

## Some New Species of *Homoptera*

(Families *Cixiidae* and *Membracidae*)<sup>1)</sup>

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(With 2 Plates)

Recently Dr. HANS SACHTLEBEN, Director of the Deutsches Entomologisches Institut, Berlin, inquired about the status of six species in his collection which were labeled as the types of new species by MELICHAR. An examination of the card catalogue in my laboratory shows that none of these species have been described. Three are apparently new and three were described evidently after MELICHAR had examined the specimens in the collection of the Deutsches Entomologisches Institut. To clear up these matters the following new species are described with notes on the other species.

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I describe and illustrate the species involved in order to bring them into conformity with modern taxonomy. I also give some notes on the genera involved.

**Family *Cixiidae***  
**Subfamily *Cixiinae***  
**Tribe *Cixiini***  
***Oliarus* Stål**

Logotype: *Oliarus walkeri* Stål

Attention has recently been called to the cosmopolitan distribution of the species assigned to this genus and to the apparent polyphyletic origin of this genus. (METCALF 1945b, p. 126; 1947a, p. 164, 169; 1949c, p. 539.) I have nothing new to add to these observations at this time.

In the present collection there are two species, both of which appear to be new. One is from southern China and the other from Luzon. MUIR (1924e) made quite an extensive study of the species of this genus from Malaysia and he described in all eleven new species from the Philippine Islands. None of these agree with the species in the present collection from the Philippines.

***Oliarus trifasciatus* n. sp.**  
**Pl. 1, Figs. 1—3**

This species may be recognized by the general blackish or blackish fuscous color of the head and thorax; legs light ochraceous buff, with the exception of the fuscous fore and middle femora. Tegmina transparent; basal area, two fairly broad fasciae, and apical border brownish.

Color of body blackish; lateral margins of crown narrowly ochraceous orange; two transverse carinae of head ochraceous orange; abdomen black. Median carina of frons and its branches ochraceous orange; lateral margins of frons pale ochraceous buff; median carina of postclypeus ochraceous orange. Pronotum black with intermediate carinae and posterior border ochraceous orange. Mesonotum black, carinae concolorous; tegulae chiefly light ochraceous buff clouded with fuscous. Tegmina transparent; veins with small blackish points fairly evenly distributed along the main veins and their branches. Basal area, a fairly broad fascia from costal to commissural margins across the branching of radius and subcosta and the branching of cubitus; another fairly broad fascia from the nodal cell across the tegmina to the apex of the clavus and a part of apical border brownish fuscous. Legs chiefly ochraceous buff with fore and middle femora fuscous. Abdomen black or blackish fuscous.

Crown with median carina inconspicuous; anterior and posterior frontal carinae not meeting on the median line; lateral carinae strongly elevated; lateral areolets separated by a median carina. Face about one and one-

half times as long as its greatest width below the antennae; median and lateral carinae strongly developed; frons with dorsal margin about one-half as long as its greatest width; median areolet well developed, about as long as broad; dorsal margin triangularly produced dorsad. Pronotum short and broad, broader than head; posterior margin deeply and triangularly incised; intermediate carinae conspicuous. Mesonotum slightly broader than the median length, carinae distinct. Tegmina with venation regular.

Male genitalia with pygofer ventrally about as broad as its median length; posterior sinus rather broad with an elongate median tooth, somewhat oval in shape; genital styles rather short, asymmetrical, bifid at the apex; aedeagus elongate, rather complex; tenth segment elongate, somewhat depressed; telson about one-half as long as the tenth segment with a distinct ventral tooth.

Length to apex of abdomen about 3.3 mm.

Holotype ♂: Pingshiang, South-China (Kiangsi Province).

Allotype ♀: Pingshiang, South-China (Kiangsi Province).

*Oliarus fuscoapicatus* n. sp.

Pl. 1, Figs. 4—6

This is one of the medium-sized species, slightly smaller than *flavipes* Muir (1924e, p. 514), much larger than *lucidipes* Muir (1924e, p. 512). Color much darker than in *flavipes*; median ventral process of the pygofer similar; aedeagus similar but in *fuscoapicatus* the dorsoapical spine is longer than the lateral spine; the three apical spines of the aedeagus much longer; genital styles much more broadly expanded apically, anal segment similar but longer.

General color of body black; lateral margins of vertex, posterior margin of pronotum, most of tegulae, lateral margins of face, tibiae, and tarsi light ochraceous yellow; median carina of face, intermediate carinae of pronotum and carinae of mesonotum chiefly brownish; femora and most of the ventral surface of abdomen light brownish.

Median length of crown only about two-thirds the width at the posterior margin; anterior lateral areolets not divided by a median carina; vertex without a median carina. Pronotum short and broad; median length about one-third the median length of crown; posterior margin broadly incised; median carina distinct; intermediate carinae broadly curved, paralleling the posterior margin of compound eyes. Mesonotum about one-fourth longer on the median line than its greatest width. Median carina and two pairs of intermediate carinae not very distinct; tegulae rather large. Tegmina with venation distinct, the veins with pustules rather distinct, not very close together. Face about one-third longer than its greatest width; dorsal, lateral, and median carinae strongly elevated;

dorsal areolet not very distinct, triangular, about as long as the greatest width; median ocellus present; median length of the postclypeus about the same as the median length of the frons.

Male genitalia with pygofer rather small; aedeagus large, heavy, with three apical spines, the dorsal spine longest; anal segment elongate, rather heavy; when viewed ventrally the median ventral process of pygofer elongate, nearly half as long as median sinus; rather acute apically; genital styles with bases broad; apical third broadly expanded, directed laterad.

Length to apex of abdomen 3.2 mm.

Length to apex of tegmina 4.9 mm.

Holotype ♂: Luzon, 14 October 1913, collected by G. BOETTCHER.

Allotype ♀: Luzon, 14 October 1913, collected by G. BOETTCHER.

Paratypes 1 ♂ and 3 ♀♀: Luzon, 14 October 1913, collected by G. BOETTCHER.

### Family *Issidae*

#### Subfamily *Hemisphaeriinae*

#### *Hemisphaerius* Schaum

(MELICHAR 1906a, p. 67)

Haplotype: *Issus coccinelloides* Burmeister

This is a genus of eighty-seven recorded species. The distribution of the species of this genus reaches from India and Ceylon on the west through the East Indies to New Guinea and northward from the Sunda Islands through the Philippines to Formosa.

The general hemispherical shape of the species in this genus together with the opaque wings without any claval suture and the bright color markings of most of the species suggest the resemblance of the members of this group to the beetles of the family *Coccinellidae*.

Head usually wide with compound eyes as wide as base of mesonotum; vertex short and broad, distinctly carinate on all margins; face elongate distinctly widened ventrad and then narrowed to the narrower clypeus; clypeus large. Pronotum short and broad. Mesonotum large, triangular. Tegmina large, hemispherical; hind wings very small. Legs short and stout. Hind tibiae nearly twice as long as femora with two stout spines on the apical third.

#### *Hemisphaerius stali* Banks

(BANKS 1910a, p. 43)

Pl. 1, Fig. 7

With the exception of a few minor details of color markings, the specimen in the present collection agrees in essential details with Banks' description and illustration.

General color of head and thorax greenish, heavily marked with red as follows: Crown reddish with carinae bright red; frons with the lateral

margins and an elongate somewhat attenuate median vitta bright red. Clypeus yellow at base, black at apex. Pronotum with carinae on margins bright red; central area green. Mesonotum with anterior and lateral margins bright red, a short somewhat triangular median vitta extends about half the length of the mesonotum; rest of area bright green. Most of tegmina pale testaceous with a greenish sheen; basal margin of claval area and commissural margin for about one-third its length bordered with bright red, this bright red stripe bordered with a brilliant green vitta; bordering the green vitta there is a small elongate subbasal spot of bright red which fades posteriorly, but basal half of tegmina not dusky as originally described by Banks. Beneath, including legs, chiefly testaceous; ventral area of abdomen chiefly blackish fuscous with margins of segments narrowly bordered with testaceous; dorsally most of abdomen blackish fuscous; segments two, three, seven, and eight testaceous; basal segments of all legs chiefly blackish fuscous; all tibiae ringed with blackish fuscous apically; femora of hind legs vittate with blackish fuscous.

Head, including compound eyes, slightly wider than base of mesonotum; compound eyes large; vertex short and broad, its greatest width about four times the median length; anterior and posterior carinae nearly straight; anterior margin slightly narrower than posterior margin; lateral carinae converging cephalad; frons with median length more than twice the dorsal width, greatest width about the same as median length; lateral carinae fine but distinct. Pronotum short and broad, about four times as broad as the median length; anterior margin broadly curved; posterior margin nearly straight; margins distinctly carinate. Mesonotum triangular, not quite twice as broad as the median length. Tegmina translucent, rugulose.

Length to apex of tegmina 4.5 mm.

One ♀: Northern Palawan, November-December 1913, G. BOETTCHER.

### Family *Cercopidae*

Subfamily *Cercopinae*

Tribe *Cercopini*

*Hemitricphora* *Lallemand*

(LALLEMAND 1949a, p. 172)

Orthotype: *Tomaspis xanthospila* Stål

This genus may be characterized briefly as follows: Head narrower than pronotum; facial portion of postclypeus divided into three parts by strong carinae, coronoclypeus without a median carina, separated from facial portion of postclypeus by a distinct transverse carina. Pronotum broader than long; anterior lateral and posterior lateral margins subequal in length; posterior margin shallowly incised. Mesonotum slightly longer than its greatest width. Tegmina with media and cubitus coalesced on the basal third. Anterior and intermediate tibiae subequal; posterior tibiae with

two stout spines. Anteclypeus rather flat. Beak extending to the middle coxae. Anterior and intermediate tibiae about the same length as the femora; two spines on posterior tibiae; lateral plates of male elevated at base and pressed against apex of abdomen; elongate, triangular.

*Hemitricophora haglundi* Schouteden  
(SCHOUTEDEN 1901a, p. 118)

Pl. 2, Figs. 1—3

This species is chiefly black in color, heavily marked with light ochraceous buff.

Head, including compound eyes, entirely black; anterior and anterior lateral margins of pronotum black; posterior two-thirds chiefly light ochraceous buff, sometimes infuscated on the posterior half; tegmina black, median area with an elongate, light ochraceous buff vitta; clavus chiefly light ochraceous buff, commissural margin black; thorax beneath black; legs ferruginous.

Head, including compound eyes, a little less than half as broad as pronotum at the lateral angles; crown short and broad, a little broader than the median length; anterior margin strongly curved; posterior margin nearly straight; ocelli very close together; coronoclypeus a little more than half again as long as the greatest width between the eyes. Pronotum about twice as broad as its median length; anterior margin nearly straight; anterior lateral and posterior lateral margins subequal in length, fairly straight. Mesonotum broadly triangular. Tegmina with venation fairly simple.

Male genitalia with the pygofer relatively large; tenth segment short and broad; telson elongate, when viewed ventrad broadly triangular; genital plates elongate, broad at the base, contiguous on the median line; inner margins gradually diverging on the basal third, the apical two-thirds narrower, slightly sinuate with obtuse apices; when viewed laterally the genital plates project decidedly dorsad; genital styles elongate, apices acute; aedeagus when viewed laterally narrowly U-shaped with the apical limb broad at the base, gradually acuminate to an acute apex on the median line; when viewed ventrally biramose with processes broadly divergent.

Length to apex of tegmina 11.6 mm.

A single ♂ from British Uganda.

Family *Membracidae*

Subfamily *Centrotinae*

Tribe *Gargarini*

*Gargara Amyot & Serville*

Haplotype: *Gargara genistae Fabricius*

This is a genus of 161 recorded species. They are widely distributed in the Eastern Hemisphere, being recorded from the western part of the

Palaearctic Region to Japan and Formosa, also in the Ethiopian Region, the Oriental Region, and in the Malaysian Region from the Greater and Lesser Sunda Islands northward through Borneo, Celebes, the Molucca Islands, to the Philippines, but not east of the Island of Sumbawa in the Lesser Sunda Islands. The common European *Gargara genistae* Fabr. has been recorded as an introduced species in the Eastern United States.

This genus may be characterized briefly as follows: Head rather broad, subquadrangular; ventral margins not strongly produced, broadly rounded; postclypeus not strongly produced. Pronotum broad, convex, not very high; humeral angles short, triangular, somewhat obtuse; posterior process behind humeral angles deeply incised, narrowed to the acute posterior process which is usually not as long as the apex of the clavus; median carina percurrent or greatly reduced, sometimes occupying only the apex of the pronotum beyond the mesonotum. Mesonotum elongate, conspicuous. Tegmina somewhat coriaceous with venation distinct; usually five apical and three subapical cells; hind wings transparent with three apical cells; central apical cell with the base usually somewhat triangular. Legs usually short and stout; hind tibiae and tarsi longer than the fore and middle tibiae and tarsi; hind trochanters unarmed.

In this genus the pygofer of the male genitalia is usually rather short, posterior margin triangularly produced caudad; genital plates usually long, longer than anal styles, aedeagus, or tenth segment, divided apically into a pair of processes, this separation usually occurs about the apex of the basal third of the genital plates; genital styles usually elongate, rather slender; apices generally directed laterad and dorsad; aedeagus usually slender, U-shaped; tenth segment usually short.

*Gargara granulata* Funkhouser

(FUNKHOUSER 1927c, p. 123)

Pl. 2, Figs. 4—6

There are in the present collection a series of four females which are similar to FUNKHOUSER's *granulata* in all essential characters except that three of the females are uniformly black like the males described by FUNKHOUSER. This species was described from Mindanao and Luzon. The present specimens also resemble rather closely *nigra* FUNKHOUSER (1920a, p. 223) from Borneo. These two species may prove to be identical.

Color nearly uniform black with the apices of femora, tibiae, and tarsi chiefly reddish brown. In some specimens only the head, venter of thorax, and abdomen are blackish. Metopidium and most of pronotum sometimes brownish with only the apex black. Legs in these paler specimens nearly completely brownish except the coxae and bases of femora. Tegmina chiefly brownish, translucent, appearing black if viewed against the black abdomen; veins of tegmina minutely and irregularly tuberculate; hind wings translucent.

Head slightly broader than long, whole surface minutely punctate and densely pilose; ocelli twice as far from each other as from the compound eyes; dorsal margin of head broadly curved, hardly sinuate. Pronotum rather slender; metopidium broader than high; transversely rugulose; median carina on the metopidium almost completely obliterated by the transverse rugae; pronotum behind the humeral angles minutely punctate, sparsely pilose; apical third of posterior process strongly carinate, acuminate, decurved, reaching a little beyond apex of clavus.

Since the present collection contains only females I append a description of the male genitalia of a specimen from Luzon which I believe is this species. Genital plates broad, obtuse at apex; genital styles elongate, slender, strongly directed dorsad; aedeagus short and slender, U-shaped; posterior margin of pygofer strongly produced, triangular, broadly rounded at apex.

Length to apex of pronotum 3.7 mm.

Length to apex of tegmina 5.6 mm.

Four ♀♀: Palawan, November-December 1913, G. BOETTCHER.

#### Subfamily *Smilinae*

##### Tribe *Smilini*

*Antianthe* Fowler (1895d, p. 89)

*Janthe* Stål (1867a, p. 554)

Logotype: *Hemiptycha expansa* Germar

This genus was described originally to include *expansa* Germar (1835a, p. 245) and *foliacea* Stål (1864a, p. 71). Both species were described originally from Mexico. Since that time four other species have been added to the genus. While all but one of the species was either described originally from Mexico or has been recorded from Mexico, the various species range as far south as Colombia and Venezuela and as far north as California, Arizona, Florida, and Puerto Rico.

The genus may be characterized briefly as follows: Head rather large, face with dorsal margin usually broadly sinuate, lateral margins usually straight, clypeus sometimes protuberant; compound eyes and ocelli prominent. Pronotum strongly compressed, highest at the level of the humeral horns or cephalad, strongly sloping to the acute apex; humeral horns very prominent, as long as or longer than half the width of metopidium; median carina percurrent. Tegmina transparent, covered in part by the lateral margins of pronotum; radius and medius connected by two crossveins, also two crossveins between medius and cubitus; five apical and two subapical cells. Hind wings with apical cell triangular. Hind tibiae with a crown of spines; basal segment of hind tarsi sometimes with a row of conspicuous or at other times rather inconspicuous short, stout spines.



Male genitalia with posterior margin of pygofer provided with an elongate obtuse lobe directed dorsocaudally; genital plates elongate, slightly longer than pygofer; genital styles elongate with apices directed dorsad; aedeagus broadly U-shaped.

*Antianthe boliviana* n. sp.

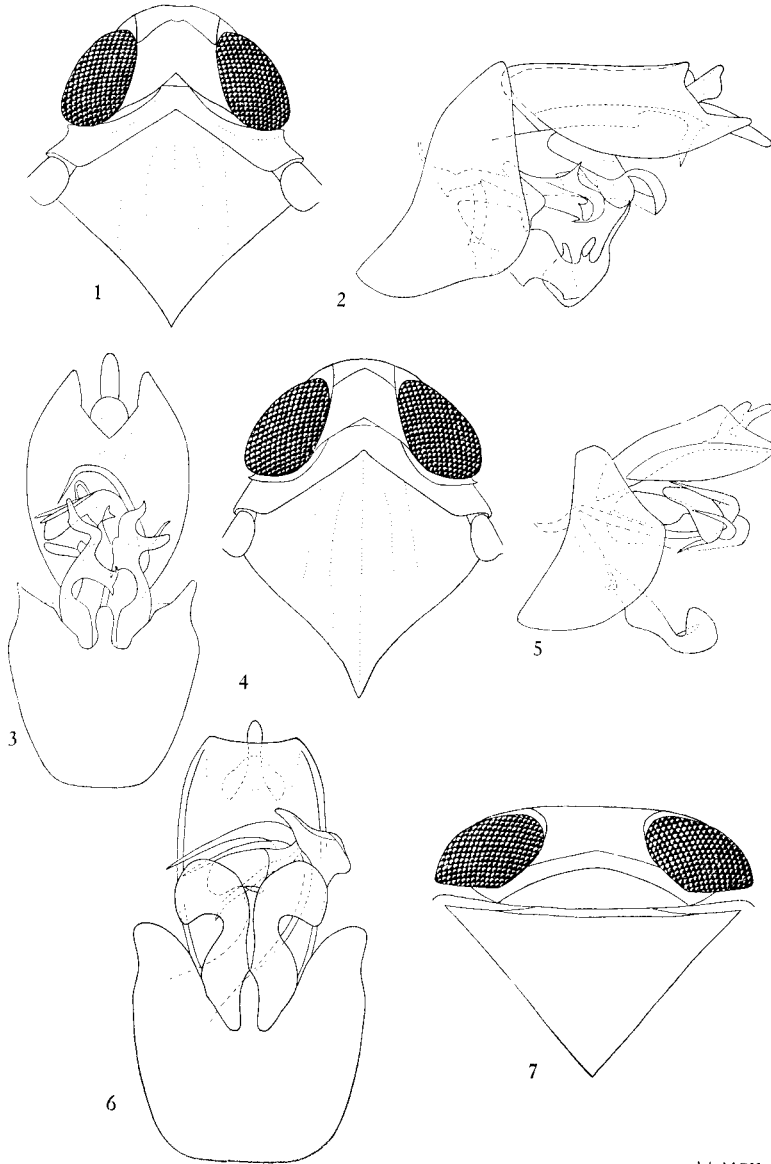
Pl. 2, Figs. 7—10

This species belongs to that group in this genus, including *foliacea* and *expansa*, which has the pronotum strongly elevated and compressed with the anterior dorsal angle strongly rounded and the dorsal margin sloping to the acute apex. It differs from *expansa* in that the humeral angles are relatively short, shorter than the width of the metopidium; face broadly incised behind the compound eyes. This group also includes what I believe is *foliacea* Stål. *Boliviana* differs from *foliacea* in that the humeral angles are broad, obtuse at the apex while in *foliacea* they are elongate, rather slender, acute at the apex.

General color of body, including legs, cinnamon brown; dorsal margin of pronotum fairly regularly dotted with blackish points; humeral horns generally margined with black; anterior margin of pronotum dotted with black; exposed costal margin of tegmina tinted with brown; anal margin covered by pronotum, transparent.

Head rather short and broad; posterior margin broadly, somewhat quadrately inserted in pronotum; lateral margins nearly straight from compound eyes to apex of postclypeus; postclypeus deeply and triangularly inserted in vertex; whole surface of face rather deeply and sparsely punctulate; ocelli somewhat closer to each other than to compound eyes; behind ocelli two conspicuous punctate spots; compound eyes conspicuous. Pronotum strongly elevated; anterior dorsal margin broadly rounded; anterior margin somewhat sinuate; dorsal margin slightly curved to acute apex. Median carina percurrent, humeral angles broadly but strongly produced, about twice as long as basal width; basal incision behind compound eyes about twice as long as broad; apical angle obtuse, broadly rounded; entire length of humeral angles about equalling half the width of metopidium. Tegmina with venation rather typical; radiomedial crossvein about the same distance from medial cubital crossvein as the latter is from the apex of the stem of radius-medius; hind tibiae with crown of apical spines short and stout: spines on ventral surface of basal segment of hind tarsi very short and stout.

Pygofer short and broad, not quite twice as broad as its greatest width; posterior lobe obtusely, triangularly, produced; tenth segment short and broad, quadrangular; genital plates when viewed laterally narrow, elongate, obtuse, nearly six times as long as the greatest width; genital styles elongate, apex strongly produced; aedeagus broadly U-shaped with basal arm broadened toward the base; apical arm rather narrow,



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elongate, apex distinctly produced; when viewed ventrally genital plates produced about as long as the pygofer, apices broadly rounded; genital styles elongate, slender, apical portion broadly curved laterad.

Length to apex of pronotum, males, 5.6 to 6.0 mm.

Length to apex of pronotum, females, 6.75 mm to 7.15 mm.

Holotype ♂: Bolivia.

Allotype ♀: Bolivia.

Paratypes 5 ♂♂ and 3 ♀♀: Bolivia (no other data).

#### Literature Cited

Only papers published since 1942 are listed here. For all papers published before that time the reader is referred to METCALF's Bibliography of the Homoptera, 2 vols., published by North Carolina State College, 1944.

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#### Explanation of Plates

##### Plate 1

Figs. 1-3. *Oliarus trifasciatus* n. sp. 1. Head and thorax. 2. Lateral view of male genitalia. 3. Ventral view of male genitalia.

Figs. 4-6. *Oliarus fuscoapicatus* n. sp. 4. Head and thorax. 5. Lateral view of male genitalia. 6. Ventral view of male genitalia.

Figs. 7. *Hemisphaerius stáli* Banks. Head and thorax.

##### Plate 2

Figs. 1-3. *Hemitricphora haglundi* Schouteden. 1. Head and thorax. 2. Lateral view of male genitalia. 3. Ventral view of male genitalia.

Figs. 4-6. *Gargara granulata* Funkhouser. 4. Lateral view of head, pronotum, and tegmen. 5. Lateral view of male genitalia. 6. Ventral view of male genitalia.

Figs. 7-10. *Antianthe boliviana* n. sp. 7. Lateral view of pronotum. 8. Facial view. 9. Lateral view of male genitalia. 10. Ventral view of male genitalia.