

Family DROSOPHILIDAE.

Genus LEUCOPHENGHA, Mik.

162. *Leucophenga guttiventris*, De Meijere, 1908; Duda, *Arch. für Natg.*, xc, Abt. A, Hft. 3, p. 188, pl. ii, fig. 27, 1924.

This species is chiefly characterised by its greatly developed palpi, which are shortly pilose, and by the subacute, quite unspotted wings, which have the second segment of the costa distinctly thickened and black; the abdominal pattern is also characteristic, but not always easily visible after drying.

Described from specimens from Java and Formosa; some examples from Lautoka, i.-vi., Cuvu, 14.ix.1920 (*W. Greenwood*); Labasa, xii.1921 (*R. Veitch*).

163. *Leucophenga subacutipennis*, Duda, 1924.

Distinct from the preceding on account of the smaller and more setulose palpi and the very different abdominal pattern.

Described from a specimen from Formosa; Labasa, xii.1921 (*R. Veitch*).

Genus *MYCODROSOPHILA*, Oldenb.164. *Mycodrosophila gratiosa*, De Meijere, 1911; Duda, *Arch. für Natg.*, xc, Abt. A, Hft. 3, pp. 192-193, 1924.

Readily recognisable owing to the striking coloration of the body, recalling that of the European *M. poecilogaster*, Loew; corresponding perfectly with the description of this species as found in Java; the black abdominal bands are not interrupted in the middle, even in the case of the anterior ones, or very doubtfully so. Also occurs in South Africa.

Lautoka 23.vi.1922, "feeding in fungus" (*W. Greenwood*); same locality, vii.1922 (*R. Veitch*).

Already reared from *Polyporus* by Prof. De Meijere; the two recently described Australian species (*M. mycetophaga* and *M. polypori*, Malloch, 1924), also bred from *Polyporus*, are different in having 2 dc. and the wings clouded at the tips.

Genus *DROSOPHILA*, Fall.

Only five species are represented in the collection, and some of these have apparently been introduced by man. All the species are entirely reddish, with a white margined frons in the male, and seem to belong to a peculiar endemic group. They are as follows:

- 1 (2). One pair of well-developed prset.; body and wings much narrower than usual; thorax with dark stripes on dorsum and pleurae; third antennal segment blackish.....*zebrina*, sp. n.
- 2 (1). No longer prset.; body and wings of usual shape; thorax, including pleurae, entirely yellowish or reddish; antennae reddish.
- 3 (6). Smaller species; praetarsi of front legs short, not longer than two following segments together; mesonotum shining; abdomen with dark or blackish markings; frons of male without argenteous margin.
- 4 (5). Second vein rather long, second segment of costa twice as long as third; abdomen with shining black bands or entirely black at tip; front praetarsi of male with black callus.....*ampelophila*, Loew.
- 5 (4). Second vein short, second segment of costa about as long as third; abdomen yellowish, with narrow, less infuscated bands; front praetarsi of male with no callus.....*ananassae*, Dol.
- 6 (3). Rather larger species; front praetarsi longer than the two following segments together; mesonotum quite opaque, abdomen without dark markings; frons of male with broad argenteous margin.
- 7 (8). Smaller species, with darker wing-veins; last portion of fourth vein much longer than preceding one; frons of male margined with argenteous at sides and in front.....*trilimbata*, sp. n.
- 8 (7). Distinctly larger species, with pale veins; last portion of fourth vein not much longer than preceding one; frons of male with white margins only at sides.....*būimbata*, sp. n.

165. *Drosophila zebrina*, sp. n., ♀.

A species with narrow, elongate body and narrow wings, differing from all the others here recorded in the peculiar ornamentation of the mesonotum. It seems to be allied to *D. obscuricornis*, De Meij., of Java, but differs in having only two dark stripes on the mesonotum. The Javanese *D. lineolata*, De Meij., also seems to be allied, but has an unstriped thorax and very different wings. The recently described *D. lativittata*, Malloch (1923), of New South Wales (Sydney), likewise differs considerably in the pattern of the mesonotum.

Type ♀ and another specimen from Nausori, v.1921 (*R. Veitch*).

♀. Length of body and wing 2 mm.; breadth of wing 0.8 mm.

Head opaque reddish; occiput concave and darkened in middle. Frons flat, longer than broad, distinctly narrowed towards antennae and there as broad as one eye; opaque yellowish, with somewhat greyish lateral stripes; bristles dark reddish, oc. about as strong as vt.; 3 or., reclinate superior one as strong as proclinate inferior. Eyes rounded, with short but distinct pubescence. Antennae inserted on level with middle of eyes; basal segments reddish; third segment elongate, longer than broad, rounded at tip, entirely blackish; arista with five hairs above, three below. Face reddish, pale dusted, with narrow and only slightly prominent tubercle; parafacialia linear; peristomialia very narrow; only one long vibrissa, followed by one or two much smaller, bristly hairs; palpi and proboscis yellowish, small. Mesonotum dull, dark reddish, slightly lighter at sides; two parallel, closely approximated, admedian darker stripes, included between dorsocentral lines and abbreviated behind at some distance before reaching scutellum; pleurae reddish, white-dusted, with three broad parallel dark stripes, a narrower one on notopleural line, one across middle of mesopleura and one on sternopleura, these latter of equal breadth. Hairs yellowish; bristles dark reddish; 1 prsct., 2 dc.; lateral bristles normal, 1 hm., 2 st.; acr. in 3 rows. Scutellum greatly developed, flat, subquadrate, bare, dull yellowish, with four long, blackish bristles. Mesophragma reddish yellow, very shining above. Halteres reddish. Abdomen narrow and elongate, as broad as thorax but twice as long, acute at tip, dull dark reddish, all segments with broad blackish bands on hind borders, darkest on last two segments, and with interrupted narrow yellowish bands on extreme fore borders; ovipositor compressed, shining black. Legs entirely pale yellowish to end of tarsi. Wings narrow and long, subacute at tips; greyish-hyaline, distinctly, though only slightly, darker along fore borders as far as third vein. Veins dark; costa ending at fourth vein; no conspicuous split at end of first vein; second vein long, straight, diverging from third, second segment of costa being two and a half times as long as third; third and fourth veins quite straight and parallel, third ending at wing-tip; last portion of fourth vein twice as long as

penultimate; posterior transverse vein straight and perpendicular, considerably shorter than portion of fifth vein beyond it, which reaches the hind margin.

166. *Drosophila ampelophila*, Loew, Duda, 1924.

This cosmopolitan species is recorded, under the name *D. melanogaster*, Meigen, from Fiji in economic literature by Jepson, Sturtevant, and other authors; but I have not seen it.

167. *Drosophila ananassae* (Doleschall), De Meijere; Duda, *Arch. für Natg.*, xc, Abt. A, Hft. 3, p. 214, 1924.

A small species, liable to be confused with *D. ampelophila*, from which however it is at once distinguished by the much shorter second longitudinal vein, and by the very much lighter colouring of the abdomen, which is almost entirely reddish, the dark cross-bands being much less distinct. Described from a specimen from Java, but probably widely distributed in the tropics of the Indo-Australian Region.

Lautoka, 30.i.1920, "bred from mango" and "in dozens on rotten granadilla" (W. Greenwood). *Puparium*. Shining yellowish, a little more than 2 mm. in length, and less than 1 mm. broad. Similar in form and shape to that of *D. ampelophila* (see Martelli, *Boll. Lab. Zool. Portici*, iv, p. 167, fig. iv, 1910), but considerably smaller. The anterior horns are short and straight; the posterior end has four spines (two on each side) instead of only two (not counting the terminal stigmal projections); it lacks the two central spines figured by Howard (*Proc. Wash. Acad. Sci.*, ii, pl. xxxi, fig. 2, e., 1900).

168. *Drosophila trilimbata*, sp. n., ♂♀.

An entirely dull reddish species with unspotted wings, very distinct in the male owing to the frons being margined with argenteous laterally and anteriorly.

Type ♂ and ♀ and additional females from Waidau, 16.xi.1921 (H. W. Simmonds).

♂♀. Length of body about 2 mm.; of wing less than 2 mm.

Occiput slightly grey-dusted in middle, near neck. Frons entirely opaque, unspotted, anteriorly as broad as one eye and narrower than long, broader at vertex; in female sides only a little paler, in male frons margined by a broad argenteous stripe on each side, and moreover with an equally broad band above antennae, more easily visible from in front; bristles black, normal; oc. strong; 3 or., second directed backwards, and much smaller than first. Eyes rounded, but with vertical diameter distinctly longer, clothed with short but dense, pale pubescence. Antennae inserted above middle of eyes, entirely reddish, with third segment longer than broad; arista with five hairs above, three below, and with short terminal fork. Face opaque, pale-

dusted, about as long as frons, with greatly swollen and prominent tubercle; parafacialia linear; breadth of peristomalia half that of third antennal segment, grey-dusted; second vibrissa as strong and as long as first, beyond vibrissae a row of shorter bristly hairs along whole border of peristomalia. Palpi reddish, with black bristly hairs; proboscis reddish, short but rather thick. Thorax entirely dull, darker on dorsum and paler on pleurae, without any pattern; bristles and setular black or blackish; 1 hm., 2 dc., no prset., acr. in 6 rows; 2 st., posterior one longer. Scutellum like scutum in colour, flat, rounded behind, bare, with four thin bristles. Mesophragma opaque reddish, unspotted; halteres reddish. Abdomen about as long as thorax, entirely opaque reddish, with rather abundant black hairs; each segment on hind border with indistinct, dark reddish, narrow, uninterrupted band; male genitalia rounded, not prominent, with basal segment yellow; ovipositor with corneous, acute, pale yellowish lamellae. Legs entirely pale yellowish; front praetarsi as long as or longer than two following segments together; front femora of male without peculiar spinulae or setae.* Wings broadly rounded at tips, greyish-hyaline, unspotted, with dark or blackish veins; second vein straight and long, diverging but little from third, second segment of costa nearly three times longer than third; third and fourth veins straight and parallel; last portion of fourth vein half as long again as preceding one; posterior transverse vein straight, shorter than portion of fifth vein beyond it.

169. *Drosophila bilimbata*, sp. n., ♂♀.

Closely allied to the preceding species, but distinguished by the characters in the key; also apparently allied to *D. xanthogaster*, Duda, of Formosa, and bearing a superficial resemblance to the cosmopolitan *D. immigrans*, Sturtevant.

Type ♂ and ♀, and additional specimens from Lautoka Mts., 11.iv.1920, and same locality, 27.xii.1920, "bred from fruits of Kawika, *Eugenia malaccensis*," Loloti, 20.v.1921, "in thousands on decaying pomelos, *Citrus decumana*, and on decaying fruits of *Spondias dulcis*" (W. Greenwood).

♂♀. Length of body and wing 2.2-2.8 mm.

Head, its appendages and chaetotaxy as in *D. trilimbata*; frons broader, anteriorly as broad as long; arista with more numerous hairs, five to seven above, three or four below; proboscis thicker and longer, especially in female, in which it is very bulky; praelabrum more developed, shining reddish. Argenteous margination of frons in male present only at sides, anterior band being quite wanting. Thorax, scutellum and halteres as in *D. trilimbata*; chaetotaxy likewise, but acr. forming eight regular rows. Abdomen as in *D. trilimbata*, but segments with no trace of darker hind borders; segments; male genitalia without yellow basal ring. Legs and wings as in *D. trilimbata*,

veins paler yellowish; transverse veins further apart, last portion of fourth vein not quite one and a quarter times as long as preceding one.

Family ASTIIDAE.

Genus *ASTEIA*, Meig.

170. *Asteia nigriceps*, n. sp., ♂.

Very like the European *A. amoena*, Meig., but differing in the frons and face being entirely black, and the halteres blackish. In *A. nigra*, Lamb, the scutellum is entirely black; in *A. hawaiiensis* and *A. apicalis*, Grimshaw, the scutellum is black with yellow spots.

Type ♂, Loloti, 18.ix.1921; an additional specimen from Lautoka Mts., 1.ix.1921 (*W. Greenwood*).

♂. Length of body and wing about 1.5 mm.

Occiput and frons entirely shining black; face black, but clothed with opaque greyish dust, and with narrow whitish band just above mouth-border (antennae wanting in type); peristomialia pale yellowish; palpi whitish; proboscis large, yellowish. Mesonotum shining black, somewhat reddish brown at sides; pleurae and breast entirely pale yellowish, unspotted; scutellum entirely whitish yellow, with two long, distant, divergent, black bristles; postscutellum whitish; mesophragma yellowish; halteres with whitish stalks and large blackish knobs. Abdomen opaque black, with yellowish base; male genitalia yellowish. Legs entirely pale yellowish, unspotted. Wings considerably shorter and broader than in *A. amoena*, therefore first two veins shorter, and anterior transverse vein nearer wing-base; wings entirely hyaline, with darkish veins. Second vein very short and very close to first; third vein very long and straight, ending a little before wing-tip; fourth vein ending at wing-tip, slightly curved upwards beyond middle, and thus converging towards third; costa ending at fourth vein; anterior transverse vein very near wing-base, posterior transverse vein wanting; fifth vein short, ending at considerable distance from hind margin (in *A. amoena* much longer, ending close to hind margin).

Family BORBORIDAE.

Genus *LEPTOCERA*, Oliv.

171. *Leptocera* (*Scotophilella*) *puerula*, Rondani, Duda, *Arch. für Natg.*, xc, Abt. A, Hft. 11, p. 185, 1924.

A very small species, distinguished by its bare scutellum, straight third vein, yellow, anterior part of frons and face, and yellow antennae and legs.

Very common on manure in Europe; there are two male specimens from Suva, i.1922, "from stable manure" (*H. W. Simmonds*).