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# The Canadian Entomologist.

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No. 6

## PRELIMINARY LIST OF THE NOCTUIDÆ OF CALIFORNIA.

### Part VI.

BY AUG. R. GROTE, A. M.,

*Director of the Museum, Buffalo Society Natural Sciences.*

55. *Agrotis exsertistigma* Morrison (see ante p. 26). Sauzalito, Mr. Behrens, Oct., Nos. 16 and 209.

I sent specimens of this species to Mr. Morrison, keeping no memorandum or duplicates. Afterwards I supposed, from his brief comparison, that Mr. Morrison had described Californian specimens which I had considered as *alternata* Grote, under the new name. Subsequently Mr. Morrison returns me my specimen of *exsertistigma*, and I see that it is a distinct species which should not have been compared with *alternata*, as it is structurally different by the conical abdomen; the species should have been credited as received from me. That *redimacula* and *exsertistigma* are described by Mr. Morrison without any mention being made of the fact that I supplied the material either in part (*redimacula*) or wholly (*exsertistigma*), is a breach of etiquette. Mr. Morrison should not have hesitated to acknowledge so slight an indebtedness. *Agrotis alternata* does not appear to occur in California.

28. *Agrotis cupidissima* Grote (see ante pp. 214 and 27.)

Mendocino, June, Mr. Behrens, No. 4 (red label); also No. 164. The Californian specimens are light red colored, with powdery geminate lines, and variable in appearance; one is pale fawn, unicolorous, without marks on primaries save indications of the stigmata and the dotted t. p. line. Again, three specimens have the orbicular somewhat V-shaped, open above. The t. p. line is more regular than in *cupida*; it is accompanied by black dots. The subterminal line is nearer the margin than in either

*alternata* or *cupida*, but it is more like *alternata* than it is *cupida* in its being irregular, accompanied with powdery black scales; it is preceded on costa by a blackish shade as in *cupida*. The present species I have formerly considered as *alternata* from the markings, and, on Mr. Morrison's authority as *cupida* from the color, but the reniform I now see is more kidney shaped than in either the Eastern *alternata* or *cupida*. I sent a specimen to Mr. Morrison to show the variability of what I supposed was his *exsertistigma*, and he informed me that the specimen was *cupida*. Afterwards he returned me my specimen of *exsertistigma*, recorded above, which I then saw was an entirely different species. I have subsequently adopted the view that the Californian specimens were *cupida*, and that I was in error in considering them to be *alternata*. I now reject both determinations, and consider that the Californian species is allied to both *alternata* and *cupida* and is a new species from the data given above. The habitus of *cupidissima* and size (39 m. m.) is rather that of *alternata*. The hind wings are a little paler at base in *cupidissima*, and the lunule more obvious. *A. cupida* does not as yet appear to occur in California. The provisional identification on page 27 (ante) must be erased and the present substituted. I use the number (56) for a different species.

56. *Agrotis obeliscoides* Gueneé.

No. 30 (red label) Mr Behrens.

The Californian specimens are very near to *sexatilis* Grote, which latter I am now inclined to consider synonymous with Gueneé's species. They appear to differ chiefly by the more constricted reniform marked with white, the want of costal discoloration and the less brightly red hue. More material is needed to make this determination certain, together with a positive identification of *obeliscoides*.

123. *Mamestra passa* Morrison, Proc. Bost. Soc. N. H., 2874, 139.

Unknown to me and very possibly the same as *Dianthoecia pensilis* Grote.

124. *Graphiphora carina* (Morrison) l. c., 158 (*Taeniocampa*.)

"California." Unknown to me.

125. *Agrotis inciris* Gueneé, Morr. l. c., 164.

"California." Unknown to me from California. Mr. Morrison identifies my *Anicla Alabama* as this species too briefly described by Gueneé, who does not mention the dotted t. p. line.

126. *Agrotis purpura* Morrison, l. c., 164.  
Unknown to me and too briefly described at present for identification.
127. *Catocala Aholibah* Strecker, Lep., pl. 9, fig. 5.  
Sauzalitae, Aug. 27th, Mr. Behrens.
128. *Catocala mariana* Hy. Edwards, Streck., No. 11, 99.  
"Vancouver." Unknown to me.
129. *Catocala hippolita* Hy. Edwards, l. c., 99.  
"California." Unknown to me,
130. *Catocala Cleopatra* Hy. Edwards, l. c., 99.  
"California." Unknown to me.
131. *Catocala Perdita* Hy. Edwards, l. c. 100.  
"California." Unknown to me.
132. *Catocala adultera* Hinze, Motsch. Etudes Ent., 1857, 47; Grote,  
List 41.  
"California." Unknown to me.
133. *Catocala Californica* Edwards, Proc. Ent. Soc. Phil., 2, 509.  
California (in coll. Am. Ent. Soc.)
134. *Catocala zoe* Behr., Trans. Am. Ent. Soc., 3, 24.  
"Searsville, Cal." Unknown to me.
135. *Catocala Stretchii* Behr., l. c., 24.  
"Virginia City." Unknown to me.
136. *Catocala irene* Behr., l. c. 24.  
"Fort Tejon." Unknown to me.
137. *Erebus odora* (Linn.)  
California (Behr.)
138. *Agassizia urbicola* Behr., l. c., 23.  
San Francisco (Behr.) Unknown to me.

139. *Capnodes Californica* Behr., l. c., 23.

"Downieville, Cal." Unknown to me.

140. *Homoptera salicis* Behr., l. c. 28.

Unknown to me.

141. *Homoptera rosæ* Behr., l. c., 28.

California, Mr. Hy. Edwards, No. 2407.

One specimen, smaller, but much resembling the Eastern *H. lunata*.

142. *Pseudaglossa lubricalis* (Geyer); Grote, List, 47.

California (Behrens).

143. *Hypena Californica* Behr., l. c., 23.

Oakland (Behrens).

144. *Brephos Californicum* Boisd., Ann. Soc. Ent. Belg., 12, 88.

"Se trouve au printemps dans les clairières des bois." Unknown to me.

145. *Brephos melanis* Boisd., l. c., 88.

"Habite les bois." Unknown to me. There is perhaps reason to surmise that neither species is correctly referred to this genus.

With the present paper I terminate the "Preliminary List," in the expectation of again taking up the subject with more material than that hitherto kindly placed at my disposal by Mr. James Behrens and Mr. Henry Edwards. In addition to the 145 species here cited, Dr. Behr has described a few species, too briefly for identification, in Mr. Strecker's publication. I regret that, while I was working on the subject, I should remain in ignorance as to the identity of Mr. Morrison's *passa* and *earina*. The former I think may be referable to *pensilis*; from the description I do not think the latter has come to my hands. In the 12th volume of the Annales de la Société Belge, pp. 89—90, Dr. Boisduval enumerates 36 species of Californian Noctuidæ. They are in great part European species apparently incorrectly identified as Californian. With the exception of *Drasteria erecthea* and the two species of *Agrotis*, *jaculifera* and *saucia*, I think it very probable that the identifications are all incorrect.

## TINEINA FROM TEXAS.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

(Continued from page 95.)

PHÆTUSA, *gen nov.*

I define this new genus with great hesitation and doubt as to the propriety of so doing. The only reason for separating the species described below, and which I place in this genus, from *Evippe* (*vid. E. prunifoliella*, *ante v. 5, p. 185*) is found in the neuration. The other characters are those of *Evippe*, and, as stated below, it is very near to *E. prunifoliella* in ornamentation. The neuration of the forewings is exactly that of *Eidothea vagatioella* (*loc. cit. sup. p. 187*), which it also resembles in ornamentation, but less closely than it does *Evippe prunifoliella*. In the latter species the last branch of the median vein of the fore wings is simple; in *E. vagatioella* and the species described below it is furcate at its origin. In *E. prunifoliella* and *E. vagatioella* the cell of the hind wings is open; in this species it is distinctly closed. In *vagatioella* the median gives off a single branch, and there is an independent discal branch which arises at the median; in *prunifoliella* the median gives off two branches and has the discal branch vein as in *vagatioella*; in this species it gives off the two branches, and has the discal branch as in *prunifoliella*, but in addition has another superior discal branch. Probably all three species should be included in the same genus, though *vagatioella* has the palpi longer than either of the others. In *prunifoliella* the second and third joints of the palpi are of about equal length; in this species the third joint is a little longer than the second. In other respects the generic characters are the same. In all three the vertex is wider than long, and the face nearly as wide as long and very full or convex in front. All three form a section of *Gelechia*, and *Taygete difficilisella*, *Helice pallidochrella*, and *Sinoe fuscopaliella* are very closely allied to them structurally, though differing widely from them and resembling each other in ornamentation. *Neda plutella* also resembles this species in ornamentation, but the palpi are very different, and it differs widely in several respects.

The following remarks, in addition to what has heretofore been written on these allied species, may not be inappropriate in this connection, though they contain the results of examinations of the species before I saw the species described below.

*Sinoe fuscopalidella* has a tongue, as I find on examination of fresh specimens, but it is short and inconspicuous. Probably it would be as well to include it with *Taygete difficilisella* and *Helice pallidochrella*, and possibly also *Gelechia obliquistrigella* in a single genus. *Evippe prunifoliella* and *Eidothea vagatiella* must, however, be separated from these because of their slender, more elongate and graceful forms and longer palpi, though they do not otherwise differ from *Helice pallidochrella* and the other species above named more than those species differ from each other. *H. pallidochrella* and *T. difficilisella* resemble each other closely in ornamentation, but *G. obliquistrigella* and *S. fuscopalidella* even more closely. The last named species may, however, be distinguished as follows: *obliquistrigella* has the second joint of the palpi brown without and white within, whilst in *pallidochrella* it is decidedly suffused with rufous on the outer surface at and towards the tip. *Obliquistrigella* is a trifle larger than the other, has the central portion of the wings streaked more distinctly with black, and has no raised tufts on the fore wings. The description of *fusco-ochrella* should be amended to state that the face is "white, faintly iridescent."

My genus *Agnippe* seems by its position in repose to be allied to *Swammerdamia*, of which no species has yet been found in this country. It also resembles that genus somewhat in ornamentation, but *pallidochrella* and *obliquistrigella* resemble it in this respect more closely, though they do not in the position which they assume in repose. Many *Gelechia*, however, have the same pattern of coloration. *Evippe* and *Eidothea* have the same position in repose with *Agnippe*, but they differ widely in form. *Sinoe*, *Helice* and *Agnippe* resemble *Laverna* in having raised tufts of scales on their wings, but many species of *Gelechia* also have them. In all these new genera the form and neurulation of the wings approach more nearly to *Parasia*, *Cleodora*, &c.

*P. plutella*. N. sp.

The species resembles *Evippe prunifoliella* so closely that I do not deem it necessary to describe it otherwise than by referring to the differences between them. *Prunifoliella* has a small white spot on the base of the costa of the fore wings, a distinct white costal spot just before the ciliae, and a white streak in the apex, all of which are absent in this species. In *prunifoliella* the white of the dorsal margin sends three large almost triangular projections into the brown; in this species there are three scarcely perceptible emarginations only; in *prunifoliella*, except the

silvery femora of the hind legs, the legs and tarsi are black, annulate at the joints with whitish; in this species the hind legs are yellowish silvery. *Prunifoliella* has an *alar ex.* of over  $\frac{3}{8}$  inch; this species is a little under  $\frac{3}{8}$ . There are no raised tufts on any of my specimens, as there are in *E. prunifoliella*, and from the condition of the specimens it is scarcely probable that they could have been removed by attrition; it is possible, however, that there may have been some small ones, as it sometimes happens that small tufts on the wings are removed in setting or by rubbing, without leaving any marks by which their former presence could be detected.

PHIGALIA, *gen. nov.*

Palpi porrected, divergent, slender and simple, with the second joint nearly twice as long as the third, and a little clavate; no visible maxillary palpi. Head and face smooth, with scales appressed, the face nearly as wide as long, but little retreating; tongue small and scaled only at the base. Eyes full globose; basal joint of the antennae rather short and broad, with a few scales depending over the eyes (possibly the remains of a projecting tuft or of an eye-cap?); stalk simple, and about two-thirds as long as the forewings. The palpi and antennae remind one strongly of some species of *Coleophora*, but the face is too broad and the vertex too short.

The neuration and form of the fore wings is almost exactly that of *Perittia obscuropunctella*, as figured by Stainton, *Ins. Brit.*, v. 3, the only difference being that the *Perittia* has the submedian vein furcate at the base, whilst in this species it is simple.

The neuration of the hind wings is also like that of *Perittia*, except that the fold is faintly visible; the wing is also a little narrower in the apical half. The wings are more coarsely scaled than in *Coleophora*, and the ciliae are shorter.

*P. albella*. *N. sp.*

Snowy white; under a lens a few scattered brown scales may be found in the apical part of the wing. *Al. ex.*  $\frac{1}{2}$  inch.

*P. ochremaculella*. *N. sp.*

I have not examined the neuration of this species, but the external characters are those of the preceding species, except that in this there is a distinct projecting tuft over the eyes.



White, the palpi dusted with pale ochreous. The forewings are marked with short and indistinct ochreous dashes, one of which is on the fold before the middle, another is placed about the middle beneath the fold, but touching it; there is another just behind the middle on the disc; one on the costal margin just before the middle, and another further back just within the costal margin. At or just behind the discal vein are two small, though distinct circular raised tufts of brownish scales placed transversely. The apex of the wing is suffused with ochreous. It is a little larger than the preceding species.

The Texas collections contain other species belonging to the *Gelechidae*, of which descriptions will be hereafter given.

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## DESCRIPTION OF A NEW SPECIES OF DRYOCAMPA.

BY G. J. BOWLES, MONTREAL.

### *Dryocampa pallida*.

Head, thorax, abdomen and wings above, of a creamy white, without any trace of bands or markings. Beneath, the body and wings are also creamy white, the costa of both fore and hind wings being near the base very faintly tinged with yellowish pink. The legs are also slightly pinkish. Antennae pale brown. Palpi and other parts of the mouth yellowish.

Described from a specimen I took at Quebec, and now in my cabinet. It is a male, body .70 in. in length, expanse of wings 1.90. Two other specimens of the moth are in the collection of the Abbé Provancher, Quebec.

This insect is closely related to *D. rubicunda*; so much so that it has been named a variety of that species by Mr. Grote, from specimens taken in Kansas by Professor Glover, and figured by the latter on his unpublished plates of Lepidoptera. I subjoin Mr. Grote's description, from the Bulletin of the Buf. Soc. of Nat. Sci., Vol. 2, No. 3.

"*D. rubicunda* Fab., var. *alba* Grote.

"Both sexes entirely of a creamy white, the wings and body having lost all yellow and rosy tintings. The feet remain pink, and the costae beneath at base are sometimes faintly suffused. Kansas."

It will be seen that the Kansas moth is identical with mine. I have no doubt but that the species is distinct from *rubicunda*. It is taken at Quebec, and is the only species of the sub-family Ceratocampadæ so far known to inhabit that locality. The distribution of this group, as given in Grote's "List" of the Platypterices and other sub-families of the Bombycidae (Nov., 1874) is interesting. All the species extend southward, some as far as Georgia, and some of them also spread into the more southerly parts of Canada. Only one (*rubicunda*) has heretofore been found in this Province, and that very sparingly. It has only been taken once, I believe, in the latitude of Montreal, and is unknown at Quebec. The new species is probably the most northern representative of the sub-family to which it belongs, and if the Kansas specimens come from the mountainous parts of that State, it would go far to support that supposition.

The early stages of the insect are as yet unknown, and it is rare in its occurrence at Quebec.

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## 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. 7, p. 218.)

### FAMILY CLERIDÆ

332. *NECROBIA VIOLACEA* Linn.—Length of body  $2\frac{1}{3}$  lines. Taken abundantly on the journey.

[244.] Body dark blue, glossy, minutely punctured, rather hairy. Punctures on the head and prothorax nearly confluent and larger than those of the underside of the body; antennae black, last joint sub-quadrangular; sides of the prothorax obtusangular; scutellum black; longer punctures of the anterior half of the elytra arranged in rows, with the interstices minutely punctured; the rows then disappear, and the whole of the apex is indiscriminately and minutely punctured; legs black with a tint of brown.

[Taken in Canada.]

333. *THANASIMUS ABDOMINALIS* Kirby.—Plate ii, fig. 5.—Length of body  $4\frac{1}{2}$  lines. Several specimens taken in Lat.  $65^{\circ}$ .

Body black, hairy, with longish white and some black hairs. Head punctured with two posteriorly converging impressed lines between the eyes; palpi and antennae dull rufous, last joint of the labial palpi, which are more than twice the length of the maxillary, very large and semi-cordate; last joint of the antennae, which are shorter than the prothorax, ovate and subacuminate; eyes kidney [245]-shaped, rufous, with a golden lustre; prothorax thickly punctured, not wider and not much longer than the head, constricted behind, and anteriorly with a pair of oblique impressions, one on each side; elytra minutely punctured, with larger punctures arranged in five rows, the two exterior ones reaching from the shoulder to the middle, and the interior ones not so far; the elytra are traversed by a pair of white undulato-angular bands formed of decumbent hairs; the first begins at the base below the scutellum, and running down along the suture for a little way, then diverges and forms the band, which is broadest at the lateral margin; the other band is near the apex, broad, and projects anteriorly into an angle; the legs are dull rufous; the abdomen is between testaceous and orange, with the tips of the segments paler.

[Synonymous with *T. (Clerus) undulatus* Say. Kirby's name *abdominalis* being preoccupied, was changed by Klug to *nubilus*, who did not recognize the identity with Say's species. Is occasionally taken in Canada.]

#### FAMILY CYPHONIDÆ.

334. *CYPHON FUSCICEPS* Kirby.—Length of body  $1\frac{3}{4}$  lines. A single specimen taken.

Body lurid, downy. Head brown, mouth lurid; antennae mutilated in the specimen, but what remains is brown; prothorax very short, transverse, slightly bisinuate both anteriorly and posteriorly; disk embrowned; elytra very minutely and thickly punctured; breast and belly brown; thighs embrowned.

[Is taken in Canada.]

#### FAMILY TELEPHORIDÆ.

335. *TELEPHORUS ATER* Linn.—Length of body  $2\frac{3}{4}$  lines. A single specimen taken in the journey from New York to Cumberland-house.

[246.] Body black, rather hairy. Head suborbicular, obsoletely channelled; mouth, palpi, and base of the antennæ, rufous; prothorax rather wider than long, very glossy; disk obsoletely channelled and a little elevated on each side the channel; anterior angles rounded; elytra minutely and confluentely punctured, when elevated from the body they appear embrowned; tip of the thighs, tibiae, and tarsi, rufous.

336. *TELEPHORUS WESTWOODII Kirby*.—Length of body  $5\frac{1}{4}$  lines. A single specimen taken in Lat.  $65^{\circ}$ .

Body black, downy. Head suborbicular, rufous with a black anteriorly tridentate band between the eyes; mandibles and palpi dusky at the tip; antennae shorter than the body, with the scape and the base of the pedicel or second joint, rufous; prothorax rufous, rather wider than long, anteriorly rounded, posteriorly transverse with the margin much reflexed; disk slightly channelled; elytra obsoletely punctured, or wrinkled, with three obsolete longitudinal elevated lines, the outer one abbreviated at both ends; legs dusky, base and apex of the four anterior thighs rufous; posterior thighs rufous, dusky at the tip.

337. *TELEPHORUS SAMOUELLII Kirby*.—Length of body  $5\frac{1}{4}$  lines. Taken in the route from New York, in Lat.  $65^{\circ}$ , and in the Rocky Mountains.

Very like *T. Westwoodii*, but the antennae are dusky, pale at the base; between the eyes is a faint dusky cloud; the scutellum and the legs are testaceous, as are the sides and tips of the ventral segments of the abdomen as well as the anus.

[247] 338. *TELEPHORUS CURTISII Kirby*.—Length of body  $4\frac{1}{4}$  lines. Taken in Lat.  $65^{\circ}$ .

Very like the preceding species, but it is smaller; there is a black band between the eyes; the prothorax is considerably longer and narrower in proportion, the posterior angles are more acute, and the tarsi are black.

[Taken by Agassiz's Expedition to Lake Superior.]

339. *TELEPHORUS (MALTHACUS) PUNCTICOLLIS Kirby*.—Plate vii, fig. 4.—Length of body  $2\frac{1}{2}$  lines. A single specimen taken in Lat.  $54^{\circ}$ .

[248]. Body black, rather hairy, with short decumbent white hairs. Head rhomboidal, lightly and minutely punctured; posteriorly obsoletely

channelled ; impressed between the eyes ; pale-yellow below the antennæ ; antennæ longer than the prothorax, three first joints underneath of a dull-red, second and third, taken together, scarcely longer than the fourth ; prothorax nearly square, lightly and very minutely punctured ; anterior angles rounded, posterior rectangular ; disk channelled, and on each side the channel longitudinally elevated ; sides luteous ; posterior margin reflexed ; elytra very minutely and thickly punctured ; lateral margin anteriorly rather pale ; legs black ; trochanters and cubits dull-rufous.

[Belongs to *Podabrus*.]

340. TELEPHORUS (MALTHACUS) LÆVICOLLIS Kirby.—Length of body  $3\frac{1}{2}$  lines. A single specimen taken in the Rocky Mountains.

Body black, somewhat hoary with decumbent hairs. Head impunctured, impressed transversely between the eyes ; mouth and three first joints of the antennæ luteous ; prothorax nearly square, very glossy, impunctured ; elytra less visibly punctured than in the preceding species ; legs luteous, thighs brown at the base.

[Taken by Agassiz's Expedition to Lake Superior. Belongs to *Podabrus*.]

341. TELEPHORUS (MALTHACUS) MANDIBULARIS Kirby.—Length of body  $2\frac{3}{4}$  lines. Several specimens taken in Lat.  $65^{\circ}$ .

Body all black, except the red mandibles, somewhat hoary with decumbent hairs. Hind-head received by the prothorax ; eyes very prominent ; antennæ longer than the prothorax ; third joint nearly twice the length of the second ; prothorax impunctured, scarcely wider than long, all the angles rounded ; disk channelled, less elevated on each side ; posterior lateral margins somewhat reflexed ; elytra black, minutely and confluent punctured.

[Synonymous with *T. fraxini* Say. Taken in Canada ; also by Agassiz's Expedition to Lake Superior.]

[249.] 342. TELEPHORUS (BRACHYNOTUS) BENNETH Kirby.—Length of body 6 lines. Taken in Canada by Dr. Bigsby, and in Massachusetts by Mr. Drake.

Body black, hoary with decumbent hairs. Head suborbicular, punctured behind the antennæ ; neck rufous ; front, before the antennæ, pale yellow ; exterior margin of the nose black ; mandibles yellow at the base ; antennæ longer than the prothorax ; prothorax pale yellow, disk

elevated with a black irregular punctured spot; elytra minutely and confluent punctured, somewhat dilated externally; obsolete tricarinate; legs black; knees rufous.

[Synonymous with *Podabrus tricoloratus* Say: a common species in Canada.

## FAMILY LAMPYRIDÆ.

343. *LAMPYRIS CORUSCA* Linn.—Length of body  $4\frac{3}{4}$  lines. Taken at New York and Cumberland-house, Lat.  $54^{\circ}$ . In Canada by Dr. Bigsby.

Body oblong, pubescent, brown-black. Nose and mouth elongated; prothorax nearly semicircular, disk elevated; a rose-coloured arched streak dilated and yellower anteriorly adjoins the elevated part on each side; elytra obsolete carinated, most numerous and minutely punctured.

[Belongs to *Ellychnia* Lec. Very common in Canada.]

## ON GENERA IN THE MOTHS.

BY A. R. GROTE, BUFFALO, N. Y.

Since I am recently criticized for erecting new genera in the Sphingidæ, as it is thought unnecessarily, I have put together some of my thoughts on the subject in the present paper. In a review,<sup>\*</sup> the friendly spirit of which I most gladly recognize, Mr. Moschler speaks of my division of the old genus *Smerinthus*, which I have restricted to the type *ocellatus*, *geminatus*, &c., and says in effect that since hybrids are known to occur between certain of the species, these could not be generically or tribally separated.<sup>†</sup> This brings up the question as to what the value of the higher divisions really is. And a little reflection will, I think, show us

<sup>\*</sup> Stettiner Ent. Zeit., 1875, pp. 202 et seq.

<sup>†</sup> "Denn in welche Tribus gehörten wohl die hybriden Nachkommen Beiden?" l. c. 208. Here the word *Tribus* is used, but the idea seems to be that of *Gattung*. At any rate "Tribus" is merely a still further extension of the idea of relationship and what objections I find applies to either.

that the higher divisions stand in a relative position to the "species." They are, in fact, extensions of the same idea. All are alike artificial in theory, and all classificatory terms are matters of practical necessity and convenience. As well might Mr. Moschler ask to what *species* do hybrids belong? Hybrids between distinct genera are noted elsewhere among animals. Collett has recently shown that the abnormal passion of the male ptarmigan in Norway leads to the production of hybrids between *Tetrao tetrix* and *Lagopus albus*. In fact this "abnormal passion" may be one of the means for the production of new species. Dr. Hagen\* thinks that *Samia columbia* may be a hybrid between *Callosamia promethea* and *Samia cecropia*, species in my opinion strongly structurally and generically different. And Dr. Hagen further shows that interbreeding might be facilitated owing to the abundance of parasites which might check the due proportion of the sexes in either species. Perhaps, indeed, it may be rather owing to "abnormal passion," while the infested hybrid caterpillars might be additionally attractive to hymenopterous parasites. I am not favorably inclined to any "uniformity" in entomological nomenclature which will fall short in any way from a possible nearer expression of the facts in the case. The massing together in large genera of species offering structural peculiarities prevents our appreciation of these peculiarities, which is the point aimed at by systematic nomenclature. For instance, I cannot see why Mr. Riley, in his excellent article on the Hackberry Butterflies,† opposes the adoption of a different genus for our species, when he interestingly shows on the very first page that the allied European *Apatura* has a peculiar form, shape and arrangement of the wing scales.

Nor am I agreed that in proposing a generic name an author is obliged to construct a perfect diagnosis. The species being known to science, and all generic diagnoses being merely of comparative excellence, it cannot be expected that without a "uniformity" in comprehension there should be a "uniformity" in expression. Of course much depends on these points. Why a "uniformity" in generic designation should be so strongly urged when we see no "uniformity" in anything else relating to our mental development in the wide world, is difficult of comprehension. To me it seems that more exactness of definition is obtained by recognizing

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\* Bul. Buff. Soc. N. Sci., 2, 204.

† Trans. Acad. Sci., St. Louis, 1875, p. 193 et seq.

smaller peculiarities by a distinctive generic name, and that still, with every disposition to be particular, both Mr. Scudder and myself, finding that we cannot separate certain species generically, i. e. the species of *Polygonia*, *Smerinthus*, etc., are justified in feeling that our genera stand on a scientific basis. There must be differences of opinion in Entomology as in other matters. For instance, Mr. Morrison describes under the name of *Agrotis scropulana*\* a species from the White Mountains, and says of it that its "delicate shades of brown, blue and creamy white place it among the most beautiful in the Noctuidæ." And another species, called by him *Agrotis opipara*, "almost approaches" the first "in beauty." The first to me seems very like the Labradorian *Pachnobia carnea*, the latter like *Agrotis islandica*. And it is obvious here that, if these resemblances are founded, we must examine our appreciation of the generic characters of *Pachnobia* carefully, that we may come to a clear understanding of whether we have to do with an *Agrotis* or not. And again, if my suggestions eventuate, we will have fresh affinities of the Mount Washington Insect Fauna with that of Labrador, and more material to illustrate the relationship of the animals which formerly may have taken refuge on Mount Washington during a period of the decline of the Glacial Epoch, when the body of the species moved further north.

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### ON SOME OF OUR COMMON INSECTS.

#### *Drasteria crichtea*, Cram.

BY THE EDITOR.

In fig. 12 we have this insect in the perfect state well represented.

Fig. 12



Although it is one of our commonest moths, a day-flier, abundant almost everywhere, yet we have never heard of its having had a common name bestowed upon it. We are not going to christen it, for we are no admirer of common names where they can be avoided, and we think they can in this instance. *Drasteria crichtea* is not harsh and unpronounceable, as is the case with

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\* *Psyche*, 1, 42.



many, especially of our more recent names, as well as some that have been resurrected, and those who do not care to burden their memories with both names, may drop the latter and will still be understood if they speak of the moth as "the common *Drasteria*."

The female moth, when its wings are spread, will measure about one and a half inches; the male about a quarter of an inch less. The fore wings are grayish brown, with bands and dots of dark brown; one band crosses the wing about an eighth of an inch from the base, and a second—which sometimes does not extend entirely across—is placed midway between the first and the outer margin. There is a dull patch of brown near the front edge of the wing, between the first and second bands, and two or three prominent black dots similarly situated between the second band and the apex; the outer edge is also widely margined with brown.

The inner portion of the hind wings is similar in color to the front pair, the outer half is crossed by two darker bands irregular in outline, the space between them being occupied by a paler hue, as also is the space between the outside band and the hind margin, which latter is narrowly bordered with the darker shade. The markings on both wings vary much in intensity, being sometimes almost black, in other instances very faint.

The under surfaces of both wings are much paler, with the markings of the upper surface partially but indistinctly produced.

*Drasteria crethea* appears among our earliest insects in spring, having passed the winter in the chrysalis state; it is also found up to quite a late period in the autumn. It frequents fields and meadows, and open grassy spots along the sides of our railroad tracks. Its flight is sudden, and after a short but rapid course, it as suddenly alights.

The caterpillar feeds on clover, and when full grown, measures one and a quarter inches in length or more. It has a medium sized head, rather flat in front, with darker longitudinal lines. The body above is reddish brown, with many longitudinal lines and stripes of a darker shade. There is a double whitish line down the back, with a stripe of the darker shade of brown on each side, and lower down close to the spiracles, is another stripe of the same dark hue, while between these two are faint longitudinal lines. The spaces between the segments, from fifth to eighth inclusive, are nearly black above, a feature only seen, however, when the body is coiled up; the larva readily assumes this attitude when disturbed.

The under surface is a little darker than the upper, with many longitudinal lines of a still deeper shade, and a central stripe of blackish green from the sixth to the ninth segments. The feet and prolegs are greenish and semi-transparent, with faint lines and darker dots. This larva has but three pairs of prolegs, and hence it alternately arches and extends its body in progression.

The specimens from which the above description was taken were full grown by the third week in September, when they became chrysalids, and remained in that condition until early the following spring.

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ON A NEW SPECIES OF TRICOPIS AND HOMOHADENA,  
AND REMARKS ON HOMOHADENA INDUTA.

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

*Tricopsis alcensis*. n. s.

This species, collected by Mr. G. H. Belfrage, in Bosque Co., Texas, Sept. 16th, differs from *T. chrysellus* by the broader, more olivaceous basal and median fasciae, narrowly united along the hind margin of the wing. The white fields of the primaries are thus less extended than in its congener. Subterminal line diffusely shaded with olivaceous, as is the terminal margin, leaving a whitish apical space. Fringes whitish, thorax light olivaceous. Hind wings less purely white, with a terminal olivaceous shading. Beneath much as in its ally, than which this is a smaller species, expanding 23 m. m. Mr. Belfrage regards this as a distinct form, and sends it under the number 117.

In a separation of the species with armed tibiae from *Heliothis*, the genera *Eulencyptera* and *Tricopsis* I cannot consider with Mr. Morrison as synonymous, since the structure of the fore tibiae offers points of distinction which must be insisted upon in order to obtain a natural arrangement of the species. Only those names in Entomology are correctly styled "synonyms" which apply to equivalent forms.

*Homohadena figurata*. n. s.

The body vestiture is scaly, mixed slightly with hairs. The size is that of *induta*. The color is more grayish than usual, and the basal

streak is wanting in the specimen. The uniformly dark griseous primaries have the median lines alone visible; these are narrow, black, approximate, of the usual K-shape, fused by a black dash below median vein. A series of terminal narrow black streaks. Fringes long, silky gray. Hind wings almost uniformly fuscous with whitish fringes, beneath paler with traces of a transverse line and a discal dot. Fore wings fuscous, with an outer line. Thorax and head like fore wings in color. Expanse 30 m. m. *Hab.* Nevada, Mr. Hy. Edwards, No. 2745.

The statement of Mr. Morrison, in the May number of the CANADIAN ENTOMOLOGIST, that *Homohadena induta* was the same as his *H. retro-versa*, I read with surprise. From the description of the latter, after careful study, I had supposed it a redescription of *H. kappa*. Mr. Morrison says of *retroversa*: "coloration of *H. badistriga*." This is not true of *induta*, which wants the brown tinge entirely. He says the ordinary spots have "broad white annuli." This cannot be said of *induta*. Again, "the basal streak is obsolete," This is not true of *induta*, but of *kappa*. "The posterior wings are as in *badistriga*, etc.," he gives as another character, but it will not apply to *induta*. Mr. Morrison departs often from some more usual terms for color, which on that account renders it difficult at times to determine an insect from his descriptions. I feel that I have a sufficient excuse for my description of *induta*, while I am not prepared to admit the truth of Mr. Morrison's proposition that he has originally intended my species under the name of *retroversa*. I am not aware of *induta* occurring in Missouri, while Mr. Riley thought from a casual examination of *H. kappa* that he had taken that species in that State.

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#### ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

We would invite the especial attention of all American Entomologists to the following paragraph, which appears in the circular recently issued by the Secretary of the A. A. A. S.:

"The attention of persons specially interested in Entomology is directed to the action taken by the Entomologists at the Hartford meeting, and to the fact that there will be a meeting of the Entomological

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Club of the Association at Detroit, on Tuesday, August 10th (the day preceding the meeting of the Association), at which all interested are invited to be present."

We trust that a large number of Entomologists will respond to this invitation, and bring with them everything new and rare which they can lay hands on. It is especially desired that authors bring the types of new species as far as possible.

C. V. RILEY, Secretary Ent. Club, A. A. A. S.

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### CORRESPONDENCE.

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LUNA AND PROMETHEA.

DEAR SIR,—

In the last number of Mr. Strecker's work he states that neither *luna* nor *promethea* occur at Montreal, P. Q. My friend was led astray in this matter by my asking him for these species in exchange. In my letter I said that I had not taken them, and he very naturally concluded from that statement that they did not occur here. Both *luna* and *promethea* have been bred here by several collectors, but they are rather scarce in this locality.

Yours truly,

F. B. CAULFIELD, Montreal, P. Q.

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### BOOK NOTICES.

We have received from the author, with many thanks, a copy of his 7th Annual Report on the Noxious, Beneficial and other Insects of the State of Missouri, by C. V. Riley, State Entomologist, 8vo., pp. 196, with maps and illustrations.

This excellent report opens with a chapter on the Colorado Potato Beetle, in which is given information regarding the spread of the insect and the injuries inflicted by it, the use of Paris green and its influence on the plant and soil, as well as other details of interest. The Chinch Bug is next treated of in a more lengthy chapter, in which its history past and present

is fully given, with instruction in the use of remedies for its suppression. The Flat-headed Apple Tree Borer next claims a share of attention ; in this chapter a new parasite (*Bracon charus*) on the larva of this pest is described and figured. Following these are chapters full of interesting details in reference to Canker Worms, the Grape Phylloxera and the Rocky Mountain Locust. The work is furnished with an excellent index, and is written in a popular style, and is altogether a valuable contribution to our knowledge in the useful department of economic Entomology.

The Cincinnati Quarterly Journal of Science, Vol. 2, No. 2. This number opens with an article on the Tineina of the United States, from the pen of our esteemed friend, V. T. Chambers, Covington, Ky. In this paper 32 new species are described and one new genus.

Among other interesting papers in this serial we notice one on Mastodon remains in Ohio, by John H. Klippart, Rambles of a Naturalist in South Florida, and The Use of Mica Plates by the Mound Builders ; The Age of their Mounds, by S. S. Scoville, M. D.

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### BOOKS RECEIVED.

- Synonymic List of the Butterflies of North America, North of Mexico (Nymphales), by Samuel H. Scudder. From the Bulletin of the Buffalo Society of Natural Sciences, February, 1875, 8vo., 30 pp.  
 Curious anomaly in history of certain larvæ of *Acronycta oblinita* Guen., by Thos. G. Gentry, 30 pp., from Proc. Acad. Nat. Sci., Philadelphia.  
 English Sparrows, by Thos. G. Gentry, from the American Naturalist.  
 Proceedings of the Boston Society of Natural History, Vol. 8, October to December, 1874.  
 Proceedings of the Academy of Natural Sciences, Philadelphia, October, November, December, 1875.  
 Newman's Entomologist to April, 1875.  
 The Zoologist to April, 1875.  
 The Scottish Naturalist, April, 1875.  
 The Horticulturist to June, 1875.  
 Journal of Education to May, 1875.  
 Nature to February 18th, 1875.  
 Science Gossip to May, 1875.  
 Psyche to May, 1875.  
 Le Naturaliste Canadien, 1875.  
 Monthly Report of the Department of Agriculture.  
 Prairie Farmer.  
 Indiana Farmer.  
 Canada Farmer.  
 Observer of Nature to June.