

NOTES ON THE GENUS APHELONEMA UHLER WITH DESCRIPTIONS OF NEW SPECIES.*

(Homoptera, Fulgoridae)

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THE MALE GENITALIA

In examining the male genitalia of the available species of *Aphelonema*, the pygofer, the tip of the oedagus, and the claspers were found to afford distinct differentiating characters. This is shown quite clearly in the accompanying drawings. The differences found are briefly as follows:

A. simplex: Without a caudo-ventral process on the pygofer; claspers wide for most of their length then abruptly narrowed to the curved apex; tip of the oedagus rounded when viewed laterally, almost semi-circular, distinctly lobed and much larger than at base. Figs. 1, 1a.

A. convergens: Pygofer larger, with a small but distinct caudo-ventral process; claspers very slightly curved, foot-like, with a long toe; tip of the oedagus with a lip-like projection on the upper margin, distinctly lobed. Figs. 2, 2a.

A. rugosa: Caudal end of pygofer with a deep notch on ventral side forming a large distinct process at the apex; claspers wide at base and continuing with a wide gradual curve to the long slender apex; tip of oedagus knob-like, almost square in outline. Figs. 3, 3a.

A. bivittata: Pygofer similar to that of *A. rugosa* but process lying closer to main part of pygofer, only a narrow slit separating it from the main part; claspers with somewhat abrupt curves rather than the gradual curves of the preceding species; tip of oedagus somewhat lobed on lower margin, upper margin almost straight. Figs. 4, 4a.

These four species were all that were available for dissection. It is hoped that at a later date the other four species may be examined and the differences noted.

*Contribution from the Department of Entomology, University of Kansas.

KEY TO THE NORTH AMERICAN SPECIES OF
APHELONEMA UHLER*.

- A. Vertex short transverse, parallel margined. Front almost round, slightly inflated and inclined so as to be slightly visible from above. 1. **simplex** Uhler.
- AA. Vertex almost as long or longer than pronotum. Front vertical or retreating slightly.
- B. Vertex almost as long as pronotum. Front oval or elongate.
- C. Front elongate, lateral carinae only slightly curved dorsum more or less striped with yellow or green and black.
- D. Oblique lines arising under eyes converging at inside corner of elytra and not continuous with light stripe of abdomen 2. **convergens** sp. n.
- DD. Light stripe of elytra continuous with light stripe of abdomen. 3. **bivittata** Ball.
- CC. Front oval, flat, median carina strong.
- D. Brachypterous elytra with a closely anastomosing net-work of veins. Angle of clypeus with a slight acute protuberance. 4. **rugosa** Ball.
- DD. Brachypterous elytra with few simple veins.
- E. Female not more than 2.1 mm. long. 5. **minuta** sp. n.
- EE. Female 3 mm. or more in length. 6. **histrionica** Stal.
- BB. Vertex long, five angular. Front inflated, retreating, broader than long, the pustular area much enlarged above.
- C. Vertex longer than the pronotum, definitely angular. Front strongly retreating. 7. **nigriviridia** Ball.
- CC. Vertex about equalling the pronotum in length, weakly angled. Front convex above, retreating below. 9. **viridis** Dozier.
- Aphelonema convergens** sp. n.
- Similar to **A. bivittata** but oblique lines of elytra converging at meso-caudal angles and not continuous

Adapted from key by Dr. Ball, Can. Ent., Vol. LVIII, p. 214, 1926.

with abdominal stripes. Length of female 3 mm.; of male 2—2.25 mm.

Vertex wider than twice its median length, weakly six-angled with front angles rounded and hind angles acute. Pronotum slightly longer than vertex, coarsely pustulate at the sides. Scutellum with coarse pustules laterad of the two distinct carinae. Elytra short, about half the length of the body, with few raised veins. Abdomen with a row of pustules on sides of each segment. Front distinctly longer than wide; lateral carinae distinct, somewhat curved; median carina very faint, fading out above; with two rows of pustules in each lateral compartment, the outer row extending down only about half way.

Color: Striped black and greenish yellow. Front greenish yellow with lateral carinae strongly black and pustules shading into black above; median light area of front continued slightly on to clypeus, the rest of which is dark. Vertex greenish yellow with two large posterior and sometimes two to four small anterior black spots. Pronotum greenish yellow with two small spots just caudad of large spots of vertex, and the pustules dark. Scutellum greenish yellow, margins black, lateral carinae and two broad stripes just mesad of them black; pustular area mottled with black. Elytra with lines on mesal margin and two broader oblique lines arising under the eyes converging at the meso-caudal angle, greenish yellow, leaving two stripes close to the mesal margin and the lateral areas black. Each abdominal segment with a median and four lateral narrow yellow stripes; the median stripe tending to be continuous, but the lateral stripes broken at the caudal edge of each segment. A light ring around the anal tube. Eyes mottled gray and black. Legs reddish-yellow. Under side of abdomen black.

Genitalia: Last ventral segment of female large and wide, middle third of posterior margin distinctly produced into a lobe. Tip of male pygofer, claspers, and end of oedagus of characteristic shape as shown in Figs. 2 and 2a.

Holotype; female, taken in Cochise county, Arizona by Dr. R. H. Beamer, July 20, 1927: **Allotype;** male, taken in the same locality by Dr. Beamer July 29, 1927. **Paratypes;** a female and three males collected by Dr.

Beamer in Cochise County, Arizona, July 20, 1927; another male collected July 29, 1927; and two females and four males collected in Colfax County, New Mexico by Lauren D. Anderson, August 21, 1927. Types deposited in Snow Entomological Collection.

Aphelonema convergens var. **canyonensis** var. n.

A distinct yellow replaces the greenish yellow of the typical form. The two black stripes just mesad of the lateral carinae of scutellum wider and tending to be continued across the pronotum and vertex as a continuous stripe. Broader black stripe along lateral carinae of front. Length of female 2.5 to 2.75 mm.; male, 2 mm:

Holotype; female, from vicinity of Grand Canyon, Arizona collected by Dr. Beamer August 11, 1927. **Allotype**; male, collected at the same time and place by Dr. Beamer. **Paratypes**; two females from Oak Creek Canyon, Arizona, taken August 14, 1927, and one female from Grand Canyon, Arizona, taken August 11, 1927 by Dr. P. A. Radio; three females from Grand Canyon, Arizona taken August 11, 1927 by L. D. Anderson; and six females from the same locality and collected at the same time by Dr. Beamer. Types deposited in Snow Entomological Collection.

Aphelonema minuta sp. n.

A yellowish-brown species somewhat resembling **A. histrionica** but much smaller. Length of female 2.1 mm.

Vertex inverted V-shaped, rather distinctly seven-sided, nearly three times as wide as its median length. Pronotum somewhat crescent-shaped, more than twice as wide as its median length, weakly pustulate on the lateral areas. Scutellum coarsely pustulate on the lateral areas. Subhyaline brachypterous elytra with few indistinct veins. Abdomen with a row of pustules on the sides of each segment. Front about as wide as long, barrel-shaped; lateral carinae very prominent and distinctly bowed; median carina distinct below, fading out above; lateral compartments with two rows of pustules, outer row extending down only about half way. A faint median carina extends across vertex, pronotum, and scutellum and is continued as a light narrow stripe across the abdomen.

Color: Yellowish brown. Vertex with two round, darker spots, pronotum becoming darker laterally.

Three indistinct darker longitudinal stripes on each side of the abdomen, the pustules light. Eyes mottled with black. Area outside of lateral carinae of front much darker than median area. That part of clypeus adjoining front, and median carina which is continued downward as a keel, light; the rest of clypeus dark. Under side of abdomen dark brown. Legs yellowish brown.

Holotype; female, collected in Cochise county, Arizona, by Dr. R. H. Beamer, July 29, 1927. **Paratypes**; one female, same data as above, and another collected at the same place July 20, 1927.

