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CICAPELLIDAE
PREVIOUSLY CONFUSED WITH RELATED SPECIES

II
THE GENUS LONATURA
(HOMOPTERA)

by
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THREE NEW SPECIES OF CICADELLIDAE PREVIOUSLY
CONFUSED WITH RELATED SPECIES
(HOMOPTERA)

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Deltocephalus lawsoni new species

In general appearance resembling a *Thamnotettix* of the *fitchii* group but apparently more closely related to *Deltocephalus*. Length, 3.5 to 4 mm.

Vertex rather bluntly angled, slightly longer on middle than width between eyes. Pronotum twice wider than long, side margins very short. Elytra longer than abdomen, venation typically *Deltacephaloid*.

Color buff to straw yellow, vertex with a pair of triangular spots just back of apex, another pair, one next each ocellus and just above margin, a minute pair just back of ocelli against eyes and a large quadrate pair on anterior portion of disc, brown. Pronotum with six longitudinal orange stripes, the central pair apparently arising just back of discal spots on vertex and extending across basal angles of scutellum. A pair of inwardly curved parenthesis spots on base of disc of scutellum, brown. Elytra with veins pale, conspicuously, sometimes rather heavily infuscated with brown. Face infuscated above with median line and traces of about six pairs of pale arcs.

Genitalia: Female last ventral segment rather long, side margins short, then concavely rounded to trilobate posterior margin. Underlying membrane prominent where last ventral segment is cut away either side. Male valve three times as long as plates, convexly rounded. Plates as long as combined width at base, gradually tapered to acutely pointed apices. Plates equaling pygofers in length.

Described from a female and two male specimens from Cherokee Co., Kansas, and one female specimen from Vicksburg, Miss., collected July 19, 1921, by D. W. Grimes. These speci-

mens, especially those from Kansas, have been at hand, for several years. Two of the type series are in the collection of Prof. Herbert Osborn and two are in the author's collection.

Type: Female; Cherokee County, Kansas; in author's collection.

I take pleasure in naming this species in honor of Dr. P. B. Lawson who has accomplished so much in his work with the leafhoppers of this region.

Phlepsius bipartitus new species

Resembling *carolinus* under which name it has been designated, but differing from it by the less produced lateral angles of the female segment and the unique internal genitalia of the male. Length, 6 to 6.5 mm.

Vertex produced at middle, angled with front, more than twice as long between eyes as length at middle. Pronotum almost twice as long as vertex.

Color: Dull white to gray with brownish reticulations and irrorationes, without specific dark markings.

Genitalia: Female last ventral segment three times the length of preceding, central half elevated, slightly produced, margin embrowned and notched at apex. Lateral angles produced and well rounded, separated from elevated portion by rather deep rounding emarginations. Male valve broadly triangular, about the length of preceding segment. Plates rather long, gradually narrowed to blunt rounded apices.

In the case of the males of *carolinus* the oedagus terminates in a heavy spine which curves ventrally and is visible from the external view. In the case of *bipartitus* the oedagus is broad and turns abruptly dorsally and again forward at the tip. The ventral curved portions are also broadened. In addition to this, two long curved processes arise anteriorly and extend through the opening between the pygoferes. A good external character for the male is the fact that a spine occurs dorsally on the pygoferes in *carolinus* while in *bipartitus* it is located on the ventral portion. The styles in *carolinus* are considerably larger than in *bipartitus*. The females can easily be distinguished by the shorter lateral angles in the latter species.

Described from two females and two males collected at Paradise Key, Florida, April 4 to 10, 1921, swept from grasses, and one female taken at Orlando, Florida, April 29, 1921, all collected by the author. These specimens marked "*carolinus*"? were submitted to Osborn and Lathrop during their monographic study of this group but no disposition was made of this species at that time. After a return of this material an examination showed them to be distinct species.

Type: Male; Paradise Key, Florida, April 4, 1921, in author's collection.

Thamnotettix arundineus new species

Coloration and general appearance of *shermani* but more narrowed, less robust, vertex more angled and with distinct genitalia. Length, 4.5 to 5 mm.

Vertex bluntly angled, almost one-fourth wider between eyes than length at middle. Elytra with two cross nervures as in the other species of this group.

Color: Vertex with a pale, creamy band on margin between eyes, frequently margined with brown below and a broken brownish line above, composed of four irregular, triangular spots. Behind these two broad orange longitudinal bands arise and extend across pronotum to basal angles of scutellum. There are also two narrower bands on each side of the pronotum making six in all. Elytra smoky subhyaline tinged with orange in some specimens. Veins whitish. Face yellow tinged with orange.

Genitalia: Female last ventral segment produced from either side to form a pair of broadly rounding lobes between which the posterior margin is broadly roundly excavated more than half way to the base. Male valve broad, triangular, plates long and narrow, almost three times as long as valve and gradually tapering to rather sharp apices.

Described from a large series of specimens collected by the writer at Clarksville, Tennessee, from cane, *Arundinaria tecta*, during July and September 1915 and 1917. This species can easily be separated from *shermani* by the size and genital characters.

Type: Female; Clarksville, Tennessee, July 5, 1915; in author's collection.

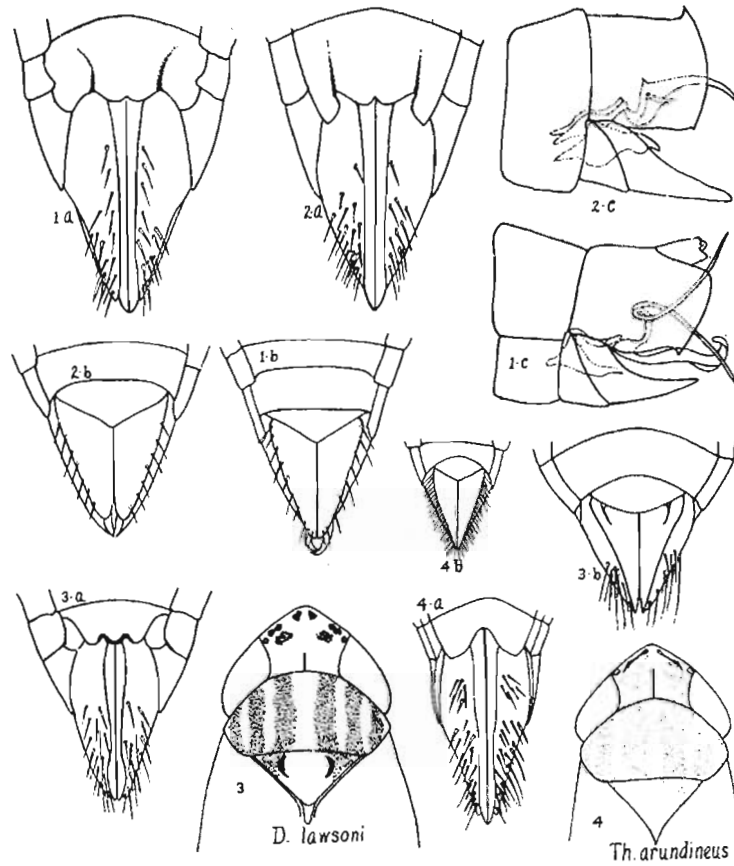


Fig. 1. *Phlepsius bipartitus* DeL. 1a, female genitalia; 1b, male genitalia; 1c, internal male genitalia, lateral view. Fig. 2. *Phlepsius carolinus* Lath. 2a, female genitalia; 2b, male genitalia; 2c, internal male genitalia, lateral view. Fig. 3. *Deltocephalus lawsoni* DeL., head; 3a, female genitalia; 3b, male genitalia. Fig. 4. *Thamnottix arundineus* DeL., head; 4a, female genitalia; 4b, male genitalia.