

STUDIES ON IDIOCERINAE LEAFHOPPERS

XV. *Busonia* Distant and an allied new genus from the Oriental Region (Cicadellidae: Idiocerinae)¹By J. Maldonado Capriles²

Abstract: The genus *Busonia* is keyed and 5 species are described as new. Allied to *Busonia* is *Busoniomimus*, n. gen. Assigned to it are *Busoniomimus minor* (Bierman, 1908) (type-species) and *Busoniomimus mindanaensis* (Baker, 1915), new combinations.

The genus *Busonia* Distant, 1908 includes small leafhoppers distinguished by their brown or brownish color, the dark brown costal cell, the large hyaline outer apical cell, the absence of upper lateral sutures of the frons, and the very broad anteclypeus. A paratype of *Busonia amentata* Distant, the type of the genus, was kindly loaned to me by Dr J. W. Knight from the British Museum (Natural History) (BMNH). *Busonia scutellaris* Baker, from the Philippine Islands, agrees in generic characters with *B. amentata*. Among material belonging to Bishop Museum (BISHOP) and Leiden Museum (LM) I have found 5 new species and these are described below. A key to these species is given below. The type of *Busonia insularis* Schmidt was not located for me in the Genoa Museum and it is not included in the key, as the original description is insufficient for this purpose. Examination of the type of *Busonia minor* Bierman and specimens of *Busonia mindanaensis* Baker show that these belong in a separate well-defined genus herein described as new.

For a complete bibliography of the old species see Metcalf (1966). The types are deposited in BISHOP, LM, the United States National Museum (USNM), and in my collection (JMC). In the measurements that follow, 25 micrometer units are equivalent to 1.0 mm.

GENUS *Busoniomimus* Maldonado, new genus

Busonia Distant, 1908, synonym (in part).

Vertex finely striate, other parts of head and pronotum shagreen. Upper extremities of postclypeus absent; lower lateral margins of postclypeus slightly curved and continuous with the supraantennal ridge. Anteclypeus narrow, sides concave, slightly wider apically than basally. Ocelli as near to eyes as to median line. Lora flat, level with gena, relatively small, semicircular. Face about as wide as long. Filament of antenna hair-like. Vertex short, broad, 4-5 × as wide as long medianly, anterior and posterior margins parallel or vertex very slightly longer medianly than next to eye. Pronotum about 2-1/4 × as wide as long, sides short. Scutellum shorter than pronotum and vertex together. Forewings coarsely pitted along veins of clavus and most of corium; veins distinct; 4 apical cells, the outer the widest, 2nd parallel-sided, 3rd wider apically than basally, 4th wider than either 2nd or 3rd; 1 subapical cell (FIG. 10). Hind tibia with 3

1. Results of research supported in part by a grant to Bishop Museum from the National Institutes of Health (AI-01723).
2. Department of Biology, University of Puerto Rico, Mayagüez, Puerto Rico 00708.

margins with long fine spines and the upper inner margin with abundant hair-like spines. ♂ and ♀ with the same basic color pattern; head, pronotum, and scutellum brown or brownish, scutellum with apex whitish; costal cell dark brown, outer apical cell mostly hyaline, others with a brownish tinge; abdominal sterna yellowish or brownish. Length 2.5–3.0 mm. *Genitalia*: ♂: aedeagus straight, vertical, slightly expanded basally on caudal view, with a well-developed, laterally-flattened socle (FIG. 1); pygofer elongate, horizontal, with a triangular keel-like projection at about midlength of lower margin, with 2 apodemes: a 2-pronged one near apex and arising from the upper margin, and another one long, slender, spear-like, along lower margin with sharp apex slightly surpassing apex of pygofer (FIG. 7); styles with apex of apophysis curved outwardly and upwardly; connective elongate (FIG. 2, 3); plates spatulate, long, hairy along most of upper margin and on apical 1/2 of lower margin; valve semicircular; ♀: 7th sternum rectangular; ovipositor slightly surpassing apex of pygofers and barely reaching apical cells.

TYPE-SPECIES OF GENUS: *Idiocerus minor* Bierman, 1908.

Busoniomimus means "mimic of *Busonia*." These 2 genera are the only idiocerines without upper extremities of the postclypeus. They can be separated as follows:

1. Vertex finely striate; veins of clavus and corium punctate along both margins; anteclypeus bell-shaped, narrow.....**Busoniomimus**, n. gen.
Vertex shagreen; veins of clavus and corium not punctate; anteclypeus broad, wider basally than apically**Busonia** Distant

Busoniomimus minor (Bierman, 1908), new combination FIG. 1–7

Idiocerus minor Bierman, 1908: 165.

Busonia minor: Baker, 1915: 327.

♂. Vertex, pronotum, scutellum to transverse suture on disc straw colored. Vitreous area well developed; face gradually darkening to brownish to base of postclypeus. Anteclypeus and broad margin of gena brownish; remaining area of gena dark brown; lora slightly darker than anteclypeus, much lighter than dark area of gena. Forewing, including costal margin light straw colored; costal cell dark brown, apex with a brownish tinge. Pleurae blackish. Vertex about $3 \times$ as wide as long (19:6). Face across eyes about as long as wide (30.5:30). Ocelli equidistant from eye and median line (4:4). Lateral margin of postclypeus angled at about midlength. Pronotum $2.3 \times$ as wide as long (28:12), posterior margin nearly straight. Scutellum wider than long (19:13). Forewing venation also as in FIG. 10. Length 3.1 mm. *Genitalia* as in FIG. 1–7.

MATERIAL EXAMINED. Type ♂, INDONESIA: Java: Semdang, E. Jacobson, Dr D. MacGillavry (LM).

Chances are that *B. minor* and *B. mindanaensis* are just extremes of an extensive population or they could be incipient species. Except for minor differences in the shape of the anteclypeus, genitalia, and especially in size, the specimens at hand are very much alike. The forewing of *B. mindanaensis* has a golden tinge while that of *B. minor* is pale brown.

Busoniomimus mindanaensis (Baker), new combination FIG. 8–11

Busonia mindanaensis Baker, 1915: 328.

♂. Overall color pale brownish. Gena black; meso- and metapleurae black; scutellum brownish; legs pale straw colored; forewing pale golden brown, costa blackish brown, this color extending to base of 1st apical cell which thence is hyaline to near apex, apex smokey. Abdominal sterna yellowish, terga blackish; last ventral segment and genital capsule brownish. Vertex $3.5 \times$ as wide as long medianly

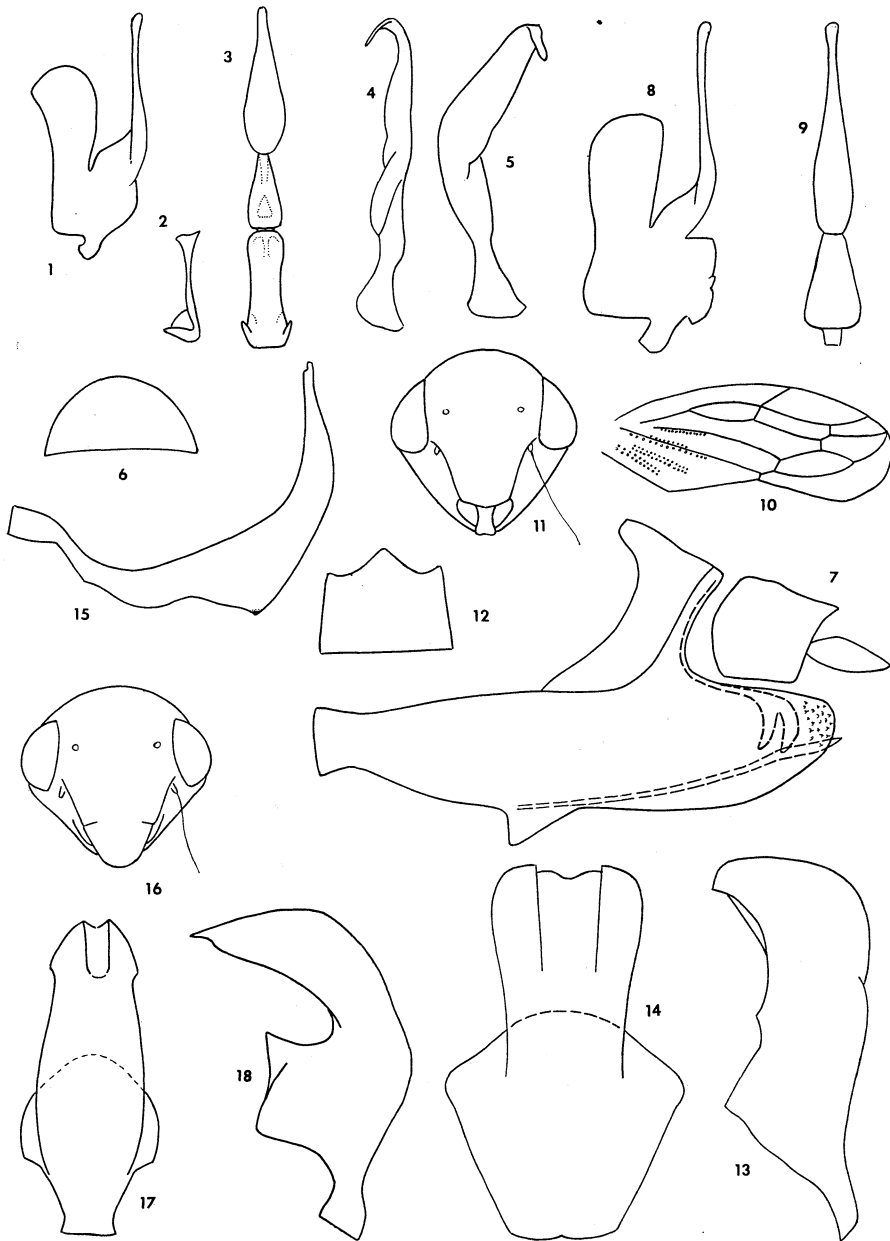


FIG. 1-18. *Busoniomimus minor* (Bierman), ♂: 1, aedeagus, lateral; 2, connective, lateral; 3, aedeagus and connective, caudal; 4, style, dorsal; 5, style, lateral; 6, valve; 7, genital capsule, lateral. *Busoniomimus mindanaensis* (Baker), ♂: 8, aedeagus, lateral; 9, aedeagus, caudal; 10, forewing; 11, face. *Busonia amentata* Distant: 12, seventh sternum, ♀; 13, aedeagus, lateral, ♂; 14, aedeagus, caudal, ♂; *Busonia scutellaris* Baker, ♂: 15, style, lateral; 16, face; 17, aedeagus, caudal; 18, aedeagus, lateral.

(18:5), slightly longer medianly than next to eye (4.5:3.5). Face as wide across eyes as long (32:32), ocelli as close to eyes as to median line (5:5); distance between ocelli $2.5 \times$ the width of anteclypeus basally; supraantennal ridge reaching eye; frontoclypeal suture distinct; lateral margin of postclypeus angled at about midlength as in FIG. 11. Anteclypeus $2 \times$ as long as wide (8:4.5), slightly wider apically than basally (5.5:4.5). Lora short, broad. Pronotum $2.1 \times$ as wide as long (28.5:13), posterior margin very slightly concave. Scutellum as long as pronotum and $1/3$ of vertex together, $1.3 \times$ as wide as long (20:15), finely transversely rugose near apex. Forewing as described for genus, FIG. 10; pits more numerous and conspicuous on clavus and base of corium. Length 3.3 mm. Genitalia as in FIG. 8-9.

MATERIAL EXAMINED. PHILIPPINE IS: Mindanao: 2 ♂♂, Dapitan, Baker, (USNM, JMC); Palawan: 4 ♂♂, NE Tinabog (JMC, BISHOP); 1, Zamboanga del Norte, 9.6 km E of Sindangan (BISHOP).

GENUS *Busonia* Distant, 1908

Busonia Distant, 1908: 198.

Head and pronotum shagreen. Upper extremities of postclypeus absent; the lower lateral margin straight to just above antenna. Anteclypeus broad basally, sides nearly straight and tapering to round apex, wider than long. Face across eyes as long as broad or slightly broader than long. Lora small, semicircular, level with gena. Filament of antenna hair-like. Ocelli about $2.5 \times$ apart from median line than to eyes. Vertex $3.5-5 \times$ as broad as long, very slightly longer medianly than close to eyes. Pronotum about $1.5 \times$ as long as vertex, its hind margin slightly concave. Scutellum about as long or longer than pronotum and vertex together, subapically, transversely, and sublaterally impressed. Posterior femur with $1 + 2$ spines; posterior tibia with 3 rows of 5-7 spines and inner upper edge with many hair-like spines. Forewing with 4 apical and no subapical cells; outer apical the widest, others as in FIG. 27, apex truncate. ♂ and ♀ with same basic color pattern: head and pronotum brown, brownish or yellowish; scutellum brownish with a triangular brown spot near each basal angle, apex more or less ivory or yellowish; costal cell brown, except in *B. scutellaris*, brown of costal cell extending into adjacent discal and slightly into base of outer apical cells, basal $1/2$ of outer apical cell hyaline, apically more or less tinged with brown, veins usually brown and well defined; abdominal sterna yellowish or brownish. Genitalia: ♂: aedeagus vertical, thick, apex curved cephalad, and with the appearance of a 2-barreled gun, broad; base broad in front; pygofer deeper than long, with a hook-shaped apodeme near upper caudal angle; style with apophysis keeled near base, apically slender and curved upward and outward; plates slender; valve produced medianly; ♀: 7th sternum with a small median projection on caudal margin, quite similar in the different species; ovipositor slightly surpassing pygofers and reaching slightly beyond apex of clavus. Length 2.5-4.0 mm.

TYPE-SPECIES OF GENUS: *Busonia amentata* Distant, 1908.

KEY TO THE SPECIES OF *Busonia*

1. Vertex and most of pronotum yellowish or yellowish white.....2
Vertex and/or pronotum brownish; lateral margins of pronotum sometimes yellowish.....3
2. Pronotum with lateral and caudal margins narrowly brownish; scutellum golden brown discally (FIG. 23) **javanensis**, n. sp.
Pronotum dark brown behind eyes; scutellum yellowish white discally (FIG. 31); ♀..... **dorsalis**, n. sp.
3. Face, from level of antennae to apex of anteclypeus whitish, above level of antennae brown..... **amentata**
Face unicolorous or fading or darkening towards anteclypeus.....4
4. Forewing, except for brown costal and hyaline outer apical cell, brownish, veins inconspicuous;
scutellum with apical $1/2$ yellow-white; aedeagus as in FIG. 17-18..... **scutellaris**
Forewing, except for brown costal cell, mostly hyaline, veins brown and conspicuous; scutellum

- similar or different5
5. Lateral margins of scutellum narrowly yellowish from base to apex, apical 1/2 of scutellum sometimes totally yellow (FIG. 42).....6
- Margins of brownish scutellum yellowish along apical 1/2 only or apical 1/2 totally yellowish (FIG. 30)7
6. Pronotum with lateral margins yellowish; scutellum and aedeagus as in FIG. 38-39, 42.....
 **albilateralis**, n. sp.
- Pronotum unicolorous; scutellum and aedeagus as in FIG. 44-45, 47. **thai**, n. sp.
7. Face grayish above and fading to whitish on postclypeus; abdominal sterna yellow; aedeagus as in FIG. 25, 26..... **dorsalis**, n. sp.
- Face brownish; abdominal sterna light-brown, with preapical brown narrow band, and yellow apical margin; aedeagus as in FIG. 32, 33..... **apicalis**, n. sp.

Busonia amentata Distant, 1908

FIG. 12-13

Busonia amentata Distant, 1908: 199.

Redescription of ♀ paratype: Vertex, frons down to level of antennae, pronotum, and scutellum basally ochraceous; scutellum laterally and from discal depression to apex, legs, thorax laterally, and face from level of antennae to apex of anteclypeus yellowish white or pale stramineous. Abdominal sterna yellowish; genital capsule brown. Forewing as described for genus. Vertex nearly 4 × as wide as long (19: 5), slightly longer medianly than next to eye (5: 4.5). Face across eyes wider than long (33: 28). Ocelli much closer to eyes than to median line (3: 7). Anteclypeus at base slightly narrower than intercellular space (11: 14), sides slightly convex and tapering to apex. Genae and forewing as for genus. Pronotum 3 × as wide as long (32: 11). Scutellum about 1.5 × as wide as long (26: 19). *Length* 2.5 mm. 7th sternum produced medianly, as in FIG. 12.

♂. Head, face, pleurae, and thoracic and abdominal sterna, as in ♀. Pronotum very dark brown. Scutellum of same shade of brown as vertex, a yellow spot on each lateral margin of scutellum about level of transverse suture apically. Margin of clavus and costal margin dark brown; clavus, remaining parts of corium, and inner 3 apical cells uniformly tinged with light brown; hyaline area on costal margin as for genus. Vertex nearly 3 × as wide as long (17: 6), slightly longer medianly than next to eye (6: 5). Head nearly as wide as long (33: 32). Distance between ocelli 14, from ocellus to eye 2. Anteclypeus as wide as long (10: 10). *Length* 3.5 mm. Aedeagus as in FIG. 13, 14. Scutellum longer than pronotum and vertex combined (18: 16).

From Sandakan, Borneo, in the USNM. I hesitate to call this specimen the male allotype because, even though the female from Borneo is quite similar to the studied paratype, there is the chance of mixing 2 species. I think the allotype should also be described from the type locality.

The 1/2-and-1/2 coloration of the face of both sexes is unique. The very dark pronotum of the male also easily separates this species from all others.

MATERIAL EXAMINED. BURMA: paratype ♀, Tenasserim, Myitta. THAILAND (C): 1 ♀, Pakchong, NE of Bangkok, 110 m, XII.1957, J. L. Gressitt (BISHOP). BORNEO (SABAH): 1 ♀, Sandakan, Baker (USNM); 1 ♀, same data, but with the apex of scutellum also ochraceous (JMC).

Busonia scutellaris Baker, 1915

FIG. 15-18

Busonia scutellaris Baker, 1915: 327.

♂. Pronotum and vertex pale brown; frons darkening to blackish brown on anteclypeus, genae, and

lorae as in FIG. 16. Ocelli set in black dot. Scutellum with brown triangular area near each basal angle, basal 1/2 brownish, apical 1/2 yellow. Legs, meso- and metapleurae, abdominal sterna, and genitalia yellow. Forewing with costal cell and outer apical as described for genus, the remaining areas brown and the veins inconspicuous. Vertex about $5 \times$ as wide as long (21:4.7), slightly longer medianly than next to eye (4.7:4). Face about as long as wide (34:35); distance between ocelli 13, from ocellus to eye 2.5; distance between ocelli $1.3 \times$ the width of anteclypeus at base (13:10). Supraantennal ledge not quite reaching eye; lateral margin of postclypeus straight. Anteclypeus wider than long (10:6), shaped as described for genus. Pronotum $2.7 \times$ as wide as long (34:12), posterior margin slightly angularly concave. Scutellum as long as pronotum and 1/2 of vertex combined, over $1.5 \times$ wider than long (26:15). *Length* 3.5 mm. *Genitalia* as in FIG. 15, 17, 18.

The brown color of the forewing and inconspicuous veins distinguish this species from all others that contrastingly have mostly hyaline forewings and brown veins.

MATERIAL EXAMINED. PHILIPPINE IS: 2, Luzon: Mt Makiling, Baker; Mindanao: Surigao, Baker, (USNM); 1, Camarines Sur: Mt Iriga, 500–600 m, (BISHOP).

***Busonia javanensis* Maldonado, new species** FIG. 19–23

♂. Vertex yellowish; pronotum yellowish, margined laterally and caudally with light brown (FIG. 23); face gradually darkening to brownish to apex of postclypeus; lateral margin of postclypeus narrowly brown. Ocelli set in black dot. Lora yellowish. Gena brownish. Scutellum brown to transverse suture, a slightly darker triangular spot near each basal angle; from transverse suture to apex yellow, with a round brown spot on discal area, as in FIG. 23. Pleural sclerites brown with yellow margins. Forewing as described for genus. Legs straw colored, abdominal sterna yellow. Vertex nearly $4 \times$ as wide as long (19:5), slightly longer medianly than next to eye (5:4.5). Pronotum $3.5 \times$ as wide as long (38:11), posterior margin very slightly concave. Anteclypeus slightly narrower at base than distance between ocelli (14:15); distance from ocellus to eye 2.5. *Genitalia* as in FIG. 19–22. *Length* 4.3 mm.

Holotype ♂ (LM), INDONESIA: Java: Mt Gedeh, Tjibodas, 1450 m, 30.XI.1954, J. v. d. Vecht.

The yellow color and brown margins of the pronotum distinguish this species from all others.

***Busonia dorsalis* Maldonado, new species** FIG. 24–31

♂. Vertex grayish; face rapidly fading from gray at vertex to whitish on postclypeus, anteclypeus, and lora. Gena brownish. Pleurae brown. Pronotum chestnut brown. Scutellum from base to transverse suture brown, with a triangular chestnut brown area near each lateral angle, remaining area greenish white (FIG. 30). Forewing with coloration as for genus but with a deeper brown design. Abdominal sterna yellow; genital capsule brownish. Vertex about $4 \times$ as wide as long (21:5), slightly longer medianly than next to eye (5:4.5). Face across eyes slightly longer than wide (33:32). Distance between ocelli 14, from ocellus to eye 2. Pronotum $3.5 \times$ as wide as long (31:9). Scutellum wider than long (24:18). *Length* 3.5 mm. *Genitalia* as in FIG. 25–26, 28–29.

♀. Vertex, except behind eyes, frons, anteclypeus, lora, pronotum behind vertex, scutellum except on basal angles, and all but last abdominal sterna yellow or greenish yellow. Vertex behind eyes, pronotum behind eyes, and basal angles of scutellum dark brown (FIG. 31). Forewing as for genus, narrowly brown each side of brown veins thus giving the impression that veins are much thicker than in other species. Legs straw colored. Abdominal terga brown with narrow yellowish margins. Apical 1/2 of 7th sternum and genital capsule brown. Vertex $5 \times$ as wide as long (21:4), slightly longer medianly than next to eye (4:3.5). Head as long as wide (33:33). Distance between ocelli 13, from ocellus to eye 3. Anteclypeus wider at base than long (10:8). Pronotum about $4 \times$ as wide as long (33:8). Scutellum wider than long (26:20). Genital segments as in FIG. 24. *Length* 3.8 mm.

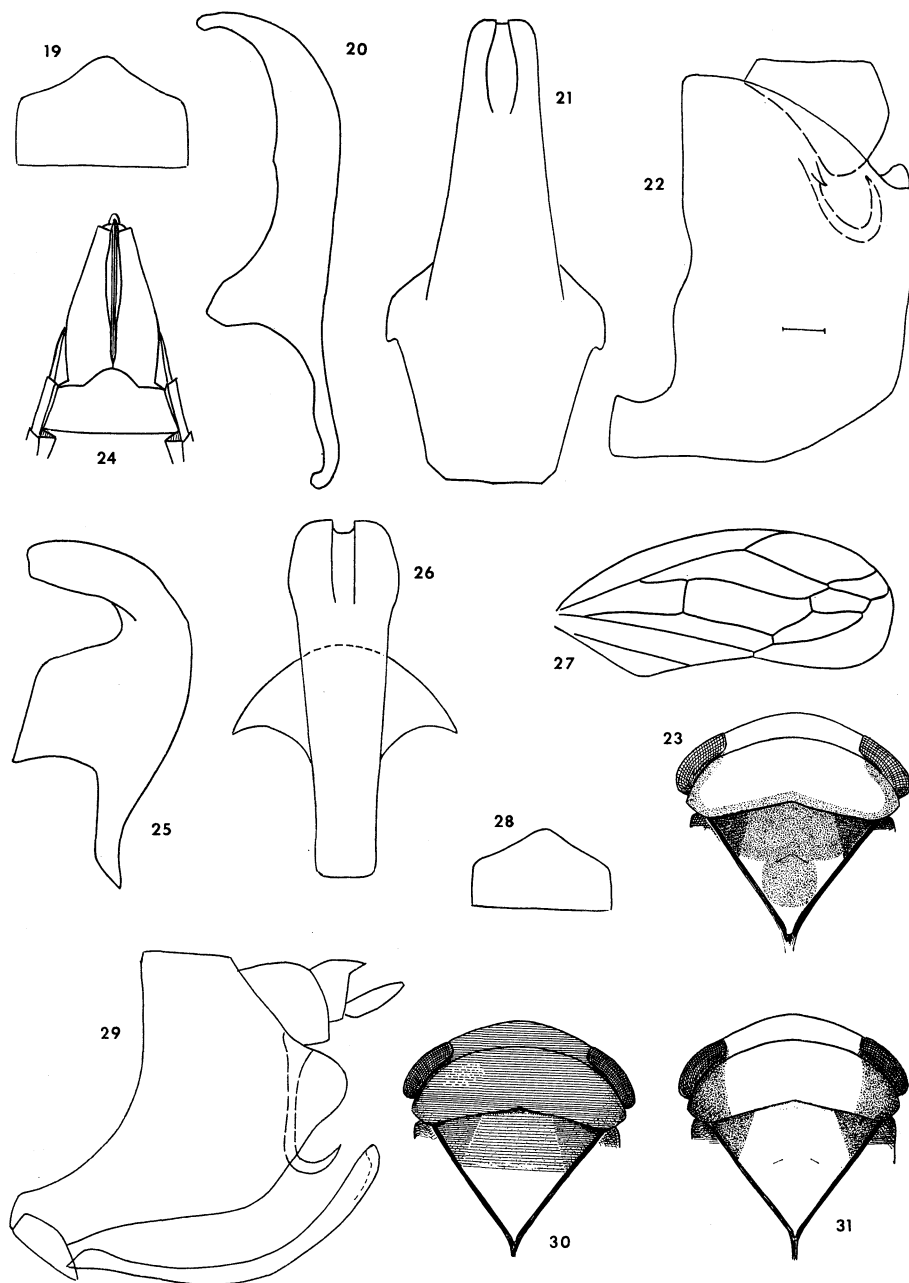


FIG. 19-31. *Busonia javanensis*, n. sp., ♂: 19, valve; 20, aedeagus, lateral; 21, aedeagus, caudal; 22, pygofer, lateral; 23, head, pronotum, scutellum. *Busonia dorsalis*, n. sp.: 24, ♀ genitalia, ventral; 25, aedeagus, ♂, lateral; 26, aedeagus, ♂, caudal; 27, forewing, ♂; 28, valve, ♂; 29, genital capsule, ♂, lateral; 30, head, pronotum, scutellum, ♂; 31, head, pronotum, scutellum, ♀.

Holotype ♂ (BISHOP 10,635), VIETNAM: Fyan, 1200 m, 11.VII-9.VIII.1961, N. R. Spencer (BISHOP); allotype ♀ (BISHOP), same data as holotype; paratypes: 8, Fyan, 900-1200 m; 1, Blao (Balao), 500 m; 1, Dalat, 1500 m; (2 ♂♂ JMC; 1 ♀ USNM, others BISHOP).

This is the only species showing such marked sexual dimorphism as shown in FIG. 30, 31; therefore, it runs to 2 places in the key.

Busonia apicalis Maldonado, new species FIG. 32-34

♂. Head, pronotum, and scutellum to discal suture brownish. Triangular spot near each basal angle of scutellum dark brown, area between these spots brownish to transverse depression; from depression to apex yellowish white. Forewing as described for genus. Abdominal sterna light brown, a preapical brown transverse narrow band and apical margin narrowly yellow. Valve yellow-brown and pygofer brownish. Vertex $5 \times$ as wide as long (25:5), slightly longer medianly than next to eye (5:4.5). Face slightly wider than long (37:34). Distance between ocelli 15, from ocellus to eye 2.5. Anteclypeus wider basally than long (11:8). Pronotum about $3 \times$ as wide as long (35:12). Scutellum wider than long (25:19). *Genitalia* as in FIG. 32-34. *Length* 4.0 mm.

♀. Colored as ♂, face paler; scutellum with brown between triangular areas extending beyond transverse depression in a semicircular area, thus only the lateral margins of apex yellowish white; abdominal sterna brownish. Vertex $4.5 \times$ as wide as long (23:5), parallel sided. Face slightly wider than long (37:36). Distance between ocelli 17, from ocellus to eye 2. Anteclypeus nearly $2 \times$ wider than long (13:7). Pronotum about $3 \times$ as wide as long (37:12). Scutellum wider than long (29:21). 7th sternum produced caudally. *Length* 4.1 mm.

Holotype ♂ (BISHOP 10,636), BORNEO (SABAH): Ranau, 22-25.II.1959, T. C. Maa, (BISHOP); allotype ♀ (BISHOP), same data as holotype; paratype ♂, same data as preceding (USNM).

Busonia albilateralis Maldonado, new species FIG. 35-42

♂. Face, vertex, and most of pronotum brownish or face paler, genae, lorae, triangular spot near basal angle of scutellum, small area on basal angle of clavus, and costal area dark brown. Lateral margins of scutellum yellow, lateral margins of pronotum yellowish (FIG. 42). Legs straw colored. Abdominal sterna pale brown with yellow margins; abdominal terga and genital capsule colored as sterna or darker brown. Vertex slightly over $5 \times$ as wide as long (22:4), slightly longer medianly than next to eye (4:3.5). Face as long as wide (36:36); distance between ocelli 15, from ocellus to eye 2.5. Anteclypeus much wider than long (14:8). Pronotum $3.5 \times$ as wide as long (36:10), posterior margin shallowly angularly concave. Scutellum longer than pronotum and vertex combined, wider than long (31:25). *Genitalia* as in FIG. 35-41. *Length* 3.9-4.0 mm.

♀. Colored as ♂ or with anteclypeus, lora, and gena of same color as face. Vertex about $4 \times$ as wide as long (25:6), slightly longer medianly than next to eye (6:5.5). Face about as wide as long (42:41); distance between ocelli 16, from ocellus to eye 3. Pronotum slightly over $2.5 \times$ as wide as long (43:16). Scutellum about as long as pronotum and vertex combined, $1.5 \times$ as wide as long (35:22). 7th sternum produced medianly. *Length* 4.3-4.5 mm.

Holotype ♂ (BISHOP 10,637), VIETNAM: Mt Lang Bian, 1500-200 m, 19.V.-8.VI. 1961, N. R. Spencer (BISHOP); allotype ♀ (BISHOP), same data as holotype; 106 paratypes from various localities in Vietnam (4 ♂♂ JMC; 4 ♀♀ (1 no abdomen) USNM, others BISHOP).

This species is in a group with *B. thai*, n. sp. as both have the lateral margins of the

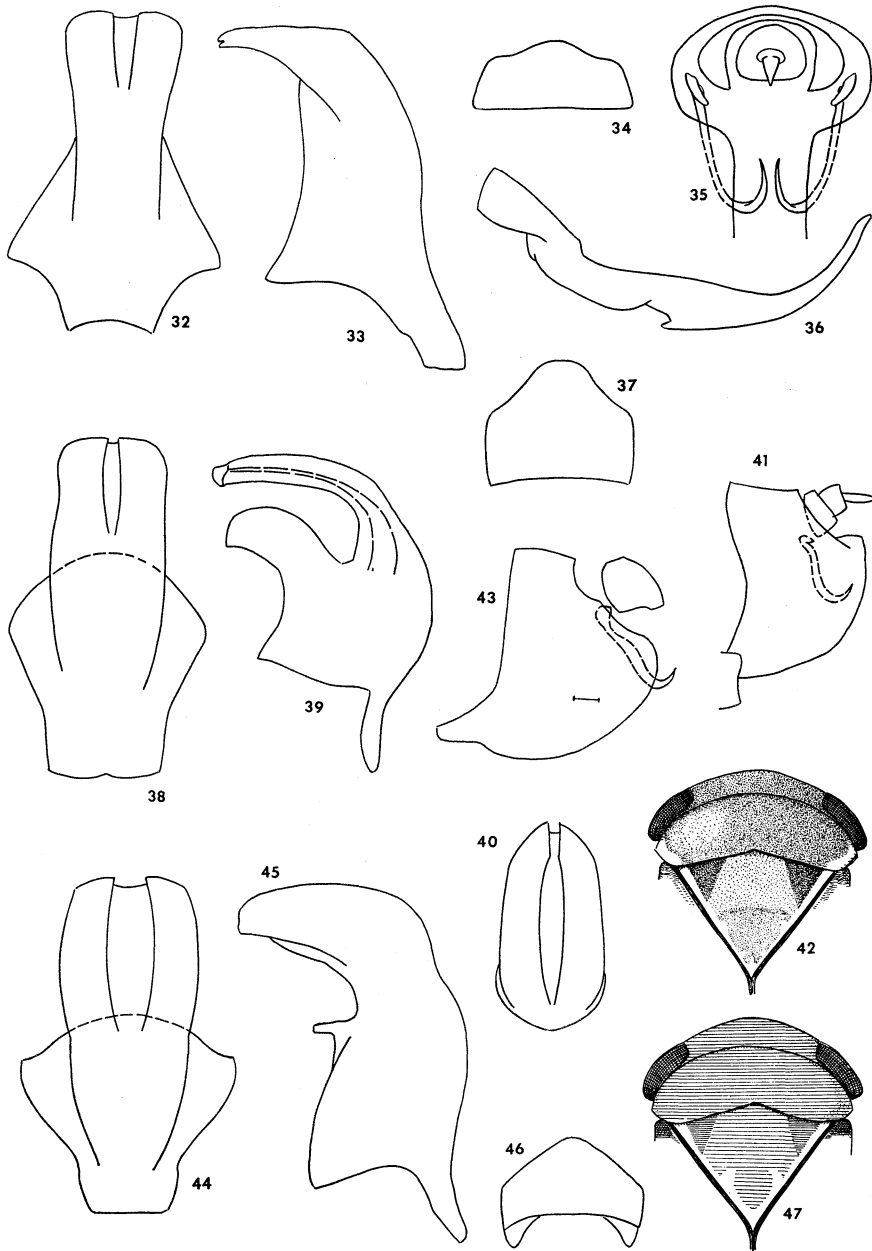


FIG. 32-47. *Busonia apicalis*, n. sp., ♂: 32, aedeagus, caudal; 33, aedeagus, lateral; 34, valve. *Busonia albilateralis*, n. sp., ♂: 35, upper extremity of genital capsule, caudal; 36, style, lateral; 37, valve; 38, aedeagus, caudal; 39, aedeagus, lateral; 40, apex of aedeagus, dorsal; 41, genital capsule, lateral; 42, head, pronotum, scutellum. *Busonia thai*, n. sp., ♂: 43, genital capsule, lateral; 44, aedeagus, caudal; 45, aedeagus, lateral; 46, valve; 47, head, pronotum, scutellum.

scutellum yellowish. See also discussion under *B. insularis* Schmidt. Two forms occur: the most common has the brownish color of the disk of the scutellum extending almost to the apex (FIG. 42); the other has the area from the transverse depression of the scutellum to the apex yellow. The aedeagi of these forms are identical.

Busonia thai Maldonado, new species FIG. 43-47

♂. Face and vertex straw colored, ocellus set or not in a dark dot. Gena, lora, and anteclypeus brownish, anteclypeus somewhat lighter on anteclypeal suture and apex. Pronotum lighter brown than gena (FIG. 47). Scutellum with brown triangular spot near each basal angle; area between these to near apex brownish, slightly lighter than pronotum; lateral margins yellowish white. Mesopleura brown. Legs including coxae light straw colored, lighter than face. Forewing coloration as for genus. Abdominal sterna light brown with yellow apical margin. Vertex about $4 \times$ as wide as long (22:5), slightly longer medianly than next to eye (5.5:4). Face slightly longer than wide (40:37); distance between ocelli 15, from ocellus to eye 2.5; anteclypeus $1.5 \times$ wider than long (13:9). Pronotum slightly less than $3 \times$ as wide as long (33:12). Scutellum longer than vertex and pronotum combined, wider than long (26:21). *Genitalia* as in FIG. 43-46. *Length* 3.8-4.0 mm.

♀. Coloration as in ♂. Vertex $5 \times$ as wide as long (25:5); slightly longer medianly than next to eye (5:4). Face as long as wide (37:37); distance between ocelli 16, from ocellus to eye 2.5. Anteclypeus slightly wider than long (10:9). Pronotum less than $3 \times$ as wide as long (37:13), posterior margin very slightly angularly concave. Scutellum wider than long (30:22). 7th sternum produced medianly. *Length* 4.0 mm.

Holotype ♂ (BISHOP 10,638), THAILAND: Chiangmai Prov., Doi Suthep, water margin, 4.IV.1958, T. C. Maa; allotype ♀ (BISHOP), same data as holotype. 38 paratypes, THAILAND: Chiangmai and Pangmakampon, 350-1360 m (2 ♂♂ USNM, 2 ♂♂ JMC, 34 BISHOP).

Busonia insularis Schmidt, 1926

Busonia insularis Schmidt, 1926: 6.

According to Schmidt's description this species seems to run to the 2nd part of couplet 5 in the key. The olive green and yellow margins of the pronotum then separates it from *B. dorsalis* and *B. apicalis*. However, if the scutellum actually is as described in the 1st part of couplet 5, an important detail easily overlooked, then it is close to *B. albilateralis* as both have the lateral margins of the pronotum yellow. In the latter the abdominal sterna are brownish and margined with yellow and the pronotum brownish while in *B. insularis* the sterna are yellow and the pronotum olive green. Described from Sumatra.

Busonia sp. ?

Among material from VIETNAM: 6 km S of Dalat, 1400-1500 m, 9.VI, 7.VII.1961, Spencer, same collecting data as for many paratypes of *Busonia albilateralis*, n. sp., there were 15 females that externally look exactly as this species but with the ovipositor almost reaching the apex of the wings and the pygofers somewhat larger. I am inclined to think that these are abnormal females of this species instead of something different as no males to match were found among the abundant material. As a caution I have labeled these specimens just *Busonia* sp. Twelve specimens in BISHOP, 3 in JMC.

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