to show that I have not misapplied the terms 'sweeping,' 'revolutionary,' and 'radical,' as characterizing this work of revision. I would, then, most earnestly entreat Mr. Scudder, for the sake of the science itself, to re-consider his projected changes,—to discard all antiquated names in favor of those that have been for years in general acceptance, and to reduce his list of new genera to as small a number as he conscientiously can. If he does not, if he persists in his revision, I fear that his great work—most valuable as it will undoubtedly be in all other respects—will introduce more confusion, trouble and discord into American Entomology than a generation can get rid of. If these difficulties can be avoided in no other mode, it will remain for us all to unite together and agree to ignore all old forgotten names that may be brought forward, and retain all remaining of familiar species, until a general settlement of the question can be satisfactorily arrived at.

I fear, gentlemen, that I have now completely exhausted your patience; I shall therefore hasten to a close. But before doing so, let me remind you that, since our last annual meeting, our Society has lost by death one of its most valued members, Mr. B. Billings, of Ottawa, Ont. He was one of those devoted lovers of science who do good service by their honest, hearty work, but who, from their innate modesty and retiring disposition, shrink from all publicity. At times he contributed valuable papers to our little periodical, but he could never be induced to make any display of the knowledge he had acquired by his patient diligence both at home and in the field.

Permit me now, gentlemen, to resign into your hands the office that you have done me the honor of investing me with. I thank you for your kindness and courtesy towards myself and my colleagues, and with every wish for the continued success and prosperity of your Society,

I have the honour to be, gentlemen,

Your obedient servant,

CHARLES J. S. BETHUNE.

Trinity College School, Port Hope,
September, 1872.

ON MR. SCUDDER'S SYSTEMATIC REVISION OF SOME OF THE AMERICAN BUTTERFLIES.

BY AUG. R. GROTE.

We have here before us a paper by an accomplished scholar, on a subject dear to us from our own studies. Mr. Scudder's Revision presents two main points for our consideration. The first point affects the sequence of the Butterflies in a systematic arrangement; the second the application of the scientific law of priority. As to the first, the considerations which have influenced Mr. Scudder to side rather with Ochsenheimer than with Boisduval, where the present Revision is not original, are evidently not lightly taken. Mr. Scudder's strong perceptions must contrast agreeably with the superficiality of those writers who find an excuse for the most heterogeneous linear arrangements on the plea that resemblances are diverse (*netzartige verwandschaft*;) who stay not to discriminate between degrees of similarity. On this first point one shall criticize Mr. Scudder, who has a large comprehension of the subject, and whose argument shall ignore trivialities.

On the second point, and one which is minor in theory, but in practice more important, we have to say : Mr. Scudder restores obsolete terms for sub-divisions higher than genera, and disregards the family and sub-family terminations lately rendered common in Zoology, chiefly by English writers on insects. On occasion, we think the propriety of this restoration doubtful, and that the law of priority does not come into question. Where the older author *meant* by his names what Mr. Scudder now declares, the older name should stand without doubt. And here we owe Mr. Scudder a debt of gratitude for his bibliognostic information. But, if such values are recognized, is it not better to give the usual terminations in *idæ*, *inæ*, and *ini* to the terms for families, sub-families and tribes. Two *families* in the Latreillean sense (*Papilionidæ* and *Hesperiidæ*,) are represented by the insects Mr. Scudder discusses, and, while we cannot doubt that they contain natural assemblages of genera of sub-family and tribal value, we are unprepared to support this view against Mr. Scudder's divisions, which are not explained by diagnosis. And while we cannot contest the value of the most of Mr. Scudder's genera, we may more often differ as to the application of the law of priority in the choice of generic names. The value of Hubner's *Verzeichniss* (1816,) and its use by Mr. Scudder, is a case in point. Notwithstanding Ochsenheimer's repudiation, Guenee's sneers, and Lederer's contemptuous patronage, Hubner's genera are now in great part becoming recognized, and his names available to science. This quiet, unobtrusive man has written what has endured half a century of abuse and intolerance, to be found greatly true. We have elsewhere (*Cuban Zygaenidæ*) written what we thought of Hubner and his generic conceptions. Let us see now how Mr. Scudder uses him sometimes. On page 59 Mr. Scudder adopts *Zerene* for a genus of which *Papilio caesonia* is type, and says : "Since the typical species of *Zerene* of Hubner fall into the much older genus, *Colias*, the name may be retained for the last species, *Pap. caesonia* of Stoll. That this ought to be preferred to *Meganostoma* of Reakirt follows from my suggestion in 1862, that the former should be retained for the two species here catalogued." But Hubner's *Zerene* is synonymous with *Colias*; no subsequent "suggestion in 1862" can alter Hubner's meaning in 1816. Hubner does not autoptically know all the species he cites; hence we must always take with him the first species as his types. If to *Zerene* we cite Scudder (1862,) the name is logical and, in this case, must be discarded at once so as not to interfere with the priority of a well established genus of *Geometridæ*, of the same name. *Meganostoma* must be retained.

If we apply similar considerations to several others of Mr. Scudder's genera, we shall remove in great part what is objectionable, and *bizarre* (e. g., the use of *Papilio* for *Van. antiopa*,) remembering that the older authors always cited, as a matter of duty, all previously published names, even without note of identification, and that therefore they are not to be held liable for *all* the contents of their genera. Without questioning any of Mr. Scudder's statements on page 37, with regard to the use of the name *Papilio*, we yet know that Linnaeus applied it to his *Equites* first. Schrank's wide "limitation" can, then, have no priority in reason, nor the new restriction by Mr. Scudder against a well established use for a genus of which *Papilio machaon* is the conceded type. Let us disintegrate *Papilio* quickly; it must sorely need it that such means should be prescribed for the end.

We may differ with Mr. Scudder occasionally on matters of synonymy (e. g., *Thecla calanus* and *inorata*,) but we follow him admiringly in his conscientious generic definitions, and are ever ready to sink the critic in the disciple.

DESCRIPTION OF A REMARKABLE VARIETY OF LIMENITIS MISIPPUS.

BY THEODORE L. MEAD, NEW YORK.

While in the Catskill Mountains this summer, I met with a very curious variety of *L. Misippus* in which the conspicuous black stripe crossing the secondaries was altogether absent, and the corresponding mark on the primaries only indicated by a dusky cloud extending to the median nervule and enclosing no white spots. On the underside the differences remain the same. In the ordinary type, there is a whitish cloud around the cross stripe. In the variety under consideration this is quite distinct. The marginal row of greenish lunules is obsolete, but the submarginal white ones are enlarged so as to leave no black between the lunules and the buff ground-color on the secondaries, and but little on the primaries. On the upper surface, these lunules are rather large on the fore wings, but otherwise as in the usual type. The specimen was a female.

It is noticeable that this variety is a nearer approach, in general appearance, to *D. Archippus*, which, as is well known, enjoys almost entire immunity from ordinary foes. We may fairly assume that had not the Entomological collector intervened as an unexpected factor in the problem

of the "Struggle for Existence," our present variety, protected above its fellows by a closer resemblance to the distasteful *Danaïs*, might have given rise to a new species, and that, in less time than is generally assumed to be necessary for specific changes; as this variety would be thought to present quite sufficient specific differences, were it brought from a distant region.

In examining a number of butterflies offered for sale to the American Museum of Natural History, I found a curious variety of *Limenitis ursula*. Above, the markings are the same, but with the substitution of fulvous for blue, except in the marginal lunules, which are white with a faint bluish tinge. Below, the suffusion is very conspicuous and the secondaries in color and marking considerably resemble those of *Misippus*. It is not impossible that the specimen may be a hybrid between these two, as I have seen offspring resulting from the union of such dissimilar species, as *Smerinthus Tiliae* and *Populi* of Europe, showing the characteristics of both. Should the *ursula* be merely a variety, it would furnish an excellent illustration of the way in which *Misippus* probably originated.

A NEW HESPERIAN.

BY G. M. DODGE.

Hesperia Illinois. N. sp.

Male expands 1.3 inches. All the wings dark brown above. The primaries throughout the middle and basal areas sparingly sprinkled with fulvous scales. This color is deepest around the stigma, which consists of a velvety black bar extending obliquely from near the middle of the submedian vein to the cell, and is often divided into two equal parts by the fourth median veinlet. A large square patch, not sprinkled with fulvous, occurs in the middle area at the termination of the cell; and a small detached yellow spot lies immediately below, and outward from the anterior termination of the stigma. The base and middle of the secondaries are covered with long yellowish hairs. Fringe on all the wings white. Underside fulvous, inclining to ferruginous; the internal half of the primaries smoky, shading into black at the base and inner margin; two small yellowish spots near the centre (very distinct in some specimens, in others nearly obsolete) seem reproduced from above. That nearest the apex is round, the other is larger and somewhat reniform. On the

secondaries the fold is smoky; a broad band of fulvous precedes it, extending from the base to the outer margin; on the remainder of the wing the color is paler, and all the veins white and conspicuous. Fringe of all the wings brown, becoming white at the internal angles.

Above, head and thorax fulvous; abdomen black; its sides partly clothed with whitish-yellow hairs; palpi fulvous, tipped with black. Below, abdomen and palpi white; breast mouse-coloured. Antennæ annulated; above, brown; below, whitish-yellow; underside of club red.

The female expands 1.5 inches and is like the male, with the following exceptions: The stigma is wanting, and the fulvous on the primaries above is very obscure, being most apparent along the costa. Two small, semi-transparent yellow spots occur near the middle of the primaries; the one nearest the apex being so small as to be indistinct; the other is a little larger.

Variety *A*, ♀. Same as above, but the two spots in the centre of the primaries are much larger; the upper is triangular, the lower and largest nearly square. Three linear spots of nearly equal size appear between the subcostal veinlets, near the apex, and a long rectangular spot surmounts the submedian vein about half way between the base and outer edge of the wing. All these spots are reproduced below.

This species was discovered by Mr. E. A. Dodge, in Burcan County, Illinois. The first specimen was taken June 20th, 1872. It was quite abundant upon grassy slopes on the high rolling prairie that forms the divide between the Illinois and Rock rivers. Over forty specimens were taken, nine of which were females. Two weeks later *Hesperia Poweshiek*, Parker, appeared abundantly in the same locality.

The writer will exchange specimens of either of the above-mentioned species for most of those North American butterflies not of common occurrence in Northern Illinois.

MISCELLANEOUS.

VANESSA ANTIOPA, OR PAPILIO ANTIOPA?—The unusual abundance of this insect in many parts of Europe the present year, and its great influx into England, have given it unusual prominence in late numbers of our trans-Atlantic Entomological periodicals. I have been a little interested in watching to see how many of the writers would follow our friend Scudder's "Revision," and call the insect "*Papilio Antiopa*," and have not yet met with one.—C. V. R., St. Louis, Mo.

VANESSA ANTIOPA.—The present autumn has been remarkable for the appearance in scattered localities all over the country of one of our rarest and most beautiful butterflies, the Camberwell Beauty, *Vanessa Antiopa*, very few British specimens of which exist in our cabinets. The *Entomologist* records the capture of upwards of 200 specimens in all parts of the country, from the Channel Islands to Aberdeen. It is very remarkable that they nearly all differ in colouring to a perceptible extent from the Continental variety, the border being creamy white instead of buff-coloured. If they are genuine natives their spasmodic appearance in this manner is very singular, and worthy of careful observation. Several other rare butterflies, especially *Argynnis Lathonia*, *Pieris Daphidice*, and *Colias Hyale*, have also been unusually abundant this season.—*Nature*.

THE RADISH BUG.—A NEW INSECT. (*Nysius raphanus*, N. sp.)* This insect has never heretofore been described; the reason, we suppose, is that it has not hitherto attracted the notice of farmers and gardeners as a destructive insect. We have noticed it this season, for the first, attacking radishes, mustards and lettuce; some have noticed it on cabbage, others on grapevines, and in Kansas it is doing great damage to the potato crop, and we are informed that a very similar, if not the same species, attacks corn to an alarming extent; but, as we have not as yet seen the species from corn, we cannot say that they are identical, but

**NYSIUS RAPHANUS*, N. sp.—Body long, with numerous short hairs; head and thorax cinerous; eyes black; scutel blackish; antennæ pubescent, four-jointed, chestnut brown, first and third joints about equal length, second, long as first and third, last, longer and thicker than third; hemelytra semi-transparent, punctured, with brown nervures, outside at base hairy, interior terminal margin bound with a dark band, separated by the medial longitudinal nervure, membranous at tip; rostrum nearly as long as the antennæ, four-jointed, extends a little beyond the origin of the posterior feet, blackish, paler at base; coxæ honey yellow; legs hirsute; posterior femora blackish; anterior and middle brown; tibiæ light brown, two tibial spurs; tarsi three-jointed—first as long as second and third, third longer than second—tarsal claws black; abdomen of males black; females black above, beneath a whitish band near the base, from the band to the tip pale; length to tip of hemelytra one-eighth of an inch; rostrum one twenty-fourth of an inch.—WM. R. HOWARD, Forsyth, Mo.

suppose that they are. It seems to be almost a general feeder, as it is not confined to any particular order of plants for its food, though in this locality it seems to confine its ravages mostly to CRUCIFERÆ. They will congregate on the plant as long as there is room for one of them, and continue sucking the life-supporting juices, which soon causes the plant to wilt and die. They are very active, and, when disturbed, swarm like so many gnats, which they more resemble, when flying, than anything else. In the morning, while the dew is on the plants, they are found concealed in the shriveled up leaves, and are rather sluggish; and by plucking these and putting them into an old tin pail, with live coals of fire at the bottom, many of them may be destroyed. Lime has been tried to a slight extent, but seemingly without effect. We have not discovered either the eggs or the young, yet like their cousin, the chinch bug, wet weather is unfavorable to their production, and after a heavy rain it will be difficult to find many of them for several days. We give herewith the first description of this insect, to our knowledge, that has been written. The specific name, *raphanus*, was given it from its food plant, the radish, upon which we first noticed it. It belongs to the sub-order *Heteroptera*; and, like most insects of that order, is not by any means destitute of that unpleasant "bed buggy" smell. We hope by the end of the season to be able to procure the eggs and young, and to be able to write a more complete history.

NOTE ON *HESPERIA COMMUNIS*, Grote.—This species, which is described as *Syrictus communis* on page 69 of this volume, is identical with Mr. Scudder's *Hesperia tessellata*, described in the Fourth Annual Report of the Trustees of the Peabody Academy of Science, Salem, 1872. As I learn from Mr. Edwards and Mr. Scudder, my description was written in 1871 and published in April, 1872. Mr. Scudder's paper, in which his description of this species occurs, was, according to page 1 of the Report, "read, accepted and ordered to be printed," Jan. 13th, 1872. I do not know the exact date of the issue of the Report from the press. A similarity of name with that proposed by Mr. Scudder, in an European species (*H. tessellum*) might assist in according a preference to the name I have proposed as above for our American species.—A. R. GROTE.

THE AMERICAN ENTOMOLOGIST.—I have a few bound copies of the two volumes of this periodical, which I will send post-paid by mail upon receipt of \$3.50 per volume, or \$6.50 for both. Address C. V. RILEY, Room 29, Insurance Building, St. Louis, Mo.