

## NOTES ON GENUS CATONIA (HOMOPTERA).

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The synoptical table of the species of this genus published by me in January, 1908, has become rather antiquated on account of the discovery of a number of new forms. The following table includes all described species from America north of Mexico:

- Apex of the head more or less angled, with the carinæ sharp ; the lateral carinæ of the front following its basal margin and forming a distinct angle before the eye, where they join those of the vertex ; eastern species . . . . . 1.
- Apex of the head tumid, with the vertex sloping and confounded with the base of the front in a common convexity, the carinæ obsolete there ; lateral carinæ of the front following the contour of the eyes ; western species . . . . . 7.
1. Face conspicuously transversely banded . . . . . 2.  
Face not distinctly banded . . . . . 6.
2. Front entirely black, the clypeus abruptly white ; elytra unicolorous brown, nervures impunctate . . . . . 7, *dimidiata* VanD.  
Front transversely banded with white opposite the antennæ . . . . . 3.
3. Elytra unicolorous, nervures impunctate . . . . . 6, *impunctata* Fitch.  
Elytra variegated, nervures punctate . . . . . 4.
4. Larger, 7 mm.; front distinctly narrowed at base, which is but obscurely banded . . . . . 1, *nava* Say.  
Smaller, 5-6 mm.; base of the front black . . . . . 5.
5. Front much narrower at base ; vertex narrow, truncated before, its sides considerably produced before the eyes ; mesonotum variegated . . . . . 2, *cinctifrons* Fitch.  
Front hardly narrower at base ; vertex broad, obtusely angled before, the sides not produced before the eyes ; mesonotum unicolorous, castaneous . . . . . 3, *picta* VanD.
6. Larger, 7 mm.; elytral areoles with numerous incomplete transverse veinlets ; apex of the mesonotum with a pair of ocellated black points . . . . . 4, *grisea* VanD.  
Smaller, 5 mm.; elytral areoles without transverse veinlets . . . . . 5, *pumila* VanD.
7. Front banded, its basal carinæ indicated ; elytra fuscous, the areoles dotted and some of the transverse veins white . . . . . 8, *fusca* VanD.  
Front without transverse bands . . . . . 8,

8. Colour ferruginous, inclining to castaneous; elytra with a transverse clitellate band. . . . . 12, *cara* VanD.  
 Colour some shade of brown or fuscous; elytra not banded. . . . . 9.
9. Smaller, less than 5 mm; colour testaceous-brown, with the costa obscurely paler. . . . . 11, *costata* VanD.  
 Larger, 6 mm.; not distinguished by a paler costa. . . . . 10.
10. Of a uniform ferruginous- or rufous-brown, sometimes marked with sanguineous on the abdomen and elytral nervures; apex of the elytra infuscated with contrasting nervures. . . . . 10, *rubella*, n. sp.  
 Of a clear fuscous-brown; carinae of the pro- and mesonotum and elytral nervures mostly whitish. . . . . 9, *nervata*, n. sp.

I have omitted from this table the West Indian *intricata* Uhler, and the Mexican and Central American species described by Fowler in the *Biologia*. Below is a list of the species of *Elidiptera* and *Catonina* known from north of Mexico and the West Indies:

Genus ELIDIPTERA Spinola.

Ann. Soc. Ent. Fr., viii, p. 304, 1839

*Helicoptera* Am. & Serv., Hemipteres, p. 526, 1843.

Van Duzee, Proc. Acad. Nat. Sci. Phila., lix, p. 475, 1908.

1. COLORATA Van Duzee.—Proc. Acad. Nat. Sci. Phila., lix, p. 476, 1908.

Habitat.—N. Y. (Approaches genus *Pseudohelicoptera* Fowler.)

2. OPACA Say.—Jl. Acad. Nat. Sci. Phila., vi, p. 239, 1830; Compl. Writ., ii, p. 374, 1859.

*vestita* Prov.—Pet. Faun. Ent. Can., iii, p. 221, 1889.

*pinorum* Manee.—Ent. News, xxi, p. 117, 1910.

Habitat.—Canada to North Carolina.

3. PALLIDA Say.—Jl. Acad. Nat. Sci. Phila., vi, p. 240, 1830; Compl. Writ., ii, p. 374, 1859. Van Duzee, Proc. Acad. Nat. Sci.

Phila., lix, p. 477, 1908.

Habitat.—Eastern States, Canada.

4. HENSHAWI VanD.—Trans. Am. Ent. Soc., xxxvi, p. 83, 1910.

Habitat.—Washington State.

5. SLOSSONI VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 478, 1908.

Habitat.—New Hampshire.

6. SEPTENTRIONALIS Prov.—Pet. Faun. Ent. Can., iii, p. 220, 1889.

Habitat.—Canada, New England.

7. FLORIDÆ Walker.—List of Homop., ii, p. 326, 1851. Van Duzee, Trans. Am. Ent. Soc., xxxvi, p. 83, 1910.

Habitat.—Rhode Island to Florida.

8. *VARIEGATA* VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 479, 1908.  
Habitat.—Canada to North Carolina.
9. *FUSIFORMIS* VanD.—Trans. Am. Ent. Soc., xxxvi, p. 82, 1910.  
Habitat.—California.
- [NOTE.—Of the Biologia species, *Helicoptera longiceps* Fowl. appears to belong to this genus.]

Genus *CATONIA* Uhler.

- Proc. Zool. Soc., Lond., 1895, p. 61.  
Van Duzee., Proc. Acad. Nat. Sci. Phila., lix, p. 480, 1908.
1. *NAVA* Say.—Jl. Acad. Nat. Sci. Phila., vi, p. 238, 1830; Compl. Writ., ii, p. 373, 1859.  
Habitat.—Eastern States.
2. *CINCTIFRONS* Fitch.—Third Rept., Trans. N. Y. St. Ag. Soc., 1856, p. 451.  
Habitat.—New York, Pennsylvania.
3. *PICTA* VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 481, 1908.  
Habitat.—New Jersey to Florida.
4. *GRISEA* VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 482, 1908.  
Habitat.—New York to Canada.
5. *PUMILA* VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 483, 1908.  
Habitat.—New York, Ohio.
6. *IMPUNCTATA* Fitch.—Cat. Ins. N. Y. St. Cab., Fourth Ann. Rept., p. 46, 1851.  
Lintner's 9th Rept., in 46th Rept. St. Museum, p. 386; 1893.  
Van Duzee.—Proc. Acad. Nat. Sci. Phila., lix, p. 482, 1908.  
Habitat.—Eastern States.
7. *DIMIDIATA* VanD.—Trans. Am. Ent. Soc., xxxvi, p. 85, 1910.  
Habitat.—Eastern States.
8. *FUSCA* VanD.—Proc. Acad. Nat. Sci. Phila., lix, p. 481, 1908.  
Habitat.—California.
9. *NERVATA*, n. sp.—(See below.)  
Habitat.—California.
10. *RUBELLA*, n. sp.—(See below.)  
Habitat.—California.
11. *COSTATA* VanD.—Trans. Am. Ent. Soc., xxxvi, p. 86, 1910.  
Habitat.—California.

12. CARA VanD.—Trans. Am. Ent. Soc., xxxvi, p. 86, 1910.

Habitat.—California.

[NOTE.—The following *Biologia* species seem to belong to this genus: *Helicoptera sobrina* and *chiriquensis*; *Plectoderes basalis*, *excelsus*, *notatus*, *laticollis* and *fuscilineatus*, and possibly *montanus* and *asper*. Genus *Plectoderes* Spinola has the head as wide as the pronotum, which excludes all the species above mentioned.]

Descriptions of new species :

CATONIA RUBELLA, D. SP.

Form and size of *fusca* nearly. Of a uniform brown, more or less inclined to ferruginous and touched with sanguineous on the elytral nervures and abdomen. Front immaculate; apical border of the elytra fuscous crossed by pale nervures. Length, 5–6 mm.

Head more conical than in any of our other species. Vertex broad, transverse, sloping; produced in an obtuse rounded angle; base sub-angularly emarginate; carinae nearly straight, forming a regular triangle, but little broader than long, median carina abbreviated just before the apex. Front broad, scarcely widened apically, obviously convex, carinae prominent, but becoming obsolete on the tumid base; clypeus scarcely distinguished from the front, the sides narrowly laminate. When viewed from the side the head is produced in a blunt cone before the eye for a distance of about one-half the length of the latter, and the lateral carinae of the front lie close to and are concentric with the anterior and superior borders of the eye. Pronotum less than half the length of the vertex, with the carinae distinct and the hind edge deeply, angularly emarginate; mesonotal carinae parallel and distinct. Median tooth of the male genital segment short, abrupt, ligulate and rounded at apex, and less than half the length of the plates.

Colour: Head, pronotum, face, chest and legs testaceous brown, the eyes and tibial and tarsal spines black; mesonotum and elytra a little darker and obscurely tinged with ferruginous; elytral nervures more or less distinctly sanguineous; apex of the elytra somewhat infuscated, with the apical nervures (about seven in number) whitish or bordered with whitish. Wings quite strongly infuscated, with blackish nervures. Abdomen fuscous or black, with the genital pieces and margins of the segments testaceous or sanguineous.

Described from two male and two female examples from the Cornell University collection, taken at Felton, California, about May 22nd, 1907,

by Mr. J. C. Bradley. This species may be known by the subconical head, resembling that found in *Paracœlidia* in the Jassidæ, the uniformly brown or testaceous-brown colour sometimes tinged or marked with sanguineous in places, and the pale veins on the infuscated apex of the elytra.

CATONIA NERVATA, n. sp.

Form and size of *dimidiata*, but with a shorter and broader vertex. Colour a clear fuscous-brown, elytral nervures and all carinæ, except those of the head, whitish; base of the clypeus with a whitish mark on either side. Length,  $5\frac{1}{2}$  mm.

Head very short and blunt; at apex rounded in both diameters. Vertex transverse, its length scarcely one-half the width between the eyes, sloping and confused with the rounding base of the front; carinæ inconspicuous, forming a transverse compartment rounded before and a little longer at the middle than next the eye; hind edge feebly arcuated. Front broad, a little constricted between the eyes; the carinæ distinct below, obsolete on the tumid base; apex rather deeply angularly excavated to receive the clypeus; the latter longer than broad, with prominent median carinæ and narrowly expanded margins. Viewed from the side, the base of the front is but feebly, conically produced, with the lateral carinæ closely following the contour of the eyes, as in *rubella*. Pronotum shorter than the vertex, deeply angularly emarginate. Mesonotal carinæ distinct, parallel. Median tooth of the male genital segment slender and acute, over one-half the length of the plates.

Colour clear fuscous-brown, a little tinged with castaneous on the mesonotum; carinæ of the pro- and mesonotum broadly whitish, the lateral angles of the latter ivory-white. Vertex and front more testaceous-brown, an oblique mark on each side of the base of the clypeus and its apex pallid, pleural pieces broadly edged with whitish; legs pale testaceous-brown; abdomen blackish-fuscous, the slender edges of the segments and genital pieces pallid. Elytra fuscous-brown, becoming paler along the middle of each areole; nervures strong, mostly whitish, but somewhat alternated by dusky in places, the transverse and apical more conspicuously white. Wings a little infuscated at apex with dark nervures.

Described from one male taken on Mt. Wilson, near Pasadena, California, on August 10th, 1909, by Mr. Fordyce Grinnell, jr. This species is very distinct from any other known to me, and is well characterized by the clear fuscous-brown colour veined with whitish. Allied to *Plectoderes lineaticollis* Fowler, but with a shorter vertex and immaculate front.