

SOME NEW GENERA OF LEAFHOPPERS RELATED TO THAMNOTETTIX

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In a recent paper Dr. E. D. Ball¹ has described several new genera of species formerly included in *Thamnotettix*. Others from the same group are described herewith, especially genera containing grass feeding species. A synopsis of each of the genera described below is now in manuscript form and will appear separately together with illustrations of the species characters of each genus.

Genus **Ballana** DeLong, nov.

Resembling *Gloridonus* Ball but more robust, with broader head and usually larger in size. Vertex usually bluntly, sometimes rather sharply angled, margin usually thick. Venation similar to *Gloridonus*, elytra usually broad, apical cells short. Male oedagus long and slender one side bearing teeth, the other side without. Male ninth segment with two pairs of dorsal spines which may be single or bifurcate.

Type of genus *Thamnotettix vetula* Ball.

This genus comprises the *atridorsum* series including the *vetula*, *vespertina*, *vivata* and *visalia* group described by Ball and since he described most of the species now named in this genus I take pleasure in dedicating it to him. All of these are western species and occur on *Chrysothamnus*, other shrubs and some herbaceous plants. Their habitat is the desert areas of the western United States.

Subgenus **Viriosana** DeLong, nov.

Closely related to *Ballana* and with similar genital structures but with vertex very blunt and rounded. Vertex only slightly longer at middle than next the eyes, margin thick and rounded to front, broadly rounded between eyes.

Type of subgenus *viriosa* Ball.

Subgenus **Laterana** DeLong, nov.

Closely related to *Ballana* but larger and more robust, vertex broadly bluntly angled, apex bluntly pointed, vertex flat, margin acutely angled with front. Male ninth segment differing from *Ballana* in having a pair of spines directed inwardly, arising from the basal arm between the anterior and posterior pairs of spines as found in *Ballana*.

Type of subgenus *dissimilata* Ball.

¹Bul. Brook. Ent. Soc., 31: 57, April, 1936.

Genus **Elymana** DeLong, nov.

Long, slender, pointed headed species resembling *Gloridonus* Ball. Vertex sharply jointed and acutely angled with front. Elytra long and narrow. Venation as in *Thamnotettix*. Ninth segment of male long, tapering to a pointed spine like process. Oedagus long tapering to a long slender, dorsally directed process. Female segment truncate.

Type of genus *Thamnotettix inornatus* Van Duzee.

The species of this genus are closely related and are usually found in woody areas on Elymus and related grasses. They are probably closely related to certain species of the genus *Laevicephalus* DeLong.

Genus **Cyperana** DeLong, nov.

Related to *Elymana* but with vertex rounded and bluntly angled, not strongly produced, bluntly angled with face margin thick. Usually some shade of green or yellow with a black band or a row of black spots on margin of vertex. Elytra long and narrow, venation of *Thamnotettix* type.

Type of genus *Thamnotettix melanogaster* Prov.

The species belonging to this genus occur in the fresh water marsh on sedges of the *Cyperus* group. Most of these occur in the eastern United States.

Genus **Graminella** DeLong, nov.

Resembling and apparently intermediate between *Laevicephalus* on the one hand and *Deltocephalus* on the other. Vertex usually produced but bluntly angled, margin thick venation simple but with second anteapical cell long and constricted at middle. This causes the second apical cell to be very short comparatively.

Type of genus *Thamnotettix aureovittatus* Sanders and DeLong.

The species of this genus are all grass feeders so far as is known and are common on the fresh and salt water marshes of the eastern United States, occurring especially on the grasses of the *Spartina* association. Certain species also occur on the wet and dry prairies of Illinois and other middle western states.

Genus **Calana** DeLong, nov.

Allied to *Graminella* but differing by having a more pointed head and with a rather definite margin on vertex which is accentuated by a marginal line. Vertex angularly produced, length equalling basal width between eyes, almost flat, acutely angled with front. Elytra with venation as in *Graminella* with second anteapical cell rather long and constricted at middle. It differs however in having the first anteapical cell almost as long as second, narrow, with a marginal vein to costa anterior to middle. Genitalia entirely different in form from the type found in *Graminella*. In lateral view the male oedagus is broadly U-shaped and the posterior portion bears a pair of lateral processes near the apex.

Type of genus *Thamnotettix umbricatus* Ball.

Genus **Deltocephalus** Burm.Subgenus **Unerus** DeLong, nov.

Closely related to *Deltocephalus* and with the same type of genital structures but differing by having one cross vein between the two sectors instead of two as found in *Deltocephalus*. Vertex bluntly angled, rounded to front, without prominent margin.

Type of subgenus *Thamnotettix colonus* Uhler.

To this group also belongs *nigrifrons* Forbes. Both species are certainly closely allied to *Deltocephalus* in every way but lack one of the two cross veins which characterizes the species of that genus.
