

4-23-1860

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Recommended Citation

Greene, John W., "Review of the American Bombidæ, Together with a Description of Several Species Heretofore Undescribed, Being a Synopsis of the Species of this Family of Hymenopterous Insects Thus Far Known to Inhabit North America" (1860). *Gr*. Paper 46.

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Review of the American Bombidae.
J. W. Greene

Ann. Lyc. Nat. Hist. N. Y.

VII

pp. 168-176

1860

NOTE.—Mr. P. P. Carpenter having seen the specimens of *Cæcum Cooperi*, since the description of it was in type, is of opinion that it is an already described Southern species, probably his *C. imbricatum*, but being unable at the moment to compare specimens or descriptions could not pronounce positively.

XXI.—*Review of the American BOMBIDÆ, together with a Description of several Species heretofore undescribed, being a Synopsis of the species of this family of Hymenopterous Insects thus far known to inhabit North America.*

By JOHN W. GREENE, M.D.

Ann. Lyc. Nat. Hist. VII: 168-176.

Read April 23d, 1860.

SAINT FARGEAU adopting, with certain modifications, Latreille's classification of the Hymenoptera, according to the habits of the families comprising the order, has placed the Bombidæ under the group of Annual Societies, or those which live in companies but for one season, perishing to be replaced by their offspring the succeeding year. Their characters, as laid down by him, are as follows:—

Tongue almost cylindrical; in repose about the length of the head; as long as body when in action.

Males, females, workers, all having wings in the perfect state.

Antennæ vibratile, filiform, second article shorter than the third, almost globulous, the third a little conical.

Posterior legs having two spines at their extremities.

First article of the posterior tarsi dilated at the external angle of the base, in form of a pointed ear.

Radial elongated, internal, and detached from the side or external nerve of the wing.

Four cubitals, the first almost entirely divided in two by a nervure, which descends to the side, the second a little contracted towards the

radial, receiving the first recurrent nervure, the third drawn up more than half towards the radial, receiving the second recurrent nervure near the fourth cubital, this one not being commenced; the cells of the limb confounded with the fourth cubital.

The three discoidal cells complete. Ocelli disposed in right line. Body velvety.

1st (and only) Genus BOMBUS, Fab. Latr.

BREMUS, Jur.

APIS, Linn.

The characters of the unrestricted genus are all contained in those of the family as already given.

SYNOPSIS OF SPECIES.

With St. Fargeau we divide the genus into three sections, based on the colors of the hairs on the last segments of the abdomen.

* *Last segment of the abdomen yellow or red.*

Two species of this section have, we believe, been identified, and perhaps three; the *B. occidentalis*, when described, we placed in the next section, as, although the terminal segments have a yellowish tinge, we have been in doubt whether this may not have been caused by alcoholic immersion.

1. Bombus Suckleyi, Greene. * (4)

Head black, on vertex a few yellowish hairs. Corselet, anterior part covered with yellowish hairs which extend around, under, and are spread upon the sides of the thorax. A bare roundish black space between wings, posterior part yellowish.

Tergum yellowish but covered by scattered hairs, the fifth, sixth segments, and anus more deeply covered than the other segments; the middles of these segments are slightly blackish.

Length $\frac{3}{4}$ of an inch ♀. In my cabinet.

Habitat.—Puget's Sound. Dr. Suckley!

see
Casson
1863
p. 115

2. Bombus Carriei, Greene. * (5)

Head yellowish. Corselet, sides, and anterior part, covered with greyish yellow hairs. Centre black, posterior greyish yellow.

Tergum—first and second segments greyish yellow; third segment black; fourth, fifth, and sixth segments and anus reddish.

Length $\frac{5}{8}$ of an inch ♀. In my cabinet.

Habitat.—Fort Steilacoom, Wash. Ter. Dr. Suckley.

** *Last segment of abdomen white.*

But one species of this division has hitherto been identified in North America, and that is from the Pacific coast.

3. Bombus occidentalis, Greene. (2)

Ann. Lyceum Nat. Hist. N. Y. Dec. 1858, Vol. VII.

Face between eyes yellowish, white anteriorly and laterally; first four abdominal segments black; the rest, including anus, white; length about nine lines, ♀.

Habitat.—North-west Coast of America, Fort Vancouver, Dr. Cooper; Puget's Sound, Dr. Suckley.

In my cabinet.

*** *Last segment black.*

Ten species are known to entomologists as found in North America; from which it appears that this is the prevailing type of coloration.

4. Bombus Virginicus, Fab. ✓

Piez. 14, Drury Ins. t. I. tab. 43, fig. I.

Black, above and sides of corselet of a greyish yellow, first segment of the abdomen the same; some greyish yellow hairs

upon the vertex of head; hairs under the first article of tarsus reddish. Wings a little smoky, mostly so at the ends, where they are a little violaceous.

Length 13 lines, ♀. In my cabinet.

Habitat.—Western America.

5. *Bombus fervidus*, Fab. Piez. 48.

Bombus actif *St. Farg.* Hist. Nat. Hymenop. p. 470, Vol. I. Paris, 1836.

Head black. Sides of the corselet and back of a dirty yellow; between the wings a narrow black band, underneath the corselet black. The shield and four first segments of the abdomen of a dirty yellow (perhaps *yellow* in the living), the fifth and the anus black; feet black; wings smoky, violaceous.

Length 13 lines. ♀ In my cabinet.

Habitat.—Pennsylvania.

6. *Bombus sonorus*, Say.

Say's Entom. Le Conte, p. 787, Vol. II. New York, 1860. Baillièrè Bro.

Body yellow, head black, thorax with a broad black band in the middle; wings violaceous black; tergum with the first, second, and third segments yellow, the others black, beneath black.

Length four-fifths of an inch ♀.

Habitat.—Mexico.

7. *Bombus ephippiatus*, Say.

Say's Entom. Le Conte, p. 788, Vol. II. N. Y. 1860. Baillièrè Bro.

Body black; pleura pale yellow; wings dusky, tinged with violaceous; tergum pale yellow towards the base, this color being gradually narrowed behind and terminating on the third seg-

ment, forming somewhat of a semioval, with its base to the thorax, and confluent with the color of the pleura.

Length less than half an inch.

Habitat.—Mexico.

8. *Bombus ternarius*, Say.

Say's Entom. Le Conte, p. 788, Vol. II. N. Y. 1860. Baillière Bro.

Head black; thorax with dull yellowish hair and a blackish band in the middle; wings with a slightly yellowish tinge; nervures fuscous; tergum fulvous on the second and third segments, first and fourth segments yellowish, rest black.

Length three-fifths of an inch ♂.

Habitat.—Indiana.

9. *Bombus Americanorum*, Fab. Piez. No. 16.

Bombus American St. Farg. Hist. Nat. Hymenop. Vol. I. p. 472.

Black, a large yellow band upon the front of the corselet. Abdomen yellow above the base of the first, fourth, and fifth segments, and the anus black. Legs and tarsi shaded with blackish red, their hairs above black, below red; wings brownish with a violet reflection.

Length 10 lines ♀.

Habitat.—Western America.

10. *Bombus Huntii*, Greene. * (3)

Head black and bare except in middle, which has a line of yellow hairs extending from the mouth to the vertex. Corselet, anterior third covered with yellow hairs that extend quite to sternum, a transverse black stripe covers the middle, having its centre bare and shining, the posterior third yellow. First

segment of abdomen black, having on each side a large tuft of yellow; the second and third segments bright red, the fourth yellow with greenish tinge; last segment and anus black. Thighs, legs, and tarsi black, inclining to reddish. Wings smoky. Length about twelve lines. Female.

Habitat.—Utah Territory.

This specimen was furnished me by Dr. Suckley, who obtained it from Major Franklin E. Hunt, Paymaster U. S. Army, to whose friendly interest in science I am indebted for many valuable specimens of Hymenoptera, and in whose honor I have named this beautiful species.

It approaches nearly to *B. rubriventris*; it differs in having the first and fourth segments yellow, the first of *B. rubriventris* being black, and the fourth red.

The colors indicated in my description are those of the hairs which cover the parts designated. The color of the integument in this family is generally black; when this is not the case it will be stated.

11. *Bombus interruptus*, Greene.

Ann. Lyceum Nat. Hist. Vol. VII. Dec. 1858.

Muzzle yellowish; black between eyes. Corselet yellow, black spot between wings; first, second segments and anus black; the third, fourth, and fifth segments black fringed with yellow hairs on the lower margin of the segments on each side; middle of tergum black, smooth, and shining; legs reddish black; wings smoky.

Size nearly that of *B. Virginicus*.

Habitat.—N. W. Coast of America, Wash. Territ., Oregon, Dr. Suckley.

In my cabinet.

12. Bombus Carolinus. Auct. (St. Fargeau.)

Head black, thorax black, first and fifth segments and anus black, second, third, and fourth red; legs and tarsi shaded reddish black; wings brownish with a violet reflection.

Length 11 lines ♀.

Habitat.—Carolina.

I know of no specimen of this species, but its existence is indicated, and diagnostic characters given, by St. Fargeau. See his work, Vol. I. p. 472, *et seq.*

13. Bombus violaceus, St. Farg.

Hist. Nat. Hymenop. p. 473, Vol. I.

Black, feet black; hairs below the legs and tarsi red; wings brownish with a violet reflection.

Length 13 lines ♀. Worker alike. Length 6 lines.

Habitat.—Western America.

NAME.	SECT.	HEAD.	THORAX.	1st SEG.	2d SEG.	3d SEG.	4th SEG.	5th SEG.	6th SEG.	ANUS.
<i>B. occidentalis</i> , .	2nd.	Yellowish		Black	Black	Black	Black	White	White	White
<i>Virginicus</i> , .	3rd.	Black and Yellow	Grey Yellow	Grey Yellow	Black	Black	Black	Black	Black	Black
<i>Huntii</i> , . .	3rd.	Black and bare, middle Yellow	Yellow Black Yellow	Black Yellow	Red	Red	Yellow	Black		Black
<i>fervidus</i> , .	3rd.	Black	Black Yellow	Yellow	Yellow	Yellow	Yellow	Black		Black
<i>interruptus</i> , .	3rd.	Black Yellow	Yellow	Black	Black	Black Yellow	Black Yellow	Black Yellow		Black
<i>sonorus</i> , . .	3rd.	Black	Broad blk. band in middle.	Yellow	Yellow	Yellow	Black	Black	Black	Black
<i>ephippiatus</i> , .	3rd.	Black	Yellowish	Yellow	Yellow	Yellow Black	Black	Black	Black	Black
<i>ternarius</i> , .	3rd.	Black	Yellowish	Yellowish	Fulvous	Fulvous	Yellow	Black	Black	Black
<i>Americanorum</i> , .	3rd.	Black	Yellow band	Yellow	Yellow	Yellow	Yellow Black	Yellow Black		Yellow and Black
<i>Carolinus</i> , .	3rd.	Black	Black	Black	Red	Red	Red	Black		Black
<i>violaceus</i> , .	3rd.	Black	Black	Black	Black	Black	Black	Black		Black
<i>Suckleyi</i> , .	1st.	Black	Yellow Black	Yellow	Yellow	Yellow	Yellow	Yellow Black	Yellow Black	Yellow
<i>Carriei</i> , . .	1st.	Yellowish	Greyish Yellow Black	Greyish Yellow	Grey Yellow	Black	Reddish	Reddish	Reddish	Reddish

NOTE.—Since the foregoing paper went to press, I find that the following species of *Bombi* have been mentioned as from N. America. I regret that the short time allowed me before

the printing of this monograph will prevent, for the present, anything more than the simple enumeration of their names.

Bombus elatus,	Fab. Syst. Piez, 352, N. A.
“ laboriosus,	“ “ “ 352, Car.
“ Marylandicus,	“ “ “ 346, N. A.
“ Arcticus,	Kirby, Parry’s 1st Voy. App. 470.
“ Borealis,	“ Faun. Boreal. Am. 272, Arct. Am.
“ praticola,	“ “ “ “ 274.
“ sylvicola,	“ “ “ “ 272.
“ terricola,	“ “ “ “ 272.
“ Californicus,	Smith, Brit. Mus. Cat. II. 400, Calif.
“ frigidus,	“ “ “ “ II. 399, Huds. Bay.
“ ornatus,	“ “ “ “ II. 398, Huds. Bay.
“ Kirbiellus,	Curtis, Ross, 2d Voy. App. Arct. Am.

The following are doubtful :—

Bombus nidulans,	an <i>Anthophora</i> ? see Fab. Piez, 349, N. A.
“ Virginicus,	Fab. Piez, p. 349, is <i>Apis Virginicus</i> .
“ derhamellus,	Kirby, Faun. Bor. A. 273, N. A.
Doubtful. This is an European variety.	

For this list I am indebted to Mr. E. Norton.

XXII.—*Notes on North American CRUSTACEA, in the Museum of the Smithsonian Institution. No. II.*

By WILLIAM STIMPSON, M.D., CORRESPONDING MEMBER.

Read April 16th, 1860.

IN this second part of our contributions to North American Carcinology we had intended to treat of the Macrurous Crustacea, having published, in the first part, the notes then in

