

AN AMERICAN TETTIGOMETRID (HOMOPTERA).

FREDERICK MUIR,
Honolulu, T. H.

Genus *Nototettigometra* nov.

Length of vertex in middle two-thirds the width between eyes, anterior margin arcuate, on middle line projecting in front of eyes about half its length; base ill defined from occiput which does not project beyond the lateral margins of eyes but barely reaches it, disc slightly concave; head, including eyes, five sixths the width of pronotum; antennæ reaching some distance laterad of eyes; frons in profile slightly concave from base to antennæ, where there is a slight ridge, and then slightly convex. Eyes fairly small; ocelli distinct, on frons near inner basal corner of eyes, the lateral carinæ of frons slightly in front of antennæ but do not reach ocelli. First segment of antennæ broader than long, segment from four to five times the length of first. Pronotum considerably shorter than vertex, hind margin very slightly arcuately emarginate or subtruncate. Mesonotum a little longer than vertex and pronotum together, wider than long. Legs short, stout, first and second femora slightly flattened, hind legs reaching slightly beyond apex of tegmen. When at rest tegmina narrowing slightly to apex, the individual tegmen being subparallel sided, apex round, costal margin slightly arcuate. Clavus reaching one-fourth from apex, claval fork one-third from apex of clavus; costa coincident with costal margin; Sc and R arising from basal cell, simple, reaching to apex, M arising from basal cell with a simple fork in middle, Cu simple, without fork, a number of obscure, irregular pseudocross-veins in apical half; wings ample, folding and overlapping when in repose. The basal third of the costal margin turned under forming an epipleura which fits against the thorax.

This genus stands between *Tettigometra* Latrielle and *Brachycephalus* Signoret (= *Brachyiceps* Kirkaldy, n. n.) having certain characters of both. The male genitalia are unique and will be discussed below. The venation is more generalized than in any other species of the family that the writer is acquainted with, Sc and R being separate from base.

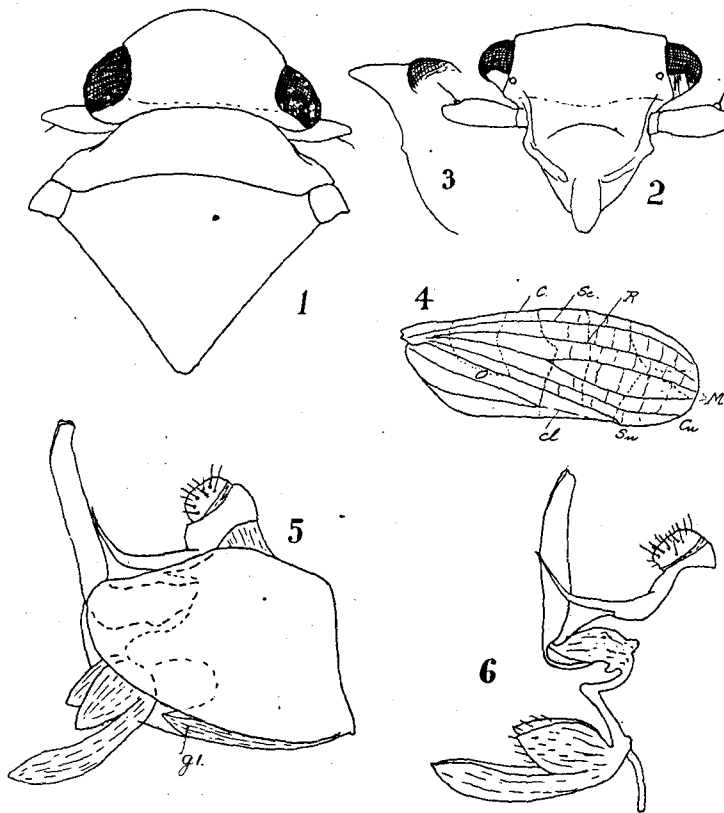
Nototettigometra breddini sp. n.

Male.—Length 3.6 mm.; tegmen 3 mm.

Light brown; a dark brown or nearly black band across the frons between the eyes, basad of this band lighter brown, distad of the band frons and clypeus yellow, vertex and pronotum slightly speckled with brown dots; the basal angle of mesonotum yellow with two opaque,

creamy spots at the sides, a slightly larger opaque spot on margin half way between lateral angles and base, the margin of the posterior half slightly darker brown; legs light brown or yellow speckled with brown spots.

Tegmina light brown with an ill defined lighter band across middle, a lighter mark from basal half of costa to claval suture, near this mark, between the suture and the first claval vein, there is a small, oblong, opaquely white spot surrounded by a dark area; at the apex there are two lighter spots which more or less run together making the apex lighter, especially at the sides; a number of small reddish brown spots



1. *Nototettigometra breddini*, dorsal view of head, pronotum and mesonotum.
2. *Nototettigometra breddini*, front view of head.
3. *Nototettigometra breddini*, profile of frons and vertex before eyes.
4. *Nototettigometra breddini*, right tegmen.
5. *Nototettigometra breddini*, right side view, male genitalia.
6. *Nototettigometra breddini*, right side view of anal segment, aedeagus and appendage.

scattered over the whole tegmen, more thickly along the commissure of clavus, also more or less over the thorax and head. The tegmina, thorax and head also bear many microtrichia irregularly disposed, those on the tegmina do not follow the veins. Venation very faint except in prepared specimens.

Pygofer slightly compressed laterally, the opening being narrow, much longer than broad, the medio-ventral surface of pygofer semi-membranous, in lateral view the lateral margins roundly produced. Anal segment small, distinctly divided into two segments (10 and 11?) the basal bearing a long, slender, acute process, bent at the middle. The aedeagus is long, tubular, slender, bent at nearly a right angle one-third from base, the basal part being membranous and may represent the periandrium; functional orifice at apex and continued along ventral aspect as a narrow opening. The genital styles are absent or only represented by two small, flat, membranous appendages. Below the aedeagus, and connected therewith by the apodeme, is a boat shaped, membranous organ with the basal edges produced into wing-like processes, which are also membranous. Whether these latter are modified genital styles or not it is difficult to say.

Female.—Similar in size, build and color to the male. The ovipositor is rudimentary or entirely missing.

Described from three males and three females. The male holotype and female allotype are typically colored, but three of the others are very much lighter and one female is light green, but with faint indications of the design.

These specimens were received from Dr. W. Horn, Berlin, and were mounted on one card with a label "Peru," and another, printed, label, "coll. Breddin." In the same collection of Homoptera there are several typical South American insects, (i. e., *Cladoptera* and *Cladypha*), bearing a locality label "Peru" written in the same handwriting. If Dr. Breddin collected these himself, or if they only came from his collection, I am unable to say. But there is every reason to consider the locality authentic.

So far as the writer knows this is the first species of this interesting little family to be reported from either North or South America, and is, therefore, of considerable interest. The family has not yet been reported from Australia, but it is known from all the other zoological areas. Although the family is small, it is of great taxonomic interest. The writer has placed it in an isolated position among the Fulgoroidea.* This agrees with Van Duzee's opinion that it is more distinct from

* Pro. Hawaiian Ent. Soc. V, (2), p. 220, 245, (1923).

the rest of the families of Fulgorids than they are from one another. The writer would rather erect a super-family for this family than consider the other fulgorid families as only sub-families. The examination of a nymph of *Megaloplastinæ* from Java shows that there is no intestinal "filter" or "columna" therein agreeing with the other fulgorids and with the Cicadellidæ.

Elsewhere* the writer has figured the male genitalia of *Egropa breviceps* (Stal) and a species of *Tettigometra*, and he has also examined *Megaloplastinæ*, and there are two distinct types. One type is represented by *Tettigometra*, in which the perianthrium is large and ring-shape and the penis passes through it; the other type has the perianthrium small and the penis does not pass through it, but is distad. In *Egropa* and *Megaloplastinæ* there is a large membrane below the genital stylus which appears to be homologous with the boat-shaped membrane in *Nototettigometra*. The membrane in the middle of the ventral aspect of the pygofer (Fig. 5, g1) the writer considers represent the anterior gonopophyses which in *Tettigometra* are large, flat and projecting.

It is of great interest to note that among the few species of this small family of which the male genitalia have been examined we find traces of all the types found in the Cicadoidea and Fulgoroidea. The absence of free genital styles, as in all Cicadidae except one genus, the Munopline type of Aedeagus, the Ciscune type of Aedeagus, the anterior gonopophyses well developed and distinct, or incorporated into the pygofer. These, together with other synthetic characters, all show the important part this family plays in the phylogeny of the fulgorids.

* Pro. Hawaiian Ent. Soc. V, (2), Plate IV, Figs. 1, 2, (1923).