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The Canadian Entomologist.

VOL. VII.

LONDON, ONT., JULY, 1875.

No. 7

IMPORTANT TO ENTOMOLOGISTS.

In our last we briefly called attention to the fact that the Entomological Club of the American Association for the Advancement of Science would hold its first regular meeting on Tuesday, August the 10th, (the day preceding the meeting of the Association), at Detroit, Michigan. This organization of Entomologists, effected last year at the meeting in Hartford, promises to be an important one, embracing, as it does, within its ranks most of the leading Entomologists in America. Doubtless many important subjects will come up for discussion during the meeting, and among the rest (although we do not speak authoritatively) we doubt not but that the vexed and vexing subject of Entomological nomenclature will claim a fair share of attention. We sincerely hope that some rules will be devised which will result in establishing definitely and permanently the names by which we are to know many of the common insects which surround us, and that some limit will be placed to this everlasting searching among dry bones and continuous resurrecting of names from the musty records of the past, where in the interests of our favorite science they might in many instances have better remained forever forgotten. We do not propose to discuss here the subject of the question of priority, but we do firmly believe that we need the establishment of some rules by which the permanency of our names may be assured, if we do not wish to discourage and disgust the greater number of those valuable working members of our corps who have not time to investigate the merits of the various claims set forth by those who endeavour to lead us in these matters, but who are in many instances as much at variance with each other as the great bulk of the rank and file are disposed to be with them all; not—let it be understood—at variance with them personally; on the contrary, these persevering and talented labourers are held in the highest esteem, but it is felt that in their zeal in defence of the dead they are imposing on the living burdens unnecessary and grievous to be borne.

We anticipate that a large number of specimens will be brought together for the purposes of comparison and obtaining names, and thus much valuable information be elicited. We bespeak a large attendance

of our "brethren of the net," and trust we shall not be disappointed, but that all who *can* come *will* come, and thus aid in sustaining the interest of the meetings. The Club is well officered; President, Dr. J. L. Le Conte; Vice-President, Samuel H. Scudder; Secretary, C. V. Riley. Mr. Riley, who is now in Europe, writes that he hopes to return in time to be present at the meetings.

In accordance with a resolution adopted at the time of the organization of the Club, the first meeting will be held at 2:30 p. m. on the day named.

ON LYCÆNA NEGLECTA, EDW.

BY J. A. LINTNER, ALBANY, N. Y.

In the very interesting paper of Mr. W. H. Edwards, published in the May number of this journal, in which another valuable addition is made to the knowledge of our Lepidoptera, by the identity therein shown of the *Lycænas pseudargiolus* and *violacea*—autumnal and vernal forms of the same species—it is suggested that *neglecta* and *lucia* may prove to bear the same relationship to one another. The possibility of this is inferred by Mr. Edwards from observations made by him, that *lucia* is an early spring form (April and May in New York), and *neglecta* a later one, "occurring at intervals from June till September."

I cannot believe that *neglecta* and *lucia* will ever be united as seasonal varieties of the same species. Several years of diligent collecting by Mr. Meske and myself in this portion of the State, embracing a range of ten miles of territory, have failed to reveal a single example of *lucia*, nor has it come under our observation in any of the collections made by others in this part of the State. We might, therefore, be almost justified in asserting that it does not occur here. We have it from Long Island collected by Mr. Graef and Mr. Tepper.

On the other hand, in that famous collecting ground, Center, on the "pine-barrens," midway between Albany and Schenectady, upon the line of the N. Y. Central and Hudson River R. R., than which, we believe, the Northern United States can produce no superior locality for the Lepidoptera, *neglecta* usually, at its proper season, swarms. There have been times and seasons when, as we have traversed the roadways leading

over the yellow sands of Center and among its pines, that the air about us has seemed blue from the myriads of *neglecta* driven up from the damp sands by our approach. Here, certainly, one might confidently look for *lucia*, were it but a varietal form.

Our observations and records do not agree with those of Mr. Edwards, giving June as the earliest appearance of *neglecta*. From notes made by me, and from dates of capture appended to examples in my collection, I cite the following :

In the year 1869, on May 21st, *neglecta* occurred in great abundance, all of which noticed, with three exceptions, were males. The worn condition of some of the captures indicated that they had already been abroad for several days. The locality had not been explored since the 11th of May, when the species was not found. About the 9th of June it was observed at its greatest abundance ; it was seen for the last time during this year on the 30th of July. In 1870, it was first observed on the 14th of May (none in a collecting trip on the 6th). The last recorded appearance was on the 16th of June. *L. comyntas* was seen from May 6th to Sept. 14th, continuously. In 1871, *neglecta* is recorded from May 16th to June 16th. In the following year its first record is on May 21st.

The latest date of my capture of this species is August 20th, at Schoharie, N. Y.; the earliest is at Bath-on-the-Hudson, near Albany, on May 14th (the year not stated).

The observations which I have given above, when coupled with those of Mr. Saunders appended to the paper above referred to, of the frequent occurrence of *neglecta* in his neighborhood (London, Ont.) and non-occurrence of *lucia*, would seem almost to establish beyond question their non-identity. That these statements may receive all the consideration to which they are entitled, it may be proper to accompany them with the mention made to me by Mr. Scudder, not to be construed to the disparagement of the valued labors of others, that, as the result of an elaborate tabulation of the numerous returns made to him or collated by him, of the Rhopalocerous fauna of the various portions of the United States, the two most thoroughly worked up fields were found to be those of London, Ont., and Albany, N. Y.

As a part of the history of *neglecta*, it may deserve mention that Mr. Meske reports the species as quite rare this year at Center, where in so many preceding years it has abounded.

TINEINA FROM CANADA.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

Gelechia basqueella.*Ceophora basqueella*, ante p. 92.

By some unaccountable error, this species is described *loc. cit.* as an *Ceophora*, while a true *Ceophora*, which I intended to publish as *Ce. australisella*, does not appear at all. I have received *G. basqueella* from Prof. Riley, taken in Missouri, as well as from Texas.

A small collection of Tineina from Canada, received by me from Mr. F. H. Belanger, of the Universite Laval, Quebec, contains the following species, all of which, with, perhaps, two exceptions, are now in the collection of the University.

Tischeria bodicella Cham.

Coleophora coruscipennella Clem. (It is proper to state here that the species described by me as *C. auropurpuriella* is the same previously described by Dr. Clemens under the above name. I have taken it at Covington, Kentucky, and at the Bee Spring camp of the Kentucky Geological Survey, near Mammoth Cave.)

Coleophora cretaticostella Clem. ? I have also taken this species at Covington, but I identify it doubtfully as Dr. Clemens' species, because Dr. Clemens says "palpi white," while in these specimens they are yellowish; and Dr. Clemens also says "inner margin of the forewing whitish," which is not correct as to these specimens. In other respects Dr. Clemens' description applies accurately enough.

Tinea tapetzella Auct. ?

This species is described as having the labial palpi white, with the outer surface of the second joint dark brown. The specimen before me differs by having them ochreous, with the outer surface of both joints brown. It differs also from all descriptions of *T. tapetzella* that I have seen in having the tips of the thorax and patagia reddish ochreous, though in all other respects (even to the *Ex. alar* 9 lines) it is *T. tapetzella*. I therefore place it doubtfully as that species. *T. tapetzella* is a well

known European species, feeding in dry goods, &c., and has never been described from America except in the instance of a single specimen described by Dr. Clemens from Virginia, and Dr. Clemens did not know whether that was bred in America. I have never seen it, unless the specimen in Mr. Belanger's collection be the same.

Tinea pellionella ?

This well known European insect has not heretofore been recorded from this country. One of the two specimens now before me was bred from a larva taken in its case in a house in Covington; another taken at the same time and place produced an Ichneumonide parasite. The other specimen was received from Mr. Belanger. Both these specimens lack the obscure brown spot on the disc of *T. pellionella*, but have the spot on the fold and at the end of the cell, and otherwise agree with the descriptions of *T. pellionella*. The case of my bred specimen was made of pieces of carpet.

Solenobia Walshella Clem.

Tinea aurofulvella Cham., *ante v. 5, p. 90.* Mr. Belanger's specimen is in better condition than any of those from which I described the species, and I am enabled to correct the former description as follows: The dusting of the wings is not so much scattered as might be inferred from that description, and is more properly described as pale ochreous than as reddish or brownish golden, though in some lights they exhibit these hues distinctly. The first and second brown costal spots near the base are connected along the extreme costa, and the "last one behind the middle" connects above the fold with a narrower pale ochreous streak, which passes obliquely forwards to the dorsal margin; and the patagia are brown at their bases. In a previous paper I have described several species from Kentucky, which are white marked with brown, approaching the European *T. granella*, and in this paper shall describe several others. There seems to be an abundance of these species in America, and Dr. Clemens has described one as *T. variatella*, which Mr. Stainton suggests in his edition of the Clemens papers is probably *T. granella*. But after comparing my species and Dr. Clemens' description with Mr. Stainton's description of *T. granella* in *Ins. Brit.*, v. 3., I can not consider any of the described American species as *T. granella*.

Bucculatrix albicapitella Cham.

The specimen in Mr. Belanger's collection differs from all of my specimens in having the dorsal spot prolonged towards the apex till it meets in the apical part of the wing with the second costal streak, in having the apical spot more definite, and the dusting in the ciliæ so arranged as to form two short hinder marginal lines. I have no doubt it is the same species. The pattern of ornamentation (not the colors) of this species is almost exactly that of the *right* wing in Mr. Stainton's figure of *B. demaryella*, but the left wing in the figure is very different. *Vid. Nat. Hist. Tin., v. 7.*

Lithocolletis salicifoliella, CAN. ENT., v. 3., p. 163.

“ *Scudderella* Frey. & Boll. ? *Ent. Zeitung*, p. 212.

In the collection received from Mr. Belanger is a single specimen of this species, together with the mined leaf of poplar, from which it was bred. It has heretofore been found only in Willow leaves. It is an exceedingly variable species, some specimens being so densely dusted with brown or gray brown scales as to suggest a resemblance to the European species *L. populifoliella*, whilst others are almost free from dusting, and may be described as having a ground color of pale golden or saffron marked with white. In the former description of this species I was led by the resemblance of the more densely dusted specimens to *L. populifoliella*, as figured by Mr. Stainton in *Nat. Hist. Tin., v. 2*, and the position in which *L. pastorella* is there placed in his classification of the species of this genus, to suggest that it might be identical with *pastorella*. Perhaps the following description may convey a better idea of an average specimen than the one previously given

Thorax and primaries bright golden or saffron yellow, according to the light, or even sometimes dull brownish yellow, the thorax and basal portion of the dorsal margin of the fore wings being largely intermixed with white and dusted more or less with black; sometimes the inner angle is of the general ground hue, scarcely dusted or marked with either white or dark brown, and then there is a median white basal streak which meets at an acute angle with a dorsal white streak about the basal fourth of the wing length. Both of these white streaks and all other white markings on the wings are more or less dusted with dark gray brown, sometimes so much as to obscure the white. Before the middle of the costa is a long white streak, which attains the middle of the wing, curving backwards; a little behind this, on the dorsal margin, is a large dorsal white streak, wide

on the margin, but shorter than the first costal streak, like which it curves backwards along the middle of the wing, being usually confluent or very nearly so with the first costal streak; a little further back, about the middle of the costal margin, is another white costal streak shorter than the first, but like it curving back along the middle of the wing, and usually confluent with the first costal and first dorsal streaks. Then follows another narrower and somewhat oblique costal white streak, opposite to which is a triangular white dorsal spot separated from it by some brown scales; just before the ciliae is a curved white fascia concave towards the apex and sometimes interrupted in the middle, and just before the apex is another similar fascia, which, however, sometimes does not attain the dorsal margin, and behind it in the apex is a short brown streak. All these white streaks and fasciae are decidedly dark margined before, and more or less dusted with grayish brown. There is a brown hinder marginal line at the base of the ciliae, which latter are stramineous.

In the former description the white dusted with gray brown was considered the ground color, and the golden or saffron as markings on that ground, as in *L. hamadryadella* Clem., and *L. sylbella* Stainton, and *L. populifoliella* Zell., and the species was considered as belonging to the same group with the latter. In this description I have perhaps more properly considered the golden or yellowish hue as the ground color, and the white dusted portions as the markings as in Mr. Stainton's group, 3, *Nat. Hist. Tin.*, v. 2. Hence the apparent difference.

Since the publication of my description of this species, Prof. Frey, of Zurich, has described under the name of *L. Scuderella* a species bred by him from mined Willow leaves, gathered in Massachusetts, which is probably identical with this. At my first examination of Prof. Frey's description I thought otherwise, being unable to recognize this insect in Prof. Frey's description, though they certainly agree in one peculiar characteristic, viz., dark brown bands on the first pair of legs, to which Prof. Frey first drew attention in his description. The discrepancies between my specimens and the Professor's description are chiefly in the markings of the fore wings. But these may result from the variations in the markings of the insect itself. Prof. Frey's specimens seem to have been remarkably free from the dusting of brownish or gray brown scales, and as I understand his description, one of the two fasciae in the apical part of the wing is not mentioned. Still, considering the difficulty of describing an insect so peculiarly marked and so variable as this species, the probability is that it is *L. salicifoliella* Clem.

Prof. Frey notices the dark anterior surfaces of the legs in this species as remarkable, but the species is by no means singular in this respect. *L. tritaeniælla* and other species are marked in the same way, and I did not consider it important to mention this character in the original specific diagnosis of either species. Some specimens of *salicifoliella* are much paler than others, and occasionally the dark margins of the fasciæ are very indistinct. Prof. Frey seems to have been misled by the mention of *L. pastorella* by me in connection with this species. I wrote that this species bore a strong general resemblance to *L. populifoliella*, as figured (*Nat. Hist. Tin.*) and as in that work *pastorella* and *populifoliella* are placed in the same group, I wrote that "it is not impossible that this is *L. pastorella*." *Pastorella* and *populifoliella* are known to me only through the *Nat. Hist. Tin.*, and comparing the most densely dusted specimens of *salicifoliella* with the figures in that work, I still think it should be placed in the same group with those species.

ON ORTHOSIA RALLA, GR. & ROB.

BY J. A. LINTNER, ALBANY, N. Y.

In the April number of this journal, page 79, it is asserted by Mr. Morrison that "the well known *Orthosia ferruginoides* Guen. is re-described as *Xanthia ralla* Gr. & Rob."

Having examined the type specimen of *ralla*, in the possession of the Buffalo Society of Natural Sciences, I am able to pronounce it entirely distinct, and further, that it differs so much from the species to which it is above referred that there would seem to be no valid excuse for the erroneous reference.

In *ralla* the anterior wings are quite produced in their outer margin at vein 3, and considerably excavated thence to the costa; this marked feature is not fully shown in the figure, in *Trans. Am. Ent. Soc.*, i, pl vii. The transverse lines are much more decided than in *ferruginoides*. The anterior transverse line is less sinuous; the post. trans. strongly lunulated line is quite distinct. The conspicuous interspaceal black dots constituting the subterminal line, might, by the the careless observer, be mistaken for the black nervular dots or dashes of the lunules of the preceding line in *ferruginoides*. The orbicular has an interior black dot

and a black dash inferiorly, which *ferruginoides* has not, and its annulus is scarcely defined. The reniform contains inferiorly three black spots. The black dashes which mark the tips of the veins in this are not present in *ferruginoides*, and the fringes are more heavily cut with blackish in the former. In *ralla* the secondaries are pellucid, and without a trace of lines above, while in the other they show a median line, a subterminal band, and are fuscous toward their internal margin.

In view of the marked differences in the two species, it is believed that their pronounced identity is based on an erroneous determination of *ralla* or a simple recollection of its general appearance. It is much to be deplored that synonymical dicta so frequently find their way in print, to our perplexity or annoyance, manifestly wanting in the authority of critical observation or the use of available means of information. To such a neglect we are disposed to refer the recent union, as "dimorphic forms," of three well defined species of *Agrotis*, viz., *subgothica*, *herilis* and *tricera*—entirely unsupported by observations and experiments such as have placed the polymorphic and dimorphic forms of *Papilio ajax*, *Grapta interrogationis* and *Lycæna pseudargiolus* of Edwards, outside of the field of conjecture or prejudice, in a region of absolute certainty.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY REV. C. J. S. BETHUNE, M. A.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Vol. vii, p. 113.)

[250.] II.—ORTHOPTERA.

FAMILY LOCUSTIDÆ.

344. *LOCUSTA LEUCOSTOMA Kirby*.—Length of body $13\frac{1}{2}$ lines. A single specimen taken in Lat. 65° .

Body obscurely rufous, clouded with darker shades. Upper lip, and large spot of the mandibles, white; palpi reddish, with the two last joints whiter, summit black; antennae as long as the trunk, which on the upper side is subpubescent; last segment of the prothorax carinated; tegmina

cinereous, with piceous and rufo-piceous nervures; and at the base is a longitudinal mesal series of black spots; the legs are rufo-testaceous, with the summit of the thighs and the spines black; the posterior thighs above are clouded with the same colour.

[Synonymous with *Caloptenus bivittatus* Say. This species is found in Canada and the New England States, as far south as Maryland and Texas, westward to Nebraska and Minnesota, and northward to Lake Winnepeg.

345. *LOCUSTA VERRUCULATA Kirby*.—Length of body $12\frac{3}{4}$ lines. A single specimen taken in Lat. 57° .

[251.] Body cinereous, sprinkled with black dots or punctures, and indistinct spots. Head punctured; palpi white at the tip; mandibles piceous; antennae shorter than the trunk, pale, black at the tip and longitudinally concavo-convex; prothorax with an entire longitudinal dorsal ridge, wrinkled, and warty from the wrinkles; tegmina with a reddish tint, irregularly reticulated; wings with a black mesal band, and reddish-yellow nervures; abdomen pale underneath.

[Belongs to the genus *Ædipoda* Latr. Is taken in Canada and the New England States; has been found also at Lake Winnepeg.]

FAMILY ACRYDIADÆ.

346. *ACRYDIUM GRANULATUM Kirby*.—Length of body 5 lines. A single specimen taken in Lat. 65° .

Body black, sprinkled with numberless very minute elevated points or granules. Prothorax cinereous, clouded obscurely with black, three-ridged; with middle ridge straight, and the lateral ones curved at the base; rudiments of the tegmina cinereous, ridged, punctured with excavated punctures; nervures of the wings black, those of the costal area white; the four anterior tibiæ are reddish, obscurely banded or rather annulated with white.

[Belongs to the genus *Tettix* Latr. Taken by White in Sir J. Richardson's Arctic Searching Expedition, on the borders of the Mackenzie and Slave Rivers, and Fort Simpson. Found also in N. E. States and Minnesota.

[252.] III.—NEUROPTERA.

FAMILY AGRIONIDÆ.

347. *AGRION PUELLA Linn.*

Variety B. Trunk sea-green, above black with two sea-green longitudinal stripes; abdomen black, sea-green at the base, inscribed with black; legs black above, underneath sea-green or white; the stigma of the wings is blackish with a transparent margin.

C. Trunk black and white with two dorsal white longitudinal stripes; legs black; stigma of the wings black; abdomen mutilated.

Both taken in Lat. 65°.

[Hagen (Synopsis of Neuroptera of N. A., p. 98) says that this is "perhaps another species which is inextricable."]

FAMILY PERLIDÆ.

348. *PERLA BICAUDATA* Linn.—Length of body about $7\frac{1}{2}$ lines. Several specimens taken in Lat. 68°.

[253.] Body black, hairy. Antennae, tibiae, tarsi, caudal setae, and wings dull testaceous; the vertex consists of a yellowish membranous spot; the joints of the caudal antenniform organs are dark at the tip.

The larva is white underneath, fusco-cinereous above; head and thorax spotted with white, with a pale longitudinal line. More than one species seems to have passed under the name of *Phryganea bicaudata*. I will not affirm that the present species is not distinct: but as the specimens were not perfect, I thought it best to consider them as belonging to that type.

[Synonymous with *P. frontalis* Newman. Taken at St. Martin's Falls, Albany River, Hudson's Bay; at Trenton Falls, N. Y., and in Ohio.]

IV.—TRICHOPTERA.

FAMILY PHRYGANIDÆ.

349. *LIMNEPHILUS NEBULOSUS* Kirby.—Length of body 7 lines. A single specimen taken in Lat. 65°.

Body black, hairy with whitish hairs. Antennae are mutilated in the specimen, but the base is black; scutellum testaceous; upper wings testaceous, spotted and dotted with white except the costal area, which is without any of that colour; under wings white with testaceous nervures; legs testaceous.

350. *LIMNEPHILUS FEMORALIS* Kirby.—Length of body $6\frac{1}{2}$ lines. Taken with the preceding.

Very like the preceding species, but paler, with black scutellum and thighs.

[Both species are unknown to Dr. Hagen.]

ANNUAL MEETING OF THE MONTREAL BRANCH.

The second annual meeting of the Montreal Branch of the Entomological Society of Ontario was held on May 4th, 1875, when the following officers were elected for the ensuing year:—

G. J. Bowles, President; Alexander Gibb, Vice-President; C. W. Pearson, Secretary-Treasurer; G. B. Pearson, Curator; W. Couper, M. Kollmar, T. B. Caulfield, Council.

The reports of the Council and Secretary-Treasurer were read and adopted. The Branch is progressing steadily, and our list of membership is increasing. During the past year working expenses have all been paid, leaving a balance on hand; a number of papers have been read, and the exhibitions of local and exotic rarities were exceedingly good. The Branch holds its meetings in the rooms of the Montreal Natural History Society, University St. All business communications to be addressed to

C. W. PEARSON,
The Burland Desbarats Co'y, Montreal, P. Q.

Annual Report of the Council of the Montreal Branch of the Entomological Society of Ontario:

Your Council, in presenting their second annual report, have great pleasure in stating that the Branch has progressed steadily since its first meeting in August, 1873. During the past year eight new members were elected, making the total number of twenty, one of whom has since gone to Europe.

The papers read during the year are as follows:

"Notes on the Larva of *Leucania pseudargyria* Gueneé," by F. B. Caulfield; "On a Dipterous Insect Destroying the Roots of Cabbage," by Wm. Couper; "Notes of Some Species of the Genus *Grapta*, found in

the Vicinity of Montreal," by F. B. Caulfield; "On Tineidæ," by Wm. Couper; "On Tineidæ," by F. B. Caulfield; "A List of the Bombycidæ of Quebec," by G. J. Bowles; "On the Catocalidæ Occurring in the Vicinity of Montreal," by C. W. Pearson; "A List of the Diurnal Lepidoptera Occurring on the Island of Montreal," by F. B. Caulfield; "On the Usefulness of Spiders," by J. G. Jack; "A List of Spingidæ Occurring on the Island of Montreal," by F. B. Caulfield.

The monthly meetings were fairly attended, and the exhibitions of Entomological material conspicuously illustrated the energy of the members in accumulating rare insects from various localities. The Branch having decided to hold their meetings in future in the rooms of the Montreal Natural History Society, it was found necessary to change the night of meeting from the first Wednesday to the first Tuesday in each month, and in order to meet the extra outlay for rental, it was decided to make the subscription twenty-five cents a month, which the Council presume will suffice for present emergencies. On the 1st of last July the members proceeded to Chateaugay Basin for a field day. The members were the guests of Mr. R. Jack, of Hillside, who treated them with true hospitality.

Your Council have ordered *Psyche*, a useful Entomological publication issued in Cambridge, Mass.

A suggestion made by your Council last year, that note books should be carried by members, has, in this instance, been fruitful in producing valuable lists and data of the occurrence of insects in our neighborhood, and we trust that some of our members will devote their leisure this season to the much neglected orders of Hemiptera, Neuroptera and Diptera.

All of which is respectfully submitted.

WM. COUPER, Chairman.

G. J. BOWLES,
C. W. PEARSON.

NOTES ON CALOPTENUS SPRETUS.

BY G. M. DODGE, GLENCOE, DODGE CO., NEBRASKA.

The natural history of the migratory grasshopper, *Caloptenus spretus* Uhler, being imperfectly known even to our best western Entomologists, I have given the subject considerable attention during nearly two years

residence here, where I have had ample opportunity for observation. My most important discovery is that this species is double brooded. This is evident from the fact that in 1873 large numbers came here from the south, laid eggs and produced a second brood that flew south in August of the same year. This accounts for their migrations. They can not be local anywhere, because there would not be sufficient herbage to support a second brood in a region already laid bare by the first; and because in the northern part of their range the season is not long enough to mature two broods. They must, therefore, migrate every year; and their migrations are conducted as follows:

Hatching in Texas, New Mexico and Arizona early in spring, these insects, as soon as matured, fly north and deposit their eggs on this latitude about the last of May, although they arrived here this year as early as May 12th. They probably do not lay many eggs south of Nebraska, but they go much farther north. The second brood being able to fly in August, goes south with the first favorable wind, reaching Texas in September, where they deposit eggs to lie over winter. But as eggs were deposited by the first brood all along their route, from Kansas probably to the northernmost limit of vegetation; the young from these eggs are proportionally later, and, as they acquire their wings and fly south during the autumn months, each successive brood necessarily falls short of the extreme southern limit reached by its immediate predecessor, and many being retarded by contrary winds, cold and storms, eggs are deposited over nearly the whole extent of country traversed by their ancestors in the spring.

The next spring, the new brood hatching in Texas and all hatching farther north that acquire wings earlier than the 20th of June or 1st of July, fly north, while those maturing later fly south. They deposit eggs that produce a second brood, as before, which lays eggs for the spring brood. The second brood always flies south. Thus we see that this grasshopper is not forced upon its migrations for want of food, as is commonly asserted by Entomologists, but is guided in its flights by that instinct which teaches every insect to provide for its young. The natural habitat of this insect is probably the plains lying east of the Rocky Mountains, where it goes through its annual migrations as I have described. Now, let us see how it can spread into the cultivated districts of the Mississippi valley without moving directly east. When ready to fly, it always waits for a favorable wind; and, if it is going north, will take

advantage of a south, south-east or south-west wind upon which to travel. If, then, they leave their hatching ground in the far south with a south-west wind, they would be carried far to the east before reaching their northern limit. Likewise, when the second brood was ready to fly south, if the prevailing winds should come from the north-west, the hordes would be swept over Nebraska, Kansas, etc., and into Texas. A continuous south-west wind the next spring would take the spring brood still farther east, while, on the other hand, south-east winds would carry them back toward the plains.

As the *C. spretus* always leaves its hatching grounds without depositing eggs, Entomologists have jumped to the conclusion that broods raised on the plains are barren or incapable of producing young; but the fact is that they are not ready to deposit until two or three weeks after getting their wings, which time they invariably take advantage of to remove themselves several hundred miles from their place of birth.

NEW NOCTUIDAE.

BY LEON F. HARVEY, M. D., BUFFALO, N. Y.

ERRATA.—In my article in the last number, *Tricopis aleucis* should read *Tricopis aleucis*.

Tarache lactipennis, n. s.

Allied to *cretata*, but very much larger. Head, thorax and a narrow oblique basal patch deep brown. A metallic tuft on the thorax behind. Fore wings milk white. A subterminal broad, deep, olive shade from apices to internal margin, containing a narrow, dentate, lilac-white line. A greenish costal spot at about apical third. Terminal space whitish, with a terminal dark shade line. Hind wings and abdomen white, the former with a very slight fuscous edging. Beneath primaries wholly dark, except along internal margin; hind wings wholly white. *Expanse* 28 m. m. *Habitat* Texas (G. W. Belfrage, May 3, No. 111.)

Differs from *Tarache metallica* at once by the white secondaries and abdomen, as well as the absence of costal basal marks and the dentate

continuous lilac-white subterminal line. Perhaps the handsomest species of the genus, some of the American species of which appear to imitate *Eudryas* in their green and olive colors, as already suggested by Mr. Grote.

Ipimorpha intexta, n. s.

Allied to *I. pleonectusa* Grote. More slender in form and of a darker color. Thorax and primaries blackish olivaceous, abdomen concolorous with secondaries. Median lines trapezoidal, very nearly meeting at internal margin, even, dark, followed by a yellowish shade; orbicular subquadrate; reniform posteriorly excavate, borders concolorous with median lines; outside of t. p. line, wings a little paler, subterminal line faint, of the usual irregular shape; terminal line pale at base of fringes, bordered inwardly by a series of almost black scalloped spots; fringes blackish. Below, light ochreous, shaded with fuscous; a yellow costal apical shade. Secondaries light brown, terminal line well marked, bordered inwardly with a dark shade; beneath concolorous, with double lines faintly indicated; fringes concolorous. *Expanse* 33 m. m. *Habitat* Sharon Springs, N. Y. (O. Meske.)

I refer this species to *Ipimorpha* rather than to *Calymnia*, from the shape of the wings and an apparent indication of a thoracic tuft.

Homohadza incomitata, n. s.

In tone, color and size resembling *induta*. There is no basal dash and no markings except the median lines, which differ from *induta* in shape. They meet very nearly at internal margin. The outer line runs inwardly obliquely from its subcostal extension without being sub-medially indented opposite the basal dash, as in *induta*. The subterminal nervular dashes are sub-obsolete. The black lines are a little more broken and denticulate than in *induta*, in some specimens sub-obsolete.

Hind wings with very faint traces of the median line, which *induta* shows plainly, and is said to be absent in *retroversa* as in *kappa*. Beneath the line is fragmentary. From the fact that *induta* has a median line beneath and "*retroversa*" is said to have none, and has a basal dash on forewings and "*retroversa*" is said to have none, there is a chance that Mr. Morrison intended *incomitata*, which differs from *induta* in both these points. Mr. Morrison says, however, that he described *induta*; in this case, I think Mr. Morrison's description may with propriety be discarded from the facts in the case *Habitat*, Texas (G. W. Belfrage, No. 75.)

CORRESPONDENCE.

DEAR SIR,—

In accordance with request in last C. E., I send you a list of some captures of Diurnal Lepidoptera, made by me in various localities :

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|---|--|
| 1. <i>Danais erippus</i> (everywhere.) | 29. <i>Eurema lisa</i> , N. J., Oh., Md. |
| 2. <i>Euptoieta claudia</i> , N. Y., N. J.,
Oh. | 30. <i>Pieris protodice</i> , Pa., Md., Oh. |
| 3. <i>Argynnis atlantis</i> , Pa, | 31. " <i>oleracea</i> , N. Y. |
| 4. " <i>bellona</i> , N. J., Oh. | 32. " <i>rapae</i> , N. Y., N. J., W.
Va., Oh. |
| 5. " <i>myrina</i> , N. J. | 33. <i>Catopsilia eubule</i> , N. J. (rare.) |
| 6. " <i>idalia</i> , Mass., N. J. | 34. <i>Meganostoma caesonia</i> , Oh. |
| 7. " <i>cybele</i> , Mass, N. J. | 35. <i>Colias philodice</i> (wide.) |
| 8. " <i>aphrodite</i> , N. J. | 36. <i>Papilio philenor</i> , N. Y., N. J.,
Oh. |
| 9. <i>Phyciodes tharos</i> , N. J. | 37. <i>Papilio hesphontes</i> , Mich. |
| 10. " <i>nycteis</i> , Oh. | 38. " <i>ajax</i> , Mich., Oh. |
| 11. <i>Vanessa interrogationis</i> , N. Y.,
N. J. | 39. " <i>turnus</i> , N. Y., N. J. |
| 12. <i>Vanessa faunus</i> , N. Y., N. J. | 40. " <i>var. glaucus</i> , N. J. |
| 13. " <i>comma</i> , N. Y., N. J. | 41. " <i>troilus</i> , N. J. |
| 14. " <i>progne</i> , N. Y., N. J. | 42. " <i>asterias</i> , N. Y., N. J.,
Oh. |
| 15. " <i>antiopa</i> , (wide.) | 43. <i>Thymele tityrus</i> , N. Y., N. J.,
Oh. |
| 16. " <i>var. album</i> , N. J. | 44. <i>Thorybes bathyllus</i> , N. J. |
| 17. <i>Pyrameis atalanta</i> , N. J., N. Y.,
Oh. | 45. " <i>pylades</i> , Pa. |
| 18. <i>Pyrameis cardui</i> , N. J. | 46. <i>Pamphila ahaton</i> , N. Y., N. J.,
Oh. |
| 19. <i>Junonia coenia</i> , N. J., Oh. | 47. <i>Pamphila huron</i> , W. Va., Md. |
| 20. <i>Apatura idyia</i> (clyton), N. J. | 48. " <i>wamsutta</i> (wide). |
| 21. <i>Lybithea motya</i> (very rare), N. J. | 49. " <i>hobomok</i> , N. J. |
| 22. <i>Lycæna thoe</i> , N. J. | 50. " <i>massasoit</i> , N. J. |
| 23. " <i>phleas</i> , N. Y., N. J., Oh. | 51. <i>Thymeticus</i> Delaware, Pa. |
| 24. " <i>comyntas</i> , N. Y., N. J. | 52. <i>Thecla favonius</i> , N. Y. |
| 25. " <i>violacea</i> , N. Y., N. J. | 53. <i>Nisoniades brizo</i> , Mass., N. J. |
| 26. " <i>neglecta</i> , N. Y., N. J. | 54. " <i>catullus</i> , N. Y., N. J. |
| 27. <i>Thecla damon</i> (smilacis), Md. | |
| 28. <i>Eurema nicippe</i> , N. J. (rare),
Md., Oh. | |

The localities of the above species (captured by myself) may be relied on.

W. V. ANDREWS.

36 Bœrum Place, Brooklyn, N. Y., June 2nd, 1875.

DEAR SIR,—

As long ago as August 13th, 1829, Hentz, writing to Harris, notices the fact that *Megacephala (Tetracha) Virginica* and *Carolina*, although externally like *Cicindela*, have the habits of the *Carabidae*. May I ask if any good reason can be assigned why this genus should not be placed after *Cicindela* and not before it, thus bringing it into closer proximity to the family to which it seems to be most closely allied? See Harris cor., p. 77 and 78.

W. V. ANDREWS.

New York. March 29th, 1875.

DEAR SIR,—

I venture to suggest an improvement in Mr. Chase's "Cyanide Box," as described in your May No.

For reasons obvious enough to the chemist, the plan of dissolving the Cyanide of Potassium in water is not so good as that of pounding it and intimately mixing it with the Plaster of Paris, the water being unable to take up but a comparatively small quantity of the Cyanide. On page 208 of your fifth volume I gave a good recipe for making a collecting box.

W. V. ANDREWS.

36, Boerum Place, Brooklyn, N. Y., June 21st, 1875.

DEAR SIR,—

In number 12 of Mr. Strecker's work, it is claimed that his number 11 was printed in "August, 1874." I have before drawn attention to the fact that I can find no record of the issue of any number of this part before November. The point is raised on account of the publication by myself of three species of *Catocala* in the Trans. Am. Ent. Soc. for September, 1874, claimed to be superseded by Mr. Strecker's notice of the same species in "August." I am of the opinion that a work published privately and irregularly by an author should not take precedence over one published by a Scientific Society, on testimony consisting of the mere assertion of the interested author. It is possible that persons who live nearer Reading than I do may be in possession of facts which will show that none of Mr. Strecker's dates are reliable. For myself I think they are not accurate from a variety of circumstantial evidence. In one case a species is described under a date apparently before it could have been received by Mr. Strecker. I should have been glad to have noticed that Mr. Strecker had added his synonyms of *C. illecta* Walk. (= *C. magdalena* Strecker) and *C. nuptialis* Walk. (= *C. myrrha* Strecker) to his other corrections.

In his disquisition on *Samia columbia*, Mr. Strecker thinks Dr. Hagen's suggestion might be true as to its being a hybrid between *promethea* and *cecropia*, were it not that *promethea* does not occur at Montreal. He has been already corrected on this point in the CANADIAN ENTOMOLOGIST; there is also the fact that *columbia* is described originally from Maine. The fact that *Gloveri* is suggested by Dr. Hagen to be = *columbia*, is also sagaciously left out of sight by Mr. Strecker.

With reference to *Californica*, Mr. Strecker does not know my paper published in the Trans. of the American Philosophical Society, Nov., 1874, or chooses to ignore it. His ignorance as to where *Californica* is described shows an unacquaintance even with the publications of the Entomological Society of Philadelphia, and I have shown that the synonymy in his work is copied from catalogues, etc., and is no proof of bibliographical knowledge, and therefore quite superfluous. And while Mr. Strecker very properly quotes Mr. Kirby's correction of my generic name, he purposely ignores the fact that Mr. Kirby retains for the species from the West the name *Samia Californica*, to which I believe it to be justly entitled, although Mr. Strecker calls it "*Euryalus*."

A. R. GROTE.

DEAR SIR,—

In the "Preliminary List of the Noctuidæ of California," CAN. ENT., 7, 68, I have cited a species under the number 107 with the name *Agrotis excellens*. This name is used by Dr. Staudinger for a different species previously, and may be changed for the Californian species to that of *Agrotis perexcellens*.

A. R. GROTE.

INSECT CAPTURES.

In our issue for July, 1874, p. 140, we noticed some rare and interesting captures made by one of our members, Mr. F. C. Lowe, of Dunnville, Ont., during a tour made by him in the county of Essex. At that time, when near the village of North Ridge, he secured a very handsome and perfect specimen of *Papilio marcellus* (the second recorded specimen taken in Canada), and saw on the wing two others which he did not succeed in capturing: besides which, he took several specimens of *Papilio thoas*, a species also extremely rare in Canada. These, with many others, were taken between the 10th and 20th of June.

This year, Mr. Lowe revisited the same locality, occupying the time between the 6th and 30th of June in exploring that district, with the view of securing further specimens of *marcellus*. In this respect his zealous and praiseworthy efforts have not been crowned with success; not a single *marcellus* was seen during the whole period; probably the chrysalids had perished in consequence of the severity of the past winter. Several *Papilio thoas* were seen, but none taken.

Among his captures we observed two handsome examples of *Limenitis ursula*; also, fine specimens of *Papilio troilus* and *asterias*, *Eudamus tityrus*, *Neonympha eurytris*, *Hesp. oileus*, *Alypia Langtonii*, *Spilosoma collaris* Fitch (said to be a variety of *Euchetes egle*), *Baptia albivittata* and several other species which we were unable to determine. There were also several handsome Diptera and Hymenoptera.

Among the Coleoptera was a female specimen of *Phanaeus carnifex*, captured near Windsor, an insect, so far as we know, never before taken in Canada; also, good examples of the following species: *Trichius bidens*, *Desmocerus palliatus*, *Clytus speciosus*, *Ædilis obsoletus*, *Cetonia fulgida*, *Cotalpa lanigera*, *Necrophorus Americanus*, *Callandra pertinax*, several handsome Curculios new to us, besides a number of other species less noteworthy.

BOOK NOTICES.

FIELD AND FOREST.—We have received the first two numbers of this new periodical, devoted to general Natural History, to which we tender a cordial welcome. It is an eight-paged monthly, uniform in size with our own journal, in every respect well got up, and containing many things to interest the Entomologist, the Botanist and general Naturalist. It is edited by our esteemed friend, Chas. R. Dodge, of the Agricultural Department, Washington. While this serial is to be devoted to Natural History in general, it will also be the Bulletin of the Potomac-side Naturalists' Club of the District of Columbia. Under the control of such an energetic and pains-taking man as we know the editor to be, we doubt not but that this journal will prosper, and be the means of furthering the interest of many departments of natural science. We sincerely wish it long life, and commend it to our readers. It is published at one dollar per annum; address—Editor "Field and Forest," P. O. Box 273, Washington, D. C.