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## THREE NEW NOCTUIDS FROM BRITISH NORTH AMERICA.

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To the courtesy of some of my correspondents from British North America I owe a series of specimens, some of which proved undescribed. The species sent by Dr. Fletcher is of some economic importance, and its prompt description seems desirable. The other species have been in MSS. for some time, and were intended to form part of a lengthy descriptive paper. Their publication together at this time gives this contribution a somewhat faunal character.

*Semiophora Youngii*, n. sp.—Ground colour varies from carneous gray to smoky brown, variably powdered with black or suffused by darker shadings. Front of head and tips of palpi always gray; sides of palpi blackish brown. Male antennæ with lengthy, slender, yellowish pectinations. Collar inferiorly rusty red or brown, surmounted by a blackish or darker line or band, and more or less obviously gray tipped. Discal tufting gray or at least paler than ground; patagiæ a little gray speckled. Primaries with all the usual maculation well defined. Basal half line black, single, twice dentate, followed by a gray shade line. Between this line and base is a gray powdering, always obvious and sometimes prominent; beyond it on the sub-costal is another less prominent shading, which extends to the t. a. line. T. a. line geminate, more or less broken, upright or a little outcurved, outcurved in the interspaces, though not prominently so. Outer line black, inner line obscure, scarcely defined, intermediate space gray. In one example the gray included space only is visible. T. p. line geminate, evenly outcurved over the cell, inwardly oblique, or with only a slight incurve to the inner margin. Inner line black or blackish, lunulate, outer line smoky, even; included space gray,

cut with black on the veins. S. t. line irregular yellowish or gray, punctiform or continuous, preceded by a darker brown to black shading, the terminal space usually paler. A series of brown or blackish interspaceal terminal lunules. Orbicular rather large, oval, somewhat oblique, concolorous or a little paler, rather prominently ringed in yellowish or gray. Reniform moderate in size, kidney shaped, gray or yellowish ringed, more or less pale powdered, and sometimes completely yellowish. No claviform. Secondaries rather even smoky brown, with a reddish tinge in the male, especially defined on the fringes. Beneath rosy gray to reddish; primaries with disk smoky, secondaries paler basally and powdery. A common extra discal line. Primaries with the s. t. line marked; secondaries with a discal spot. The male is more coppery red than the female.

Expands 1.30-1.50 inches = 32-37 mm.

*Habitat*.—Mer Bleue, near Ottawa, Ontario, Canada; Mr. C. H. Young.

Two males and five females, and each different from every other. One male is almost uniformly carneous gray, the lines are not prominent, the reniform contrasting yellowish. One female is evenly blackish brown, the median lines reduced to the pale included spaces, and the ordinary spots narrowly pale ringed. A third form has all the maculation sharply defined as described, and the terminal space is decidedly paler than the rest of the wing. Between these three types the variation ranges. The cell may be also darker, even blackish, or may be entirely concolorous with the remainder of the wing. One specimen recalls *Platagrotis condita*, another resembles *Adelphagrotis stellaris*.

The specimens were sent me by Dr. Fletcher, who tells me that he knows the early stages, and that Mr. Young has bred some of the examples submitted to me. It will be his pleasure to add to the history of this unusually variable and interesting species. The dates on the specimens before me range from August 19 to September 7.

*Carneades infusa*, n. sp.—Ground colour smoky brown, varying a little to a violaceous shading. Head and collar a little paler, the latter with a slender obscure black transverse line. Thorax concolorous, posterior tuft tending to become a little discoloured. Primaries with costa a little paler, tending to yellowish at the base, not discoloured or strongly contrasting. The median lines are practically wanting. A curved black mark at base below median vein does not quite reach the place of the t. a. line. T. a. line marked by a black spot in the cell, by a cross-line closing

the claviform, and by a series of more or less evident black scales below that point. Claviform narrow, not quite reaching the middle of median space, black ringed, the lines almost touching. T. p. line marked over the cell by a slight difference in tint between median and s. t. space, below that lost or barely traceable. S. t. line barely traceable. Orbicular irregular, black ringed, paler centered. Reniform large, broad, only a little constricted, hardly kidney shaped, black ringed, pale centered; both spots appearing slightly discoloured. The cell before, between and beyond the spots is blackish. Secondaries whitish, with a smoky outer border. Beneath powdery, the primaries gray, secondaries whitish, no obvious maculation.

Expands 30-31 mm. = 1.20-1.24 inches.

*Habitat*.—Cartwright, Manitoba; Black Hills, Wyoming.

Two indifferent males only are before me at present; but I have had other and better specimens of both sexes. The species is really *obeliscoides* without the contrasting costa and with the t. p. line lost so that there is an almost even shade below the cell from t. a. line to outer margin; the terminal space being scarcely deeper. The ground colour and general variation in tint are as in *obeliscoides*, but the species is perceptibly smaller. It is type 4368 U. S. N. M.

*Hyppa Brunneicrista*, n. sp.—General form and maculation of *xylinoides*, but darker throughout, more blackish gray in tinge. A rich deep brown shade extends longitudinally through the centre of the primaries toward the apex. Secondaries smoky blackish, somewhat paler basally, but with no trace of yellow as in the common species. The sides of the thorax are solid dark chestnut brown, while in *xylinoides* there is a light brown centre with a black border. Posterior thoracic tuft rusty brown. Abdomen blackish, without trace of yellowish tinge. In the s. t. space of the primaries there is a rusty brown shade from inner margin, prominent opposite anal angle, and gradually merging into the ground. Beneath uniformly darker and more powdery than in the known species.

Expands 40-42 mm. = 1.60-1.68 inches.

*Habitat*.—Calgary, Alberta, Head of Pine Creek, June 19, 22, July 2; F. H. Wolley Dod.

One male and two females are now before me, and Mr. Dod has as many more. He wrote under date March 9, 1901: "Evidently a distinct species, entirely overlooked until a week ago when I was rearranging and relabelling my entire collection. I had looked on it as a mere seasonal

dark form, but now find I took both forms in the same seasons. \* \* \* \*  
 The ♂ antennæ are obviously different, and this has a rusty patch on basal tuft of thorax, and differs also in the anal angle of the primaries and colour of secondaries. These differences are *quite constant* in my series." The antennal difference referred to by Mr. Dod is in the greater length of the pectinations in this new species, and this is accompanied by an even greater difference in the male genitalia. Though fully as large as *xylinoides*, this new species has the male harpes actually smaller, while the clasper and other processes are quite unlike.

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HYDROECIA AMERICANA SPEYER, OR HYDROECIA  
 ATLANTICA SMITH.

To whom should a species be credited: to the author who names it a variety and declares positively that it is not distinct from another, which he considers the stem, or to the author who first points out the specific characters and establishes its distinctness?

In 1875 Dr. A. Speyer, in his paper on "Europäisch-amerikanische Verwandtschaften," gives first, a list of American species which he considers distinct from European forms, a list of species occurring in both countries, a list of questionable forms, and then elaborates these lists by a series of notes. In the list of species common to both countries, he enumerates *Hydroecia nictitans*, and afterwards points out some minor differences in the series before him, noting that Guenée had previously enumerated most of them. On page 152 of the volume he speaks as follows: "Als eigene Art wird sich die amerikanische Nictitans von der europaischen nicht trennen lassen, da ein völlig durchgreifender Unterschied zwischen beiden fehlt. Eine ausgezeichnete Varietat bildet sie aber jedenfalls."

And then he characterizes his variety as follows:

"Var. b. Americana. Al. ant. lætius latericiis s. fulvis, apice subfalcato. Patr. Amer. Septentr."

We have, then, very clearly established what Speyer thought of the American form. First, he ranges it as identical with the European; next he declares that there is no constant difference between the examples from both countries, hence specific separation is impossible, and, finally, he bases a varietal name on a slight difference in general colour and

outline of the fore wings. He marks it "Var. b.," evidently considering *erythrostigma* as "Var. a.," though it is not so quoted.

Did Speyer describe a new species by this process? He specifically declares that he does not, and states positively that the characters noted by him are not constant. In the latter point he is correct, for, based on his description, the name has absolutely no standing.

Of this opinion was Mr. Grote, for in his list of 1882 he cites *nictitans*, Bkh., with two varieties—*erythrostigma*, Haw., and *lucens*, Tr. Speyer's *Americana* is not cited at all, hence it was evidently considered a synonym, for Mr. Grote certainly knew of Speyer's paper.

In 1899, after a thorough study of the species of *Hydroecia*, I pointed out a positive structural difference between the *nictitans* of Europe and the form that had received that name here. I was the first to claim specific standing for the American form, and the first to point out its characters. Why am I not entitled to the species? To call it by Speyer's name would credit him with something he never did, and would give him a species he never recognized, based upon the work done by me twenty-four years later.

The rule of priority is a great thing, but a little justice in its application is not entirely undesirable.

I am aware that this position is not entirely in accord with Canon XXVII. of the A. O. U. Code, but it is nevertheless a fact that my name *atlantica* is the first ever applied to the American species resembling the European *nictitans*.

JOHN B. SMITH.

#### A FEW NOTES ON THE LEPIDOPTERA OF 1901 IN SOUTHERN MANITOBA.

BY E. FIRMSTONE HEATH, CARTWRIGHT, MAN.

It is very curious and interesting to observe the waves of insect life that annually pass over this district. For instance, some four years ago the genus *Acronycta* was strongly represented in some ten or twelve species. The following season that genus almost disappeared, and its place was taken by the old genus *Agrotis*, with its now numerous subdivisions. Last year the various species of the genus *Carneades* were certainly in the ascendant, and occasionally there comes a year like this, when perhaps only an odd species or two show up in any quantity, as was the case more particularly with *Carneades ptychrous*, and while most of

the great genera were almost entirely absent, one's labours were rewarded by the capture of a few specimens of species comparatively rare hereabouts.

The butterflies started with a great show of "Painted Ladies," *Pyrameis cardui* (I do not think its name has been changed lately), apparently hibernated specimens. Where they came from is somewhat of a mystery, as I do not recollect noticing many during the previous year. Owing to a succession of cold and frosty nights during May and the early part of June, insect life received a check, and very few butterflies were visible, even of what are our commonest species. The Theclas and Pamphilas, usually abundant, were absent in nearly all species, and the show of "Blues" was very meagre. *Pieris rapae* was rather more numerous than usual, and the finding of an occasional larva in a dish of cabbage made one for the moment almost fancy oneself once more in England. This butterfly is certainly increasing in numbers, and before long may become troublesome here. The only butterfly that was at all numerous in September was *Grapta progné*, and I did not see one of the other species of the genus that are usually equally abundant.

Among the Noctuids, my first capture of any importance was a nice series of all the varieties of *Homoglea hircina*, both at light and at sugar. This moth has in past seasons been rather a rarity with me, and, with the exception of a single *Teniocampa subterminata*, was the only early species taken.

On May 12th I took a single specimen of *Biston ursarius*, a moth I have not seen for many years. On May 14th I netted a dozen or so of moths—and could have taken many more—flying, in the dusk, about some wild plum trees that were then in bloom, and much to my disgust I found them to be nothing but worn, hibernated *Peridroma saucia*. Where did they come from? *P. saucia* was not in unusual numbers the year before, and I have very seldom taken any at this early date in previous years. Currant bloom (the wild black) did not yield anything like its normal harvest. *Cucullia intermedia* was very scarce. *Mamestra Farnhami* was not so numerous as usual, but, besides *Plusia simplex*, which is always to the front, I took some half dozen of *Plusia precatationis*, a very scarce moth here, and one that I have only before taken in single specimens, at light, in August. So long as the plums, cherries and *Amelanchier Canadense* remained in bloom, sugar had no charms, and my sugared trees remained unproductive till quite late in the season, the only

captures I made being at light, on the few damp, warm evenings that were vouchsafed me.

The Sphingidæ appeared in their usual species and quantity. June 20th was rather a red-letter night in my diary, as I took at light a very fine *Cossus*, which seems different to any in my collection. I believe this to be a rather notable catch; at all events, it is so to me. The few specimens I have were reared from larvæ found frozen in firewood during the winter, but I find them very difficult to feed to maturity. From the number of larvæ there seen, I should expect the moth to be far more in evidence, but it seems to be of a very retiring disposition, and conceals its beauties from vulgar gaze. Although Noctuids were very scarce, some specimens of Geometers and "Micros" generally were more than ordinarily abundant. I must have added some fifteen or twenty species, which are as yet undetermined, to my collection.

In August, sugar proved more attractive, though nothing very special turned up. In a note to Mr. Hanham's list of our Manitoban moths, recently published in the CANADIAN ENTOMOLOGIST, Dr. J. B. Smith says that from material furnished by myself he thought that *Carneades incallida* and *C. quinquelinea* must be taken as one species. I thought so too at the time, but further observation of a long series of living specimens induces me to think that a separation can be made into two groups. One, which I take to be *C. incallida*, has rather broader primaries of a dull, nearly white, colour, with the lines pale and indistinct. The other group, *Carneades quinquelinea*, has the primaries slightly narrower and of a more glossy, bluish-white colour, with the lines strongly marked. Besides these groups there is a residuum of old worn specimens of which it is very difficult to say to which species they belong.

Many of our usual autumn Geometers were absent, but I was pleased to take two or three *Hybernia tiliaria*, a moth I have not seen for many years.

A few species of *Hydroecia* came to light, among them being single specimens of *nelita*, Strecker, and *frigida*, Smith, and also *cataphracta*, which last is new to the Manitoban list.

The autumn *Plusias* were altogether wanting.

That curious moth, so singular in its habits, *Ufeus plicatus*, has been more than commonly numerous. I have only taken a single specimen outside the house at light, but inside, from October to the beginning of

December, according as the weather was mild or otherwise, I have taken from six to a dozen annually.

No particular case of insect damage came under my notice. The grasshoppers have not reached us, and our soil is too heavy for them to flourish thereon. Our very severe winters and late frosts in May and June seem to keep all insect life in due bounds, but the latter are also detrimental to our crops.

### THE UNITED STATES NATIONAL MUSEUM.

The following census of the Lepidoptera in the U. S. National Museum was made in December, 1901:

	No. of specimens.	No. of species.	No. of inflated larvæ.	No. of types.
Butterflies . . . . .	15,606	2,408	290	29
Sphingidæ . . . . .	1,214	251	109	0
Saturnians . . . . .	882	168	170	1
Arctians and allies . . . . .	4,756	863	402	48
Noctuidæ . . . . .	16,807	2,367	545	509
Lasiocampidæ, Notodontidæ, etc. . . . .	3,390	505	687	17
Geometridæ . . . . .	8,727	1,233	449	103
Sesiidæ, Limacodidæ, etc. . . . .	2,582	471	172	29
Pyalidæ and Pterophoridæ . . . . .	9,216	1,366	111	47
Tortricidæ . . . . .	4,940	724	77	33
Tineidæ (sens. lat.) . . . . .	12,146	1,797	56	179
Material not yet placed in the regular collection . . . . .	19,266	(est.) 500	421	251
Alcoholic larvæ . . . . . (est.)	5,000	...	...	...
Pupæ, cocoons, etc. . . . . (est.)	3,000	...	...	...
Duplicates . . . . .	18,560	...	208	...
	<hr/>	<hr/>	<hr/>	<hr/>
	126,092	12,653	3,697	1,246
Add inflated larvæ as above . . . . .	3,697			
	<hr/>			
Total number of specimens . . . . .	129,789			

Comparison with other American collections is invited.

HARRISON G. DYAR.



## COLORADO BOMBIDÆ.

BY E. S. G. TITUS, URBANA, ILL.

During 1900-01 I made some studies on the Bombidæ occurring in Colorado. This paper is an abstract of those studies, the main body of which is in an unpublished thesis deposited with the Secretary of the State Board of Agriculture at Ft. Collins, Colorado. The material used is in the collection at the State Agricultural College of Colorado, and in my own collection; also a few specimens at the U. S. Nat. Mus. Most of the collection passed through the hands of Mr. Wm. H. Ashmead, who corrected determinations and who very kindly looked over the table given below, not only making corrections in it, but adding some species I had not recognized.

It will, of course, be understood that *colour characters* referred to in the table *always* mean *colour of pubescence*.

## TABLE OF SPECIES.

## I.—Abdomen without orange-red band.

Dorsum of thorax generally entirely yellow.

## A. Apex of abdomen black.

First segment yellow, rest black . . . . . *Virginicus*.First segment yellow, next three fulvous . . . . . *dorsalis*.First two segments yellow, rest black . . . . . *vagans*.First two and basal middle of third segment yellow,  
rest black . . . . . *Morrisonii*, ♀.First three segments bright lemon-yellow, rest glossy  
black . . . . . *perplexus*, ♂.First three and middle of fourth segment yellow, rest  
black . . . . . *Morrisonii*, ♂.

## AA. Apex of abdomen fulvous.

First three segments yellow, rest, except apex,  
black . . . . . var. *Hudsonicus*, ♂.

Dorsum of thorax more or less black on the disk.

## A. Apex of abdomen black.

First segment yellow, basal middle of second yellow or tawny, rest  
black . . . . . *separatus*.First three segments yellow, rest black . . . . . *Nevadensis*, ♀.

## AA. Apex of abdomen black and fulvous.

First three segments yellow . . . . . *Nevadensis*, ♂.

Dorsum of thorax banded with black.

A. Thorax before the band white . . . . . *appositus*.

AA. Thorax before the band yellow, scutellum yellow.

B. Apex of abdomen black.

First segment and second (except basal middle)

yellow . . . . . *affinis*.

First, second partly, and fourth segments yellow, rest

black . . . . . *Edwardsii*.

First and second segments yellow . . . . . *scutellaris*, ♀.

First four segments yellow . . . . . *fervidus*, ♀.

First four segments lemon-yellow . . . . . *sonorus*, ♀.

First, second, fourth and fifth (partly) yellow.

Venter nearly bare . . . . . *Putnamii*, ♀.

Venter and legs with long yellowish hairs . . *Putnamii*, ♂.

BB. Apex white.

First two segments black, third fulvous, fourth to sixth  
segments white . . . . . *Coloradensis*, ♀, var. nov.

First two and fourth segments black . . . . . *proximus*.

First, second partly, and fourth segments black . . *Howardii*.

BBB. Abdomen, except apex, ochreous or yellow.

Apex tufted with black, wings uniformly

fuscous . . . . . *fervidus*, ♂.

Apex fulvous or fulvous-yellow, wings subhyaline basally,

broadly fuscous at apical third . . . . . *Pennsylvanicus*, ♂.

AAA. Thorax before the band yellow, scutellum more or less black.

First segment black, vertex with two yellow patches. *terricola*, ♀.

First segment partly yellow, vertex all black. *Pennsylvanicus*, ♀.

"All the dorsal segments clothed with a fulvous

pubescence" . . . . . *Titusi*, n. sp., Ashmead.

II.—Abdomen with a more or less distinct orange-red band.

Dorsum of thorax more or less distinctly banded with black.

A. Apex of abdomen black or nearly so.

B. First and fourth segments, second at least partly, and third seg-  
ment entirely, orange-red.

C. Scutellum all yellow.

Second segment all orange-red, face yellow . . . . . *ternarius*.

- Second segment orange-red, face pale, black hairs above antennæ.....*sylvicola*.  
 Second segment with basal middle yellow.....*rufocinctus*.  
 CC. Scutellum and second segment partly black, remainder of second segment orange-red.....*bifarius*.  
 BB. First two segments yellow, third and fourth orange-red.  
     Scutellum all yellow.....*justus*.  
     Scutellum partly black, thorax anteriorly mixed with black.....*flavifrons*.  
 AA. Apex of abdomen not entirely black.  
     Apex of abdomen orange-red, first two segments yellow, third black.....*Oregonensis*, ♀.  
     Apex of abdomen not so bright, some yellow mixed with fulvous colour.....*Couperii*.

Dorsum of thorax with mixed pubescence.

First two segments pale, third black, apex orange-red.....*mixtus*.

All localities in the following list are in Colorado, except where otherwise stated.

*B. dorsalis*, Cress., 1878.

Mr. Ashmead, in looking over my table, has written in "First segment yellow, 2, 3 and 4 fulvous.....*dorsalis*, ♀." I have not seen the specimens the note was upon.

*B. separatus*, Cress., 1863.

♀ June, ♀ July 20, August 8 (C. Stannard) at Ft. Collins: ♂ Henderson, August 30 (Gillette).

*B. Morrisonii*, Cress., 1878.

♀ May 10, June 8, 9, September 15; ♀ July 20, 24; ♂ September 22, at Ft. Collins. 2 ♀ July 13, Trinidad; August 5, Antonito (Gillette). ♀ ♂ August 21, Cerro Summit; August 19, Horsetooth Gulch. ♂ August 22, Cimmaron. Taken on *Cleome serrulata*, *Mentzelia multiflora*, *Helianthus annuus*, *Thermopsis montanum*, *Alnus viridis* and "wild rose."

This very distinct species is one of the largest and finest Colorado Bombidæ; and is found not uncommonly in Colorado and New Mexico.

*B. perplexus*, Cress., 1863.

One ♂ September 22, Ft. Collins, which I doubtfully refer to this species. The pubescence is beautifully bright, and the black hairs are

very glossy. The second joint of the maxillary palpi is very long, the relation of first to second being as 2 to 19.

*E. perplexus*, var. *Hudsonicus*, Cress., 1863.

Prof. Cockerell records this variety from Cusack Rch, Custer Co., Colo., August 3. The type locality is "Hudson Bay Terr.," not "Hudson" as given by Dalla Torr e.

*B. Nevadensis*, Cress., 1874.

*B. improbus*, Cress., 1878, ♂.

♀ ♀ June, July 12, 24, August 6, 18, at Ft. Collins; ♀ ♂ July 31, August 1, Beaver Creek; July 3, Little Beaver Creek; May 23, Boulder; May 26, Bellvue; August 5, Antonito (Ball); ♀ July 24, Virginia Dale; ♂ July 8, Livermore.

There is now little question that *B. improbus* is the male of this species. The type of the male was taken in "Colorado" by Morrison; of the female the types were from Nevada, Arizona and New Mexico.

*B. fervidus*, Fabr., 1798.

"*Apathus elatus*" ♂, in part.

♀ May 12, 30, June 7, 8, 11, 16, 19; ♀ May 14, 20, 25, June 15, July 20, 31, August 8, 19, 20; ♂ September 3, 16, all at Ft. Collins. ♀ ♀ August 14, July 8; ♀ July 15, at Livermore; ♀ August 5, Antonito; July 13, Trinidad; August 17, Montrose (Gillette); July, Ft. Lupton (R. Haynes). 2 ♂ September 4, Boulder. A very common species.

*B. borealis*, Kby., 1837.

This species was recorded by Prof. Cockerell from Old Beddoe's Rch, Custer Co., August 9, on *Rudbeckia laciniata*. I have not been able to satisfactorily separate this species from any material I have seen.

*B. appositus*, Cress., 1878.

♀ August, Ft. Collins (C. Stannard); August 5, Cameron Pass; August 9, Gunnison; August 23, Leadville; September 23, Vir. Dale; June 15, Bellvue; July 15, Livermore. ♀ ♀ August 30, Store Prairie (7,000 ft.). ♂ Palmer Lake, August 12, 1896 (Gillette). This species can readily be recognized by the white pubescence of the anterior part of the thorax; visible even in specimens on the wing. It has been taken on *Thermopsis montanum* and *Rudbeckia*, sp.

*B. dubius*, Cress., 1863.

This is recorded by Prof. Cockerell from Custer Co.; a female in the collection at Ft. Collins, doubtfully labelled *B. Edwardsii*, may belong here. I took the specimen at Westlake (8,000 ft.), July 7, 1900.

*B. scutellaris*, Cress., 1863.

♂ July 22, August 25, Ft. Collins; August 4, Julesburg (Ball). The pubescence is bright and showy, while on *B. Edwardsii*, its nearest relation, it is more irregular and paler.

*B. Edwardsii*, Cress., 1878.

♀ (2) June 12, Ft. Collins; June 15, Bellvue; Rist Canon, July 1; Westlake, July 7; August 3, Barnes' Camp (8,000 ft.).

*B. Putnami*, Cress., 1878.

♀ June 12, Ft. Collins; August 1, Lizard Head (Bali); ♂ August 30, Ward (7); August 17, Home (Ball). All these localities are high Alpine, 7,000 to 10,000 ft., Ft. Collins excepted. This species was described from one male collected by J. Duncan Putnam, probably at Empire City, a high Alpine species. Closely related to *Couperii* and *Edwardsii*. More abundant material is needed to base satisfactory determinations.

*B. proximus*, Cress., 1863.

♀ April 23, Horsetooth Gulch; July 21, Rist Canon; September 3, Vir. Dale. ♀ ♀ May 15, Ft. Collins; July 7, Westlake; August 18, Home (Ball); August 24, Vir. Dale; ♂ ♀ ♀ August 22, Cimmaron; August 23, Marshall Pass (Gillette).

*B. proximus*, var. *Coloradensis*, var. nov.

♀.—Black; face with yellow and black hairs; thorax banded with black; anteriorly yellow; scutellum with some black hairs mixed with yellow, especially along the sides; thorax beneath brownish-black; first two abdominal segments with black pubescence, third with fulvous yellow,—a few black hairs intermixed on basal margin; fourth to sixth with white hair, a high-power lens shows a few black hairs on the middle of fourth segment basally; a few pale hairs at extreme apical margin of second; posterior tibiæ and femora fringed with pale brown hairs, basal joint of posterior tarsi within very bright rufous, last four joints of all tarsi brownish; some pale hairs on fourth and fifth ventral segments; clypeus shiny, punctured; wings fuscous, tip of marginal cell very dark. Length, 20 mm.

Described from one specimen collected by me in Rist Canon (6,500 ft.), May 8, 1897. Easily separated from *proximus* or *Howardii* by the position and colour of abdominal pubescence.

*B. Howardii*, Cress., 1863.

♀ August 1, Beaver Ck. (10-12,000 ft.); August 23, Marshall

Pass, both by Prof. Gillette; and July 31, Ridgeway (Ball). ♂, Cimmaron, August 22 (Gillette).

The type specimen was taken at "Pike's Peak, Col. Terr.," by Mr. Winslow J. Howard. Prof. Cockerell records it from high altitudes in New Mexico. Mr. Ashmead writes me that he has never seen a queen of this species. It often is mixed with *B. proximus* in collections.

*B. terricola*, Kby., 1837.

This was determined for me by Mr. Ashmead; I had not recognized the species. ♀, Ft. Collins (C. Stannard).

*B. Pennsylvanicus*, De Geer, 1775.

*B. americanorum*, Fabr.

"*Apathus elatus*" in part.

I had the synonymy of this and the previous species mixed, but Mr. Ashmead kindly straightened out the matter for me, and gives me the above synonymy as correct, as far as *Pennsylvanicus* and *Americanorum* are concerned.

♀ June 9, 23, 29; ♀ July 23, August 8, 13; ♂ September 8, 17, 22; all at Ft. Collins.

♀ August 1, near Ft. Collins; June 30, near Foothills; July 8, Livermore; July 24, Vir. Dale; ♀ August 4, Julesburg (3 by Ball); August 7, 10, Rocky Ford.

*B. Titusi*, n. sp., Ashmead (in litt.).

♂.—Length, 16 mm. The abdomen dorsally covered with fulvous pubescence. One specimen September 10, 1898, Lamar (Gillette).

I had this specimen under *B. Pennsylvanicus*; Mr. Ashmead separated it out, and very kindly named it. The type is in the U. S. Nat. Mus.

*B. ternarius*, Say, 1838.

♀ May 3, 4, 12, 14, 19, 27, 28, April 16, 23; ♀ July 4, 20, August 6; ♂ August 5; all at Ft. Collins; ♀ May 16, Bellvue; ♀ July 8, 15, Livermore; July 31, Ridgeway; July 10, Lamar; July 27, September 3, Vir. Dale; July 20, Westlake; August 3, Durango; August 5, Antonito; ♂ Clear Ck. Can., July 18; July 7, Westlake; July 24, Vir. Dale; August 30, Ward; August 24, Glenwood Sprgs.; October 8, Salida.

This is the most common Colorado Bombus; it has been recorded heretofore from the State by Carpenter, "high Alpine," 1873; Dr. Uhler, Beaver Bk. Gulch, August 6; McCauley, "San Juan," 1877; J. D.

Putnam, from Empire, 1876; Prof. Cockerell, from Willow Ck., Custer Co., August 22; and by Dr. Rothrock, in 1872, from "Colorado"; and others.

*B. rufocinctus*, Cress., 1863.

♀ June 16, Ft. Collins; ♂ August 16, Horsetooth Gulch; both determined by Ashmead. Prof. Cockerell records this species from Custer Co., May 28, and August 19.

*B. bifarius*, Cress., 1878.

♀ May 28; ♂ August 26 (Bruner), at Ft. Collins; ♀ May 23, Boulder; ♀ ♀ July 7, Westlake; July 1, Rist Canon; ♀ August 23, Marshall Pass (Gillette); August 25, Alder; July 10, Lamar; ♀ ♂ August 22, Cimmaron; August 30, Ward; August 2, Muldoon (Ball); ♂ July 23, Palmer Lake; July 31, Ridgeway; August 14, Steamboat Springs.

*B. sylvicola*, Kirby, 1837.

♀ August 1, Lizard Head (Ball); ♀ August 25, Alder (Gillette); August 2, Muldoon; ♂ ♀ August 27, Marshall Pass; ♀ ♀ ♂ August 30, Ward (Ball). All determined by Ashmead. Prof. Cockerell records it from Ula, Custer Co., July 30. It is certainly a distinct high Alpine species, and I had not recognized it.

*B. justus*, Cress., 1878.

♀ July 8, Livermore; ♀ July 20, Ft. Collins; July 23, Vir. Dale; August 2, Estes Park (Gillette); August 20, North Park (Ball); ♂ August 22, Palmer Lake.

I have seen a male from Woods Holl, Mass. (Gillette), that belongs to this species.

*B. flavifrons*, Cress., 1863.

♀ ♀ August 27, Marshall Pass; ♀ ♀ ♂, August 1, Lizard Head (Ball); August 30, Ward.

This species in general appearance sometimes resembles *B. justus*, but can be readily separated. Some specimens from Lizard Head are very bright, and the thorax has much more black anteriorly than in ordinary specimens.

*B. Couperi*, Cress., 1878.

♀ ♂ August 30, Ward; August 1, Lizard Head, all determined by Ashmead. Prof. Cockerell has stated that he did not feel warranted in separating *Couperi* and *Putnami* from *frigidus* after examining the types

of the two former. *Putnami*, as recognized in this paper and as determined for me by Mr. Fox and Mr. Ashmead, can be readily separated from *Couperi*.

*B. Oregonensis*, Cress., 1878.

♂ August 30, Ward; August 1, Lizard Head, several specimens collected by E. D. Ball and determined for me by Mr. Ashmead.

*B. mixtus*, Cress., 1878.

♀ Ft. Collins, May 22; ♀ August 5, 19, Cameron Pass; August 17, Home; August 30, Ward. I have seen no males, and what I take to be queens are rather small and some of them may prove to be workers.

*B. sonorus*, Say.

This has been taken in New Mexico by Prof. Cockerell, and is added to the Colorado list on authority of Mr. Ashmead. It is very closely allied to *B. fervidus*. Specimens I have seen can be readily separated. There is black pubescence on the sides of the thorax.

Mr. Ashmead, in his List of Colorado, Hymenoptera, recorded twenty-eight species of *Bombus*. I have included in the table the following, of which I have seen no specimen from this State: *Bombus affinis*, *B. hudsonicus*, *B. vagans* and *B. virginicus*. In this paper twenty of these species are given Colorado records.

The records from Prof. Cockerell referred to several times, are from his Custer County list.

I wish here to express my thanks for favours received from Prof. T. D. A. Cockerell, Mr. W. J. Fox and Prof. L. Bruner, and especially for the kind assistance of Mr. W. H. Ashmead. Prof. C. P. Gillette, under whom these studies were carried on, has ever been ready and willing to aid me in any possible way.

#### ANÆA ANDRIA IN INDIANA.

On April 27th, while collecting with my young son, Robert, the boy distinguished himself by capturing several ♂♂ of *Anæa andria*, at a point east of Richmond, Ind., not far from the Indiana-Ohio State line. The authorities give the habitat of *andria* as "Western States, from Illinois to Texas; Nebraska." No ♀♀ were seen, nor were any specimens seen in the fall. I presume that south-western Ohio can be considered its most eastern habitat. No apparent difference exists between the specimens referred to and material from Texas and other western points.

W. N. TALLANT, Richmond, Ind.



NEW BEES OF THE GENUS *ANDRENA*, FROM WISCONSIN.

BY T. D. A. COCKERELL, E. LAS VEGAS, N. M.

*Andrena subcommoda*, n. sp.

♀.—Length about 12 mm.; black; head and thorax with pale ochraceous or whitish hair, very short and thin on thoracic dorsum; head ordinary, facial quadrangle square; vertex behind the ocelli finely roughened and punctured; front below the ocelli punctured as well as grooved; facial foveæ broad, pale, closely adjacent to eyes; antennæ dark; clypeus thinly hirsute, shining, strongly but not densely punctured, no median smooth line; process of labrum truncate; maxillary palpi short; mesothorax shining, strongly but not densely punctured; metathorax very coarsely roughened, enclosure irregularly subreticulately ridged, but without a transverse bounding ridge; tegulæ dark, with a ferruginous spot; wings dusky with a yellow tint, nervures and stigma ferruginous, second submarginal cell broad; legs wholly dark; hind tibial spur of hind legs much curved; hair on inner side of basal joint of hind tarsi fulvous; abdomen shining, strongly and closely punctured, finely pubescent at sides, but without dorsal hair-bands; fimbria fulvous.

*Hab.*—Milwaukee, Wisconsin, June 11. (*Dr. S. Graenicher.*)

Differs from *A. Commoda* by not having ferruginous tarsi and hind tibiæ; also by the truncate process of labrum. By the latter character, among others, it differs from *A. pruni*.

*Andrena Sigmundi*, n. sp.

♀.—Length 10 mm.; black; pubescence brownish-white; head ordinary; cheeks densely and strongly punctured; antennæ dark; first joint of flagellum rather short; front below ocelli cribrately punctured; clypeus bare, very shiny, very densely and strongly punctured, with a narrow median impunctate line on the lower two-thirds; facial foveæ pale, narrow below, broadening gradually above; process of labrum truncate; mesothorax very strongly and densely punctured; scutellum the same; metathorax cribrate, very rough, enclosure with small vermiform plications and no transverse ridge; tegulæ piceous, with a brown spot; wings stained with yellowish; nervures and stigma dark ferruginous; first recurrent nervure entering second submarginal cell at the beginning of its last third; legs wholly dark; hair on inner side of basal joint of hind tarsi fuscous, shining coppery; abdomen suboval, shining, strongly and rather closely punctured; no hair-bands, but segments 4 and 5 fringed with shining hairs; fimbria auro-fuscous.

*Hab.*—Milwaukee, Wisconsin, May 26. (*Dr. S. Graenicher.*) This is very similar to *A. Forbesii*, but that species has a transverse ridge on the metathorax, and the punctures of the abdomen (especially the second segment) closer. Still, they are very closely allied.

*Andrena multiplicata*, n. sp.

♀.—Length about 9 mm. ; black ; head and thorax with stiff yellowish-white pubescence ; head ordinary, facial quadrangle square ; vertex with very large punctures ; front below ocelli cribrately punctured ; facial foveæ whitish, broad, closely adjacent to eyes ; antennæ dark ; clypeus polished, strongly and closely punctured, with a hardly defined median smooth line ; process of labrum rounded ; mesothorax and scutellum somewhat shining, with fairly close, large and deep punctures, those on scutellum very large and irregular ; base of metathorax very strongly longitudinally plicate, with a strong transverse ridge, the plicæ are about eight on each side of the middle line ; tegulæ piceous, with a pale margin and a fulvous spot ; wings dusky, with a yellowish tint, nervures and stigma dark ferruginous ; legs very dark brown, hind tarsi very dark ferruginous ; basal joint of middle tarsi rather broad ; hair on inner side of basal joint of hind tarsi light orange-fulvous ; abdomen strongly and closely punctured, punctures on basal part of second segment much smaller and closer than those on basal part of first ; segments 1 to 4 with lateral white hair-bands, those on 3 and 4 much narrowed medially, but nearly continuous ; fimbria fulvous.

*Hab.*—Milwaukee, Wisconsin, June 2. (*Dr. S. Graenicher.*) Belongs to the group of *A. rugosa*, and is allied to *A. Forbesii* and *A. grandior*.

*Andrena radiatula*, n. sp.

♀.—Length about 10 mm. ; black ; pubescence rather dense, reddish-brown dorsally, paler elsewhere ; abdomen not banded ; fimbria pale purplish-gray. This is closely similar to *A. Sigmundi*, but differs as follows : Head smaller, facial quadrangle narrower ; facial foveæ with a reddish tint, and narrowing more rapidly below ; clypeus hairy all over ; hair of thorax strongly reddish ; basal area of metathorax more regularly plicate and better defined ; third submarginal cell less narrowed above.

*Hab.*—Milwaukee, Wisconsin, June 16. (*Dr. S. Graenicher.*)

*Andrena rufosignata*, n. sp.

♀.—Length about 10 mm. ; black ; pubescence whitish, tinged with

yellow above, especially on the scutellum; head ordinary, facial quadrangle about square; antennæ rather long, flagellum dark ferruginous beneath towards end; cheeks tessellate and hardly or not punctured; front below ocelli striate; clypeus granular and dull at the sides, but disc strongly shining, with strong sparse punctures, the lower middle almost wholly impunctate; process of labrum rounded, broad, the end very slightly truncate; mesothorax minutely tessellate, dull, with shallow, hardly visible, punctures, median and parapsidal grooves distinct; scutellum slightly shining but not polished; base of metathorax granular, no transverse ridge; tegulæ piceous in front, dark reddish-brown posteriorly; wings nearly clear, apical margin slightly dusky; stigma clear ferruginous, nervures darker; legs dark, hair on inner side of basal joints of middle and hind tarsi fulvous; abdomen broad, tessellate-impunctate, without hair-bands; fimbria fulvous.

*Hab.*—Milwaukee, Wisconsin, May 19. (*Dr. S. Graenicher.*)

When one looks at the head from above, the broad facial foveæ are seen to have a strong red tint, which is very distinctive of the species.

*Andrena clypeonitens*, n. sp.

♀.—Length about  $9\frac{1}{2}$  mm.; black; pubescence pale ochreous, brighter on scutellum; head broad, facial quadrangle somewhat broader than long; antennæ dark, flagellum very faintly reddish towards tip; front below ocelli striate; disc of clypeus bare, sparsely punctured, with a large shining impunctate space; process of labrum broad and rounded; facial foveæ pallid, rather broad, adjacent to eyes; mesothorax dull, minutely tessellate, impunctate; basal area of metathorax dull, defined only by absence of hair; tegulæ very dark brown; wings smoky, nervures dark brown, stigma dark ferruginous, with a dark brown margin; second submarginal cell nearly square; legs black, the three first small joints of tarsi deep ferruginous; hair on inner side of basal joint of hind tarsi fuscous, shining coppery; abdomen tessellate-impunctate, with continuous white hair-bands, that on the first segment reduced to a few scattered hairs, those on the others dense and conspicuous; fimbria and hair of penultimate segment dark purplish-gray.

*Hab.*—Milwaukee, Wisconsin, Aug. 19. (*Dr. S. Graenicher.*) A species of the group of *A. solidaginis* and *A. xanthigera*. The clypeus will at once separate it from *A. solidaginis*, which occurs in the same region.

## SOME NEW OR LITTLE-KNOWN BEES—II.

BY CHARLES ROBERTSON, CARLINVILLE, ILLINOIS.

In my neighbourhood I find the typical *Andrena Cressonii*, Rob., and the form described below as *A. dubia*, the latter more rare. To compare this with the form described as *A. Bridwellii*, Ckll., I have obtained from Mr. Bridwell for examination thirty-three specimens taken by him at Baldwin, Kansas, and labelled *A. Cressonii*, *A. Kansensis*, and *A. Bridwellii*.

*A. Kansensis* is the same as *A. Cressonii*, the colour of the pubescence being characteristic of unfaded specimens. Local specimens sometimes have the hind tibiæ and tarsi ferruginous in both sexes.

*A. Bridwellii* seems to be the common form at Baldwin. It differs from the typical *A. Cressonii* in the characters mentioned below. Some specimens have the flagellum testaceous beneath and some have the tarsi and hind tibiæ more or less ferruginous. It is intermediate between *A. Cressonii* and *A. dubia*. If I should find *A. Bridwellii* in my neighbourhood, I would regard them all as *A. Cressonii*. As it is, they may be only variant forms of *A. Cressonii*, but I have thought it well to separate *A. dubia* provisionally and to let *A. Bridwellii* stand on the same basis. The validity of both depends on the discovery of characters which will enable one to separate the females from each other and from females of *A. Cressonii*.

Joint 3 of antennæ shorter than 13, about as long as 5, entire apical margin of clypeus black, lateral face marks small or

wanting..... *A. dubia*, sp. nov.

Joint 3 of antennæ as long as 13, and as long as 4 and 5 together.

1.—Middle of anterior margin of clypeus black, lateral face marks large..... *A. Cressonii*.

Entire apical margin of clypeus black, lateral face marks small or wanting..... *A. Bridwellii*.

## DIALICTUS, gen. nov.

This is proposed as a new genus for the reception of *Halictus anomalus*, Rob., as the type. The species was described from two specimens, and I suspected that I might find examples with three cubital cells and that the males might not differ from the ordinary dull greenish *Halictus*, except in the venation. But the male differs from all of those species of *Halictus* known to me in having the antennæ short, the joints hardly longer than wide, joint 3 hardly longer than

2. The flagellum is usually dark, but sometimes it is testaceous beneath. I have 3 ♀ and 5 ♂ specimens.

*Nomada denticulata*, sp. nov.

*Nomada articulata*, Rob., Tr. Am. Ent. Soc., xxii.: 124, ♂, 1895 (nec Sm.).

*Nomada articulata*, Rob., Tr. Acad. Sci., St. Louis, viii.: 51, ♀, 1898.

*Synhalonia Illinoensis*, sp. nov.—♂. Differs from *S. atriventris* ♂ in joint 3 of antennæ being one-half as long as 4. The form *fuscipes* of *S. atriventris*, Tr. Acad. Sci., St. Louis, x.: 54, may be a distinct species, and this may be the male of it.

*Agapostemon pulcher*, Sm.—When writing the account of the local species of *Agapostemon*, in Tr. Acad. Sci., St. L., vii.: 325-30, I found no males of *A. radiatus* farther west than Nebraska, though I have since seen them from Colorado. A form resembling *A. radiatus* ♀ was identified as *A. pulcher*, Sm. *A. femoratus*, Crawford, Nebr. Acad. Sci., vii.: 162, was identified as the male.

*Megachile petulans*, Cresson (Trans. Am. Ent. Soc., vii.: 127, ♂, 1878). ♀.—Quite short and robust, the edge of the vertex passing before a line drawn between the posterior margins of the eyes, one of the posterior ocelli, therefore, nearer the vertex than to the neighbouring eye.

This was identified for me by Mr. Cresson as *M. optiva* ♀, and I have indicated *M. petulans* as the male of that species, in Trans. Acad. Sci., St. Louis, vii.: 350, 1897. Lately, through the kindness of Dr. Skinner, I have had an opportunity to examine the two type specimens of *M. optiva*. They belong to two species, and neither of them is the female of *M. petulans*. One of them is, I think, the female of *M. facunda*. The two species and *M. sexdentata*, Rob., may be separated as follows:

Middle metatarsus narrower than its tibia, apical ventral segment of abdomen not reflexed, anterior margin of clypeus entire... *M. optiva*, pt.  
Middle metatarsus as broad as its tibia, apical ventral segment of abdomen reflexed.....1.

1.—Apical margin of clypeus with a median and two lateral teeth, *i. e.*, 5-toothed.....*M. optiva*, pt.

Apical margin of clypeus smooth and shining, with a median dentiform carina.....*M. sexdentata*.

In the preceding paper, CAN. ENT., XXXIII., 229, sixth line from the bottom, "anal rims" should read "anal rima"; and on page 230, "*obliqua*," repeated thrice in italics, should read "*desponsa*."

ADDITIONAL NOTES ON THE LIFE-HISTORY OF *ARCTIA PHALERATA*, HARR.

BY ARTHUR GIBSON, DIVISION OF ENTOMOLOGY, CENTRAL EXPERIMENTAL FARM, OTTAWA.

In the December number, 1900, of this journal, page 369, the writer published the life-history of the above Arctian. During the past summer, through the kindness of Mr. A. Kwiat, of Chicago, in forwarding eggs of *A. phalerata* (laid 18th June), I have had the opportunity of still further studying this species, and, as these larvæ varied considerably from those described in 1900, the following notes were made:

In the larval stages i, ii and iii those bred in 1901 answered well to my former descriptions. In stage iv the larvæ were not so black as the specimens reared the previous year, but many of them showed the dorsal stripe. This stripe was also present in stage v, besides which 40 of the larvæ possessed a series of pale orange spots on sides between tubercles ii and iii, and iii and iv, and the skin of the body in a line with the upper spots (between tubercles ii and iii) was slightly grayish, not black like the rest of the skin; this and the spots gave the appearance of a faint lateral band, distinguishable on all segments but 2 and 13. In stage v in 1900 none of the larvæ showed the dorsal stripe. In stage vi last season all of the 123 specimens, with the exception of 2, showed a distinct orange dorsal stripe, but in a few specimens this was faint. In 1900 the specimens did not show a dorsal stripe in this stage. In stage vii the larvæ were much larger the past season than those bred the previous year. The mature larvæ in July, 1900, measured 30 mm. at rest; those in July, 1901, averaged 42 mm. in length, and all the specimens but 9 showed the distinct dorsal stripe, expanded in the middle of each segment, or the series of elongated spots noted in my previous description of this stage. In many of the larvæ the stripe was present on all the segments, but was particularly wide and distinct on segments 5 to 13, inclusive.

In stage vi in 1900 the width of the head averaged from 2.0 to 2.4 mm. The past year some of the heads were 2.6 mm. wide. In stage vii also in 1900 the width of the head, as given in my description, was 2.5 to 2.8 mm. In July, 1901, the widest head measured 3.4 mm. The chief variation in the mature larvæ bred the past season was in the colour of the bristles. In many specimens the bristles from all the tubercles, with the exception of a few short bristles from the tubercles above the spiracles, were of a decidedly pale grayish colour, tipped with black; in

others the bristles were more of a yellowish tinge, those from tubercles on segments 2, 3 and 4 being slightly rusty. In these specimens the skin of the body was not so black, and did not have the velvety appearance which the larvæ with the black bristles from dorsal tubercles had. In some larvæ all the bristles, with the exception of a few black ones from tubercles above spiracles, were a pale rust-red, those from tubercles on segments 2, 3 and 4 being brighter. In most cases the bristles from tubercles above spiracles of larvæ bred in 1900 were black, the only exception being that in some specimens all the dorsal tubercles bore a very few bristles of a dark rusty colour; none, however, possessed any pale grayish or yellowish bristles as above mentioned.

On the 14th July, 1901, some of the specimens had changed to pupæ, and on the 23rd July the first moths emerged. Early in August 2 males and 2 females, which had just emerged, were placed in a cage out of doors, and another batch of eggs were secured. These hatched in due course, and about 32 of the larvæ passed through all their stages by the 1st September, and by the 14th and 15th the first moths of this brood appeared, the date of the last emergence being 14th October. The larvæ which did not pupate, having showed signs of hibernation, were placed in a cool cellar on the 21st October, to be afterwards put outside for the winter.

In 1900 there was a remarkable lack of variation in the moths bred, but this cannot be said of those reared the past year. While the majority, however, did not show any material variation, yet in some specimens the W mark on the primaries was indistinct, and in a few moths (females); nearly obsolete. In fact, there was much variation as to the width of all the bands on the primaries. In some specimens these were quite wide, in others the bands were narrow. Then, again, the colour of the secondaries in four of the females reared was quite yellow, almost as yellow as the secondaries of the males. In the moths of the two broods bred the past season, the black edging of the primaries in both sexes was more in evidence than those reared in 1900.

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South Kensington Museum loses a distinguished lepidopterist in Dr. A. G. Butler, the head of the entomological section, who retires under the age limit after nearly forty years' connection with the zoological department. Dr. Butler is a great authority on African butterflies, and he has also won world-wide reputation as an enthusiastic ornithologist. It is stated that his successor will be Sir George Hampson.—*London, Eng., Daily Telegraph.*

## THE ACADEMY OF SCIENCE OF ST. LOUIS.

At the meeting of the Academy of Science of St. Louis, on the evening of January 6, 1902, Mrs. Wm. Bouton, on behalf of herself and a considerable number of other persons, presented to the Academy a collection of 633 butterflies mounted on Denton tablets, on condition that the collection should be made accessible to the public.—WILLIAM TRELEASE, Recording Secretary.

## A CORRECTION.

Before venturing to send my Synonymic Notes for publication, I made a careful search of the entomological literature accessible to me, but a few days after I had returned the corrected proof, I found in a work which I had just added to my library the name *Euchotes*, Lec., cited as a synonym of *Eunysobia*, Casey.

I immediately telegraphed to the editor to suppress the name *Epeuchotes* which I had proposed, and that I would pay the expense of resetting and reprinting the pages involved. I was too late, unfortunately, as the number was complete and ready for mailing, and as its issue had already been retarded by other causes, the editor did not deem it expedient to further delay it.

Since the appearance of my notes I have been favoured with a letter from Mr. Samuel Henshaw, informing me that the name *Euchotias* proposed by me is unnecessary, and that Harris's name, *Euchotes*, is tenable on account of Dejean's *Euchotes* being a "nomen nudum," a mere list name, and that the date of Dejean's work was 1833, not 1834.

Dejean's work was not accessible to me, but I thought I was safe in depending upon Dr. Scudder's "Nomenclator Zoologicus," in which the first use of the term is credited to Dejean in 1834, and I supposed that the first use of a term given would be valid. I am by no means sure that the invalidity of mere catalogue names has always and universally been recognized, though I quite agree that they should not be accepted. I may say that the entomological editors of the Century Dictionary followed Dr. Scudder's work in regard to this name.

It is with the keenest regret that I find myself in what Dr. Skinner has delicately referred to as the "synonymic consommé."

Montreal, 23rd Jan., 1902.

H. H. LYMAN.

Mailed February 4th, 1902.