

Catalogue of the Dipterous Insects collected at Gilolo, Ternate, and Ceram, by Mr. R. WALLACE, with Descriptions of New Species. By FRANCIS WALKER, Esq., F.L.S.

[Read Feb. 21, 1861.]

GILOLO.

Fam. TIPULIDÆ, *Haliday*.

Gen. LIMNOBIA, *Meigen*.

The following species belongs to Meigen's Div. D. *Diptera*, vol. i. p. 122, pl. 4. f. 15.

1. LIMNOBIA EUCHROMA. *Fem.* Læte ochracea, antennis, abdominis fasciis quatuor pedibusque nigris, alis nigricantibus, halteribus apice nigris.

*Female.* Bright ochraceous; antennæ black, setaceous, submoniliform, minutely setose, a little longer than the head; abdomen with four black bands, 2nd band much broader than the 1st and than the 3rd, the latter angular in front, 4th band much broader than the 2nd; legs black, slender; wings blackish; veins and knobs of the halteres black. Length of the body 6 lines; of the wings 12 lines.

Fam. STRATIOMIDÆ, *Haliday*.

Gen. PTILOCERA, *Wied.*

2. Ptilocera 4-dentata, *Fabr.* See Vol. I. p. 7.

Gen. STRATIOMYS, *Geoffr.*

3. STRATIOMYS CINCILINEA, n. s. *Fam.* Nigra, capite anthracino nitente, peristomatis lateribus, antennis basi, scutelli dentibus duobus abdominisque margine flavescens, pedibus halteribusque flavis, alis subcinereis.

*Female.* Black; head coal-black, shining; peristoma yellowish on each side; antennæ yellowish at the base, much shorter than the breadth of the head; thorax with slightly gilded pubescence; scutellum with two pale yellowish teeth; abdomen with a narrower yellowish border; legs and halteres yellow; wings slightly cinereous; veins black. Length of the body 4 lines; of the wings 7 lines.

Gen. CLITELLARIA, *Meigen*.

4. Clitellaria bivittata, *Fabr.* See Vol. I. p. 7.

Gen. SARGUS, *Fabr.*

5. Sargus tarsalis, *Walk.* See Vol. V. p. 274.

6. Sargus tibialis, *Walk.* See Vol. V. p. 273.

Gen. MASSICYTA, *Walk.*

7. *Massicyta cerioides*, *Walk.* See Vol. III. p. 78.

Gen. SOLVA, *Walk.*

8. *SOLVA HYBOTOIDES*, n. s. *Mas et Fœm.* Nigra, antennis basi pallide flavis, thoracis lineis lateralibus scutello abdomine pedibusque luteis (*mas*) aut flavis (*fœm.*), abdominis disco fœm. nigro, tibiis posticis nigris, alis cinereis.

*Male and Female.* Black; mouth and palpi pale yellow; antennæ lanceolate, shorter than the breadth of the head, pale yellow at the base; thorax with a humeral callus and an elevated line along each side and the scutellum luteous in the male, pale yellow in the female; pubescence slightly gilded; abdomen luteous, disk black in the female, with the exception of the hind borders of the segments; legs luteous in the male, pale yellow in the female; hind femora incrassated; hind tibiæ black, curved; middle tibiæ black in the middle; wings cinereous; veins black; halteres pale. Length of the body 3-4 lines; of the wings 6-8 lines.

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

9. *DASYPOGON SOLUTUS*, n. s. *Mas.* Niger, capite thoraceque auratis, antennis linearibus, thorace vittis quatuor pectoreque fasciis duabus nigris, abdomine rufo clavato apicem versus piceo fascia basali nigra, pedibus halteribusque rufis, alis cinereis apice nigricantincinereis.

*Male.* Black; head with pale gilded tomentum; epistoma flat, with a few pale bristles; eyes with very small facets. Antennæ linear, nearly as long as the breadth of the head; thorax and pectus with pale gilded tomentum; thorax with four black stripes, the lateral pair short, broad, obliquely intersected; pectus with two black bands; abdomen red, clavate, with a black band near the base, the four last segments with slightly piceous disks; legs red, robust; femora with a few stout black bristles; tarsi black towards the tips; wings cinereous, blackish cinereous towards the tips and along the adjoining part of the hind border; veins black, tawny at the base; halteres red. Length of the body 7 lines; of the wings 12 lines.

10. *DASYPOGON SEMIFILATUS*, n. s. *Fœm.* Niger, capite thoraceque auratis, thorace vittis quatuor latis pectoreque fasciis duabus nigris, abdomine clavato fasciis tribus anticis fulvis, pedibus rufis, alis cinereis, halteribus flavescensibus.

*Female.* Black; head with gilded tomentum, cinereous behind; epistoma flat, with two pale bristles; palpi short; antennæ mutilated; thorax and pectus with gilded tomentum, the former with four broad black stripes, the latter with two black bands; abdomen clavate, about twice the length of the thorax, very slender towards the base, where it is dilated; fore part with three tawny bands, 3rd band interrupted in the middle, dilated on each side; legs red, slender; tarsi black; posterior femora and tibiæ with a broad black middle band; wings cinereous; veins black; halteres yellowish. Length of the body 6 lines; of the wings 10 lines.

Subfam. LAPHRITES, *Walk.*

Gen. LAPHRIA, *Fabr.*

11. *Laphria tristis*, *Dol.* See Vol. V. p. 146.

12. *Laphria comes*, *Walk.* See Vol. III. p. 85.

13. *Laphria conveniens*, *Walk.* See Vol. V. p. 278.

14. LAPHRIA SETIPES, n. s. *Mas.* Cyanea, capite argenteo, antennarum articulo 3<sup>o</sup> lineari, thoracis lateribus anticis pectoreque albo tomentosus, abdomine purpureo longo, pedibus purpureis longissime setosis, femoribus posticis incrassatis, alis nigricantibus dimidio basali cinereo, halteribus albis.

*Male.* Blue; head silvery in front, thickly clothed beneath with white hairs; mystax with a few black bristles; third joint of the antennæ linear, conical at the tip; pectus and sides of the thorax in front with white tomentum; abdomen purple, slender, linear, about twice the length of the thorax; legs purple, thickly clothed to the tips of the tarsi with long black and white bristles; femora much incrassated, partly blue; wings blackish, cinereous for nearly half the length from the base; veins black; halteres white. Length of the body 8 lines; of the wings 12 lines.

15. LAPHRIA FLAGELLATA, n. s. *Mas et Fem.* Nigra, capite aurato, antennarum articulo 3<sup>o</sup> lato fusiformi, pectore albo tomentoso, segmentorum abdominalium marginibus posticis lateralibus albis, pedibus purpureo variis, alis nigris basi cinereis. *Mas.* Abdomine purpureo.

*Male and Female.* Blue; head brightly gilded in front, clothed beneath with white hairs; mystax with several black bristles; antennæ black, third joint broad, fusiform; pectus with white tomentum; abdomen with white tomentum on the hind borders of the segments; legs partly purple, thinly beset with black and white bristles; wings black, cinereous towards the base; veins and halteres black. *Male.* Abdomen purple. Length of the body 4½–5 lines; of the wings 8–9 lines.

Subfam. ASILITES, *Walk.*Gen. TRUPANEA, *Macq.*

16. TRUPANEA GILOLONA, n. s. *Mas et Fæm.* Nigra, capite subtus albo piloso, fronte subaurata, mystace e setis nigris albisque, thorace cinereo vittis quatuor nigris, segmentorum abdominalium marginibus posticis ventreeque cinereis, tibiis rufis apice nigris, alis cinereis strigis duabus subcostalibus sordide albidis, halteribus albidis.

*Male.* Black; head thickly clothed beneath with white hairs; front slightly gilded; epistoma prominent; mystax composed of many black and of fewer white bristles; third joint of the antennæ fusiform, about one-third of the length of the second; thorax cinereous, with four black stripes of the usual form; pectus hoary; abdomen slightly tapering from the base to the tip, about twice the length of the thorax; hind borders of the segments and underside cinereous; sexualia very small; legs stout with a few black bristles; tibiæ dark red, black towards the tips; wings dark cinereous; subcostal and radial areolets with dingy whitish stripes; veins black; halteres whitish. Length of the body 6 lines; of the wings 11 lines.

*Female.* Third joint of the antennæ fusiform, about one-fourth of the length of the arista; abdomen lanceolate, full twice the length of the thorax; apical part stylate, shining. Length of the body 9 lines; of the wings 12 lines.

Gen. ASILUS, *Linn.*

17. *Asilus involutus*, *Walk.* See Vol. V. p. 281.

18. ASILUS CONDECORUS, n. s. *Fæm.* Cyanescenti-niger, robustus, fronte aurata, mystace e setis plurimis nigris paucisque albis, thoracis suturis, lateribus, pectore et segmentorum abdominalium marginibus posticis canis, abdomine subplano non acuto, pedibus robustis, alis cinereis apices versus nigricantibus.

*Female.* Bluish black, stout, with black bristles; head gilded in front, thickly clothed beneath with white hairs; epistoma prominent; mystax composed of numerous black bristles and of a few white bristles; third joint of the antennæ elongate-conical, not more than one-fourth of the length of the style; pectus and sides, and sutures of the thorax with hoary tomentum; abdomen somewhat flat, slightly decreasing in breadth from the base to the tip, less than twice the length of the thorax; hind borders of the segments hoary; tip black, shining, not acute; legs stout, with slight white pubescence and with a few black bristles; wings cinereous, blackish towards the tips and along the adjoining part of the hind border; veins black; forks of the cubital vein undulating; halteres whitish. Length of the body 7 lines; of the wings 14 lines.

Gen. OMMATIUS, *Illiger.*

19. *Ommatius noctifer*, *Walk.* See Vol. III. p. 88.

20. *Ommatius retrahens*, *Walk.* See Vol. III. p. 88.
21. *OMMATIUS PLATYMELAS*, n. s. *Fœm.* Niger, latus, fronte aurata, thoracis lateribus subauratis, scutello cinereo, abdomine subplano, segmentorum marginibus posticis maculisque lateralibus trigonis cinereis, tibiis rufis apice nigris, alis nigris nigricante marginatis.
- Female.* Black, broad, stout; head clothed beneath with white hairs, gilded in front; epistoma flat; mystax extending to the base of the antennæ, composed of black bristles and of a few inferior white bristles; thorax slightly gilded on each side; scutellum cinereous; pectus hoary; hind borders of the segments and underside with cinereous tomentum, which forms triangular spots along each side; legs very robust, with black bristles; tibiæ red, with black tips; wings black, blackish towards the tips and along the hind border; halteres pale yellow. Length of the body 6 lines; of the wings 11 lines.

Fam. LEPTIDÆ, *Westw.*

Gen. SURAGINA, *Walk.*

22. *SURAGINA SIGNIPENNIS*, n. s. *Fœm.* Nigra, thorace vittis duabus lateribusque canis, abdomine cano lanceolato apicem versus compresso, femoribus apice fulvis, tibiis rufescenti-piceis, alis cinereis fasciis duabus maculaque interiore nigricantibus, gutta adhuc interiore nigra.
- Female.* Black; head with whitish tomentum behind and beneath; thorax with two hoary stripes, which are dilated and united hindward; sides and pectus also hoary; abdomen hoary, lanceolate, compressed towards the obtuse tip, nearly twice the length of the thorax; legs long, slender; femora with tawny tips; tibiæ reddish piceous; wings cinereous, with two blackish bands, which are united on the costa and are separated obliquely hindward, second band apical; a blackish elongated subcostal spot near the inner side of the first band, and a black discal dot still nearer the base; halteres yellowish towards the base. Length of the body 6 lines; of the wings 12 lines.

Fam. BOMBYLIDÆ, *Leach.*

Subfam. THEREVITES, *Walk.*

Gen. THEREVA, *Latr.*

23. *THEREVA CONSCITA*, n. s. *Mas.* Nigra, argenteo tomentosa, thoracis disco nigro vittis duabus interlineatis canis, abdomine fasciis sex nigris, alis cinereis apices versus nigricante nebulosis.
- Male.* Black, with silvery hoary tomentum; head silvery white in front; 3rd joint of the antennæ lanceolate, nearly as long as the 1st and 2nd together; arista extremely short; disk of the thorax black,

with two hoary interlined stripes; abdomen silvery white, nearly linear, with a short fringe along each side, and with six black bands, 1st and 2nd bands broad, 3rd very broad, 4th and 5th very slender, 6th broad, apical; femora and tibiæ with silvery white tomentum; wings cinereous, slightly and partly clouded with blackish towards the tips; veins black; halteres white. Length of the body 6 lines; of the wings 10 lines.

Subfam. BOMBYLITES, *Walk.*

Gen. ANTHRAX, *Fabr.*

24. Anthrax Pelops, *Walk.* See Vol. II. p. 90.

Fam. MUSCIDÆ, *Latr.*

Gen. MASICERA, *Macq.*

25. Masicera morio, *Dol.* See Vol. V. p. 154.

Gen. EURYGASTER, *Macq.*

26. Eurygaster ridibunda, *Walk.* See Vol. IV. p. 125.

Subfam. DEXIDES, *Walk.*

Gen. RUTILIA, *Desv.*

27. Rutilia ixoides, *Walk.* See Vol. V. p. 289.

28. RUTILIA FERVENS, var., *Walk.* See Vol. V. p. 288. *Mas.* Splendissime cyaneo-viridis, capite plagis duabus anticis testaceis trigonis frontalibus, thoracis disco cupreo vittis quatuor nigris, abdomine vitta, fasciis tribus guttisque duabus apicalibus nigris, pedibus nigris, aliis luridis.

Var. *Male.* Brilliant bluish green; head with a triangular testaceous patch on each side of the peristoma; frontalia deep black, widening much in front; antennæ black; arista pubescent; thorax with a cupreous disk and with four black stripes, of which the middle pair are much abbreviated hindward; abdomen with a black stripe and with three black bands, 1st band basal, 2nd and 3rd convex on each side in front, a black apical dot on each side; legs black; wings lurid; præbrachial vein forming a rounded, slightly obtuse angle at its flexure, very slightly curved inward from thence to its tip; discal transverse vein slightly undulating, parted by half its length from the border, and by more than half its length from the flexure of the præbrachial. Length of the body 7 lines; of the wings 16 lines.

29. Rutilia saturatissima, *Walk.* See Vol. V. p. 287.

30. RUTILIA SAPPHIRINA, n. s. *Mas.* Obscure purpurascenti-cyanea,

capite argenteo, frontalibus atris, thorace non vittato, abdomine nigro fasciis tribus interruptis splendidissime purpurascenti-cyaneis, tibiis posticis fimbriatis, alis cinereis basi nigris.

*Male.* Dark purplish blue; head with silvery white tomentum; frontalia deep black, widening in front; antennæ black; arista hardly pubescent; thorax not striped; abdomen black, with three interrupted brilliant purplish-blue bands; 2nd band narrower than the 1st and than the 3rd, excavated on each side of the hind border, 3rd band apical, very broad; legs black; hind tibiæ fringed; wings cinereous, black at the base; præbrachial vein forming a rounded, obtuse angle at its flexure, hardly curved inward from thence to its tip; discal transverse vein hardly undulating, parted by little more than one-fourth of its length from the border, and by hardly more than half its length from the flexure of the præbrachial, which, like it, is very near the border. Length of the body 7 lines; of the wings 16 lines.

Gen. GYMNSTYLIA, *Macq.*

31. GYMNSTYLIA LUTEICORNIS, n. s. *Fam.* Nigra, cinereo-tomentosa, frontalibus atris perangustis, palpis testaceis, antennis luteis, thorace vittis quatuor nigris, abdomine fulvo fusiformi macula basali trigona, pedibus fulvis longiusculis, alis cinereis apud venas fuscescente subnebulosis.

*Female.* Black, with cinereous tomentum; head with bristles along each side of the frontalia, which are deep black, linear and very narrow; palpi testaceous; antennæ luteous, 3rd joint short; arista bare, slender; thorax with four slender black stripes; pectus hoary; abdomen tawny, fusiform, a little longer and narrower than the thorax, with a black triangular spot at the base, and with black spines at the tip; legs tawny, rather long and slender; tibiæ darker than the femora; tarsi black; wings cinereous, very slightly brownish-clouded along the veins; veins black, tawny at the base, præbrachial vein forming a very obtuse angle at its flexure, almost straight from thence to its tip; discal transverse vein almost straight, parted by a little less than its length from the border, and by a little more than its length from the flexure of the præbrachial; alulæ white. Length of the body 4 lines; of the wings 7 lines.

Subfam. SARCOPHAGIDES, *Walk.*

Gen. SARCOPHAGA, *Meigen.*

32. *Sarcophaga mendax*, *Walk.* See Vol. IV. p. 132.

Subfam. MUSCIDES, *Walk.*

Gen. MUSCA, *Linn.*

33. *Musca costalis*, *Walk.* See Vol. V. p. 159.

34. *Musca promittens*, *Walk.* See Vol. IV. p. 134.  
 35. *Musca obtrusa*, *Walk.* See Vol. III. p. 105.

Subfam. ANTHOMYIDES, *Walk.*

Gen. ATOMOGASTER, *Macq.*

36. ATOMOGASTER BISERIATA, n. s. *Fœm.* Cana, capite albo, frontibus atris latiusculis, antennis nigris, thorace vittis tribus obscurioribus indistinctis, abdomine vitta nigricante maculisque sex quadratis nigris subtus testaceo, pedibus testaceis, alis cinereis.

*Female.* Hoary; head white; frontalia deep black, linear, rather broad; proboscis and palpi black, the latter slender, slightly curved; antennæ black, 3rd joint not reaching the epistoma; arista bare, stout at the base; thorax with three slender, indistinct, darker stripes; abdomen elongate-oval, testaceous beneath, with a blackish stripe, which is interrupted on the hind border of each segment, and with three quadrate black spots on each side; basal segment not spotted; legs testaceous; wings cinereous; veins black, testaceous towards the base; discal transverse vein straight, parted by about its length from the border, and by nearly twice its length from the præbrachial transverse; alulæ white. Length of the body  $2\frac{1}{2}$  lines; of the wings  $4\frac{1}{2}$  lines.

37. ATOMOGASTER TRISERIATA, n. s. *Fœm.* Schistacea, capite albo, frontibus rufis, thorace vittis tribus obscurioribus indistinctis, abdomine maculis sex elongatis nigris, segmentis albo marginatis, femoribus apice tibiisque fulvis, alis cinereis.

*Female.* Slate-colour; head white; frontalia red, linear; thorax with three very indistinct darker stripes; abdomen fusiform, a little longer than the thorax, with three elongated black spots on each of the three last segments; hind borders of the segments white; legs black; tibiæ and tips of the femora tawny; wings cinereous; veins black, tawny at the base; discal transverse vein hardly bent inward, parted by hardly less than its length from the border, and by nearly twice its length from the præbrachial transverse; alulæ white. Length of the body  $2\frac{1}{2}$  lines; of the wings 4 lines.

Subfam. HELOMYZIDES, *Fallén.*

Gen. HELOMYZA, *Fallén.*

38. HELOMYZA INTERVENTA, n. s. *Fœm.* Testacea, crassa, capite, scutelli apice, abdomine femoribusque nigris, alis cinereis antice subluridis.

*Female.* Testaceous, thick; head black, bristly above, white in front; antennæ testaceous, 3rd joint short; arista plumose; scutellum black towards the tip; abdomen black, elliptical, not longer than the thorax; femora black; wings cinereous, with a lurid tinge in front;



veins black, testaceous at the base; discal transverse vein straight, parted by a little more than half its length from the border, and by full twice its length from the præbrachial transverse. Length of the body 3 lines; of the wings 5 lines.

Gen. DRYOMYZA.

39. *Dryomyza semicyanea*, *Walk.* See Vol. III. p. 109.

Gen. SCIOMYZA, *Fallén.*

40. *Sciomyza? leucomelana*, *Walk.* See Vol. IV. p. 144.

Subfam. LAUXANIDES, *Walk.*

Gen. LONCHÆA, *Fallén.*

41. *Lonchæa? consentanea*, *Walk.* See Vol. IV. p. 146.

Subfam. OBTALIDES, *Haliday.*

Gen. LAMPROGASTER, *Macq.*

42. LAMPROGASTER SUPERNA, n. s. *Fam.* Testacea, capite supra nigro, oculis albo-marginatis, thoracis disco cyaneo, abdomine supra purpureo, alis cinereis basi et apud costam fulvis, striga transversa guttaque antica exteriore nigris, striga costali apicali nigricante.

*Female.* Testaceous, shining; head black above, white about the eyes; mouth large; antennæ short, 3rd joint not more than half the length of the face; arista bare, pubescent at the base; scutellum and disk of the scutum blue; abdomen oval, purple above, a little shorter and broader than the thorax; wings cinereous, tawny at the base and along the costa, a black streak extending from the costa along the præbrachial transverse to the præbrachial vein; a black exterior dot on the radial vein, and a blackish streak at the tip of the costa; veins black, testaceous towards the base; discal transverse vein straight, oblique, parted by hardly one-third of its length from the border, and by about its length from the præbrachial transverse. Length of the body 5 lines; of the wings 10 lines.

Gen. PLATYSTOMA, *Latr.*

43. PLATYSTOMA POTENS, n. s. *Mas et Fæm.* Cinerea, crassa, capite ochraceo, thorace vittis septem nigris, abdomine subtus testaceo, pedibus rufescentibus, tarsis nigris basi testaceis, tibiis anticis apice nigris, alis cinereis nigricante confertissime guttatis, halteribus testaceis.

*Male and Female.* Cinereous, broad, thick; head ochraceous, white about the eyes and behind; face with a slender piceous stripe; antennæ ochraceous; 3rd joint long, linear, about half the length of the

face; arista whitish, bare, ochraceous at the base; thorax with seven slender blackish stripes; scutellum large, prominent; abdomen conical, testaceous beneath, much shorter than the thorax; oviduct long, black, slender, stylate; legs dull reddish; tarsi black, testaceous at the base; fore tibiæ with black tips; wings cinereous, with very numerous various-shaped blackish spots and dots which form irregular bands; veins black, tawny along the costa, where there is a short lurid streak in the middle; discal transverse vein straight, parted by less than half its length from the border, and by much more than its length from the very oblique præbrachial transverse vein; halteres testaceous. Length of the body 6 lines; of the wings 12 lines.

This species is closely allied to *P. producta*, but the subapical cinereous band contains two dots.

44. *PLATYSTOMA PECTORALIS*, n. s. *Mas.* Cinerea, capite ochraceo, facie nigro biguttata, thorace vittis quinque nigricantibus, pectore vittis sex luteis, femoribus apice luteis, tibiis luteis apice nigris, tarsis basi pallide flavis, alis cinereis nigricante confertissime guttatis, halteribus pallide flavis.

*Male.* Cinereous; head ochraceous, white along the eyes; a black dot on each side of the face; antennæ about half the length of the face; arista black; thorax with five blackish stripes; pectus with three luteous stripes on each side; abdomen conical, shorter than the thorax; femora with luteous tips; tibiæ luteous, with black tips; tarsi pale yellow at the base; wings cinereous, with very numerous various-sized, partly confluent, blackish dots; veins black; discal transverse vein curved outward, parted by much less than half its length from the border, and by more than its length from the oblique præbrachial transverse vein; halteres pale yellow. Length of the body  $4\frac{1}{2}$  lines; of the wings 9 lines.

#### Gen. DACUS, *Fabr.*

45. *DACUS STRIGIFER*, n. s. Cyaneo-niger, facie rufescente strigata, oculis argenteo marginatis, palpis apice rufescentibus, antennis longis basi rufescentibus, arista alba pubescente, thorace vittis tribus cinereis, tarsis posterioribus femoribusque albis apice nigris, alis cinereis, costa striga basali fasciaque lata exteriori nigra.

Bluish black; head silvery, hoary behind and about the eyes; face triangular, with a reddish streak which is abbreviated towards the peristoma; palpi with reddish tips; antennæ black, reddish towards the base; 3rd joint slender, very long, extending to the peristoma; arista white, pubescent, bare towards the tip, much longer than the 3rd joint; thorax with three cinereous stripes, which are united hindward; pectus cinereous; abdomen wanting; legs black; femora white, black towards the tips; fore coxæ white; posterior tarsi white, with black tips; wings limpid, black along the costa; a black discal

streak extending from the base to one-third of the length ; a black broad irregular oblique band beyond the middle ; veins black ; discal transverse vein straight, parted by less than half its length from the border, and by about its length from the very oblique præbrachial transverse vein, which equals it in length ; halteres white. Length of the body 6 lines ; of the wings 10 lines.

46. *DACUS FURCIFER*, n. s. *Mas.* Anthracina, cinereo-tomentosa, antennis vix longis, arista plumosa, thorace vittis tribus nigricantibus, pedibus longiusculis, alis cinereis nigro bifasciatis, fascia 2<sup>a</sup> latissima, linea costali exteriore apicem versus furcata, halteribus albis.

*Male.* Coal-black, with cinereous tomentum ; third joint of the antennæ slightly tapering from the base to the tip, much shorter than the face ; arista plumose ; thorax with three blackish stripes ; abdomen linear, narrower and very much longer than the thorax ; legs rather long ; wings cinereous ; apical part of the costa with a black line, which emits a fork towards the tip ; a narrow black oblique band before the middle, and beyond the middle a very broad black band, which is oblique in the contrary direction ; veins black ; discal transverse vein very slightly curved outward, parted by about one-fourth of its length from the border, and by less than its length from the straight, upright præbrachial vein, which is not more than half its length ; halteres white. Length of the body 5 lines ; of the wings 10 lines.

47. *DACUS EXPERTUS*, n. s. *Fæm.* Cyaneus, palpis, antennis pedibusque nigris, thorace vittis tribus cinereis, pedibus breviusculis, alis cinereis, costa exteriore apicibusque nigris, venis transversis nigro marginatis, halteribus testaceis.

*Female.* Dark blue ; palpi, antennæ, and legs black ; 3rd joint of the antennæ linear, slender, extending to the peristoma ; thorax with three cinereous stripes ; pectus cinereous ; abdomen elongate-conical, a little longer and narrower than the thorax ; legs short, stout ; wings cinereous, black along the exterior part of the costa and about the tips ; transverse veins clouded with black ; discal transverse vein almost straight, parted by about half its length from the border and by about its length from the præbrachial transverse vein, which is oblique ; halteres testaceous. Length of the body 4 lines ; of the wings 8 lines.

48. *DACUS PERPLEXUS*, n. s. *Fæm.* Niger, capite luteo, facie nigro biguttata, antennis luteis longis, arista nigra nuda, thorace vittis tribus luteis, pectore maculis duabus trigonis luteis, abdomine fulvo lato striga brevi nigricante, pedibus luteis, alis limpidis, striga basali, vitta costali dentata vittaque postica angulata fuscis.

*Female.* Black ; head pale luteous, with a piceous dot on the front, and with a round black dot on each side of the face ; 3rd joint of the antennæ extending to the peristoma, very slightly tapering from the base to the tip ; arista black, bare ; thorax with a luteous stripe, with

two luteous humeral calli, and with two hindward lateral luteous streaks; pectus with a large luteous triangular spot on each side; abdomen tawny, elliptical, with a slight blackish stripe, which is much abbreviated in front, longer and much broader than the thorax; oviduct long, slender, lanceolate; legs luteous; wings limpid, with a brown costal stripe which emits an angle in the middle, the angle parallel to an angular brown stripe on the hind border; an oblique brown streak proceeding from the base, and a brownish dot near the tip hindward; veins black, tawny towards the base; discal transverse vein undulating, parted by a little more than one-fourth of its length from the border, and by a little more than its length from the straight, upright præbrachial transverse vein; halteres pale yellow. Length of the body 6 lines; of the wings 12 lines.

Gen. SOPHIRA, *Walk.*

49. SOPHIRA PUNCTIFERA, n. s. *Fam.* Testacea, antennarum articulo 3<sup>o</sup> brevi oblique truncato, arista nuda, thoracis abdominisque lateribus nigro punctatis, pedibus breviusculis, alis nigris albisque punctatis.

*Female.* Testaceous; antennæ not nearly reaching the epistoma; 3rd joint short, obliquely truncated at the tip; arista bare; thorax, pectus, and abdomen with black points along each side; abdomen conical, not longer than the thorax; oviduct short, lanceolate; legs rather short and slender; wings blackish, rather broad, adorned with numerous transverse whitish points; discal transverse vein nearly straight, parted by one-fourth of its length from the border, and by about its length from the straight, upright præbrachial transverse vein. Length of the body 3 lines; of the wings 6 lines.

Gen. ORTALIS, *Fallén.*

50. ORTALIS PUNCTIFASCIA, n. s. *Fam.* Cyanea, capite nigro, oculis albo marginatis, antennis rufis, arista plumosa, pedibus nigris, tarsis albis, alis albis nigro quadrifasciatis, fascia 3<sup>a</sup> punctum album includente, 4<sup>a</sup> strigam costalem emittente.

*Female.* Dark blue, shining; head black, white about the eyes; antennæ dark red, very short; 3rd joint conical, not much longer than the 2nd; arista plumose; abdomen very little longer than the thorax; oviduct black, furrowed; legs black; tarsi white, with black tips; wings white, with four black bands; 1st band basal; 3rd much broader than the others, including a white costal point; 4th emitting a black costal streak to the tip of the wing; præbrachial vein forming an angle at its junction with the discal transverse vein; the latter straight, parted by half its length from the border, and by much more than its length from the præbrachial transverse vein; halteres black. Length of the body 2½ lines; of the wings 4½ lines.

51. ORTALIS ÆQUIFERA, n. s. *Mas et Fam.* Cyanescenti-nigra,

capite antico rufo, oculis albo marginatis, antennis rufis, arista nuda, thorace vitta lata cinerea, abdomine basi fulvo, coxis femoribusque anticis fulvis, alis cinereis vitta fasciisque duabus exterioribus nigris.

*Male and Female.* Bluish black; head black, red in front, white about the eyes; antennæ red, not reaching the epistoma; 3rd joint rather long, slightly tapering to the tip; arista bare; thorax with a broad cinereous stripe; pectus cinereous; abdomen linear, black, tawny towards the base, broadest in the female and with a prominent oviduct; legs black; fore coxæ and fore femora tawny; wings cinereous, with a black stripe extending from the base along the costa and thence descending to the middle of the disk; two exterior black bands, which are united on the costa, the second apical; discal transverse vein straight, parted by one-third of its length from the border, and by more than its length from the præbrachial transverse. Length of the body  $2\frac{1}{2}$  lines; of the wings  $4\frac{1}{2}$  lines.

52. *ORTALIS CONCISIVITTA*, n. s. *Mas.* Rufa, oculis albo marginatis, scutello, metathorace, pectoris disco abdominisque apice cyaneis, alis nigricantibus, margine postico fascia apicibusque cinereis.

*Male.* Red, shining; head white about the eyes; antennæ nearly reaching the epistoma; 3rd joint long, linear; arista simple; scutellum, metathorax, disk of the pectus and abdomen towards the tip blue; abdomen conical, not longer than the thorax; wings blackish, cinereous along the hind border and towards the tips, which are blackish; a cinereous band between the transverse veins; veins black; discal transverse vein straight, upright, parted by less than one-fourth of its length from the border, and by hardly more than its length from the præbrachial transverse. Length of the body  $2\frac{1}{2}$  lines; of the wings  $4\frac{1}{2}$  lines.

#### Gen. TRYFETA, *Meigen.*

53. *TRYFETA RETORTA*, n. s. *Fæm.* Picea, subtus testacea, capite, scutello abdominisque basi testaceis, pectoris disco piceo, femoribus anticis tibiis tarsisque testaceis, alis limpidis nigricante angulatim bivittatis.

*Female.* Piceous setose, testaceous beneath; head and antennæ testaceous; the latter not reaching the epistoma; 3rd joint linear; arista plumose; scutellum testaceous; disk of the pectus piceous; abdomen ovate, testaceous towards the base, a little longer than the thorax; terebra flat, conical; tibiæ, tarsi and fore femora testaceous; wings limpid, with a blackish costal stripe, which is broadest at the base and concave towards the tip, and is nearly parallel to another blackish stripe; the latter is also broadest at the base, and forms a right angle opposite the concavity of the fore stripe; discal transverse vein oblique, nearly straight, parted by one-third of its length from the border, and by a little less than its length from the præbrachial transverse. Length of the body 4 lines; of the wings 8 lines.

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

54. *Calobata impingens*, *Walk.* See Vol. IV. p. 161.

55. *CALOBATA GUTTICOLLIS*, n. s. *Fem.* Nigra, capite guttis duabus nigris, thorace antico guttis duabus lateralibus nigris, femoribus anticis apice tibiisque anticis nigris, tarsis anticis albis, femoribus posterioribus piceo fasciatis, alis fusciscentibus cinereo trimaculatis.

*Female.* Testaceous; vertex with a black dot; disk of the front black; thorax with a black dot on each side in front; fore femora towards the tips and fore tibiæ black; fore tarsi white; posterior femora with a piceous band near the tips, which are also piceous; wings brownish, with three rather indistinct pale cinereous dots, of which the two exterior form an interrupted band; veins with the usual structure. Length of the body 5-5½ lines; of the wings 8-9 lines.

56. *CALOBATA DIFFUNDENS*, n. s. *Fem.* Subcinereo-nigra, capite chalybeo, oculis albo-marginatis, palpis antennis.abdominisque apice rufescentibus, pedibus luteis, femoribus anticis dimidio apicali tibiisque anticis nigris, tarsis anticis albis basi nigris, femoribus posterioribus subdilatatis nigro trifasciatis, tibiis tarsisque posticis nigris, alis cinereis nigricante bifasciatis.

*Female.* Black; head chalybeous, white about the eyes; mouth and palpi reddish; thorax and abdomen with slight cinereous tomentum; abdomen lanceolate, nearly twice the length of the thorax, with a reddish tip; legs luteous; fore femora for half the length from the tips and fore tibiæ black; fore tarsi white, black at the base; posterior femora slightly dilated, with three black bands; hind tibiæ and hind tarsi black; wings cinereous, with two blackish bands, the 2nd apical; veins black, with the usual structure; halteres white. Length of the body 5 lines; of the wings 8 lines.

Subfam. PSILIDES, *Walk.*Gen. ANGITULA, *Walk.*

57. *Angitula longicollis*, *Walk.* See Vol. III. p. 123.

Gen. NERIUS, *Wied.*

58. *Nerius duplicatus*, *Wied.* See Vol. III. p. 125.

Fam. HIPPOBOSCIDÆ, *Leach.*Gen. ORNITHOMYIA, *Leach.*

59. *Ornithomyia Batchianica*, *Walk.* See Vol. V. p. 300.

## T E R N A T E .

Fam. STRATIOMIDÆ, *Haliday.*Gen. PTILOCEBA, *Wied.*

1. *Ptilocera 4-dentata*, *Fabr.* See Vol. I. p. 7.

Fam. ASILIDÆ, *Leach.*Subfam. LAPHRITES, *Walk.*Gen. LAPHRIA, *Fabr.*

2. *Laphria socia*, *Walk.* See Vol. III. p. 84.

Subfam. ASILITES, *Walk.*Gen. ASILUS, *Linn.*

3. *Asilus condecorus*, *Walk.* See p. 7.

*Male?* Abdomen with a brownish tinge; sexualia very large.

4. *ASILUS NORMALIS*, n. s. *Mas et Fæm.* Cinereo-niger, capite subaurato, mystace e setis albis nigrisque, thorace vittis tribus anticis cinereis, abdomine fasciis fulvis, femoribus apices versus tibiisque rufescentibus, his nigro strigatis, alis nigris basi cinereis, halteribus sordide testaceis. *Fæm.* Abdomine stylato.

*Male and Female.* Cinereous black; head slightly gilded, with hoary hairs beneath; mystax with many white bristles and with a few higher black bristles; pectus and three stripes on the fore part of the thorax cinereous; abdomen with bands of tawny hairs and tomentum; legs stout; femora towards the tips and tibiæ reddish, the latter streaked with black; wings black, cinereous towards the base, the cinereous part extending in the disk beyond the middle; veins black, reddish at the base; lower branch of the cubital vein undulating; halteres dingy testaceous. *Male.* Abdomen lanceolate; sexualia small, elongate. *Female.* Abdomen elongate-conical, with narrower bands than those of the male; the four apical segments forming a black, shining, slender style. Length of the body 7-8 lines; of the wings 12 lines.

Gen. OMMATIUS, *Illiger.*

5. *Ommatius retrahens*, *Walk.* See Vol. IV. p. 88.

Gen. LEPTOGASTER, *Meigen.*

6. *LEPTOGASTER EXACTA*, n. s. *Mas.* Picea, capite pectoreque canis, antennis nigris basi luteis, thorace obscure rufo vittis tribus nigricantibus, pedibus pallide luteis, femoribus nigro bifasciatis, tibiis posticis apice tarsisque nigris, alis subcinereis apice nigro marginatis, halteribus pallide flavescensibus.

*Male.* Piceous; head hoary behind and beneath; antennæ black, luteous at the base; thorax dark red, with three blackish stripes; sides and pectus hoary; abdomen very slender; legs pale luteous; femora with two black bands, which are most distinct on the hind pair; tarsi and hind tibiæ towards the tips and knees black; wings slightly cinereous, black-bordered at the tips; veins black; halteres pale yellowish. Length of the body 6 lines; of the wings 10 lines.

Fam. SYRPHIDÆ, *Leach.*Gen. SYRPHUS, *Fabr.*

- 7.
- Syrphus ericetorum*
- ,
- Fabr.*
- See Vol. III. p. 97.

Fam. MUSCIDÆ, *Latr.*Subfam. TACHINIDES, *Walk.*Gen. EURYGASTER, *Macq.*

- 8.
- Eurygaster remittens*
- ,
- Walk.*
- See Vol. IV. p. 125.

Subfam. DEXIDES, *Walk.*Gen. DEXIA, *Meigen.*

- 9.
- DEXIA PARALLELA*
- , n. s.
- Mas.*
- Nigra, angusta, cylindrica, palpis antennisque rufis, his apice piceis, arista plumosa, thorace vittis tribus albidis, abdomine chalybeo-nigro fasciis albidis atrisque, pedibus longis, alis vitreis vitta costali nigra.

*Male.* Black, long, slender, cylindrical; head white, with a black band on each side between the eye and the epistoma; front prominent; frontalia broad, deep black; face slightly oblique; antennæ and palpi red; the former piceous towards the tips, nearly reaching the epistoma; 3rd joint linear, slender, rounded at the tip, about four times the length of the 2nd; arista plumose; thorax with three whitish stripes, the lateral pair broad, interrupted; pectus and postscutellum whitish, the former with two black bands on each side; abdomen chalybeous black, full twice the length of the thorax; segments with whitish fore borders and deep-black hind borders; legs long, slender; wings vitreous, with a black costal stripe, which is interlined with cinereous; veins pale except along the costa; præbrachial vein forming a slightly obtuse angle at its flexure, slightly curved inward from thence to its tip; discal transverse vein slightly undulating, parted by half its length from the border, and by a little less than its length from the flexure of the præbrachial; alulæ large, white. Length of the body 6 lines; of the wings 10 lines.

Gen. RUTILIA, *Desv.*

- 10.
- Rutilia atribasis*
- ,
- Walk.*
- See Vol. V. p. 288.
- 
- 11.
- RUTILIA EXCELSA*
- , n. s.
- Mas.*
- Cyaneo-viridis, capite albo strigis duabus lateralibus anticis nigris, frontalibus atris, abdomine cupreo, basi vitta et segmentorum marginibus posticis nigris, pedibus nigris, alis fuscescenti-cinereis basi fusco notatis.

*Male.* Bluish green; head white, with a black streak on each side, extending from the borders of the eyes to the epistoma; frontalia deep black, very narrow on the vertex, widening much in front; thorax



tinged here and there with cupreous; abdomen cupreous, with the 1st segment and a slender stripe deep black; the following segments, which are black along their hind borders, bluish green; legs black; wings brownish cinereous, tinged with brown near the base; præbrachial vein forming a rounded right angle at its flexure, very slightly curved inward from thence to its tip; discal transverse vein slightly undulating, parted by less than one-third of its length from the border, and by very much more than its length from the flexure of the præbrachial. Length of the body  $7\frac{1}{2}$  lines; of the wings 17 lines.

Subfam. MUSCIDES, *Walk.*

Gen. MUSCA, *Linn.*

12. *Musca promittens*, *Walk.* See Vol. IV. p. 134.

Subfam. ORTALIDES, *Haliday.*

Gen. PLATYSTOMA, *Latr.*

13. *Platystoma potens*, *Walk.* See p. 12.

---

C E R A M.

Fam. STRATIOMIDÆ, *Haliday.*

Gen. PTILOCERA, *Wied.*

1. *Ptilocera 4-dentata*, *Fabr.* See Vol. I. p. 7.

Gen. CLITELLARIA, *Meigen.*

2. *Clitellaria obesa*, *Walk.* See Vol. V. p. 232.

Fam. TABANIDÆ, *Leach.*

Gen. TABANUS, *Latr.*

3. *TABANUS SERUS*, n. s. *Fœm.* Cinereus, capite subtus pectoreque albis, antennis fulvis apice nigris, thorace vittis duabus ferrugineis, callis humeralibus testaceis, abdomine pedibusque fulvis, alis cinereis apud costam fuscis.

*Female.* Black, with cinereous tomentum; head beneath and pectus white; callus black, very slender, broader in front; palpi cinereous; antennæ tawny with cinereous tomentum towards the base, 3rd joint slightly curved, black towards the tip, with a very small horn; thorax with two ferruginous tomentose stripes; humeral calli testaceous; abdomen tawny, elongate-conical; legs tawny; tarsi black; wings cinereous, brown along the costa; veins black, with the usual structure, tawny at the base; halteres pale. Length of the body 6 lines; of the wings 12 lines.

Fam. ASILIDÆ, *Leach.*Subfam. LAPHRITES, *Walk.*Gen. LAPHRIA, *Fabr.*

4. *Laphria tristis*, *Dol.* See Vol. V. p. 146.  
 5. *Laphria Vulcanus*, *Wied.* See Vol. I. p. 10.  
 6. *LAPHRIA OSTENSA*, n. s. *Mas.* Nigra, aureo-pilosa, capite aurato, mystace nigro, thorace strigis quatuor lateralibus obliquis cinereis, abdomine subaurato segmentorum marginibus subauratis apice nigro alis limpidis dimidio apicali nigro.

*Male.* Black, wholly clothed with gilded hairs; head brightly gilded in front; mystax composed of some black bristles; third joint of the antennæ elongate-fusiform; thorax with two cinereous oblique streaks on each side; abdomen with cinereous tomentum; sides and hind borders of the segments slightly gilded; tip black, shining; legs thickly clothed with long gilded hairs; wings limpid; apical half black; halteres pale yellowish. Length of the body 8 lines; of the wings 14 lines.

Subfam. ASILITES, *Walk.*Gen. OMMATIUS, *Illiger.*

7. *OMMATIUS INEXTRICATUS*, n. s. *Mas.* Subaurato-cinereus, capite aurato, mystace e pilis aureis, antennis nigris basi fulvis, thorace lineis cinereis, segmentorum abdominalium marginibus posticis flavescenti-auratis, sexualibus rufis, pedibus nigris robustis, tibiis fulvis, alis lurido-cinereis.

*Male.* Black, with cinereous slightly gilded tomentum; head gilded, with white hairs beneath; mystax with gilded bristles; antennæ black, tawny towards the base, 3rd joint elongate-conical; thorax with slender cinereous stripes; abdomen with a yellowish gilded band on the hind border of each segment; sexualia deep red, shining; legs very stout; tibiæ tawny; wings lurid-cinereous, darker cinereous hindward and towards the tips; veins red; halteres dull reddish. Length of the body 9 lines; of the wings 16 lines.

Gen. LEPTOGASTER, *Meigen.*

8. *LEPTOGASTER MAGNICOLLIS*, n. s. *Mas.* Fulva, capite nigro antice argenteo, mystace albo, antennis fulvis basi apiceque nigris, thorace maculis duabus nigricantibus, abdomine tenui clavato apicem versus nigro, alis sublimpidis costa apiceque cinereis.

*Male.* Bright tawny; head black above, silvery white in front; mystax with white bristles; antennæ tawny, black towards the base and at the tips; thorax with a blackish spot on each side in front; pectus with pale gilded tomentum; abdomen slender, clavate, full thrice the length of the thorax, black towards the tip; tarsi much darker than

the tibiæ; wings nearly limpid, cinereous along the costa and towards the tips; veins black, tawny towards the base; halteres with piceous knobs. Length of the body 8 lines; of the wings 12 lines.

Fam. SYRPHIDÆ, *Leach.*

Gen. ERISTALIS, *Latr.*

9. *Eristalis splendens*, *Leg.* See Vol. III. p. 95.

Fam. MUSCIDÆ, *Latr.*

Subfam. SARCOPHAGIDES, *Walk.*

Gen. SARCOPHAGA, *Meigen.*

10. *Sarcophaga sericeo-nitens*, *Dol.* See Vol. V. p. 158.

Subfam. MUSCIDES, *Walk.*

Gen. MUSCA, *Linn.*

11. *Musca costalis*, *Dol.* See Vol. V. p. 159.

Subfam. ORTALIDES, *Haliday.*

Gen. OXYCEPHALA, *Macq.*

12. *OXYCEPHALA ALIENATA*, n. s. *Mas.* Rufescenti-fulva, capite nigro biguttato, metathorace pectoreque nigris, abdomine fusiformi basi supra nigro, femoribus basi nigro notatis, alis fuscis dimidio postico cinereo.

*Male.* Reddish tawny; head with a black dot in front of the base of the antennæ; face with two grooves; antennæ almost reaching the epistoma; 2nd joint clavate; 3rd linear, rounded at the tip, broader but not longer than the 2nd; metathorax and pectus black; abdomen fusiform, longer than the thorax, black above towards the base; legs robust; femora marked with black at the base; wings brown, hinder half cinereous; veins tawny, discal transverse vein slightly undulating, parted by hardly half its length from the border and by much more than its length from the præbrachial transverse. Length of the body 7 lines; of the wings 16 lines.

Gen. DACUS, *Fabr.*

13. *DACUS ABSOLUTUS*, n. s. *Fam.* Cinereus, capite fulvo, facie nigro biguttata, antennæ longis arista nuda, thoracis lateribus scutelloque fulvis, abdomine fasciis interruptis nigris, apice plano stylato-lanceolato, alis cinereis costa fusciscente.

*Female.* Black, with hoary tomentum; head tawny; face oblique, with a black dot in the groove on each side; antennæ quite reaching the epistoma; 3rd joint very long, conical at the tip; arista bare; sides of the thorax, humeral calli and scutellum tawny; abdomen tawny, oval, with the exception of the four apical segments, which are shining and form a flat lanceolate style; basal part with four interrupted black

bands; legs testaceous; wings cinereous; with a brownish tinge along the costa; discal transverse vein straight, parted by one fourth of its length from the border and by about its length from the oblique præbrachial transverse vein; halteres testaceous. Length of the body 6 lines; of the wings 9 lines.

Gen. SOPHIRA, *Walk.*

14. SOPHIRA BIPARS, n. s. *Fam.* Fulva, nitens, abdomine nigro basi fulvo, alis nigris margine postico cinereo limpido-interlineato.

*Female.* Tawny, shining, with a few black bristles; head and pectus paler; 3rd joint of the antennæ linear, rounded at the tip, not reaching the epistoma; arista simple; abdomen oval, black except towards the base, shorter than the thorax; wings black, with a cinereous partly limpid stripe on the hind border; this stripe is interrupted by a black streak which extends along the discal transverse line; a pale point on the middle of the costa; discal transverse vein straight, parted by half its length from the border, and by about its length from the præbrachial transverse, which is rather long. Length of the body 2½ lines; of the wings 7 lines.

---

On the Possibility of taking a Zoological Census.

By ALFRED NEWTON, M.A., F.L.S.

[Read March 21, 1861.]

IT is now nearly five years since my friend, the late Mr. John Wolley, to whose genius as a naturalist I am proud to own my many great obligations, suggested to me in a letter the possibility of taking a census of the birds of these islands. The period of numbering the human population of the British Empire, which is now so close at hand, makes me think the present time, when men's minds are turned to the subject, not inopportune to bring to the notice of this Society the advantages which might possibly accrue to Zoology by taking an approximate census, not only of our birds, but also of the other divisions of our fauna. I believe that naturalists will bear me out in the assertion that hitherto nothing of this kind has ever been attempted in any branch of the science, and also that (with perhaps very few, but highly laudable, exceptions) no writer has ventured to express in any convenient form the relative proportion which the number of individuals of one species bears to those of another. In almost all local faunas the abundance or scarcity of different species is expressed in very arbitrary, not to say vague, terms. We find nothing more definite than the words "common," "frequently met with," "rare" or "occasionally seen" appended to the names of animals in some