

STUDIES ON IDIOCERINE LEAFHOPPERS, IX. THREE NEW GENERA FROM THE EASTERN ORIENTAL REGION (Homoptera : Cicadellidae)

By J. Maldonado Capriles¹

Abstract : Three new genera of Idiocerinae leafhoppers, namely, *Philippocerus*, *Brachylorus*, and *Meroleucocerus* are herein described from the Philippine Islands, North Borneo, and Viet Nam respectively. All are monotypic and have an extensive whitish area on the clavus. The characters are illustrated and details are given about how to separate them from other idiocerine genera. The types of these genera are : *P. albipennis* new species, *B. leucoclavus* new species, and *M. punctipennis* new species respectively.

The material discussed below was kindly sent to me for study by Dr J. L. Gressitt, from Bernice P. Bishop Museum (BPBM), at Honolulu, Hawaii, where the type material is deposited. One paratype is in my collection (JMC).

A character of coloration that calls the attention of the student of leafhoppers is the presence of an extensive light-colored area, in the middle third of the clavus, that contrasts with the rest of the dark of the forewing. Examination of the genitalia of somewhat similarly colored species, such as the Philippine *Angusticella colorata* (Baker) and material from Viet Nam, the Philippine Islands, and North Borneo show that a number of genera share this striking design. This could be one more case of convergent evolution.

In the measurements that follow 30 micrometer units are equivalent to 1.0 mm. The term "face" is taken to mean the head from top of vertex to apex of anteclypeus and across the eyes.

Genus *Philippocerus* Maldonado Capriles, new genus

Head across eyes wider than pronotum. Vertex down to ocelli finely striated; other parts of head and pronotum shagreen. Vertex slightly longer on median through eyes. Upper extremities of postclypeus well defined and reaching inner margin of ocellus of same side; lateral margin of postclypeus curved from middle to base of anteclypeus, clypeus sloping laterally each side of median line to inner border of gena; clypeus and lora elevated above level of gena. Filament of antenna hair-like. Ocelli twice as far apart as distance from ocellus to compound eye. Anteclypeus bell-shaped, narrower basally than apically. Lorae semicircular. Vertex 4 (♀) to 6 (♂) times as wide as long. Pronotum with hind margin slightly and broadly concave; 2 (♂) to 3 (♀) times length of vertex. Scutellum slightly shorter than vertex and pronotum combined in male and slightly longer in ♀. Forewing (fig. 9) with one anteapical cell; four apicals, the first and fourth wider than second and third, the fourth the widest; second and third widening apically, each basally less than half as wide as widest part of fourth. Appendix reaching third apical cell. Hind tibia flattened, slightly curved; with 8 to 10 fine spines on outer-upper and inner-lower margins, 5 to 6 on outer-lower, and 25 to 30 hair-like

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spines on inner-upper margins. Hind femur with 1+2 spines at apex.

Mostly shiny pale brownish; face lighter, thorax laterally yellowish, with black mesopleura, with a conspicuous ivory-white area on middle third of clavus, otherwise without conspicuous ornamentation; veins of forewing inconspicuous; legs yellowish.

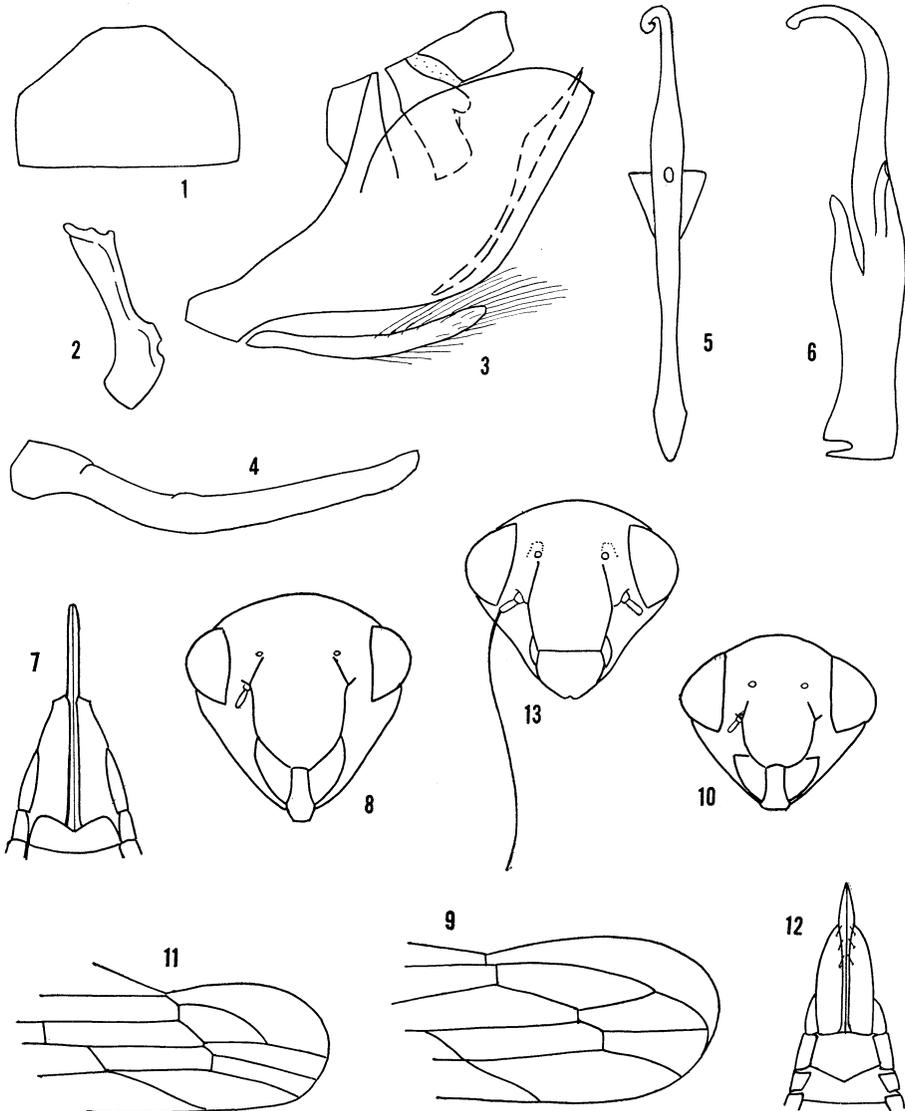


Fig. 1-9. *Philippocerus albipennis* n. sp.: 1, valve, ventral, ♂; 2, connective, lateral, ♂; 3, pygofer and plate, lateral, ♂; 4, style, lateral, ♂; 5, aedeagus, caudal, ♂; 6, aedeagus, lateral, ♂; 7, genital segments, ventral, ♀; 8, face, ♀; 9, apex of forewing, ♂. Fig. 10-12. *Meroleucocerus punctipennis* n. sp., ♀; 10, face; 11, apex of forewing; 12, genital segments, ♀. *Brachylorus leucoclavus* n. sp.: 13, face, ♂.

Male genitalia: Valve produced and truncate apically; aedeagus vertical, tubular, apically curved cephalad and slightly globose at tip; gonopore opening caudad slightly above midlength; socle short, reaching to midlength of aedeagus and widening laterally at apex; pygofer basically diamond-shaped, with a well defined dorsal vertical fold and a slender pointed apodeme along the apical margin reaching above upper margin, inner margin straight and smooth. Anal segment saddle-shaped, reaching below upper margin of pygofer. Plates spatulate, flattened laterally, unusually short for the subfamily, with long fine pilosity on upper margin. Styles nearly straight, smooth, of nearly same width throughout on lateral aspect. Connective cross-shaped.

Female genitalia: Seventh sternum short, with hind margin angularly concave; pygofer glabrous, truncate apically; ovipositor surpassing pygofers by about 3/4 their length.

Type-species: *Philippocerus albipennis* new species. The ethymology of *Philippocerus* is made up of Philippines and *cerus* (antenna), a common ending among the names of genera of the idiocerines.

This genus forms a group with some species of *Idiocerus*, *Paraidioscopus*, *Pedioscopus*, and *Balocha* as all have a striated vertex. Of these only *Paraidioscopus* and *Philippocerus* have one antepical cell in the forewing; they can be separated as follows:

1. With 2 spots each on vertex and pronotum; clavus concolorous; aedeagus straight, globose at base or long and slender with two long apical filaments **Paraidioscopus** Maldonado Capriles
- Without such spots; clavus with a large whitish area; aedeagus straight, but with curved apex, without appendages..... **Philippocerus** new genus

Philippocerus albipennis Maldonado Capriles, new species Fig. 1-9, 23.

♂. Overall coloration brownish. Vertex and pronotum brownish. Antennal pit black. Anteclypeus, gena, and lora, brownish, darker than rest of face. Each ocellus set in a small dark-brown spot. Legs and beak yellowish. Scutellum slightly lighter than pronotum, with a triangular dark-brown area near each basal angle, apex pale yellowish. Forewing brownish, transparent, same color as pronotum; clavus with middle third ivory-white (fig. 23); corium with basal half of costal margin brown, apical half narrowly yellow; other veins concolorous, inconspicuous. Thorax laterally and abdominal sterna yellow.

Vertex less than $4 \times$ as broad as long (32: 9), longer on median line than through eyes (9: 6), face as wide as long (54: 54). Pronotum $2.5 \times$ as wide as long (47: 19). Distance between ocelli slightly over twice that between an ocellus and an eye (16: 7). Scutellum wider than long (32: 25). Body length 5.7-5.8 mm.

Genitalia: As described for genus (fig. 1-6).

♀. General coloration as in male. Antennal pit black. Post- and anteclypeus laterally narrowly margined with black; anteclypeus darker than rest of face; lora brownish; gena light-brown and narrowly black along inner margin, black margins of gena and clypeus fused into a single stripe. Scutellum, thorax laterally, and legs, as in male. Forewing brownish, transparent, as in ♂.

Vertex 6 times wider than long (36: 6). Face slightly narrower than long (55: 57), 1.5 mm to base of anteclypeus. Distance between ocelli twice that between an ocellus and an eye (16: 8). Scutellum less than $1.5 \times$ as wide as long (36: 27); slightly longer than pronotum and vertex combined. Spines of hind leg as in ♂. Body length 5.8 mm.

♀ **genitalia:** As described for the genus, fig. 7.

Holotype ♂ (BISHOP 9749), from the Philippine Islands, Palawan, 3 km NE Tinabog,

8.V.1962, virgin forest, H. Holtman collector. Allotype ♀, in BPBM, same locality, 14.V. 1962. One ♂ paratype in JMC, same data as holotype.

Because of the extensive ivory-white area on the clavus this species has the general appearance of the species belonging to the other two genera described in this paper and to two of the species of *Angusticella*. As the new genera are monotypic, the species can be separated by their generic characters; the pedunculate apical cell of *Angusticella* separates its species from the new ones herein described.

Genus *Brachylorus* Maldonado Capriles, new genus

Head across eyes clearly wider than pronotum. Vertex shagreen; anterior and posterior margins parallel. Pronotum shagreen; about twice as broad as long, slightly longer than pronotum and vertex combined. Face wider than long; upper extremities of postclypeus well defined and reaching close to inner margin of ocelli, nearly vertical; lateral margin of postclypeus nearly straight; the postclypeus nearly as wide between ocelli as across anteclypeal suture (17: 16). Anteclypeus as long as wide basally, unusually wide, sides on frontal aspect angled at about midlength, apex narrow and slightly concave, in profile upper half level with surface of postclypeus and apical half depressed. Lorae small, barely visible near upper angles of anteclypeus. Distance between ocelli over three times that between an ocellus and an eye; ocellus set in a shallow quadrangular depression. Forewing without anteapical cells; with four apicals, the fourth about as wide as second and third together, second and third parallel-sided and of nearly the same width; first wider than second; appendix as wide as fourth apical, reaching to third apical. Spines at apex of metafemur 1+2. Spines on hind tibia: inner-upper edge with 30-35 short hair-like spines, 7 to 9 fine long spines along other three edges.

Overall coloration shiny brownish, with an ivory area on middle third of clavus. Brown of forewing deeper than that of rest of body above, face fading toward apex of anteclypeus which is nearly yellowish-stramineous; scutellum brownish, fading to yellow at apex. Forewing transparent, brownish, with an ivory area as described above, basal half of costal margin and most of outer anteapical cell opaque brown; veins somewhat reddish-brown, inconspicuous.

♂ *genitalia*: Valve semicircular; aedeagus flattened laterally, with slit-like gonopore opening apically, on lateral aspect broad and pointed apically toward head, with two long sharp appendixes arising from the rear of base of aedeagus (fig. 14); socle with a quadrangular frame-like base and two large curved spines above (fig. 18). Pygofer basically semicircular, with a dorsal median cleft, hemispherical upper caudal angle, and with microsetae apically. Plates moderately long, narrow and flat at base, with blade held on edge, hairy (fig. 16). Connective as in figure 15, with upper arm unusually long and V-shaped on frontal aspect, on lateral aspect long S-shaped. Styles upcurved on lateral aspect, base flattened laterally, apophysis keeled at midlength and somewhat capitate apically.

♀ unknown.

Type-species: *Brachylorus leuoclavus* new species.

The name of the genus makes reference to the short and narrow lorae. It can be easily separated from other idiocerines by the broad anteclypeus, the nearly rectangular postclypeus, the curved and small lorae, and the unique genitalia. The slightly curved suprantennal ledge and broad anteclypeus makes its face bear resemblance to the otherwise different *Iposcopus* Baker that has one anteapical cell and a postclypeus which is not quadrangular. Other genera with an anteclypeus which is quadrangular or wide at base are *Austrocerus* Evans 1941, *Idiocerella* Evans 1941, *Angusticella* Maldonado Capriles,

1972, *Iposcopus* Baker 1915, and *Busonia* Distant 1908. In these the anteclypeus is much narrower than the distance between the ocelli, and all, except two species of *Angusticella*, lack an extensive whitish area on the clavus. *Angusticella* has a forked apical cell.

***Brachylorus leuoclavus* Maldonado Capriles, new species** Fig. 13-20.

♂. Vertex, pronotum, and scutellum light-brown, lighter than forewings. Face gradually fading toward apex of anteclypeus that is yellow-stramineous. Lora, gena, beak, thorax laterally, and legs yellow-stramineous. Scutellum with a brownish triangular area near each basal angle and yellow at tip. Forewings brownish, shiny, transparent; most of corium with a brownish tinge that is deeper than the color of the pronotum; clavus ivory-yellowish on middle third; costal and basal half of subcostal cells opaque dark-brown; veins reddish-brown, inconspicuous; as in figure 20.

Vertex over $4 \times$ as broad as long (35 : 8); pronotum about $2.5 \times$ as wide as long (46 : 18); face slightly wider than long (50 : 48). Scutellum wider than long (33 : 26). Body length 5.8 mm.

Genitalia as in fig. 14 to 18.

Holotype ♂ (BISHOP 9750), from British North Borneo, Tenompok, 1460 m, Jesselton, 48 km E, 17-18.X.1958, T. Maa collector. The trivial name makes reference to the white area on the clavus. Can be separated from other species with extensive white on clavus by its generic characters.

Genus *Meroleucocerus* Maldonado Capriles, new genus

Vertex, pronotum, and scutellum shagreen. Head across eyes wider than pronotum. Anterior and posterior margins parallel. Upper extremities of postclypeus not reaching ocellus of same side, somewhat obsolete; lateral margin of postclypeus roundly angled at about midlength to base of anteclypeus. Anteclypeus laterally concave, base convex and slightly narrower than convex apical margin. Lora semicircular, level with clypeus and gena. Vertex $7 \times$ as wide as long. Pronotum with hind margin broadly and shallowly concave, about $2.5 \times$ as wide as long. Scutellum as long as pronotum and vertex combined. Forewing (fig. 11) with 4 apical cells, the fourth or outer the widest; second and third near parallel-sided, both about half as wide as fourth; the first short, reaching to midlength of second, as wide as second and third together; appendix broad, reaching to inner angle of second apical cell; two antepical cells, their bases barely visible; a row of punctures each side of all veins and cross-veins; most of subcostal cell and basal angle of clavus with abundant fine punctures. Apex of hind femur with 1+1 apical spines; hind tibia flattened, slightly curved; with 6 to 7 spines on outer-upper and inner-lower edges, 27 to 30 hair-like short spines on inner-upper, and outer-lower edge with 6 strong spines each arising from a well developed base that is spined apically (fig. 21).

♀ *genitalia*: Seventh sternum with apical margin slightly convex and $2 \times$ as long as sixth; pygofer acute, apically with 3 fine spines along inner margin near apex; ovipositor surpassing pygofer by $1/2$ their length (fig. 12).

Vertex and most of pronotum cream-white; scutellum pale-stramineous, with a triangular brownish area near each basal angle and a median two-pronged spot; forewing brownish, transparent, with conspicuous ivory-white area on clavus (fig. 22); corium uniformly colored except for outer apical cell that has a yellowish or whitish tinge. Genital capsule light-brown, yellowish along ovipositor. Abdominal sterna and thorax laterally yellow. Legs pale yellowish.

Type-species: *Meroleucocerus punctipennis* new species.

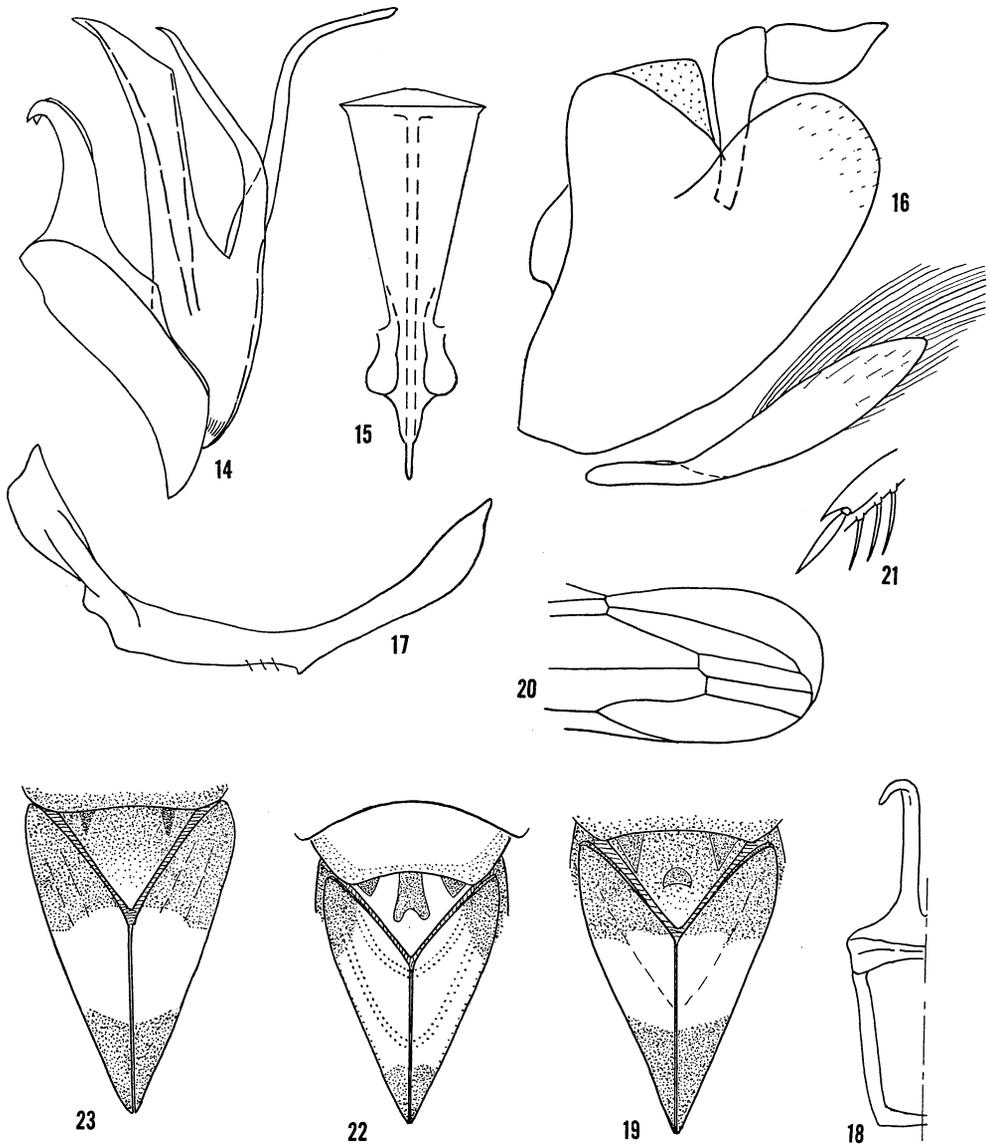


Fig. 14-20. *Brachylorus leucoclavus* n. sp.: 14, aedeagus, lateral, ♂; 15, connective, caudal, ♂; 16, pygofer and plate, lateral, ♂; 17, style, lateral, ♂; 18, socle, anterior, ♂; 19, scutellum and clavus, ♂; 20, apex of forewing, ♀. Fig. 21-22. *Meroleucoce- rus punctipennis* n. sp.: 21, detail of spines of metatibia, ♀; 22, pronotum, scutellum, and clavus, ♀. *Philippocerus albipennis* n. sp.: 23, scutellum and clavus, ♂.

The double row of punctures along all veins, the extensive whitish area on the clavus, the whitish vertex, pronotum, and scutellum, and the strong spines on hind tibia are characters not shared with other idiocerines with 4 apical cells, two anteapical cells, and a shagreen vertex. The name of the genus makes reference to the fact that the body (*mero*) is part white (*leuco*), and *cerus* (antenna) a commonly used ending in the name of several genera in the Idiocerinae.

Meroleucocerus punctipennis Maldonado Capriles, new species Fig. 10-12, 21-22.

♀. Vertex yellowish- or cream-white. Face, anteclypeus, lora, gena, beak apically, abdominal sterna, and legs cream-yellow, slightly more yellowish than vertex. Pronotum cream-white as vertex, lateral and caudal margins narrowly brownish. Scutellum stramineous, each basal angle with a triangular and a median forked brownish spot (fig. 22). Antennal pit black; first segment of beak and tarsi, grayish. Forewing translucent, with a brownish tinge; clavus with basal and apical angles brown, in between, ivory-white; corium uniformly colored except for outer apical cell that has a yellowish or whitish tinge. Genital capsule light-brown.

Vertex seven times as wide as long (28: 4). Pronotum about $2.5 \times$ as wide as long (41: 17). Scutellum $1.5 \times$ as wide as long (31: 21). Face wider than long (48: 44). Length 4.6 mm.

♀ genitalia as in fig. 12.

Holotype ♀ (BISHOP 9751), Viet Nam, Dalat, 6 km S, 1400-1500 m, 9.VI. to 7.VII. 1961, N. R. Spencer, collector. Paratype ♀, same data, in JMC.

The striking whitish coloration on the head, pronotum, scutellum, and most of clavus which contrasts with the rest of the dark forewing, in addition to the generic characters, especially the row of fine punctures along all veins, separates this species from all other idiocerines. The trivial name makes reference to the rows of fine punctures on the forewing.