

Catalogue of the Dipterous Insects collected at Sarawak, Borneo,
by Mr. A. R. WALLACE, with Descriptions of New Species.
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Fam. MYCETOPHILIDÆ, *Haliday*.

Gen. SCIARA, *Meigen*.

Div. A. a. *Meig.* vi. 305.

1. SCIARA LATICORNIS, n. s., mas et fœm. Nigra, antennis validis, thorace nitido. Mas. Alis subnigricantibus. Fœm. Abdomine ferrugineo, alis nigricantibus.

Male and Female. Black. Antennæ stout. Thorax shining. *Male.* Wings slightly blackish. *Female.* Abdomen ferruginous. Wings blackish. Length of the body 3-4 lines; of the wings 5-6 lines.

2. SCIARA SOLITA, n. s., fœm. Nigra, antennis gracilibus, thorace abdominisque apice subnitidis, pedibus piceis, alis subnigricantibus.

Female. Black. Antennæ slender. Thorax and tip of the abdomen slightly shining. Legs piceous. Wings slightly blackish. Length of the body $1\frac{1}{4}$ line; of the wings 3 lines.

Fam. CECIDOMYZIDÆ, *Haliday*.

Gen. CECIDOMYIA, *Latreille*.

3. CECIDOMYIA DEFERENDA, n. s., fœm. Fusca, capite nigro, thorace rufescente, pedibus testaceis, alis albidis, venis halteribusque testaceis.

Female. Brown. Head black. Thorax reddish. Legs testaceous. Wings whitish, ciliated; veins and halteres pale testaceous; subcostal vein ending at a little before the middle of the costa; cubital vein ending at the tip of the wing; hind branch of the anal vein straight, and proceeding obliquely to the hind border. Length of the body $1\frac{3}{4}$ line; of the wings $3\frac{1}{2}$ lines.

Fam. BIBIONIDÆ, *Haliday*.

Gen. PLECIA, *Hoffmansegg*.

4. Plecia dorsalis, *Walk.* See page 5.

5. PLECIA SUBVARIANS, n. s., mas et fœm. Atra. Mas. Thorace rufo, alis subnigricantibus. Fœm. Thorace rufescente, alis nigricantibus.

Male and Female. Deep black. *Male.* Thorax bright red. Wings slightly blackish. *Female.* Thorax dull red. Wings blackish. Length of the body $1\frac{1}{2}$ -2 lines; of the wings 4-5 lines.

This species may be distinguished from *P. dorsalis* by its narrower wings.

Fam. CULICIDÆ, *Haliday*.

Gen. CULEX, *Linn.*

6. Culex fuscanus, *Wied.* See page 5.

Fam. TIPULIDÆ, *Haliday*.Gen. LIMNOBIA, *Meigen*.

Div. n.

Veins of the wings like those of Div. S. *Meig.* (*Zweifl.* i. 147. pl. 4. f. 17), with the exception of the subcostal vein, which is not connected with the costal, but emits a veinlet at its tip to the radial.

7. LIMNOBIA IMPRESSA, n. s., fœm. Fusca, capite nigro, thoracis lateribus testaceo-marginatis, pectore cano, abdomine lutescente fasciis fuscis, pedibus pallidè fusciscentibus, genubus testaceis, alis subcinereis venis nigris.

Female. Brown. Head and antennæ black. Lateral segments of the thorax with testaceous borders. Pectus hoary. Abdomen somewhat luteous, with brown bands. Legs slender, pale brownish; knees testaceous. Wings greyish; veins black. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

Div. n.

Veins of the wings much like those of Div. E. *Meig.* (*Zweifl.* i. 125. pl. 6. f. 2), but the veinlet which connects the subcostal vein with the radial is far beyond the base of the fork of the latter, the cubital parts from the radial at some distance from the veinlet which connects it with the 3rd externo-medial, and the veinlet between the 3rd externo-medial and the subanal is very near the base of the discal areolet.

8. LIMNOBIA RUBRESCENS, n. s., mas. Ferrugineo-rufa, capite pedibusque nigris, pectore ventre femoribus basi coxisque rufescentibus, abdomine vittâ dorsali nigricante, alis fusco-cinereis venis stigmatique nigricantibus.

Male. Ferruginous red, paler beneath. Head, antennæ and legs black. Abdomen with a blackish stripe. Femora at the base and coxæ reddish. Wings brownish-grey; veins and stigma blackish. Length of the body 5 lines; of the wings 12 lines.

Div. n.

Veins of the wings much like those of Div. E. *Meig.* (*Zw.* i. 125. pl. 6. f. 2), but the veinlet which connects the subcostal vein with the radial is beyond the base of the fork of the latter, and the veinlet between the 3rd externo-medial vein and the subanal is opposite the middle of the discal areolet.

9. LIMNOBIA PYRRHOCHROMA, n. s., mas. Ochraceo-rufa, capite nigro?, pedibus nigris, femoribus basi coxisque fulvis, alis cinereis venis fuscis.

Male. Ochraceous red. Head black? Legs black, slender; femora towards the base and coxæ tawny. Wings grey; veins brown. Length of the body $3\frac{1}{2}$ lines; of the wings 8 lines.

Div. n.

Differs from all the other divisions of *Limnobia* by the contorted petiole of the radial and cubital veins, and by the radial vein which near its base forms an angle emitting a branch; externo-medial veins simple; discal areolet sub-

hexagonal, about twice longer than broad; veinlet between the 3rd externo-medial vein and the subanal near the base of the discal areolet.

10. *LIMNOBIA ARGENTO-CINCTA*, n. s., fœm. Nigra, antennis verticillato-pilosis, thorace nitido, abdomine fasciis argenteis, femoribus subclavatis, alis cinereis venis nigris nebulosis.

Female. Black. Antennæ verticillate-pilose. Thorax shining. Abdomen with silvery bands. Femora subclavate. Wings grey; veins black, slightly clouded with black. Length of the body $3\frac{1}{2}$ lines; of the wings 6 lines.

Gen. *PTEROCOSMUS*, *Walk.*

Limnobia leucotelus and *L. plecioides*, p. 6, and other species, may be placed in this genus; the structure of their wing-veins differs somewhat from that of Meigen's Div. 1.

11. *PTEROCOSMUS LUNIGERUS*, n. s., mas. Ater, pedibus piceis, alis violaceo-nigricantibus apice testaceis maculâ discali sublunatâ albâ.

Male. Deep black. Legs piceous. Wings black, with violet reflections, testaceous at the tips, and with a white slightly curved discal white spot. Length of the body 5 lines; of the wings 8 lines.

12. *PTEROCOSMUS INFIXUS*, n. s., mas et fœm. Niger, thorace ferrugineo, abdomine antico flavescente, vittâ viridi, pedibus ferrugineis, femoribus tibiisque apice tarsisque nigris, alis violaceo-nigricantibus fasciâ brevi discali maculâque subapicali albis. Fœm. Abdominis segmentis posterioribus nigris fulvo marginatis, terebrâ ferrugineâ.

Male and Female. Black. Thorax and legs ferruginous. Abdomen towards the base yellowish, and with a green stripe. Tarsi and tips of the femora and of the tibiæ black. Wings blackish, with violet reflections, adorned with a short white discal band and with a subapical white spot.

Female. Hinder segments of the abdomen black, with tawny borders; oviduct ferruginous. Length of the body 5-6 lines; of the wings 10 lines.

13. *PTEROCOSMUS OPTABILIS*, n. s., mas. Ater, abdomine luteo basi fasciâque latâ posticâ atris, pedibus piceis, alis nigricantibus apice subcinereis fasciâ brevi discali albâ.

Male. Deep black. Abdomen luteous, black at the base, and with a broad black posterior band. Legs piceous, very slender. Wings blackish, with violet reflections, greyish hyaline at the tips, with a limpid mark by the interior angle, and with a short white discal band. Length of the body 3 lines; of the wings 6 lines.

14. *PTEROCOSMUS COMBINATUS*, n. s., fœm. Saturatè rufo-ferrugineus, capite nigro, abdomine fasciâ anticâ testaceâ, terebrâ pedibusque pallidè fulvis, alis violaceo-nigricantibus guttis costalibus et marginalibus maculâ discali lunulâque subapicali albis costâ testaceâ.

Female. Deep reddish ferruginous. Head and antennæ black. Abdomen with an anterior testaceous band. Oviduct, legs and halteres pale tawny. Tarsi blackish towards the tips. Wings blackish, with violet reflections, with a few marginal white dots, with two white spots (one discal, the other

subapical), and with a limpid mark on the hind part of the base; costa testaceous. Length of the body 8 lines; of the wings 12 lines.

15. *PTEROCOSMUS DILUTUS*, n. s. Saturatè rufus, capite nigro, antennis pedibus halteribusque testaceis, alis cinereis costâ testaceâ venulis transversis nigricante nebulosis maculâ discali guttisque marginalibus albis.

Nearly allied to the preceding species, of which it may be an immature variety. Deep red. Head black. Antennæ, legs and halteres pale testaceous. Tarsi a little darker towards the tips. Wings greyish, pale testaceous along the costa, with a discal white spot, and with some white marginal dots of various size; transverse veinlets slightly clouded with black. Length of the body 6 lines; of the wings 10 lines.

Gen. *TIPULA*, *Linn.*

16. *Tipula pedata*, *Wied. Auss. Zweifl.* i. 45. 7.

Inhabits also Java.

17. *TIPULA VILIS*, n. s., mas. Fusca, antennis subverticillato-pilosis, thorace ferrugineo nitido, femoribus basi fulvescentibus, alis subcinereis venis stigmatæque nigris.

Male. Brown. Antennæ short, slightly verticillate-pilose. Thorax ferruginous, shining. Legs slender; femora somewhat tawny towards the base. Wings very slightly greyish; stigma and veins black. Length of the body 4 lines; of the wings 10 lines.

Fam. *STRATIOMIDÆ*, *Haliday.*

Gen. *PTILOCERA*, *Wied.*

18. *Ptilocera quadridentata*, *Fabr.* See page 7.

Gen. *CLITELLARIA*, *Meigen.*

19. *Clitellaria varia*, *Walk.* See page 7.

20. *Clitellaria flaviceps*, *Walk.* See page 7.

21. *CLITELLARIA NOTABILIS*, n. s., fœm. Nigro-cyanea, capite halteribusque pallidè testaceis, antennis pedibusque nigris, abdomine cyaneo, alis fuscis costam versus nigricantibus.

Female. Blackish-blue. Head pale testaceous. Antennæ and legs black. Thorax with a band and a stripe of grey tomentum. Abdomen blue, with grey tomentum beneath. Wings dark brown, blackish along the costa. Length of the body 5 lines; of the wings 10 lines.

Gen. *CYCLOGASTER*, *Macquart.*

22. *CYCLOGASTER DETRACTA*, n. s., fœm. Nigra, cinereo-pubescentis, antennis fulvis, aristâ albidâ elongatâ tenui, pedibus albidis, coxis femoribusque nigris, alis subcinereis venis sordidè albidis.

Female. Black, with grey down. Head shining. Antennæ tawny; arista

whitish, elongated, filiform. Legs whitish; coxæ and femora black. Wings very slightly greyish; veins dingy whitish. Halteres whitish. Length of the body 2 lines; of the wings 4 lines.

23. *CYCLOGASTER INFERA*, n. s., fœm. Nigra cinereo-pubescent, antennis nigris, articulo 1° fulvo, 3° valido; pedibus albidis, coxis femoribusque nigris, alis limpidis venis albidis.

Female. Black, with grey down. Head shining. Antennæ black; 1st joint tawny; arista stout. Legs whitish; coxæ and femora black. Wings limpid; veins whitish. Halteres white. Length of the body 2 lines; of the wings 4 lines.

Gen. *CULCUA*, n. g.

Caput parvum; frons declivis. *Antennæ* breves; articulus 3^{us} rotundus; arista apicalis, longa, tenuis, setiformis. *Thorax* productus, longiconicus. *Scutellum* quadrispinosum. *Abdomen* crassum, subrotundum, thorace brevius et latius. *Pedes* breves, simplices. *Alæ* sat angustæ. *Mas.* *Oculi* suprâ connexi.

Head small; front vertical. Antennæ short; 3rd joint round; arista long, slender, setiform, apical. Thorax elongate-conical, produced in front. Scutellum with 4 spines. Abdomen thick, nearly round, shorter and broader than the thorax. Legs short, slender, unarmed. Wings rather narrow; structure of the veins like that of *Clitellaria*.

Male. Eyes connected above.

24. *CULCUA SIMULANS*, n. s., mas. Nigra, capite albo-tomentoso, antennis fulvis, thorace et abdomine fasciis cinereo-pubescentibus, scutelli spinis fulvis, alis subcinereis fasciâ mediâ nonnunquam subinterruptâ apiceque latè nigricantibus.

Male. Black. Head with white tomentum. Antennæ tawny. Thorax and abdomen with bands of grey down. Scutellum with tawny spines. Legs pubescent. Wings slightly greyish, blackish towards the tips, and with a sometimes nearly interrupted blackish band. Length of the body 3-3½ lines; of the wings 5-6 lines.

This species also inhabits Malacca, and was accidentally omitted in the descriptions of the Malay species.

Gen. *EVAZA*, n. g.

Corpus planum, subglabrum. *Caput* thoracis latitudine. *Antennæ* breves; articulus 1^{us} longiusculus; 3^{us} rotundus; arista apicalis, longa, gracilis, setiformis. *Thorax* ellipticus. *Scutellum* quadri-spinosum. *Abdomen* subellipticum, thorace paullo longius, vix latius. *Pedes* graciles, simplices. *Alæ* sat longæ, vix latæ. *Mas.* *Oculi* magni, suprâ connexi.

Body rather flat, nearly bare. Head as broad as the thorax. Antennæ short; 1st joint rather long; 3rd round; arista long, slender, setiform, apical. Thorax elliptical. Scutellum with 4 rather long spines. Abdomen flat, elliptical, a little longer but hardly broader than the thorax. Legs slender, unarmed. Wings rather long, moderately broad; structure of the veins like that of *Clitellaria*.

Male. Eyes large, connected above.

25. *EVAZA BIPARS*, n. s., mas. Nigra nitida, oculis rufis, antennis scutelli margine postico spinisque pedibus halteribusque pallidè flavescentibus, abdominis disco flavescente, alis cinereis stigmatè venisque nigricantibus.

Male. Black, shining. Eyes red. Antennæ, hind border and spines of the scutellum, legs and halteres pale yellow. Arista black. Thorax with a testaceous line on each side. Disk of the abdomen yellowish. Wings grey; stigma and veins blackish, the latter testaceous at the base. Length of the body 3 lines; of the wings 6 lines.

Gen. *SARGUS*, *Fabr.*

26. *Sargus metallinus*, *Fabr. Syst. Antl.* 258. 11.

Inhabits also Hindostan and Java.

27. *Sargus luridus*, *Walk.* See page 8.

28. *SARGUS LATIFASCIA*, n. s., mas. Fulvus, antennis pectore abdomine pedibusque testaceis, abdomine fasciis latis nigris, pedum posticorum femoribus nigro vittatis, tibiis tarsisque nigris, his albido fasciatis, alis cinereis venis nigris basi fulvis.

Male. Tawny. Antennæ, pectus, abdomen and legs testaceous. Abdomen with broad black bands. Hind femora striped with black; hind tibiæ and hind tarsi black, the latter with a whitish band. Wings grey; veins black, tawny at the base. Length of the body 5 lines; of the wings 11 lines.

Fam. *TABANIDÆ*, *Leach.*

Gen. *TABANUS*, *Linn.*

29. *Tabanus hybridus*, *Wied. Auss. Zweifl.* i. 557. 31.

Inhabits also Macao.

30. *Tabanus univentris*, *Walk.* See page 9.

Var. Abdomen luteous-tawny, with an indistinct paler dorsal stripe.

31. *TABANUS NEXUS*, n. s., fœm. Ferrugineus subtùs canescens, callo piceo elongato, antennis nigris, thorace vittis subobsoletis rufescentibus, abdomine rufescente e maculis trigonis testaceis univittato, pedibus rufescentibus, femoribus anticis tibiis anticis apice tarsisque nigris, alis cinereis venis fusco marginatis, halteribus pallidè luteis.

Female. Very nearly allied to *T. univentris*. Ferruginous, somewhat hoary beneath. Callus piceous, long and slender. Proboscis black. Lancets ferruginous. Palpi brown. Antennæ black; angle of the 3rd joint small. Thorax with indistinct reddish stripes. Abdomen reddish, with a testaceous triangular spot on the hind border of each segment. Legs reddish; fore femora, tips of the fore tibiæ and tarsi black. Wings grey; veins black, clouded with brown. Halteres pale luteous. Length of the body 8 lines; of the wings 16 lines.

32. *TABANUS FUMIFER*, n. s., mas et fœm. Fuscus subtùs cinereus, abdomine ferrugineo-rufo apicem versus nigro segmentorum marginibus posticis testaceis, pedibus nigris, tibiis ferrugineo vittatis, alis fuscis. Mas. An-

tennis ferrugineis, alarum margine postico cinereo. *Fœm.* Antennis nigris, basi ferrugineis, abdomine maculis dorsalibus subtrigonis testaceis, alarum areolis cinereo vittatis.

Male and Female. Very nearly allied to *T. univentrìs*. Brown, cinereous beneath. Abdomen ferruginous-red, black towards the tip; hind borders of the segments testaceous. Legs black; tibiæ with ferruginous stripes. Wings brown; veins black. Halteres pale luteous. *Male.* Eyes æneous, and with very small facets in front. Antennæ ferruginous. Wings grey along the hind border, and with indistinct grey streaks on the areolets elsewhere. *Female.* Antennæ black, ferruginous at the base. Abdomen with a small nearly triangular spot on the hind border of each segment. Areolets of the wings with cinereous disks. Length of the body 6-7 lines; of the wings 12-14 lines.

33. *TABANUS OPTATUS*, n. s., fœm. Ferrugineus subtùs canus, capite antico albido callo lanceolato, antennis nigris basi fulvis, thoracis lateribus testaceis, scutello cano, abdomine fulvo vittâ posticè dilatâtâ nigrâ guttis dorsalibus albidis, pedibus nigris, tibiis anticis basi tibiisque posterioribus fulvis, alis nigro-fuscis apice lato margineque postico subcinereis maculâ mediâ sublimpidâ.

Female. Ferruginous, hoary beneath. Head whitish in front. Callus lanceolate. Proboscis black. Palpi testaceous. Antennæ black, tawny at the base; angle of the third joint acute, slightly elongated. Thorax with three darker lines; sides testaceous. Scutellum hoary. Abdomen tawny; hind borders of the segments beneath and on each side above testaceous; a black dorsal stripe which is dilated hindward; a whitish nearly triangular dot on the hind border of each segment. Legs black; fore tibiæ at the base and hinder tibiæ tawny. Wings blackish-brown; apical third part and hind border slightly cinereous; a nearly limpid discal spot before the middle; veins black. Halteres blackish. Length of the body 6 lines; of the wings 12 lines.

34. *TABANUS SIMPLICISSIMUS*, n. s., mas et fœm. Cinereus, callo trigono piceo, antennis fulvis, thoracis lateribus testaceis, abdomine testaceo apice nigricante, pedibus nigris. *Mas.* Tarsis posterioribus basi tibiisque posterioribus testaceis, tibiis anticis testaceis apice nigris, alis sublimpidis costâ venisque testaceis. *Fœm.* Femoribus apice fulvis, tibiis albidis, anticis apice nigris, tarsis posterioribus basi fulvis, alis cinereis apud costam luridis venis nigris basi ferrugineis.

Male and Female. Cinereous. Callus at the base of the antennæ broad, triangular, piceous. Palpi testaceous. Antennæ tawny; 3rd joint not dilated nor dentate. Sides of the thorax testaceous. Abdomen testaceous, blackish at the tip. Legs black.

Male. Eyes in front æneous, and with very minute facets. Tibiæ testaceous; fore tibiæ with black tips; hinder tarsi testaceous at the base. Wings nearly limpid, very slightly cinereous; costa, veins and halteres testaceous.

Female. Callus between the eyes long and slender. Femora with tawny tips; tibiæ whitish; fore tibiæ with black tips; hinder tarsi tawny towards the base. Wings cinereous, lurid along the costa; veins black, ferruginous towards the base. Length of the body $3\frac{1}{2}$ - $4\frac{1}{2}$ lines; of the wings 7-8 lines.

Gen. CHRYSOPS.

35. *Chrysops dispar*, *Fabr.* See p. 9. "Very abundant in the jungle at Sarawak."

36. *Chrysops fasciatus*, *Wied. Auss. Zweifl. i.* 198. 5.

Inhabits also Java.

37. *CHRYSOPS FIXISSIMUS*, n. s., *œm.* *Picea*, capite thoracisque marginibus aureo-pubescentibus, capitis callo atro, facie ferrugineâ guttis duabus laterilibus nigris, antennis nigris basi fulvis, abdomine fulvo fasciis tribus nigricantibus, pedibus fulvis, tibiis subdilatatis nigricantibus, alis subcinereis costâ apice fasciâque latâ nigro-fuscis.

Var. Abdomine bifasciato basi testaceo.

Female. Piceous. Head and borders of the thorax with gilded down. Head with a black shining callus above the antennæ; face ferruginous, shining, with a black dot on each side. Palpi tawny. Antennæ black, tawny at the base. Abdomen tawny, with three blackish bands. Legs tawny; femora and tarsi with piceous tips; tibiæ and fore tarsi black, the former slightly dilated. Wings very slightly cinereous, brown along the costa and at the tips, and with a broad brown band. Halteres testaceous.

Var. Abdomen testaceous at the base, with two bands, the fore one black, the hind one brown. Length of the body $3\frac{1}{2}$ –4 lines; of the wings 7–8 lines.

Gen. HÆMATOPOTA, *Meig.*

38. *Hæmatopota roralis*, *Fabr. Syst. Antl.* 107. 2.

"Eyes above opal white, with black specks."

39. *HÆMATOPOTA ATOMARIA*, n. s., *œm.* Nigro-picea, capite antico atro nitido, antennis nigris basi nitidis, abdominis marginibus posticis canis, tibiis albido cinctis, alis nigricantibus guttis plurimis annuloque unico albis.

Female. Piceous-black. Head black and shining in front. Palpi ferruginous. Antennæ black; 1st joint shining. Abdominal segments with hoary hind borders. Tibiæ with a whitish band on each. Wings blackish, with very numerous white dots, and with one white ringlet which is by the costa at two-thirds of the length. Length of the body 3 lines; of the wings 6 lines.

Fam. ASILIDÆ, *Leach.*Subfam. DASYPOGONITES, *Walk.*Gen. DASYPOGON, *Fabr.*Subgen. MICROSTYLUM, *Macq.*

40. *Dasypogon Vica*, *Walk. Cat. Dipt. pt. 2.* 304.

Inhabits also Silhet.

41. *DASYPOGON INCOMPTUS*, n. s., *mas.* Nigro-cinereus subtùs canescens, facie ferrugineâ, antennis pedibusque nigris, thorace vittis quatuor canis,

abdomine maculis lateralibus canis apice rufescente, alis violaceo-nigricantibus.

Male. Blackish-cinereous, hoary beneath. Face bright ferruginous. Epistoma with six white bristles. Antennæ and legs black. Thorax with four hoary stripes. Abdomen with hoary spots along each side; tip reddish; appendages black, ciliated. Wings blackish, with violet reflections. Length of the body 9 lines; of the wings 16 lines.

Gen. DISCOCEPHALA, *Macquart*.

42. DISCOCEPHALA DORSALIS, *Walk.* (See page 9.) mas. Thorace vittis duabus testaceis, abdomine piceo fasciis latis abbreviatis testaceis apice nigro-cupreo, pedibus testaceo-fulvis, femoribus tibiisque apice nigricantibus, femoribus posticis crassis spinosis.

Male. Thorax with two testaceous stripes. Abdomen piceous, with short broad testaceous bands, blackish cupreous towards the tip. Legs testaceous-tawny; femora and tibiæ with blackish tips; hind femora thick, spinose.

Subfam. LAPHRITES, *Walk.*

Gen. LAPHRIA, *Fabr.*

43. *Laphria Reinwardtii*, *Wied.* See page 10.

44. *Laphria alternans*, *Wied.* See page 10.

45. *Laphria notabilis*, *Walk.* See page 10.

46. *Laphria triangularis*, *Walk. Cat. Dipt.* 2nd Ser. 3. 553. 138.
Inhabits also Sumatra.

47. *Laphria constricta*, *Walk. Cat. Dipt.* 2nd Ser. 3. 555. 142.
Inhabits also Sumatra.

48. *Laphria aurifacies*, *Macq.* See page 10.

49. *Laphria inaurea*, *Walk.* See page 11.

50. *Laphria plana*, *Walk.* See page 12.

51. LAPHRIA UNIFASCIA, n. s., mas. Nigro-cuprea aureo-hirta, mystace nigro, abdominis lateribus fasciâ ventrequae rufescentibus, alis nigricantibus basi latè sublimpidis venis nigris, halteribus fulvis.

Male. Blackish cupreous, partly clothed with gilded hairs. Face with very pale gilded tomentum. Mystax with some black bristles. Antennæ black; 3rd joint linear, acuminate, a little longer than the 1st and the 2nd together. Thorax with two bands of gilded tomentum. Abdomen reddish beneath and on each side, and with a very broad reddish band. Legs black, stout, pilose; hind femora very thick. Wings blackish, nearly limpid for one-third of the length from the base. Halteres tawny. Length of the body 5 lines; of the wings 8 lines.

52. LAPHRIA COMPTISSIMA, n. s., mas et foem. Aureo-tomentosa, facie albo-tomentosâ, antennis pedibusque nigris, abdomine apicem versus nigro-purpureo, tibiis luteis, alis nigricantibus dimidio ferè basali subcinereo, halteribus fulvis apice fuscis.

Male and Female. Body covered with gilded tomentum. Mystax composed of several slender black bristles. Antennæ and legs black. Third joint of the antennæ nearly linear, slightly acuminate, hardly longer than the 1st and the 2nd together. Abdomen bare, shining and blackish-purple towards the tip. Legs rather stout; tibiæ luteous; hind tibiæ black towards the tips. Wings blackish, slightly greyish on nearly half the length from the base; veins black, tawny at the base. Halteres tawny, with brown knobs.

Male. Face with white tomentum.

Female. Face with pale gilded tomentum.

Length of the body $4\frac{1}{2}$ –5 lines; of the wings 8–9 lines.

53. *LAPHRIA RUPIS*, n. s., fœm. Nigra, capite postico pectoreque canotomentosis, facie fulvâ, thorace vittis duabus canis; abdomine cyaneo-nigro maculis lateralibus canis, alis nigricantibus basi latè subcinereis, halteribus fulvescentibus.

Male. Black. Head with hoary tomentum behind, thickly clothed beneath with testaceous hairs. Face tawny. Mystax composed of many black bristles. Thorax with two hoary stripes. Pectus hoary. Abdomen bluish-black, with hoary spots along each side. Legs stout, clothed with hoary and pale testaceous hairs, and with black bristles. Wings blackish, slightly greyish for more than one-third of the length from the base; veins black. Halteres somewhat tawny. Length of the body 6 lines; of the wings 11 lines.

54. *LAPHRIA PRODUCTA*, n. s., mas. Atra vix pilosa, facie aureo-tomentosâ, pectore cano, abdomine longiusculo punctis lateralibus canis, pedibus crassis, alis nigricantibus dimidio ferè basali subcinereo, halteribus testaceis.

Male. Deep black, hardly pilose. Face with pale gilded tomentum. Mystax with very few black bristles. Pectus with hoary tomentum. Abdomen somewhat long, with minute hoary dots along each side. Legs thick, rather short. Wings blackish, greyish for nearly half the length from the base; veins black. Halteres testaceous. Length of the body $4\frac{1}{2}$ lines; of the wings 7 lines.

55. *LAPHRIA LEPIDA*, n. s., mas. Nigra aureo-pilosa, facie aureo-tomentosâ, thorace bivittato et bifasciato, abdomine aureo-rufo, pedibus crassis pilosis, alis nigricantibus triente basali subcinereo, halteribus testaceis.

Male. Black, clothed with gilded hairs. Face with gilded tomentum. Mystax with many gilded and with a few black bristles. Third joint of the antennæ linear, conical at the tip, longer than the 1st and the 2nd together. Thorax with two stripes and two bands of gilded tomentum. Pectus gilded. Abdomen with golden-red tomentum. Legs pilose; femora incrassated. Wings blackish, slightly cinereous for full one-third of the length from the base; veins black. Halteres testaceous. Length of the body 6 lines; of the wings 11 lines.

56. *LAPHRIA COMPLETA*, n. s., fœm. Nigra fulvo-pilosa, facie pectoreque aureo-tomentosis, abdominis apice glabro nigro-purpureo, pedibus robustis, alis fuscis triente basali pallidiore, halteribus testaceis.

Female. Black, clothed with tawny hairs. Face and pectus with gilded tomentum. Mystax with several gilded and with a few black bristles. Third joint of the antennæ elongate-fusiform, longer than the 1st and the 2nd together. Legs hairy; femora slightly thickened. Wings brown, paler towards the base; veins black. Halteres testaceous. Length of the body 6 lines; of the wings 12 lines.

57. *LAPHRIA INCIVILIS*, n. s., fœm. Nigra fulvo-tomentosa, facie subauratâ, pectore cano, abdominis lateribus cano-guttatis, tibiis basi fulvis, alis fusco-cinereis basi pallidioribus, halteribus testaceis.

Female. Black, thinly covered with tawny tomentum, not pilose. Face with slightly gilded tomentum. Mystax with very few black bristles. Pectus hoary. Hind borders of the abdominal segments with a hoary dot on each side. Legs slightly pilose; femora rather stout; tibiæ tawny, black towards the tips. Wings brownish-grey, paler at the base; veins black. Halteres testaceous. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

58. *LAPHRIA PARTITA*, n. s., fœm. Nigra, facie albido-tomentosâ, thorace fusco-tomentosâ, pectore cano, abdomine nigro-purpureo, pedibus fulvis, tarsis tibiis apice genubusque posticis nigris, alis subfuscis aut subcinereis, halteribus testaceis.

Female. Black. Face with whitish tomentum, which is very slightly gilded. Mystax with several bristles of the same hue. Third joint of the antennæ fusiform, as long as the 1st and 2nd together. Thorax thinly covered with brownish tomentum. Pectus hoary. Abdomen purplish-black, with a very slight cupreous tinge; sides with brownish tomentum. Legs tawny; femora moderately stout; coxæ, trochanters, tarsi, tips of the tibiæ and hind knees black. Wings slightly cinereous or with a brownish tinge; veins black. Halteres testaceous. Length of the body 4 lines; of the wings 8 lines.

59. *LAPHRIA INTERRUPTA*, n. s., fœm. Nigra, facie aureo-tomentosâ, thoracis fasciis duabus interruptis pectoreque subaurato-tomentosis, abdomine nigro-æneo maculis tribus lateralibus fulvis, tibiis tarsisque testaceis apice nigris, alis nigricantibus dimidio basali subcinereo, halteribus testaceis.

Female. Black. Face with gilded tomentum. Mystax with a few gilded and very few black bristles. Thorax with two interrupted bands of very pale gilded tomentum, which also covers the pectus. Abdomen blackish-æneous, with three tawny tomentose spots on each side. Femora moderately thick; tibiæ and tarsi testaceous, black towards the tips. Wings blackish, very slightly greyish for half the length from the base; veins black. Halteres testaceous. Length of the body 4 lines; of the wings 8 lines.

60. *LAPHRIA CINGULIFERA*, n. s., fœm. Nigra, capite pectore thoracisque fasciis duabus interruptis pallidè aureo-tomentosis, abdominis segmentis apud margines posticos aurato-tomentosis, pedibus testaceis, femoribus nigro-vittatis, tibiis posticis apice tarsisque anticis nigris, tarsis posterioribus nigro-cinctis, alis cinereis, halteribus testaceis.

Female. Black. Head and pectus with very pale gilded tomentum. Thorax with two stripes and two interrupted bands of the same hue. Mystax with many pale gilded bristles. Third joint of the antennæ linear, slightly acuminate, very much longer than the 1st and the 2nd together. Ab-

domen with a gilded band on the hind border of each segment. Legs testaceous; femora hardly stout, with black stripes; hind trochanters and fore tarsi black; hind tibiæ with black tips; posterior tarsi with black bands. Wings cinereous; veins black. Halteres testaceous. Length of the body 6 lines; of the wings 11 lines.

61. *LAPHRIA DETECTA*, n. s., mas. Atræ, capite postico pectoreque albidotomentosis, thorace maculâ laterali pallidè aureo-tomentosâ, abdomine basi albo piloso maculis tribus lateralibus aurato-tomentosis, pedibus fulvis, femoribus nigro-vittatis, tarsis nigris basi fulvis, alis limpidis dimidio ferè apicali nigricante.

Male. Deep black. Head behind and pectus with whitish tomentum. Mystax with very few black bristles. Third joint of the antennæ nearly linear, elongate-conical towards the tip, very much longer than the 1st and the 2nd together. Thorax with a spot of pale gilded tomentum on each side, in front of the base of the wing. Abdomen with white hairs at the base, and with three spots of gilded tomentum on each side. Legs tawny; coxæ and trochanters black; femora rather thick, with black stripes, which are very short on the hind pair; tarsi black, tawny at the base. Wings limpid, blackish for nearly half the length from the tips; veins black, tawny in the limpid part. Halteres very pale yellow. Length of the body $6\frac{1}{2}$ lines; of the wings 11 lines.

Subfam. ASILITES, *Walk.*

Gen. TRUPANEA, *Macq.*

62. *Trupanea Amorges*, *Walk. Cat. Dipt.* pt. 2. 391 (*Asilus*); 2nd ser. pt. 3. 612. 102.

63. *TRUPANEA INSERENS*, n. s., mas et fœm. Nigra, fusco-tomentosa, facie pectoreque subauratis, mystace suprâ albido subtùs nigro, antennis pedibusque nigris, thorace vittis quinque nigris, abdominis segmentis cano interruptè marginatis, alis fuscis.

Male and Female. Black, with brown tomentum. Face and pectus with pale, slightly gilded tomentum. Mystax with some whitish bristles above, and with very few black bristles beneath. Antennæ black; arista as long as the 3rd joint. Thorax with five black stripes. Abdomen rather slender, moderately long; hind borders of the segments with slightly interrupted hoary bands. Legs black; tibiæ ferruginous above, except towards the tips. Wings brown; veins black; 3rd externo-medial vein joining the 4th far from the base. Halteres tawny.

Male. Sexualia moderately large. *Female*. Abdomen attenuated, not stylate. Length of the body 6 lines; of the wings 9–10 lines.

Gen. ASILUS, *Linn.*

64. *Asilus Barium*, *Walk.* See p. 14.

65. *ASILUS FLAGRANS*, n. s., fœm. Piceus, capite pectoreque aureo-tomentosis, mystace aureo, antennis fulvis, thorace strigis duabus obliquis lateralibus vittisque duabus aureo-tomentosis, abdominis segmentis testaceo-

marginatis, pedibus fulvis, tibiis posticis femoribusque piceo-vittatis, tarsis posticis nigris, alis luridis triente apicali fusca.

Female. Piceous. Head and pectus with gilded tomentum. Mystax with several gilded bristles. Antennæ tawny; arista as long as the preceding joints together. Thorax with two oblique streaks on each side, and with two stripes of gilded tomentum. Abdomen moderately long, hardly stylate; hind borders of the segments testaceous. Legs tawny; femora and hind tibiæ mostly piceous above; hind tarsi black. Wings lurid; apical third part brown, which colour extends further along the hind border; veins black, tawny at the base; cubital vein forked at a little beyond half its length; hind fork very undulating; 3rd externo-medial vein joining the 4th at some distance from the border. Halteres tawny. Length of the body $5\frac{1}{2}$ lines; of the wings 12 lines.

66. *ASILUS CONTORTUS*, n. s., fœm. Niger, cinereo-tomentosus, facie albidâ, mystace suprâ nigro subtùs albido, antennis nigris, thorace vittis duabus nigricantibus, pectore cano, abdomine subaureo piloso segmentis testaceo-marginatis, pedibus ferrugineis, femoribus tibiisque apice tarsisque nigris, alis luridis areolarum apicalium fuscæ discis pallidioribus.

Female. Black, with cinereous tomentum. Face prominent, whitish. Mystax with some black bristles above, and with many whitish bristles beneath. Antennæ black; arista as long as the preceding joints together. Thorax with two indistinct blackish stripes. Pectus hoary. Abdomen with slightly gilded hairs, moderately long, hardly stylate; hind borders of the segments testaceous; tip black, shining. Legs ferruginous; tarsi and tips of the femora and of the tibiæ black. Wings lurid; apical areolets brown, with pale disks; veins black; cubital vein forked at beyond half its length; fore fork angular near its base; hind fork very undulating; 3rd externo-medial vein joining the 4th near the border. Halteres tawny. Length of the body 6 lines; of the wings 13 lines.

Gen. *OMMATIUS*, Illiger.

67. *Ommatius Hecale*, Walk. See p. 14.

Gen. *LEPTOGASTER*, Meigen.

68. *LEPTOGASTER TRICOLOR*, n. s., mas. Piceus, capite albido-tomentoso, thoracis vittis duabus posticè attenuatis pectorisque lateribus testaceis, abdomine nigro fasciis quinque flavis, pedibus flavis, tibiis posticis tarsisque apice nigris, tarsis posticis ferrugineis apice nigris, alis cinereis costâ luridâ, halteribus testaceis.

Male. Piceous. Head with whitish tomentum. Antennæ testaceous towards the base. Thorax with two stripes, which are attenuated hindward, and with the sides of the pectus testaceous. Abdomen black, with five yellow bands. Legs yellow; coxæ and knees black; hind femora striped with black beneath; hind tibiæ with black tips; hind tarsi ferruginous, with black tips. Wings grey, lurid along the costa; veins black. Halteres testaceous. Length of the body 7 lines; of the wings 11 lines.

69. *LEPTOGASTER INUTILIS*, n. s., mas. Niger nitens, pectore cano, pedibus testaceis, femoribus tibiis et tarsorum articulis apice nigris, femoribus

posticis apices versus nigricantibus annulo subapicali testaceo, alis limpidis venis nigris triente basali infuscatis, halteribus testaceis apice fuscis.

Male. Black, shining. Pectus with hoary tomentum. Legs testaceous; tips of the femora, of the tibiæ, and of the joints of the tarsi black; hind femora mostly blackish, with a testaceous subapical band. Wings limpid; veins black, clouded with brown towards the base. Halteres testaceous, with brown knobs. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

Fam. LEPTIDÆ, *Westw.*

Gen. LEPTIS, *Fabr.*

70. *Leptis ferruginosa*, *Wied. Auss. Zweifl.* i. 224. 6.

71. *Leptis decisa*, *Walk.* See p. 15.

Gen. CHRYSOPILA, *Macq.*

72. *CHRYSOPILA MACULIPENNIS*, n. s., mas et fœm. *Picea*, pectore testaceo cano-tomentoso, abdominis segmentis testaceo-fasciatis, pedibus testaceis, alis limpidis, fasciis tribus maculosis fuscis.

Male and Female. Piceous. Head in front and pectus with hoary tomentum. Proboscis, legs and halteres testaceous. Antennæ black. Abdomen with a testaceous band on the hind border of each segment. Wings limpid, with three irregular brown bands; 2nd and 3rd bands broad, connected, adorned with several limpid spots; veins black. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

Fam. BOMBYLIDÆ, *Leach.*

Subfam. THEREVITES, *Walk.*

Gen. THEREVA, *Latr.*

73. *THEREVA PRÆCEDENS*, n. s., fœm. *Nigra* confertim cano-tomentosa, capite antico albo barbâque albâ, pedibus subpilosis, alis subcinereis venis nigris.

Female. Black, entirely covered with hoary tomentum. Head white and shining in front, clothed beneath with white hairs. Proboscis black and shining as usual. Legs slightly hairy. Wings slightly greyish; veins black. Length of the body $3\frac{1}{2}$ lines; of the wings 5 lines.

Subfam. BOMBYLITES, *Walk.*

Gen. ANTHRAX, *Fabr.*

74. *Anthrax Tantalus*, *Fabr. Syst. Antl.* 124. 29.

Inhabits also Hindostan, Java and China.

75. *Anthrax pennipes*, *Wied. Auss. Zweifl.* i. 272. 23.

Inhabits also Java.

76. *ANTHRAX SEMISCITA*, n. s. (Group 10. *Dipt. Saund.* 167), mas. *Nigropicea* cinereo nigroque pilosa, abdomine nigro apicem versus argenteo-

micante, alis nigricantibus dimidio apicali obliquè limpido guttis duabus (unâ anteriore exteriore, alterâ posteriore interiore) nigricantibus.

Very nearly allied to *A. bimacula*, Walk. *Male*. Blackish-piceous, with a few grey and black hairs. Abdomen black, brilliant silvery towards the tip. Wings obliquely blackish for half the length from the base, the blackish part very irregular in outline, and extending to $\frac{3}{4}$ ths of the length of the costa; one blackish dot on the basal angle of the fore fork of the cubital vein, the other on the hind end of the veinlet between the 2nd and 3rd externo-medial veins; veins black. Halteres with whitish tips. Length of the body 4 lines; of the wings 11 lines.

77. *ANTHRAX SATELLITIA*, n. s. (Group 10. *Dipt. Saund.* 167), mas. *Atravix pilosa*, alis nigricantibus plus triente apicali subobliquè limpidâ guttis tribus discalibus unâque apicali nigricantibus.

Male. Deep black, hardly pilose. Wings blackish, obliquely limpid for more than one-third of the length from the tips; the outline of the blackish part slightly denticulate; the limpid part containing four blackish dots, three discal and one apical, the middle discal dot much larger than the two others. Length of the body 3 lines; of the wings 8 lines.

Fam. DOLICHOPIDÆ, Leach.

Gen. PSILOPUS, Meigen.

78. *Psilopus apicalis*, *Wied. Auss. Zweifl.* ii. 227. 32.

Inhabits also Sumatra.

79. *Psilopus robustus*, *Walk.* See page 16.

80. *Psilopus tenebrosus*, *Walk.* See page 16.

81. *PSILOPUS ALLECTANS*, n. s., mas. Lætè cyaneo-viridis, antennarum articulo 3° fulvo, aristâ longissimâ apice albidâ, abdominis segmentis atro-fasciatis, pedibus testaceis, tarsis nigricantibus, alis obscurè fuscis posticè pallidioribus, venis halteribusque nigris.

Male. Bright bluish-green. Proboscis testaceous. Third joint of the antennæ tawny; arista longer than the body, whitish at the tip. Abdomen with deep black bands. Legs testaceous; tarsi blackish, paler towards the base. Wings dark brown, paler along the hind border; veins and halteres black; fore branch of the præbrachial vein nearly straight; discal transverse vein curved outward. Length of the body 3 lines; of the wings 5 lines.

82. *PSILOPUS ALLICIENS*, n. s., mas. Lætè cyaneo-viridis, facie pectoreque argenteo-tomentosis, antennis testaceis, articulo 3° lanceolato, aristâ vix longâ, abdominis segmentis atro-fasciatis, pedibus testaceis, alis sublimpidis, venis halteribusque testaceis.

Male. Bright bluish-green. Face and pectus with silvery tomentum. Proboscis testaceous. Antennæ testaceous; 3rd joint lanceolate; arista black, less than half the length of the body. Abdomen with broad deep black bands, partly æneous towards the tip. Legs testaceous; tarsi darker towards the tips. Wings nearly limpid; veins and halteres testaceous; fore branch of the præbrachial vein much curved; discal transverse vein undulating. Length of the body $3\frac{1}{2}$ lines; of the wings 6 lines.

83. *PSILOPUS ILLICIENS*, n. s., mas. Lætè cyaneo-viridis, antennis nigris articulo 3° brevi, aristâ sat longâ, abdomine lætè viridi segmentis atrofasciatis, pedibus nigris, tibiis fulvescentibus, alis cinereis apud costam fusciscentibus, venis halteribusque nigris.

Male. Bright bluish-green. Proboscis black. Antennæ black; 3rd joint short; arista more than half the length of the body. Abdomen emerald-green, with broad black bands. Legs black; tibiæ dull tawny. Wings grey, brownish along the costa; veins and halteres black; fore branch of the præbrachial vein curved; discal transverse vein undulating. Length of the body 3 lines; of the wings 6 lines.

84. *PSILOPUS DELECTANS*, n. s., mas. Lætè cyaneo-viridis, facie pectoreque argenteo-tomentosis, antennis nigris articulo 3° conico, aristâ sat longâ, abdomine lætè viridi segmentis nigro-fasciatis, pedibus nigris, alis subcinereis, venis halteribusque nigris.

Male. Bright bluish-green. Face and pectus with silvery tomentum. Proboscis black. Antennæ black; 3rd joint conical; arista black, more than half the length of the body. Abdomen bright green, with narrow black bands. Legs black. Wings greyish; veins and halteres black; fore branch of the præbrachial vein curved; discal transverse vein undulating. Length of the body 3½ lines; of the wings 6 lines.

85. *PSILOPUS PROLICIENS*, n. s., fœm. Lætè viridis robustus, capite cyaneo-viridi, facie pectore abdominisque lateribus argenteo-tomentosis, antennis nigris articulo 3° longi-conico, aristâ sat longâ, abdominis segmentis atrofasciatis, pedibus nigris, alis cinereis maculâ costali fuscâ venis nigris, halteribus fulvis.

Female. Bright green, stout. Head bluish-green; face with silvery tomentum. Proboscis black. Antennæ black; 3rd joint elongate-conical; arista full half the length of the body. Thorax with three bright cupreous stripes. Pectus and sides of the abdomen with silvery tomentum. Abdomen with broad deep black bands. Legs black. Wings grey, with an elongated brown spot towards the middle of the costa; veins black; fore branch of the præbrachial vein much curved; discal transverse vein nearly straight. Halteres tawny. Length of the body 2½ lines; of the wings 5 lines.

86. *PSILOPUS PROLECTANS*, n. s., fœm. Lætè cyaneo-viridis, antennis nigris articulo 3° conico, aristâ longissimâ, abdomine apicem versus purpureo, pedibus nigris, alis obscure fuscis fasciis tribus abbreviatis apiceque sublimpidis, venis halteribusque nigris.

Female. Bright bluish-green. Proboscis black. Antennæ black; 3rd joint conical; arista nearly as long as the body. Abdomen purple towards the tip. Legs black. Wings dark brown, with three nearly limpid bands which do not extend to the costa; 1st band dilated along the hind border to the base of the wing; 2nd very short; 3rd much longer; tips nearly limpid; veins and halteres black; fore branch of the præbrachial vein very much curved; discal transverse vein very deeply undulating, angular, and emitting a short stump in the middle. Length of the body 3 lines; of the wings 6 lines.

87. *PSILOPUS COLLUCENS*, n. s., fœm. Lætè viridi-cyaneus brevis latus, vertice purpureo, facie pectoreque albido-tomentosis, antennis nigris articulo

3° longi-conico, aristâ vix longâ, abdomine lætè viridi segmentis cupreo-fasciatis, pedibus nigris, tibiis testaceis, alis subcinereis, venis nigris, halteribus testaceis.

Female. Bright greenish-blue, short, broad. Vertex purple. Face and pectus with whitish tomentum. Proboscis black. Antennæ black; 3rd joint elongate-conical; arista about half the length of the body. Abdomen bright green, with cupreous bands. Legs black; tibiæ testaceous. Wings greyish; veins black; fore branch of the præbrachial vein very much curved; discal transverse vein almost straight. Halteres testaceous. Length of the body $1\frac{1}{2}$ line; of the wings 3 lines.

88. *PSILOPUS DERELICTUS*, n. s., mas. Lætè cyaneo-viridis gracilis, metathorace purpureo, abdomine lætè viridi segmentis cupreo-fasciatis, pedibus pallidè flavis, alis sublimpidis venis nigris, halteribus testaceis.

Male. Bright bluish-green, slender. Head wanting. Metathorax purple. Abdomen bright green, with cupreous bands. Legs pale yellow. Wings nearly limpid; veins black; fore branch of the præbrachial vein almost rectangular; discal transverse vein straight. Halteres testaceous. Length of the body $1\frac{3}{4}$ line; of the wings 3 lines.

Gen. *DOLICHOPUS*, Latr.

89. *DOLICHOPUS ELECTUS*, n. s., fœm. Lætè viridis robustus, capite antico albo, antennis pedibusque nigris, thoracis margine æneo, abdomine æneo-viridi maculis lateralibus albo-tomentosis, tibiis spinosissimis obscurè testaceis apice nigris, alis fusco-cinereis venis nigris, halteribus fulvis.

Female. Bright green, stout. Head white in front. Antennæ black; arista rather stout. Thorax æneous in front and on each side. Abdomen dark æneous-green, with spots of white tomentum along each side. Legs black; tibiæ dull testaceous with black tips, very spinose. Wings brownish-grey; veins black; præbrachial vein forming a very obtuse angle, nearly straight from thence to its tip; discal transverse vein straight, upright. Halteres tawny. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

90. *DOLICHOPUS ALLIGATUS*, n. s., mas. Æneo-viridis sat gracilis, capite argenteo, antennis nigris, pectore cano, abdomine obscurè æneo, pedibus fulvis, tibiis subspinosus, tarsis nigricantibus basi fulvis, femoribus posterioribus nigris, mediis apice fulvis, alis fuscis sat latis venis nigris, halteribus fulvis.

Male. Æneous-green, rather slender. Head with silvery-white tomentum. Antennæ black. Pectus hoary. Abdomen dark æneous. Legs tawny; tibiæ slightly spinose; tarsi blackish, tawny at the base; posterior femora black; middle femora with tawny tips. Wings brown, rather broad, darker along the apical half of the costa; veins black; præbrachial vein and discal transverse vein straight. Halteres tawny. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

91. *DOLICHOPUS COLLECTUS*, n. s., mas. Lætè viridi-cyaneus gracilis, facie perangustâ, antennis nigris, abdomine cyaneo-purpureo, pedibus testaceis, tibiis vix spinosis, femoribus posticis nigris, tibiis posticis nigricantibus apice testaceis, alis subcinereis latiusculis apud costam fuscescentibus, halteribus testaceis.

Male. Bright greenish-blue, slender. Face extremely narrow. Antennæ black. Abdomen dark bluish-purple. Legs testaceous; tibiæ hardly spinose; hind femora black; hind tibiæ blackish, with testaceous tips. Wings greyish, rather broad, brownish along the costa; veins black; præbrachial vein hardly curved, forming an almost imperceptible angle at its junction with the discal transverse vein which is nearly straight. Halteres testaceous. Length of the body $1\frac{3}{4}$ line; of the wings $3\frac{1}{2}$ lines.

Gen. DIAPHORUS, *Meigen*.

92. DIAPHORUS DELEGATUS, n. s., fœm. Viridis albido-tomentosus, antennis nigris, abdomine æneo-viridi basi testaceo, pedibus testaceis, tarsis nigris, tibiis posticis fusciscentibus, alis subcinereis venis nigris, halteribus testaceis.

Female. Green, with whitish tomentum. Proboscis and antennæ black. Abdomen æneous-green, testaceous towards the base. Legs testaceous; tarsi black; hind tibiæ brownish. Wings greyish; veins black; præbrachial vein and discal transverse vein almost straight. Halteres testaceous. Length of the body $2\frac{1}{2}$ lines; of the wings 4 lines.

Fam. SYRPHIDÆ, *Leach*.

Gen. CERIA, *Fabr.*

93. Ceria Javana, *Wied.* See page 17.

Gen. ERISTALIS, *Latr.*

94. Eristalis niger, *Wied.* See page 17.

95. Eristalis arvorum, *Fabr. Syst. Antl.* 235. 14.

Inhabits also Java and China.

96. Eristalis Andræmon, *Walk. Cat. Dipt.* pt. 3. 627.

Inhabits also Hindostan.

Gen. HELOPHILUS, *Meigen*.

97. Helophilus insignis, *Walk.* See page 17.

Gen. MERODON, *Fabr.*

98. MERODON VARICOLOR, n. s., fœm. Atra, antennis nigris, aristâ testaceâ, thorace postico cinereo, scutello fulvo, abdomine basi fulvo segmentis testaceo-fasciatis, pedibus nigris, alis subcinereis apud costam fuscis venis nigris, halteribus testaceis.

Female. Deep black. Head with hoary tomentum in front. Antennæ black; arista testaceous. Thorax cinereous towards the scutellum, which is tawny. Abdomen with testaceous bands; base tawny. Legs black. Wings slightly greyish, mostly dark brown along the costa; veins black. Halteres testaceous. Length of the body 8 lines; of the wings 12 lines.

Gen. XYLOTA, *Meigen*.

99. Xylota conformis, *Walk.* See page 18.

Gen. *MILESIA*, *Latr.*

100. *Milesia macularis*, *Wied.* See page 18.

101. *Milesia Reinwardtii*, *Wied.* See page 18.

102. *MILESIA ZAMIEL*, n. s., fœm. Atrâ, abdomine nigro-cupreo fasciis duabus angustis interruptis flavis, femoribus rufis basi nigris, alis luteis posticè subcinereis maculâ magnâ costali subapicali fuscâ, halteribus fulvis.

Female. Deep black. Head shining in front. Proboscis and antennæ black. Abdomen blackish cupreous, shining, with two slender interrupted yellow bands. Legs black; femora red, black at the base. Wings luteous, greyish along the hind border, with a large brown costal subapical spot; veins luteous, brown towards the tips. Halteres tawny. Length of the body 8 lines; of the wings 16 lines.

Gen. *VOLUCELLA*, *Geoff.*

103. *Volucella trifasciata*, *Wied. Auss. Zweifl. ii. 196. 3.*

Inhabits also Java.

Gen. *BARYTEROCERA*, n. g.

Fœm. *Corpus* sublineare, compactum. *Caput* thorace paullò latius; facies plana. *Antennæ* conspicuæ; articuli 1^{us} et 2^{us} brevissimi; 3^{us} longissimus, dilatatus, subarcuatus; arista nuda, basalis, articulo 3^o non longior. *Abdomen* subovatum, arcuatum, sessile, thorace paullò brevius et latius. *Pedes* validi, breviusculi. *Alæ* breviusculæ; venæ transversæ exteriores rectæ non obliquæ.

Female. Body compact, nearly linear. Head a little broader than the thorax; face flat; epistoma slightly prominent. Proboscis extending a little beyond the epistoma. Antennæ diverging; 1st and 2nd joints very short; 3rd very long, dilated, curved and slightly widened towards the tip; arista bare, seated on the base of the 3rd joint, which it does not exceed in length. Abdomen sessile, arched, nearly oval, a little broader and shorter than the thorax. Legs stout, simple, rather short. Wings somewhat short; exterior transverse veins straight, upright, forming almost right angles with the cubital, præbrachial and externo-medial veins.

104. *BARYTEROCERA INCLUSA*, n. s., fœm. Nigro-cuprea, capite antico albidò, antennis nigris articulo 3^o subtùs luteo, thorace pectoreque testaceo bivittatis, abdomine fasciis tribus testaceis, 1^a basali biguttatâ, 2^a interruptâ, 3^a apicali latissimâ trimaculatâ, pedibus testaceis, femoribus posticis apice tibiisque posticis nigris, alis subcinereis maculâ costali fasciâque exteriore pallidiore fuscis.

Female. Blackish cupreous, shining. Head whitish in front. Antennæ black; 3rd joint luteous beneath. Thorax with a testaceous stripe on each side. Pectus with a testaceous streak on each side. Abdomen with three testaceous bands; 1st basal, entire, dilated on each side, including a blackish-cupreous dot on each side; 2nd interrupted, dilated on each side and connected with the 3rd, which is apical, very broad, and includes three very large blackish cupreous spots. Legs testaceous; hind femora towards the tips and hind tibiæ black. Wings greyish, with a dark brown spot

beyond the middle of the costa, and with a paler incomplete exterior band; veins black, testaceous at the base. Halteres testaceous. Length of the body 3 lines; of the wings 5 lines.

Gen. CITIBÆNA, n. g.

Mas. *Corpus* sublineare, pilosissimum. *Caput* thorace vix latius; facies plana. *Oculi* villosissimi. *Antennæ* breves; articuli 1^{us} et 2^{us} transversi; 3^{us} conicus, longior et paulò latior; arista nuda, basalis, articulo 3^o duplò longior. *Abdomen* thorace multò longius. *Pedes* simplices, sat graciles. *Alæ* sat angustæ; vena transversa exterior inter cubitalem et præbrachialem angulata, ramulum emittens.

Male. Allied to *Chrysochlamys*. Body nearly linear, thickly pilose. Head hardly broader than the thorax; face flat. Proboscis short. Eyes very pubescent. *Antennæ* short; 1st and 2nd joints transverse; 3rd conical, longer and a little broader; arista bare, seated on the base of the 3rd joint, and about twice its length. Abdomen much longer than the thorax. Legs simple, pubescent, rather slender. Wings rather narrow; 1st externo-medial vein curved; transverse vein between it and the præbrachial nearly straight and upright; transverse vein between the cubital and the præbrachial forming an angle which emits a short stump; fore side of the angle straight; hind side curved.

105. CITIBÆNA AURATA, n. s., mas. Cuprea aureo-pubescent, capite aurato, oculis villosis, antennis pedibusque testaceis, thorace bivittato, femoribus basi cupreis, posticis cupreis apice testaceis, alis sublimpidis apice subcinereis, venis halteribusque testaceis.

Male. Cupreous, thickly covered with gilded down. Head with gilded tomentum in front. *Antennæ* testaceous. Eyes very pubescent. Thorax with two stripes of pale tomentum. Abdomen brighter than the thorax. Legs testaceous; anterior femora cupreous at the base; hind femora cupreous, with testaceous tips. Wings nearly limpid, greyish towards the tips; veins testaceous, black towards the tips. Halteres testaceous. Length of the body 4 lines; of the wings 7 lines.

Gen. SYRPHUS, Fabr.

106. *Syrphus ægrotus*, Fabr. *Syst. Antl.* 243. 48. (Eristalis.)

Inhabits also Hindostan, Java, and China?

107. *Syrphus alternans*, Macq. *Dipt. Exot.* ii. 89. 7.

Inhabits also Hindostan.

108. SYRPHUS DIVERTENS, n. s., fœm. Chalybæus æneo-varius, capite antico antennis thoracis vittis duabus scutelloque testaceis, abdomine subluteo fasciis tribus strigis sex obliquis vittæque brevi interruptâ apicali nigris, pedibus halteribusque testaceis, tibiis posticis fuscis, alis limpidis.

Female. Chalybeous, partly æneous. Head in front, antennæ, a stripe on each side of the thorax and scutellum testaceous. Abdomen pale luteous, with three black bands on the hind borders of the segments; a black basal forked streak; the two following segments with an oblique black streak on each side, and an apical interrupted black streak. Legs testaceous; hind

tibiæ brown. Wings limpid, rather long; veins black. Halteres testaceous. Length of the body 4 lines; of the wings 9 lines.

109. *SYRPHUS CYATHIFER*, n. s., fœm. Chalybæo-niger, antennis pedibusque fulvis, abdomine maculis sex subtrigonis duabusque minoribus apicalibus fulvis, alis fusco-cinereis, halteribus fulvis.

Female. Chalybeous-black. Head about the eyes and pectus chalybeous. Antennæ tawny. Abdomen with eight tawny spots; 1st, 2nd and 3rd pair large, nearly triangular; 4th smaller, semicircular. Legs tawny. Wings brownish-grey; veins black. Halteres tawny. Length of the body 3 lines; of the wings 6 lines.

Gen. *BACCHA*, *Fabr.*

110. *Baccha Amphithoë*, *Walk. Cat. Dipt.* pt. 3. 549.
Inhabits also Hindostan.

Gen. *ASCIA*, *Megerle*.

111. *Ascia brachystoma*, *Wied. Auss. Zweifl.* ii. 90. 1.
Inhabits also Hindostan.

Fam. *MUSCIDÆ*, *Latr.*

Subfam. *TACHINIDES*, *Walk.*

Gen. *EURYGASTER*, *Macq.*

112. *EURYGASTER SUBFERRIFERA*, n. s., fœm. Nigra cinereo-tomentosa, capite albo, palpis fulvis, thorace vittis quatuor angustis nigris, abdomine fasciis tribus vittâque angustâ nigris, maculis duabus ventre femoribusque ferrugineis, alis subcinereis.

Female. Black, with cinereous tomentum and long black bristles. Head white in front and about the eyes; frontalia black, nearly linear; facialia without bristles; epistoma not prominent, with a stout bristle on each side. Eyes pubescent. Palpi tawny. Antennæ extending to the epistoma; 3rd joint linear, rounded at the tip, full four times the length of the 2nd; arista slender, very much longer than the 3rd joint. Thorax with four slender incomplete black stripes. Abdomen obconical, hardly longer than the thorax, with three black bands and with a slender black stripe; a large ferruginous spot on each side of the 2nd segment; underside mostly ferruginous. Legs black; femora ferruginous. Wings greyish; veins black; præbrachial vein forming a somewhat rounded but hardly obtuse angle at its flexure, from whence it is nearly straight to its tip; discal transverse vein slightly curved inward near its hind end, parted by less than its length from the border and from the flexure of the præbrachial. Alulæ greyish. Length of the body 3 lines; of the wings 6 lines.

Gen. *MEGISTOGASTER*, *Macq.*

Corpus angustum, cylindricum. *Facies* obliqua. *Facialia* non setosa. *Antennæ* longæ; articulus 3^{us} linearis, 2^o sextuplò longior; arista nuda, gracilis, articulo 3^o paullò longior. *Pedes* longiusculi, setosi. *Alæ* angustæ.

Megistogaster, *Macq. Mém. Soc. Sci. Nat. de Lille*, 1850, 185.

Body narrow, cylindrical, slightly setose. Face slightly retracted and oblique; epistoma not prominent; facialia without bristles. Antennæ very long; 3rd joint nearly linear, six times the length of the 2nd; arista bare, slender, a little longer than the 3rd joint. Legs setose, rather long. Wings narrow; præbrachial vein forming an obtuse angle at its flexure, nearly straight from thence to its tip, joining the costal at somewhat in front of the tip of the wing; discal transverse vein undulating, parted by about half its length from the border and from the flexure of the præbrachial.

Type. *Tachina Diabolus*, *Wied.*

113. *Megistogaster Imbrassus*, *Walk. Capt. Dipt.* pt. 4. 781. (*Tachina*.)

Inhabits also China.

The female has silvery-white tomentum in front of the head.

Subfam. DEXIDES, *Walk.*

Gen. DEXIA, *Meigen*.

114. *DEXIA MUNDA*, n. s., mas. Viridis, capite cano, frontalibus atris, oculis nudis, antennis pedibusque nigris, abdomine nigro albo-tomentoso fasciis duabus latissimis interruptis apiceque testaceis, alis fuscis, halteribus testaceis.

Male. Green, shining. Head with hoary tomentum in front and beneath, and with gilded tomentum along the eyes above; frontalia deep black, widening in front; facialia without bristles; epistoma not prominent. Eyes bare. Proboscis and palpi testaceous. Antennæ black; 3rd joint elongate; arista pubescent. Pectus and sides of the thorax with whitish tomentum. Abdomen black, shining, oblanceolate, about twice the length of the thorax, armed with several very stout spines; segments with whitish reflections, and with two very broad interrupted testaceous bands; tip testaceous. Legs black. Wings brown; veins black; præbrachial vein emitting a branch at its flexure which forms an almost right angle, from whence it is indistinctly undulating to its tip, which joins the costal at somewhat in front of the tip of the wing; discal transverse vein undulating, parted by less than half its length from the border, and by more than half its length from the flexure of the præbrachial. Alulæ slightly greyish. Halteres testaceous. Length of the body 6 lines; of the wings 8 lines.

115. *DEXIA EXTENDENS*, n. s. (gen. *Thelaira*, *Desv.*), fœm. Atra, capite cano-tomentoso, vertice cervino, palpis antennisque ferrugineis, thorace vittis tribus fasciâque testaceo-tomentosis, scutelli apice testaceo, abdomine fasciis duabus latis albido-tomentosis, pedibus piceis, femoribus fulvis, alis nigro-fuscis posticè cinereis, halteribus fulvis.

Female. Deep black. Head with hoary tomentum; vertex with fawn-coloured tomentum; frontalia broad; epistoma, proboscis and palpi ferruginous. Antennæ ferruginous, much shorter than the face; arista plumose. Thorax with three stripes and one hinder band of testaceous tomentum; scutellum testaceous at the tip. Pectus with whitish tomentum. Abdomen with some stout bristles, and with two broad bands of whitish tomentum,

the fore one interrupted. Legs piceous; femora tawny. Wings blackish-brown, dark cinereous along the hind border; veins black, tawny at the base; præbrachial vein emitting a short branch at its flexure which forms a slightly acute angle from whence the vein is curved to its tip, and joins the costal at somewhat in front of the tip of the wing; discal transverse vein undulating, parted by hardly half its length from the border, and by rather less than its length from the flexure of the præbrachial. Alulae cinereous. Halteres tawny. Length of the body $5\frac{1}{2}$ lines; of the wings 12 lines.

Subfam. SARCOPHAGIDES, *Walk.*

Gen. CYNOMYIA, *Desv.*

116. CYNOMYIA FORTIS, n. s., mas. Lætè cyaneo-viridis, capite testaceo-tomentoso, frontalibus nigris, palpis antennisque ferrugineis, abdomine cyaneo, pedibus nigris, alis fusco-cinereis, halteribus fulvis.

Male. Bright bluish-green, with black bristles. Head with shining testaceous tomentum; frontalia black, widening in front. Proboscis, palpi and antennæ pale ferruginous; 3rd joint of the antennæ very long; arista deeply plumose. Abdomen blue. Legs black, stout, very pilose. Wings brownish-grey, darker along the costa beyond the middle; veins black, ferruginous at the base. Halteres tawny. Length of the body 7 lines; of the wings 12 lines.

Gen. SARCOPHAGA, *Meigen.*

117. Sarcophaga aliena, *Walk.* See page 22.

118. SARCOPHAGA INDICATA, n. s., mas. Nigra, capite albo-tomentoso, frontalibus atris, thoracis vittis quatuor interlineatis pectoreque canis, abdomine apicem versus subferrugineo e maculis excavatis albidis quadrifariam tessellato, alis subcinereis, halteribus fulvis.

Male. Black. Head with shining white tomentum; frontalia deep black, linear, rather broad. Antennæ black. Thorax with four hoary stripes, which are interlined with black. Pectus hoary. Abdomen with a ferruginous tinge, which is most apparent towards the tip, distinctly tessellated with four rows of excavated whitish spots. Wings greyish; veins black; præbrachial forming an acute angle at its flexure, near which it is very much curved inward, and is thence straight to its tip; discal transverse vein slightly undulating, parted by less than its length from the border, and by much less than its length from the flexure of the præbrachial. Alulae grey. Halteres tawny. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

Subfam. MUSCIDES, *Walk.*

Gen. IDIA, *Meigen.*

119. Idia discolor, *Fabr. Syst. Antl.* 295. 55. (Musca.)

Inhabits also Java.

120. *IDIA BIVITTATA*, n. s., fœm. Rufa subtùs testacea, capite antico nigro, thorace vittis duabus nigris, abdomine suprà nigro vittâ brevi anticâ rufâ, pedibus testaceis, tarsis anticis nigris basi albidis, alis fusco-cinereis.

Var. β. Thorace nigro vittis duabus canis, abdominis dorso toto nigro.

Female. Red, testaceous beneath. Head black in front. Antennæ pale red. Thorax with two black stripes. Abdomen above black, with a short red stripe on the anterior part. Legs testaceous; fore tarsi black, whitish towards the base. Wings brownish-grey, darker along the costa towards the base; veins black. Halteres testaceous.

Var. β. Thorax black, with two hoary stripes. Abdomen wholly black above. Length of the body 3 lines; of the wings 5 lines.

Gen. *MUSCA*, *Linn.*

121. *Musca flaviceps*, *Macq.* See page 23.

122. *Musca chalybea*, *Wied. Auss. Zweifl.* ii. 402. 30.

Inhabits also Java.

123. *Musca micans*?, *Fabr. Syst. Antl.* 291. 38 (genus *Silbomyia*, *Macq.*).

Inhabits also Hindostan, Sumatra and Java.

This is certainly the *S. micans* of Macquart, but does not quite agree with the descriptions of Fabricius and of Wiedemann.

124. *Musca trita*, *Walk.* See page 24.

125. *Musca diffidens*, *Walk.* See page 26.

126. *MUSCA EXEMPTA*, n. s. (n. subgen. allied to *Pyrellia*, *Desv.*), fœm. Lætè viridis, palpis antennisque nigris, abdominis disco purpureo, pedibus piceis, alis subcinereis basi fuscis, venis præbrachiali et cubitali conjunctis.

Female. Bright green. Palpi and antennæ black. Disk of the abdomen purple. Legs piceous; femora darker than the tibiæ. Wings slightly greyish, brown at the base and along nearly half the length of the costa; veins black; præbrachial vein curved, not angular, joining the cubital vein near the tip of the latter; discal transverse vein almost straight, parted by less than its length from the border, and by more than its length from the flexure of the præbrachial. Alulæ lurid. Length of the body 2 lines; of the wings $3\frac{1}{2}$ lines.

127. *Musca domestica*, *Linn. Syst. Nat.* ii. 990.

Inhabits also Europe and some parts of Africa, Asia, and America.

Gen. *BENGALIA*, *Dev.*

128. *Bengalia Dioclea*, *Walk. Cat. Dipt.* pt. 4. 869 (*Musca*).

Subfam. *ANTHOMYIDES*, *Walk.*

Gen. *ARICIA*, *Macq.*

129. *Aricia patula*, *Walk.* See page 28.

This may perhaps be a variety of *Anthomyia quadrata*, *Wied. Auss. Zweifl.* ii. 428. 14.

The latter inhabits Java.

130. *ARICIA INAPERTA*, n. s., mas et foem. Testacea, capite suprâ et thoracis disco nigris, orbitis albis, pedibus testaceis, alis cinereis apud costam obscurioribus venis nigris basi fulvis. *Fœm.* Abdominis disco nigro.

Male and Female. Testaceous. Head above and disk of the thorax black. Abdomen shining. Eyes bordered with white tomentum. Legs testaceous. Wings grey, darker along the costa; veins black, tawny at the base; discal transverse vein undulating, slightly oblique, parted by less than its length from the border, and by much more than its length from the præbrachial transverse vein. *Female.* Disk of the abdomen black. Length of the body 3 lines; of the wings $5\frac{1}{2}$ lines.

Gen. *ANTHOMYIA*, *Meigen*.

131. *ANTHOMYIA ILLOCATA*, n. s., foem. Albida, capite albo, maculâ verticis subquadratâ nigrâ; thorace fasciâ nigrâ, abdomine e maculis nigris trivittato, alis sublimpidis.

Closely allied to *A. tonitruui*, Wied. *Female.* Whitish, with black bristles. Head white. Frontalia with a black subquadrate spot in front. Proboscis and legs black. Thorax with a black band in front of the wings. Abdomen with three rows of black spots; the middle spots lanceolate, the lateral triangular. Wings nearly limpid; veins black, testaceous at the base; discal transverse vein slightly curved and oblique, parted by much less than its length from the border, and by much more than its length from the præbrachial transverse vein. Length of the body $2\frac{1}{2}$ lines; of the wings 4 lines.

Gen. *CÆNOSIA*, *Meigen*.

132. *Cænasia macularis*, *Wied. Auss. Zweift. ii. 438. 2.*

Inhabits also Hindostan.

133. *CÆNOSIA INSURGENS*, n. s., foem. Nigra cinereo-tomentosa, orbitis albis, antennis testaceis, abdomine e maculis nigris trivittato, alis limpidis, halteribus pallidis.

Female. Black, with cinereous tomentum. Head white about the eyes. Antennæ dull testaceous. Abdomen with three black spots on each side. Wings limpid; veins black, testaceous at the base; discal transverse vein parted by full its length from the border and by nearly twice its length from the præbrachial transverse vein. Halteres pale. Length of the body 2 lines; of the wings 4 lines.

Subfam. *HELOMYZIDES*, *Fallen*.

Gen. *HELOMYZA*, *Fallen*.

134. *Helomyza orientalis*, *Wied. Auss. Zweift. ii. 575. 2. (Sciomyza.)*

Inhabits also Java.

135. *HELOMYZA FUSCICOSTATA*, n. s., foem. Fulva, facie orbitisque cano-tomentosis, abdomine nigro basi fulvo, tibiis tarsisque fusciscentibus, alis cinereis apud costam fuscis.

Female. Tawny with black bristles, paler beneath. Head with hoary tomentum about the eyes and in front. Abdomen black, tawny at the base. Tibiæ and tarsi brownish. Wings grey, brown along the costa; veins black,

tawny at the base; discal transverse vein oblique, hardly undulating, parted by full half its length from the border and by less than twice its length from the præbrachial transverse vein. Halteres testaceous, with darker knobs. Length of the body $3\frac{1}{2}$ lines; of the wings 7 lines.

136. *HELOMYZA ÆQUATA*, n. s., fœm. Ferruginea, facie cinereo-tomentosâ, antennis fulvis, scutelli apice pectoreque nigricantibus, abdomine nigro, pedibus piceis, alis luridis posticè cinereis.

Female. Ferruginous, with black bristles. Head with cinereous tomentum in front. Antennæ tawny. Scutellum towards the tip and pectus blackish. Abdomen black. Legs piceous. Wings lurid, grey along the hind border; veins tawny; discal transverse vein straight, oblique, parted by less than its length from the border, and by much more than twice its length from the præbrachial transverse vein. Halteres testaceous. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

137. *HELOMYZA LIMBATA*, n. s., fœm. Pallidè fulva, thorace abdomineque latè nigro-vittatis, pedibus testaceis, alis cinereis.

Female. Pale tawny, with black bristles, testaceous beneath. Arista black, deeply plumose. Thorax and abdomen with a broad black stripe. Legs testaceous. Wings grey; veins black, tawny at the base; discal transverse vein parted by much less than its length from the border, and by more than twice its length from the præbrachial transverse vein. Length of the body 2 lines; of the wings 4 lines.

138. *HELOMYZA PROVICTA*, n. s., fœm. Fulva, orbitis albidis, pedibus testaceis, tarsis obscurioribus, alis luridis posticè cinereis apice fuscis.

Female. Tawny, testaceous beneath. Head whitish about the eyes. Arista black, with long hairs. Legs testaceous; tarsi darker. Wings lurid, grey along the hind border, brown at the tips and along the adjoining part of the costa; veins tawny, black in the brown part and along the costa; discal transverse vein clouded with brown, parted by half its length from the border, and by twice its length from the præbrachial transverse vein. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

139. *HELOMYZA INVICTA*, n. s., fœm. Fulva, abdominis segmentis nigro-fasciatis, pedibus testaceis, alis cinereis dimidio apicali anticè fusco venâ discali transversâ fusco-nebulosâ.

Female. Tawny, testaceous beneath. Arista black, with long hairs. Abdomen with a blackish band on the hind border of each segment. Legs testaceous. Wings grey, brown on half the breadth behind the apical half of the costa; discal transverse vein clouded with brown, almost straight and upright, parted by its length from the border, and by more than twice its length from the præbrachial transverse vein. Length of the body 2 lines; of the wings 4 lines.

Gen. *SAPROMYZA*, *Fallen*.

140. *Sapromyza biguttata*, *Macq. Dipt. Exot.*

Inhabits also Java.

Gen. *GAUZANIA*, n. g.

Fœm. *Corpus* gracile, setosum, subcylindricum. *Oculi* nudi. *Antennæ*

breves; articulus 3^{us} longè conicus; arista plumosa. *Abdomen* oblanceolatum, thorace angustius, vix longius. *Pedes* non setosi. *Alæ* angustæ, venis parallelis.

Female. Body slender, bristly, nearly cylindrical. Eyes bare. Antennæ short; 3rd joint elongate-conical; arista deeply plumose. Abdomen oblanceolate, shining, narrower but very little longer than the thorax. Legs not bristly. Wings narrow; præbrachial vein parallel to the cubital; discal transverse vein straight, parted by about its length from the border, and by much more than twice its length from the præbrachial transverse vein.

141. GAUZANIA DEVECTA, n. s., fœm. Nigra obscura, abdomine nitente, pedibus piceis, alis nigricantibus posticè pallidioribus, halteribus albidis.

Female. Black, dull. Abdomen shining. Legs piceous; femora darker than the tibiæ. Wings blackish, paler along the exterior border; veins black. Halteres whitish. Length of the body $1\frac{3}{4}$ line; of the wings $3\frac{1}{2}$ lines.

Subfam. LAUXANIDES, *Walk.*

Gen. LAUXANIA, *Latr.*

142. *Lauxania eucera*, *Walk.* See page 29.

Gen. CELYPHUS, *Dalman.*

143. *Celyphus scutatus*, *Wied. Auss. Zweifl. ii.* 601. 2.

Inhabits also Hindostan and the Philippine Islands.

Subfam. ORTALIDES, *Haliday.*

Gen. LAMPROGASTER, *Macq.*

144. *Lamprogaster zonata*, *Walk.* See page 30.

145. *Lamprogaster glabra*, *Walk.* See page 30.

"On decaying timber," *Wallace MSS.*

146. LAMPROGASTER BASILUTEA, n. s., ~~mas.~~ *fœm.* Nigra, capite apud oculos vittisque duabus anticis testaceis, antennis piceis, thorace vittis quatuor pallidè flavis, abdomine fasciis duabus pallidè flavis posticè interruptâ, femoribus apice rufescentibus, tarsis albis apice nigris, alis cinereis fusco subnebulosis basi anticè luteis, halteribus testaceis.

Male. Very nearly allied to *L. zonata*, and perhaps the male of that species. Black, shining. Head testaceous about the eyes, and with two testaceous stripes in front. Antennæ piceous. Thorax with four pale yellow stripes, one on each side in front of the wings, and one on each side of the scutum. Abdomen with two slender pale yellow bands, the hind one interrupted. Femora reddish at the tips; tarsi white, with black tips. Wings grey, partly and very slightly clouded with brown, luteous along the basal part of the costa; veins black, tawny towards the base and along the costa; discal transverse vein like that of *L. zonata*. Halteres testaceous. Length of the body 3 lines; of the wings 6 lines.

147. LAMPROGASTER DIVISA, n. s., fœm. Nigra, tibiis testaceis nigro-fasciatis, tarsis albis apice nigris, alis nigricantibus guttis plurimis fasciâque interlineatâ limpidis, halteribus pallidis.

Female. Black. Abdomen shining. Tibiæ testaceous, with black bands; tarsi white, with black tips. Wings blackish, with numerous limpid dots, and with a limpid band which includes the discal transverse vein, and is intersected by an interrupted blackish line. Halteres pale. Length of the body 2 lines; of the wings 4 lines.

148. *LAMPROGASTER PUNCTATA*,^{*} n. s., mas. Nigra, capite antico testaceo,^{* Sapph} orbitis albidis, antennis halteribusque testaceis, pectore vittis duabus testaceis, pedibus piceis, alis nigro-fuscis guttis decem discalibus luridis guttâque apicali albâ.

Male. Black, slightly shining. Head very shining in front, testaceous about the mouth, whitish about the eyes. Antennæ testaceous. Pectus with a testaceous stripe on each side. Legs piceous. Wings blackish-brown, with about ten lurid dots on each, and with a larger white dot on each tip. Halteres testaceous. Length of the body $1\frac{3}{4}$ line; of the wings 3 lines.

149. *LAMPROGASTER GUTTATA*, n. s., mas. Nigra, orbitis albidis, epistomate antennis halteribusque testaceis, pectore vittis duabus vix determinatis testaceis, pedibus piceis, alis nigro-fuscis guttis plurimis apicibusque limpidis.

Male. Black, slightly shining. Head very shining in front, testaceous about the epistoma, whitish about the eyes. Antennæ testaceous. Pectus with an indistinct testaceous stripe on each side. Legs piceous. Wings blackish-brown, with many limpid dots, the largest on the hind border; tips limpid. Halteres testaceous. Length of the body $1\frac{1}{2}$ line; of the wings $2\frac{1}{2}$ lines.

The two preceding species may perhaps form a new genus, the peculiar characters of *Lampromyia* being hardly conspicuous in them.

Gen. SOPHIRA, Walk.

150. *SOPHIRA CONCINNA*, n. s., fœm. Testacea, frontalibus luteis, thorace fasciis duabus lateralibus vittisque duabus nigricantibus, pectore ex parte abdominisque vittis quatuor nigris, tibiis posticis fuscescentibus, alis obscure fuscis apices versus pallidè fuscis strigis basalibus fasciâque abbreviatâ limpidis.

Female. Testaceous, shining. Head with luteous frontalia. Thorax with two blackish stripes, and on each side with two blackish bands. Pectus partly black. Abdomen with four black stripes. Hind tibiæ brownish. Wings dark brown, pale brown on the apical third part, with limpid basal streaks, and with a limpid slightly abbreviated band beyond the middle; veins black. Length of the body 3 lines; of the wings 6 lines.

Gen. RIOXA, Walk.

151. *Rioxa lanceolata*, Walk. See page 35. This species is very variable in the breadth of the stripes of the thorax, and in the number and size of the spots on the wings.

152. *RIOXA CONFINIS*, n. s., fœm. Ferruginea, abdomine nigricante, alis nigro-fuscis basi guttisque octo limpidis.

Female. Ferruginous. Abdomen blackish. Wings blackish-brown, limpid towards the base, with three triangular limpid spots on the costa, with two limpid spots (one of them double) on the hind border, and with two on the disk; veins black. Length of the body 3 lines; of the wings 6 lines.

Gen. DACUS.

153. *Dacus æneus*, *Wied. Auss. Zweifl.* ii. 513. 2.

Inhabits also Java.

154. *DACUS DETERMINATUS*, n. s., mas. Nigro-æneus, capite antennis pedibusque fulvis, thorace vittis tribus albidis duabusque fulvis, abdomine ferrugineo basi nigro, tibiis anticis tarsisque fuscis, alis sublimpidis apice fasciisque duabus fuscis.

Male. Æneous-black. Head and antennæ tawny. Thorax with three whitish stripes and with two tawny stripes; the latter are united at the tip of the scutellum, and the whitish bands extend obliquely on each side to the pectus. Abdomen ferruginous, black above at the base. Legs tawny; tips of the femora darker; posterior femora minutely spinose beneath; tarsi and fore tibiæ brown. Wings nearly limpid, brown from the discal transverse vein to the tips, and with two brown bands; 1st band very imperfect; 2nd very pale and diffuse on the hind half of the wing. Halteres whitish. Length of the body $4\frac{1}{2}$ lines; of the wings 7 lines.

155. *DACUS FIGURATUS*, n. s., fœm. Niger, capite antennis pedibusque fulvis, vertice nigro, thorace vittis tribus (intermediâ quadriramosâ) pectoreque testaceis, abdomine vittâ anticâ fasciâque luteis, tibiis tarsisque posterioribus fuscis, alis subcinereis apice fuscis plagâ mediâ costali luridâ, halteribus albidis.

Female. Black, shining. Head and antennæ pale tawny; vertex black. Thorax with three testaceous stripes, the middle one emitting two oblique branches on each side. Pectus with two testaceous stripes. Abdomen with a luteous stripe extending from the base to the middle, where it is united to a luteous band. Legs tawny; posterior tibiæ and tarsi brown. Wings slightly greyish, with a large lurid space along the middle of the costa; tips brown; veins black. Halteres whitish. Length of the body $3\frac{1}{2}$ lines; of the wings 6 lines.

Gen. NOEETA, *Desv.*

156. *NOEETA LATIUSCULA*, n. s., mas. Nigra, capite testaceo, thorace cinereo, scutello nitido, tibiis tarsisque albidis, illis fusco-fasciatis, alis nigro-fuscis guttis plurimis limpidis apud costam dilatatis limpidis fusco-fasciatis.

Male. Black. Head testaceous, with white tomentum in front and beneath. Antennæ and halteres testaceous. Thorax with grey tomentum. Scutellum brilliant black. Abdomen shining. Tibiæ and tarsi whitish, the former with brown bands. Wings blackish-brown, with many limpid dots; costal part limpid, somewhat dilated, with transverse brown streaks. Length of the body $1\frac{1}{2}$ line; of the wings 3 lines.

Gen. TRYPETA, *Meig.*

157. *TRYPETA RUDIS*, n. s., fœm. Nigra cinereo-tomentosa, capite thoracis scapulis fasciâ interruptâ scutello abdominis apice pedibusque testaceis, alis sublimpidis fasciis duabus fuscis 1^a posticâ abbreviatâ.

Female. Black, with cinereous tomentum. Head testaceous in front and beneath. Antennæ, legs and halteres testaceous. Scapulæ of the thorax,

an interrupted band, scutellum, and tip of the abdomen also testaceous. Wings nearly limpid, with two brown bands, the interior one abbreviated hindward; veins black, testaceous at the base. Length of the body 3 lines; of the wings 5 lines.

Gen. UROPHORA, *Desv.*

158. UROPHORA FASCIATA, n. s., fœm. Nigra nitens, capite antennis scapulis scutello abdominis terebrâ pedibusque testaceis, abdomine fasciis duabus albido-tomentosis, femoribus posterioribus piceis, alis nigro-fuscis vittâ latâ subobliquâ limpidâ apicem versus furcatâ et arcuatâ.

Female. Black, shining. Head testaceous, whitish in front and beneath. Antennæ, scapulæ, scutellum, legs and halteres testaceous. Abdomen with two bands of whitish tomentum. Terebra testaceous, long, slender. Posterior femora mostly piceous. Wings blackish-brown, with some paler spots along the costa, and with a broad, slightly oblique limpid stripe, which towards its tip is divided and curved to the hind border. Length of the body 4 lines; of the wings 6 lines.

Subfam. ACHIIDES, *Walk.*

Gen. ACHIAS, *Fabr.*

159. Achias maculipennis, *Westw.* See page 36.

There are two specimens of the male of this species, and the petiole with which the head is furnished on each side is much longer in one specimen than in the other, and in the latter is much longer than in the male from Singapore. I am indebted to Mr. Westwood for the correction of an error in page 33, where the female of this species is described by the name of *Themara ampla*.

Subfam. DIOPSIDES, *Walk.*

Gen. DIOPSIS, *Linn.*

160. Diopsis quinqueguttata, *Walk.* See page 36.

161. Diopsis quadriguttata, *Walk.* See page 37.

162. DIOPSIS DISCREPANS, n. s., mas et fœm. Nigra nitens, antennis fulvis, abdomine apud petioli apicem maculis duabus rufis tomento albo plagiatis, pedibus rufescentibus, tarsis testaceis, alis sublimpidis maculâ apud venam transversam præbrachialem fasciâque exteriore fuscis. *Mas.* Oculorum petiolis corpore paullò longioribus aut brevioribus. *Fœm.* Oculorum petiolis corporis dimidio brevioribus.

Male and Female. Black, shining. Antennæ tawny. Abdomen at the tip of the petiole with two red spots, each accompanied by a patch of white tomentum. Legs reddish; tarsi testaceous. Wings nearly limpid, with a brown spot on the præbrachial transverse vein, and with an exterior brown band; veins black. Halteres white.

Male. Petioles of the eyes a little longer or a little shorter than the body.

Female. Petioles of the eyes less than half the length of the body. Length of the body $2\frac{1}{2}$ lines; of the wings 4 lines.

Subfam. SEPSIDES, *Walk.*Gen. CALOBATA, *Fabr.*

163. CALOBATA STRENUA, n. s., fœm. Nigra sat valida, capite antico nigro-cyaneo, thorace subcinereo, femoribus mediis flavo unifasciatis posticis flavo bifasciatis, tarsis anticis albis, alis subcinereis fasciâ latâ fuscâ apice subfuscescentibus, halteribus piceis.

Female. Black, rather stout. Head shining, blackish-blue in front, with white tomentum about the eyes. Thorax slightly tinged with grey tomentum. Legs long, slender; middle femora with one yellow band; hind femora with two yellow bands, one of them at the base; fore tarsi white. Wings slightly greyish, with a broad brown band beyond the middle; tips slightly brownish; veins black. Halteres piceous. Length of the body 6 lines; of the wings 8 lines.

164. CALOBATA CEDENS, n. s., fœm. Nigro-cyanea nitens, antennis abdomine pedibusque nigris, pectore plagis duabus albo-tomentosis, femoribus anticis basi testaceis posterioribus testaceis nigro-fasciatis, tarsis anticis albis, alis subcinereis fasciâ fuscâ apice subfuscescentibus.

Female. Blackish-blue, shining. Antennæ, abdomen and legs black. Pectus with a patch of white tomentum on each side. Legs long and slender; fore femora testaceous towards the base; posterior femora testaceous, with blackish bands; fore tarsi white. Wings slightly greyish, with a brown band beyond the middle; tips slightly brownish. Halteres testaceous, with blackish knobs. Length of the body $3\frac{1}{2}$ –4 lines; of the wings 6–7 lines.

Gen. CARDIACEPHALA, *Macq.*

165. CARDIACEPHALA LONGICOLLIS, n. s., mas. Rufo-lutea, capitis maculis duabus facieque nigris, thorace longissimo lanceolato lineis duabus glaucis, abdomine apicem versus nigro, tibiis tarsisque nigricantibus, tarsis anticis basi albis, alis subcinereis apice fuscescentibus, apud costam subluteis.

Male. Reddish luteous. Head with a black spot on each side of the vertex; face black, with white tomentum on each side. Thorax very long, attenuated in front, with a glaucous stripe on each side. Abdomen black towards the tip, not longer than the thorax. Legs long and slender; tibiæ and tarsi blackish; fore tarsi white at the base. Wings slightly greyish, brownish at the tips, and with a luteous tinge along the costa; veins black, tawny towards the base. Length of the body 5 lines; of the wings 7 lines.

Subfam. PSILIDES, *Walk.*Gen. MICROPEZA, *Meigen.*

166. Micropeza fragilis, *Walk.* See page 37.

Gen. NERIUS, *Wied.*

167. Nerius fuscipennis, *Macq.* See page 38.

Gen. TEXARA, *Walk.*

168. Texara compressa, *Walk.* See page 38.

Subfam. GEOMYZIDES, *Fallen*.Gen. GYMNOPIA, *Fallen*.

169. GYMNOPIA? GUTTICOSTA, n. s., foem. Nigra nitens, pectoris lateribus canis, thoracis fasciâ abdominisque basi pallidè flavis, tibiis tarsisque ferrugineis, alis subflavescentibus guttâ costali nigrâ.

Female. Black, shining. Head wanting. Thorax with a pale yellow band. Pectus hoary on each side. Abdomen blackish, cupreous towards the base, which is pale yellow. Tibiæ and tarsi ferruginous. Wings slightly yellowish, with a black dot on the costa before half the length; veins yellowish. Length of the body $1\frac{1}{2}$ line; of the wings 3 lines.

170. GYMNOPIA INFUSA?, n. s., mas. Nigra, thorace subpubescente, scutello longi-obconico, abdomine æneo-nigro, pedibus halteribusque testaceis, alis limpidis venis nigris.

Male. Black. Head wanting. Thorax slightly pubescent. Scutellum long-obconic. Abdomen æneous-black, shining. Legs and halteres testaceous. Wings limpid; veins black; discal transverse vein parted by more than its length from the border, and by less than twice its length from the præbrachial transverse vein. Length of the body $1\frac{1}{4}$ line; of the wings $2\frac{1}{2}$ lines.

On a New Organ in Insects. By JOHN BRAXTON HICKS, Esq.,
M.D. Lond., F.L.S. &c.

[Read June 17, 1856.]

ABOUT a month since my attention was directed towards a peculiar structure in the *halteres* of the *Rhingia rostrata*, by Mr. Purkiss, who is an energetic and zealous searcher for microscopical objects, and who, from the position and structure of this organ, considered it to be the organ of smell. How far this is probable, I will leave the Society to judge at the termination of this paper. I instantly directed my attention to the subject, and I will endeavour to lay before the Society the results at which I have arrived up to the present time, apologizing for the incompleteness of the investigation, in consequence of my anxiety to bring it before the Society previous to the summer recess.

If we dissect a perfect fly, there will be seen in the centre of the thorax the great thoracic ganglion, which is formed by the fusion of the three thoracic ganglia into one. From thence it will be plainly seen that the first branch passes to the anterior leg; the second (much larger) enters the base of the wing after giving off a few branches to the muscles; the third branch passes



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