

**SOME NEW NEOTROPICAL LEAFHOPPERS OF THE SUBFAMILIES
IASSINAE AND DELTOCEPHALINAE
(HOMOPTERA: CICADELLIDAE)**

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Abstract.—Six new species of Neotropical leafhoppers, *Krisna aesta* (Puerto Rico), *Scaroidana blockeri* (Bolivia), *Tenucephalus hamatus* (Bolivia, Argentina), *Mendozellus serratus* (Bolivia), *M. tarandus* (Bolivia), and *M. incisus* (Bolivia) are described. *Bolarga nigriloba* Linnavuori is placed in the genus *Daltonia*.

The genus *Krisna* was described by Baker (1919). Osborn (1938) described *Scaroidana*, and Kramer (1963) treated the known species of the genus. The genus *Tenucephalus* was described by DeLong (1944). Linnavuori (1959) described *Mendozellus* as a subgenus of *Amplicephalus*.

A new species of each *Krisna*, *Scaroidana*, and *Tenucephalus*, and three new species of *Mendozellus* are described in this paper. *Bolarga nigriloba* Linnavuori is placed in the genus *Daltonia*. All holotypes are in the DeLong collection, Ohio State University, Columbus.

***Krisna aesta* DeLong, NEW SPECIES**

Figs. 1-5

Description.—Length of male 10 mm, female unknown. Crown thin, foliaceous, twice as wide at base, between eyes, as long at middle. Crown, pronotum and scutellum dull yellow. Forewing yellow with slight tint of green, without contrasting color markings.

Male genital plates slender, elongate, 9× as long as wide at middle, apices narrow, rounded. Style bearing a ventral spine at more than $\frac{4}{5}$ its length, apical $\frac{1}{5}$ curved dorsally, apex pointed. Aedeagus short and broad in lateral view, with apical portion divided and curved dorsobasally, extending twice width of shaft. Pygofer with rounded, blunt projection apically.

Holotype.—♂, Manayes, Puerto Rico, May 25, 1924, G. N. Wolcott coll.

Remarks.—*Krisna aesta* is related to *K. insularis* Oman and can be separated from it by the absence of small spots on the forewing, by the shorter,

broader aedeagus, and by the wider, more foot-shaped apical portion of the style.

This may prove to be the male of *K. montana* Caldwell (in Caldwell and Martorell 1952: 19) which was described from female specimens. There are no color markings on either male or female to assist in the identification. For illustrations of the structural features of the other Puerto Rican members of the genus see Caldwell and Martorell (1952: 21).

Scaroidana blockeri DeLong, NEW SPECIES

Figs. 6–10

Description.—Length of male 11 mm, female 11.5 mm. Crown broadly rounded, short and broad, more than 4× as broad between eyes at base as long at middle. Crown, pronotum, and scutellum dull, sordid yellowish green with a brownish tint; reddish color of abdomen often showing through wings. Apical portion of wing including all apical cells, dark brown, smoky.

Female 7th sternum with posterior margin broadly, slightly, concavely rounded.

Male plates more than 3× as long as wide at middle, apices rounded. Style elongate, slender, apical ½ gradually tapered to a narrow, pointed, dorsally bent apex. Ventral margin of apical position serrate. Aedeagus narrow dorsoventrally, rather broad with apical portion of shaft curved dorsally and bluntly pointed in dorsal view. Shaft broadened at middle with a thin spinelike portion extending dorsally. Pygofer rounded apically and bearing prominent ventral spine which curves dorsally on inner margin of pygofer at apex, and bears enlarged portion at ⅔ length of spine.

Types.—Holotype ♂, Bolivia, Santa Cruz, Saavedra, 250 m, 2-IV-1980, D. R. Foster coll. Paratypes: 1 ♂ same as holotype; 1 ♂, 13 ♀ same except 12-IV-1979; 1 ♀, Santa Cruz, 2-III-79, Foster coll.

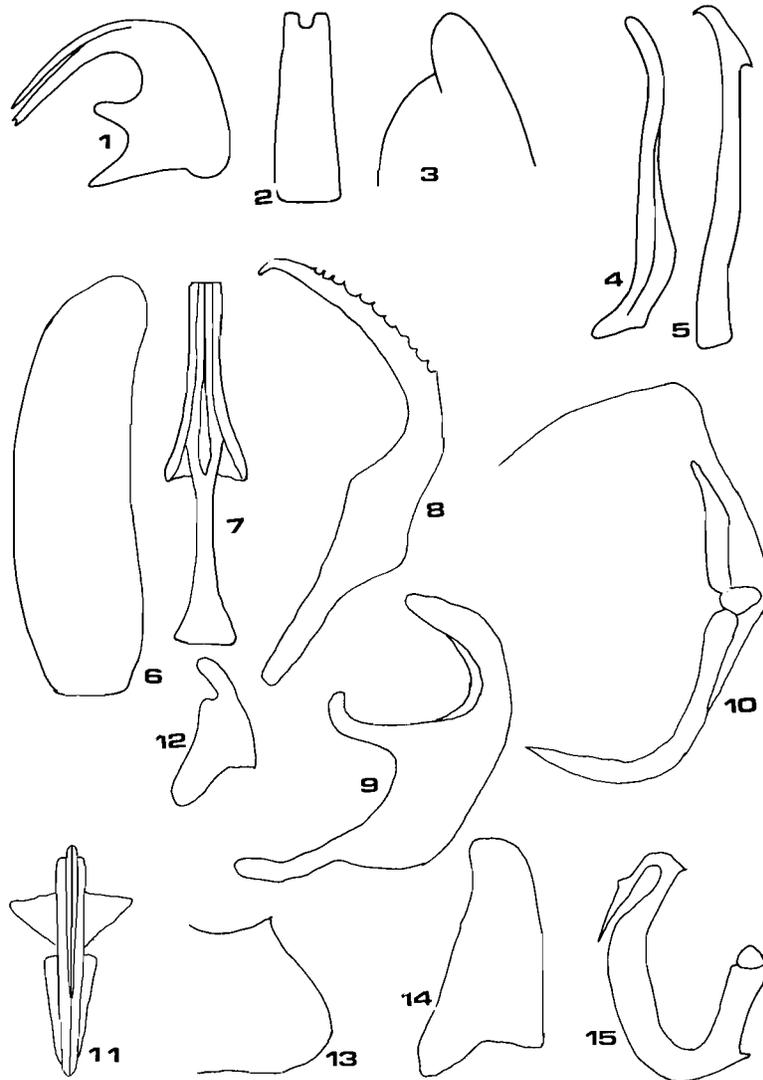
Remarks.—*Scaroidana blockeri* is related to *S. fulvula* Osborn (see Kramer 1963: 42) and can be separated from it by the narrower basal portion of the aedeagus, the enlarged process on the median portion of the pygofer spine, and the dorsally curved pointed apex of the style.

I take pleasure in naming this species for Dr. H. Derrick Blocker, Kansas State University, who assisted me with the generic placement of this species.

Tenucephalus hamatus DeLong, NEW SPECIES

Figs. 11–15

Description.—Length of male 8 mm, female unknown. Crown broadly rounded, more than twice as wide at base between eyes as long at middle. Crown dull smoky greenish, with black marginal band between eyes. Pronotum and scutellum same color as crown. Forewing dull white, opaque,



Figs. 1-5. *Krisna aesta*. 1, Aedeagus laterally. 2, Aedeagus ventrally. 3, Pygofer laterally, apical portion. 4, Plate ventrally. 5, Style laterally. Figs. 6-10. *Scaroidana blockeri*. 6, Plate ventrally. 7, Aedeagus ventrally. 8, Style laterally. 9, Aedeagus laterally. 10, Pygofer with spine. Figs. 11-15. *Tenucephalus hamatus*. 11, Aedeagus ventrally. 12, Style laterally. 13, Pygofer laterally, apical portion. 14, Plate ventrally. 15, Aedeagus laterally.

veins brown. Fuscous blotch on costal area at more than $\frac{1}{3}$ its length. Apical portion smoky. Veins of apical $\frac{1}{3}$ broadly margined with brown.

Male genital plates more than twice as long as wide at middle, apices broadly rounded. Style rather short and broad, apophysis curved outwardly with apex rounded. Aedeagal shaft narrowed near apex and terminating in a slender dorsobasally curved portion, widened at middle, slender, sharply pointed apically, extending $\frac{1}{3}$ length of shaft. Shaft bearing a short ventral tooth at point of curvature and with a broad platelike process on ventral margin subapically. Pygofer bearing sharply pointed tooth on ventro-caudal margin.

Types.—Holotype ♂, Bolivia, Santa Cruz, 36 miles S, 26-IV-1978, 500 m, C. E. Ward coll. at light, Paratypes: 5 ♀, 1 ♂, Tucumán, Argentina, Jan. 1947, Fernandez coll.; 1 ♂, 1 ♀ Urundel, Salta, Argentina, 1-31-1950, R. Gelbach coll.

Remarks.—*Tenucephalus hamata* is related to *T. sagittarius* Linnavuori and DeLong (1976: 29) and can be separated from it by the slender dorso-basally curved apical portion of the aedeagal shaft.

Mendozellus Linnavuori

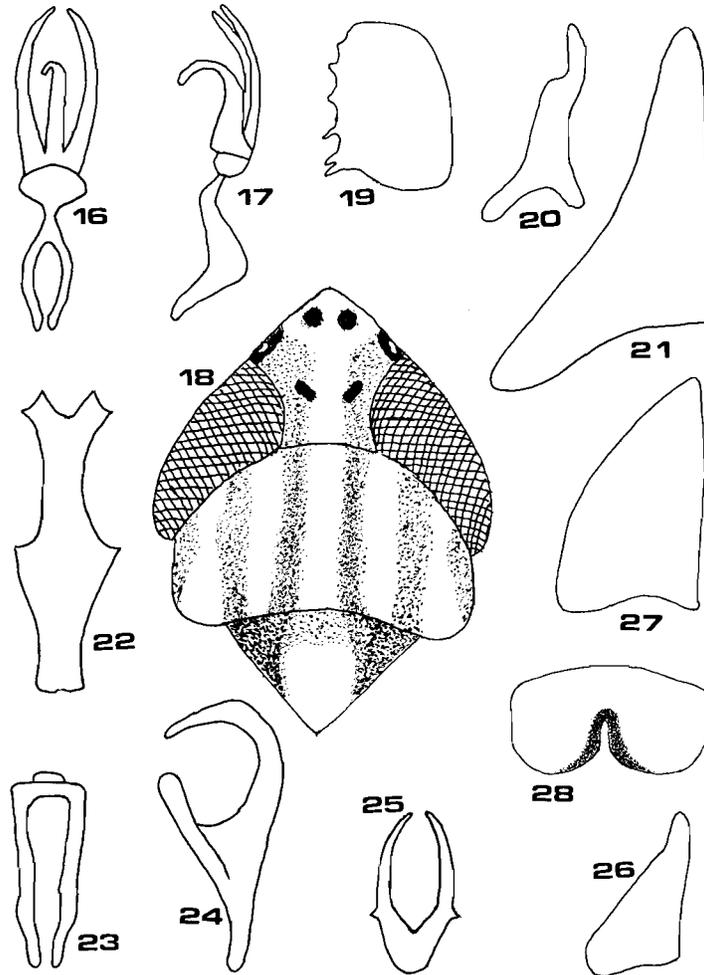
The genus *Mendozellus* contains a group of closely related species found in Bolivia, Argentina, and Peru. Color patterns of a few of these species are quite similar and the color pattern of each is variable. In general, the species can usually be separated by the male or female genital structures. *Mendozellus lineiceps* (Osborn) was described from female specimens and cannot be separated by genital structures. *Mendozellus incisus*, n. sp., which is being described from a female specimen in the following pages, has an incised seventh sternum and can easily be separated from its congeners on this basis.

Mendozellus serratus DeLong, NEW SPECIES

Figs. 16–21

Description.—Length of male 3.5 mm, female 3.7 mm. Crown produced and broadly angled, longer at middle than wide at base between eyes. Crown whitish with round black spot on each side of apex, elongate black spot just above margin between round black spot and eye, and angled black spot on each side between eyes at $\frac{2}{3}$ length of crown. Longitudinal orange stripe extends just behind round black apical spot, on each side, along eyes and continues across pronotum. Pronotum white with 2 longitudinal orange stripes behind each eye. Scutellum orange, basal angles black, central portion and apical angle white. Forewing smoky, veins white, margined with brown.

Female 7th sternum with posterior margin broadly, shallowly, concavely rounded.



Figs. 16-21. *Mendozellus serratus*. 16, Aedeagus and connective ventrally. 17, Aedeagus and connective laterally. 18, Head, pronotum and scutellum. 19, Pygofer laterally. 20, Style laterally. 21, Plate ventrally. Figs. 22-27. *M. tarandus*. 22, Aedeagus ventrally. 23, Connective ventrally. 24, Aedeagus laterally. 25, Aedeagus apically. 26, Style laterally. 27, Plate ventrally. Fig. 28, *M. incisus*, 7th sternum.

Male genital plates $2\frac{1}{2}\times$ as long as wide at middle, apices bluntly pointed. Style elongate, apophysis with apex rounded. Aedeagal shaft short, narrowed and curved dorsally on apical $\frac{1}{3}$. A pair of slender, apically pointed processes arise near base of shaft on ventral margin and extend caudally

along and beyond shaft to length of caudally directed portion. Pygofer with ventral margin bearing row of irregular, sharply pointed "teeth."

Types.—Holotype ♂, El Gaité, Bolivia, 18-III-1980, on Maiz, Don Foster coll. Paratypes: 5 ♀ same data as holotype; 2 ♂ Santa Cruz, Bol., 19-VIII-'80; 1 ♂, Buena Vista, Bol., 14-V-'80, DeLong coll.; 2 ♂ Portachuela, Bol., 14-V-'80, DeLong coll.

Remarks.—*Mendozellus serratus* is related to *M. devius* Linnavuori and DeLong (1977: 251) but differs in color pattern as described, by the long ventral processes of the aedeagus, and the serrate ventral margin of the pygofer.

Mendozellus tarandus DeLong, NEW SPECIES

Figs. 22–27

Description.—Length of male 3 mm, female unknown. Crown angularly produced, apex blunt, rounded, slightly longer at middle than width at base between eyes. Crown orange brown with longitudinal white stripe extending from apex to apex of scutellum, and commissure of forewing white. Elongate dark brown spot on each side of white stripe at apex of crown, and similar pair at $\frac{1}{3}$ and $\frac{2}{3}$ length of crown. Brown line parallel to margin back of each ocellus extending to eyes. Pronotum brown with darker brown longitudinal stripe on each side of median white stripe, and 6 narrow white longitudinal stripes. Scutellum brown with dark brown longitudinal stripe bordering white stripe, on each side. Forewing brownish subhyaline, veins white.

Male genital plates almost twice as long as wide at middle, apices bluntly pointed. Style with straight, finger-like apophysis. Aedeagus divided at $\frac{2}{3}$ its length, forming 2 curved processes which extend dorsally and curve laterally, with apices proximal. Connective elongate with proximal apices. Pygofer bluntly pointed apically.

Types.—Holotype ♂, Bolivia, Santa Cruz, 21-VII-'80, D. R. Foster coll. Paratypes: 3 ♂ same as holotype; 1 ♂ same except 17-IX-'80; 1 ♂ same except 27-V-'80; 1 ♂ same except 3-VIII-'80.

Remarks.—*Mendozellus tarandus* is closely related to *M. isis* Linnavuori (1959: 117) and can be separated from it by the slender, dorsally curved apical processes of the aedeagus and their slender pointed tips.

Mendozellus incisus DeLong, NEW SPECIES

Fig. 28

Description.—Length of female 4 mm, male unknown. Crown angularly produced, as long at middle as wide between eyes at base. Crown roundly angled at apex. Color dull yellowish, pair of rounded, slightly elongated, brown spots at apex. Two pairs of similar brownish spots, more elongate,

between eyes, $\frac{1}{2}$ and $\frac{2}{3}$ length of crown. Pronotum mostly white with 2 brownish longitudinal stripes on each side of median white stripe, and faint brownish longitudinal stripe behind each eye. Scutellum white with brown basal angles. Forewing pale brownish subhyaline, veins white.

Female 7th sternum with posterior margin broadly convexly rounded each side of a narrow incision half way to base of segment which is broadly embrowned.

Holotype.—♀, Bolivia, Santa Cruz, 20-IV-'80, Don Foster coll.

Remarks.—*Mendozellus incisus* can be separated from all other described species of *Mendozellus* by the deeply incised seventh female segment.

Daltonia nigriloba (Linnavuori), NEW COMBINATION

Linnavuori described *D. nigriloba* and placed it in *Bolarga*. A series of specimens from Bolivia and Argentina, one of which was identified by Linnavuori as *Bolarga nigriloba*, are very similar in form, coloration, and appearance to specimens of *Daltonia estacada* (Ball), which is a common species in the southern United States and in the lower gulf coastal area of Mexico. The forewings of *D. nigriloba* are a little more elongate and the apical cells are longer than those of *D. estacada*. The aedeagus of *D. nigriloba* is similar to that of *D. estacada*, but it is not notched apically, and the apophysis of the style is more elevated and pointed. *Bolarga nigriloba* is considered a good species and is placed in *Daltonia*.

LITERATURE CITED

- Baker, C. F. 1919. The genus *Krisna* (Jassidae). Philipp. J. Sci. 15: 209-226.
- Caldwell, J. S. and L. F. Martorell. 1952. Review of the Auchenorrhynchous Homoptera of Puerto Rico, Part I, Cicadellidae. J. Agric. Univ. P. R. 34: 1-132.
- DeLong, D. M. 1944. A New Genus (*Tenucephalus*) and species of Mexican leafhopper related to *Parabolocratus*. Ohio J. Sci. 44: 236-237.
- Kramer, J. P. 1963. A key to the new world species of Jassinae with reviews of *Scaroidana* and *Pachyopsis* (Homoptera: Cicadellidae) Bull. Brooklyn Entomol. Soc. 58: 37-50.
- Linnavuori, R. 1959. Revision of the Neotropical Deltocephalinae and some related subfamilies (Homoptera). Ann. Zool. Soc. 'Vanamo' 20(1): 1-370.
- Linnavuori, R. and D. M. DeLong. 1976. New Neotropical leafhoppers from Peru and Bolivia (Homoptera: Cicadellidae). Rev. Peru. Entomol. 19(1): 29-36.
- . 1977. The leafhoppers (Homoptera: Cicadellidae) known from Chile. Brenesia 12/13: 163-267.
- Osborn, H. 1938. Neotropical leafhoppers of the Carnegie Museum, Part 7, report on the species of the subfamily Gyponinae. Ann. Carnegie Mus. 27: 11-62.