

THREE CLOSELY RELATED NEW GENERA AND  
FIVE NEW SPECIES OF SHORT-WINGED CHILEAN  
LEAFHOPPERS (HOMOPTERA: CICADELLIDAE)<sup>1</sup>

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ABSTRACT

Three new genera (*Kramerana*, *Virganana*, and *Aequcephalus*) of the subfamily Deltocephalinae and 5 new species (*Kramerana linnavuorii* n.sp., *K. mella* n.sp., *Virganana herbida* n.sp., *V. maculata* n.sp., and *Aequcephalus gramineus* n.sp.), all from Chile, are described and illustrated.

Recent collections made in Chile during 1967 and 1968 have revealed 5 new species apparently belonging to 3 closely related new genera of Deltocephalinae. All have short forewings which possess the normal venation only at the basal portion of the forewing. There appear to be many cross veinlets in what would normally be the claval area. All of the specimens appear to be similar in general appearance but the crown, postclypeus, and the marginal area between them is quite different in those belonging to the different genera. In *Kramerana* the crown is wider than long, and the margin is angled and thick. In *Virganana* the crown is wider than long, the margin is angled and thin, but not foliaceous. In *Aequcephalus* the crown is longer than wide, concave, and the margin is thin and foliaceous. The connective in each of these genera is Y-shaped and is articulated with the aedeagus. They are not closely related to any described genera. In form and appearance the species of *Kramerana* resemble specimens of *Lonatura* to which they are probably related. *Kramerana* differs from *Lonatura* and related genera by the position of the ocelli and the large paired processes which arise from the phragma in specimens of *Kramerana*. Species of all 3 genera occur upon grasses and are found in meadows where sheep and cattle are grazing. All types are in the DeLong collection.

Genus *Kramerana* DeLong and Thambimuttu, NEW GENUS

Crown produced, bluntly angled, slightly wider than median length, convexly rounded, rounding to margin, each side. Ocelli on upper portion of anterior margin and a little nearer to proximal eye than to apex. Face convexly rounded between antennae, sloping to an angled but thick margined apex. Forewings short with normal venation of basal portion of wing appearing reticulately veined. Clypeus short and broad, almost as broad as long. Pronotum more than 3 times as broad as long.

Type-species: *Kramerana linnavuorii* new species

*Kramerana linnavuorii* DeLong & Thambimuttu, NEW SPECIES  
(Fig. 1-9)

Length of male 5 mm, female unknown. Crown bluntly angled, slightly wider between eyes at base than median length. Crown acutely angled with

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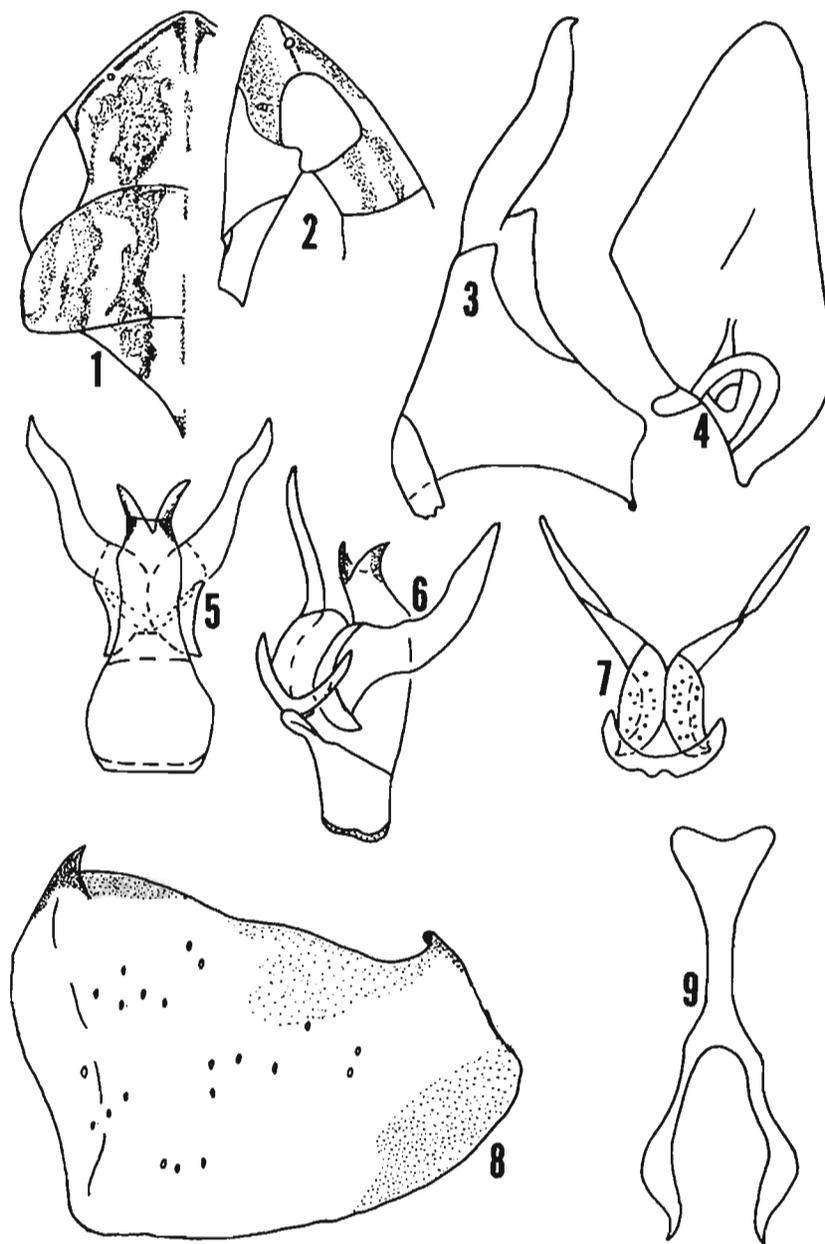


Fig. 1-9. *Kramerana linnavuorii* n.sp. 1) head, pronotum and scutellum, dorsally. 2) same, laterally. 3) style, ventrally. 4) plate, ventrally. 5) aedeagus, ventrally. 6) aedeagus, dorsolaterally. 7) phragmal process, dorsally. 8) pygofer, ventrally. 9) connective, ventrally.

front, margin not thin or foliaceous. Color: crown with a dark brown line extending between the eyes just above margin. A pair of apical, proximal, short, narrow, brown lines, one-fourth length of crown. A median brown longitudinal line on basal half. Crown irregularly mottled with brown pigment. Face pale yellow with pieces of broad black arcs on upper portion, forming a complete black margin beneath the pale yellow marginal band. Pronotum appearing longitudinally striped due to arrangement of brown pigment markings. A median, longitudinal, yellowish band one-fifth width of pronotum is margined by narrow irregular lines of brown pigment. Markings on scutellum, a continuation of pronotal markings. Forewings brown with reticulate veins, mostly white. Exposed abdomen with alternate longitudinal stripes of brown and yellow.

Male genitalia with plates twice as long as broad, apices rounded. Style with the narrow apical process as long as basal portion. Aedeagal shaft short, as broad as long, with a V-shaped notch separating apex into 2 short, triangular, sharp-pointed tips. A narrow crescent portion, attached to the phragma, bears 2 elongate, curved, blade-like structures which are pointed and exceed the shaft in length. Connective long, basal half branched. Pygofer with a short, triangular, pointed spine on dorsobasal margin.

*Holotype male*: Salta de Laja, Chile, 21-XII-1967 (D. M. DeLong). *Paratypes*: 3 males same data as holotype.

We take pleasure in naming this genus and species for James P. Kramer of the U. S. National Museum and Rauno Linnavuori of Raisio, Finland, 2 prominent, well known world homopterists.

*Kramerana mella* DeLong & Thambimuttu, NEW SPECIES  
(Fig. 10-14)

Length of male 4 mm, female unknown. Crown a little wider between eyes at base than median length. Color: pale yellow with few irregular markings of slightly darker yellow pigment. Forewings pale yellow, veins white. Exposed abdomen with faint brown, longitudinal markings. Face pale brown with darker brown markings.

Male genitalia with plates twice as long as wide, apices rounded. Style with narrow apical process one-third length of style, apex slightly enlarged, pointed apical tooth on outer margin. Aedeagal shaft rather long, slender, apex enlarged, bifid, bearing a short triangular process on each side. Phragma bearing a pair of short, broad, leaf-like processes which curve dorsally and are pointed on dorsoapical margin.

*Holotype male*: Angol, Malleco Prov., Chile, 23-XII-1967 (D. M. DeLong and T. Cekalovic). *Paratypes*: 4 males same data as holotype.

These short-winged specimens superficially resemble specimens of *Amphipygia* but are entirely different morphologically. They were collected from short pasture grasses.

Genus *Virganana* DeLong and Thambimuttu, NEW GENUS

Related to *Kramerana* but with margin of crown thin, not foliaceous. Crown strongly produced, rounded anteriorly, slightly wider than median length, flat, concave on anterior portion, depressed near anterior margin, forming a slight heel just above margin. Postclypeus gradually sloping from

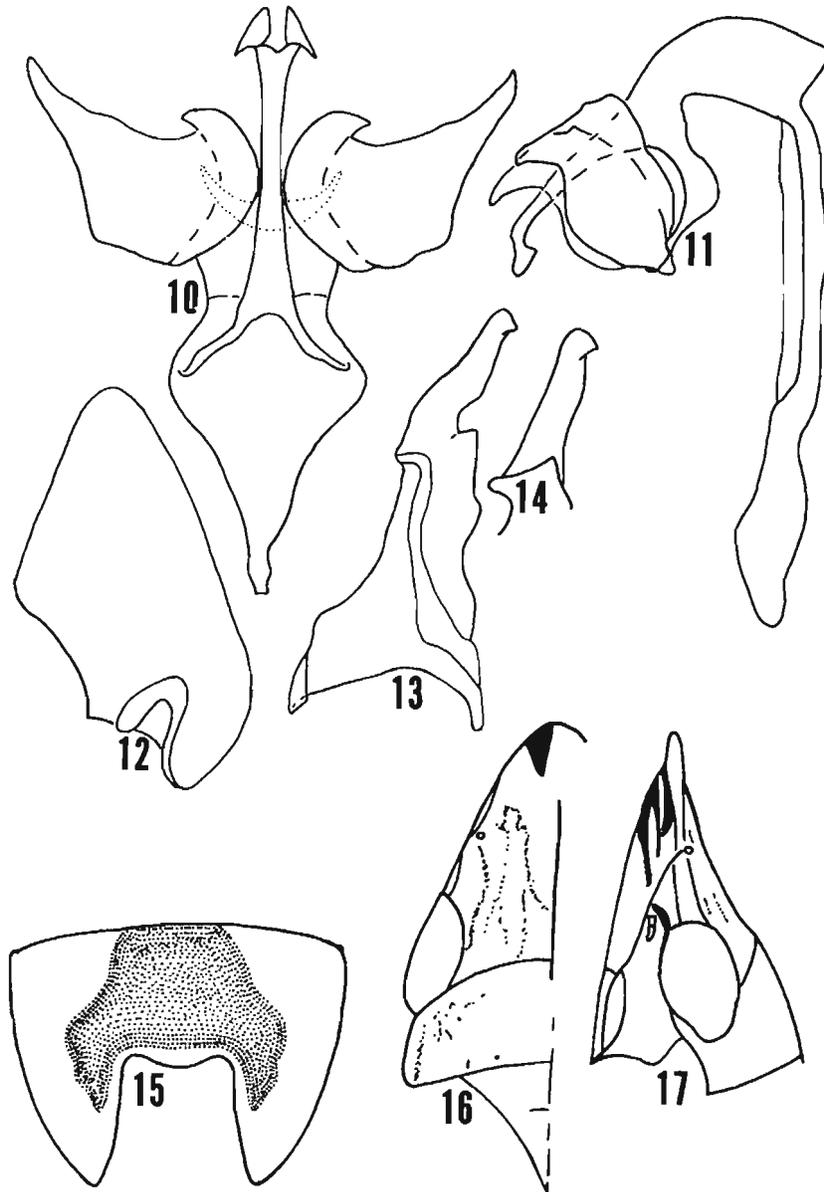


Fig. 10-14. *Kramerana mella* n.sp. 10) aedeagus, ventrally. 11) aedeagus, laterally. 12) plate, ventrally. 13) style, ventrally. 14) apex of style (enlarged), lateroventrally. Fig. 15-17. *Aequcephalus gramineus* n.sp. 15) female seventh sternum. 16) head, pronotum, scutellum, dorsally. 17) same, laterally.

clypeus to margin of crown. Ocelli on upper portion of anterior margin, one third the distance from each eye to apex of crown. Pronotum two and one half times as wide as long. Scutellum twice as long, venation composed of normal basal venation of forewing only. Abdomen mostly exposed, tapered.

Type-species: *Virganana herbida* new species.

*Virganana herbida* DeLong & Thambimuttu, NEW SPECIES  
(Fig. 18-26)

Length of male 4 mm, female 4.7 mm. Crown produced, rounded, a little wider between eyes at base than median length. Color: crown pale yellow with a pair of proximal, elongate spots at apex, a small median spot near these and a median spot near base. Pronotum with faint, pale brown elongate markings and a small median brown spot. Forewings yellow, veins white, and a small round, brown spot on apex of each. Abdomen with elongate brown pigment lines, appearing longitudinally striped. Face pale yellow, with portions of pale brown arcs on upper third.

Male genitalia with plates as broad as long, apices broad, truncate. Style with apical half a narrow process, as long as basal portion, with a pointed tooth on outer margin at apex. Aedeagal shaft elongate, curved, apical portion narrow tapered to a pointed apex, with a pair of short subapical teeth at five-sixth length of shaft. The phragma bears a pair of long curved, blade-like processes which are narrow and pointed at apex; although not longer than shaft they extend beyond the apex of the curved shaft. Connective long, slightly bifid at basal end, pygofer narrow and blunt at apex.

Female genitalia with lateral angles of seventh sternum strongly produced, rounded to posterior margin which slopes strongly cephalad to excavated median third. This portion of the posterior margin is about half the length of segment and is slightly concave each side of a rounded, slightly produced, median lobe. The entire sunken portion is broadly margined with black.

*Holotype male*: Angol, Malleco Prov., Chile, 23-XII-1967 (D. M. DeLong and T. Cekalovic). *Allotype female*: same data as holotype. *Paratypes*: 9 males, 8 females same data as holotype.

*Virganana maculata* DeLong & Thambimuttu, NEW SPECIES  
(Fig. 27-31)

Length of male 3.5 mm, female 4.5 mm. Similar in form to *V. herbida*, but with different color markings and genital structures. Color: generally yellow, crown with a dark brown elongate spot each side of apex and a brown median spot just basad to the 2 apical spots; 3 brown spots on basal portion, a larger median spot and 2 smaller lateral spots also present. Pronotum with brown median line and elongate spot on caudal portion. Scutellum unmarked. Forewings yellow with dark brown spots between the veins and reticulate veinlets. Abdomen with dark brown, wavy, longitudinal lines enclosing alternate longitudinal stripes of pale brown and white; median longitudinal band white and divided.

Male genitalia with plates one-third longer than wide, apex pointed on inner margin. Style with tip of apical portion blunt, apex appearing broadened in lateral view. Aedeagus with shaft narrow and curved at apex, gonopore opening on ventral margin at apex. Phragma giving rise to pair of long, slender, curved processes. Connective Y-shaped. Pygofer narrowed, blunt at apex.

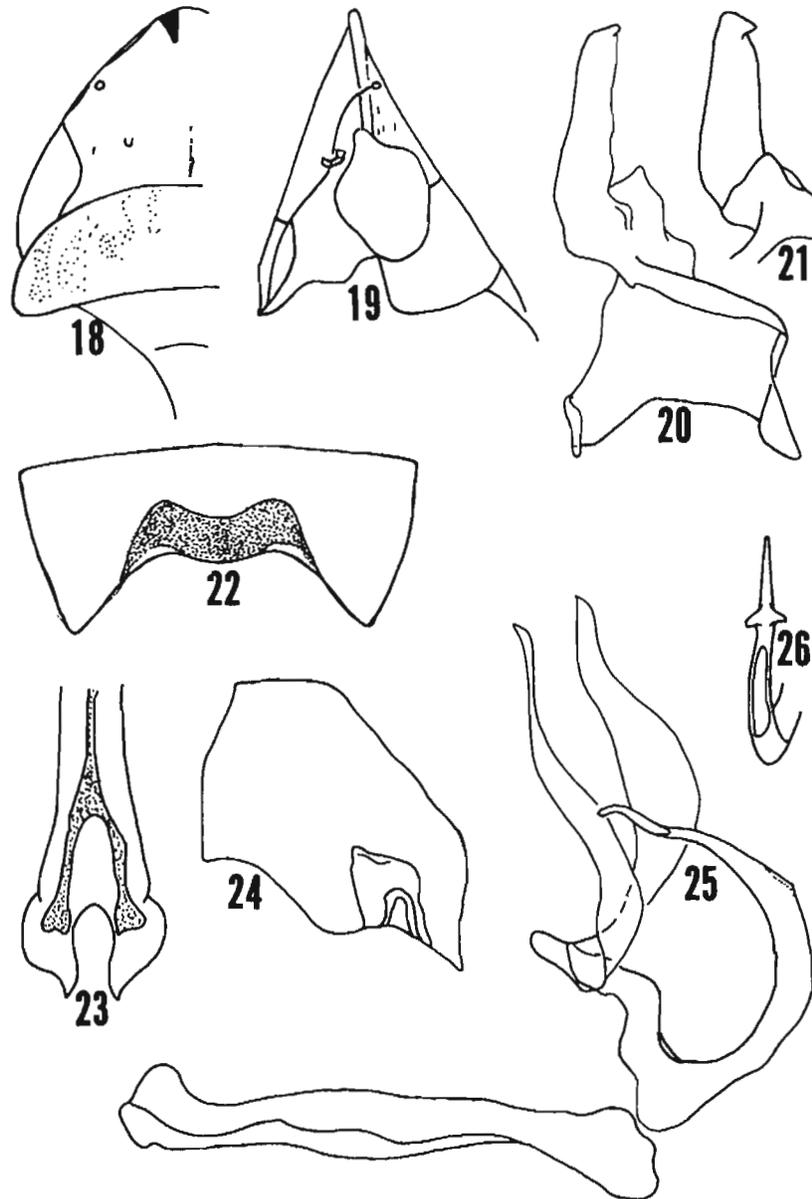


Fig. 18-26. *Virganana herbida* n.sp. 18) head, pronotum, scutellum, dorsally. 19) same, laterally. 20) style, ventrally. 21) apex of style (enlarged), laterally. 22) female seventh sternum. 23) base of connective, ventrally. 24) plate, ventrally. 25) aedeagus and connective, laterally. 26) apex of aedeagal shaft, dorsally.

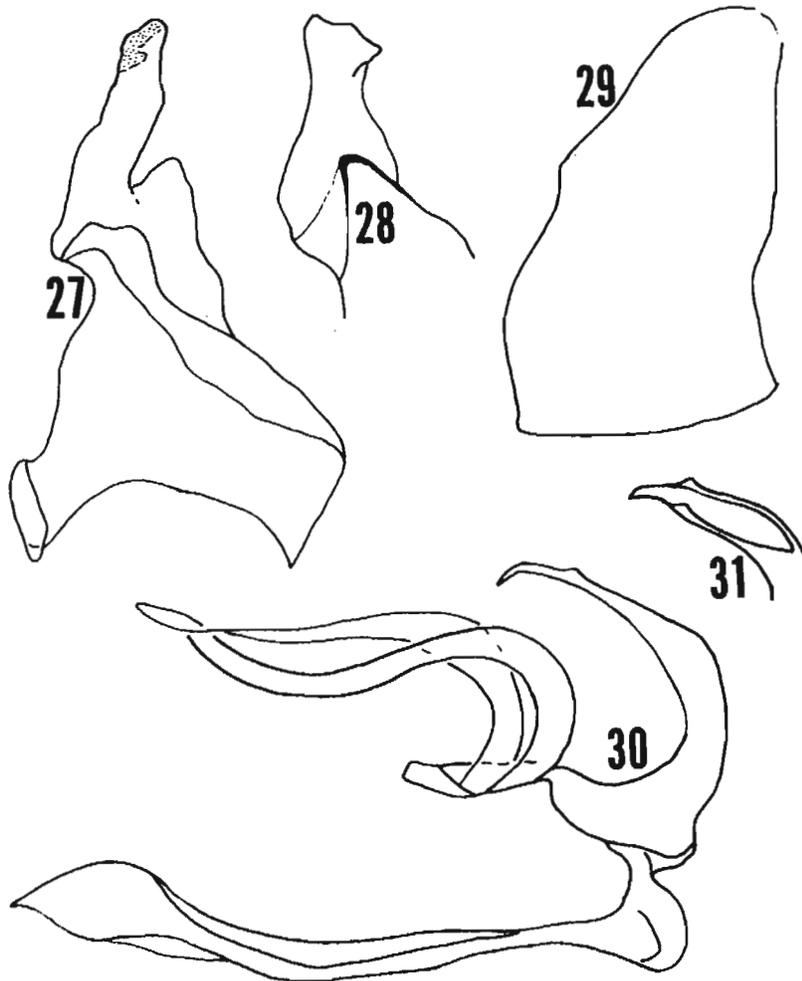


Fig. 27-31. *Virganana maculata* n.sp. 27) style, ventrally. 28) apex of style, laterally. 29) plate, ventrally. 30) aedeagus and connective, laterally. 31) apex of aedeagal shaft, laterodorsally.

Female genitalia with lateral angles of seventh sternum produced, bluntly angled, between which the posterior margin is broadly, concavely excavated, almost half distance to base. The excavated posterior margin with a broad, slightly produced, median lobe, almost one-third width of segment.

*Holotype male*: Contulo, Arauco Prov., Chile, 22-23-XII 1967 (D. M. DeLong and T. Cekalovic). Allotype female and 3 male paratypes same data as holotype.

This species can be distinguished from *V. herbida* by the brown coloration, the longer more pointed plates, the broader apex of style, the more apical

gonopore opening on aedeagal shaft, and the narrower paired processes of the phragma.

Genus *Aequcephalus* DeLong & Thambimuttu, NEW GENUS

Related to *Virganana* but with crown produced, thin and foliaceous, almost one-third longer at middle than basal width between eyes; apex narrowly rounded; concave on upper anterior portion; anterior margin slightly keeled dorsally; lateral margins appearing slightly concave. Ocelli on upper margin, one-third distance from proximal eye to apex. Postclypeus forming a flat foliaceous margin at apex. Pronotum two and one half times as broad as long. Scutellum small, more than half as wide as pronotum, twice as wide as long. Forewings short, almost as long as broad, with venation normal at basal portion of forewing; forewings covering only basal portion of abdomen.

Type-species: *Aequcephalus gramineus* n.sp.

*Aequcephalus gramineus* DeLong and Thambimuttu, NEW SPECIES  
(Fig. 15-17)

Length of female 5 mm, male unknown. Crown almost one-third longer than width at base, strongly produced, margin rounded apically, disc concave. Postclypeus flat, margin of crown thin, foliaceous. Forewings short, almost as wide as long, exposing almost entire abdomen. Color: crown yellow, an elongate black spot each side of apex; central longitudinal line and faint elongate longitudinal lines brown. Pronotum and scutellum yellow with portions of central longitudinal brown lines. Forewings yellow, a brown spot near middle and 2 brown spots near apex of each wing. Abdomen with black, median, longitudinal line and brown pigment in pattern of longitudinal lines. Postclypeus with 3 broad, black arcs beneath margin.

Female genitalia with lateral margins of seventh sternum produced to form narrowly rounded lateral angles, between which the posterior margin is abruptly sunken half way to base and is slightly roundedly notched each side of a broadly rounded, slightly produced, median lobe.

*Holotype female*: Padre Hurtado (19 km. W.), P. Santiago, Chile, 14-X-1967, (L. & C. W. O'Brien).

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