

II.—Notes on Indian Rhynchota. No. 5.—By E. T. ATKINSON, B. A.,  
PRESIDENT.

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Subfamily EURYBRACHYDINA, Stål.

*Eurybrachydida*, Stål, Hem. Afric. iv, p. 129 (1866); *Eurybrachydina*, Ofvers. K. V.-A. Förh. p. 753 (1870).

Anal area of wings very rarely reticulate, when so, clypeus convex without lateral ridges: last tibiæ without a mobile spur at the apex. Frons broad, transverse or almost equally long and broad, amplified on both sides in a distinct angle: anterior feet compressed, more or less dilated: anal area of wings sometimes reticulated (*Stål*).

Stål distributes the genera included in this subfamily into two great groups:—

(1) those in which the eyes beneath are spinose.

(2) those in which the eyes beneath are unarmed.

a. Genera furnished with eyes spinose beneath.

L. Wings less ample, not or scarcely broader than the tegmina: head very broad; antennæ briefly cylindrical; eyes beneath very distinctly spinose; clavus very broad at the apex.

A. Head very slightly prominulous before the eyes; genæ narrower; frons scarcely or only a little broader than the thorax; last pair of tibiæ 5-spinose:—*Eurybrachys*, Guérin.

B. Head more prominulous before the eyes; genæ broader; frons distinctly broader than the thorax; vertex scarcely or only a little shorter than the thorax; last pair of tibiæ 6-spinose:—*Messena*, Stål.

II. Wings ample, broader than the tegmina.

A. Vertex distinctly sinuate at the base: lateral angles of frons much produced; antennæ briefly cylindrical; clavus broad at the apex, two longitudinal veins separated through their whole length: median longitudinal area of wings dilated, furnished almost entirely with transverse veins; last pair of tibiæ 6-spinose:—*Thessitus*, Walker.

B. Vertex very slightly sinuate at the base or truncated: lateral angles of frons somewhat straight, less produced than in *Thessitus*, Walker: clavus narrowly open at the apex, the longitudinal veins united nearly in the middle; wings without a dilated area.

a. Head hardly broader than the thorax, vertex truncated at the base; second joint of the antennæ very briefly subcylindrical; last pair of tibiæ 5-spinose:—*Loxocephala*, Schaum.

b. Head narrower than the thorax, vertex subsinuate at the base; second joint of the antennæ subglobose; last pair of tibiæ normally 4-spinose:—*Nesis*, Stål.

*b.* Genera furnished with eyes unarmed beneath and clavus closed at the apex, somewhat acute.

1 (2). Last pair of tibiæ usually 6-spinose; scutellum longer by half than the thorax: antennæ short, second joint subglobose:—*Frutis*, Stål:—type *F. pulchra*, Gray.

2 (1). Last pair of tibiæ normally 3-spinose.

3 (8). Frons transverse, angulated on both sides.

4 (7). Thorax and scutellum together distinctly shorter than the breadth.

5 (5). Antennæ short, not extending beyond the eyes:—*Olonia*, Stål:—*O. apicalis*, Walker, from Australia.

6 (5). Antennæ cylindrical, longer, extending beyond the eyes, tegmina narrowed towards the apex:—*Dardus*, Stål:—*D. bufo*, Walker, from Australia.

7 (4). Thorax and scutellum together equally long and broad: antennæ short:—*Platybrachys*, Stål:—*P. leucostigma*, Walker, from Australia.

8 (3). Frons scarcely broader than long, roundly-amplified on both sides; lateral angles of vertex ascending: antennæ subcylindrical, long, extending much beyond the eyes; tegmina narrowed towards the apex (wings absent?):—*Gedrosia*, Stål:—*G. varia*, Walker, from Australia.

These do not include the whole of the genera falling under this subfamily, but are enough for our purposes.

#### GENUS EURYBRACHYS, Guérin, Stål.

Guérin, Voy. Bélanger Ind. Orient. p. 475 (1834); Burm., Handb. Ent. ii (i) p. 119 (1835); Spinola, A. S. E. F. (1 sér.) viii, p. 367 (1839); Walker, List. Hom. B. M. ii, p. 381 (1851); Stål, Stettin Ent. Zeit. xxiv, p. 245 (1863).

Guérin's diagnosis of the genus is as follows:—'Antennæ rather long, extending a little beyond the sides of the frons, the first joint short, the second long, granulate, cylindrical, a little rounded at the tip, at least thrice longer than broad, with the filamentous portion of the antennæ inserted at the extremity and very near the eyes: ocelli apparently absent: frons transverse, the anterior portion in form of a transverse lozenge, flat, ecarinate: labrum small, triangular: rostrum short, reaching barely the intermediate coxæ: thorax transverse, with the anterior lobe a little narrower: tegmina a little longer than the abdomen, dilated at their base, and a little contracted at the extremity: abdomen as high as broad: feet rather long, spinose; anterior and intermediate tibiæ flattened and dilated.'

## 1. EURYBRACHYS VENUSTA, Stål.

*Eurybrachys venusta*, Stål, Stettin Ent. Zeit. xxiv, p. 245 (1863).

♀. Sanguineous; head, thorax anteriorly and barely basal half of tegmina olivaceous-green; the basal half of the tegmina spotted fuscous, and the base itself, sanguineous; corium behind the middle and commissural limb of clavus, greyish, veined subolivaceous; wings whitish, subsanguineous at the base and veined sanguineous: abdomen sordid stramineous (sanguineous when alive?), beneath banded black. In stature like *E. tomentosa*, Fabr., differs in having the tegmina more distinctly and densely veined behind the middle. Tegmina twice longer than broad, subcoriaceous before the middle, opaque (Stål). Long, 10; exp. teg., 25 millims.

Reported from Nilgiris.

## 2. EURYBRACHYS TOMENTOSA, Fabricius.

*Cicada tomentosa*, Fabricius, Syst. Ent. ii, p. 683 (1775); Spec. Ins. ii, p. 324 (1781); Mant. Ins. ii, p. 269 (1787); Ent. Syst. iv, p. 30 (1794).

*Lystra tomentosa*, Fabricius, Syst. Rhyng. p. 60 (1803); Germar in Thon's Archiv. ii, fasc. 2, p. 55 (1830).

*Eurybrachys tomentosa*, Burm., Handb. Ent. ii (i) p. 150 (1835); Am. & Serv., Hist. Nat. Ins. Hém. p. 517 (1843); Walker, List. Hom. B. M. ii, p. 381 (1851); Stål, Hem. Fabr. ii, p. 100 (1869).

♀. Green-olivaceous; tegmina olivaceous-green, with small scattered spots and two oblique bands, flavescent, apical part flavescent-greyish; small apical spots arranged in two transverse rows and a larger spot at the commissure, black, shining: wings whitish, a band abbreviated inwards behind the middle and a band continued through, placed near the apex, black: pectus and feet sanguineous, tibiæ and last pair of tarsi infusate; abdomen croceous, disc of venter, black. Closely allied to *E. spinosa*, Fabr., differs in the head a little broader, almost broader than the thorax, tegmina more ample, much spotted in rows at the apex, wings adorned with a band running through them near the apex, not by a small spot, and the first pair of tibiæ above a little more dilated (Stål). Exp. teg., 24; broad, 4 millims.

Reported from Sumatra, India: *E. fraternalis*, Stål [Ofvers. K. V.-A. Förh. p. 450 (1858)], from Ceylon is hardly distinguishable from *E. tomentosa*, Fabr.

## 3. EURYBRACHYS BIMACULATA, Fabricius.

*Lystra 2-maculata*, Fabricius, Syst. Rhyng. p. 60 (1803).

*Lystra bimaculata*, Germar, in Thon's Arch. ii, fasc. 2, p. 55, (1830.)

*Eurybrachys bimaculata*, Stål, Hem. Fabr. ii, p. 100 (1869).

♂. Weakly greyish-olivaceous; tegmina concolorous, pellucid, remotely and very obsoletely sprinkled fuscous; a spot behind the apex of the clavus and minute apical spots arranged in two transverse rows, black, shining; wings very pale olivaceous-greyish hyaline, colourless towards the apex and adorned with two black bands, the one short reaching the exterior margin, the other running through the wing; interior limb slightly infusate before the middle: feet weakly, sordid sanguineous, sprinkled fuscous; tibiæ and last pair of tarsi, black: venter black, margined flavescens. Very closely allied to *E. tomentosa*, Fabr., coloration excepted, differs hardly except in the tegmina being a little narrower (*Stål*). Long, 6; exp. teg., 20; broad,  $3\frac{1}{2}$  millims.

Reported from Tranquebar.

#### 4. EURYBRACHYS SPINOSA, Fabricius.

*Cicada spinosa*, Fabr., Ent. Syst. Suppt. p. 520 (1798); Coquebert, Ill. ii, p. 45, t. 9, f. 4 (1790).

*Lystra spinosa*, Fabr., Syst. Rhyng., p. 58 (1803).

*Eurybrachys spinosa*, Burm., Handb. Ent. ii, (i), p. 150 (1835); Spinola, A. S. E. F. (1 sér.) viii, p. 369 (1839).

Frons large, blunt, yellow: eyes ferruginous, prominulous, furnished with a small acute, prominent, spine: head and thorax obscure: tegmina deflexed, green, with three whitish oblique bands: feet sanguineous (*Fabr.*). Similar to *E. tomentosa*, Fabr., but tegmina shorter, broader and without an apical transverse line of black dots (*Burm.*). Long,  $8\frac{1}{2}$  millims.

Reported from India, Mauritius.

#### 5. EURYBRACHYS LEPELLETIERI, Guérin.

*Eurybrachys lepelletieri*, Guérin, Voy. Bélanger Ind-Orient. p. 476 (1834); Spinola, A. S. E. F. (1 sér.) viii, p. 369 (1839); Walker, List Hom. B. M. ii, p. 381 (1851).

♂. Rufous: head transverse, broad, with the anterior part of the frons flat, of a golden yellow: antennæ rufous: eyes whitish, prominulous, with a small acute prominent spine: thorax trapeziform of a somewhat pale yellow; tegmina of the same colour with a broad oblique rosy band, pointed towards the side, losing itself in the yellow in front, near the end another less marked band, a little reddish: wings white: body beneath and feet rosy red: abdomen yellowish (*Guérin*). Body long, 7; exp. teg., 19 millims.

Reported from Bengal: resembles *E. spinosa*, Fabr., in form and size, but differs in the coloration of the tegmina.

## 6. EURYBRACHYS PUNCTIFERA, Walker.

*Eurybrachys punctifera*, Walker, List Hom. B. M. ii, p. 383 (1851); Distant, J. A. S. B. xlviii, (2), p. 38 (1879).

♂. Body fawn-colour, irregularly dotted with brown and black; head nearly as broad as the thorax; vertex very slightly arched, much broader than twice its length; frons stramineous with small ferruginous marks, transversely angular towards the clypeus where it is sinuate; its breadth about twice its length: clypeus lanceolate, ferruginous, at the base stramineous; rostrum tawny, reaching a little beyond the middle coxæ: fore-chest rounded in front, straight behind, not longer than the vertex, its breadth about four times its length: middle-chest longer than the fore-chest indistinctly 5-carinate: scutellum small, triangular, posteriorly acute: pectus pale stramineous: abdomen obconical, a little shorter than the thorax, banded with black towards the tip; anal appendages black: legs pale stramineous, mottled with black, especially on the fore legs: femora tinged with very pale green, with a few brown dots; only the tips of the fore-femora marked with black; hind tibiæ 6-spinose; tips of spines, black: tegmina fawn-colour, colourless towards the apex, adorned with black dots which are larger, more numerous, and more distinct towards the tips; veins tawny: wings almost colourless, each with a large black spot near the tip and a smaller one on the hind border at three-fourths its length; veins very pale green (*Walker*). Body long,  $10\frac{1}{2}$ ; teg.,  $37\frac{1}{2}$  millims.

Reported from Madras; the Indian Museum has a specimen from Tenasserim.

## 7. EURYBRACHYS (?) RUBRICINCTA, Walker.

*Eurybrachys rubricincta*, Walker, Ins. Saund. Hom. p. 46 (1858).

Testaceous: vertex transverse, short, slightly arched, with a brown dot on each side; frons flat, smooth, transverse, dilated and angular on each side; face small: thorax slightly marked brown; pronotum slightly rounded in front with a slight median ridge; mesonotum slightly tricarinate; metanotum bright crimson: legs bright red, anterior legs much dilated: tegmina pale luteous, whitish at the tips with three spotted green bands; some black marks on the veins, three black dots near the anterior angle and two black submarginal points: wings snow-white with two black spots in front, the second almost apical. The abdomen in ♂ is furnished with foliaceous appendages; in ♀, towards the tip, with a bundle of snow-white filaments (*Walker*). Body long,  $7\frac{1}{4}$ ; teg.,  $16\frac{1}{2}$  millims.

Reported from N. India.

## 8. EURYBRACHYS (?) RUBRESCENS, Walker.

*Eurybrachys rubescens*, Walker, Trans. Linn. Soc. Zool. i, p. 88 (1856).

Testaceous: head, vertex, and thorax with reddish marks: frons greenish testaceous: legs rosy red: tegmina pubescent, slightly tuberculated, with a black shining dot near the tip of the costa and at three-quarters of the length of the hind border, purplish red, and with black dots towards the base, tawny towards the tips, with a dingy hyaline median band and the borders chiefly of the same colour: wings milky white with a brown band (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 37—38 millims.

Reported from Mount Ophir, Singapore.

## 9. EURYBRACHYS SUBFASCIATA, Walker.

*Eurybrachys subfasciata*, Walker, List Hom. B. M. ii, p. 391 (1851).

*Issus apicalis*, Walker, l. c. p. 368 (1851).

♂, ♀. Body short, broad, testaceous, sprinkled with a darker colour: head as broad as the thorax: vertex very slightly arched with an indistinct ridge along the border, six times broader than long; frons short, flat, forming an acute angle on each side, not sinuate where it joins the clypeus but forming an obtuse inward angle on each side near which it has two slight oblique furrows; more than twice broader than long: clypeus triangular, slightly rounded: rostrum ferruginous: eyes spinose: fore-chest very slightly rounded anteriorly, straight behind, a little longer than the frons: middle-chest longer than the fore-chest, subtriangular, its hinder sides sinuate: pectus and metanotum red: abdomen obconical as long as the thorax: fore and middle legs red, very broad; hind legs slender, dark red, hind femora mostly pale yellow, hind tibiæ 4-spinose, tips of spines, black: tegmina pale ferruginous, partly tawny, adorned at the tips with a few black spots of various size and varying in each specimen; veins ferruginous: wings almost colourless or slightly tinged with brown, blackish with a white band towards the tips; veins tawny (*Walker*). Body long,  $5-6\frac{1}{2}$ ; teg.,  $15-16\frac{1}{2}$  millims.

Reported from India, N. Bengal.

## Genus MESSENA, Stål.

Stettin Ent. Zeit. xxii, p. 246 (1863): see p. 10.

## 10. MESSENA PULVEROSA, Hope.

*Eurybrachys pulverosa*, Hope, Trans. Linn. Soc. xix, p. 134, t. 12, f. 7a, b, (1845); Walker, List. Hom. B. M. ii, p. 382 (1851).

*Messena pulverosa*, Stål, Rio. Jan. Hem. ii, p. 67 (1862); Stettin Ent. Zeit. xxiv, p. 246 (1863).

Shining whitish: head and thorax yellow, abdomen concolorous, having the end clothed with a white cottony substance: basal half of tegmina virescent, apices fuscous-hyaline, sparingly spotted: wings whitish, with an irregular black spot at the anterior margin and other minute spots of the same colour placed posteriorly: first and intermediate pairs of feet of a red-lead colour, last pair fuscous (*Hope*). Body long,  $14\frac{1}{2}$ ; exp. teg., 55 millims.

Reported from Silliat: the Indian Museum has a specimen, locality unknown.

#### 11. MESSENA NEBULOSA, Stål.

*Messena nebulosa*, Stål, Stettin Ent. Zeit. xxiv, p. 246 (1863).

♀. Pale fawn-colour; tegmina sordid whitish, veined fawn-colour: towards the base fawn-colour or (especially beneath) weakly violaceous-ferruginous, behind the middle clouded and sprinkled pale-fuscescent; adorned near the apex in the middle of the apical part with a spot and at the commissural margin, some distance behind the middle, with two spots (the posterior minute) or with one spot, black; sometimes sparingly sprinkled fuscous before the middle: wings whitish, obsolete banded with fuscescent behind the middle, near the apex with some small black-fuscous spots which are sometimes wanting: abdomen (when alive?) sanguineous; apex of the anterior femora and the first pair of tibiæ sprinkled fuscous, entire anterior tarsi and the last pair behind the middle, black-fuscous. Closely allied to *M. pulverosa*, Hope, tegmina and wings narrower, the former are not amplified towards the apex and are  $2\frac{1}{2}$  times longer than the breadth (*Stål*). Long, 15; exp. teg., 47—50 millims.

Reported from Cambodia, Malacca and Perak (?).

#### Genus THESSITUS, Walker.

*Thessitus*, Walker, Journ. Ent. i, p. 307 (1862); Stål, Ofvers. K. V.-A. Förh. p. 753 (1870): *Thessita*, Stål, Stettin Ent. Zeit. xxii, pp. 246-247, (1863): see p. 10.

Sec. A. Vertex shorter than breadth by about one-half, deeply sinuate at the base, truncated at the apex, lateral margins obtusely elevated in the middle; frons near the base furnished with a transverse, arched, distinct ridge, lateral angles much produced, rounded at the apex, lateral margins above and beneath those angles slightly sinuate; infraocular spines short, scarcely visible from above: wings slightly narrowed towards the apex, apex broadly rounded. To this section belong *T. insignis*, Westwood, and *T. mortuifolia*, Walker.

Sec. B. Vertex less deeply sinuate at the base, apex broadly rounded; frons furnished near the base with a straight obsolete ridge,

parallel to the basal margin, lateral angles rounded at the apex, lateral margins above those angles slightly sinuate, beneath them straight; infraocular spines somewhat largish, very prominent; wings more narrowed towards the apex than in section A. The *T. nigro-notata*, Stål, belongs to this section.

## 12. THESSITUS INSIGNIS, Westwood.

*Eurybrachys insignis*, Westwood, A. M. N. H. ix, p. 119 (1842); Hope, Trans. Linn. Soc. xix, p. 134, t. 12, f. 9 (1845); Walker, List. Hom. B. M. ii, p. 382 (1851); J. Linn. Soc. Zool. i, p. 155 (1857); l. c. x, p. 133 (1867).

*Eurybrachys multicolor*, Walker, J. Linn. Soc. Zool. i, p. 88 (1856).

*Thessita insignis*, Stål, Stettin Ent. Zeit. xxiv, p. 247 (1863).

*Thessitus insignis*, Stål, Ofvers. K. V.-A. Förh. p. 753 (1870).

Shining white: head and thorax yellow, sides of abdomen sanguineous: tegmina flavescent, sprinkled with various minute black spots: wings whitish, with an irregular black spot at the anterior margin and other minute spots of the same colour posteriorly: anterior feet fuscous-yellow, posterior green, spines on tibiae, blackish (*Hope*). Body long,  $14\frac{1}{2}$ ; exp. teg., 54 millims.

Reported from Malabar; Philippines; Sumatra.

## 13. THESSITUS MORTUIFOLIA, Walker.

*Thessitus mortuifolia*, Walker, Journ. Ent. i, p. 307, t. 15, f. 4 (1862).

*Thessita mortuifolia*, Stål, Stettin Ent. Zeit. xxiv, p. 247 (1863).

♂. Fawn colour, tibiae verging into olivaceous, first pair sprinkled fuscous: tegmina pellucid-greyish, veined fuscous and subolivaceous, marked with black spots and small black transverse lines at the margins; entire clavus and oblique basal part of corium olivaceous-virescent, corium adorned behind the virescent part with a very oblique sanguineous patch which does not reach the costal margin: wings whitish, furnished near the apex with 5-6 black spots, two larger and sometimes confluent. In stature very similar to *T. insignis*, Westwood; tegmina more than twice longer than broad, not amplified towards the apex, the apex obliquely rounded, costal margin slightly sinuate in the middle (*Stål*). Long, 14; exp. teg., 50 millims.

Reported from Cambodia: the Indian Museum has a specimen from Perak.

## 14. THESSITUS NIGRO-NOTATUS, Stål.

*Thessita nigro-notata*, Stål, Stettin Ent. Zeit. xxiv, p. 247 (1863).

♂. Fawn-colour: basal spot on clypeus, band on frons placed a little beneath the middle, abbreviated and interrupted in the middle, a band a little above the middle running between the lateral angles and twice



broadly interrupted, and small confluent spots placed at the basal margin and above the subbasal ridge, two spots on the genæ (one basal, the other apical), five spots on the vertex, antennæ, two anterior and one lateral spot on the thorax, four small subbasal spots on the scutellum, apical spots on the first pair of femora and spots on the anterior tibiæ, black: tegmina towards the base more obscure, sparingly sprinkled black and adorned with a sanguineous line near the costal margin before the middle; costal margin behind the middle and the apical margin marked with small black spots: wings weakly fuscous, veined obsoletely violaceous, apical part sordid whitish, marked by a large spot (sometimes divided into two) and several minute marginal spots, black-fuscous: last pair of tibiæ infuscate. Vertex more than twice broader than long: tegmina slightly amplified towards the apex, obtusely obliquely rounded at the apex: tibiæ 5—6 spinose (*Stål*). Long, 11; exp. teg., 32 millims.

Reported from Malacca, Tenasserim.

#### GENUS LOXOCEPHALA, Schaum.

Ersch & Gruber, Allg. Ency. Wissen & Kunste, art. Fulgorida, sec. 51, p. 71 (1850): see p. 10.

#### 15. LOXOCEPHALA ÆRUGINOSA, Hope.

*Lystra aruginosa*, Hope, Trans. Linn. Soc. xviii, p. 443, t. 31, f. 1 (1841).

*Eurybrachys aruginosa*, Walker, List Hom. B. M. ii, p. 382 (1851).

*Loxocephala aruginosa*, Schaum, Allg. Enc. Wissen. & Kunste sec. 51, p. 71 (1850).

Body above and head green; face flat, anterior margin acutely curved, frontal ridge between the eyes parallel with the anterior margin: tegmina sordid fulvescent varied with green and black; margins externally dull black; basal half irrorated; apical half with a large round spot before the apex and the apex, black: wings powdered white: feet sanguineous (*Hope*). Long,  $27\frac{1}{4}$ ; broad,  $8\frac{1}{2}$  millims.

Reported from Silhat. In a specimen in the Indian Museum from Sikkim the dull black margin to the apex is wanting or obsolete.

#### 16. LOXOCEPHALA DECORA, Walker.

*Eurybrachys decora*, Walker, List Hom. B. M. ii, p. 382 (1851).

♂. Body green: head nearly as broad as the thorax; vertex with a rim which is black in front and behind, slightly rounded anteriorly, very slightly sinuate posteriorly, about three times broader than long; frons large, scutcheon-shaped, much broader than long, surrounded by a slight rim; clypeus small: rostrum tawny: pronotum hardly longer than the vertex, nearly straight behind, slightly rounded on fore-border along

which there is a black band; thrice broader than long: mesonotum short, hardly longer than the pronotum, nearly triangular, with a black interrupted band in front: abdomen obconical, much longer than the thorax: legs red; fore legs rather broad and flat, fore tibiae striped black, feet partly black: tegmina green with an oblique black band at the base, black along the tips, near which there is another oblique black band in the disc, two white dots in the middle, one near the fore border, the second near the hind border and nearer the tip than the first; veins green: wings white, green towards the tips which are black; an oblique black spot on the fore-border near the tip; veins pale yellow (*Walker*). Body long,  $10\frac{1}{2}$ ; wings long,  $29\frac{1}{2}$  millims.

Reported from Assam: the Indian Museum possesses a specimen from Sikkim.

#### Genus NESIS, Stål.

Rio Jan. Hem. ii, p. 67 (1862): see p. 10.

#### 17. NESIS TRICOLOR, Walker.

*Eurybrachys tricolor*, Walker, List Hom. B. M. ii, p. 384 (1851).

*Nesis tricolor*, Stål, R. J. Hem. ii, p. 67 (1862); Stettin Ent. Zeit. xxiv, p. 248 (1863).

♀. Sanguineous; head weakly olivaceous, frons margined fuscous at the base; tegmina blackish, weaker at the apex, variegated with confluent sordid stramineous-powdered spots; wings whitish. Differs from *N. sanguinipes*, Stål, in not having the tegmina distinctly narrowed towards the apex. Vertex a little longer in the middle than at the eyes, anteriorly broadly rounded: frons flat, aciculate: thorax bi-impressed in the middle: scutellum unicarinate: tegmina scarcely narrowed towards the apex, costal and commissural margins subparallel, obliquely broadly rounded at the apex, transverse veinlets rare, fine (*Stål*). Long, 9; exp. teg., 28 millims.

Reported from India.

#### 18. NESIS (?) SANGUINIPES, Stål.

*Aphaena sanguinipes*, Stål, Ofvers. K. V.-A. Förh. xi, p. 245 (1854).

Head, sordid yellow-testaceous; thorax and scutellum obscurely rufous-testaceous; tegmina black-fuscous with two indistinct bands and several posterior spots yellow farinose; beneath with feet sanguineous (*Stål*). Long, 8; broad, 4 millims.

Reported from India.

## Genus FRUTIS, Stål.

Ofvers. K. V.-A. Förh. p. 488 (1862): see p. 11.

## 19. FRUTIS PULCHRA, Gray.

*Lystra pulchra*, Gray, Griffith's ed. An. King. Ins. ii, p. 260, t. 90, f. 5 (1832).

*Aphæna pulchra*, Walker, List Hom. B. M. ii, p. 278 (1851).

*Aphæna veris-amor*, Walker, J. Linn. Soc. Zool. i, p. 143 (1857).

*Frutis pulchra*, Stål, Ofvers. K. V.-A. Förh. p. 488, 500 (1862).

♂. Greenish-brown with the abdomen bright red, the tip clothed with a whitish cottony substance: tegmina green at the base, spotted with white opaque colour, with a transverse arched band of fulvous yellow; tip pale yellowish-brown: wings covered with a white rosy matter with brown spots near the base and pale yellowish-brown at the apex: veins delicate (*Gray*). Black, face and legs ferruginous: abdomen red: tegmina narrow, intensely grass-green, with the costa, a basal spot, a few dots on the disc and an exterior curved transverse line, yellow; tips tawny: underside with various marks of white tomentum which also appear on the costa above, at the base: wings snow-white with tawny tips (*A. veris-amor*, Walker). Body long, 23; exp. teg., 55 millims.

Reported from Borneo, India: the type of the genus, see Stål.

20. *Species of uncertain position.*

*Eurybrachis reversa*, Hope, Trans. Ent. Soc. xix, p. 134, t. 12, f. 8 (1845); *Eurybrachys id.*, Walker, List Hom. B. M. ii, p. 382 (1851).

Fuscous-yellow, head and thorax concolorous, abdomen whitish in the middle, adorned posteriorly with a yellow cottony substance; apex shining white: tegmina fuscous-yellow, tinted subsanguineous at the base; a round white spot at anterior margin, a second smaller almost on the middle of the disc and other very minute spots sprinkled about: basal half of wings whitish, apex irregularly irrorated fuscous: four anterior feet yellow-fuscous; tibiæ more obscure; last femora pale testaceous; tibiæ blackish (*Hope*). Body long, 14½; exp. teg., 34 millims.

Reported from Silhat.

## Subfam. DICTYOPHARINA, Stål.

Ofvers. K. V.-A. Förh. p. 744 (1870): *Dictyopharida*, Stål, Hem. Afric. iv, p. 129, 149 (1866): *Pseudopharides* pt., Am. & Serv., Hist. Nat. Ins. Héni. p. 502 (1843): *Dyctiophoroides* pt., Spinola, A. S. E. F. (1 sér.) viii, p. 283 (1839).

Last tibiæ without a mobile spur at the apex: sides of frons not angulated; feet very often simple; anal area of wings never reticulate.

Clavus very rarely granulate, acuminate at apex, rarely somewhat obtusish, distinctly closed, two veins distant or very distant from the apex, sometimes, however, behind the middle of the clavus united in one; costa very rarely dilated: tegmina sometimes abbreviated or connate with clavus and corium. Claval vein not reaching the apex, united with the commissural margin near the apex: tegmina connate with clavus and corium, the lateral margins of the clypeus always carinate or acuminate: frons without an apical ocellus (*Stål*).

#### Genus DICOPTERA, Spinola.

A. S. E. F. (1 sér.) viii, p. 286 (1839); *Stål*, Hem. Afric. iv, p. 149 (1866).

Tegmina not or barely abbreviated, reaching at least the apex of the abdomen, very often extending beyond it: clavus distinct, furnished with one transverse vein between the interior vein and the claval suture: head narrower than the thorax: costa a little dilated, intramarginal: tegmina furnished with very numerous transverse veins towards the apex; feet longish: last pair of tibiæ multispinose, first pair longer than the femora (*Stål*).

#### 21. DICOPTERA HYALINATA, Fabricius.

*Fulgora hyalinata*, Fabr., Spec. Ins. ii, p. 315 (1781); Mant. Ins. ii, p. 261 (1787); Olivier, Enc. Méth. vi, p. 572 (1791); Fabr., Ent. Syst. iv, p. 5 (1794); Syst. Rhyng. p. 4 (1803); Donovan, Ins. India, t. 7, f. 3 (1800).

*Fulgora hyalina*, Gmelin, ed. Syst. Nat. i (4), p. 2091 (1782).

*Flata hyalinata*, Germar, Mag. Ent. iii, p. 190 (1818); Thon's Archiv. ii, (fasc. 2), p. 47 (1830).

*Dyctiophora hyalinata*, Germar, Silb. Rev. Ent. i, p. 175 (1834).

*Pseudophana hyalinata*, Burm., Handb. Ent. ii, (i), p. 160 (1835); Westwood, Trans. Linn. Soc. xviii, p. 150 (1841).

*Dichoptera hyalinata*, Spinola, A. S. E. F. (1 sér.) viii, p. 289, t. 13, f. 3 (1839); Am. & Serv., Hist. Nat. Ins. Hém. p. 504 (1843); Walker, List Hom. B. M. ii, p. 303 (1851).

Frons produced, short, conical, above inequal, beneath furrowed, pallid, with black dots and streaks: eyes large, globose, white: thorax pallid, irrorated black: scutellum more obscure: tegmina hyaline, veins punctured white and black and with a black streak in the middle: wings hyaline with a dull black spot on the apex (*Fabricius*). Body long,  $19\frac{1}{2}$ ; exp. teg., 50 millims.

Reported from Bengal: the Indian Museum possesses specimens from Bangalore, Calcutta, India.

## Genus METAURUS, Stål.

Hem. Afric. iv, p. 151 (1866).

Head not or but very slightly callous behind the eyes, this callous part seen from the side forming a narrow margin behind the eyes, the cephalic process short and slender; vertex, the disc of the thorax, and scutellum lying in the same plane; frons and clypeus long, the former tricarinate, the latter unicarinate in the middle; second joint of the antennæ short, subglobose; rostrum extending beyond the apex of the last coxæ: thorax carinate in the middle: apical two-thirds of the tegmina very densely reticulated, costa very slightly dilated; the two claval veins united behind the middle: feet long, slender; first pair of coxæ, oblong, scarcely reaching the apex of the clypeus; first femora scarcely dilated beneath, armed with a small minute tooth near the apex; tibiæ simple, longer than the first femora, last pair 6-spined (Stål).

## 22. METAURUS RETICULATUS, Stål.

*Metaurus reticulatus*, Stål, Berlin Ent. Zeitschr. x, p. 391 (1866).

♀. Pale yellow-virescent: tegmina pale yellow-greenish-hyaline, veins greenish; wings somewhat colourless: the small tubercle placed on the genæ before the upper part of the eyes and a small anterior spot on the sides of the thorax behind the eyes, black and shining: cephalic process short, slender, twice as long as the thorax, turning upwards; frons oblong, very slightly roundly amplified towards the apex, narrowed above the middle: thorax with a somewhat indistinct ridge: scutellum slightly tricarinate: tegmina gradually somewhat amplified towards the apex; stigma with eight veins (Stål). Long, 11; exp. teg., 32 milims.

Reported from Cambodia.

## Genus ANAGNIA, Stål.

Stettin Ent. Zeit. xxii, p. 149 (1861); Hem. Afric. IV, p. 151 (1866).

Head prominent before the eyes; frons elongate, tricarinate; clypeus marginate, carinate in the middle: pronotum carinate in the middle, posteriorly angularly-emarginate, anteriorly behind the head, obtusely angularly-prominent: tegmina extending much beyond the abdomen, longitudinal veins on corium forked and united with some few transverse veinlets towards the apex: feet rather long, slender, first pair of femora dilated beneath, last pair of tibiæ multispinose: allied to *Dictyophara* (Stål).

## 23. ANAGNIA SPLENDENS, Germar.

*Flata splendens*, Germar in Thon's Archiv. ii, fasc. 2, p. 48 (1839): Walker, List Hom. B. M. ii, p. 310 (1851).

*Pseudophana splendens*, Westwood, Trans. Linn. Soc. xviii, p. 151 (1841).

*Dictyophora indiana*, Walker, l. c. p. 310 (1851).

*Anagnia splendens*, Stål, Stettin Ent. Zeit. xxii, p. 149 (1861.)

♂, ♀. Greyish-flavescens, sprinkled fuscous; a stigmatic spot on the tegmina and interior streak behind the middle, a small subapical streak on the wings, fuscous; anterior tibiæ ringed black, last pair with spine black (*Stål*). Long, 7—9½; exp. teg., 20—25 millims.

Reported from Manilla, Java, Bombay, India.

## Genus CENTROMERIA, Stål.

Ofvers. K. V.-A. Förh. p. 745 (1870).

Body somewhat elongate: head produced, ascending more or less before the eyes, gradually narrowed: vertex somewhat equal in breadth to the eyes, gradually acuminate before the eyes; frons tricarinate, the median ridge running through it very distinct, lateral ridges extended through half of the upper frons, less elevated; a distinct ridge running through the clypeus: thorax unicarinate, posteriorly broadly angularly sinuated: scutellum tricarinate: tegmina gradually amplified towards the apex, apical part furnished with numerous transverse veins; the veins of the clavus united behind the middle; interior ulnar vein forked at almost the same distance from the base and from the united claval veins; radial vein forked a little behind the middle of the tegmen; stigma elongate or oblong, with some veins: feet long, slender; first pair of femora beneath near the apex with a very minute, acute spinule. Near to *Dictyophara*, Germar, the feet are longer and more slender and the first pair of femora spined (*Stål*).

## 24. CENTROMERIA SPEILINEA, Walker.

*Dictyophora speilinea*, Walker, J. Linn. Soc. Zool. i, p. 84 (1856).

Green: head, three ridges on the pronotum (the lateral pair marginal) and three on the mesonotum also its sides in part, emerald-green: head with three ridges above and one beneath and two ridges on pronotum near the lateral emerald-green ridges, luteous: cephalic protuberance lanceolate, ascending, as long as the hind part of the head: fore tibiæ and tarsi, tawny: tegmina and wings limpid, veins and stigma green, the latter occupying three areolas (*Walker*). Body long, 10½; exp. teg., 29½ millims.

Reported from Singapore.

## Genus DICTYOPHARA, Germar.

*Dictyophora*, Germar, Silb. Rev. Ent. i, p. 165 (1833) : Walker, List Hom. B. M. ii, p. 307 (1851).

*Dyctiophora* Spinola, A. S. E. F. (1 sér.) viii, p. 290 (1839) : *Pseudophana*, Burm., Handb. Ent. ii (1) p. 159 (1835) ; Am. & Serv., Hist. Nat. Ins. Hérm. p. 506 (1843) : *Chanithus*, Amyot, A. S. E. F. (2 sér.) v, p. 160 (1847) ; Kolenati, Mel. Ent. vii, p. 29 (1857) : *Nersia*, Stål, Rio Jan. Hem. ii, p. 62 (1861) : *Dictyophara*, Stål, Hem. Afric. iv, p. 154 (1866) : Fieber, Rev. Mag. Zool. (3 sér.) iii, p. 357 (1875).

Body oblong or oval, a little depressed : head not or only very slightly callous behind the eyes, varying very much in form, abruptly truncated before the eyes or more or less to a distance protuberant, the protuberance straight or recurved : vertex and frons very often carinated : clypeus long, carinated in the middle : second joint of antennæ small, subglobose : rostrum long : thorax very often broadly emarginated at the base, slightly sinuated anteriorly behind the eyes, touching the entire posterior margin of the head, furnished with 1—3 ridges : scutellum very often tricarinated. Tegmina very often extending beyond the apex of the abdomen, third part or barely apical half furnished with transverse veins ; clavus without a transverse vein : feet moderate or longish, slender, simple ; first pair of femora unarmed, shorter than the tibiæ, last pair of tibiæ 4—6-spinose : exterior radial and ulnar veins contiguous at the base (*Stål*).

## 25. DICTYOPHARA LINEATA, Donovan.

*Fulgora lineata*, Donovan, Ins. India, t. 8, f. 1 (1800) ; Westwood, Trans. Linn. Soc. xviii, p. 147 (1841).

*Fulgora pallida*, G. Gray, Griffith, An. King., Ins. ii, p. 260, t. 90, f. 2 (1832).

*Dictyophora lineata*, Walker, Cat. Hom. B. M. ii, p. 310 (1851).

Cephalic process linear, ascending ; tegmina pale with two brown lines (*Donovan*). Pale testaceous or fulvous-whitish : cephalic process as long as half the body, ascending, pale greyish-luteous, slender, a little thickened at the apex : tegmina narrow, elongate, whitish, with blackish dots arranged in lines towards the internal and external margin of the posterior part of the tegmina, also a narrow black line towards the base of the costa : cephalic process and feet, punctured black : last femora at the apex and the tarsi broad (*Westw.*) Body long with cephalic process (wings closed),  $12\frac{1}{2}$  millims.

Reported from Bengal. In Donovan's figure, the black spots on the tegmina appear to be confluent forming two lines and extending throughout the entire length of the tegmina : the Indian Museum possesses a specimen from Sibságar (Assam).

26. *DICTYOPHARA PALLIDA*, Donovan.

*Fulgora pallida*, Donovan, Ins. India, t. 8 f. 2 (1800).

*Pseudophana pallida*, Westwood, Trans. Linn. Soc. xviii, p. 150 (1841).

*Dictyophora pallida*, Walker, Cat. Hom. B. M. ii, p. 310 (1851): nec *D. pallida*, Walker, l. c. p. 320.

Cephalic process linear, ascending: thorax pale green, with red lineations; tegmina hyaline (*Donovan*). Size of preceding, but easily recognized by the longitudinal red lines on pronotum and prostethium. Body long with cephalic process,  $12\frac{1}{2}$ ; to end of closed tegmina,  $19\frac{1}{2}$  millims.

Reported from Bengal: the Indian Museum possesses specimens from Ráinigánj (Lower Bengal).

27. *DICTYOPHARA GRAMINEA*, Fabricius.

*Fulgora graminea*, Fabricius, Syst. Rhynch. p. 4 (1803).

*Flata graminea*, Germar in Thon's Archiv. ii. fasc. 2, p. 47 (1830).

*Pseudophana graminea*, Burm., Handb. Ent. ii (2) p. 160 (1835); Westwood, Trans. Linn. Soc. xviii, p. 150 (1841).

*Dictyophora graminea*, Walker, List. Hom. B. M. ii, p. 309 (1851).

Cephalic process porrect, bicarinate broadly above: tegmina and body green, immaculate (*Fabr.*).

Reported from India.

28. *DICTYOPHARA DESPECTA*, Walker.

*Dictyophora despecta*, Walker, List. Hom. B. M. ii, p. 314 (1851).

♂. Body tawny: head quite four times longer than the pronotum; the cephalic protuberance continued in a line with the pronotum, almost prismatic, slightly tapering from the base to the tip which is rather obtuse: angles green: pronotum slightly conical in front, much sinuated on the hind border, adorned with five bright green stripes; a slight oblique ridge on each side: mesonotum with three bright green stripes and a green spot on each side: abdomen obconical, a little longer than the thorax: legs pale tawny, slender, slightly grooved; hind tibiae armed with four black-tipped spines: wings colourless, a slight tawny tinge on the tegmina; stigma tawny, occupying parts of 2—3 areolas: veins brown, tawny towards the base (*Walker*). Body long,  $10\frac{1}{2}$ ; teg.,  $16\frac{1}{2}$  millims.

Reported from Malabar coast.

29. *DICTYOPHARA SINICA*, Walker.

*Dictyophora sinica*, Walker, List. Hom. B. M. ii, p. 321 (1851); Stål, Ofvers. K. V. A. Förh. p. 487 (1862). China.

*Dictyophora inscripta*, Walker, l. c., p. 322 (1851). Hong Kong.

*Dictyophora insculpta*, Walker, l. c., Suppl. p. 67 (1858). N. China.



Body pale luteous, almost fusiform: head above with a short green stripe which does not extend beyond the vertex, the lateral edges of which are also green; beneath bright luteous with a pale green border, the median ridge extending to the clypeus, bright green; clypeus tawny, striped with brown towards the tip: rostrum pale tawny: pronotum striped green; mesonotum with three indistinct green stripes: abdomen green, a brown stripe on the disc, pale tawny at the tip: legs pale tawny, partly striped with brown; hind tibiae with four black-tipped spines: tegmina and wings colourless, the tips of the former pale yellowish-brown; stigma brown occupying three areolas; veins green, brown towards the tips (*Walker*). Body long,  $9\frac{1}{2}$ ; teg.,  $16\frac{3}{4}$  millims.

Reported from China: Assam (?).

### 30. *DICTYOPHARA* (?) *NIGRIMACULA*, Walker.

*Dictyophora nigrimacula*, Walker, List. Hom. B. M. ii, p. 318 (1851).

♂. Body fusiform: head as long as the thorax tapering slightly to the tip which is obtuse, slightly elevated; cephalic protuberance transversely striated above and on each side; upper side ferruginous; vertex with a median stripe, yellow, and lateral stripes, green, which last are continued along near half the length to the tip; a black median stripe extends from the vertex to the tips towards which it occupies the whole disc; sides black with tawny borders: under-side bright orange red, having on each side a tawny brown-spotted stripe which in its course becomes bright green and is continued along the clypeus; the bright green middle-ridge also extends along the whole length and is pale yellow at each end; the under side slightly widens along the whole length from the tip to the clypeus, with the exception of a slight contraction between the eyes: clypeus reddish at its base, brown with yellow stripes towards its tip: rostrum tawny with a black tip, reaching the hind coxæ: pronotum ferruginous, slightly widened and almost angular in front, slightly sinuated along the posterior margin, with five bright green ridges: the inner pair a little oblique, the outer pair more oblique and parallel to the sides which are green; the space beneath on each side of the eyes is pyriform, red, with a green border and a bright green median stripe: mesonotum black along the anterior margin, with three bright green slightly interrupted stripes; on each side near the base of the tegmen is a bright green spot; beneath black with a few yellow stripes and a ferruginous border: abdomen black, obconical, a little longer than the thorax with five rows of greenish-tawny spots, those of the middle row are slender and form a slightly interrupted stripe, the others are irregular and much emarginated: legs tawny, slightly grooved, striped black, feet black towards the tips, posterior tibiae armed

with five black-tipped spines; hind-feet much dilated: tegmina and wings colourless, tips of the former brown, stigma very dark occupying 3—4 areolets, veins black, greenish-tawny at the base (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 21 millims.

Reported from N. India.

### 31. *DICTYOPHARA* (?) *ALBIVITTA*, Walker.

*Dictyophora albivitta*, Walker, List. Hom. B. M. ii, p. 319 (1851).

♂. Body tawny, fusiform: head above with three green stripes, median more distinct; beneath with a bright green ridge and on each side a pale green stripe, the three continued throughout the whole length and through a part of the clypeus: rostrum tawny, tip black, extending a little beyond the intermediate coxæ: pronotum anteriorly rounded, not conical, slightly sinuated along the hind border which like the sides is green: disc with five bright green stripes, inner pair curved, slightly oblique, outer pair more oblique, parallel to the sides; plates beneath, pyriform, bordered with green and with a green stripe: mesonotum with three green stripes and a green spot on each side: abdomen grass-green, obconical, mottled yellow, tawny at the tip with three parallel indistinct whitish stripes: legs pale tawny, partly green, slightly grooved; femora and anterior tibiæ striped brown, posterior tibiæ armed with five black-tipped spines; posterior feet much dilated: tegmina and wings colourless, the former slightly tawny at the tip; stigma tawny occupying two areolets and part of a third; veins pale greenish-tawny, darker towards the tips (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 21 millims.

Reported from N. Bengal.

### 32. *DICTYOPHARA* *WALKERI*, n. sp.

*Dictyophora pallida*, Walker, List B. M. ii, p. 320 (1851); neo Donovan.

♂. Body fusiform, pale luteous: tip of vertex, black: head above with a bright green stripe along each edge and with a short green median stripe which does not extend beyond the eyes; sides green; beneath bright luteous with three bright green ridges which are continued along part of the clypeus: rostrum tawny, tip black, reaching nearly to the last coxæ: pronotum hardly conical in front, slightly sinuate posteriorly, bordered with green, with five bright green stripes, side plates pyriform with green margins and a bright green median stripe: mesonotum with three and the sides with two green stripes: abdomen obconical, a little longer than the thorax, yellow with whitish stripes, luteous towards the base, tawny at the tip: posterior margins of the segments grass-green: legs slender, slightly grooved, dull pale yellow, tinged with green; tips

of the feet and of the fore tibiæ, brown; hind tibiæ armed with four black-tipped spines; hind feet moderately broad: tegmina and wings colourless, a slight tawny tinge on the tips of the tegmina, stigma pale brown, occupying two areolets and part of a third; veins green, brown towards the tips (*Walker*). Body long,  $7\frac{1}{4}$ ; teg.,  $14\frac{3}{4}$  millims.

Reported from N. India.

### 33. DICTYOPHARA LEPTORHINA, Walker.

*Dictyophora leptorhina*, Walker, List Hom. B. M. ii, p. 321 (1851).

♂. Body tawny, fusiform: cephalic prolongation with the four sides of equal breadth with green edges, a green stripe above, distinct only on the vertex, that beneath appearing along the whole length to the clypeus which is brown: rostrum tawny, tip black, reaching the hind coxæ: pronotum rounded in front, more slightly sinuate behind, with green ridges which also appear on the mesonotum: abdomen green, obconical, slightly luteous towards the base, longer than the thorax: legs pale tawny, slightly grooved; femora striped black; hind tibiæ armed with five black-tipped spines; hind feet much dilated: tegmina and wings colourless; stigma brown, colouring the borders but not the discs of three areolas; veins of the tegmina brown, green towards the base; veins of wings, black (*Walker*). Body long,  $9\frac{1}{2}$ ; teg., 19 millims.

Reported from Java: with the thorax luteous, from India.

### 34. DICTYOPHARA SAUROPSIS, Walker.

*Dictyophora sauropsis*, Walker, Jour. Ent. i, p. 306 (1862).

♂. Tawny: head forming a long, quadrilateral, slightly tapering cone, which has a rim on both sides, above and beneath; underside reddish ochraceous, with three other pale ridges: pronotum arched, more than four times as broad as long, with a median ridge: mesonotum bicarinate: tegmina and wings cinereous hyaline; veins black, pale tawny towards the base; transverse veinlets incrassated: tegmina with an elongated black stigma (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 21 millims.

Reported from Dacca (Bengal).

### 35. DICTYOPHARA PATRUELIS, Stål.

*Pseudophana patruelis*, Stål, Freg. Eng. Res. Ins. p. 271 (1859).

*Dictyophara patruelis*, Stål, Rio Jan. Hem. ii, p. 63 (1862).

♂. Weakly miniaceous: vertex, abdomen, and feet sordid weak flavescens: frons, clypeus, thorax, scutellum, and pectus with grass-green ridges: tegmina vitreous, veins and stigma fuscous: head as long as the thorax and scutellum taken together. Close to *D. sobrina*, Stål, but

smaller and head shorter: head testaceous-flavescens; vertex with a longitudinal ridge between the eyes; frons, clypeus, and thorax minuscous, the two former with ridges, the last with a median ridge, an oblique line on both sides and a lateral ridge and the lateral margins, grass-green: scutellum weakly minuscous, with three parallel ridges and a posterior spot on each side, grass-green: tegmina almost twice as long as the abdomen, sordid vitreous, the third apical part transversely veined; veins and stigma fuscous: pectus weakly minuscous with a grass-green ridge on both sides: abdomen and feet weak sordid virescent-flavescens, the disc of the abdomen and the apices and lines on the feet, black-fuscous (*Stål*). Body long, 8; broad,  $2\frac{1}{4}$  millims.

Reported from Malacca.

#### Subfam. CIXIINA, *Stål*.

*Cixiida*, *Stål*, Hem. Afric. IV, p. 129, 164 (1866)! *Cixiina*, *Ofvers. K. V.-A. Förh.* p. 746 (1870).

Similar to *Dictyopharina* except that there are usually three ocelli, one of which is placed on the apex of the frons: this frontal ocellus is very rarely wanting and if wanting the sides of the clypeus are convex and ecarinate (*Stål*).

#### Genus CIXIUS, Latreille, *Stål*.

*Gen. Ins.* iii, p. 166 (1807); *Guérin, Voy. Bélanger Ind. Orient. Zool.* p. 463 (1834); *Burm., Handb.* ii (i) p. 156 (1835); *Stål, Hem. Afric.* iv, p. 164, 169 (1866); *Fieber, Rev. Mag. Zool.* (3 sér.) iii, p. 355 (1875).

Head somewhat narrower than the thorax, short, roundly sinuated at the base; vertex somewhat concavish; frons and clypeus together elliptical, furnished with a median ridge running through them; frons with an ocellus on the apex, sides of clypeus carinated: eyes slightly or only very slightly sinuated beneath: antennæ inserted beneath the eyes, very short, first joint concealed, second small, subglobose: thorax very short, posteriorly, deeply, angularly emarginated: scutellum tricarinate lateral margins of tegmina parallel, interior ulnar vein and the radial vein forked at a distance from the base: feet moderate, simple, last tibiæ armed with 2—3 spines (*Stål*).

#### 36. CIXIUS (?) ALBISTRIGA, Walker.

*Cixius albistriga*, Walker, *J. Linn. Soc. Zool.* i, p. 87 (1856).

Blackish, testaceous beneath: head much smaller and frons narrower than in European species; frons dark brown: posterior margins of abdominal segments reddish above, whitish beneath: tegmina brown

with three whitish transverse streaks towards the tip of the costa: wings grey (*Walker*). Body long,  $4\frac{1}{4}$ ; teg.,  $10\frac{1}{2}$  millims.

Reported from Singapore: a specimen doubtfully assigned to this species has been received from Burma, but is probably a *Brixia*.

### 37. CIXIUS (?) CAUDATUS, Walker.

*Cixius caudatus*, Walker, Ins. Saund. Hom. p. 43 (1858).

Tawny: vertex depressed, longer than broad, its borders elevated; frons and face forming a fusiform compartment with a median ridge: pronotum arched, very narrow in the middle; mesonotum 5-carinate, the external pair of ridges angulate, a brown stripe interlined with tawny on each side: oviduct extending far beyond the abdomen, sheaths brown: legs testaceous: tegmina with a brown stigma, veins testaceous with black dots, some black streaks also on the disc before the middle and the transverse veinlets and some parts of the exterior veins clouded with brown: wings with black veins (*Walker*). Body long,  $4\frac{1}{4}$ ; teg.,  $12\frac{1}{2}$  millims.

Reported from India.

### 38. CIXIUS (?) EFFERATUS, Walker.

*Cixius efferatus*, Walker, J. Linn. S. Zool. i, p. 87 (1856).

Testaceous: frons subfusiform, attenuated in front: eyes large nearly contiguous on the vertex: abdomen tawny: tegmina and wings limpid; veins tawny; stigma testaceous, with a brown spot close to its tip and opposite a smaller and paler brown spot on the interior border: wings with a brown streak at the tip of the costa (*Walker*). Body long,  $5\frac{1}{4}$ ; exp. teg.,  $12\frac{1}{2}$  millims.

Reported from Singapore.

### Genus OLIARUS, Stål.

Berlin Ent. Zeitschr. vi, p. 306 (1862); Hem. Afric. iv, p. 164, 166 (1866); Hem. Fabr. ii, p. 92 (1868); Fieber, Rev. Mag. Zool. (3 ser.) iii, p. 356 (1875).

Head somewhat narrower than the thorax, angularly emarginate at the base; vertex varying in length and breadth, concave; frons and clypeus together elliptical, furnished with a distinct, median, longitudinal ridge running through them, lateral margins rounded, slightly dilated; frons with an ocellus on the apex; sides of clypeus ridged: eyes scarcely or but slightly sinuated beneath: antennæ very short, inserted beneath the eyes, first joint hidden, second somewhat globose, small: thorax very short, posteriorly deeply angularly sinuated: scutellum with five ridges: tegmina rounded at the apex; radial and exterior ulnar vein contiguous at the base itself, radial and interior ulnar vein forked at a more or less

distance before the middle of the tegmina: feet moderate, single; last pair of tibiæ, 2—3-spinose (Stål).

### 39. OLIIARUS WALKERI, Stål.

*Cicuis walkeri*, Stål, Freg. Eng. Resa. Hem., p. 272 (1859).

*Oliarius walkeri*, Stål, Berlin Ent. Zeitschr. vi, p. 306 (1862).

♂. Obscurely testaceous; frons and feet testaceous-yellow: tegmina weak vinaceous-hyaline; veins concolorous, remotely punctured fuscous behind the middle; the five apical transverse veins clothed fuscous; stigma weak testaceous-yellow, inwardly narrowly fuscous: head yellow-testaceous; vertex almost twice as long as broad with two ridges running forwards from the middle, converging; frons with the oval clypeus narrowed at base and apex, a single forked ridge at the base itself: thorax very short, posteriorly angularly-sinuated, testaceous, with five ridges of a lighter colour of which the lateral pair diverge somewhat towards the apex: tegmina with the veins concolorous, fuscous at the apex; beneath with feet pale testaceous-flavescent; pectus black-fuscous (Stål). Long, 4; broad,  $1\frac{1}{2}$  millims.

Reported from Malacca, Manilla.

### 40. OLIIARUS BOHEMANI, Stål.

*Cicuis bohemani*, Stål, Freg. Eng. Resa. Hem., p. 272 (1859).

*Oliarius bohemani*, Stål, Berlin Ent. Zeitschr. p. 306 (1862).

♂, ♀. Blackish: ridges on the head, incisures on abdomen and the tibiæ, pale testaceous-yellow, tegmina weak vinaceous hyaline, veins remotely punctured fuscous. Head blackish; vertex longer by half than broad with a less elevated longitudinal ridge and another transverse arched one behind the apex; frons and the oval clypeus with a single longitudinal ridge, forked at the base itself: thorax very short, testaceous yellow, posteriorly angularly-sinuated: scutellum blackish, somewhat parallel, with five ridges, of which the lateral pair converge somewhat at the base and apex: the tegmina twice as long as the abdomen, very weak fuscous hyaline towards the apex; veins remotely punctured, fuscous at the apex; clavus with a median dot and obliquely behind it a dot also on the corium, fuscous: beneath black-fuscous: feet pale testaceous yellow, femora fuscous-testaceous (Stål). Long,  $3\frac{1}{2}$ ; broad,  $1\frac{1}{3}$  millims.

Reported from Hong-Kong.

### Genus BRIXIA, Stål.

Ofvers. K. V.-A. Förh. xiii, p. 162 (1856); Freg. Eng. Resa, p. 276 (1859); Hem. Afric. iv, p. 166, 173 (1866): includes *Triopsis*, Sign., A. S. E. F. (3 sér.), viii, p. 187 (1860).

Head much narrower than the thorax; vertex narrow, compressed, narrower by half than the eyes, passing over into the frons which is long, gradually narrowed upwards, much compressed between the eyes, without a ridge, furnished with an ocellus at the apex; median ridge of clypeus less distinct, lateral margins carinated: eyes beneath sinuated: antennæ inserted beneath the eyes, first joint exerted, second longer than thick: thorax very short, angularly emarginated at the base: scutellum tricarinate: tegmina gradually somewhat amplified towards the apex; radial and exterior ulnar vein united near the base: feet moderate, simple; last tibiae unarmed (*Stål*).

#### 41. BRIXIA MEANDER, Walker.

*Cixius meander*, Walker, List Hom. B. M. ii, p. 349 (1851).

*Brixia meander*, Stål, Öfvers. K. V.-A. Förh. p. 487 (1862).

Body tawny: frons long and narrow with a row of brown spots along each side of the disc which is also brown: rostrum tawny: eyes large: pronotum on both sides obliquely tricarinate: disc of the mesonotum brown: legs tawny, slightly sulcated: each femur with two brown rings: tegmina almost colourless, adorned with several wavy brown bands which are partly confluent or interrupted, discs of the spaces between them occupied by paler brown bands: a large yellow spot on the anterior margin: veins pale stramineous, thickly dotted with black knots (*Walker*). Body long,  $4\frac{1}{2}$ ; teg.,  $10\frac{1}{2}$  millims.

Reported from India.

#### Genus BENNA, Walker.

J. Linn. Soc. Zool. i, p. 90 (1856): Stål, Hem. Afric. iv, p. 166 (1866).

Body rather slender, head a little narrower than the thorax with a ridge which extends from the back of the vertex to the rostrum; sides also ridged; frons compressed, elongate-subfusiform: 1—2 joints antennæ a little shorter together than the breadth of the front; filament not long: thorax tricarinate, pronotum very short: abdomen at the base with two lateral capitate appendages like the halteres of *Diptera*, tip terminating in a long, curved oviduct: legs rather long and slender: tegmina and wings broad, rounded at the tips, the former with about twenty areolets, the discal generally shorter than the basal and marginal. (*Walker*.)

Frons with a longitudinal ridge narrowed upwards, scarcely distinguishable from the vertex: first joint of the antennæ prominulous, second longer than broad: abdomen furnished on both sides at the base with a long, filiform, clavate process: tegmina gradually amplified from the base towards the apex; the costal margin slightly sinuated towards the base; the radial and ulnar veins separately emitted from the ulnar trunk or somewhat contiguous at the base itself (*Stål*).

## 42. BENNA CAPITULATA, Walker.

*Benna capitulata*, Walker, J. Linn. Soc. Zool. i, p. 90, t. 3, f. 9, (1856).

♀. Testaceous: abdomen with long cottony secretions; capitate appendages with white tips: tegmina and wings hyaline, the former with a very slight testaceous tinge; veins brown, testaceous towards the base and in the front, with a black basal dot and two smaller brown dots near the base: the transverse veinlets partly clouded brown, a brown streak along the exterior border; stigma testaceous (*Walker*). Body long,  $6\frac{1}{4}$ ; teg.  $16\frac{1}{2}$  millims.

Reported from Singapore.

## Subfam. DELPHACINA, Stål.

*Delphacida*, Stål, Hom. Afric. iv, pp. 131, 175 (1866); *Delphacina*, O'Farrell, K. V.-A. Förlh., p. 747 (1870).

Distinguished by having the last pair of tibiae furnished with a mobile spur (*Stål*).

## Genus HYGOPYPS, Guérin.

*Hypopyps*, Guérin, Voy. Bél. Ind. Orient. p. 477 (1843); Spinola, A. S. E. F. viii, p. 321 (1839); Walker, List Hem. B. M. ii, p. 338 (1851); *Hypopyps*, Stål, Hem. Afric. iv, p. 175 (1866); includes *Bidid*, Walker, J. Linn. Soc. Zool. i, p. 88 (1856); *Hypopyps*, Am. & Serv., Hist. Nat. Ins. Héa. p. 511 (1843).

Antennæ inserted below the eyes, almost as long as the body; two first joints equal, cylindrical, with the filament inserted at the tip of the second joint, which is granulate; eyes very slightly emarginate beneath, apparently no ocelli: frons narrow, a little ascending, anteriorly much longer than broad, a little dilated in the middle, longitudinally grooved: rostrum as long as the head, covered at its base by a pointed, oblong labrum: pronotum narrower than the mesonotum, a little emarginate posteriorly: mesonotum triangular, apex pointing behind: tegmina narrower than the wings, oblong; abdomen flattered, feet long, spinose (*Guérin*).

## 43. HYGOPYPS PERCHERONII, Guérin.

*Hypopyps percheronii*, Guérin, Voy. Bél. Ind. Orient. p. 478 (1834); Icon. Règne Anim., t. 58, f. 16 (1830-34); Burm., Handb. Ent. ii (i), p. 152 (1835); Spinola, A. S. E. F. viii, p. 323 (1839); Walker, List Hem. B. M. ii, p. 338 (1851).

*Hypopyps percheronii*, Am. & Serv., Hist. Nat. Ins. Héa. p. 512 (1843).

Ferruginous red, antennæ of the same colour, brown at the tips: tegmina and wings transparent, veins reddish: beneath and feet ferruginous (*Guérin*). Body long, 5; esp. teg, 16 millims.

Reported from Cochín China.



44. *HYGYOPS NOTIVENA*, Walker.

*Bidis notivena*, Walker, J. Linn. Soc. Zool. i, p. 88 (1856).

*Hygyops notivena*, Stål, Hem. Afric. iv, p. 175 (1866).

♂, ♀. Testaceous, partly green: tegmina and wings transparent, the former with a very slight testaceous tinge; veins testaceous, here and there blackish: the ♂ partly red (*Walker*). Body long,  $4\frac{1}{4}$ ; teg.,  $12\frac{1}{2}$  millims. Reported from Singapore, Malacca.

Subfam. *ACHILINA*, Stål.

*Achilida*, Stål, Hem. Afric. iv, pp. 130, 181 (1866); *Achilina*, Stål, Ofvers. K. V.-A. Förh., p. 748 (1870).

Head narrower than the thorax; sides of the clypeus carinate: last joint of rostrum elongate: thorax angularly emarginate at the base: tegmina amplified inwards behind the clavus which is very rarely granulated, acute at the apex, distinctly closed; the claval vein continued to the apex itself or united with the claval suture near the apex: last pair of tarsi with the first joint elongate.

Genus *FAVENTIA*, Stål.

Hem. Afric. iv, p. 181 (1866); Ofvers. K. V.-A. Förh., p. 748 (1870).

Head narrower than the thorax; frons with a long and clypeus with a distinct ridge running through it, the lateral ridges on the clypeus not united at the apex: thorax very short, angularly emarginate at the base: scutellum tricarinate: tegmina roundly truncated at the apex; the interior ulnar and the radial vein forked before the middle: first tibiæ longer than the femora and trochanters taken together, the last pair unispinose (*Stål*). Type, *C. pustulatus*, Walker.

45. *FAVENTIA PUSTULATA*, Walker.

*Cixius pustulatus*, Walker, J. Linn. Soc. Zool. i, p. 87 (1856).

*Faventia pustulata*, Stål, Berlin Ent. Zeitschr. x, p. 392 (1866).

Tawny, testaceous beneath: head greenish, with a black dot on each side, ridges ferruginous: tegmina with some paler marks and with many minute blackish dots which are accompanied by 2—3 larger and darker dots: wings brown (*Walker*). Body long,  $6\frac{1}{4}$ ; teg.,  $14\frac{1}{2}$  millims.

Reported from Singapore.

Genus *HELIPTERA*, Amyot & Serville.

Hist. Nat. Ins. Hémi. p. 526 (1843); Stål, Hem. Afric. iv, pp. 181, 184 (1866): includes *Elidiptera*, Spin., A. S. E. F. viii, p. 504 (1839); Walker, List Hom. B. M. ii, p. 328 (1851).

Body depressed: head much narrower than the thorax, produced before the eyes; vertex posteriorly about twice as broad as the eyes, somewhat concave, not ridged; frons much longer than broad, distinctly narrowed upwards, more or less distinctly ridged in the middle; sides of clypeus ridged: eyes rounded, obsolete sinuated beneath: second joint of the antennæ somewhat globose: thorax tricarinate, lateral ridges not reaching the base: scutellum tricarinate: tegmina rounded at the apex; the radial and exterior ulnar veins united at the base; radial and exterior ulnar vein forked rather far from the base: feet moderate, first tibiæ subequal in length to the femora and trochanters taken together; last tibiæ unispinose (*Stål*).

#### 46. HELICOPTERA? SMARAGDILINEA, Walker.

*Elidiptera smaragdilinea*, Walker, J. Linn. Soc. Zool. i, p. 86 (1856).

Ferruginous: head about the eyes and on each side of the frons, a spot in the middle of the pronotum and one on each side and a stripe on the mesonotum, emerald-green: cephalic protuberance, slender, cylindrical ascending, black above, green beneath, about twice the length of the head above; frons long and narrow; face and pectus black and white: abdomen with a green stripe on each side and a black stripe on each side beneath: legs tawny, femora black at the base; tibiæ and tarsi partly green; fore tibiæ white towards the tips: tegmina and wings limpid, the former with a narrow brown streak along the terminal part of the costa, and with a broad brown streak along the corresponding part of the hind border, the two streaks connected by a brown streak along the transverse veinlets (*Walker*). Body long,  $9\frac{1}{2}$ : teg., 23 millims.

Reported from Mount Ophir, Singapore.

#### Subfam. TROPIDUCHINA, Stål.

*Tropiduchida*, Stål, Mem. Afric. iv, p. 130, 186 (1866): *Tropiduchina*, Olfers. K. V.-A. Förl., p. 748 (1870).

Head narrower than the thorax; sides of clypeus without a ridge or with an obtuse ridge: thorax very often angularly emarginate at the base, very rarely roundly sinuate, tricarinate; lateral ridges diverging, very often reaching the base; commissural margin of tegmina straight or rounded behind the clavus which is generally as in *Achilina*; costa sometimes dilated, costal membrane transversely veined; first joint of last tarsi elongate (*Stål*).

## Genus DARADAX, Walker.

J. Linn. Soc. Zool. i, p. 85 (1856); Stål, Mem. Afric. iv, p. 188 (1866).

Head lanceolate, ascending, carinate on both sides; frons lanceolate, with a median and lateral ridges: antennæ globose, very minute, setiform filament moderately long, very slender: pronotum much arched with a slight median ridge, each side forming a fusiform compartment: mesonotum quadricarinate: tegmina fusiform, with numerous parallel equidistant veinlets along the costa; ulnar areas long; apical areas short, like those of the costa (*Walker*).

## 47. DARADAX FUSIPENNIS, Walker.

*Daradax fusipennis*, Walker, J. Linn. Soc. Zool. i, p. 86 (1856).

Green, partly lutescent: tegmina with brown dots along the exterior margin: wings white (*Walker*.) Body long,  $6\frac{1}{4}$ ; teg.,  $14\frac{1}{2}$  millims.

Reported from Malacca.

## Genus TROPIDUCHUS, Stål.

Ofvers. K. V.-A. Förh. p. 248 (1854); Mem. Afric. iv, p. 188 (1866): includes *Euria*, Walker, J. Linn. Soc. Zool. i, p. 87 (1856).

Body oblong: head somewhat narrower than the thorax, slightly prominulous before the eyes, obtuse: vertex areolate, transverse, much broader than the eyes, deeply sinuated at the base, rounded at the apex; frons much longer than broad, somewhat narrowed upwards, with 1 or 3 ridges; clypeus with a median ridge, sides convex or obtusely ridged: rostrum somewhat short: second joint of the antennæ small, subglobose: thorax short, angularly emarginate at the base, tricarinate on the disc: scutellum tricarinate: tegmina not or but slightly narrowed towards the apex; costa remote from the margin, emitting outwards numerous transverse veins, radial and ulnar veins forked rather distant before the middle and at an equal length from the base; apical part with two rows of transverse veins: feet moderate; first tibiæ somewhat longer than the femora and trochanters taken together, last tibiæ trispinose (*Stål*).

## 48. TROPIDUCHUS LURIDUS, Walker.

*Euria lurida*, Walker, J. Linn. Soc. Zool. i, p. 88 (1856).

Brownish, paler beneath: head green with tawny ridges: tegmina and wings lurid, the former with four brown bands of which the first and second are dilated in front, the third is slender, curved, joined at each end to the second, the fourth is marginal: wings with three brown bands (*Walker*.) Body long,  $5\frac{1}{4}$ ; teg.,  $14\frac{1}{2}$  millims.

Reported from Singapore.

Genus *ELICA*, Walker.

J. Linn. Soc. Zool. i, p. 86 (1856).

Head conical, slightly ascending, tricarinate above: frons lanceolate, tetragonal, tricarinate, the lateral ridges curved, margins also ridged: antennæ conical, setiform filament twice as long as the preceding part: pronotum very short: mesonotum tricarinate: tegmina broad with numerous transverse veinlets along the costa; ulnar areas elongate towards the base of the tegmina; apical areas more numerous, short, and generally 5—6 angled (*Walker*).

49. *ELICA LATIPENNIS*, Walker.

*Elica latipennis*, Walker, J. Linn. Soc. Zool. i, p. 86 (1856).

Testaceous, partly tawny: head above and disc of the thorax, brown: tegmina hyaline with a slight testaceous tinge; veins tawny, some of them black, forming an irregular, incomplete band (*Walker*). Body long,  $7\frac{1}{4}$ ; teg., 19 millims.

Reported from Malacca.

Genus *MONOPSIS*, Spinola.

A. S. E. F. viii, p. 302 (1839); Amyot & Serville, Hist. Nat. Ins. Hémi. p. 507 (1843); Walker, List Hom. B. M. ii, p. 325 (1851).

Cephalic prolongation flattened above, ovally rounded anteriorly; the flat portion of the vertex has a median ridge dividing into two lines posteriorly which form a very pointed arch placed above another arch on the pronotum; frons broad with a median and two lateral ridges: eyes large, oblong: pronotum very narrow, emarginate posteriorly in an arch; mesonotum with three elevated lines: tegmina slightly crystalline and transparent almost as in the genus *Dichoptera*; the great basal half with long cells, then comes a small elevated transverse line and then a great number of small and more or less quadrate cells: abdomen rather flat and oblong: feet moderate (*Am. § Serv.*).

50. *MONOPSIS VIRIDICANS*, Stål.

*Monopsis viridicans*, Stål, Freg. Eng. Resa. Ins., p. 281 (1859).

♀. Weakly virescent: vertex nearly semicircularly produced before the eyes; frons one and half time longer than the breadth, carinated; thorax somewhat longer than the vertex, roundly produced anteriorly, tricarinate, the lateral ridges oblique: scutellum tricarinate, the lateral ridges somewhat divergent towards the base, parallel, nearly three and half time longer than the breadth (*Stål*). Long with teg., 7 millims.

Reported from Hong-Kong, Sikkim (?).

51. *MONOPSIS* (?) *SINICA*, Walker.

*Monopsis sinica*, Walker, List Hom. B. M. ii, p. 327 (1851).

♀. Body fusiform, yellowish-green: head and thorax tawny above, the former surrounded by a bright green ridge on each side and in front and with three others of which the lateral pair do not extend beyond the disc from the hind border: pronotum with three bright green ridges, the side pair oblique, longer than the median one: rostrum and legs pale yellowish-green: feet tawny; hind tibiæ between the middle and the tips, with three spines having black tips: tegmina and wings colourless, the basal part of the former pale green, occupying two-thirds of the surface, covered with little tawny tubercles, very distinct from the reticulated part; veins green. Body long  $3\frac{1}{2}$ ; exp. teg.,  $10\frac{1}{2}$  millims.

Reported from Hong-Kong.

Genus *HIRACIA*, Walker.

J. Linn. Soc. Zool. i, p. 154 (1857).

Body elliptical convex: head with the borders hardly elevated; vertex conical, distinctly tricarinate; frons and face indistinctly tricarinate, the former obconical, excavated next the face which is lanceolate: pronotum full twice broader than long, narrower in front, 5-carinate; mesonotum triangular, acuminate, tricarinate: tegmina acuminate with numerous rugulose veins and transverse veinlets (*Walker*).

52. *HIRACIA WALKERI*, Signoret.

*Hiracia walkeri*, Signoret, A. S. E. F. (4 sér.) i, p. 57, t. 2, f. 3 (1861).

Yellowish-grey with two black patches on the tegmina: head weakly angular in front with a median keel on the frons: vertex grooved with the margins strongly carinated, posterior margin concave: pronotum angular, rounded in front, furnished with a great number of small tubercles along the anterior margin and on its disc and a median transverse impression: scutellum weakly tricarinate: tegmina with veins without anastomoses but faintly reticulated in the intervals, a median triangular black spot towards costal margin and an oblong spot behind towards the internal margin; abdomen yellowish, shorter than the tegmina; feet yellow, very long; posterior tibiæ furnished on the external sides with seven spines, a character which serves to separate this species from *H. ignava*, Walker, from Borneo (*Sign.*). Body long, 7; broad, 3 millims.

Reported from India.

## Subfam. DERBINA, Stål.

*Derbida*, Hem. Afric. iv, pp. 130, 192 (1866); *Derbina*, Ofvers. K. V.-A. Förh. p. 750 (1870).

Head very often narrower than the thorax: sides of clypeus sometimes carinated: last joint of rostrum short or very short; thorax posteriorly angularly-emarginate, ecarinate or furnished with an obsolete ridge: costa simple; clavus generally as in *Achilina*: last tibiae very often unarmed, rarely spinose; first joint of last tarsi, elongate (*Stål*).

## Genus PHENICE, Westwood.

Trans. Linn. Soc. xix, p. 10 (1845); *Stål*, Ofvers. K. V.-A. Förh. p. 163 (1856); Hem. Afric. iv, pp. 192, 195 (1866). Amyot & Serville [Hist. Nat. Ins. Héin. p. 515 (1843)] unite *Phenice* with *Derbe*, Fabr. for reasons given; the remainder of the species described are chiefly African.

Body oval: head much narrower than the thorax, seen from the side, more or less rounded anteriorly, slightly compressly prominulous before the eyes; vertex and frons very narrow, the latter linear with the lateral margins sometimes contiguous; clypeus long, tricarinate: eyes posteriorly sinuate beneath, extended to a distance downwards: no ocelli: second joint of the antennæ varying in length, oval or a little elongate, without a sinus at the apex above: last joint of rostrum very minute: thorax short, posteriorly deeply angularly-emarginate: scutellum obsolete tricarinate: tegmina elongate, gradually amplified from the base to the middle, thence somewhat narrowed or furnished with parallel sides, much longer than the wings; clavus short; radial vein forked, ulnar vein emitting inwards obliquely longitudinal branches towards the commissural margin, these branches united by a transverse vein: feet slender, last tibiae sometimes spinose (*Stål*).

## 53. PHENICE MÆSTA, Westwood.

*Derbe (Phenice) mæsta*, Westwood, A. M. N. H. (2 sér.) vii, p. 209 (1851).

*Derbe mæsta*, Walker, List Hom. B. M. ii, p. 397 (1851).

*Phenice mæsta*, *Stål*, Ofvers. K. V.-A. Förh. p. 750 (1870).

Black, variegated white: a narrow frontal ridge on the head and the penultimate joint of the rostrum, whitish: three very fine ridges on the mesonotum and the posterior margin broader in the middle, white: feet white: tegmina black, costa and last half spotted white: wings smoky: lateral anal appendages in ♂, straight, incurved at the apex and acuminate (*Westwood*). Exp. teg.,  $13\frac{1}{2}$  millims.

Reported from India.

## 54. PHENICE CARNOSA, Westwood.

*Derbe* (*Phenice*?) *carnosa*, Westwood, A. M. N. II. (2 sér.) vii, p. 209 (1851).

Entirely luteous flesh-coloured; four anterior tibiæ, fuscous: tegmina and wings yellowish hyaline, costal margin behind the middle of the tegmina and external margin of the wings, fuscous, the latter with a median black dot: apical joint of rostrum, black: anal appendages in ♂, elongate, curved, forcipate: abdomen in ♀ terminated by two porrect horns (*Westwood*). Exp. teg.,  $14\frac{1}{2}$  millims.

Reported from India.

## Subfam. LOPHOPINA, Stål.

*Lophopida*, Stål, Hem. Afric. iv, pp. 130, 199 (1866).

Head narrower than thorax, sides of clypeus carinate; rostrum short, stout, last joint very short; thorax truncate at the base, carinated or tuberculated on the disc; first joint of last tarsi robust, less long. Differs from the *Tropiduchina* in having the thorax truncated at the base, the last joint of the tarsi very short and the basal joint of last tarsi stoutish short or somewhat shortish: from the *Issina* in having the thorax distinctly tricarinate or tuberculated on the disc, the tegmina rather ample, flat, and extending much beyond the apex of the abdomen and from the *Ricanina* in having the thorax truncated at the base, disc distinctly carinate or tuberculated and last joint of rostrum very short (*Stål*).

## Genus LACUSA, Stål.

Berlin Ent. Zeitschr. vi, p. 309 (1862); Hem. Afric. iv, p. 199 (1866).

Head somewhat narrower than the thorax; vertex not produced, somewhat transverse, lateral margins not dilated; frons elongate, furnished with two ridges converging upwards; clypeus carinate in the middle and on both sides: thorax truncated at the base, rounded anteriorly behind the vertex, tricarinate: scutellum tricarinate: tegmina rather ample, costal and commissural margins parallel, broadly rounded at the apex, costal limbus obliquely, transversely veined: anterior feet much dilated, foliaceous: last tibiæ trispinose, gradually slightly dilated towards the apex (*Stål*). Allied to *Elasmoscelis*, but distinct in the structure of the head.

## 55. LACUSA FUSCOFASCIATA, Stål.

*Elasmoscelis* (?) *fusco-fasciata*, Stål, Ofvers. K. V.-A. Förh. p. 248 (1854).

*Cixius eminens*, Walker, Ins. Saund. Hom. p. 42 (1858).

*Lacusa fusco-fasciata*, Stål, Berlin Ent. Zeitschr. vi, p. 309 (1862).

♂ Black-fuscous: head, thorax, scutellum, rostrum, and tarsi testaceous-whitish, frons and scutellum infusate: tegmina and wings vitreous; three bands on the tegmina, the posterior two oppositely oblique and united at the commissure, confluent spots on the apex, small transverse lines on the costal limbus and dots sprinkled over the disc, black-fuscous; wings internally and at the apex broadly fuscous; feet sparingly sprinkled pallid (*Stål*). Body long,  $5\frac{1}{2}$ ; exp. teg.,  $16\frac{1}{2}$  millims. Reported from India.

#### GENUS CORETHRURA, Hope.

Trans. Linn. Soc. xix, p. 135 (1845); *Stål*, Hem. Afric. iv, p. 200 (1866).

Body short, stout: the apex of the abdomen furnished with a very large and well-marked floccose appendage: head carinate in front: face seen in front narrow: rostrum of median length: clypeus large, inflated: antennæ inserted beneath the eyes, very short, setose to some length at the apex: ocelli minute placed a little before the eyes: first pair of feet with depressed tibiæ, last tibiæ externally tridentate (*Hope*).

#### 56. CORETHRURA FUSCOVARIATA, Hope.

*Corethrura fusco-varia*, Hope, Trans. Linn. Soc. xix, p. 135, t. 12, f. 60 (1845); Walker, List Hom. B. M. ii, p. 395 (1851).

Body above somewhat fuscous; head with a whitish transverse line, three rows of white spots on the thorax: abdomen fuscous-green, extremity provided with a subochraceous cottony appendage longer than the entire body: tegmina varied with fuscous, having numerous interrupted bands of a more saturated colour and patches of a farinose powdery substance: wings paler brownish, hyaline, immaculate (*Hope*). Body long, 19; exp. teg., 58-59 millims.

Reported from Silhat.

#### Subfam. ISSINA, Stål.

*Issida*, *Stål*, Hem. Afric. iv, pp. 130, 202: *Issina*, *Ofvers. K. V.-A. Förh.* p. 754 (1870).

Head not or only a little narrower than the thorax; clypeus very often convex, lateral margins very rarely furnished with a ridge; thorax truncated at the base, rarely broadly roundly-sinuated, without a median ridge or only an obsolete one; scutellum short, rarely twice longer than the thorax: tegmina coriaceous or subcorneous, rarely vitreous, very rarely flat, more or less convex, sometimes very much abbreviated: clavus and claval vein generally as in *Achilina*: first joint of last tarsi short or moderate very rarely elongate. Differs from *Ricanina* in the thorax being



truncated or slightly sinuated at the base, scutellum short never more than twice as long as the thorax; tegmina very ample, very often convexish, not or but little extending beyond the abdomen (*Stål*).

#### Genus HEMISPHERIUS, Schaum.

Allg. Enc. Wissensch. Kunst. i, p. 51, (1850); *Stål*, Hem. Afric. iv, p. 203 (1866).

Last joint of rostrum longer than stout, oval, oblong or elongate; tegmina entirely convex, very obsolete veined or without veins, clavus and corium connate, no claval suture; body depressed; vertex narrower than the eyes or subequal in breadth; thorax truncated at the base, sinuated behind the eyes, sides behind the eyes hardly visible from above; last tibiæ bispinose; anterior femora simple (*Stål*). This beautiful genus has the entire tegmina quite coriaceous like those of the lady-bird beetles.

#### 57. HEMISPHERIUS RUFOVARIUS, Walker.

*Hemisphærius rufovarius*, Walker, List Hom. B. M. Suppl. p. 95 (1858); Butler, A. M. N. H. (5 sér.) xvi, p. 96 (1875).

Testaceous: vertex transverse with a red mark on the disc, frons and face flat; frons with a red disc, face black, lanceolate; pronotum with three minute red marks; mesonotum with a red stripe on each side; abdomen with a black band beneath; tegmina rather narrower and more oblong than in the other species of the genus (*Walker*). Body long,  $3\frac{1}{2}$ ; teg.,  $8\frac{1}{2}$  millims.

Reported from Burma.

#### Genus FLAVINA, Stål.

Ofvers. K. V.-A. Förh. xviii, p. 209 (1861); Hem. Afric. iv, p. 206 (1866).

Wings cleft, fairly ample, irregularly reticulated; head distinctly narrower than the thorax, vertex subquadrate; frons slightly rounded a little above the clypeus on both sides, longer than broad; clypeus ecarinate; thorax truncated at the base, angulated anteriorly behind the vertex; scutellum somewhat longer than the thorax, tegmina extending somewhat beyond the abdomen, the costa and the commissure subparallel, gradually roundly-narrowed at the apex; the principal exterior vein near the base, the median vein towards the apex and interior vein before the middle, forked, the two last united before the middle by a more distinct transverse veinlet, the interior branch of the fork of that vein also forked; last tibiæ 5-spinose (*Stål*).

## 58. FLAVINA GRANULATA, Stål.

*Flavina granulata*, Stål, Ofvers. K. V.-A. Förh. xviii, p. 212 (1861).

♀. Weakly yellow-testaceous; tegmina sparingly sprinkled fuscous, extreme part of angles of vertex and basal angles of frons, fuscous; frons scarcely twice as long as its median breadth, furnished with a median ridge obliterated near the clypeus and a small subbasal, transverse, angulated ridge; thorax granulate; scutellum unicarinate; anterior tibiæ with two broadly, weakly fuscous rings (*Stål*). Long with teg., 8 millims.

Reported from India.

## Genus EUPILIS, Walker.

J. Linn. Soc. Zool. i, p. 93 (1856); Stål, Hem. Afric. iv, p. 207 (1866); Berlin Ent. Zeitschr. x, p. 393 (1866); Ofvers. K. V.-A. Förh., p. 760 (1870).

Body very oblong: clypeus transversely convex before the middle, not compressly elevated; tegmina membranous, vitreous, very oblong, scarcely gradually amplified towards the apex, obtusely rounded at the apex; exterior branch of the radial vein running out at the costa or sending out a short branch to the costa; claval veins united almost in the middle of the clavus; wings emarginate at the apex, with two veins running towards the apical incisure united towards the apex: last tibiæ bispinose behind the middle (*Stål*).

## 59. EUPILIS ALBILINEOLA, Walker.

*Eupilis albilineola*, Walker, J. Linn. Soc. Zool. i, p. 93 (1856); p. 162 (1857).

♀. Testaceous, partly pale-green: frons black, shining, with a tawny central spot and with a testaceous border: face with two black bands, the anterior one macular: thorax and pectus with black spots: abdomen with black bands: tegmina and wings transparent, veins black; the tegmina slightly lurid with five brown streaks; transverse veinlets, white (*Walker*). Body long  $8\frac{1}{4}$ ; teg., 25 millims.

Reported from Singapore.

## Genus TEMPSA, Stål.

Hem. Afric. iv, p. 208 (1866); Ofvers. K. V.-A. Förh. p. 761 (1870).

Body oblong, somewhat cylindrical: head and thorax somewhat equal in breadth, the former obtuse: vertex subequal in breadth to the eyes, truncated, transverse, not produced before the eyes; clypeus transversely convex before the middle, not compressly elevated, sides without a ridge: frons somewhat longer than broad, narrowed upwards, with a longitudinal ridge: thorax anteriorly angulated, truncated at the base;

scutellum longer by more than half than the thorax: tegmina oblong somewhat narrowed towards the apex, obliquely truncated at the apex; coriaceous, somewhat opaque or slightly pellucid; interior ulnar vein simple or forked at a greater distance from the base than the exterior ulnar vein; exterior branch of the radial vein continued towards the apex of the corium, emitting no branch to the costa; claval veins united behind the middle of the clavus; wings broad, with two veins running towards the apical incisure united towards the apex: last tibiæ bispiuose behind the middle (*Stål*).

#### 60. TEMPSA MALAYA, Stål.

*Issus malayus*, Stål, Ofvers. K. V.-A. Förh., p. 216 (1854).

*Eupilis malaya*, Stål, Freg. Eug. Resa Ins., p. 277 (1858).

*Tempsa malaya*, Stål, Berlin Ent. Zeitschr. x, p. 393 (1866).

♂. Elongate, sordid flavescent, obscurely spotted: frons tricarinate the median ridge distinct, continued through, the lateral ridges obsolete, two spots in the middle and four spots on the scutellum, black-fuscous: tegmina elongate, subparallel, longer than the abdomen, somewhat ferruginous, costal margin of a weaker colour. Head sordid flavescent, obscurely spotted, at the apex before the eyes a little truncately produced, vertex quadrate, with a transverse somewhat arched ridge at the apex; frons one-third narrower than its length, very broad towards the apex, gradually somewhat narrowed towards the base, tricarinate, the median ridge continued through, distinct, the lateral ridge obsolete, converging much towards the base, confluent at the base, in the middle on both sides at the median ridge, fuscous: thorax as long as the vertex, triangularly produced, fuscous-flavescent, somewhat impressed lengthwise: scutellum scarcely twice as long as the thorax, obsolete tricarinate, sordid flavescent, with four small fuscous spots: tegmina extending beyond the abdomen, thrice as long as the median breadth, gradually a little amplified from the base, thence scarcely gradually amplified, obliquely subtruncate at the apex, with longitudinal veins, veins robust, remotely united by other less distinct transverse veins; with a ferruginous tinge, costal margin weak testaceous-flavescent, subhyaline: wings sordid hyaline with fuscous veins, as long as the tegmina: beneath with feet, weak sordid flavescent (*Stål*). Long with teg., 9; broad, 3½ mil-lims.

Reported from Malacca, Singapore.

#### Genus TETRICA, Stål.

Hem. Afric. iv, p. 208 (1866).

Body oval or suboblong: frons subtruncate at the apex, narrowed upwards, unicarinate; last joint of rostrum oblong or subelongate; thorax

and scutellum together, transverse, the former truncated at the base, anteriorly obtusely angulated, the latter about twice longer than the thorax: tegmina slightly narrowed behind the middle, at the apex very obtusely rounded; corium a little longer than the clavus; radial vein of tegmina forked at the base, ulnar veins forked in the middle or a little before the middle: wings very broad, deeply emarginate at the apex: last tibiæ bispinose: first joint of last tarsi rather short. Head and thorax equally broad, the former not prominulous before the eyes, vertex transverse, subequal in breadth to the eyes; frons equally long and broad, amplified near the apex: sides of clypeus furnished with a ridge: body a little compressed (*Stål*). Type, *T. fusca*, *Stål*.

#### 61. TETRICA FUSCA, *Stål*.

*Tetrica fusca*, *Stål*, *Ofvers. K. V.-A. Förh.* p. 757, note, (1870).

♂. Fuscons, subcompressed, feet pallescent: corium and clavus obsoletely sprinkled pale on the disc: vertex twice broader than long: frons nearly equally long and towards the apex broad, furnished with a single, distinct, obtuse ridge running through it, continued through the clypeus: tegmina somewhat broadish, gradually a little amplified from the base scarcely to the middle, thence distinctly narrowed (*Stål*). Long with teg.,  $5\frac{1}{2}$  millims.

Reported from Burma.

#### *Species of doubtful position.*

#### 62. ISSUS (?) PECTINIPENNIS, Guérin.

*Issus pectinipennis*, Guérin, *Voy. Bélanger Ind. Orient.* p. 475 (1834); *Spin.*, A. S. E. F. viii, p. 347 (1839); *Walker, List. Hom. B. M.* ii, p. 362 (1851).

Luteous spotted with black: head transverse, anteriorly trispinose, one obtuse point in front of each eye and one forming a prolongation of the frons: tegmina anteriorly dilated, luteous or ochraceous-yellow, with some small tubercles and short transverse streaks, black; wings brunneous: body beneath yellow, variegated with black; feet flavescent. The anterior margin of the tegmina is spinose; it comprises a limbus outside the radius as broad as the external flap of the wing, about half a line, transparent, vitriform, or like an exceedingly fine plate of talc, furnished throughout with oblique veins (parallel to each other) contrasting in colour and substance with that of the limbus itself. These veins when the limbus is injured stand out like the teeth of a comb and give a peculiar appearance to the insect. The frons is ascending and is divided from the base to the upper margin into three facettes which form between them obtuse angles; the median increases from below upwards and reaches the vertex and is divided by a longitudinal ridge which descends from above

and loses itself towards the middle of the frons; the two interior facettes rise a little higher than the median but without converging above it; they bend outwards and end in an acute and prominent point above the eyes. The vertex is broader than long, concave, margins gently raised, anterior bisinuate, posterior weakly emarginate. Median lobe of pronotum broad, rounded. Long, 10; exp. teg., 23 millims.

Reported from Bengal.

### 63. ISSUS (?) TESTUDINARIUS, Stål.

*Issus testudinarius*, Stål, Ofvers. K. V.-A. Förh., p. 246 (1854).

Obscurely ferruginous: frons with a longitudinal ridge in the middle and a transverse one at the base: tegmina coriaceous, longitudinal veins elevated: beneath and feet yellow-testaceous: entire anterior femora and last pair at the apex, fuscous: abdomen, fuscous in the middle (*Stål*). Long, 8; broad, 6 millims.

Reported from Penang.

### Genus CYRENE, Westwood.

Arc. Ent. ii, p. 35 (1843).

Body short, stout, abdomen compressed: head with frons conical, long, porrect, acute at the apex, carinate above at the sides, ridges obliterated before the apex, posteriorly extended to the pronotum: eyes large, lateral, emarginate beneath: no ocelli: antennæ small, inserted below the eyes: pronotum as long as the mesonotum, disc impressed in the middle with two points: tegmina coriaceous, opaque, homogeneous, convex, broad; anterior margin sinuate, rounded at the apex, posterior angle, acute; veins little branched: feet short, robust, last tibiæ curved, armed inwards towards the apex with three spines: abdomen truncated at the apex, ending in two lobes, furnished with a slender, erect appendage, concave at the apex (*Westwood*). The entire surface of the tegmina is covered with an immense number of minute, circular, elevated areas, visible only under the lens and which give it a shagreened appearance: when at rest the tegmina are carried almost perpendicularly.

### 64. CYRENE FUSIFORMIS, Walker.

*Cyrene fusiformis*, Walker, List Hom. B. M. Suppt. p. 47 (1858).

*Chalepus aconophoroides*, Walker, l. c. p. 192 (1858).

♂, ♀. Testaceous: head produced in a lanceolate horn which is straight, hardly ascending, a little longer than the thorax and has three slight ridges above and beneath: tegmina very convex in front, straight

along the interior border, very acute at the tips, with several indistinct, ramified brown marks, veins few: wings vitreous, tinged with grey, a testaceous tinge towards the base; veins few, pale (*Walker*). Body long  $10\frac{1}{2}$ - $12\frac{1}{2}$ ; teg. 19-23 millims.

Reported from N. China, India: the Indian Museum has a specimen from Sikkim.

#### 65. CYRENE WESTWOODI, Signoret.

*Cyrene westwoodi*, Signoret, A. S. E. F. (1 sér.) ii, p. 124, t. 1, f. 5, A. B. C. (1862).

Brown yellow: a whitish-yellow line extends from the tip of the head to the end of the tegmina which have several dots of the same colour on the disc and are granulate through the whole length so as to have the appearance of being shagreened: head once and half longer than broad, including the eyes, black at the extremity and with a whitish yellow median band, a little elevated; sides carinate: frons concave at the base and grooved, quadricarinate towards its upper third; the two median ridges reaching the extremity of the head; whereas the two lateral ridges proceed obliquely upwards, contour the head and lose themselves in the lateral ridges of the vertex towards its upper third: rostrum short not extending beyond the posterior coxæ: eyes not emarginate, oval. Pronotum thrice broader than long, rugose, especially towards the anterior and posterior borders with an elevated whitish yellow band and on each side a sunken spot; posterior margin truncated straightly, anterior convex with a strong emargination below the eyes: mesonotum triangular and remarkable for a ridge or rather transverse fold near the anterior margin and very distinct from it this fold appears a little below the latter and extends from one humeral angle to the other and also a little below. Tegmina concave, shell-shaped, with the posterior angle acute, the anterior margin convex, rounded, a little concave on reaching the posterior angle, posterior or sutural margin straight and whitish, the entire surface shagreened; veins numerous and branched towards the tip, several whitish dots on the disc: wings transparent hyaline: abdomen reddish yellow, compressed: feet brown-yellowish; posterior femora with two lateral spines towards the extremity (*Sign.*). Body long, 14; teg. extended, 22 millims.

Reported from Cochin-China, Burma (?).

#### Subfam. RICANIINA, Stål.

*Ricaniida*, Stål, Hem. Afric. iv, p. 131, 219 (1866); *Ricaniina*, *Ofvers. K. V.-A. Forh.*, p. 765 (1870).

Head broad or very broad, sometimes somewhat narrower than the thorax; sides of clypeus very often without a ridge; thorax posteriorly roundly sinuated, without ridges or furnished only with an obsolete median ridge: scutellum very large, long: tegmina flat, ample or very ample, costa dilated; costal membrane transversely veined or reticulated: last tibiæ spinose; first joint of last tarsi short or shortish. Differs from *Tropiduchina* in having the thorax without discoidal ridges or only with a single rather obsolete one and the first joint of the last tarsi being short or shortish (*Stål*).

#### Genus RICANIA, Germar, Stål.

Mag. Ent. iii, p. 221 (1818); Stål, Hem. Afric. iv, p. 221 (1866); Fieber, Rev. Mag. Zool. (3 sér.) ii, p. 342 (1875).

Germar formed this genus from *Plata*, Fabr., taking the Indian species *R. hyalina*, Fabr., as his type with the following description:— 'Head short, transverse: frons lower, subovate, margined on the sides: clypeus annexed to the apex of the frons, conical, subulate at the apex: labrum concealed; rostrum shorter than half the body: eyes globose, pedunculate above: ocelli inserted on the lower margins of the eyes: antennæ distant from the eyes, short, first joint minute, cylindrical, second short, thicker at the apex, obliquely truncated, setigerous.' This was subsequently reduced by the creation of several genera which Stål reviews, absorbing some, and making other sections or subgenera.

Stål includes in *Ricania* his own genus *Scolypopa* (Berl. Ent. Zeitschr. iii, p. 325, 1859) and gives the following diagnosis of the genus:—

Body very broad, not prominent before the eyes anteriorly truncate or obtusely rounded: vertex very broad, short; frons transverse or equally long and broad, very often keeled; sides of clypeus without a ridge: thorax slightly arched, very often furnished with a fine ridge in the middle: scutellum furnished with three ridges running through it and anteriorly on both sides with an abbreviated ridge: tegmina varying in form and size, very often triangular and very ample; basal tegula large or somewhat largish; two veins emitted from the base of the clavus united in the middle or behind the middle of the clavus: wings moderate or small, anal area furnished with a simple vein: feet moderate, simple; last tibiæ very often bispinose, very rarely trispinose.

The principal divisions or subgenera are:—

1. *Pochazia*, Am. and Serv. Hist. Nat. Ins. Hém. p. 528 (1843); which includes *R. fasciata*, Fabr., and various African and Indian species.
2. *Tarundia*, Stål, Berlin Ent. Zeitschr. iii, p. 325 (1859) and Rio Jau. Hem. ii, p. 70 (1862); which includes several species from Africa and the Indian Archipelago.

3. Represented by *R. quinquefasciata*, Stål, from Africa.
  4. *Mulvia*, Stål, formerly represented by African species.
  5. *Deraulax*, Signoret, A. S. E. F. (3 sér.) viii, p. 191 (1860); type *D. versicolor*, Sign. [*l. c.*], from Madagascar.
  6. *Pocharica*, Signoret, *l. c.*, p. 192 (1860); type, *P. ocellata*, Sign., [*l. c.*, p. 192 (1860)], from Madagascar.
  7. *Pochazoides*, Signoret, *l. c.*, p. 193 (1860); type, *P. maculatus*, Sign. [*l. c.*, p. 193 (1860)], from Madagascar.
  8. *Privesa*, Stål, Rio Jan. Hem. ii. p. 70 (1862); type, *R. lævijrons* Stål [Stettin Ent. Zeit. xxii, p. 151 (1861)], from Mozambique.
- Out of the eight subgenera, the Indian species, hitherto recorded, fall under the first two and principally under the first, *Pochazia*.

#### 66. RICANIA HYALINA, Fabricius.

- Cercopis fenestrata*, Fabricius, Syst. Ent. p. 688 (1775); Stoll, Cig. p. 75, t. 19, f. 102 (1788).
- Cicada hyalina*, Fabr., Syst. Ent. App. 832 (1775); Spec. Ins. ii, p. 326 (1781); Mant. Ins. ii, p. 272 (1787); Ent. Syst. iv, p. 40 (1794).
- Flata hyalina*, Fabr. Syst. Rhyng. p. 51 (1803).
- Ricania hyalina*, Germar, Mag. Ent. iii, p. 224 (1818); Burm., Handb. Ent. ii (i) p. 161 (1835).
- Flatoides hyalina*, Walker, List Hom. B. M. ii, p. 404 (1851).
- Flatoides orientis*, Walker, *l. c.*, p. 417 (1851).
- Ricania fenestrata*, Stål, Ofvers. K. V.-A. Förh. p. 489 (1862); Hem. Fabr. ii, p. 105 (1869).

Body small, entirely ferruginous-fuscous: tegmina broad of the same colour, with an abbreviated, broad, hyaline band in the middle, behind the band two small hyaline spots and the posterior margin, interrupted in the middle, hyaline: wings fuscous, immaculate (*Fabr.*).

Fabricius (in Spec. Ins. l. c.) abandons the name '*fenestrata*' first given by him to this species which was evidently based on an error both of description and in the locality (S. America) assigned to the species. The rectification of the author should be accepted, especially as he gives the name '*fenestrata*' subsequently (Syst. Rhyng. p. 51) to a different species. This is Germar's type of the genus. Long,  $5\frac{1}{4}$ ; teg.,  $16\frac{1}{4}$  millims?

Reported from Ceylon, India; the Indian Museum possess a specimen from Calcutta (?).

#### 67. RICANIA FENESTRATA, Fabricius.

- Flata fenestrata*, Fabr., Syst. Rhyng. p. 51 (1803).
- Flatoides fenestrata*, Walker, List Hom. B. M. ii, p. 404 (1851).
- Ricania Fabricii*, Stål, Hem. Fabr. ii, p. 104 (1868).



Stature entirely of *R. hyalina*, Fabr., but smaller: body black: tegmina fuscous, hyaline at the base, spot on the anterior margin and punctures, fuscous; in the middle a broad oblique hyaline band and numerous spots, hyaline: entire wings obscure hyaline (*Fabr.*). Allied to *R. mellerborgi*, Stål.

Reported from Java.

#### 68. RICANIA MELLERBORGI, Stål.

*Ricania mellerborgi*, Stål, *Ofvers. K. V.-A. Förh.* xi, p. 247 (1854).

*Flatoides discalis*, Walker, *J. Linn. Soc. Zool.* i, p. 89 (1856); p. 156 (1857).

Testaceous: tegmina fuscous with a large transverse patch and spots on the margin, whitish-hyaline. Allied to *R. fenestrata*, Fabr. Long., 5; exp. teg., 16 millims.

Reported from Java, Borneo, Singapore, Burma.

Walker's *F. discalis*, is black: frons much broader than long, with a slightly elevated margin and slightly tricarinate: posterior margins of segments of abdomen and the legs dull testaceous: tegmina blackish, with a testaceous dot on the tip of each vein; disc limpid; two limpid dots on the costa and two towards the tip of the exterior border: wings limpid with brown borders. Body long,  $6\frac{1}{4}$ ; teg.,  $16\frac{3}{4}$  millims.

#### 69. RICANIA OBSCURA, Fabricius.

*Elata obscura*, Fabricius, *Syst. Rhynch.* p. 49 (1803); Germar in *Thou's Archiv.* ii (2) p. 49 (1830); Walker, *J. Linn. Soc. Zool.* i, p. 92 (1856); p. 161 (1857).

*Pochazia obscura* (F) Walker, *List Hom. B. M.* ii, p. 426 (1851).

*Ricania obscura*, Stål, *Hem. Fabr.* ii, p. 104 (1869).

♀. Pale testaceous-flavescent, vertex and thorax fuscous-testaceous, scutellum black: tegmina ferruginous-fuscous, sprinkled pale before the middle and in the middle, and with small pale transverse lines, an unequal narrow band placed behind the middle and the costal membrane obscurely fuscous, the extreme part of its margin pallid, a small oblique transverse line, behind the middle of the costal margin, whitish: wings fuscous, apical margin of the two last ventral segments black towards the sides. Frons about one-third shorter than broad, gradually roundly narrowed towards the apex, distinctly tricarinate: scutellum 5-carinate, lateral ridges oblique: tegmina triangular; claval suture and apical margin equally long, the latter very slightly subrotundate; costal margin, gradually slightly rounded; apical commissural angle somewhat obtusish, distinct; apical costal angle somewhat rounded; longitudinal veins rather numerous, transverse discoidal veins rare; the posterior transverse veins arranged in two rows, the anterior irregular, the pos-

terior regular and continued; the interior ulnar vein emitting many branches outwards (*Stål*). Body long,  $5\frac{1}{2}$ ; exp. teg., 15 millims.

Reported from Amboina, Borneo, Singapore, India.

#### 70. RICANIA FUSCATA, Fabricius.

*Cicada fuscata*, Fabricius, Ent. Syst. iv, p. 28 (1794).

*Flata fuscata*, Fabr., Ent. Syst. Suppt., p. 518 (1798); Syst. Rhyng., p. 47 (1803).

*Ricania obscura*, Guérin, Voy. Bélanger Ind. Orient. Zool., p. 466 (1834).

*Euryptera obscura*, Guérin, l. c. Atlas, t. 3, f. 6 (1834).

*Pochazia obscura*, Stål, Ofvers. K. V.-A. Förh., p. 160 (1865); Walker, List Hom. B. M. ii, p. 426 (1851).

*Pæciloptera antica*, Westwood, Griffith's An. King. Ins. ii, p. 260, t. 90, f. 4; t. 138, f. 4 (1832).

*Pochazia fumata* (?) pt., Walker, l. c. p. 426 (1851).

*Ricania fuscata*, Stål, Hem. Fabr. ii, p. 104 (1879).

Head fuscous, frons flat, margin and median line elevated: thorax dull black, a dorsal and smaller incurved lateral line, elevated: abdomen fuscous: tegmina and wings deflexed, truncated, hyaline-black, immaculate: feet fuscous (*Fabr.*).

Dark brown with a small spot near the middle of the anterior margin; the lower wings are covered with a bluish powder at the base: apparently belongs to *Euryptera*, Guérin (Gray in Griffith, l. c.).

Obscure, somewhat cœrulean, covered with a powdery substance; thorax tricarinate: tegmina triangular, anterior margin somewhat straight, wings concolorous; feet abbreviated, brunneous-ferruginous (*Guérin*). Long ♀: exp. teg. 30 millims. Stål identified this from the type with his own *P. obscura* which in Hem. Fabr. (l. c.) he makes one with *R. fuscata*, Fabr.

♂. Blackish; abdomen and feet pale fuscous-testaceous: tegmina and wings obscurely fuscous, the former marked behind the middle of the costal margin with a small, more or less distinct, flavescens greyish spot; costal and apical margins not sinuated towards the apical costal angle: wings behind the middle with the veinlets irregularly arranged and furnished towards the apex with a row of veinlets; frons very transverse, very roundly narrowed towards the apex, furnished with a median longitudinal ridge (*Stål*). Body long, 7—8; exp. teg., 29—32 millims.

Reported from Tranquebar, Java, Cambodia, Burma: the Indian Museum possesses a specimen from N. India.

#### 71. RICANIA FUMATA, Am. & Serv.

*Pochazia fumata*, Am. & Serv., Hist. Nat. Ins. Hém. p. 529 (1843); Walker, List Hom. B. M. ii, p. 426 (1851), excl. syn.; J. Linn. Soc. Zool. i. p. 91 (1856) p. 160 (1857) and x, p. 163 (1867); Stål, Berlia Ent. Zeitschr. vi, p. 314 (1862).

In all respects similar to *R. fasciata*, Fabr., but without a hyaline band or spot. Black-fuscous, beneath with feet and vertex sordid yellow-livid; tegmina and wings fuscous-pellucid, in certain positions shining subviolaceous; small marginal space on the tegmina at the costal sinus obsolete pallescent. Frons almost half broader than the length, lateral margins slightly converging at the base, gradually rounded beneath the middle towards the apex, tricarinate, the median ridge somewhat continued through, the two lateral more obsolete, continued from the base scarcely to the middle: the apical margin of the tegmina somewhat longer than the commissural margin, very slightly sinuate between the middle and the apical angle, costal margin broadly distinctly sinuate a little behind the middle: wings furnished posteriorly with transverse veinlets arranged in two rows, the posterior row more regular: last tibiae armed with two distinct spines behind the middle and before the middle (always?) with a small spinule (*Stål*). Exp. teg., 41 millims.

Reported from Java, Sumatra, Borneo, Malacca, Singapore, Texas-sirim.

#### 72. RICANIA SINUATA, Stål.

*Pochazia sinuata*, Stål, *Ofvers. K. V.-A. Förh.* p. 160 (1865).

*Pochazia fasciata*, Am. & Serv. [nec Fabr.], *Hist. Nat. Ins. Hémi.* p. 528, t. 9, f. 7 (1843); Walker, *List Hom. B. M.* ii, p. 426 (1851); *J. Linn. Soc. Zool.* i, p. 91 (1856).

♂. Blackish; beneath with feet fuscous-testaceous; tibiae and tarsi, paler; tegmina and wings black-fuscous, the former slightly shining violaceous; a band on the tegmina placed behind the middle abbreviated near the costal margin and sometimes interrupted, and a median band on the wings abbreviated towards the anal area, whitish. Stature entirely of *R. fumata*, A. & S.: the frons with obsolete longitudinal striae and three obsolete ridges: wings behind the middle with two abbreviated transverse rows of transverse veinlets; costal apical angle of tegmina a little more produced than in *R. fumata* (*Stål*). This species is often confounded with *R. fasciata*, Fabr., which is somewhat like in the marking, but differs in having the costal and apical margins of the tegmina straight and not sinuated, the exterior apical angle less produced and the head somewhat narrower, and is moreover an African species. Long, 8½; exp. teg., 35 millims.

Reported from Singapore, Malacca.

#### 73. RICANIA SPECULUM, Walker.

*Flatoides speculum*, Walker, *List Hom. B. M.* ii, p. 406 (1851).

*Flatoides tenebrosus*, Walker, l. c. p. 406 (1851); *J. Linn. Soc. Zool.* i, p. 89 (1856).

*Flatoides perforatus*, Walker, l. c. p. 407 (1851): J. Linn. Soc. Zool. x, p. 147 (1867).

*Ricania malaya*, Stål, Ofvers. K. V.-A. Förh. p. 247 (1854).

*Ricania speculum*, Stål, l. c. pp. 489, 491 (1862).

♀. Body black: legs ferruginous: tegmina brown with five colourless or whitish-hyaline spots, two on the disc, one near them on the costal margin, and two on the apical margin, of which the one nearer the posterior angle is sometimes interrupted so as to appear two, veins brown, whitish on the colourless parts: wings paler brown, pellucid, with many almost colourless dots. Body long, 6—8½; teg., 21—24 millims.

Reported from Philippines, China, Malacca, Singapore: the Indian Museum possesses a series from Pankabári, Sikkim, Sibságar (Assam).

#### 74. RICANIA FUMOSA, Walker.

*Flatoides fumosa*, Walker, List Hom. B. M. ii, p. 414 (1851).

*Ricania fumosa*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♀. Body dark ferruginous; frons and legs ferruginous: mesonotum piceous: tegmina blackish brown, veins black: wings brown. Body long, 3¼; teg., 12½ millims.

Locality not reported: the Indian Museum possesses a specimen from Assam?

#### 75. RICANIA APICALIS, Walker.

*Pochazia apicalis*, Walker, List Hom. B. M. ii, p. 431 (1851).

*Ricania apicalis*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♀. Body testaceous: mesonotum black: legs testaceous: tegmina dull fawn-colour, ample, finely pubescent, with two indistinct pale brown oblique bands, the first forming a ringlet; a black dot by the tip of the fore-border, veins tawny: wings pale grey, pale brown along the hind border. Body long, 5¼; teg., 16½ millims.

Locality not reported: the Indian Museum possesses specimens fairly agreeing with the description from Sikkim.

#### 76. RICANIA OCELLUS, Walker.

*Pochazia ocellus*, Walker, List Hom. B. M. ii, p. 429 (1851).

*Flatoides facialis*, Walker, l. c. Suppt. p. 100 (1858).

*Ricania ocellus*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♂, ♀. Body piceous: vertex and frons with a ferruginous rim: clypeus and rostrum tawny: abdomen ferruginous at the base and be-

neth: legs tawny: tegmina and wings colourless with brown borders, the former ample, a brown dot near the base, beyond it two slender brown bands; the first forming a brown ringlet on the disc between which and the border it is widened and includes a colourless dot; the second very slight extending along the outer band of transverse veins; veins tawny, here and there brown: stigma tawny: wings with a brown exterior border. Body long,  $5-6\frac{1}{2}$ ; teg., 17—19 millims.

Reported from China: the Indian Museum has a specimen from Assam.

#### 77. RICANIA INTERRUPTA, Walker.

*Pochazia interrupta*, Walker, List Hom. B. M. ii, p. 428 (1851): nec *P. interrupta*, J. L. S. Zool. i, p. 91 (1856).

*Ricania interrupta*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♀. Body black: head very short, as broad as the thorax; vertex very short, dark ferruginous, bordered by a rim, sinuate on the posterior border, nearly straight in front, its length in the middle about half of that on each side; frons very finely striated, rounded on each side, rather narrower towards the clypeus, bordered by a ferruginous rim, slightly concave where it joins the clypeus, tricarinate, the lateral ridges indistinct, its breadth a little less than twice its length; clypeus ferruginous, triangular, with a slight median ridge; pronotum very slightly sinuated behind, rounded anteriorly with a median ridge, on each side of which there is an impression, its length in the middle less than twice that on each side: mesonotum very finely striated, 5-carinate, the two ridges on each side united on the disc: abdomen dark ferruginous, obconical, a little longer than the thorax: legs ferruginous: tegmina dark brown, ample, triangular, with a broad, oblique white band which is interrupted in front; a row of white dots extending on the edge of the tegmen from the hind border along one-third of the distance to the tip; veins blackish, pale yellow on the white parts; longitudinal veins very numerous; transverse veins few; fore-border straight, along it a row of mostly parallel transverse veins which are more oblique where the longitudinal vein appears contorted; beyond this they are shorter: wings brown, little more than half the length of the tegmina with a white band which forms one with that on the tegmina (*Walker*). Body long,  $6\frac{1}{4}$ ; teg., 25 millims.

Reported from Malabar.

#### 78. RICANIA SIMULANS, Walker.

*Pochazia simulans*, Walker, List Hom. B. M. ii, p. 431 (1851).

*Ricania simulans*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♀. Body ferruginous: head as broad as the thorax; vertex very short, posteriorly sinuate, very slightly rounded in front, shorter in the middle than on each side; frons flat, rounded on each side, narrower towards the clypeus, bordered by a rim, concave where it joins the clypeus, not ridged, its breadth nearly twice its length: clypeus triangular: pronotum very short, arched, bordered by a rim: mesonotum black, not ridged: meta-notum tawny: abdomen obconical, tawny at the base, hardly longer than the thorax: legs tawny: tegmina brown, ample, a tawny triangular spot on the anterior margin beyond the middle; two broad, oblique, very irregular, colourless bands on the disc, first short, second interrupted; veins tawny, longitudinal veins numerous, transverse veins few; anterior margin slightly convex, along it a row of parallel transverse veins which are contorted and more oblique towards the tip: wings pale greyish-brown (*Walker*). Body long,  $5\frac{1}{4}$ ; teg.,  $16\frac{1}{2}$  millims.

Reported from N. India.

#### 79. RICANIA PROMINENS, Walker.

*Ricania prominens*, Walker, Ins. Saund. Hom. p. 48 (1858).

Dull testaceous: head with eye and antennæ forming a large vertical compartment; vertex transverse, very short, mostly covered by the pronotum; frons with transverse blackish marks, very much longer than broad, with elevated borders and three slight ridges, the middle one abbreviated, the pair converging towards the face, where they are connected; face lanceolate, ridged: pronotum bicarinate, very convex along the fore border; mesonotum with a brown interlined disc and two blackish dots on each side; meta-notum and abdomen dark brown, the latter with a pale testaceous stripe on each side: legs testaceous, femora slightly streaked with black: tegmina with brown marks along the costa and with a few brown marks elsewhere and with an irregular whitish subapical band; stigma whitish; veinlets regular along the costa and along the exterior border where they are mostly forked, the discal veins and veinlets irregular, the latter numerous; wings with very few veinlets; both vitreous grayish, veins black and the exterior borders brown (*Walker*). Body long,  $8\frac{1}{2}$ ; teg., 25 millims.

Reported from Silhat.

#### 80. RICANIA GUTTIFERA, Walker.

*Pochazia guttifera*, Walker, List Hom. B. M. ii, p. 427 (1851).

*Ricania guttifera*, Stål, Ofvers. K. F.-A. Förh. p. 491 (1862); Distant, J. A. S. B. xlviii (2), p. 38 (1879).

♂, ♀. Body black: head very short, as broad as the thorax: vertex bordered with a rim, sinuate behind, straight in front, its length in the middle about half of that on each side: frons dark ferruginous with a black border, very finely striated, rounded on each side, narrower towards the clypeus, bordered by a rim, hardly sinuated where it joins the clypeus, having a middle ridge which does not reach the fore-border, its breadth nearly twice its length: clypeus triangular, with a middle ridge: pronotum slightly sinuate behind more rounded on the anterior margin, with a middle ridge much longer in the middle than on each side; mesonotum 5-carinate, the two ridges on each side united on the disc: abdomen obovate, a little longer than the thorax, ferruginous towards the base: legs ferruginous: tegmina triangular, ample, dark brown, blackish along the fore-border, with three colourless spots, one on the fore-border beyond the middle, one near the tip and one which is smaller near the hind border: a white dot on the disc and between it and the tip a small indistinct, tawny spot; veins blackish, tawny on the colourless spots, longitudinal veins very numerous towards the tips, transverse veins free; fore-border straight, along it a row of oblique, mostly parallel, transverse veins which are shorter towards the tip: wings dark brown, little more than half the length of the tegmina (*Walker*). Body long, 7—8½; teg., 29—36 millims.

Reported from Silhat (Assam).

*Species doubtfully Indian.*

#### 81. RICANIA GUTTATA, Walker.

*Flatoïdes guttatus*, Walker, List Hom. B. M. ii, p. 408 (1856): J. L. S. Zool. i, p. 156 (1857).

*Ricania guttata*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♂. Black: vertex piceous, frons dark ferruginous: pronotum ferruginous: legs tawny, femora piceous: tegmina blackish-brown, with three whitish-hyaline spots, one on the disc round, second larger and almost triangular placed on the costal margin near the tip, third as large as the first placed on the tip near the costal margin; a row of colourless dots along the tips of the tegmina; veins blackish, pale on the spots. Body long, 6¼; teg., 21 millims.

Reported from Hong Kong, Borneo.

#### 82. RICANIA EPISCOPUS, Walker.

*Flatoïdes episcopus*, Walker, List Hom. B. M. Suppl. p. 100 (1858).

*Ricania episcopus*, Stål, Ofvers. K. V.-A. Förh., p. 491 (1862).

Tawny, testaceous beneath: abdomen luteous: tegmina and wings whitish; the tegmina with three broad blackish bands which are con-

nected in front, the first and second connected in the middle; the three more or less connected with, or interrupted by three chalybeous black bands, of which the first is costal, the second is curved and contained in the fore-part of the second blackish band, and the third is marginal: a deep black spot half enclosed in the second chalybeous band: the wings with a broad median lurid band and a blackish marginal band. Body long,  $8\frac{1}{2}$ - $9\frac{1}{2}$ ; teg., 21-23 millims.

Reported from N. China.

### 83. RICANIA OBLIQUA, Walker.

*Pochazia obliqua*, Walker, List Hom. B. M. ii, p. 429 (1851).

*Ricania obliqua*, Stål, Ofvers. K. V.-A. Förh., 591 (1862).

♂. Body black: frons dark ferruginous: legs ferruginous: tegmina brown, ferruginous towards the base (the costal margin excepted), with two slightly tawny bands, the outer one of irregular breadth, the inner one shorter and broader, and between them on the costal margin is a slightly tawny nearly triangular spot; veins concolorous: the wings are very slightly tinged with tawny, brown along the fore-borders. Body long,  $6-7\frac{1}{4}$ ; teg., 19-21 millims.

### 84. RICANIA MARGINALIS, Walker.

*Flatoides marginalis*, Walker, List Hom. B. M. ii, p. 409 (1851): J. Linn. Soc. Zool. i. p. 89 (1856).

*Ricania marginalis*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♀. Body black: abdomen and legs ferruginous: femora piceous: tegmina and wings blackish-brown, the former with five colourless spots of which one is a dot on the disc, second very large, triangular, on the costal margin near the tip, third much smaller on the tip, with 2-3 colourless dots, fourth and fifth small irregular, on the tip near the hind border; a row of colourless dots along the tips of the tegmina; veins blackish, pale on the spots. Body long,  $7\frac{1}{4}$ ; teg., 25 millims.

Reported from Singapore, Africa (?).

### 85. RICANIA WALKERI.

*Pochazia interrupta* (n. b. l.), Walker, J. Linn. Soc. Zool. i, p. 91 (1856).

Testaceous: tegmina and wings brown, the former partly lurid towards the hind border, an interrupted band beyond the middle, tips hyaline, slightly testaceous. Vertex much broader than long; frons elongate subquadrate, with a slight groove in the middle: pronotum arched, extending over part of the vertex: mesonotum slightly tricarinate (Walker). Body long,  $6\frac{1}{4}$ ; teg.,  $1\frac{1}{2}$  millims.

Reported from Singapore.



## 86. RICANIA COSTIMACULA, Walker.

*Pochazia costimacula*, Walker, J. Linn. Soc. Zool. i, p. 91 (1856).

Black: head and legs tawny; vertex brown with a tawny border: tegmina and wings blackish, the former mostly lurid along the borders and about the transverse veinlets and with a whitish hyaline spot on the costa beyond the middle. Frons broader than long with a median ridge and an elevated margin (*Walker*). Body long, 5; teg.,  $14\frac{1}{2}$  millims.

Reported from Malacca.

## 87. RICANIA GRADIENS, Walker.

*Pochazia gradiens*, Walker, J. Linn. Soc. Zool. i, p. 91 (1856).

Tawny, testaceous beneath: tegmina and wings blackish, the former tawny along the costa. Head with a median ridge and with the margins elevated: frons hardly broader than long, the sides rounded (*Walker*). Body long, 5; teg.,  $12\frac{1}{2}$  millims.

Reported from Singapore.

## 88. RICANIA PLEBEIA, Stål.

*Ricania plebeia*, Stål, *Ofvers. K. V.-A. Förh.* p. 162 (1865).

♀. Fuscous-greyish; beneath with frons and feet, paler; tegmina fuscous, sprinkled with minute pale dots before the middle; a small obliquely transverse median line on the costal limbus whitish, and a very minute punctiform spot on the apical costal angle, black: wings infusate. Frons tricarinate: commissural apical angle of the tegmina straight, apical margin almost entirely straight (*Stål*). Long, 7; exp. teg., 22 millims.

Reported from Siam.

## 89. RICANIA LIMITARIS, Stål.

*Ricania limitaris*, Stål, *Ofvers. K. V.-A. Förh.* p. 161 (1865).

Fuscous-testaceous, frons and feet paler: tegmina fuscous, clavus and indeterminate interior part of the corium, paler; a largish costal spot placed almost behind the middle, sordid whitish; a small shining spot in the costal apical angle, blackish, and a small obsolete discoidal spot, fuscous: wings very slightly infusate. Frons obsoletely tricarinate, costal limbus of tegmina remotely transversely veined (*Stål*). Long, 8; exp. teg., 22 millims.

Reported from Cambodia.

90. *RICANIA PULVEROSA*, Stål.

*Ricania pulverosa*, Stål, Ofvers. K. V.-A. Förh. p. 162 (1865).

♂, ♀. Fuscous-testaceous; vertex, thorax, and scutellum, black; the basal part of the tegmina powdery-flavescent and the disc clouded fuscous; the transverse discoidal veinlets and the costal margin before the middle, pale; the latter minutely spotted fuscous; three costal spots, the median somewhat large, a small one near the apex, and a very minute apical one, yellow-whitish; the median costal spot with black transverse lines; a minute spot in the apical costal angle, black; wings weak fuscous. Frons distinctly tricarinate; tegmina densely veined, the transverse veinlets on the costal limbus remote (*Stål*). Long, 4—7; exp. teg., 14—20 millims.

Reported from Cambodia.

91. *RICANIA EPISCOPALIS*, Stål.

*Ricania episcopalis*, Stål, Ofvers. K. V.-A. Förh. p. 162 (1865).

♀. Weak fuscous-testaceous; tegmina more obscure, costal spot behind the middle also two bands, one placed before the middle and abbreviated outwards, the other placed behind the middle and abbreviated near the costal margin, somewhat interrupted in the middle and produced a little forwards anteriorly, whitish hyaline; a spot near the costal margin behind the middle and an arch placed between the spot and the margin, black; wings very slightly infuscate, the base and a transverse spot behind the middle, whitish. Frons with a median obsolete ridge, lateral ridges very obsolete; tegmina densely veined, very numerous transverse veinlets on the costal limbus, several of which are forked (*Stål*). Long, 7; exp. teg., 21 millims.

Reported from N. China, Formosa.

Genus *MINDURA*, Stål.

Rio Jan. Hem. ii, p. 69 (1862).

In Hem. Afric. iv, p. 220 (1866), Stål unites the genera *Mindura* and *Miriza* with *Nogolina*, but subsequently [Ofvers. K. V.-A. Förh., p. 769 (1870)] keeps them separate and creates from *Miriza* the subgenera *Varcia* and *Sassula*, to the latter of which *M. sorurcula*, Stål, belongs.

Frons with two distinct ridges, slightly converging towards the apex, much longer than broad; vertex distinctly prominulous before the eyes; lateral margins of the clypeus carinate at least at the base; tegmina equally broad, broadly rounded at the apex, furnished between the apex of the clavus and the transversely veined costal area with a continued

row of distinct transverse veinlets, the costal area of the usual breadth; interior vein of corium forked before the middle.

A. Tegmina vitreous; the first and second longitudinal veins emitted from the basal area not forked before the transverse row of veinlets mentioned above, transverse veins rare, very rare and obsolete before the row above mentioned; transverse veins on the apical part forming two rows, before which irregularly scattered transverse veins are present; last pair of tibiæ 3-spinose.—MIRIZA, Stål, of which the type is *Ricania bohemani*, Stål.

B. Tegmina opaque, with somewhat closely arranged transverse veinlets; the second longitudinal vein emitted from the basal area forked before the continued transverse row of veinlets; numerous transverse veinlets irregularly arranged on the apical part: last pair of tibiæ, 4-spinose.—MINDURA, Stål, of which the type is *Flata obscura*, Fabricius.

## 92. MIRIZA SORURCULA, Stål.

*Miriza sorurcula*, Stål, Ofvers. K. V.-A. Förh. p. 164 (1865); p. 769 (1870).

♂. Weak testaceous-flavescent: tegmina and wings sordid hyaline: extreme part of the lateral margins of the frons and clypeus, median ridge on the frons, two spots on the vertex and thorax, three lateral spots on the scutellum, the clavus except the basal part, irregular marginal spots on the corium which are more or less confluent, apical limb of the wings, lateral margins and abbreviated bands on the dorsum of the abdomen, fuscous: disc of the scutellum more obscure (*Stål*). Long, 11; exp. teg., 30 millims.

Reported from Cambodia.

## 93. MINDURA HEMEROBII, Walker.

*Ricania hemerobii*, Walker, List Hom. B. M. ii, p. 425 (1851); J. Linn. Soc. Zool. i, p. 89 (1856).

*Mindura hemerobii*, Stål, Ofvers. K. V.-A. Förh. p. 491 (1862).

♂, ♀. Body tawny: frons dotted with brown, bordered by a black-edged rim; clypeus with a median ridge and border, black: mesonotum ferruginous with a tawny median stripe and two oblique black and slightly undulating ridges: abdomen with a black stripe above: legs tawny, striped black: tegmina and wings nearly colourless, the former with the tips and five spots, brown; of the latter two are placed near the tips towards the hind border, one near the tip on the fore-border and two are by the stigma which is tawny; veins black: wings edged with brown. Body long, 8½; teg., 27 millims.

Reported from Ceylon, Malacca.

## Genus PUCINA, Stål.

Hem. Afric. iv, p. 221 (1866), Berlin Ent. Zeitschr. x, p. 393 (1866).

Clavus without transverse veinlets: head not prominent before the eyes; vertex transverse; clypeus convex, without lateral ridges; tegmina gradually slightly amplified towards the apex, furnished towards the apex with oblong areolas arranged in two rows and with many areolas less regularly arranged on the disc; ulnar veins and radial forked somewhat before the middle of the corium; first tibiæ hardly longer than the femora and trochanters, last tibiæ bi-spinose (Stål).

## 94. PUCINA PELLUCIDA, Guérin.

*Cixius pellucidus*, Guérin, Voy. La Coquille, Zool. ii, (2), p. 189 (1830): Icon. Règne Animal, t. 58, f. 4 (1830-34).

*Ricania pellucida*, Spin., A. S. E. F. (1 sér.) viii, p. 401 (1839); Walker, List Hom. B. M. ii, p. 423 (1851).

*Pucina pellucida*, Stål, Berlin Ent. Zeitschr. x, p. 393 (1866).

Head yellowish with three ridges: frons thrice longer than broad, strongly margined and with a median ridge; vertex broader than long, disc flat and horizontal, margins elevated, fine; anterior margin obtusely angular, its tip extended a little beyond the eyes; posterior margin angularly emarginate: thorax varied with green and brown, also the abdomen, which is less high than broad: tegmina and wings transparent, veins brown, with a brown triangular dot on the anterior margin of each tegmen and near its tip; radial vein weakly arcuate, sub-radial straight, rejoining the radial towards the second third on the anterior margin, the intermediate space with eight transverse, sub-parallel veins and divided into nine fairly large cellules, of which the seven intermediate are as broad as long, the two extreme longer than broad; the adjoining space between the radial and cubital veins divided into two large, narrow, elongate cellules by a complete, transverse vein: feet yellowish, tarsi brown; posterior tibiæ with two lateral spines. Long, 6; exp. teg., 16 millims.

Reported from Java, Bengal.

## Subfam. FLATINA, Stål.

*Flatida*, Hem. Afric. iv, pp. 131, 235 (1866); *Flatina*, Öfvers. K. V.-A. Förh. p. 771 (1870).

Clavus granulate, apex sometimes subacute and closed, sometimes very obtuse and broadly open; with two veins separated through the entire length or near the apex united in one; costa dilated, costal membrane transversely veined; claval suture distinct; anal area of wings not reticulated: last tibiæ without a mobile spur (Stål).

## Genus CERYNIA, Stål.

Rio Jan. Hem. ii, p. 68 (1862); Hem. Afric., p. 235 (1866).

First joint of antennæ oblong or elongate, hardly shorter than the second; genæ anteriorly rounded; frons longitudinally convex: thorax produced in the middle and covering the short vertex; tegmina very greatly decumbent, very ample; posterior tibiæ very often bi-spinose: costal membrano narrowed at the base (*Stål*).

## 95. CERYNIA MARIA, White.

*Pæcilopectera maria*, White, A. M. N. H. xviii, p. 25, t. 1, f. 3 (1846).

*Flata maria*, Walker, List Hom. B. M. ii, p. 436 (1851).

*Cerynia maria*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862); Distant, J. A. S. Ben. xlviii (2), p. 38 (1879); A. M. N. H. (5 sér.) xi, p. 172 (1883).

Of a very delicate white colour with a reddish wax-like spot not far from the base of the tegmina, an interrupted somewhat curved narrow black line running across the wing not reaching the fore-margin: behind it, and not far from the end of the inner margin there is a short narrow black line: the tegmina more or less powdered with a waxy secretion; the wings white, somewhat hyaline: head, thorax, body and femora very pale yellow; antennæ and tibiæ blackish: a large tuft of white, waxy, spongy matter at the end of the body. In some specimens the red mark on the tegmina is nearly obsolete and the transverse black line is quite obsolete anteriorly (*White*). Exp. teg., 33—34 millims.

Var. *a*. *Flata tenella*, Walker, l. c. *supra*, p. 437 (1851), has the tegmina of a very delicate pale-green, abdomen in ♂ concolorous and in ♀ pale yellow.

Var. *b*. *Cerynia rosea*, mihi, has the tegmina of a delicate pale rose colour and comes from Sikkim.

Reported from India, Assam, Tenasserim. The Indian Museum possesses specimens from Sikkim, Assam, Tenasserim.

## Genus PHROMNIA, Stål.

Rio Jan. Hem. ii, p. 68 (1862); Hem. Afric. iv, pp. 235, 239 (1866): *Flata*, pt., Am. & Serv., Hist. Nat. Ins. Hém. p. 521 (1843).

Body oblong, compressed: head much narrower than the thorax; vertex short, thorax concealed; frons longitudinally convex, seen from the side roundly-prominulous; genæ anteriorly rounded; clypeus long: no ocelli: antennæ elongate, rounded, second joint twice or half longer than first: disc of thorax elevated behind the vertex, the elevated part somewhat sloped forwards, produced, covering the vertex: scutellum

convex : tegmina very ample, very greatly decumbent, longer by half than broad, rounded at the apex, very densely longitudinally veined, few transverse veinlets on the disc, furnished near the apex with a regular row of transverse veinlets, costal membrane everywhere equally broad ; costal area furnished with obliquely transverse, forked, veins : feet moderate, simple ; last tibiæ very often bispinose (*Stål*).

#### 96. PHROMNIA MARGINELLA, Olivier.

*Fulgora marginella*, Olivier, Eno. Méth. vi, pp. 566, 575 (1791) : Stoll, p. 50, t. 11, f. 54 (1788).

*Flata marginella*, Walker, List Hom. B. M. ii, p. 434 (1851) ; excl. syn.

*Phromnia marginella*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862) ; Distant, A. M. N. H. (5 sér.) xi, p. 171 (1883).

Body and feet greenish : apical joints of antennæ brown : tegmina bright green ; at the base itself with an orange-patch (at least in old specimens) costal margin up to apical fifth narrowly sanguineous, bordered interiorly with verdigris green, longitudinal veins slightly orange towards the base : wings white, transparent. Body long, 13 ; teg. long, 24 millims.

Reported from Ceylon, Mergui ; the Indian Museum has a series from Sikkim, Assam.

#### 97. PHROMNIA TRICOLOR, White.

*Pæciloptera (Flatida) tricolor*, White, A. M. N. H. xviii, p. 26 (1846).

*Flata tricolor*, Walker, List Hom. B. M. ii, p. 435 (1851).

*Phromnia tricolor*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862) ; Distant, A. M. N. H. (5 sér.) xi, p. 172 (1883).

Tegmina pale-green, anterior margin (especially at the base) reddish, the colour gradually verging into green ; a few white powdery dots on the basal part, the underside washed white : wings white, somewhat powdered ; veins, especially at the base, greenish : body and legs pale-green. The front edge of the wings near the base has a prominent angle, followed by a sinuation (*White*). Exp. teg. about 48 millims.

Reported from Silhat : the Indian Museum possesses specimens from Siam, Samaguting and Naga hills in one of which the green of the tegmina has faded to orange-yellow and in others the red is far advanced towards the middle and in others wanting.

#### 98. PHROMNIA RUBICUNDA, Distant.

*Phromnia rubicunda*, Distant, A. M. N. H. (5 sér.) xi, p. 171 (1883).

Tegmina dull reddish, becoming slightly paler towards the apex ; the basal, marginal and apical areas above somewhat irregularly tinged

and spotted with chalky white; beneath more evenly and palely tinged with the same colour: wings white: body pale ochraceous, the pronotum somewhat darker in hue: legs pale ochraceous, first and intermediate tibiæ and tarsi, black; last tarsi with the apical joint, black: tibiæ strongly sulcated, last tarsi armed with three prominent spines. Allied to *P. tricolor*, White, but differs in the longer tegmina and different colour of the same, different colour of tibiæ, &c. (*Distant*). Exp. teg., 62 millims.

Reported from Mergui.

#### 99. PHROMNIA INTACTA, Walker.

*Flata intacta*, Walker, List Hom. B. M. ii, p. 435 (1851).

*Phromnia intacta*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

♀. Body pale stramineous: antennæ long, stramineous, third joint black, much longer than the second: pronotum almost truncate-conical on the disc, somewhat impressed in front, tricarinate, ridges produced through the mesonotum; abdomen obconical, not longer than the thorax: legs tawny; anterior tarsi and tips of the anterior tibiæ and of the hind tarsi, black: tegmina dingy white, veins white: wings milk-white. Body long,  $9\frac{1}{2}$ ; teg., 46 millims.

Reported from Silhat.

#### 100. PHROMNIA INORNATA, Walker.

*Flata inornata*, Walker, List Hom. B. M. ii, p. 438 (1851).

*Phromnia inornata*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

Body tawny: antennæ black, very long, tawny towards the base: pronotum straight behind, conical in front, its length about one-fourth its breadth; mesonotum indistinctly tricarinate, disc flat: abdomen obconical, a little longer than the thorax: legs tawny, feet and tips of the anterior tibiæ, black: tegmina dull pale tawny, veins yellow: wings colourless. Body long,  $12\frac{1}{2}$ ; teg., 42 millims.

Reported from Tenasserim.

#### Genus LECHEA, Stål.

Hem. Afric. iv, p. 236 (1866).

Tegmina furnished towards the apex with one or two rows of transverse veinlets or with veinlets irregularly scattered throughout, and with very many or several longitudinal veins forked at the apex, the longitudinal veins at the apex rarely simple, if so, the tegmina are furnished with a single row of veinlets near the apex. Body cylindrical or compressed; tegmina very greatly decumbent. Frons seen from the

side and genæ produced in the middle; tegmina very ample, gradually somewhat amplified towards the apex, furnished near the apex with a regular arched row of transverse veinlets which begins behind the apex of the clavus, costal area transversely veined, some veins anastomosed (*Stål*). Type, *L. dentifrons*, Guérin.

#### 101. *LECHÆA DENTIFRONS*, Guérin.

*Peciloptera dentifrons*, Guérin, Icon. Règne Animal, Texte, p. 365 (1830-34).  
Walker, List Hom. B. M. ii, p. 445 (1851).

*Lechæa dentifrons*, Stål, Berlin Ent. Zeitschr. x, p. 393 (1866).

#### Genus *SCARPANTA*, Stål.

Hem. Afric iv, pp. 236, 240 (1866).

Body oblong, compressed: head much narrower than the thorax, vertex very short, concealed by the thorax: antennæ very short, first joint hardly visible: ocelli distinct: thorax compressly-elevated on the disc, elevated part flat, a little sloped forwards, anteriorly truncated, produced, covering the vertex, on both sides acutely margined or terminated by a ridge reaching the base: scutellum tricarinate: tegmina very ample; very greatly decumbent; gradually amplified beyond the middle; truncated at the apex, remotely veined; furnished throughout with transverse veinlets irregularly scattered, remote; costal area broad, remotely reticulate: the elevated dorsal part of the abdomen emitting a slender, erect, process: feet moderate, simple: last tibiæ bispinose (*Stål*).

#### 102. *SCARPANTA COMMA*, Walker.

*Peciloptera comma*, Walker, List Hom. B. M. ii, p. 447 (1851).

*Scarpanta comma*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

♂. Body buff: abdomen powdered with white, valves and other appendages at the tip large: legs tawny: anterior feet and tips of the anterior tibiæ and of the hind feet, black: tegmina buff, a very short and slender, slightly oblique, black streak on the disc, an oblong black dot near the hind border at one-third of the length from the base; veins buff: wings milk white. Body long,  $9\frac{1}{2}$ ; teg.,  $37\frac{1}{2}$  millims.

Reported from Silhat.

#### Genus *FLATA*, Fabricius, Stål.

Ent. Syst. Suppl. pp. 511, 517 (1798); Stål, Berlin Ent. Zeitschr. vi, p. 313 (1862); Hem. Afric. iv, pp. 236, 241 (1866).

It includes *Colobesthes*, Am. & Serv., Hist. Nat. Ins. Hém., p. 522 (1843); *Cronna*, Walker, J. Linn. Soc. Zool. i, p. 85 (1856); and *Phyllyphanta*, Am. & Serv., l. c., p. 523 (1843).



Body oblong, compressed: head narrower than the thorax, varying in shape; vertex short, concealed; frons sometimes tumid or conically produced at the base: ocelli distinct: antennæ very short: thorax anteriorly somewhat produced, covering the vertex: scutellum more or less distinctly tricarinate: tegmina very ample, very greatly decumbent gradually amplified towards the apex, truncated at the apex, moderately densely veined, most, often all, the transverse veinlets irregularly scattered, veinlets rarely arranged in one or two irregular rows towards the apex, costal area irregularly reticulated: feet simple, last tibiæ bispinose (*Stål*). Type, *Flata ocellata*, Fabr.

### 103. FLATA OCELLATA, Fabricius.

*Cicada ocellata*, Fabr., Syst. Ent. p. 682 (1775); Spec. Ins. ii, p. 322 (1781); Mant. Ins. ii, p. 268 (1787); Ent. Syst. iv, p. 27 (1794), excl. syn. de Géer.

*Flata ocellata*, Fabr., Ent. Syst. Suppt., p. 517 (1798); Syst. Rhyng., p. 49 (1803), *Stål*, Ofvers. K. V.-A. Förh. p. 489 (1862); Hem. Fabr. ii, p. 107 (1869).

*Ricania ocellata*, Germar, Mag. Ent. iii, p. 224 (1818).

*Paciloptera ocellata*, Burm., Handb. Ent. ii (i), p. 162 (1835); Spin., A. S. E. F. viii, p. 441 (1839); Walker, List Hom. B. M. ii, pp. 444, 454 (1851).

*Paciloptera stellaris*, Walker, List l. c. ii, p. 453 (1851).

*Paciloptera argiolus*, *Stål*, Ofvers. K. V.-A. Förh. p. 191 (1855).

Green: tegmina much compressed, posteriorly acutely angulated, green, sprinkled with numerous ocellar ferruginous dots: feet pallid (*Fabr.*). In faded specimens the colour is a dirty white or yellow and the ferruginous spots become an obscure brown.

*Stål's P. argiolus* is thus described:—'Weakly whitish-virescent; frons, thorax, and scutellum tricarinate, the last, however, less so: tegmina sparingly sprinkled with small dull black-sanguineous spots, obsoletely circled whitish; clavus granulate.' Body long, 6; exp. teg., 20 millims.

Reported from Tranquebar.

### 104. FLATA FERRUGATA, Fabricius.

*Flata ferrugata*, Fabr., Syst. Rhyng. p. 50 (1803); Germar in Thon's Archiv. ii, fasc. 2, p. 49 (1830); *Stål*, Hem. Fabr. ii, p. 108 (1869).

♀. Very palely subtestaceous-flavescent, here and there covered with a whitish powdery substance; wings whitish: apical margin of the two last segments of the abdomen in ♀ at least, black towards the sides. Very close to *F. ocellata*, Fabr., hardly differs except in coloration unless in having the apical, commissural angle of the tegmina a little less produced, somewhat straight, not distinctly acute and thorax with a single less distinct median ridge. Head truncate, vertex very obtusely angulated anteriorly, concealed by the thorax; frons a little

longer than it is broad beneath the middle, gradually slightly amplified from the base beyond the middle, thence on both sides obtusely rounded furnished with an obtuse median ridge running through it, slightly impressed on both sides within the lateral margins, not tumescent at the base: thorax with a median ridge (*Stål*). Body long, 8; with teg.,  $10\frac{1}{2}$ ; exp. teg., 24 millims.

Reported from Tranquebar.

#### 105. FLATA MARGINELLA, Guérin.

*Ricania marginella*, Guérin, Voy. La Coquille Zool. ii (2), p. 192 (1830); Icon. Règne Animal Ins., t. 58, f. 6 (1830-34); Voy. Bélanger Ind. Orient. p. 467 (1834.)

*Peciloptera marginella*, Spin., A. S. E. F. (1 sér.) viii, p. 433 (1839); Walker, List Hom. B. M. ii, p. 443 (1851).

*Nephesa marginella*, Walker, J. Linn. S. Zool. i, p. 161 (1857).

*Peciloptera fimbriolata*, Stål, Ofvers. K. V.-A. Förh. p. 247 (1854).

*Phyllyphanta fimbriolata*, Stål, Freg. Eug. Resa, p. 282 (1859); Ofvers. l. c., p. 159 (1865).

Head greenish-yellow: frons elevated in a small, conical, somewhat projecting process: pro- and meso-notum, fresh green with four longitudinal lines converging towards the head, the two internal a little broader and more visible, also some patches on the sides, bright orange or minaceous red: meta-notum and abdomen yellowish-white mingled with some green tints: head beneath, four anterior tibiae, and anus pale brown: entire body beneath, four anterior femora, and posterior feet very pale green: tegmina falciform, very fresh green, reticulated orange, outline bordered russet and dentate within, very slender at the side and external margin, broader on the posterior margin; towards the end of this margin, at the second third from the base, there is a small rounded russet patch touching the border and placed near the exterior dilated angle: wings milky-white with slightly greenish and bluish reflections: abdomen and feet greenish-white (*Guérin*). Long, 6; exp. teg., 19 millims.

Stål's description of his *P. fimbriolata*, which was clearly made from a faded specimen, is:—"Yellow, streak on vertex and thorax and entire limbus of tegmina, fuscous-sanguineous, disc of thorax with two luteous streaks; frons reflexly-margined, furnished on both sides with a very obsolete ridge towards the base, but towards the apex entirely evanescent; disc of thorax bicarinate; scutellum 4-carinate, with the lateral ridges abrupt behind the middle, somewhat flat between the median ridges; colour of tegmina changing into subvirescent, cellules margined lutescent, clavus granulate inwards; wings milk-white. ♀ long, 7; exp. teg., 20 millims."

Reported from Cochin-China, Malacca, Borneo; the Indian Museum possesses a specimen from Siam.

## 103. FLATA INTRACTA, Walker.

*Pæciloptera intracta*, Walker, List Hom. B. M. Suppt. p. 116 (1858).

Bright pale grass-green: frons hardly longer than broad, slightly tricarinate, margins not elevated, slightly widened towards the face: pro- and meso-notum slightly tricarinate, the former arched: abdomen pale testaceous: legs partly reddish: tegmina with a pale testaceous marginal line; costa rounded; tip and interior angle somewhat rounded, especially the former; the exterior border hardly rounded, interior border tuberculate; veins and transverse veinlets numerous: wings white. Body long,  $6\frac{1}{4}$ ; teg., 19 millims.

Reported from the Punjab.

## 107. FLATA FLACCIDA, Walker.

*Flata flaccida*, Walker, Ins. Saund. Hom., p. 50 (1858).

Pale testaceous: vertex elongated, narrower towards the front, with elevated borders: antennæ black: thorax tricarinate: abdomen somewhat paler than the thorax: anterior tibiæ and anterior tarsi mostly piceous: tegmina with a few minute pustules, veins very numerous, especially along the margin: wings white (*Walker*). Body long,  $12\frac{1}{2}$ ; teg., 50 millims.

Reported from India.

## 108. FLATA INDOCILIS, Walker.

*Pæciloptera indocilis*, Walker, Ins. Saund. Hom. p. 55 (1858).

♀. Testaceous: vertex covered by the pronotum; frons not longer than broad, widening a little towards the face, with a slightly elevated border, tricarinate; face lanceolate, ecarinate: pronotum transverse, distinctly carinate, conical in front, slightly concave behind: mesonotum ecarinate: abdomen and legs whitish testaceous: tegmina with numerous discal veins and transverse veinlets, slightly convex along the costa, rectangular, and hardly rounded at the tips, straight along the exterior border, interior angle acutely rectangular, marginal veinlets rather short, mostly forked along the exterior border: wings white (*Walker*). Body long,  $6\frac{1}{4}$ ; teg.,  $16\frac{3}{4}$  millims.

Reported from India.

## 109. FLATA ANGULIFERA, Walker.

*Cromna angulifera*, Walker, Ins. Saund. Hom. p. 57 (1858).

♀. Testaceous varied with green: head elongate, acutely conical; frons with elevated borders, ecarinate; face lanceolate: disc of thorax

flat, slightly carinate on each side; pronotum transverse, slightly arched: tegmina green, slightly testaceous along the interior border, with few veins and very few transverse veinlets on the disc, the marginal veinlets numerous, moderately long, costa convex for two-thirds of the length from the base, very slightly concave from thence to the tip which is rectangular like the interior angle, exterior border straight: wings white (*Walker*). Body long,  $4\frac{1}{4}$ ; teg.,  $10\frac{1}{2}$  millims.

Reported from India.

#### 110. FLATA MARGINALIS, Signoret.

*Phylliphanta marginalis*, Signoret, A. S. E. F. (4 sér.) ii, p. 125 (1862).

Green-yellow, a little lighter beneath: tip of the head and outline of the tegmina yellowish-brown: wings whitish: head acuminate in front and covered almost entirely by the pronotum which is extended well beyond the eyes and allows only the cephalic prolongation of the head to be seen, then directed downwards it changes its contour or outline beyond the eyes by proceeding abruptly forwards in forming a right angle; anterior margin rounded very convex, posterior margin concave: mesonotum very broad, convex, rounded in front, extremity rounded, median part flat, bounded by two complete ridges, on each side of which are two incomplete ridges which proceed from the anterior border. Lower angle of tegmina very acute, upper margin rounded, external angle rounded, external margin almost straight, sutural margin sinuate and rugose; external cubital vein much elevated and furnished on each side with a number of small tubercles which as well as the vein are of a yellow brown: wings whitish: abdomen yellowish, genitalia brownish: feet yellow, anterior tibiæ, brownish (*Sign.*). Long, teg. extended, 18 millims.

Reported from Cochin-China.

#### 111. FLATA FALCATA, Guérin.

*Paciloptera falcata*, Guérin, Voy. Bélanger Ind. Orient. Zool., p. 463, t. 3, f. 5 (1834); Spin., A. S. E. F. viii, p. 430 (1839).

*Colobesthes falcata*, Am. & Serv., Hist. Nat. Ins. Hém., p. 523 (1843); Walker, List Hom. B. M. ii, p. 439 (1851);

*Colobesthes albiplana*, Walker, J. Linn. Soc. Zool. i, p. 92 (1856), p. 161 (1857); x, p. 180 (1867).

Entire body and feet pale golden-yellow; head carinate on the sides, eyes black: thorax subcarinate: tegmina subtriangular, anterior margin rounded, very narrow at the base, external margin as large as the anterior margin, of a yellowish-white with an immense number of pale golden-yellow veinlets: wings milky white, semi-transparent, posteriorly

dilated: abdomen compressed, yellowish; feet rather short, tarsi a little brunneous (*Guérin*). Long, 14; exp. 57 millims.

Reported from Borneo, Sumatra, Java, Singapore, Malacca, Burma.

Walker describes his *C. albiplana* thus:—"White: tegmina convex in front, rectangular at the tips, straight and quadrate from thence to the interior angle which is attenuated and very acute: posterior margin straight: wings hardly acuminate at the tips."

#### 112. FLATA CONSPERSA, Walker.

*Colobesthes conspersa*, Walker, List Hom. B. M. ii, p. 440 (1851); Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

♂, ♀. Body tawny: head narrower than the thorax; vertex very short; frons conical above, fore-part paler: abdomen obconical, longer than the thorax, powdered with white: legs pale tawny: tegmina pale fawn-colour, sprinkled with black which is chiefly on the transverse veins, rounded on the anterior margin, truncate at a right angle along the tip, sinuate on the posterior margin at the tip of which they are produced into an acute angle or hook; veins pale tawny: wings milk-white. Body long, 11—15; teg., 33—46 millims.

Reported from India, Assam, Silliat: the Indian Museum possesses specimens from Sibságar, Sikkim, Calcutta.

#### 113. FLATA ACUTIPENNIS, Walker.

*Cromna acutipennis*, Walker, J. Linn. Soc. Zool. i, p. 85 (1856).

Green, paler beneath: head and thorax with testaceous stripes; tegmina with a brown line extending from near the tip of the costa to one-third of the length of the hind border from the interior angle: wings white (*Walker*). Body long,  $7\frac{1}{4}$ ; teg., 21 millims.

Reported from Malacca, Burma.

#### 114. FLATA LUTESCENS, Walker.

*Pæciloptera lutescens*, Walker, List Hom. B. M. Suppt., p. 117 (1858).

*Flata lutescens*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

♂. Testaceous: vertex a little broader than long, indistinctly tricarinate, borders slightly elevated: pronotum arched, slightly unicarinate: mesonotum indistinctly tricarinate: dorsal apical appendage of abdomen long, slender, curved, sulcate: tegmina very slightly rounded along the costa; tip rounded; exterior border straight forming a well-defined right angle with the interior border which is tuberculate: veins and transverse veinlets rather numerous; marginal veinlets rather long: wings white (*Walker*). Body long,  $6\frac{1}{4}$ ; teg., 19 millims.

Reported from N. India.

## 115. FLATA ALBATA, Stål.

*Flata albata*, Stål, Ofvers. K. V.-A. Förh. xi, p. 247 (1854): Freg. Eug. Resa, p. 283 (1859).

Whitish: tegmina within two fuscous bands at the apex, behind the middle with three, small, oblique, abbreviated, black bands; genitalia, tibiae, and anterior tarsi, black-fuscous (Stål). Body long, 10; exp. teg., 33 millims.

Reported from Malacca.

## 116. FLATA MARGINATA, Walker.

*Colobesthes marginata*, Walker, J. Linn. Soc. Zool. i, p. 92 (1856).

Greenish-white: frons not broader than long, with a slightly elevated border and a slight ridge: sides slightly rounded: mesonotum on each side with a testaceous stripe which includes a luteous line: tegmina minutely tuberculate towards the base, rounded in front, rectangular at the tips, straight and quadrate from thence to the hind angle which is attenuated and acute: hind border straight, a pale luteous marginal band extending from three-fourths of the length of the costa nearly to the middle of the hind border (Walker). Body long,  $8\frac{1}{2}$ ; teg.,  $37\frac{1}{2}$  millims.

Reported from Malacca, Burma.

## 117. FLATA PRYERI, Distant.

*Flata (Colobesthes) pryeri*, Distant, Trans. Ent. Soc., p. 153 (1880).

Body above and tegmina pale greenish; wings pale greenish white: tegmina with the costal, inner, and outer margins (the last only half the length from the apex) narrowly and obscurely luteous, and with an angular black line on the disc, about half way from the base and about two-thirds the distance from the costal margin: body beneath and legs somewhat luteous. Face broad, convex, carinate in the middle, sides amplified: posterior angle of tegmina attenuated and acute, expanse at outer margin twice that of width near base: two well developed transverse, somewhat irregular, series of veinlets preceding outer margin and a third one situated midway between these and the reticulated area (Distant). Body long, 10; exp. teg., 36 millims.

Reported from Borneo, Penang.

## 118. FLATA ANTICA, Walker.

*Penciloptera antica*, Walker (nec Westw.), List Hom. B. M. ii, p. 456 (1851).

*Flata antica*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

♀. Body yellowish-green: head very short; vertex extremely short, apparently almost concealed by the pronotum; frons flat, a little broader towards the clypeus, pale luteous and slightly rounded on each side, margins reflexed, very slightly sinuate where it joins the clypeus with a median ridge extending three-fourths of its length: clypeus slightly rounded, obliquely streaked on both sides: mesonotum with three green stripes of which the median follows a ridge: pectus luteous; abdomen obconical, crested, pale green and tinged with white above: legs pale luteous: tegmina whitish green, dilated and tuberculated along more than half the length of the hind border, truncated at the tips which form right angles with the hind borders; veins bright luteous especially along the fore-border towards the base where the whole wing has that hue unless closely inspected: wings white. Body long,  $9\frac{1}{2}$ ; teg., 25 millims.

Reported from India.

*Species of uncertain position.*

119. FLATA COROMANDELICA, Spinola.

*Pæciloptera coromandelica*, Spin., A. S. E. F. (1 sér.) viii, p. 440 (1839); Walker, List Hom. B. M. ii, p. 440 (1851).

♂, ♀. Head, dorsum of thorax, tegmina, grass-green, the rest including wings of a lighter green, veins deeper: second joint of the antennæ, exterior border of the external flap, and of the entire discoidal space of the tegmina orange: third joint of the antennæ and its filament, spines on tibiæ and tarsi, black.

Reported from Coromandel.

120. FLATA TRUNCATA, Linnæus.

*Cicada truncata*, Linn., Syst. Nat. ii, p. 704 (1758); Amæn. Acad. vi, p. 399 (1763).

*Fulgora truncata*, Olivier, Enc. Méth. vi, p. 571 (1791); Fabricius, Syst. Ent. p. 674 (1775); Spec. Ins. ii, p. 315 (1781); Mant. Ins. ii, p. 261 (1787); Ent. Syst. iv, p. 4 (1794); Syst. Rhyng., p. 4 (1803).

*Pæciloptera truncata*, Westwood, Trans. Linn. Soc. xviii, p. 151 (1841); Walker, List Hom. B. M. ii, p. 446 (1851).

Whitish-green, wings deflexed, compressed, posteriorly truncated, frons a little advanced, obtuse. (*Linn.*)

Reported from India, Java.

121. FLATA ADDITA, Walker.

*Pæciloptera addita*, Walker, List Hom. B. M. ii, p. 448 (1851).

*Pæciloptera plana*, Walker, List l. c., p. 463 (1851).

*Flata addita*, Stål, Ofvers. K. V.-A. Förh. p. 489 (1862).

Walker makes his species the same as Stoll's 'La Cigale chappe verte' (Cigales, p. 76, t. 19, f. 103), which comes from Madras. Stoll describes it as having head and eyes white, body and feet pale yellowish green, tegmina green, powdered with white farinose, wings white. Walker's *P. addita* has body pale green; antennæ yellow; abdomen greenish yellow powdered with white; legs pale green; feet tawny; tegmina pale green powdered with white; veins green; wings milk-white. Walker's *P. plana* is only a faded specimen of *P. addita*.

♂. Body long, 6—7; teg., 25—29 millims.

## 122. FLATA LACTIFERA, Walker.

*Peciloptera lactifera*, Walker, List Hom. B. M. ii, p. 450 (1851).

Body, legs and veins on tegmina pale stramineous; the two former powdered with white; mesonotum with two luteous stripes; tegmina and wings white, tegmina with numerous longitudinal and few transverse veins, anterior margin slightly rounded and along it a row of oblique, parallel, here and there forked, transverse veins. Body long,  $6\frac{1}{4}$ ; teg., 21 millims.

Reported from N. India.

## 123. FLATA DISTINCTISSIMA, Walker.

*Peciloptera distinctissima*, Walker, List Hom. B. M. Suppt., p. 114 (1858).

*Flata distinctissima*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

Pale green or whitish or testaceous; mesonotum with four more or less distinct luteous or testaceous stripes; abdomen and legs pale testaceous; tegmina with a reddish marginal line extending from the apical part of the costa to the base of the interior border which is slightly tuberculate; veins and transverse veinlets, testaceous; wings white. Long,  $7\frac{1}{4}$ ; teg., 21 millims.

Reported from N. China.

## 124. FLATA GUTTULARIS, Walker.

*Peciloptera guttularis*, Walker, List Hom. B. M. Suppt., p. 111 (1858).

*Flata guttularis*, Stål, Ofvers. K. V.-A. Förh. p. 490 (1862).

Testaceous, whitish pubescent, rarely pale green; abdomen generally white; tegmina rarely tinged with green towards the base and along the costa, with about 18 minute black dots; wings white. Long,  $9-10\frac{1}{2}$ ; teg., 31—33 millims.

Reported from N. China.



## 125. FLATA (?) TRISCRIPTA, Walker.

*Flata triscripta*, Walker, Ins. Saund., p. 50 (1858.)

Green, thickly covered with white tomentum: antennæ, tarsi, and fore-tibiæ, black: wings white, iridescent: vertex and frons elongated, their borders elevated, parallel: pronotum much arched: tegmina with a slight green tinge, slightly testaceous along the borders and with two grayish, curved, parallel bands, the one marginal the other submarginal; three black discal lines of which the fore one forms a very obtuse angle, much longer than the other two, between which and the interior border the veins are black; costa and exterior border rounded; veins numerous; veinlets rather numerous (*Walker*). Body long,  $8\frac{1}{2}$ ; exp. teg., 25 millims.

Reported from Penang.

## 126. FLATA (?) RECTIMARGO, Walker.

*Peciloptera rectimargo*, Walker, Ins. Saund., p. 51 (1858).

Testaceous with a very slight rosy tinge: abdomen whitish testaceous: tegmina very pale rosy; wings white. ♂ has fore tibiæ, black: tegmina with a luteous tinge along part of both exterior and interior borders. ♀ has the tegmina with a luteous stripe near the costa. Body long,  $10\frac{1}{2}$ — $12\frac{1}{2}$ ; teg., 46—50 millims.

Reported from Penang.

## 127. FLATA SINENSIS, Walker.

*Peciloptera sinensis*, Walker, List Hom. B. M. ii, p. 451 (1851).

*Peciloptera cereris*, Stål, Ofvers. K. V.-A. Förh. p. 247 (1854).

*Phyllyphanta cereris*, Stål, Freg. Eug. Resa, Hem., p. 282 (1859); Ofvers. I. c., p. 459 (1862).

♂, ♀. Weak virescent: head briefly conically produced; frons reflexly margined with a very obsolete median ridge: thorax somewhat granulated towards the sides, with a slight ridge: scutellum parallel with three obsolete grass-green ridges, the lateral pair very obsolete: tegmina scarcely twice as long as broad, internal apical angle acutely produced; the exterior apical limbus and the internal limbus behind the middle densely adorned with small fuscous spots; clavus densely and external limbus towards the base sparingly, granulated; very many cells furnished with a weaker granule or somewhat elevated spot (*Stål*). Long, 9; exp. teg., 22 millims.

Reported from Hong-Kong.

## Genus SELIZA, Stål.

Berlin Ent. Zeitschr. vi, p. 312 (1862).

Head narrower than the thorax; vertex transverse, concealed: frons of variable length, sometimes subtumid at the base, lateral margins somewhat acutish and slightly reflexed: obsolete ocelli present: antennæ short, first joint very short: thorax slightly arcuate, prominent in a small tooth anteriorly on both sides at the eyes; thorax and scutellum without ridges: tegmina moderately ample, contracted slightly near the apex, subtruncated at the apex, apical angles rounded, sprinkled irregularly with transverse veinlets, furnished between the apex of the clavus and of the subradial vein with a continued row of transverse veinlets, the space between the subradial vein and cubitus varying in length and breadth, and furnished towards the apex with transverse veinlets: veins on clavus united towards the apex: feet moderate, simple; last tibiæ bispinose behind the middle. Allied to *Flata*, Fabr., but very distinct in the structure and form of the tegmina (Stål): type, *P. vidua*, Stål.

## 128. SELIZA VIDUA, Stål.

*Peciloptera vidua*, Stål, Ofvers. K. V.-A. Förh. xi, p. 248 (1854); Freg. Eug. Resa, Ins. p. 281 (1859).

*Seliza vidua*, Stål, Berlin Ent. Zeitschr. vi, p. 812 (1862).

Yellow-testaceous; frons furnished at the base with an arcuate ridge, and towards the base between the eyes with a longitudinal ridge: tegmina subparallel, one and a half times longer than the breadth, behind the middle both outwardly and inwardly sinuate, roundly truncated at the apex, adorned with a broad black-fuscous patch, clavus inwardly tuberculate. Head yellow testaceous, at the base itself with a subarcuate transverse ridge; frons somewhat longer than the breadth, reflexly-margined, furnished with a small ridge towards the base: antennæ flavescent, third joint fuscous: thorax yellow-testaceous, semicircularly subelevated behind the head: scutellum yellow-testaceous, convex, almost four times longer than the thorax: tegmina one and half times longer than the breadth, rounded outwardly from the base, then subparallel, sinuated outwardly and inwardly behind the middle, roundly truncate at the apex, testaceous-yellow; a large, longitudinal patch, abrupt before the middle, black fuscous; clavus longitudinally carinately elevated inwards: beneath with feet testaceous-yellow (Stål). Long, 5; exp. teg., 1½ millims.

Reported from Malacca, India.

## 129. SELIZA TRUNCATA, Walker.

*Flatoïdes truncatus*, Walker, List Hom. B. M. ii, p. 419 (1851).

*Seliza truncata*, Stål, Ofvers. K. V.-A. Förh., p. 490 (1862).

♂. Body tawny, darker here and there: head a little narrower than the thorax; vertex conical, slightly concave; frons much larger than broad, widening from the vertex to the clypeus where it is rounded, reflexly marginate, and with a slight median ridge: eyes striped: thorax rounded in front slightly sinuate behind; nearly four times broader than long: mesonotum ferruginous, more than twice as long as the pronotum: abdomen luteous, oboconical, not longer than the thorax: genitalia consisting of two curved appendages the tips of which cross each other; the lower one compressed, deep, grooved; the upper one longer and more slender: legs tawny: tegmina truncate at the tips, pale tawny: veins darker, very numerous towards the tips: wings almost colourless, brown towards the tips; veins brown, tawny at the base (*Walker*). Body long, 5; teg.,  $14\frac{1}{2}$  millims.

Reported from N. India.

### 130. SELIZA FERRUGINEA, Walker.

*Elidiptera ferruginea*, Walker, List Hom. B. M. ii, p. 333 (1851).

*Seliza ferruginea*, Stål, K. V.-A. Förh., p. 490 (1862).

♂. Body tawny; head much narrower than the thorax; its two segments divided by a suture which forms an angle towards the hind border; hind segment yellow, piceous on the disc, its back forming a right angle with each side on which the eye is placed: fore segment piceous, rounded in front; frons rather broad, rounded on each side, piceous next the crown: rostrum tawny, reaching the hind coxæ: antennæ ferruginous, rather short, second joint nearly twice longer than the first: pronotum as long as the head very finely rugulose, somewhat truncated in front, slightly sinuate behind, disc of the mesonotum, piceous: abdomen oboconical, not longer than the thorax: legs tawny, grooved, rather broad; a tooth on each hind tibia near the tip: tegmina ferruginous, darker at the tips, partly inflated at the base and along the hind border, near whose base there are a few rows of small tubercles; reticulated part occupying full one-third of the wing; fore-border slightly convex not dilated; a row of numerous short parallel veinlets between it and the first longitudinal vein; veins ferruginous: wings grayish (*Walker*). Body long,  $6\frac{1}{2}$ ; teg.,  $16\frac{1}{2}$  millims.

Reported from India.

### 131. SELIZA LIGNARIA, Walker.

*Flatoïdes lignarius*, Walker, List Hom. B. M. ii, p. 413 (1851).

*Flatoïdes minor*, Walker, l. c., p. 417 (1851).

*Flatoïdes dubitans*, Walker, l. c., Suppt., p. 101 (1858).

*Paciloptera punctifrons*, Walker, l. c., Suppt., p. 118 (1858).

*Seliza lignaria*, Stål, Ofvers. K. V.-A. Förh., p. 489 (1862).

♂. Body ferruginous: vertex with a large piceous spot on each side; frons and clypeus, tawny; mesonotum piceous: abdomen a little longer than the thorax, genitalia very long, upper one armed near the base with two spines, curved downwards towards the tip which approaches the middle of the tip of the lower one, the latter is very deep, especially at the tip where its depth is almost equal to its length: legs tawny: tegmina ferruginous, moderately broad, with a few darker spots; discs of the areolas almost colourless; veins brown; costal margin much dilated towards the base and along it a row of parallel transverse veins: wings gray, paler towards the base. ♀ has the abdomen shorter than the thorax, tip rounded and along it a groove with a transverse ridge. Body long,  $5\frac{1}{2}$ ; teg.,  $16\frac{1}{2}$  millims.

Reported from Hong-Kong.

#### Genus FLATOIDES, Guérin.

Icon. Règne Animal, Texte, Ins., p. 362 (1838): Stål, Hem. Afric. iv, pp. 237, 248 (1866): includes *Phalænomorpha*, Am. & Serv. Hist. Nat. Ins. Hémi., p. 525 (1843); Stål, Berlin Ent. Zeitschr. vi, p. 312 (1862).

Body oblong, depressed, head produced before the eyes; vertex flat, sides parallel, confused anteriorly with the produced base of the frons which is not ridged: rostrum rather long, antennæ short: thorax elevated and flat on the disc, broadly sinuate at the base, sides flattened: tegmina ample, suboblong, costal membrane broad: feet simple, last tibiæ bispinose; last dorsal segment of the abdomen in ♀ furnished with a large produced plate, rounded at the apex (*Stål*).

#### 132. FLATOIDES INDICA, Walker.

*Elidiptera indica*, Walker, List Hom. B. M. ii, p. 330 (1851).

*Flatoïdes indica*, Stål, Ofvers. K. V.-A. Förh., p. 489 (1862).

♂. Body pale tawny, mottled with darker colour: head conical, not longer than the pronotum, somewhat sinuate and with a brown stripe above, yellow and marked with a darker colour beneath where it widens to the clypeus: rostrum luteous, reaching to the hind coxæ; eyes very prominent: antennæ luteous, rather long, second joint longer than the first; pronotum conical, slightly excavated and indistinctly angular on the hind border: disc of the mesonotum very concave; a ridge on each side towards the tip which forms an acute angle: abdomen slightly obconical, a little longer and broader than the thorax: legs pale tawny, slightly grooved: a single black-tipped spine on each hind tibia: tegmina very pale tawny, almost colourless towards the tips, adorned on the veins with numerous brown dots, some of which are confluent and with a transverse brown band at one-third from the base;

veins pale tawny; a broad convex membrane along the fore-border and at the tip slightly waved, furnished with numerous veins, most of which are connected by a band of transverse veins: wings whitish: veins pale stramineous (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 25 millims.

Reported from French rocks near Madras.

### 133. FLATOIDES FIMBRIA, Walker.

*Elidiptera fimbria*, Walker, List Hom. B. M. ii, p. 331 (1851).

*Flatoides fimbria*, Stål, Ofvers. K. V.-A. Förh., p. 489 (1862).

♀. Body pale dull luteous: head conical, a little longer than the pronotum; lateral margins slightly carinate; frons widest between the eyes: rostrum tawny, nearly reaching the hind coxæ: eyes not prominent: pronotum truncated in front, with a slight median ridge; hardly excavated on the hind border, paler than the head: mesonotum pale brown with two ridges which are oblique in front: abdomen elliptical, longer than the thorax, marked with black at the base: legs tawny, slightly grooved; a single black-tipped spine near the tip of each hind tibia: tegmina pale yellowish-brown with small irregular dark brown marks which are chiefly on the veins, rounded, much widened and furnished with numerous veins along the fore-border; veins pale tawny: wings pale gray, veins tawny (*Walker*). Body long,  $10\frac{1}{2}$ ; teg., 27 millims.

Reported from Silhat.

### 134. FLATOIDES PRINCIPALIS, Stål.

*Flatoides principalis*, Stål, Ofvers. K. V.-A. Förh., p. 159 (1865).

♀. Testaceous-stramineous; tegmina turning into pale olivaceous, very slightly narrowed behind the middle, broadly rounded at the apex: wings sordid whitish. Head fairly produced before the eyes; vertex somewhat longer than the thorax, a little longer than broad, obtuse at the apex and sinuated on both sides; frons much longer than broad, fairly narrowed upwards, rounded on both sides towards the apex; a ridge proceeding from the base beyond the middle, distinct, furnished in the middle with two small ridges: clypeus without a ridge: median part of the thorax, elevated, somewhat concave anteriorly, rounded at the apex: scutellum with an abbreviated transverse ridge a little before the middle, recurved on both sides, and continued to the apex, black-fuscous at the apex: costal part of the tegmina transversely veined, very broad, narrowed towards the apex, occupying towards the base more than a third part of the tegmina; margins entire, not eroded: last pair of tibiæ bispinose (*Stål*). Long, 15; exp. teg., 38 millims.

Reported from Malacca, Ligor.

## 135. FLATOIDES (?) EMARGINATUS, Walker.

*Flatoides emarginatus*, Walker, J. Linn. Soc. Zool. i, p. 89 (1856).

Blackish: head, pectus, and legs dull dark testaceous; frons about twice broader than long with an elevated border and with three short ridges on the hind part: tegmina and wings blackish, a white limpid spot beyond the middle of the costa of the tegmina, which are slightly hooked. Body long,  $6\frac{1}{4}$ ; exp. teg., 23 millims.

Reported from Singapore.

## Genus ATRACIS, Stål.

Hem. Afric. iv, pp. 237, 250 (1866).

Body oblong, depressed: head much narrower than the thorax, more or less prominulous before the eyes: ocelli present: antennæ short: disc of thorax elevated and flat; thorax broadly sinuated at the base: clavus granulated at the base: last segment of the abdomen in ♀ produced in a large plate which is rounded at the apex: feet simple, last tibiæ unispinose (*Stål*).

## 136. ATRACIS PRUINOSA, Walker.

*Elidiptera pruinosa*, Walker, List Hom. B. M. Suppt., p. 75 (1858).

*Flatoides pruinosa*, Stål, Öfvers. K. V.-A. Förh., p. 439 (1862).

*Atracis pruinosa*, Stal, Hem. Afric. iv, p. 250 (1866).

Sordid testaceous: head and pronotum slightly marked with black: disc of the mesonotum mostly black: tegmina with a slight greyish bloom and slight, small, irregular and variable, brown or black marks: costal margin much dilated: wings greyish with darker veins. Vertex much broader than long, slightly angular in front, with a slight ridge and with elevated borders; frons a little longer than broad, with two nearly obsolete ridges and with slightly elevated borders; pronotum somewhat truncated anteriorly and with a very slight ridge (*Walker*). Body long,  $7\frac{1}{4}$ ; teg., 21 millims.

Reported from N. China.

## Genus COPSYRNA, Stål.

Rio Jan. Hem. ii, p. 69 (1862); Hem. Afric. iv, p. 237 (1866).

Body somewhat cylindrical or compressed: head much narrower than the thorax: antennæ standing up a little beyond the anterior margin of the gena, second joint short or very short: ocelli not visible: tegmina rounded at the apex: last pair of tibiæ unispinose.

137. *COPSYRNA MACULATA*, Guérin.

*Pecilioptera maculata*, Guérin, Icon. Règne An. t. 58, f. 7 (1830-34); Voy. Bél. Ind. Orient., p. 470 (1834); Spin., A. S. E. F. viii, p. 423 (1839); Walker, List Hom. B. M. ii, p. 443 (1851); J. Linn. Soc. Zool. i, p. 92 (1856), p. 161 (1857).

*Copsyrna maculata*, Stål, Rio Jan. Hem. ii, p. 69 (1862).

Head, thorax, and wings yellowish-white, a little orange on the sides of the mesonotum and at the base of tegmina: head with an oblong patch in the middle of the frons, two approximated dots in the middle of the pronotum, two longitudinal parallel lines in the middle of the mesonotum, and four small dots on the posterior lateral margins, black: tegmina oblong, rounded at the tip, with several brown spots, almost black towards the anterior margin, quadrate, in several places confluent, leaving small white spaces in their midst and forming, towards the tip, three arched parallel bands on the external margin: wings white: beneath and feet pale yellow (*Guérin*). Long, 12; exp. teg., 50 millims.

Reported from Java, Malacca, Singapore.

Genus *NEPHESA*, Amyot & Serville.

Hist. Nat. Ins. Hém., p. 527 (1843); Walker, List. Hom. B. M. ii, p. (1851); Stål, Hem. Afric. iv, p. 237 (1866); Ofvers. K. V.-A. Förh., p. 773 (1870).

Head broad, straight or scarcely arched beyond the eyes; vertex in the form of a very short margin beyond the pronotum, with a slight transverse ridge which separates it from the frons which is broad and has neither a distinct longitudinal ridge nor a transverse groove: ocelli apparently absent: pronotum without a longitudinal median ridge; mesonotum with three almost parallel elevated lines: tegmina with longitudinal and forked veins; of a very fine substance, although slightly opaque; truncated at the tip; margins straight, a little broader at the tip than at the base; external border with very distinct transverse veins; wings almost as long as the tegmina and much broader at the tip than at the base: vulvar plates in ♀ broad, in form of an elongated cone, extending beyond the tip of the abdomen, with a sabre-shaped oviduct, divided into two equal plates, very robust and usually hidden by the vulvar plates: last pair of tibiæ unispinose (*A. ♂ S.*) Differs from *Copsyrna* in having the tegmina truncated at the apex and the head only a little narrower than the thorax.

138. *NEPHESA ROSEA*, Spinola.

*Ricania rosea*, Spinola, A. S. E. F. viii, p. 400 (1839).

*Nephesa rosea*, Am. & Serv., Hist. Nat. Ins. Hém., p. 528 (1843); Walker, List Hom. B. M. ii, p. 433 (1851); J. Linn. Soc. Zool. i, p. 91 (1856); Stål, Ofvers. K. V.-A. Förh., p. 489 (1862); p. 773 (1870); Berlin Ent. Zeitschr. x, p. 393 (1866).

*Pecilioptera completa*, Walker, l. c., p. 241 (1851).

*Flata matutina*, Walker, l. c., p. 437 (1851).

♂, ♀. Head, thorax, and tegmina of a slight rosy colour: wings white: body beneath and feet of a pale yellowish colour (A. ♂ S.).  
 Long, 22 millims.

Reported from Philippines, Java, Singapore.

*Species of doubtful occurrence.*

138. *Peciloptera luteimargo*, Walker, J. Linn. Soc. Zool. i, p. 92 (1856).

Green, with a slight testaceous tinge: frons a little longer than broad with the border slightly elevated and with a slight ridge; sides rounded: thorax ecarinate: pronotum nearly semicircular, extending over the vertex: mesonotum broader than long: tegmina subquadrate at the tips, about which there is a luteous brown-bordered band: wings limpid (*Walker*). Body long,  $6\frac{1}{4}$ ; teg.,  $14\frac{1}{2}$  millims.

Reported from Singapore.

139. *Peciloptera nireina*, Walker, J. Linn. Soc. Zool. i, p. 92 (1856).

White: in structure like the preceding: tegmina with a testaceous marginal band which extends from two-thirds of the length of the costa to the base of the hind border (*Walker*). Body long,  $5\frac{1}{4}$ ; teg.,  $14\frac{1}{2}$  millims.

Reported from Mount Ophir (Singapore).

140. *Flata lyncea*, Fabricius, Ent. Syst. iv, p. 42 (1794); Syst. Rhyng., p. 55 (1803).

Small: face flavescent, markings black: frons glaucous with a dull black dot on both sides cinctured flavescent and a small line in the middle: thorax glaucous with two rounded dull black spots anteriorly: tegmina and wings hyaline, exterior margin flavescent (*Fabr.*).

Reported from India.



III.—*The Hive-Bees indigenous to India and the Introduction of the Italian Bee.*—By J. C. DOUGLAS.

[Received January 11th;—Read January 6th, 1886.]

As I am about to leave Calcutta, and for several months shall not be able to pursue further my investigation concerning the indigenous bees of the genus *Apis*, I present this preliminary paper. I hope on a future occasion to be able to give further details, after I have mounted, examined, and drawn some of the more characteristic specimens; I shall also obtain additional specimens and examine more nests of wild bees.

It is a striking fact that bee-keeping should have been of such trifling value in India, while it has existed elsewhere as a considerable industry from ancient times, has been carried on all over Europe and in parts of Asia and