

THE OLD WORLD MEMBRACIDÆ

BY FREDERIC W. GODING

(Concluded from Vol. LVIII, p. 129)

Eutryonia

Goding, Mon. Aust. Memb. p. 34. (1903); *Gelastorrhachis* Kirkaldy, Rept. Exp. St. Haw. S. P. Assoc. ix, p. 372. (1906).

KEY TO SPECIES

- 1(2). Black, knees and tarsi tawny, white tomentose oblique stripe each side; front process short, lateral spines slender nearly as long as the body, posterior process nearly straight; tegmina black, opaque; 12 × 8 mm. **formidenda**
- 2(1). Piceous or black, yellow pubescent, posterior process except apex, and legs yellowish; front process slender, altitude about equal to length of the body, hind margin sinuate, lateral spines three or four times longer than their basal width, tips abruptly acute; posterior process sinuate, apical area decurved; tegmina ochraceous, base and costal margin piceous; 6 × 3 mm. **gracilis**

LIST OF SPECIES

- formidenda** Walker, Jour. Linn. Soc. i, p. 94, pl. 3, fig. 2. (1856); Buckton, Mon. Memb. p. 213, pl. 47, fig. 6. (1903). Sarawak, Borneo. Singapore.
- gracilis** Goding, Jour. N. Y. Ent. Soc. xxxiv, p. 243. (1926). Kuranda, Queensland, Australia.

Leptobelus

Stål, Hemip. Afric. iv, p. 86. (1866).

KEY TO SPECIES

- 1(12). Posterior process emitted from summit of front pronotal process.
- 2(9). Posterior process descending obliquely downward to or nearly to margins of tegmina; front pronotal process long.
- 3(8). Apex of scutellum more or less obtuse and notched.
- 4(7). Base of posterior process level with bases of lateral spines, the latter slightly decurved and recurved; tegmina with two discoidal cells.
- 5(6). Entirely black, tegmina yellowish brown; scutellum long as broad, deeply notched at apex; posterior process almost as long as the tegmina; 10 × 9 mm. **sauteri**
- 6(5). Dark brown, metopidium paler, abdomen black, tegmina smoky hyaline, base brown; scutellum longer than broad, apex slightly

- notched; posterior process almost black, apex lightly decurved, slightly passing apex of clavus; 9×6.6 mm. **decurvatus**
- 7(4). Base of posterior process distinctly higher than bases of lateral spines, obliquely straight, lateral spines slightly elevated and recurved; scutellum triangular, broader than long, apex broadly notched; black, tegmina smoky hyaline, base black, three discoidal cells; 6.8×4.5 mm. **nigris**
- 8(3). Apex of scutellum acute, longer than broad; lateral spines straight, tips lightly deflexed, posterior process slightly undulate, passing apex of clavus; black, tegmina pale bronze; 9.5×5 mm. **dama**
- 9(2). Posterior process horizontal, distant from the body and tegmina; front process short, not much longer than broad.
- 10(11). Blue black, legs brown, tegmina brownish ochraceous hyaline, base black; lateral spines substraight, recurved, posterior process straight; scutellum longer than broad, acute; $8-10 \times 6$ mm. **gazella**
- 11(10). Black, tegmina brownish ochraceous; front process conical, lateral spines broad, horizontal, slightly decurved, twice as long as the intervening space, posterior process subarcuate, slightly decurved, passing apex of clavus; 12 mm. **alticeps**
- 12(1). Posterior process emitted from the middle of the posterior margin of the front process, obliquely descending and passing apex of clavus; scutellum longer than broad, apex acute; black.
- 13(14). Front pronotal process very high, slightly inclined forwardly, lateral spines subhorizontal, very slightly decurved and recurved, about as long as width of metopidium; black, shining, body beneath brownish black, tarsi flavous, tegmina smoky or colorless hyaline, base black; 7.6×3.8 mm. **elevatus**
- 14(13). Front pronotal process not highly elevated, rather short, erect, lateral spines some longer than width of metopidium, subarcuate; tegmina brownish ochraceous hyaline; 8×5 mm. **metuenda**

LIST OF SPECIES

- sauteri** Schumacher, Suppl. Ent. viii, p. 114. (1915). Taihorin, Hoozan, Formosa Is.
- decurvatus** Funkhouser, Bul. Brook. Ent. Soc. xvi, p. 43, figs. 1, 2. (1921). Dikhim, India. Kiautschau, Kinkiang, China.
- nigris** Funkhouser, Jour. Fed. Malay Sts. Mus. xiv, p. 473, figs. 5, 6. (1929). Sandaken, Bettotan, Borneo.
- dama** Germar, Rev. Ent. Silb. iii, p. 258. (1835); Fairmaire, Rev. Memb. p. 510, pl. 3, fig. 14. (1846); Distant, Faun. Brit. Ind. iv, p. 15, fig. 11. (1908); Funkhouser, Phil. Jour. Sci. x, pl. 1, fig. 4. (1915). East Indies. Java. Palawan, Puerta Princesa, Philippines.
- gazella** Fairmaire, Rev. Memb. p. 510. (1846); Buckton, Mon. Memb. p. 235, pl. 53, fig. 5. (1903); Distant, Faun. Brit. Ind. iv, p. 16, fig. 12. (1908). Sidjoendjoeng, Moeara Laboe, Padang Sidempoean,

- Serdang, Tandjong Morawa, Sumatra. Depok, Java. N. China.
 Assam, Naga Hills, India. Ruby Mines, Pusa, Burma.
alticeps Walker, Jour. Linn. Soc. x, p. 183. (1868). Aru Is., near New
 Guinea.
elevatus Funkhouser, Phil. Jour. Sci. xviii, p. 685, pl. 1, figs. 8, 9. (1921).
 Palawan, Puerta Princesa, Philippines. Kinabalu, Borneo.
metuenda Walker, Jour. Linn. Soc. i, p. 164 (1857). Sarawak, Borneo.
 Malacca. Java.
macularum Buckton, Mon. Memb. p. 214, pl. 47, fig. 7. (1903). Perak,
 Malacca, Borneo.

Elaphiceps

- Buckton, Mon. Memb. p. 217. (1903). (Synonym of *Leptobelus* ?)

KEY TO SPECIES

One pale fuscous species with front pronotal horn shining black, narrowed upwardly; posterior process emitted from summit of front process, obliquely curved to margins of tegmina far beyond apex of clavus; tegmina fuscous; 12×7 mm. **cervus**

LIST OF SPECIES

- cervus** Buckton, Mon. Memb. p. 217, pl. 48, fig. 4. (1903); Lingn. Sci.
 Jour. vii, p. 477, pl. 14, fig. 2. (1829). China; Horischa, Formosa.

Hypsauchenini

Hypsauchenia

- Germar, Rev. Ent. Silb. iii, p. 230. (1835).

KEY TO SPECIES

- 1(2). Apical folioles of front pronotal process broad, wrinkled, broadly separated at bases forming a circular space; tegmina brown; 7-8 mm. **hardwicki**
 2(1). Apical folioles of front pronotal process narrow, elongate, space between ovate not circular; tegmina brown, white fascia across the disk; 7-8 mm. **subfusca**

LIST OF SPECIES

- hardwicki** Kirby, Mag. Nat. Hist. ii, p. 21, fig. 5b. (1929); Buckton, Mon. Memb. p. 210, pl. 46, fig. 3. (1903); Distant, Faun. Brit. Ind. iv, p. 11, fig. 6. (1908). Assam, Darjiling, Berge, Nepaul, Sikhim, Naga Hills, Khasi Hills, India. Todano, Celebes Is.
balista Germar, Rev. Ent. Silb. iii, p. 231. (1835). ? Demarara.
floralis Buckton, Mon. Memb. p. 210. (1903). Pegu, Burma.
pygmæa Buckton, Mon. Memb. p. 211, pl. 47, fig. 1. (1903). Darjiling, Assam, India.

subfusca Buckton, Mon. Memb. p. 211, pl. 46, fig. 5. (1903). Assam, Sikkim, India.

hardwicki Fairmaire, Rev. Memb. p. 520, pl. 3, figs. 20, 21. (1846). Nepaul, Tukyur, Darjiling, India.

Pyrgauchenia

Bredden, Abh. Nat. Ges. Halle, Stutt. xxiv, p. 126. (1901); *Pyrgophyllium* Bredden, Soc. Ent. xvii, p. 91. (1902); *Pyrgolyrium* Bredden, Soc. Ent. xvii, p. 92. (1902); *Hypsophyllium* Schmidt, Soc. Ent. xli, p. 22. (1926).

KEY TO SPECIES

- 1(8). Apical area of front pronotal process not dilated and divided into two foliaceous branches; dorsal node of posterior process strongly elevated, semicircular; tegmina more or less opaque.
- 2(7). Front process erect, apical area slender and abruptly bent backwardly.
- 3(6). Apical area of front process ending in a horizontal plate its hind margin emarginate, centrally carinate.
- 4(5). Entirely immaculate pale stramineous; front process erect, apical plate very small slightly broader than its petiole; apex of posterior process reaching apex of clavus; base of head with two small subacute horns; long. 6, alt. 3 mm. **cornuta**
- 5(4). Black or dark brown, ridges, basal margin, basal area of posterior process, pale yellow, legs brown; front process lightly inclined forwardly, apical plate distinctly broader than its petiole; apex of posterior process passing apex of clavus near which is a small hyaline spot; base of head with two small tubercles; long. 5.5, alt. 3.75 mm. **wallacei**
- 6(3). Apical area of front process subacutely produced inwardly, the process narrowed upwardly, lightly inclined forwardly; posterior process weakly convexly gibbous, apex passing apex of clavus; black or brown, ridges and basal area of posterior process pale yellow, legs darker, small hyaline spot near apex of clavus; long. 6, alt. 5 mm. **kinabalense**
- 7(2). Front process roundly recurved, apical area foliaceously expanded its hind margin excised even with middle of scutellum; small hyaline spot near apex of clavus, head black; long. 5.5-6 mm. **fulmeki**
- 8(1). Front pronotal process strongly recurved, apical area expanded forming two foliaceous lobes.
- 9(14). Tips of folioles of front process even with or passing beyond apex of posterior process.
- 10(13). Dorsal node of posterior process conically elevated at least twice higher than broad at base; basal margin and ridges of pronotum, basal area of posterior process and legs pale yellow, hyaline spot near apex of clavus, else blackish or ferruginous.

- 11(12). Large; tip of front process even with tips of tegmina, median carina of posterior process serrate; row of white spots on apical area of tegmina; long. 9.5–10.5 mm. **sarasinorum**
- 12(11). Smaller; extreme tip of front process even with apex of posterior process whose median carina is smooth; tegmina unspotted on apical area; long. 5.5–6.5 mm. **førsteri**
- 13(10). Large; brown, ridges, base of posterior process and legs pale yellow, hyaline spot near apex of clavus; dorsal node of posterior process much wider at base than high; 8–9, alt. 8mm. **jugulata**
- 14(9). Tips of folioles of front process not extended beyond dorsal node of posterior process the latter strongly conically elevated at least twice higher than width at base.
- 15(18). Brown, not pubescent, small hyaline spot near apex of clavus.
- 16(17). Larger; dull bronze brown, basal pronotal ridges and legs yellow; front process suberect; long. 9 mm. **suberecta**
- 17(16). Smaller; dark brown, ridges and basal area of posterior process yellow, legs pale brown; front process strongly recurved; long. 7 mm. **recurva**
- 18(15). Black, thickly pubescent, ridges, costal margin and claval area of tegmina, and legs yellowish brown, row of white spots on apical area of tegmina; long. 6.5 mm. **colorata**

LIST OF SPECIES

- cornuta** Goding, Am. Mus. Novitt. No. 421, p. 26. (1930). Banguay, Borneo.
- wallacei** Breddin, Soc. Ent. xvii, p. 91. (1902). Borneo.
- kinabalense** Breddin, Soc. Ent. xvii, p. 91. (1902). Mt. Kinabalu, Borneo. Swlak Daras, Korinchi, Sumatra.
- fulmeki** Schmidt, Soc. Ent. xli, p. 22. (1926). Brestagi, Sumatra.
- sarasinorum** Breddin, Abb. Nat. Ges. Halle, xxiv, p. 127. (1901). Todano, Berge, Tomohon, Karookaraeng, Bua-Kroeng, Celebes Is.
- førsteri** Breddin, Soc. Ent. xvii, p. 91. (1902). Wonosobo, Java.
- fulva** Schmidt, Stet. Ent. Zeit. lxvii, p. 371. (1906). Java.
- jugulata** Buckton, Tr. Linn. Soc. Lond. Zool. ix, p. 332, pl. 21, fig. 12. (1905). Swlak, Korinchi, Sumatra.
- breddini** Schmidt, Stet. Ent. Zeit. lxvii, p. 370. (1906). Bekantiang, Sumatra.
- suberecta** Distant, Ann. Mag. N. H. xvi, p. 325. (1915). Bua-Kræng, Celebes Is.
- recurva** Funkhouser, Phil. Jour. Sci. xl, p. 112, pl. 1, fig. 2. (1929). Roban, Java.
- colorata** Distant, Ann. Mag. N. H. xvi, p. 326. (1915). Mt. Kinabalu, Borneo.

Gigantorhabdus

- Schmidt, Stet. Ent. Zeit. lxvii, p. 372. (1906).

KEY TO SPECIES

One species, the head black, pronotum ivory white, spot above each humeral, spot behind each eye, larger part of basal half and apical area of posterior process, and spot on abdomen black; tegmina with base black, spot in corium and subapical band ivory white, body and legs brown; long. 15, to tip of forks 23, alt. 13 mm. **enderleini**

LIST OF SPECIES

enderleini Schmidt, Stet. Ent. Zeit. lxvii, p. 372. (1906). Waterstradt, Borneo.

Hypsolyrium

Schmidt, Soc. Ent. xli, p. 22. (1926).

KEY TO SPECIES

- 1(6). Front pronotal process with summit produced posteriorly in a short spur a small node just beneath it, or summit oblique not acute.
- 2(5). Summit of front process acute posteriorly.
- 3(4). Ferruginous, pubescent; front process lightly inclined forwardly shorter than posterior process the latter slightly elevated behind middle; 8 mm. **uncinata**
- 4(3). Black; front process longer, erect, posterior process abruptly elevated behind middle, median carina serrate, basal area and legs pale red; central marginal space to tegmina pale red, small white spot near clavus; 8 mm. **kempi**
- 5(2). Black, legs yellowish; front process shorter, broader, more outwardly curved apically than *kempi*, its summit oblique, not acute; 7 mm. **manni**
- 6(1). Reddish brown, apical area of tegmina white spotted; front process slightly inclined forwardly its summit ending in two very short narrow recurved lobes almost contiguous at tips; posterior process slender, strongly serrate, subapical node large, broadly conical, reticulate; 7 mm. **gibbosa**

LIST OF SPECIES

- uncinata** Stål, Bid. Memb. K. p. 283. (1869); Distant, Faun. Brit. Ind. iv, p. 12, fig. 8. (1908). Pussumbing, Nepaul, Nagorkote, Darjiling, India.
- kempi** Distant, Faun. Brit. Ind. vi, App. p. 148, fig. 107. (1916). Sadon, Upper Burma. Cherrapungi, Assam, India.
- manni** Distant, Faun. Brit. Ind. App. vi, p. 149. (1916). Pussumbing, Darjiling, India.
- gibbosa** Distant, Faun. Brit. Ind. iv, p. 12. (1908). Ruby Mines, Burma.

Pyrgonota

Stål, Hemip. Philip. p. 730. (1870); *Hybanda* Distant, Faun. Brit. Ind. iv, p. 13. (1908); *Funkhouserella* Schmidt, Soc. Ent. xli, p. 22. (1926).

KEY TO SPECIES

- 1(10). Summit of front pronotal process forked or bilobed.
- 2(5). Front process with a bulb at middle, posterior process unicarinate; legs simple; brown.
- 3(4). Front process contorted above the bulb, median carina of posterior process dentate; tegmina opaque brown, pilose, apical third hyaline, brown spot at apical angle; 8 mm. **bulbicornis**
- 4(3). Front process sinuate above bulb, median carina smooth; tegmina infusate bronze, veins indistinct; 10 mm. **bulbosa**
- 5(2). Front process gradually narrowed upwardly, not bulbous.
- 6(13). Front process porrect or strongly inclined forwardly.
- 7(12). Posterior process unicarinate.
- 8(11). Front process porrect, apical branches of fork very short.
- 9(10). Summit of front process with two branches; tegmina opaque brown; long. 9, alt. 11 mm. **brevifurca**
- 10(9). Summit of front process with two branches the tip of each branch briefly bifurcate; tegmina opaque brown, small hyaline spot near apex of clavus; long. 9.5, alt. 12 mm. **sinuata**
- 11(8). Front process inclined forwardly, not porrect, the apical branches long, strongly diverging a ridge between their bases, foliaceous behind middle, tips truncate; median carina of posterior process dentate posteriorly; tegmina opaque brown, transverse central band and spot near apex clavus hyaline; long 6-6.5, alt. 7.5 mm. **fenestrata**
- 12(7). Posterior process tricarinate, tectiform, median carina spinulose; apical branches of front process divaricate, broadened behind middle; tegmina opaque piceous, hyaline spot near apex of clavus; long. 7.5 mm. **bifurca**
- 13(6). Front pronotal process not porrect or inclined forwardly.
- 14(19). Front process erect, apical branches long, foliaceous and bent backwardly.
- 15(18). Posterior process tricarinate, legs foliaceous.
- 16(17). Apical folioles of front process oblique, parallel, gibbous between their bases; brown, dorsum of posterior process with yellow basal vitta its median carina denticulate; tegmina opaque black or brown pale spot near apex of clavus, three discoidal cells; long. 7, alt. 10 mm. **funkhouseri**
- 17(16). Apical folioles of front process strongly divaricate, no gibba between bases; dark brown, basal area of posterior process pale; tegmina entirely piceous; 7 mm. **semperi**
- 18(15). Posterior process unicarinate, median carina serrate, middle of dorsum yellow; folioles of front process suberect, parallel, no gibba between bases; brown, including tegmina opaque; long. 6-7, alt. 10 mm. **bifoliata**

- 19(14). Front process strongly recurved, apical folioles broad, parallel, tips even with or behind tips of tegmina; median carina of posterior process serrate, legs simple; yellowish brown including tegmina; long. 8, alt. 8 mm. **anodonta**
- 20(1). Summit of front pronotal process swollen or bulbous, not forked, posterior process unicarinate.
- 21(30). Front process porrect or strongly inclined forwardly.
- 22(29). Summit of front process moderately swollen.
- 23(28). Pronotum with a median and sometimes lateral carinae on the front process.
- 24(27). Front process inclined forwardly, not porrect, gradually narrowed upwardly.
- 25(26). Black, tegmina with pale spot near apex of clavus, legs yellowish, simple; front process laterally tricarinate, median carina denticulate posteriorly; long. 8 mm.
- a.* Apical area of front process distinctly thickened, posterior process gradually slender, subdepressed behind middle ♂ **tumida**
- aa.* Apical area of front process slightly recurved, moderately swollen, truncate, posterior process acutely tectiform, subcompressed ♀ **tumida**
- 26(25). Ferruginous, tegmina entirely opaque; apical area of front process abruptly bent backwardly expanded in a plate, not laterally carinate; tibiae flattened; long. 7, alt. 8 mm. **longiturrus**
- 27(24). Front process porrect, apical area swollen two prominent nodes on hind margin and short ridges, median carina of posterior process dentate, apex reddish; yellow, tegmina yellow hyaline, apical veins irregular; legs foliaceous; long. 5.6, alt. 6 mm. **noditurrus**
- 28(23). Front process destitute of median and lateral carinae, inclined forwardly not porrect, cylindrical, summit swollen, rounded, slight tubercle each side; median carina of posterior process roughly defined; brown, tegmina opaque; tibiae foliaceous; long. 6.5, alt. 4 mm. **pinguiturrus**
- 29(22). Front process broad, laterally carinate, the summit a very large hemispherical reticulate bulb with a blunt spine each side of median line and one each side posteriorly, median carina dentate posteriorly; brown, legs yellow, simple; tegmina brown, hyaline spot near apex of clavus; long. 7, lat. of bulb 5.5 mm. **bulbiturrus**
- 30(21). Front process erect, slender, sides ridged, slightly recurved, apical area expanded in a reticulate swelling seen from side ovoid, seen from front constricted at middle to form two subhemispherical nodes, the upper node with a sharp tooth each side; brown, legs yellow, flattened, tegmina vinaceous translucent; long. 8, alt. 12 mm. **binodis**

LIST OF SPECIES

- bulbicornis** Funkhouser, Jou. Fed. Malay Sts. Mus. xiii, pl. 1, fig. 1. (1927).
Bukit Kutu, Salangor, Sumatra.
- bulbosa** Buckton, Mon. Memb. p. 211, pl. 46, fig. 4. (1903). Perak, Malacca.
- brevifurca** Funkhouser, Phil. Jour. Sci. xxxiii, p. 110, pl. 2, fig. 5, 6. (1927).
Baguio, Benguet, Luzon, Philippines.
- sinuata** Funkhouser, Phil. Jour. Sci. xl, p. 111, pl. 1, fig. 1. (1929). Ripang, Luzon, Philippines.
- fenestrata** Bergroth, Noct. Ent. v, p. 105. (1925). Surigao, Mindanao, Philippines.
- bifurca** Stål, Hemip. Phil. p. 731. (1870). Baguio, Banquet, Luzon, Philippines.
- funkhouseri** Bergroth, Noct. Ent. v, p. 106. (1925). nom. nov.
semperi Funkhouser, Phil. Jour. Sci. xv, p. 17, pl. 1, figs. 2, 3. (1919).
Panay, Culasi, Antique, Philippines.
- semperi** Stål, Hemip. Phil. p. 731. (1870). Philippines.
- bifoliata** Westwood, Proc. Zool. Soc. Lond. p. 130. (1837); id. Guer. Mag. Zool. iii, p. 3, pl. 83. (1841); Funkhouser, Jour. Ent. Zool. vi, p. 67, fig. 1, (1914); id. Phil. Jour. Sci. x, p. 372, pl. 1, fig. 2. (1915). Los Baños, Luzon, Philippines.
- westwoodi* Fairmaire, Rev. Memb. p. 521, pl. 7, figs. 6-8. (1846);
Buckton, Mon. Memb. p. 211, pl. 46, fig. 6. (1903). Philippines.
- bifasciata* Walker, List Hom. B. M. p. 631. (1851). Philippines.
- anodonta** Buckton, Mon. Memb. p. 212, pl. 47, fig. 2. (1903); Distant, Faun. Brit. Ind. iv, p. 13, fig. 9. (1908). Assam, India. Perak, Malacca.
- tumida** Stål, (♂), Hemip. Phil. p. 730. (1870). Philippines.
philippina Stål, (♀), Hemip. Phil. p. 730. (1870). Philippines.
- longiturreis** Funkhouser, Phil. Jour. Sci. xiii, p. 23, pl. 1, figs. 1, 2. (1918).
Mt. Maquiling, Luzon, Philippines.
- noditurreis** Funkhouser, Phil. Jour. Sci. xviii, p. 684, pl. 1, fig. 7. (1921).
Surigao, Mindanao, Philippines.
- pinguiturreis** Funkhouser, Phil. Jour. Sci. x, p. 374, pl. 1, fig. 3. (1915).
Mt. Maquiling, Luzon, Philippines.
- bulbiturreis** Funkhouser, Phil. Jour. Sci. xxxiii, p. 109, pl. 1, figs. 1, 2. (1927).
Kavignian, Luzon, Philippines.
- binodis** Funkhouser, Phil. Jour. Sci. xxxiii, p. 110, pl. 1, figs. 3, 4. (1927).
Isabela, San Marino, Mt. Banahao, Luzon, Philippines.

Hybandoides

Distant, Ann. Mag. N. H. xvi, p. 327. (1915); *Platyceras* Schmidt, Soc. Ent. p. 21 (1926).

KEY TO SPECIES

- 1(8). Summit of front process broad, rounded or truncate, upper margin slightly convex, lower margin straight; brown, densely pilose.

- 2(7). Tegmina brown and white mottled; brown.
 3(4). Basal margin of pronotum distinctly produced forwardly, front process subhorizontal; head to tips teg. 6.5 mm. **sumatrensis**
 4(3). Basal margin of pronotum not produced forwardly.
 5(6). Front process horizontal, summit slightly recurved roundly truncate, not expanded, length variable; 8.6 mm. **horizontalis**
 6(5). Front process granulate, oblique, summit slightly expanded, angularly rounded not recurved; veins of tegmina granulate; head to tips teg. 5.5, incl. corn. 8 mm. **laticornis**
 7(2). Tegmina brown, not mottled, apical area yellowish; blackish; head to tips teg. 5.5, incl. corn. 7.5 mm. **borneensis**
 8(1). Summit of front process acute, horizontal, margins converging; reddish brown, tegmina brown and yellow mottled; head to tips teg. 5-5.5, incl. corn. 6-7 mm. **acuticornis**

LIST OF SPECIES

- sumatrensis** Funkhouser, Suppl. Ent. xv, p. 26. (1927). Ft. de Kock, Anei Kloof, Sumatra.
horizontalis Distant, Ann. Mag. N. H. xvi, p. 327. (1915). Mt. Kinabalu, Borneo.
laticornis Schmidt, Soc. Ent. p. 21. (1926). Mentawai Is., Sumatra.
borneensis Schmidt, Soc. Ent. p. 21. (1926). North Borneo.
acuticornis Schmidt, Soc. Ent. p. 21. (1926). West coast of Sumatra.

*Centrocharesini***Centrochares**

Stål, Hemip. Afric. iv, p. 86. (1866).

KEY TO SPECIES

- 1(6). Surface densely spinulose, suprahumeral obliquely erect tips more or less swollen, posterior process moderately elevated above the scutellum long as tegmina; brown or black.
 2(5). Suprahumeral robust, apical area moderately swollen.
 3(4). Suprahumeral with sides parallel to apical swelling, subapical node of posterior process twice higher than breadth of base; tegmina opaque ferruginous, tips darker, (pale subapical pale spot in ♂); legs brown; long. ♂ 3.5-5 × 3.5, ♀ 5-6 × 4-5 mm. **horrificus**
 4(3). Suprahumeral gradually broadened from slender base to foliate tips, subapical node of posterior process semicircular; high as width of base; tegmina hyaline, base, spot on clavus and subapical transverse fascia brown; legs yellow, front and middle tibiae flattened; 4.8 × 3.7 mm. **spiniferus**
 5(2). Suprahumeral slender, apical half broadly foliaceous, tips quadrate abruptly acute; subapical node of posterior process trilobate, convex, high as broad at base, legs foliaceous; black, tegmina opaque, interior apical margin brown; 5.4 × 5 mm. **foliatus**

- 6(1). Surface covered with scattering tubercles, not spinulose; supra-humerals oblique, moderately broadened and flattened, posterior process slightly elevated above the scutellum long as tegmina, median carina and lateral margins serrate; legs brown, dilated.
- 7(8). Suprahumeral obliquely inclined forwardly, margins serrate, tips spatulate, truncate exteriorly, subapical node of posterior process narrow, erect; brown; 4 mm. **ridleyanus**
- 8(7). Suprahumeral obliquely erect, tips rounded in front, subapical node of posterior process robust, trilobed; testaceous, tegmina yellowish, base and costal margin brown; 4.5 × 4 mm. **borneensis**

LIST OF SPECIES

- horrificus** Westwood, Proc. Zool. Soc. Lond. p. 130. (1837); Guérin, Mag. Zool. iii, pl. 82. (1841); Walker, List Hom. B. M. p. 500, pl. 4, figs. 4, 5. (1851); Buckton, Mon. Memb. p. 73, pl. 12, fig. 5. (1903); Funkhouser, Phil. Jour. Sci. x, p. 370, pl. 1, fig. 1. (1915); id. Phil. Jour. Sci. xv, p. 15, pl. 1, fig. 1. (1919). Los Baños, Mt. Banahao, Panay, Culasi, Antique, Luzon, Philippines.
- posticus** Buckton, Mon. Memb. p. 70, pl. 11, figs. 4, 5. (1903). Culasi, Philippines.
- spinula** Buckton, Mon. Memb. p. 72, pl. 12, fig. 4. (1903). Luzon, Philippines.
- bucktoni** Distant, Ann. Mag. N. H. xvii, p. 314. (1916). nom. nov.
- spiniferus** Funkhouser, Suppl. Ent. xv, p. 19, fig. 29. (1927). Anei Kloof, Sumatra.
- foliatus** Funkhouser, Phil. Jour. Sci. xl, p. 113, pl. 1, fig. 3. (1929). Mowong, Borneo.
- ridleyanus** Distant, Ann. Mag. N. H. xvi, p. 328. (1915). Singapore, Malacca.
- borneensis** Distant, Ann. Mag. N. H. xvii, p. 314. (1916). Kuching, Sandakan, Borneo.

Sinenodus

Goding, Jour. N. Y. Ent. Soc. xxxix, p. 311. (1931).

KEY TO SPECIES

- 1(2). Suprahumeral three times as long as width at base, robust, porrect, quadrangular, several carinae on front surface, tips slightly dilated, truncate; posterior process far passing tips of tegmina, slender, sinuate, apical area elevated; tegmina colorless hyaline, extreme tips piceous brown; reddish brown, legs moderately dilated; 7.5, incl. corn. 9 × 3.5 mm. **gracilis**
- 2(1). Suprahumeral robust, long as width at base, slightly inclined forwardly, upper surface carinate, tips rounded somewhat deflexed; posterior process some shorter than tegmina, substraight, tip deflected; tegmina opaque reddish brown; blackish brown, very pubescent, legs dark brown; 8 × 4 mm. **orientalis**

LIST OF SPECIES

- gracilis** Goding, Mon. Aust. Memb. p. 33. (1903). Beverly, West Australia.
orientalis Funkhouser, Jour. Sts. Br. Roy. Asiat. Soc. (79), p. 1, (1918).
 Singapore, Malacca.

MEMBRACINÆ

*Bolbauchenini***Bolbauchenia**

- Schumacher, Sup. Ent. iii, p. 115. (1915); *Clonauchenia* Funkhouser,
 Phil. Jour. Sci. xviii, p. 679. (1921).

KEY TO SPECIES

- 1(2). Front pronotal process inclined forwardly, summit not produced
 posteriorly or outwardly in acute tips; posterior process with
 basal half tectiformly elevated; brown, posterior process paler,
 tegmina hyaline; long. 10, lat. 2, alt. 5 mm. **taiwanensis**
 2(1). Front process erect, summit produced posteriorly in a large pro-
 tuberance and exteriorly in acute tips each side; posterior process
 with basal two-thirds triangularly elevated in a large compressed
 plate its apex acute almost touching hind lobe of front process;
 tegmina dark brown, basal two-thirds of broad costal margin
 opaque, apical half semiopaque, venation irregular; dark brown;
 long. 8, lat. 2.6, alt. corn. 6.8 mm. **mirabilis**

LIST OF SPECIES

- taiwanensis** Schumacher, Suppl. Ent. iii, p. 115. (1915). Kankau, Koshun,
 Formosa Is.
mirabilis Funkhouser, Phil. Jour. Sci. xviii, p. 680, pl. 1, figs. 1, 2. (1921).
 Surogao, Mindanao, Philippines.

*Xiphistesini***Xiphistes**

- Stål, Hemip. Afric. iv, p. 85. (1866).

KEY TO SPECIES

- 1(2). Suprahumeral obliquely porrect, conical, tips subacute, posterior
 process tricarinate, shorter than tegmina, dorsal line straight;
 piceous, legs ferruginous, tegmina colorless hyaline; long. incl.
 corn. 10 mm. **unicolor**
 2(1). Suprahumeral strongly inclined forwardly, triquetrous, tips trun-
 cate inwardly rounded, dorsal weakly concave, posterior process
 just passing apex of clavus; ochraceous, pilose, tegmina clear
 hyaline, base ochraceous; 7 × 3 mm. **neglectus**

LIST OF SPECIES

- unicolor** Walker, List Hom. B. M. p. 509. (1851); Distant, Faun. Brit.
 Ind. iv, p. 9, fig. 5. (1908). East Indies.

neglectus Buckton, Mon. Memb. p. 224, pl. 49, fig. 5. (1903). South Australia.

australasiae Distant, Ann. Mag. N. H. xviii, p. 21. (1916). South Australia.

Goddefroyinella

Distant, Ann. Mag. N. H. xviii, p. 22. (1916).

KEY TO SPECIES

One piceous pilose species with testaceous legs; suprahumeral robust, compressed, porrect, slightly diverging, tips truncate, posterior process robust, convexly rounded, apical area narrowed, usually long as tegmina; tegmina subhyaline, base black, apical venation reticulate; 6-6.5 × 3-3.5 mm. **indicans**

LIST OF SPECIES

indicans Distant, Ann. Mag. N. H. xviii, p. 22. (1916). Gayndah, Queensland, Australia.

Oxyrhachisini

Oxyrhachidia

Melichar, Hom. Ceylon, p. 118. (1903).

KEY TO SPECIES

One ferruginous brown species, the median carina, middle of the posterior process, abdomen and legs yellowish; tegmina hyaline; pronotum convex, tricarinate anteriorly, posterior process narrowest near base, ampliate beneath and fuscous margined; 6.5-7.5 mm. **inermis**

LIST OF SPECIES

inermis Stål, Bid. Memb. K. p. 283. (1869); Distant, Faun. Brit. Ind. iv, p. 8, fig. 4. (1908). Peradeniya, Ceylon.

Oxyrhachis

Germer, Rev. Ent. Silb. iii, p. 232. (1835); *Polocentrus* Buckton, Mon. Memb. p. 253. (1903); *Ouranorthus* Buckton, Tr. Linn. Soc. Lond. Zool. ix, p. 333. (1905).

KEY TO SPECIES

- 1(10). Posterior process as long or slightly longer than tegmina.
- 2(5). Suprahumeral as long or slightly longer than space between bases, more or less obliquely elevated; inferior margin of apical area of posterior process serrate; tegmina hyaline.
- 3(4). Pronotum granulate, brownish ochraceous, basal half of median carina paler, apical half, two large spots and head black; narrow costal margin of tegmina brown, black spot behind clavus; 8-9.5 mm. **mangiferana**
- 4(3). Pronotum punctate, not granulate, fuscous or black, head piceous and yellow, apical half of posterior process blackish, median

- carina brown, legs ochraceous; narrow costal margin of tegmina ferruginous; $7-9 \times 4-5.5$ mm. **tarandus**
- 5(2). Suprahumeral horizontal, shorter than width between bases, inferior margin of posterior process not serrate.
- 6(7). Suprahumeral longer than half the width between bases; black, pubescent, median carina and posterior process ferruginous, legs reddish; tegmina tawny, brown spot near clavus; 8 mm. **subjecta**
- 7(6). Suprahumeral about one-fourth as long as space between bases, tips obtuse; brownish, tegmina hyaline.
- 8(9). Brownish ochraceous, median carina pale yellow, legs ochraceous; suprahumeral subhorizontal, margins ochraceous, pale stripe on outer side, tips slightly decurved; posterior process ochraceous, apical area slightly elevated; $7 \times 3-3.5$ mm. **uncatus**
- 9(8). Entirely fuscous brown; suprahumeral horizontal, straight, apical area of posterior process strongly elevated; $6-7 \times 3-3.5$ mm. **lefroyi**
- 10(1). Posterior process shorter than the tegmina.
- 11(18). Suprahumeral long as or slightly longer than space between bases.
- 12(17). Suprahumeral oblique, inferior margin of posterior process not serrate.
- 13(16). Pronotum more or less black, tegmina immaculate; tips suprahumeral acute.
- 14(15). Entirely black; suprahumeral slightly longer, more robust, distinctly carinate, posterior process compressed and broader beyond middle; 6.5×5.5 mm. **yerburyi**
- 15(14). Black, frontal area, basal margin, upper basal area, body, legs and base of tegmina ochraceous; suprahumeral medium, slightly shorter, ridges weak, and posterior process not distinctly broader beyond middle; 7×5.5 mm. **versicolor**
- 16(13). Pronotum dark brown, head purplish red with black suffusions; suprahumeral with hind margins above and central disk beneath black, tips broadly obtusely angulate; apical half of posterior process and spot near clavus black; 8.5×5 mm. **binsarus**
- 17(12). Suprahumeral horizontal, tips acute, posterior process gibbous at base, inferior margin weakly serrate; brown, median carina and ridges paler, legs testaceous; $7-7.5 \times 3.5$ mm. **rufescens**
- 18(11). Suprahumeral about as long as wide at bases, much shorter than space between bases, horizontal; posterior process moderately gibbous near base.
- 19(20). Inferior margin of posterior process serrate; pale brownish ochraceous, median carina paler, head partly, spot above each eye and apex of posterior process black, abdomen and legs ochraceous; $4.5-5.5 \times 1.5-2$ mm. **crinitus**
- 20(19). Inferior margin of posterior process not serrate.

- 21(22). Ferruginous brown, suprahumeral substraight, ridges pale, tips truncate; posterior process with dorsal black spot, apex obliquely truncate, black spot near apex of clavus; legs brown; 6-7.5 mm. *delalandei*
- 22(21). Entirely ochraceous, tegmina immaculate; suprahumeral distinctly decurved and recurved; 8 × 3 mm. *palus*

LIST OF SPECIES

- mangiferana* Distant, Faun. Brit. Ind. vi, App. p. 147. (1916). Dehra Dun, Duraj Bagh, Madras, India.
- tarandus* Fabricius, Ent. Syst. Suppl. p. 514. (1798); Fairmaire, Rev. Memb. p. 268, pl. 4, fig. 13. (1846); Distant, Faun. Brit. Ind. iv, p. 4, fig. 1. (1908); id. Ins. Transv. i, p. 209, pl. 21, fig. 11. (1909); Lefroy, Ins. Life, p. 730, pl. 78, figs. 1-7. (1909); Funkhouser, Biol. Memb. pl. 31, fig. 25, and pl. 36, figs. 7-9, 13-15. (1917). Calcutta, Bengal, Madras, Chatrapur, Ganganu, Bangalore, Karachi, India. Ceylon. Abyssinia, Egypt, Senegal, N. Africa; S. Africa.
- rufus* Buckton, Mon. Memb. p. 254, pl. 58, fig. 2. (1903). Mysore, India.
- neuter* Buckton, Mon. Memb. p. 254, pl. 58, fig. 3. (1903). Madras, India.
- emyo* Distant, Faun. Brit. Ind. iv, p. 5. (1908). nom. nud.
- formidabilis* Distant, Faun. Brit. Ind. vi, App. p. 146. (1916). Dehra Dun, Suraj Bagh, Athurkuppam, Salem, India.
- subjecta* Walker, List Hom. B. M. p. 504. (1851). East Indies.
- uncatus* Melichar, Hom. Ceylon, p. 108. (1903); Distant, Faun. Brit. Ind. iv, p. 6, fig. 2. (1908). Paradeniya, Trichinopoly, Ceylon.
- nectaris* Buckton, Mon. Memb. p. 246, pl. 58, fig. 4. (1903). Peradeniya Ceylon.
- lefroyi* Distant, Faun. Brit. Ind. vi, App. p. 147, fig. 106. (1916). Pusa, India.
- yerburyi* Distant, Ann. Mag. N. H. xviii, p. 21. (1916). Aden, Arabia.
- versicolor* Distant, Ann. Mag. N. H. xvi, p. 322. (1915). Aden, Arabia.
- binsarus* Distant, Faun. Brit. Ind. vi, App. p. 148. (1916). Binsar, Humaon, India.
- rufescens* Walker, List Hom. B. M. p. 506. (1851). Calcutta, Mysore, Medha, Kajshaki, Yenna Valley, India.
- rudis* Walker, List Hom. B. M. p. 509. (1851). North Bengal, India.
- crinitus* Buckton, Mon. Memb. p. 247, pl. 60, fig. 5. (1903); Distant, Faun. Brit. Ind. iv, p. 7, fig. 3. (1908). Kaits, Ceylon.
- delalandei* Fairmaire, Rev. Memb. p. 268. (1846). Amacera, Dalmatia, Sicily, Europe. Jordan R., Syria, Asia. Tunis; Mariut, Egypt, North Africa; ? Natal, Cape, South Africa.
- palus* Buckton, Tr. Linn. Soc. Lond. Zool. ix, p. 333, pl. 22, fig. 1. (1905). Bangalore, Mysore, Coimbatore, India.

DARNINÆ

*Darnini***Cryptaspidia**

Stål, Hemip. Phil. p. 729. (1870).

KEY TO SPECIES

- 1(10). Median carina of pronotum absent on the metopidium; black.
- 2(7). Apex of posterior process passing apex of clavus; tegmina smoky hyaline with black or brown markings.
- 3(4). Apical area of posterior process strongly elevated, humerals prominent; ocelli nearer to the eyes; basal fourth of costal margin of tegmina black, faint central transverse fascia; finely pubescent, legs brown; 7×3.8 mm. **elevata**
- 4(3). Apex of posterior process not elevated; shining, not pubescent.
- 5(6). Tegmina with transverse fascia and subapical spot brown; humerals not prominent; ocelli equidistant; legs brown; 6.6×3.5 mm. **lustra**
- 6(5). Tegmina with basal third of costal margin black; ocelli nearer to the eyes; legs black, tarsi brown; 6×3 mm. **nigris**
- 7(2). Apex of posterior process not passing apex of clavus; ocelli nearer to the eyes; legs brown.
- 8(9). Tegmina immaculate except base; humerals very prominent; strongly pilose, shining; 4×2 mm. **pilosa**
- 9(8). Tegmina ferruginous, decolored behind middle and fasciate; humerals not prominent; slightly pubescent; 5.5×2.7 mm. **pubera**
- 10(1). Median carina of pronotum percurrent, usually weak; ocelli nearer to the eyes.
- 11(14). Apex of posterior process passing apex of clavus, humerals very prominent; black, tegmina immaculate vinaceous hyaline.
- 12(13). Humerals produced in horns half as long as the space between bases, median carina faint; finely pubescent, legs dark brown; 7.5 mm. **auriculata**
- 13(12). Humerals very strong, not corniculiform, median carina almost obsolete on metopidium; legs black; 8×4.2 mm. **magna**
- 14(11). Apex of posterior process not passing apex of clavus, humerals not prominent; not or slightly pubescent.
- 15(20). Tegmina immaculate; median carina weak.
- 16(19). Small, short, length not exceeding 5 mm; brownish.
- 17(18). Entirely dark brown, slightly pubescent, tegmina hyaline; posterior process straight; 3 mm. **piceola**
- 18(17). Entirely ferruginous including tegmina, not pubescent; posterior process depressed at base then slightly arcuate; 3-3.5 mm. **ferrugata**
- 19(16). Large, elongate, posterior process straight apex not reaching apex

- of clavus; black, legs ferruginous; tegmina very long, far passing tip of abdomen; 8.2×3 mm. *longa*
- 20(15). Tegmina black and hyaline; black.
- 21(22). Tegmina black, opaque, tips hyaline, tarsi flavous; posterior process depressed at base then slightly arcuate, median carina distinct; 3.2×1.7 mm. *minuta*
- 22(21). Tegmina vinaceous hyaline, interrupted fascia and apical margin more or less broadly blackish, legs black; posterior process straight, sides impressed, median carina obsolete on metopidium; $6-7 \times 3-3.5$ mm. *impressa*

LIST OF SPECIES

- elevata* Funkhouser, Phil. Jour. Sci. xv, p. 26, pl. 1, fig. 7. (1919). Benguet, Bagnio, Luzon, Philippines.
- lustra* Funkhouser, Phil. Jour. Sci. xl, p. 114, pl. 1, fig. 6. (1929). Ripang, Luzon, Philippines.
- nigris* Funkhouser, Phil. Jour. Sci. xiii, p. 36, pl. 1, figs. 17, 18. (1918). Tayabes, Mt. Bonahao, Luzon, Philippines.
- pilosa* Funkhouser, Phil. Jour. Sci. xviii, p. 686, pl. 1, fig. 10. (1921). Basilan Is., Philippines.
- pubera* Stål, Hemip. Phil. p. 729. (1870); Funkhouser, Phil. Jour. Sci. x, p. 401, pl. 2, fig. 20. (1915). Los Baños, Mt. Maquiling, Luzon, Philippines.
- tagalica* Stål, Hemip. Phil. p. 729. (1870). Culasi, Antique, Panay, Basilan Is., Los Baños, Mt. Maquiling, Luzon, Philippines.
- auriculata* Funkhouser, Phil. Jour. Sci. xl, p. 114, pl. 1, figs. 4, 5. (1929). Ubi, Luzon, Philippines.
- magna* Funkhouser, Jour. Fed. Malay Sts. Mus. xiii, p. 2, fig. 2. (1927). Bukit Kutu, Salangor, Malacca.
- piceola* Melichar, Hom. Ceylon, p. 122. (1903). Paradeniya, Ceylon. Singapore, Penang, Sumatra. Sandakan, Borneo.
- ferrugata* Melichar, Hom. Ceylon, p. 123. (1903). Paradeniya, Weligama, Keshewa, Kandy, Ceylon.
- longa* Funkhouser, Phil. Jour. Sci. xv, p. 27, pl. 1, fig. 8. (1919). Banguet, Bagnio, Luzon, Philippines.
- minuta* Funkhouser, Phil. Jour. Sci. xxxiii, p. 118, pl. 4, fig. 22. (1927). Palawan, Philippines.
- impressa* Stål, Hemip. Phil. p. 730. (1870). Philippines.
- obtusiceps* Stål, Hemip. Phil. p. 730. (1870). Davao, Mindanao, Luzon, Philippines.

Anzac

- Distant, Ann. Mag. N. H. xviii, p. 43. (1916).

KEY TO SPECIES

One yellowish gray (doubtless green when alive) species with two spots near base of tegmina and spot on interior vein of clavus black, the apical

area reticulate with numerous cellules; body, legs and tegmina pale tawny brown; 5×2 mm. **bipunctatus**

LIST OF SPECIES

bipunctatus Fabricius, Syst. Ent. p. 677. (1775); Distant, Ann. Mag. N. H. xviii, p. 44, fig. on p. 45. (1916). Australia.

Mesocentrus

Funkhouser, Phil. Jour. Sci. xviii, p. 681. (1921).

KEY TO SPECIES

One brown pubescent species with faint median carina anteriorly; tegmina black at base, large bronze coriaceous central area, apical area fuscous hyaline; 7×3.3 mm. **pyramidatus**

LIST OF SPECIES

pyramidatus Funkhouser, Phil. Jour. Sci. xviii, p. 681, pl. 1, figs. 3, 4. (1921). Iligan, Mindanao, Philippines.

*Hemikypthini***Cryptoparma**

Goding, Jour. N. Y. Ent. Soc. xxxix, p. 313. (1931).

KEY TO SPECIES

One slender pubescent black species with ferruginous legs, and ferruginous hyaline tegmina; ocelli equidistant; suprahumeral short, slender, oblique, acute, posterior process slender, tricarinate, distinctly passing apex of clavus; 5×2.3 mm. **parva**

LIST OF SPECIES

parva Funkhouser, Rec. Ind. Mus. xxiv, p. 325, pl. 10, fig. 2. (1922). Taiping Hills, Perak, Malacca.

Megaloschema

Buckton, Mon. Memb. p. 231. (1903).

KEY TO SPECIES

One broad ochreous yellow species with suprahumeral broad, long, sides parallel, tips carinate and truncate; tegmina hyaline; 8×4 mm.

laticornis

LIST OF SPECIES

laticornis Buckton, Mon. Memb. p. 231, pl. 52, fig. 2. (1903). Sumatra.



Goding, Frederic W. 1950. "The Old World Membracidæ (Concluded)." *Journal of the New York Entomological Society* 58, 251–268.

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