

# On oriental *Fulgoroidea* I.

(Homoptera)

BY

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The genital characteristics, coloration of 15 species pertaining to the families *Flatidae* and *Ricaniidae* are explicated in this paper. Nomenclatural modernization is specified according to Metcalf (1954 - 55).

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## FLATIDAE.

### *Adelidoria* Metcalf, 1952.

*Adelidoria* Metcalf, 1952. *J. Wash. Acad. Sci.*, t. XLII, pág. 227.

Orthotype: *Poeciloptera glauca* Kirby, 1891. *J. Linn. Soc.*, t. XXIV, pág. 154 (Ceylon).

#### 1. *Adelidoria glauca* (Kirby, 1891) (figs. 1 - 3).

*Poeciloptera glauca* Kirby, 1891. *J. Linn. Soc.*, t. XXIV, pág. 154 (Ceylon).

Head, thorax, sternum, legs almost black; two blackish spots on thorax; abdomen dorsally with dark spots; tegmina tomentose, pale violet color.

*Length*: 10 mm (♂).

*Genitalia*: Pygofer (fig. 1, AS) simple. Aedeagus (fig. 2, AED) tubular, serrate mediad, with a pair of spinous processes directed laterocephalad, acuminate apicad (SP), subapical one subdivided.

Genital style (fig. 3, ST) subapically concavus, apex angularly pointed laterad.

*Locality*: Gatala, Ceylon. III - 1908 (Ind. Mus.).

*Distribution*: Borneo, Ceylon.

### **Cryptoflata** Melichar, 1901.

*Cryptoflata* Melichar, 1901. *Ann. Hofmus Wien*, t. XVI, pág. 197.

Orthotype: *Flata unipunctata* Stål, 1886. *Hemiptera Africana*, t. IV, pág. 241 (Sierra Leone).

#### 2. **Cryptoflata guttularis** (Walk., 1857) (figs. 4 - 6).

*Nephesa guttularis* Walk., 1857. *J. Proc. Linn. Soc. Lond.*, t. I, pág. 160.

Body cretaceously pubescent; vertex and pronotum with central carination; tegmina milky white with sparse black spots.

*Length*: 10 mm (♂).

*Genitalia*: Anal segment simple (fig. 4, AS). Aedeagus (fig. 5, AED) cylindrical, with three pairs of sharp apical processes (SP), first pair short, second pair filamentous apicad, third arising mediad, strongly spinous. Genital style (fig. 6, ST) at apex beak-shaped, excavatus entire length, dorsally convexus.

*Locality*: Margherita, Assam (W. Doherty).

*Distribution*: Assam, Borneo, Burma, Formosa, Japan, Java, Khasi, Kwangtung, Northern China, Sarawak, Sumatra.

### **Flata** Fabr., 1798.

*Flata* Fabr., 1798. *Suppl. Entomologiae Systematicae* (1798), págs. 511-517.

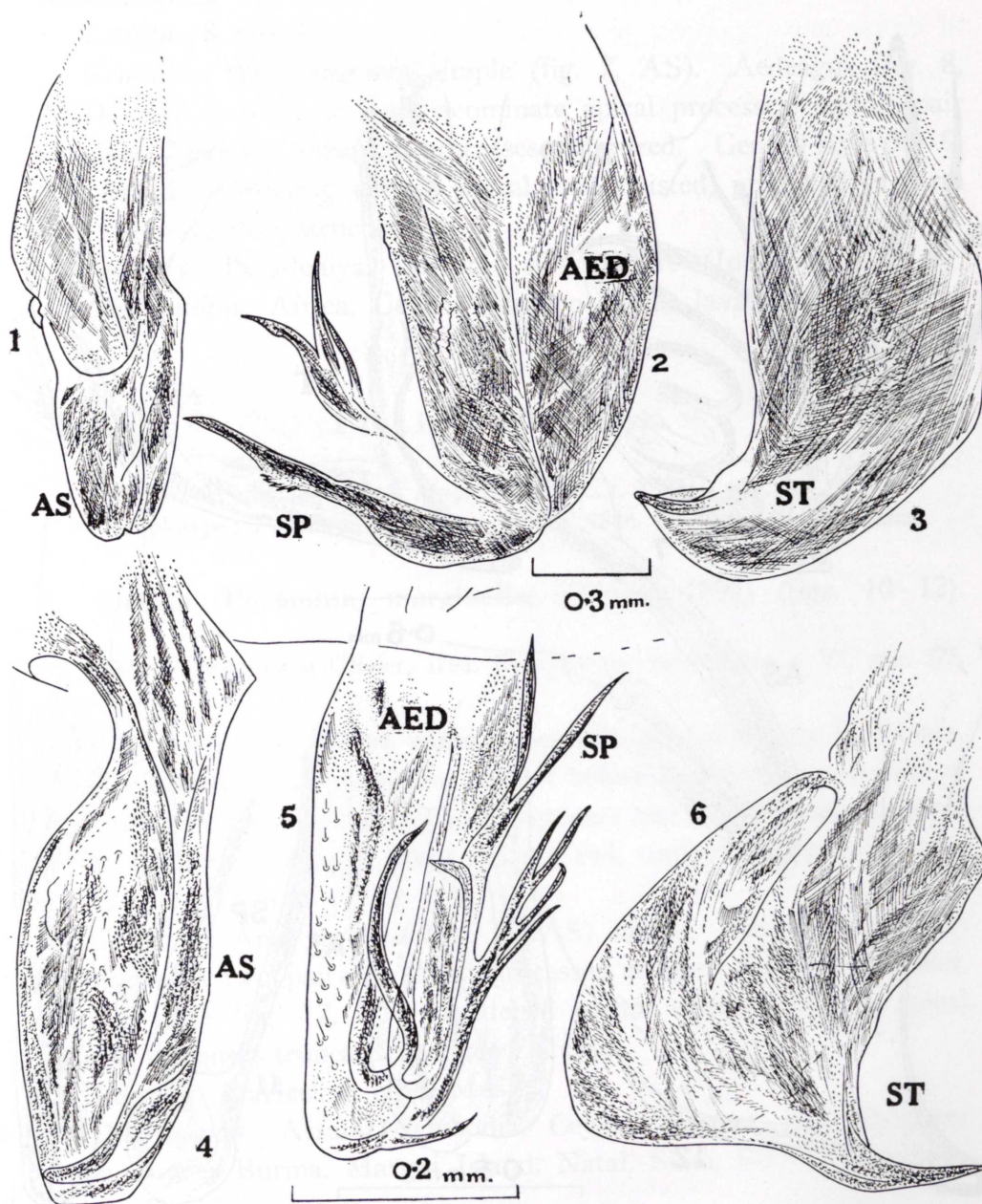
Logotype: *Flata ocellata* (Fabr., 1775). *Systema Entomologiae* (Madras).

#### 3. **Flata stellaris (ocellata)** (Walk., 1851) (figs. 7 - 9).

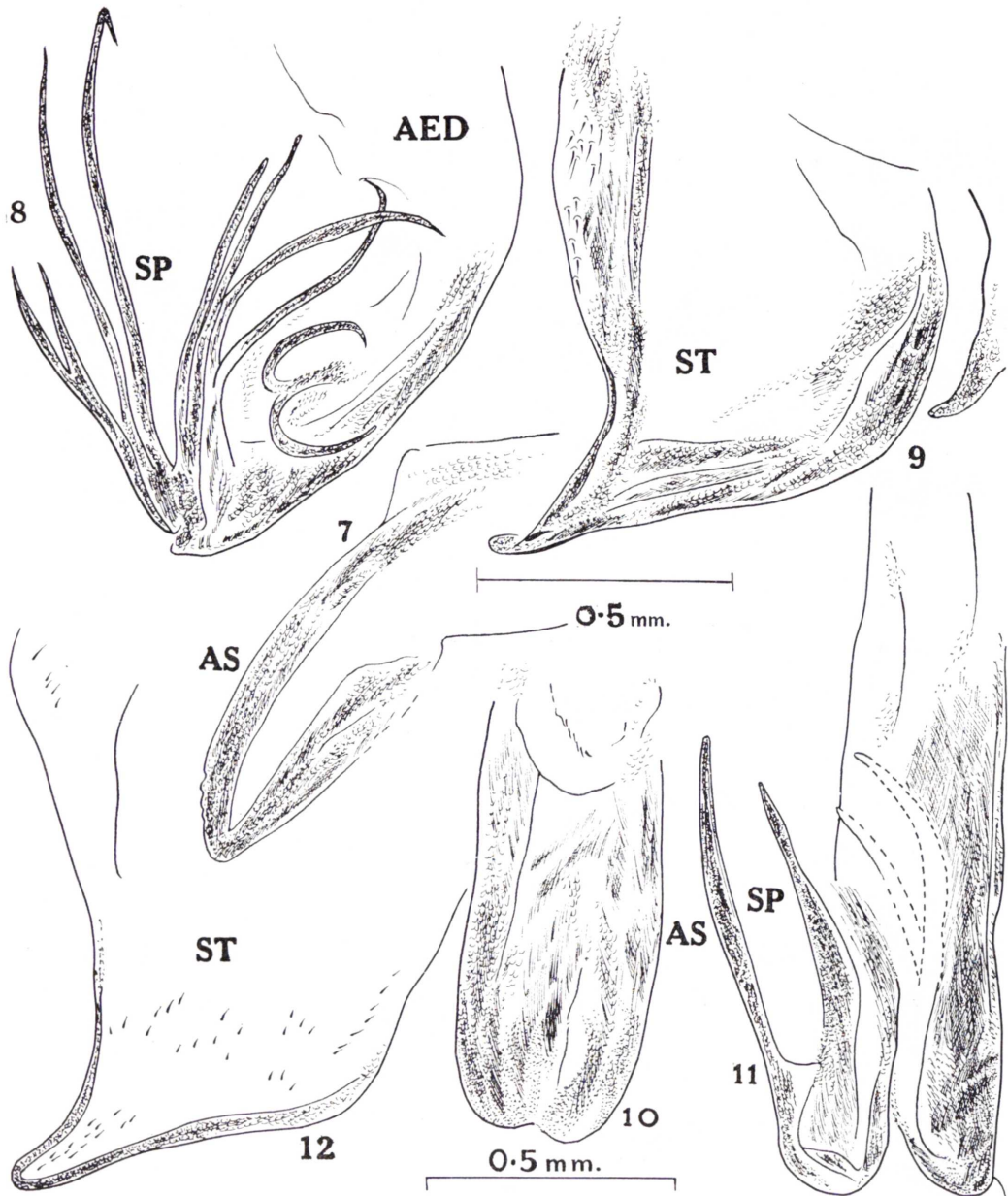
*Poeciloptera stellaris* Walk., 1851. *List. Homop. Insects*, t. II, pág. 453.

Body, legs greenish yellow; pro-mesonotum not of uniform color; tegmina pale green, extreme edge of costal and posterior





Figs. 1-6.—*Adelidoria glauca* (Kirby): 1) pygofer; 2) aedeagus; 3) genital style. *Cryptoflata guttularis* (Walk.): 4) anal segment simple; 5) aedeagus; 6) genital style.



Figs. 7-12.—*Flata stellaris (ocellata)* (Walk.): 7) anal segment simple; 8) aedeagus; 9) genital style. *Flatida (Phromnia) marginella* (Olivier): 10) anal segment simple; 11) aedeagus; 12) genital style.



margin pale yellow, claval part granulate, veins interspersed with reddish spots.

*Length*: 8 mm (♂).

*Genitalia*: Anal segment simple (fig. 7, AS). Aedeagus (fig. 8, AED) with 3 pairs of long, acuminate apical processes, middle pair elongate, 2 pairs of subapical processes as figured. Genital style (fig. 9, ST) broad, expanding apicad, apical part twisted, produced in form of a subtriangulate structure.

*Locality*: Peradeniya, Ceylon. 30 - VII - 10 (Ind. Mus.).

*Distribution*: Africa, Ceylon, Eastern India, Java, Madras.

### **Flatida** White, 1846.

*Flatida* White, 1846. *Ann. Mag. Nat. Hist.*, t. XVIII, pág. 26.

Haplotype: *Poeciloptera tricolor* White, 1846. Op. cit. (Assam, India).

#### 4. **Flatida (Phromnia) marginella** (Olivier, 1791) (figs. 10 - 12).

*Fulgora marginella* Olivier, 1791. *Encyclopédie méthodique*, t. VI, pág. 575.

Body brownish yellow, white pubescent; face distinctly bicarinate, median carination to pronotum forked before anterior margin; tip of first and whole of second antennal segments black; tibial, tarsal apices black; tegmina greenish, costal margin red, under surface tomentose.

*Length*: 13 mm (♂).

*Genitalia*: Anal segment (fig. 10, AS) simple. Aedeagus (fig. 11) tubular with two pairs of sharp processes at apex directed cephalad. Genital style (fig. 12, ST) broadened basad, tapering apicad, apical margin obliquely truncate, produced laterad.

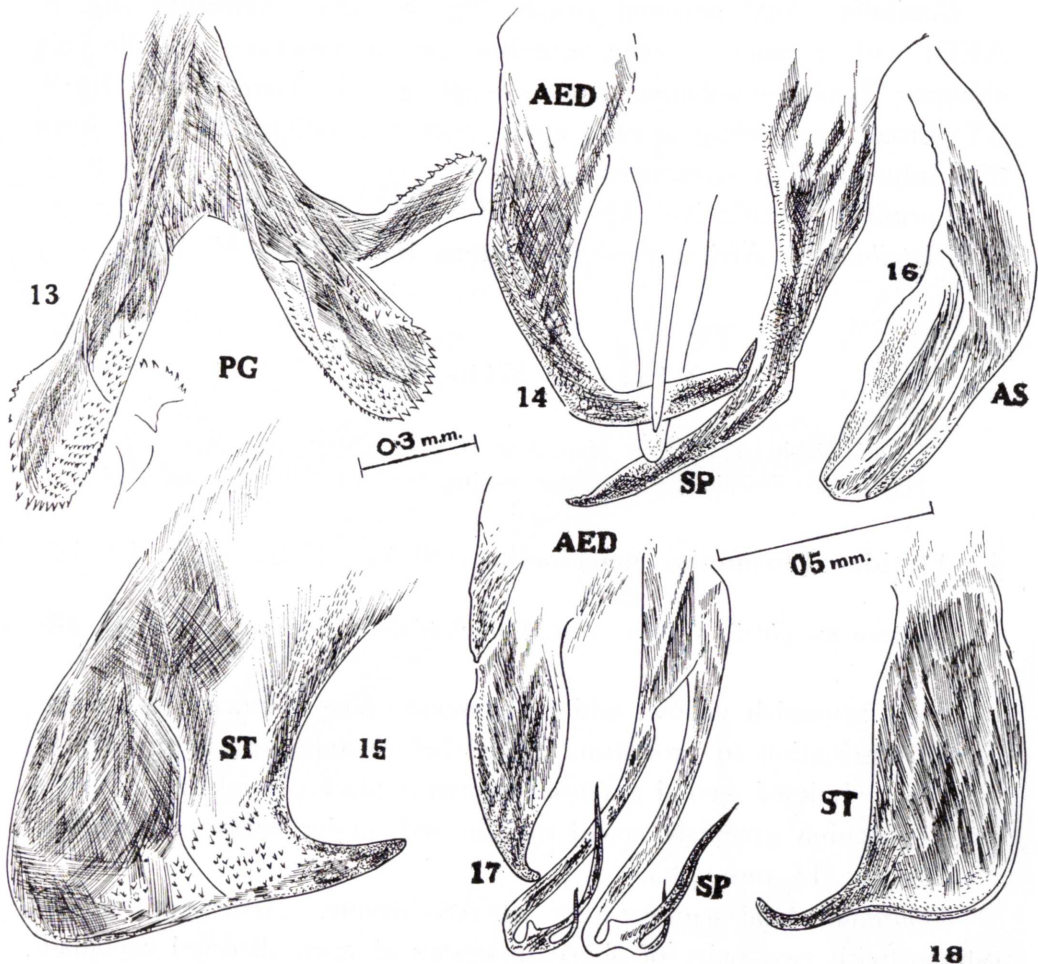
*Locality*: Darjeeling (Ind. Mus.).

*Distribution*: Assam, Cambodia, Ceylon, Eastern and Northern India, Lower Burma, Margui Island, Natal, Siam, Sikkim, Southern China, Tonkin.

#### 5. **Flatida (Phromnia) viridula** (Atkinson, 1889) (figs. 13 - 15).

*Cerynia viridula* Atkinson, 1889. *J. Asiat. Soc. Beng.*, t. LVII, pág. 340 (Bombay).

Body, legs greenish yellow; antennal 2nd joint black; anterior and middle tarsi piceous; tegmina greenish, yellowish basad, a pair of linear spots on disc; abdomen covered with matted hair.



Figs. 13 - 18.—*Flatida (Phromnia) viridula* (Atkinson): 13) a lobe seems to be attached to genital style; 14) aedeagus; 15) genital style. *Ketumala farinosa* Dist.: 16) anal segment; 17) aedeagus; 18) genital style.

*Length*: 12 mm.

*Genitalia*: A lobe (fig. 13) seems to be attached to genital style, serrate deeply on outer margin, laminate. Aedeagus (fig. 14, AED) with a pair of stout, strongly curved apical processes (SP), extremity abruptly pointed, short, median one pellucid, tapering. Genital style (fig. 15, ST) with lateral margin concavus, apex bent, pointed, triangulate.

*Locality*: Poona, India (Col. Swinhoe).

*Distribution*: Assam, Bombay, Sikkim, Travancore.



**Ketumala** Distant, 1906.

*Ketumala* Distant, 1906. *Fauna Brit. India*, t. III, págs. 440, 446.

Orthotype: *Seliza bisecta* Kirby, 1891. *J. Linn. Soc.*, t. XXIV, pág. 152 (Ceylon).

6. **Ketumala farinosa** Distant, 1912 (figs. 16 - 18).

*Ketumala farinosa* Distant, 1912. *Ann. Mag. Nat. Hist.*, t. IX (8), pág. 446 (Ceylon).

Body pale yellow, vertex laterally strongly carinate, pronotum on anterior margin strongly produced, mesonotum tricarinate; tegmina tomentose, pale yellow, clavus finely granular, apical margin truncate.

*Length*: 5 mm (♂).

*Genitalia*: Anal segment (fig. 16, AS). Aedeagus (fig. 17, AED) with a pair of processes originating mediad, extremity of each subdivided into short processes, subapically hook-shaped. Genital style (fig. 18, ST) broadening apicad, apex strongly produced, feebly beak-shaped.

*Locality*: Hoshiarpur, Punjab. X - 1959 (G. P. Sharma).

*Distribution*: Ceylon.

**Lawana** Distant, 1906.

*Lawana* Distant, 1906. *Fauna Brit. India*, t. III, pág. 420.

Orthotype: *Lawana candida* (Fabr., 1798). *Suppl. Entomologiae Systematicae* (1798), pág. 518 (Mauritius Island).

7. **Lawana conspersa** (Walk., 1851) (figs. 19 - 21).

*Colobesthes conspersa* Walk., 1851. *List. Homop. Insects*, t. II, pág. 440.

Body, legs pale yellow; tegmina creamy white, mottled with irregular spots; wings wider than tegmina.

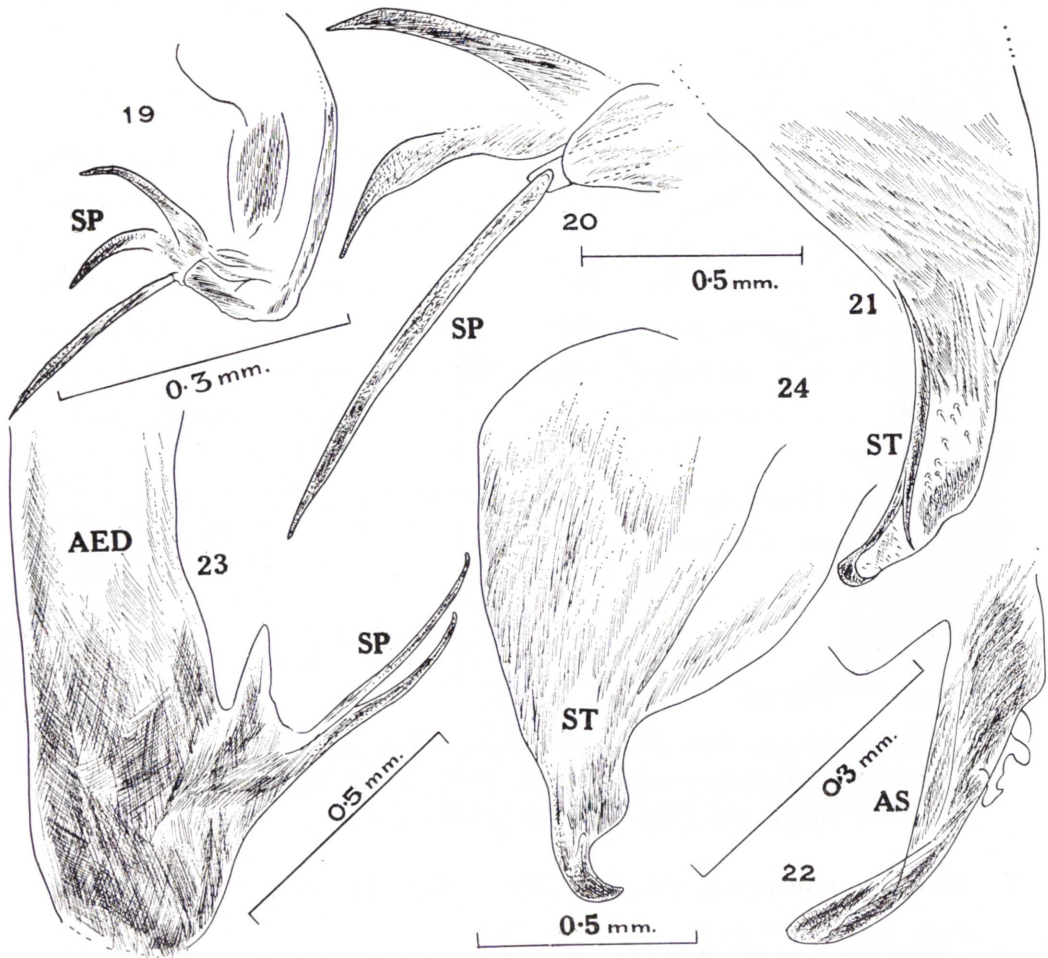
*Length*: 12 mm (♂).

*Genitalia*: Anal segment simple. Aedeagus (fig. 19, SP) tubular, 3 elongate, sharp processes at apex directed laterad (fig. 20, SP mag-

nified). Genital style (fig. 21, ST) tapering distad, apex round with a short, sharp process arising near curvature.

*Locality*: Island of Penang (Baker). Sikkim, May 1912 (Ind. Mus.).

*Distribution*: Assam, Bihar, British Malaya, Burma, Ceylon, Eastern India, Indo - China, Japan, Java, Madras, Malaya Archipelago, Sikkim, Sumatra.



Figs. 19 - 24.—*Lawana conspersa* (Walk.): 19) aedeagus; 20) 3 elongate sharp processes et apex directed laterad; 21) genital style. *Melicharia lactifera* (Walk.): 22) pygofer with anal lobe; 23) aedeagus; 24) genital style.



**Melicharia** Kirkaldy, 1900.

*Melicharia* Kirkaldy, 1900. *Entomologist*, t. XXXIII, págs. 294, 295.

Orthotype: *Melicharia sinhalana* Kirkaldy, 1900. Op. cit. (Ceylon).

8. **Melicharia lactifera** (Walk., 1851) (figs. 22 - 24).

*Poeciloptera lactifera* Walk., 1851. *List. Homop. Insects*, t. II, pág. 450.

Body, legs ochroleucus; face with a short carination; tegmina milky white, margin truncate, posterior angle rectangular.

*Length*: 5 mm (♂).

*Genitalia*: Pygofer with anal lobe (fig. 22, AS). Aedeagus (fig. 23, AED) tubular, curved apicad with a pair of acute terminal processes directed apicad. Genital style (fig. 24, ST) broadened basad, apical third abruptly narrowed, subapically prominently bulging, apex beak-shaped.

*Locality*: Peshok, 2.000', Darjeeling Dist., West Bengal. 26-V/VI-16 (F. H. G.).

*Distribution*: Ceylon, East India, Eastern - Northern India, Indian Archipelago, Madras, Sumatra.

**RICANIIDAE.****Euricania** Melichar, 1898.

*Euricania* Melichar, 1898. *Naturish. Hofmus. Wien. Ann.*, t. XIII, pág. 258.

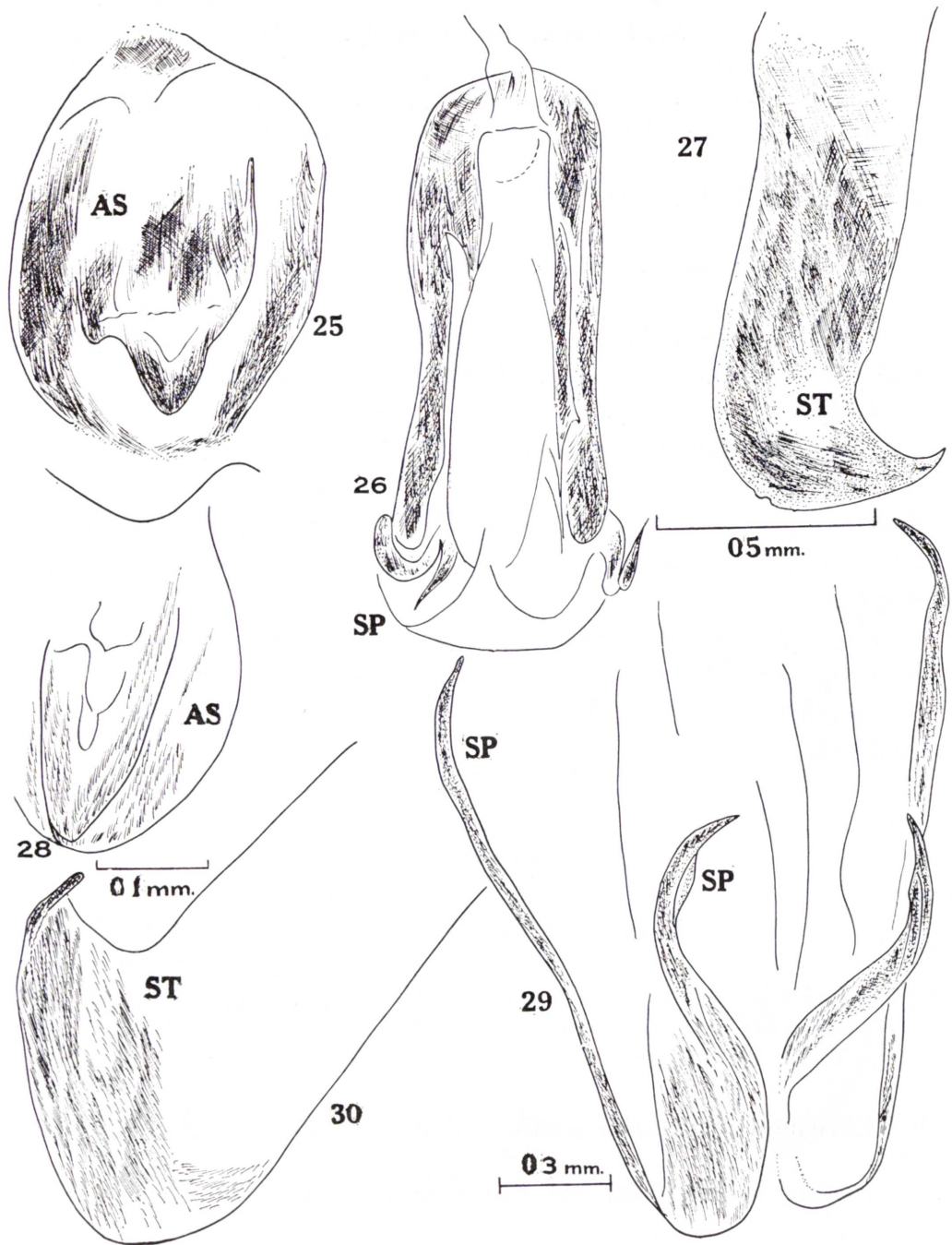
Logotype: *Pochazia ocellus* Walker, 1851. *List. Homopt. Brit. Mus.*, t. II, pág. 429 (China).

9. **Euricania (Pochazia) ocellus** (Walk., 1851) (figs. 25 - 27).

*Pochazia ocellus* Walk., 1851. *List. Homop. Insects.*, t. II, pág. 429.

Head, thorax, sternum pitchy black; facial carination gradually disappearing posteriorly; broken pattern of markings on costal area, broad band along posterior margin as in wing, beyond middle a short fascia united with a patch on costal area.

*Length*: 6 mm (♂).



Figs. 25 - 30.—*Euricania (Pochazia) ocellus* (Walk.): 25) anal lobe; 26) aedeagus; 27) genital style. *Pochazia antica (fuscata)* (Gray): 28) anal segment simple; 29) aedeagus; 30) genital style.



*Genitalia*: Anal lobe (fig. 25, AS). Aedeagus (fig. 26, SP) rectangular, a pair of subterminal processes very short, remaining processes slenderer, directed cephalad. Genital style (fig. 27, ST), width of equal length, apical margin foot-shaped, apex triangulate, pointed laterad.

*Locality*: Garo Hills. 15 - VI - 30 (Ind. Mus.).

*Distribution*: Assam, Bengal, East India, Formosa, Okinawa, O-shina Island, Ryukyu Islands, Sikkim, Southern/Northern China, Tonkin.

### **Pochazia** Amyot et Serville, 1843.

*Pochazia* Amyot et Serville, 1843. *Hist. Nat. Ins. Hémiptères* (1843), pág. 258.

Logotype: *Pochazia fasciata* (Fabr., 1803). *Systema Rhynogotorum* (1803), pág. 47 (South America).

#### 10. **Pochazia antica (fuscata)** (Gray, 1832) (figs. 28 - 30).

*Poeciloptera (Euryptera) antica* Gray, 1832. *The Animal Kingdom*, t. XV, pág. 260.

Head, thorax, face pitchy black; abdomen, legs brownish yellow; tegmina piceous brown, a yellow spot on costal margin, 2/3rd from base fine, conspicuous, oblique line across near apical margin.

*Length*: 9 mm (♂).

*Genitalia*: Anal segment (fig. 28, AS) simple. Aedeagus (fig. 29) with a pair of sharp terminal processes directed cephalad, inner pair stouter, 3/4th length of outer one, strongly curved, subapically bulging, outer pair slenderer, slightly curved inward (fig. 29, SP). Genital style (fig. 30, ST) broader apicad, apical margin obliquely truncate, subapically excavate, apex triangularly pointed.

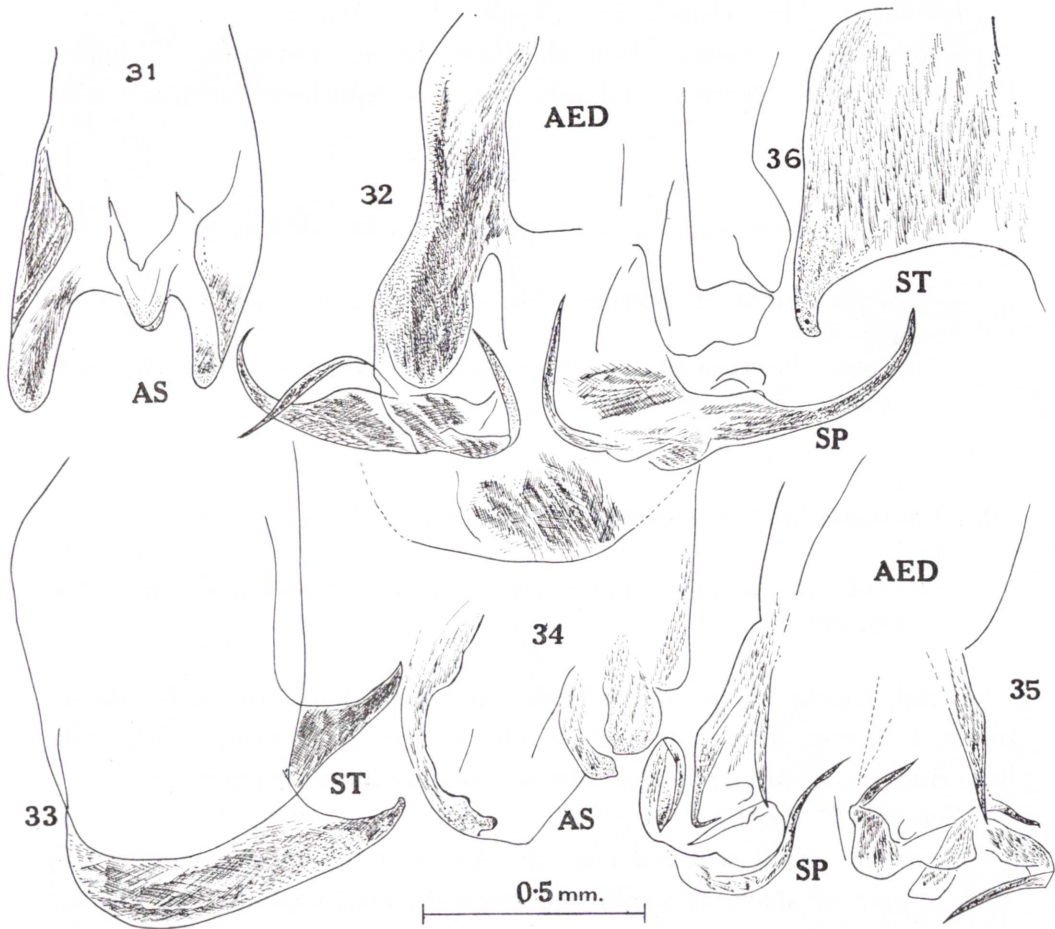
*Locality*: Moulmin, Lower Burma. 17 - XI/4 - XII - 1911 (F. H. G.).

*Distribution*: Banguay Island, Borneo, British Malaya, Cambodia, Celebes, East Indies, Indian Archipelago, Indo-China, Java, Little Nicobar, Madras, Malaya Peninsula, Malaysia, Morty Island, New Guinea, Sarawak, Siam, Siberut Island, Sipora Island, Sula Island, Sumatra, Sunda Island, Tenasserim, Tranquebar.

11. *Pochazia antigone* (striata) Kirk., 1902 (figs. 31 - 33).

*Pochazia antigone* Kirk., 1902. *J. Bombay Nat. Hist. Soc.*, t. XIV, pág. 52.

Head, pronotum dark brown, face brownish yellow; tegmina



Figs. 31-36.—*Pochazia antigone* Kirk.: 31) anal segment simple; 32) aedeagus; 33) genital style. *P. triangularis* Dist.: 34) anal segment simple; 35) aedeagal armature; 36) genital style.

piceous - brown, costal margin near middle with a yellow spot, costal, apical areas piceous, crossed by two narrow bands.

*Length*: 8 mm (♂).

*Genitalia*: Anal segment (fig. 31, AS) simple. Aedeagus (fig. 32, AED) tubular, with three pairs of sharp terminal processes, inner pair directed cephalad, outer ones directed laterad. Genital style



(fig. 33, ST) uniform width entire length, apical margin foot-like, apex pointed, triangulated.

*Locality*: Kandy, Ceylon. VI - 1910 (Ind. Mus.).

*Distribution*: Ceylon, Madras.

12. **Pochazia triangularis** Dist., 1906 (figs. 34 - 36).

*Pochazia triangularis* Dist., 1906. *Fauna Brit. India*, t. III, pág. 375.

Head, thorax dark brown with yellowish tinge; legs, abdomen, tegmina short and broad brownish yellow; costal margins beyond middle with a grey-white spot, apical margin straight, apically obtuse - angulate.

*Length*: 8 mm (♂).

*Genitalia*: Anal segment (fig. 34, AS) simple. Aedeagal armature (fig. 35, AED) flattened, subterminally two pairs of sharp processes, superior processes five times longer than inferior processes, distinctly bent, directed downward, inferior ones short, stout pointed laterad. Genital style (fig. 36, ST) strongly excavate laterad, apex short, pointed.

*Locality*: North Lakhimpur, Upper Assam. 31 - VIII - 1910 (H. Stevens).

*Distribution*: Ceylon.

**Ricanoptera** Melichar, 1898.

*Ricanoptera* Melichar, 1898. *Naturist. Hofmus, Wien. Ann.*, t. XIII, pág. 253.

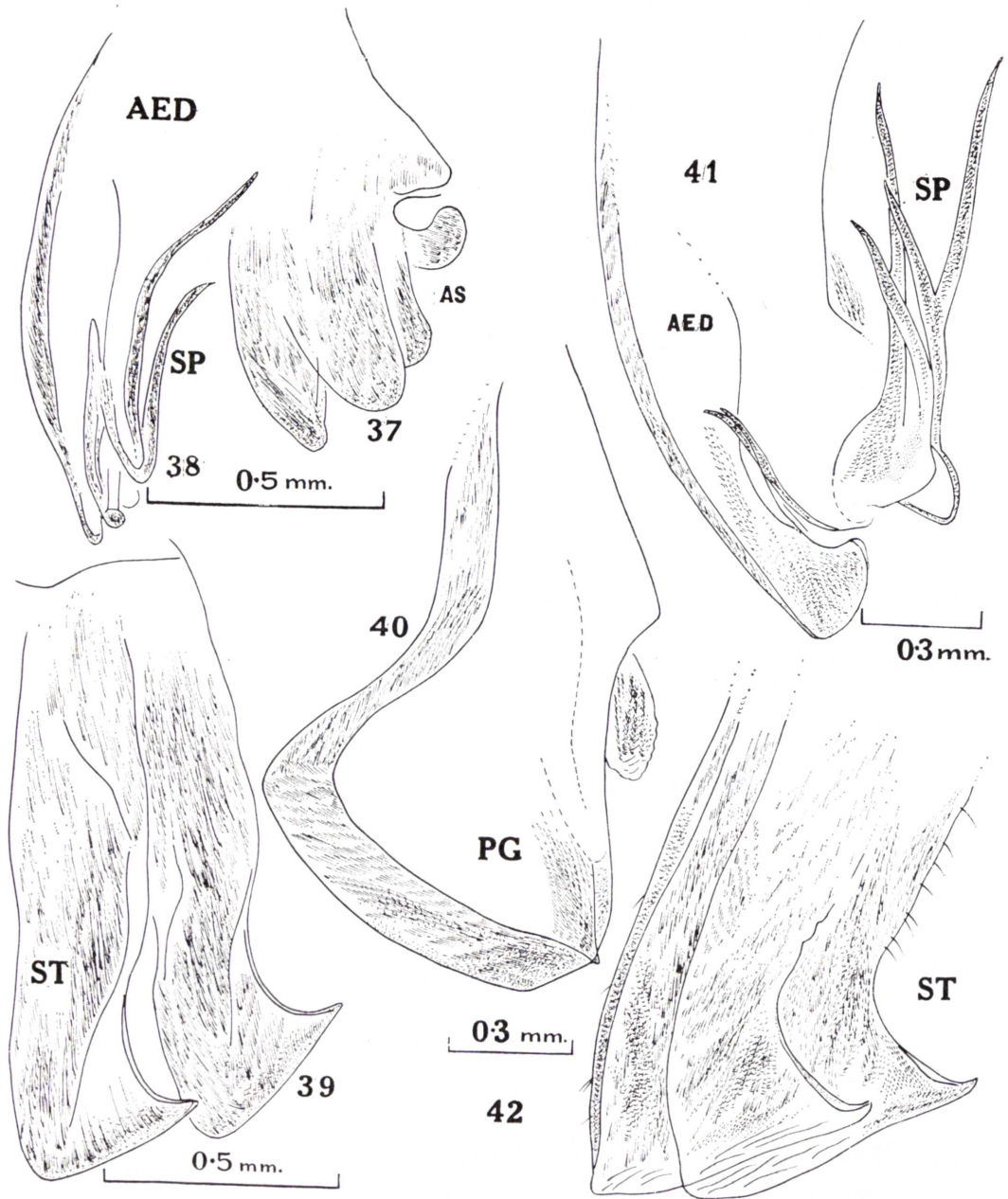
Logotype: *Ricania mellerborgi* Stål, 1854. *Öfv. Vet. - Akad. Forh.*, t. XI, pág. 247 (Java).

13. **Ricanoptera fenestrata (mellerborgi)** (Fabr., 1803) (figs. 37-39).

*Flata fenestrata* Fabr., 1803. *Systema Rhyngotorum* (1803), pág. 51.

Head, face with a central carina, thorax, sternum, tegmina piceous black; a smaller costal marginal spot joined with a central discal spot, apical margin with a pair of grey-white elongated spots.

*Length*: 7 mm (♂).



Figs. 37 - 42.—*Ricanoptera fenestrata (mellerborgi)* Fabr.: 37) anal segment simple; 38) aedeagus; 39) genital style. *Ricania speculum* Walk.: 40) pygofer; 41) aedeagus; 42) genital style.



*Genitalia*: Anal segment (fig. 37, AS) simple. Aedeagus (fig. 38, AED) short, tubular, with a number of slender, sharp processes (fig. 38, SP) at apex, directed cephalad. Genital style (fig. 39, ST) with triangulate pointed apical processes directed laterad, subapically excavate.

*Locality*: Sarawak. 24 - VI - 1910 (Ind. Mus.).

*Distribution*: Boolgo Island, Borneo, Indian Archipelago, Java, Malaya Peninsula, Malaysia, Mentavi Island, Mergui Archipelago, New Zealand, Phillipines, Sarawak, Singapoore Island, Sumatra, Tenasserim.

14. **Ricania speculum** (Walk., 1851) (figs. 40 - 42).

*Flatoides speculum* Walk., 1851. *List. Homopt. Insects*, t. II, pág. 406.

Head, thorax, sternum piceous; tegmina, abdomen piceous brown; tegmina with two spots on upper disc, elongated grey - white spots on costal margin; wings sooty brown.

*Length*: 7 mm (♂).

*Genitalia*: Pygofer (fig. 40, PG) with laterodorsal angle produced. Aedeagus (fig. 41, AED) broad, 3 pairs of elongated, sharp processes arising at apex. Genital style (fig. 42, ST) subapically concavus, otherwise lengthwise parallel, apex in acute subtriangulate process.

*Locality*: Calcutta. 27 - VI - 1907 (Ind. Mus.).

*Distribution*: Assam, Bengal, Borneo, British Malaya, Burma, Ceylon, Conchinchina, East Indies, Fukien, Indian Archipelago, Indo - China, Java, Kiangsi, Luzon, Madras, Malacca, Malaya Archipelago, Mindanao, Palawan, Phillipines, Sarawak, Siam, Sikkim, Singapoore Island, South China, Sumatra, Tenasserim.

15. **Ricanula (Ricania) pulverosa** (Stål, 1865) (figs. 43 - 45).

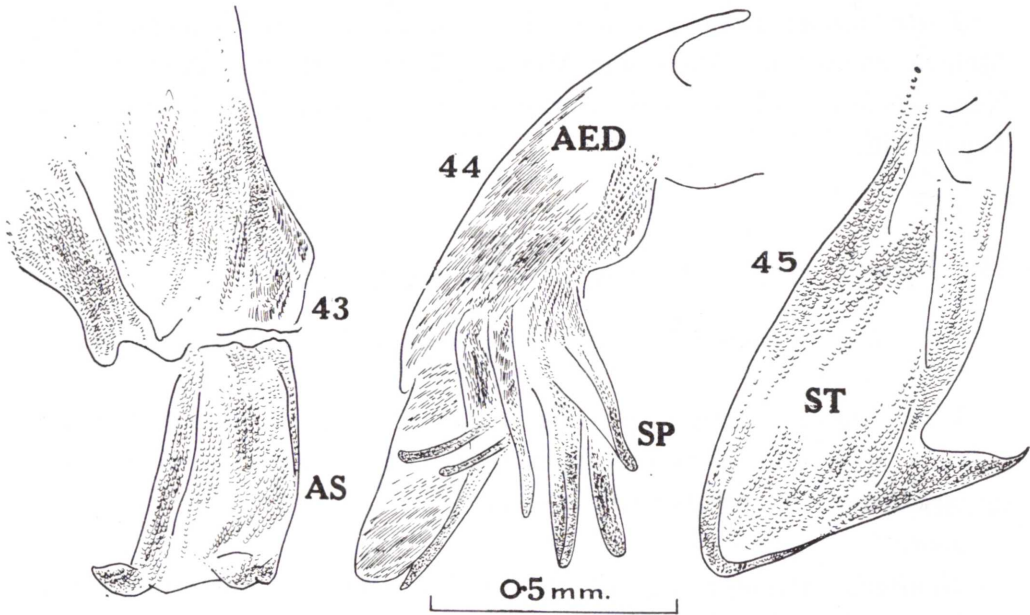
*Ricania pulverosa* Stål, 1865. *Öfv. Svenska Vet. - Akad. Förh.*, t. XXII, pág. 162.

Head, thorax pitchy black; body ventrally, legs brownish yellow; tegmina piceous brown, costal margin with transverse black patch

from base to middle, a grey white spot bilineate, two spots near apex and a minute costal black spot.

*Length*: 5 mm (♂).

*Genitalia*: Anal segment (fig. 43, AS). Aedeagus (fig. 44, AED) with a number of blunt processes (SP). Genital style (fig. 45, ST)



Figs. 43 - 45.—*Ricanula (Ricania) pulverosa* (Stål): 43) anal segment; 44) aedeagus; 45) genital style.

subequal width, apical margin expanded, truncate, apex acutely pointed laterad.

*Locality*: Peshok, Darjeeling Dist., West Bengal. 26 - V - 1914 (Ind. Mus.).

*Distribution*: Cambodia, Siam.

#### Reference.

FENNAH, R. G.

1956. *Homoptera: Fulgoroidea. Insects of Micronesia*, t. VI (3), págs. 39-211.