

THREE NEW SPECIES OF AMERICAN CIXIIDÆ
(FULGOROIDEA, HOMOPTERA)

BY F. MUIR

Bennarella Muir, g. n.

Body compressed laterally; tegmen when at rest steeply tectiform, apical margins closely pressed together. Sc + R forking about one-third from base, level with Cu fork, the fork slightly more apical, M-rising from basal cell; three apical Rs, five apical Ms, 1, 1a, 2, 3, 4; Cu touching M3 + 4 for a short distance; claval fork about one-third from base of clavus. The costal margin near base is turned upward where the fourth and fifth abdominal segments are produced. Vertex very short, width five or more times the length in middle; in dorsal view a large part of the base of frons visible, base of vertex sinuate, slightly emarginate, apex truncate. Length of frons nearly twice the width, sides slightly arcuate; disk slightly excavate on basal half where the lateral carinae are longer; median carina obsolete, only distinct for a short distance in middle. Clypeus plainly tricarinate. Labium long, reaching beyond hind coxae. Second joint of antennae much longer than wide, reaching base of clypeus. Pronotum short, hind margin roundly excavate. Mesonotum slightly wider than long, bicarinate, the median carina only faintly represented on anterior portion. The third, fourth and fifth abdominal pleura produced, flattened and curved dorsad, the fourth bears three and the fifth two sense pits, each bearing a bifurcate hair. Hind tibiae without spines; the second hind tarsus with a row of spines at apex.

This genus comes next to *Bennaria*, but the size and nature of the development of the abdominal pleura are very distinct. Superficially it looks like one of the *Achilixiidae*, but an examination of the male genitalia shows that it is a *Cixiidae*; also the claval vein enters the commissure distinctly before the apex.

Type *B. bicoloripennis*.

Bennarella bicoloripennis Muir, sp. n.

Male. Length, 2.4 mm.; tegmen, 4.4 mm.

Head and pronotum stramineous, light brown over most of frons and base of clypeus and pronotum behind eyes; mesonotum brown, carinae lighter; labium fuscous; legs stramineous, the femora and tibiae slightly fuscous; abdomen light brown, the produced fourth and fifth pleura and the genitalia lighter. Basal portion of tegmen to M fork dark brown, the claval margin and suture yellowish, apical portion of tegmen yellowish, slightly fuscous in costa and in Sc and R apical cells; veins mostly the color of the cells, without granules on macrotrichia. Wings fuscous at base, opaquely white with waxy

secretion over rest, veins fuscous at base and yellowish over apical portion.

Pygofer comparatively short, opening longer than wide, sides curved, medio-ventral process angular, small. Anal segment produced into a point at apex; the styles and ædeagus best understood from the figure.

Female similar to male in size and color. The ovipositor complete, pygofer longer than broad, a longitudinal depression in which the ovipositor lies when at rest; the ventral surface of anal segment concave and fits over the apex of ovipositor when at rest.

Described from four males and five females from Tuma-tumari, British Guiana (July 19, 1923). Type in H. S. P. A. Experiment Station collection, Honolulu, No. 1216.

Bennarella fusca Muir, sp. n.

Male: length, 2.4 mm.; tegmen, 4 mm.

In general structure similar to *bicoloripennis*, but the lateral carinæ of the frons larger and the antennæ slightly shorter.

Head and thorax fuscous brown, the carinæ lighter, the lateral portion of the mesonotum darker than the middle; coxæ and femora fuscous; tibiæ lighter. Tegmina fuscous, basally lighter, nodal line lighter. Wings dark fuscous, veins dark.

Pygofer laterally compressed, sides arcuate, medio-ventral process subconical in outline. Anal segment large, apex produced beyond anus, curved ventrad and under, asymmetrical, the right side emarginate. Genital styles small, in lateral view bent at an angle in middle, apex slightly expanded and rounded. Aedeagus not dissected out.

Described from one male from Belem, Brazil (May 1924). Type in H. S. P. A. Experiment Station collection, Honolulu, No. 1217.

The above two species were taken by Dr. F. X. Williams.

Nymphocixia vanduzeei Muir, sp. n.

Male: length, 5.6 mm.; tegmen, 5.7 mm.

This species agrees with the generic description and is closely related to *N. unipunctata* V. D. The base of vertex is truncate and overlaps the middle of pronotum and the middle of the anterior portion of mesonotum. The hind margin of the eye is nearly truncate and there is only a shallow antennal emargination on the ventral margin.

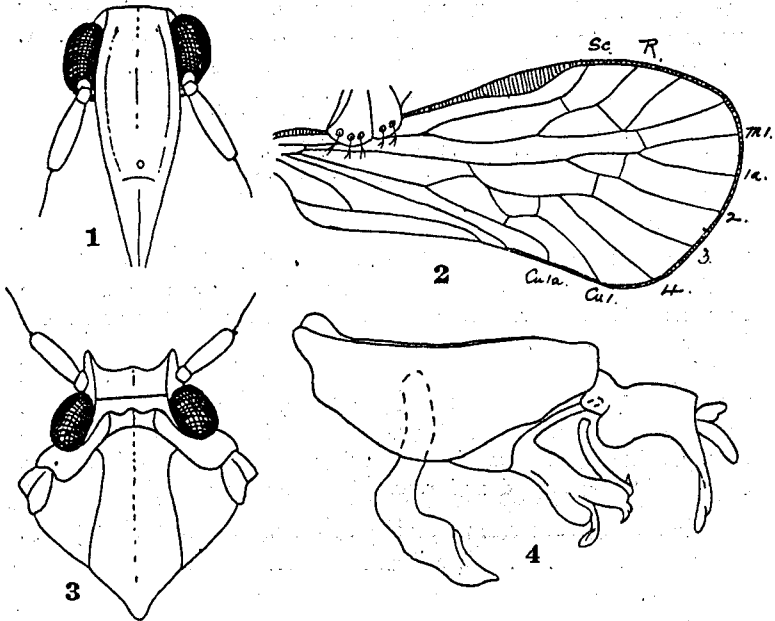
Pygofer compressed laterally, sides arcuate, medio-ventral process fairly large, subangular; anal segment median size, apex pointed; genital styles small, thin, apical third bent at a right-angle dorsad.

Stramineous or light brown, the carinae of head and the genae lighter. Tegmina stramineous or very light brown, clearer over membrane and costal cell, veins light; a small dark spot near apex between M 2 and 3. Wings hyaline with brown veins.

One male from Columbia, Cartagena (C. Gogzo, VIII, 1905).

Type in the Zoölogical Museum, Hamburg.

This is the second species of this interesting genus; the genotype taken on Espiritu Santo Island, Gulf of California.



1. *Bennarella*, frons.

2. *Bennarella*, tegmen.

3. *Bennarella*, dorsal view of head and nota.

4. *Bennarella bicoloripennis* Muir, male genitalia.