

XVII. *Contribution to a knowledge of the Homopterous family Fulgoridæ.* By W. L. DISTANT, F.E.S.

[Read November 2nd, 1892.]

PLATE XIII.

THE species and a new genus described in this paper are all from the Oriental and Australian regions, and embrace the discoveries made in the family *Fulgoridæ* by Mr. Hampson on the Neelgiri Hills, Mr. Lewis in Ceylon, Dr. Townsend in Perak, Mr. Whitehead on the Kina Balu Mountain in Borneo, Mr. Doherty on the Naga Hills and the Island of Sangir, and by other travellers and collectors, of whose names I am unfortunately ignorant. Dr. Stål generically studied this family with excellent result, and his genera have now been followed by the late Mr. Atkinson, who did so much for the Indian fauna, and all other competent students of the Homoptera. That arrangement is of course followed here.

Fam. FULGORIDÆ.

Subfam. FULGORINÆ.

Cynthila viridimaculata, n. sp.

Head ochraceous, cephalic process above with a central longitudinal blackish sulcation, an indistinct line on each lateral margin, and with two or three indistinct dark spots beneath; two central black lines preceded by a basal black spot between the eyes, which are fuscous. Pronotum ochraceous, with two central black lines near anterior margin interruptedly continued in triangular manner to base, and with scattered blackish spots. Mesonotum reddish ochraceous, spotted and marked with black. Margins of metanotum black. Abdomen blackish, with the posterior segmental margins green. Body beneath and legs ochraceous; central area of the face, base of rostrum, lateral margins of sternum, sternal spots, spots and annulations to femora and to anterior and intermediate tibiæ, the tarsi, and apex of rostrum, fuscous or castaneous. Tegmina with rather more than anterior half brownish ochraceous, irregularly spotted with fuscous, remaining area hyaline, with the

venation ochraceous and irregularly spotted with fuscous. Wings pale hyaline, the venation fuscous, their bases somewhat shining pale green. The cephalic process is almost equal in length to the distance from its base to the apex of the mesonotum, and its apex is distinctly incrassated, but laterally compressed.

Long. excl. tegm. from eyes to apex of abdomen, 14 millim. Long. ceph. proc., 5 millim. Exp. tegm., 40 millim.

Hab. MALAY PENINSULA; Perak.

Allied to *C. ferocula*, Stål, but separated, apart from other structural characters, by the basal green coloration of the wings.

Scamandra diana, n. sp. (Pl. XIII., fig. 4).

Body above brownish ochraceous, the mesonotum darker in hue; pronotum with two faint dark discal spots on each side; anterior segmental margins of the abdomen pale castaneous. Body beneath ochraceous or pale castaneous; a broad central fascia to face, margins of sternum and the femora blackish, the tibiæ olivaceous, bases of the posterior femora castaneous. Tegmina with about basal two-thirds olivaceous green, containing a reddish ochraceous spot at costal base, and a large basal claval streak, followed by two small spots, a discal spot, and a transverse fascia, all pale ochraceous; the green area terminates by a much waved and sinuate narrow black fascia; apical third pale brownish ochraceous, the venation very finely reticulate and paler in hue. On the under side of the tegmina the discal spot and transverse fascia are bright creamy white. Wings with about half or basal area olivaceous green, shaded with blackish, the extreme base narrowly testaceous, and the inner, outer, and apical (the last very broad) margins pale brownish ochraceous, reticulated as on apex of tegmina. The tubercle at the base of the posterior tibiæ is in the form of a more or less acute spine; the mesonotum is distinctly rugulose.

This species is allied in general coloration to *S. daphne*, Stal, but the apex of the tegmina is considerably narrower, the sculpture of the frontal part of the head quite different, and the pronotum has a distinct central carina on its posterior half. In general structure and size it is more closely allied to *S. arcuigera*, Stal.

Long. excl. tegm., 21 millim. Exp. tegm., 60 millim.

Hab. MALAYAN ARCHIPELAGO; Sangir (*Doherty*).

Birdantis pallescens, n. sp.

Head and thorax brownish ochraceous; eyes fuscous. Pronotum with two small central blackish discal spots. Mesonotum with four

fuscous spots, the central pair largest. Abdomen black, apical half with a double series of pale discal spots, and a series of similar spots on the lateral margins. Head beneath, sternum, and legs ochraceous; femora and anterior and intermediate tibiæ annulated with fuscous. Abdomen beneath black. Tegmina with about basal two-thirds ochraceous, irregularly mottled with darker brown; apical third fuscous, with the reticulated venation ochraceous. Wings pale hyaline, the venation fuscous, the basal third blackish, containing a pale greenish white fasciate spot. Disk of front distinctly subrugose; anterior margin of pronotum with a distinct central notch.

Long. excl. tegm., 17 millim. Exp. tegm., 42 millim.

Hab. MALAYAN ARCHIPELAGO; Batchian.

B. pallescens can at once be distinguished from the other two species described by Stål by the differently coloured base of the wings.

Desudaba maculata, n. sp.

Body above, with the head, thorax, and base of abdomen, black; remainder of abdomen and the eyes ochraceous. Body beneath ochraceous; the head, prosternum, and legs, black; nostrum fuscous, its base black. Tegmina black, the apical third fuscous, the black portion ornamented with seven to nine bright red spots, the extreme base also streaked with the same colour. Wings hyaline, with the venation fuscous, the basal third dark fuscous, containing a large basal reddish patch streaked with greyish.

Long. excl. tegm., 13 millim. Exp. tegm., 34 millim.

Hab. AUSTRALIA; Peak Downs.

Allied to *D. psittacus*, Walk., but at once separated by the spotted tegmina and the larger fuscous basal area to the wing.

Subfam. DICTYOPHARINÆ.

Dichoptera nubila, n. sp.

Body above dark ochraceous. Head, with the anterior and lateral margins of vertex, a small spot at anterior angles, and two central fasciæ to same, black; a central fascia to front, a small spot at each anterior angle, and a lateral fascia in front of eyes, black. Pronotum, with the central keel, margined with two pairs of elongate spots, the anterior margin and irregular discal markings, black. Mesonotum, with the space between the three central carinæ darker in hue, and containing four ochraceous spots margined with black, a large black spot on anterior margin, and a

strongly sinuated black fascia on each lateral area. Abdomen with four macular black fasciæ, two central and one on each lateral margin. Body beneath ochraceous, spotted with black; tibiæ annulated with black at base, centre and apex, the annulations on posterior tibiæ faint above; femora spotted with black. Tegmina hyaline, the venation and costal membrane ochraceous, spotted with fuscous; a waved and somewhat broken dark fuscous transverse fascia at base of apical area; beyond this the costal area is dark fuscous, with an intermediate ochraceous spot; the whole apical area irregularly shaded with fuscous. Wings hyaline; the venation, anal margin, and the apex, fuscous. The anterior prolongation of the head is somewhat foliaceous, the length of the head being a little less than that of the pronotum.

Long. excl. tegm., 17 millim. Long. head, 2 millim. Exp. tegm., 48 millim.

Hab. CONTINENTAL INDIA; Upper Assam. Burma; Ruby Mines.

Allied to *D. hyalinata*, Spin., but differing by the more foliaceous head, different colour, markings, &c.

Dichoptera hampsoni, n. sp.

Allied to the preceding species, but with the head much longer and less foliaceous, and without the anterior spots to vertex, which has its anterior prolongation ovate, and not subquadrate as in *D. nubila*; the pronotum has a black fascia on each side of the central keel. The tegmina are a little longer and more slender, with the fuscous markings somewhat paler. The wings have the apex a little darker fuscous. The length of the head is equal to that of the pronotum.

Long. excl. tegm., 20 millim. Long. head, $2\frac{3}{4}$ millim. Exp. tegm., 53 millim.

Hab. CONTINENTAL INDIA; Neelgiri Hills, Southern Slopes, 3000 feet (*Hampson*).

This species is also allied to *D. picticeps*, Stål, from the Philippine Islands, but differs by the annulated tibiæ, the shorter head, &c.

Mr. Hampson captured the species at sugar.

Dichoptera nasuta, n. sp.

Body above ochraceous; head very long, cephalic process with a central triangular fascia, the apex and the lateral margins dark fuscous. Pronotum suffused with fuscous, the central keel and the lateral areas ochraceous. Mesonotum suffused with fuscous, and with some basal spots and the apex ochraceous; abdomen above

with four macular fuscous fasciæ. Body beneath ochraceous, spotted with fuscous; tibiæ annulated with fuscous (intermediate and posterior tibiæ obscurely annulated); femora spotted with fuscous. Tegmina and wings as in the preceding species, but the fuscous markings rather larger. The head is about equal in length to the whole thorax above; the cephalic process is ascending, irregularly triangularly channelled for more than two-thirds its length, and its apex slightly gibbous above, with the lateral margins spatulate.

Long. excl. tegm., 22 millim. Long. head, 6 millim. Exp. tegm., 50 millim.

Hab. MALAYAN ARCHIPELAGO; Celebes.

The great prolongation of the head distinguishes this species from any other previously described.

Dictyophora præferrata, n. sp.

Head and thorax above ochraceous; cephalic process, with the lateral margins and sometimes the apex, fuscous. Pronotum, with the central keel and margins, somewhat paler in hue, the disk wrinkled. Mesonotum, with three central keels, triangularly united posteriorly, and pale ochraceous. Legs ochraceous, femora striated with fuscous. Tegmina and wings hyaline, the venation fuscous; their apices—broadly in the tegmina and narrowly in the wings—fuscous. The cephalic process is distinctly and broadly grooved above, the apex very slightly widened and subacutely convex; in the neighbourhood of the eyes it has three distinct keels.

Long. excl. tegm., 12 millim. Long. head, 5 millim. Long. tegm. 9 millim.

Hab. AUSTRALIA; Peak Downs.

Dictyophora bifasciata, n. sp.

Body above ochraceous, with a broad lateral fuscous fascia on each side, from behind eyes to near apex of abdomen; body beneath and legs ochraceous, margins of the sternum fuscous. Tegmina ochraceous, with a broad central longitudinal fuscous fascia, widened at apex. Wings hyaline, with a large fuscous spot at apex. Structure of cephalic process much as in preceding species.

Long. excl. tegm., 9 millim. Long. head, 3 millim. Long. tegm., 7 millim.

Hab. AUSTRALIA; Peak Downs.

Dictyophora insignis, n. sp.

Closely allied to the preceding species, but the cephalic process more nodulose at the base, which, together with the lateral areas,

are castaneous; tegmina without the longitudinal fasciæ, but with the apical and one-third of the inner margin and the stigma fuscous.

Long. excl. tegm., 7 millim. Long. head, 3 millim. Long. tegm., 6 millim.

Hab. AUSTRALIA; Peak Downs.

Subfam. EURYBRACHYDINÆ.

Messena radiata, n. sp. (Pl. XIII., fig. 1.)

Head and thorax above ochraceous, with irregular darker markings; face ochraceous, its anterior margin speckled with fuscous. Abdomen sanguineous, its lateral margins and anal appendages orange-yellow. Sternum and legs pale ochraceous, anterior femora and tibiæ speckled with blackish; posterior tibiæ—excluding base,—rostrum—excluding apex,—and posterior coxal spots black. Abdomen beneath orange-yellow, the segmental margins and apex somewhat fuscous. Tegmina with almost basal half ochraceous, shaded with purplish towards its margins, and with a few scattered discal small purplish spots; remaining area pale greyish brown, with a central subapical spot, a spot near apex of inner margin, and some very small scattered spots on apical margin, black. Wings pale greyish, with three subapical marginal black spots.

Long. excl. tegm., 12 millim. Exp. tegm., 36 millim.

Hab. CONTINENTAL INDIA; Neelgiri Hills (*Hampson*).

Most nearly allied to the *Eurybrachys rubescens*, Walk., which belongs to this genus.

KANDIANA, gen. nov.

Allied to *Messena*, but with the tegmina very long and narrow, much longer than the wings, which are also narrower than the tegmina. Posterior tibiæ—in specimen here described—with five spines on one tibia and six on the other; probably six in normal specimens.

Kandiana lewisi, n. sp. (Pl. XIII., fig. 2.)

Body and legs warm ochraceous; head and thorax mottled with darker hue; eyes pale fuscous. Tegmina obscure ochraceous, with two broken macular pale fuscous fasciæ near apex, and with some apical marginal spots of the same colour. Wings pale obscure ochraceous, the apex greyish, preceded by an elongate fuscous spot, the apical margin narrowly of the same colour.

Long. excl. tegm., 9 millim. Exp. tegm., 32 millim.

Hab. Ceylon (*Lewis*).

Loxocephala castanea, n. sp.

Body and legs ochraceous; anterior margin of front, central portion of anterior margin of pronotum, transverse fasciæ to abdomen above, a longitudinal fascia to the anterior tibiæ, apices of tarsi, and base of apical segment of the abdomen beneath, black. Tegmina bright castaneous, minutely spotted with greyish, the apical area bright ochraceous, containing a central black macular fascia, the apical margin also black. Wings greyish white, the apex bright ochraceous, with its margin black.

Long. excl. tegm., 10 millim. Exp. tegm., 28—30 millim.

Hab. CONTINENTAL INDIA; Naga Hills (*Doherty*).

Allied to *L. decora*, Walk., from which it differs by the different colour of the tegmina, absence of the basal black fascia to same, and also by the absence of the black subapical spot to the wings, and the black fascia to the mesonotum.

Eurybrachys apicata, n. sp.

Body and legs dull sanguineous; head—excluding eyes—pale ochraceous. Tegmina pale olivaceous green, the extreme base and a broad transverse fascia at apex dull reddish. Wings pale greyish, with nearly the basal half dull reddish.

Long. excl. tegm., 8 millim. Exp. tegm., 18 millim.

Hab. “India,” *sic.*!

A species to be readily recognised by its distinctive colour markings.

Platybrachys signata, n. sp.

Head, thorax and legs fuscous, speckled with testaceous; abdomen sanguineous; coxæ, base of anterior and intermediate tibiæ, and the posterior legs, pale sanguineous. Tegmina brownish, speckled and irregularly spotted with fuscous; a series of small greyish spots on costal margin, of which one is very large at about two-thirds from base, a transverse greyish fascia a little before apex, after which the colour is dark fuscous, containing either one or a few very small greyish spots. In some specimens there is a distinct and somewhat large fuscous spot at about centre of clavus. Wings blackish, the basal area ochraceous, and with two large greyish marginal spots, one at apex and the other at about centre of posterior margin.

Var. *a.* Tegmina with a transverse fuscous fascia near base.

Var. *b*. As var. *a*, but the wings are without the apical grey spot. Long. excl. tegm., 7 millim. Exp. tegm., 20 millim.

Hab. AUSTRALIA; Peak Downs.

Allied to *P. transversa*, Walk., but much larger, and always to be recognised by the different coloration of the wings.

Platybrachys insignis, n. sp.

Head and thorax above brownish, speckled with ochraceous; face ochraceous; abdomen and legs sanguineous; apices of the femora, tibiæ—excluding base—and the tarsi, fuscous; anal appendages to the abdomen ochraceous. Tegmina ochraceous, much spotted with fuscous, especially on the costal and claval margins, and the apical area; the whole disk is thickly, often confluent, spotted with paler fuscous. Wings dark fuscous, the base narrowly sanguineous, and with two prominent greyish white spots on the apical margin.

Long. excl. tegm., 9 millim. Exp. tegm., 22 millim.

Hab. AUSTRALIA; Peak Downs.

This species may be superficially recognised by the two apical greyish white spots to the wings.

Platybrachys ærata, n. sp.

Head and thorax above brownish ochraceous; abdomen ochraceous; face obscure ochraceous or pale olivaceous; legs testaceous; apices of femora, subconfluent spots to tibiæ, and apex of the abdomen, dark fuscous. Tegmina bronzy brown, with an oblique transverse greyish fascia, extending for a little beyond the middle of the costa half across the disk, and subobsoletely continued by greyish spots to inner margin; a distinct greyish spot on costa at apex, and a less distinct spot near apex of inner margin. Wings ochraceous, with a fuscous outer marginal fascia, which is broadest at apex.

Long. excl. tegm., 7 millim. Exp. tegm., 22 millim.

Hab. SAMOA ISLANDS and AUSTRALIA; Peak Downs.

Dardus albomaculatus, n. sp.

Head, thorax, and legs, brownish ochraceous; abdomen pale sanguineous; pronotum, with the posterior margin and a central linear fascia, greyish white; apices of the femora, anterior and intermediate tibiæ and tarsi, and bases and apices of the posterior tibiæ, fuscous. Tegmina brownish ochraceous; a claval streak and spots, a short broad fascia between clavus and costa, a broad

transverse macular fascia near apex, and some marginal apical spots, greyish white. Wings pale fuscous.

Long. 6 millim.

Hab. AUSTRALIA; Peak Downs.

Allied to *D. abbreviatus*, Guer., but distinguished by the differently marked tegmina, &c.

Dardus obscurus, n. sp.

Head above, thorax, and tegmina, dark castaneous; face, abdomen, and legs, pale sanguineous; face with a broad castaneous fascia at base; eyes pale ochraceous.

Long. 5 millim.

Hab. AUSTRALIA; Peak Downs.

Subfam. RICANIINÆ.

Ricania (Pochazia) flavocostata, n. sp.

Body blackish, legs and eyes pale fuscous, apex of abdomen greyish tomentose. Tegmina pale fuscous, the apical and outer areas dark fuscous; costal margin for about two-thirds from base ochraceous. Wings pale fuscous.

Long. excl. tegm., 10 millim. Exp. tegm., 35 millim.

Hab. MALAY PENINSULA; Sungei Ujong. BORNEO; Kina Balu Mount.

Allied to *R. fumata*, A. & S., but differing by the broad ochraceous costal margin to the tegmina, which are also more distinctly sinuate before apex.

Subfam. FLATINÆ.

Phromnia parmata, n. sp.

Body and legs pale ochraceous; eyes, antennæ, anterior and intermediate tibiæ and tarsi, and the posterior tarsi, black. Tegmina pale ochraceous, the apical margin and a double curved discal fascia on outer half very pale fuscous; a black central spot a short distance from base. Wings greyish white, the venation very pale ochraceous.

Long. excl. tegm., 11 millim. Exp. tegm., 44—50 millim.

Hab. Philippine Islands; Palawan.

Allied to *P. hamifera*, Walk., but differing by its smaller size, the black subbasal spot to the tegmina, &c.

Phromnia montivaga, n. sp. (Pl. XIII., fig. 5.)

Head and thorax above reddish; abdomen and legs pale ochraceous; eyes, antennæ, anterior and intermediate tibiæ and tarsi, and the posterior tarsi, black. Tegmina ochraceous, reddish ochraceous on disk of basal half and the clavus; the costal area and the apical half thickly powdered with greyish tomentose, the basal disk very sparingly so; the apical margin and a double curved discal fascia on outer half very pale fuscous, and very indistinctly seen through the tomentose covering; a black central spot near base. Wings greyish white.

Long. excl. tegm., 13 millim. Exp. tegm., 50 millim.

Hab. BORNEO; Kina Balu Mount (*Whitehead*).

By the ground colour of the tegmina this species is allied to *P. tricolor*, White, and by the markings of the same to the previously described species, *P. parmata*.

Flata radiata, n. sp.

Body and legs pale tawny; abdomen clothed with greyish tomentose. Tegmina greyish, with a pinky hue and two bright ochraceous ray-like fasciæ; one bounding lower portion of radial area, the other on the inner claval margin, neither extending beyond middle. Wings greyish white.

Long. excl. tegm., 14 millim. Exp. tegm., 43 millim.

Hab. BORNEO; Sarawak.

A species of unique coloration and markings.

Flata labeculata, n. sp.

Body and legs pale greenish; the eyes and tarsi blackish. Tegmina creamy white, the margins and a curved subapical fascia very pale reddish ochraceous; six irregularly shaped spots crossing radial area, and a spot near apex of same, two irregular spots beneath radial area situate at centre and near apex, and four elongate spots above clavus, dark reddish ochraceous. Wings creamy white.

Long. excl. tegm., 13 millim. Exp. tegm., 50 millim.

Hab. CELEBES; Minahassa.

The tegmina are broad and rounded apically, and the venation is close and somewhat reticulated on the apical area. A very distinctly marked species.

The two species of *Flata* above described belong to that portion of the genus represented by *F. modesta*,

Don., and *F. helena*, Walk., in which the apices of the tegmina are more or less rounded, and the posterior angle not angularly produced.

Flata (Colobesthes?) semanga, n. sp. (Pl. XIII., fig. 6.)

Body and legs greenish ochraceous. Tegmina pale green, the margins very narrowly ochraceous and with five large discal spots, and an outer submarginal fascia, greyish white tomentose; of these five spots the first is oblique and at about middle of disk, the other four being between it and the submarginal fascia. Wings greyish white.

Long. excl. tegm., 12 millim. Exp. tegm., 50 millim.

Hab. MALAY PENINSULA; Province Wellesley.

The tegmina are very broad, and their posterior angles at apices of inner margins are angularly dilated, as in *Col. falcata*, Guer. The striking coloration of this large and handsome species renders it very distinct.

Cenestra ligata, n. sp. (Pl. XIII., fig. 3.)

Body and legs ochraceous; two longitudinal fasciæ to the face continued to vertex of head, two longitudinal spots to pronotum, and two much larger ones to mesonotum, blackish. Tegmina creamy white, with the base ochraceous; the margins, a curved fascia a little before apex extending from costal margin to about middle, and a longitudinal fascia between this and base, blackish. Wings creamy, tinged with ochraceous.

Long. excl. tegm., 12 millim. Exp. tegm., 37 millim.

Hab. MALAY PENINSULA; Perak (*Townsend*).

Allied to *C. circulata*, Guer., but differing by the much narrower tegmina and the different markings of the same.

Cenestra copulanda, n. sp.

Closely allied to the preceding species, but with the tegmina shorter and broader, the subapical curved fascia extending to near inner margin, and with the central transverse fascia shorter and straighter; mesonotum with two additional black spots on each lateral margin; anterior and intermediate tibiæ blackish.

Var. *a.* Tegmina and wings with the ground colour pure greenish white.

Long. excl. tegm., 7—10 millim. Exp. tegm., 26—32 millim.

Hab. Java.

Copsyrna ochracea, n. sp.

Body and legs ochraceous; eyes and two contiguous central spots on vertex of head, two central spots to pronotum, two elongate central spots to mesonotum, four spots on posterior margin of same, and the apices of the tarsi, black. Tegmina greyish white, with transverse spots on basal portion of the costal membrane, scattered, irregular and reticulated spots on basal half of disk, four curved fasciæ on apical half,—the innermost shortest and most irregular,—and the apical margin (narrowly), dark fuscous. Wings ochraceous.

Var. *a*. Tegmina shaded with bluish grey, tomentose; face with a central longitudinal black fascia.

Long. excl. tegm., 11 millim. Exp. tegm., 45—48 millim.

Hab. MALAY PENINSULA; Sungei Ujong and Perak.

This species is allied to *C. maculata*, Guer., from which it differs by the much broader tegmina, the ochraceous wings, &c.

EXPLANATION OF PLATE XIII.

- Fig. 1, 1 *a*.—*Messena radiata*.
2, 2 *a*.—*Kandiana lewisi*.
3, 3 *a*.—*Cenestra ligata*.
4, 4 *a*.—*Scamandra diana*.
5, 5 *a*.—*Phromnia montivaga*.
6, 6 *a*.—*Flata* (*Colobesthes*?) *semanga*.



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