

No. VIII.—DIPTERA, PHORIDÆ FROM SEYCHELLES.

By JAMES E. COLLIN, F.E.S.

(Plate 5.)

(COMMUNICATED BY PROF. J. STANLEY GARDINER, M.A., F.R.S., F.L.S.)

Read 15th June, 1911.

CHONOCEPHALUS Wandolleck, Zool. Jahrb. Syst. xi. 428, 1898.

1. *Chonocephalus similis* Brues, Ann. Mus. Nat. Hung. iii. 554, 1905.

♂. Brues described this species from a single male collected at Matheran, Bombay, India, and there is little to add to his description except that I believe the mesopleura bears a few hairs, the hypopygium also bears a number of longish hairs each side curving downwards and inwards. The middle tibiæ often appear to be flattened and of a whitish colour (possibly only the result of immaturity).

♀. Very similar to Brues' figure of *C. kiboshoënsis*, the whole insect being of a chestnut brown colour, darker about the hind margins of the abdominal segments and paler about the centre of frons; the legs yellowish. The pubescence of the arista is much longer than in Brues' figure and the eyes slightly larger; the bristles on the abdomen are not limited to the hind margins of the segments. The pubescence on the frons is rather longer round the antennal foveæ, one especially long hair being placed above the antennal fovea in front of the eye, and another one below this fovea almost in front of the eye but slightly lower. The palpi bear a long hair at the tip.

*Chonocephalus mexicanus* Silvestri (Boll. Lab. Zool. della Scuola d'Agric. Portici v. 172, 1911) agrees in the chætotaxy of the head and in general coloration with the above females and may represent the same species.

*Locality.* Silhouette: from near Morne Pot-à-eau, about 1500 feet, on rotting fruit, VIII. 1908 (eleven females). Mahé: Cascade Estate, about 800 feet and over (fourteen males, one female).

Also known from India (Matheran, near Bombay).

2. *Chonocephalus* sp. ? ♂.

A headless male specimen from Mahé, Cascade Estate, about 800—1500 feet, 1909, must belong to a different species; the mesopleuræ are bare, the basal pair of scutellar bristles are reduced to fine hairs, the wings are longer, the subcostal vein does not fade away but ends in the costa, and all the thin veins are very distinct, the first thin vein being distinct right back to its origin at the end of the cubital, the second thin vein is not so straight and ends at a point less than a third the distance from the end of the first to

the end of the third thin veins, the hypopygium is different, bears a long dark anal process and is without the long curved hairs; the hind tarsi are not so stout.

Can this be the male of *C. kiboshoënsis* Brues described from a single female collected at Kibosho, German East Africa?

DOHRNIPHORA Dahl, SB. Ges. naturf. Berlin 1898, No. 10, p. 188.

3. *Dohrniphora cleghorni* (Bigot), Indian Museum Notes, i. No. 4, p. 191, 1890. (Plate 5, fig. 1.)

♂. Agreeing with Bigot's description of the female to which may be added that the frons is dark brownish-black slightly shining, arista microscopically pubescent, palpi bearing 4—5 bristles at the tip only.

Thorax reddish-brown to brownish-black, scutellum very wide and short with one strong bristle and one minute hair each side near the base, prothorax with one strong bristle pointing up to the humerus, mesopleura running into the humerus without any appreciable suture except for the prothoracic stigma and bearing the same pubescence along its upper half as is borne by the humerus.

Abdomen with the first two segments reddish-yellow, the hind margins dull blackish, wider on the second than on the first segment, and almost interrupted at the middle; the third to fifth segments are dull black with a triangular reddish-yellow mark on the base of each segment, the apex of the triangle almost reaching the hind margin; sixth segment somewhat longer, broadly yellowish on the base and dull black on the hind margin; the hypopygium is hidden when viewed from above but projects considerably below; the long yellow anal organ arises from out of a short yellow cup-like process just beneath the hind margin of the sixth segment.

Legs with the hind femora bearing beneath at the extreme base on the side nearest the abdomen a little clump of about 3—5 short stout black bristles; hind tibiae bare except at the extreme tip, where there is on the upper side one short bristle and beneath one long and 2—3 short spurs.

Wings with the costa reaching quite to middle of wing, ciliation extremely short and fine, only an indication of a mediastinal vein, subcostal ending close to the cubital which is forked, the fork being very acute (fig. 1).

♀. The three female specimens in Bigot's Collection are in bad condition, being immature, gummed to slips of talc, and have every appearance of having been originally preserved in spirit; they each bear a label, "Phora Cotesi ex larva Tachinidarum parasit. Seric. mori — n. sp. Calcutta J. B.", and there can be little doubt are the type specimens, Bigot having on other occasions omitted to re-label his type specimens with the name he ultimately gave the species when describing it. These specimens agree so accurately with the Seychelles males in the exceedingly short costal ciliation, in the relative positions of the ends of subcostal and cubital veins, in the absence of any bristle or ciliation to the hind tibiae above (only differing in the sexual characters of an elongate proboscis, simple hind femora, and differently shaped and coloured abdomen), that I do not hesitate in considering them sexes of the same species.

*Locality.* Mahé: Cascade Estate, about 800 feet and over, X. 1908—I. 1909; coast marsh at Port Glaud, 5. XI. 1908. Two males.

Also known from India (Calcutta).

I should have considered this species a synonym of *D. dohrni* Dahl if Becker had not stated that the hind tibiæ in that species were ciliated with fine bristles as in his Group II (*Aphiochæta* Brues). *Phora chlorogastra* Becker, according to the description, appears to agree in a remarkable manner with the Seychelles males and is possibly a synonym; it has been considered (Kertész Katalog. Dipt., vol. vii. 1910) only a variety of *D. divaricata* Aldrich, which, however, with its var. *perplexa* Brues was described as having the "abdomen black or brown, the posterior margin of each segment with a narrow band of light yellow, which continues more or less as a stripe down the middle of the dorsal surface," and one would gather from the description that the costal ciliation was longer. There are no other species with bare hind tibiæ in the genus *Dohrniphora*.

4. *Dohrniphora* sp. ? ♀ (Plate 5, fig. 2).

A single female from Mahé: forest above Mare aux Cochons, 2. IX. 1908, though having a long proboscis differs from *cleghorni* in the slightly longer ciliation to the costa (fig. 2), the somewhat shorter subcostal vein and in the presence of a distinct bristle on the hind tibiæ just outside the seam about one-third from the base. The abdomen is entirely brownish-black, the hind margins very narrowly whitish.

The only other described species of *Dohrniphora* with a single bristle at the basal third of hind tibiæ is *D. papuana* Brues from New Guinea, but this has the female proboscis of normal length.

APHIOCHÆTA Brues, Trans. Amer. Ent. Soc. xxix. 337, 1903.

*Table of Species.*

- 1 (4) Cubital vein simple (fig. 3).
- 2 (3) Frontal bristles normal, mesopleura bristly, first three joints of front tarsi in the female very wide and flattened, and ovipositor chitinous and terminating style-like. *aculeipes*, n. sp. ♂♀.
- 3 (2) The inner bristles of lower frontal row placed in front of the outer bristles and near the eye margin, mesopleura bare, front tarsi of the female and ovipositor normal. *mera*, n. sp. ♀.
- 4 (1) Cubital vein forked.
- 5 (30) Costal ciliation short (figs. 3—11).
- 6 (13) Scutellum with four distinct bristles.
- 7 (8) Costal ciliation extremely short (fig. 4), hind tibiæ bare, halteres brownish or black. *limbata* Brues, ♂♀.
- 8 (7) Costal ciliation not extremely short.
- 9 (10) Costa extending well beyond middle of wing (fig. 5), larger species, halteres yellow. *egena*, n. sp. ♀.

- 10 (9) Costa barely reaching middle of wing or distinctly short of the middle.
- 11 (12) Costa barely reaching middle of wing (fig. 6), halteres brownish.  
*viduata*, n. sp. ♀.
- 12 (11) Costa ending distinctly short of middle of wing (fig. 7), halteres yellow.  
*innocens*, n. sp. ♀.
- 13 (6) Scutellum with only two distinct bristles.
- 14 (29) Subcostal and cubital veins of normal stoutness.
- 15 (28) Halteres brown or black.
- 16 (19) Costa extending far beyond the middle of wing (fig. 8).
- 17 (18) Mesopleura bristly, inner bristles of lower frontal row placed in front of the outer  
bristles and near the eye margin. *extans*, n. sp. ♂♀.
- 18 (17) Mesopleura bare, lower frontal row of bristles normal. *consueta*, n. sp. ♂♀.
- 19 (16) Costa not reaching middle of wing or only slightly exceeding it.
- 20 (27) Mesopleura bare.
- 21 (22) Arista short (not longer than the frons), only one pair of supra-antennal bristles,  
yellowish species. *brevis*, n. sp. ♀.
- 22 (21) Arista of normal length (longer than frons).
- 23 (24) Posterior tarsi of male with the last joint dilated, fork of cubital vein large, the  
upper branch being more upright than usual (fig. 9). *planipes*, n. sp. ♂♀.
- 24 (23) Last joint of posterior tarsi normal, fork of the cubital vein smaller and more  
acute (fig. 10).
- 25 (26) Frons dull, inner bristles of lower frontal row placed in front of outer bristles and  
near the eye margin. *spretata*, n. sp. ♂♀.
- 26 (25) Frons shining, frontal bristles normal. *frontata*, n. sp. ♂.
- 27 (20) Mesopleura bristly, costa ending distinctly short of middle of wing.  
*invenusta*, n. sp. ♂.
- 28 (15) Halteres yellow, mesopleura bare, costa ending distinctly short of middle of  
wing. *media*, n. sp. ♂.
- 29 (14) Subcostal and cubital veins greatly thickened, fork indistinct (fig. 11), halteres  
black. *latinervis*, n. sp. ♂.
- 30 (5) Costal ciliation long (fig. 12), mesopleura bristly, halteres yellow.  
*soluta*, n. sp. ♂♀.

5. *Aphiochæta aculeipes*, n. sp. (Plate 5, fig. 3).

Yellowish species, cubital vein simple, mesopleura bristly, tarsi pointed and the first three joints of the front tarsi in the female widely dilated and flattened.

♂. Head yellow, ocellar triangle slightly darkened; frons wider than long, bristles normal, upper pair of supra-antennal bristles stronger and wider apart than lower pair; antennæ yellow, somewhat large, arista more than twice the length of the frons; palpi yellow.

Thorax yellow, with a tendency towards a brownish-yellow central stripe and similarly coloured patches between this stripe, the humerus and the root of the wing; scutellum distinctly brownish with a pair of strong bristles and another pair of minute bristles nearer the base; one pair of small dorso-central bristles; pleuræ with brownish-yellow patches below the dorso-pleural suture, especially beneath the root of the wing and beneath the post-alar callus; mesopleura with a few bristles on the upper hind corner; metanotum yellow.

Abdomen brownish-yellow with dull dark brown sides to the segments and narrow pale yellow hind margins, sixth segment entirely dull dark brown except for the narrow hind margin; indications exist of a brownish central stripe down the abdomen. Hypopygium small and inconspicuous, but anal process large, pale yellow, nearly as long as the sixth abdominal segment.

Legs whitish yellow, especially the anterior pairs; hind femora darkened at the tip and without any long hairs at the base beneath; tarsi pointed, *i.e.* last joint no wider than penultimate joint and unguis very minute, middle tibiæ with one long spur, hind tibiæ one short spur; cilia on hind tibiæ very weak.

Wings (fig. 3) with the costa not reaching to middle of wing and with short ciliation, second thick (cubital) vein simple (not forked). Halteres pale yellow.

♀. Like the male, but the first three joints of the front tarsi are remarkably flattened and widened (*Platychirus*-like) on the outer or posterior side; the first joint is distinctly wider than the tibia and a little more than twice as long as wide, the second joint is wider still and but little longer than wide, the third is about the same width as the second but hardly so long, the fourth joint is but little stouter than normal, while the last joint, like the last joint of all the tarsi, is exceedingly pointed, the unguis and pulvilli being microscopic.

The sixth abdominal segment bears some long bristles round the hind margin, the telescopic ovipositor is more heavily chitinized than usual in *Phora* and when fully exposed is about twice as long as the sixth abdominal segment and gradually tapering in width, towards the tip there appears to be a joint (about which a few short hairs are visible) and beyond this joint it terminates in a short curved flattened style.

Length about 1.25 mm.

This species would probably be considered by Brues as belonging to his genus *Plastophora*, but I do not consider the horny ovipositor, by itself, a generic character, while in *aculeipes* the proboscis is not enlarged and horny as in the type of Brues genus. *A. formicarum* Verr., which has been placed by Brues in the genus *Plastophora*, differs from *aculeipes* among other characters in the arrangement of the frontal bristles (*v.* Ent. Month. Mag., London, 1908, p. 168).

*Locality.* Mahé: Cascade Estate, about 800 feet and over, X. 1908—I. 1909. Twenty-three males, six females.

#### 6. *Aphiochæta mera*, n. sp.

♀. Frons greyish-black, longer than wide, outer bristles of lower frontal row placed above the inner and equidistant from the eye margin, upper pair of supra-antennal bristles placed wider apart than the smaller lower pair; antennæ small, yellow, but brownish above, arista short, not longer than the frons, face yellow, palpi pale yellow.

Thorax reddish-yellow, scutellum with only two strong bristles, pleuræ yellow, mesopleura bare.

Abdomen reddish-yellow on disc of second segment, reddish-brown on third segment and gradually getting darker till it is brownish-black at the tip. The telescopic ovipositor normal, ending in the usual papillæ.

Legs yellow, with the hind knees and the seam of hind tibiæ darkened, hind femora with a few long hairs beneath at base, cilia on hind tibiæ distinct, tarsi simple and not acutely pointed.

Wings resembling those of *aculeipes*, the cubital vein simple. Halteres not visible in the specimen examined but probably pale.

Length just exceeding 1 mm.

*Locality.* Seychelles: exact locality unknown.

7. *Aphiochæta limbata* Brues, Ann. Mus. Nat. Hung. iii. 546, 1905. (Plate 5, fig. 4.)

Similar to *A. viduata*, but differing in its venation and the absence of cilia to the hind tibiæ.

♂. Head black, frons about as long as wide, dull; upper pair of supra-antennal bristles strong and wider apart than the small lower pair; antennæ fairly large, brownish-yellow, arista long and distinctly pubescent; palpi dirty yellow.

Thorax varying from black with a reddish tinge to reddish-brown, scutellum with four bristles, the basal pair weaker than the apical; pleuræ paler than the thorax, mesopleura bare.

Abdomen deep dull black, sometimes with a slight reddish tinge, hypopygium greyish, very small, inconspicuous, anal process very small, yellow.

Legs pale, hind legs darkened about the tip of the femora, middle coxæ with a dark streak behind, hind tibiæ bare, no cilia visible though the usual black seam is present.

Wings (fig. 4) slightly darkened, venation as in figure, halteres brownish to black.

♀. Like the male, indeed the two sexes are difficult to distinguish unless the female ovipositor is exerted.

Length about 1 mm. ♂, to 1.5 mm. ♀.

I feel sure that I have correctly recognised Brues' species and now for the first time describe the male which was unknown to Brues.

*Locality.* Silhouette: Forest above Mare aux Cochons, 2. IX. 1908. Mahé: Cascade Estate, about 800 feet and over; from near Morne Blanc, X.—XI. 1908; forest of rather stunted "Capucin" trees (*Northea*), summit of "Montagne Anse Major," about 2000 feet, 1. II. 1909; Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909. Seventeen males and forty-three females.

Also known from Matheran, East India (Brues).

8. *Aphiochæta egena*, n. sp. (Plate 5, fig. 5).

♀. Blackish-brown species with a tendency to red on the thorax and pleuræ; frons somewhat dull, slightly longer than broad, with a tendency to red, bristles normal, under

pair of supra-antennal bristles much smaller and rather closer together than the upper pair, antennæ very small, arista long and distinctly pubescent, palpi dirty yellow.

Thorax with one pair of dorso-central bristles, scutellum paler than the thorax with four distinct strong bristles, mesopleura bare.

Abdomen dull blackish-brown, hind margins of segments often paler, terminal lamellæ yellow, second segment at basal corners with 2—3 strong bristles somewhat as in *ruficornis* Mg., sixth segment with several long hind-marginal bristles.

Legs brownish-yellow, front legs paler, ciliation beneath hind femora at base consisting of about 6—7 not very long curved hairs, cilia of hind tibiæ distinct, longest about the middle of tibia.

Wings (fig. 5) with a brownish tinge, costa with a short fringe and reaching beyond wing middle, subcostal vein ending about midway between humeral cross vein and end of costa, fork small and acute, thin veins dark and distinct. Halteres yellow with brown stems.

Length about 1.75 mm.

*Locality.* Silhouette: low coconut-planted country near the coast, Pointe Etienne, 17. IX. 1908. Mahé: high damp forest between Trois Frères and Morne Seychellois, about 1500—2000 feet, 9. and 10. XII. 1908; high forest of Morne Blanc and Pilot, X.—XI. 1908; Morne Seychellois, over 1500 feet, 4. II. 1909; Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909; Cascade Estate. Eight females.

*Note.* ♂. What might be the male of this species is represented by a single specimen from Mahé, high forest of Morne Blanc and Pilot (No. 111); it resembles the female in general coloration, venation, arrangement of frontal bristles and cilia to hind legs, but there are only two distinct scutellar bristles, the basal pair being very minute, and the halteres are darker. The hypopygium is small and greyish in contrast with the dull black abdomen and bears a single long bristle each side, the long anal organ is pale yellow.

9. *Aphiochaeta viduata*, n. sp. (Plate 5, fig. 6).

Reddish-black species, scutellum with four bristles, mesopleura bare.

♀. Head black; frons about as broad as long, dull; upper pair of supra-antennal bristles strong, under pair minute; antennæ small, reddish-brown, arista distinctly pubescent; palpi and proboscis yellow.

Thorax black but with a distinct tendency at times to a reddish tinge; scutellum with four bristles, the basal pair weaker than the apical pair; pleuræ distinctly reddish, palest towards the coxæ; mesopleura bare.

Abdomen dull black sometimes with a reddish tinge.

Legs yellow, middle coxæ with a dark streak behind, hind legs darkened about the tips of femora and tibiæ, cilia on hind tibiæ distinct but not strong.

Wings (fig. 6) very faintly brownish. Halteres dirty yellow.

Length 1—1.25 mm.

The male of this species does not appear to be represented in the collection, though the possibility of its having only two scutellar bristles has not been overlooked.

*Locality.* Mahé: Cascade Estate, about 800 feet and over, collected by H. P. Thomasset and Hugh Scott, X. 1908—I. 1909; Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909; Cascade Estate, about 800—1000 feet, 1909. Twenty-five females.

10. *Aphiochæta innocens*, n. sp. (Plate 5, fig. 7).

♀. Frons greyish-black, dull and longer than broad, frontal bristles normal, upper pair of supra-antennal bristles wider apart than the smaller lower pair, antennæ small, reddish-brown, palpi yellow.

Thorax black with a tendency to red, scutellum with four bristles though the basal pair are weaker, mesopleura bare.

Abdomen black, slightly shining.

Legs yellow, hind pair slightly brownish, cilia to hind tibiæ quite strong for so small a species.

Wings (fig. 7) with costa less than half the length of wing and with short ciliation, subcostal vein long, ending near the fork. Halteres yellow.

Length about 1 mm.

*Locality.* Silhouette: Mare aux Cochons and forest immediately above, IX. 1908; Mahé: from near Morne Blanc, X.—XI. 1908; Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909; Anonyme Island, from grass, ferns, trees, etc., I. 1909. Five females.

11. *Aphiochæta extans*, n. sp. (Plate 5, fig. 8).

♂. Head black, frons narrow, being longer than wide, dull and inclined to be reddish-brown, the two bristles of the lower frontal row on each side of the frons are placed one above the other almost equidistant from the eye margin, upper pair of supra-antennal bristles larger and wider apart than lower pair, antennæ small, reddish-brown, palpi and proboscis yellow.

Thorax reddish-brown, paler about the post-alar calli, scutellum reddish-brown with only one pair of bristles, pleuræ yellow, mesopleura with one very long stout bristle and numerous minute ones, metanotum reddish-brown.

Abdomen with the first two segments reddish-yellow, with reddish-brown hind margins, narrow on the first segment but widening into a triangular central stripe on the second segment: this segment bears 3—4 bristles at each hind corner as in *ruficornis* Mg., third to the fifth segments dull blackish-brown with reddish hind margins spreading upwards on to the disc about the middle, sixth segment dull black with a reddish hind margin bearing 3—4 longish bristles, hypopygium dark coloured, almost entirely hidden beneath the sixth segment, anal organ long and pale.

Legs yellowish but hind femora darkened above and at the tip, the hind tibiæ darkened along the seam and at the tip, hind femora with a few long curved hairs beneath at the base, hind tibiæ with a cilia of about 8 strong bristles, middle tibiæ with a cilia each side of the seam.



Wings distinctly brownish, costa beyond the middle of wing and with a short ciliation (fig. 8). Halteres black with pale stems.

♀. Like the male but the first five abdominal segments are reddish-yellow, the first with a dark hind margin and like the third and fifth darkened about the sides, the second and fifth with a darkened central stripe, the fourth segment is somewhat abbreviated at the sides.

Length, about 1.5 mm. ♂, 1.8 mm. ♀.

*Locality.* Mahé: high forest of Morne Blanc and Pilot, X.—XI. 1908; forest of rather stunted "Capucin" trees (*Northea*), summit of "Montagne Anse Major," about 2000 feet, 1. II. 1909; Cascade Estate, about 800—1000 feet, II. 1909. One male, two females.

12. *Aphiochæta consueta*, n. sp.

♂. Closely resembling *A. extans* but the frons is yellowish and the lower row of frontal bristles is normal, the inner pair being placed near the upper supra-antennal bristles, the lower pair of supra-antennal bristles are minute, being much smaller than in *extans*.

Thorax and especially the scutellum somewhat paler than in *extans* and the mesopleura bare.

Abdominal markings differing from those of *extans*, the blackish-brown markings occupy the hind corners of the second and the sides of the third and fourth segments, spreading indistinctly along the hind margins of each of these segments, the fifth and sixth segments gradually darken from yellowish to yellowish-brown, the hypopygium which is not hidden beneath the sixth segment is blackish-brown.

Legs somewhat paler than in *extans*, only the hind femora at the tip being darkened, the cilia on the hind tibiæ shorter and more numerous, the middle tibiæ possess cilia on each side of the seam.

Wings much like those of *extans* but the subcostal vein is a little shorter. Halteres brownish with paler stems.

♀. Like the male but the abdomen more extensively darkened, though the colour of the abdomen may have been affected in the three specimens by their being gummed to card. The fourth abdominal segment is not abbreviated as in *extans* ♀.

Length about 1.75 mm. ♂, 2 mm. ♀.

*Locality.* Silhouette: Mare aux Cochons and forest near by, and just above, IX. 1908. Mahé: Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909; marshes on coastal plain at Anse aux Pins and Anse Royale, 19—21. I. 1909. Three males, three females.

*Note.* The male specimen mentioned in the note at the end of description of *P. egena* would be located here by the Synoptic Table, but may be distinguished by its much darker colour, entirely black abdomen, brownish wings, etc.

13. *Aphiochæta brevis*, n. sp.

♀. Frons about as long as wide, yellowish but greyish about the upper part, frontal bristles normal but only one pair of supra-antennal bristles, antennæ moderately large, yellow, somewhat obscured above, arista short, not exceeding the length of frons, palpi pale yellow.

Thorax yellow, scutellum with two strong bristles and two small hairs, pleuræ pale yellow, mesopleura bare.

Abdomen reddish-brown, paler about the second segment.

Legs pale yellow, first joint of front tarsi equal in length to the next three joints together, cilia to hind tibiæ not very distinct, consisting of six to eight bristles.

Wings with costa hardly reaching middle of wing, subcostal ending nearer to the end of costa than to the humeral cross-vein, costal ciliation sparse, not very long (about same length as in *latinervis*, fig. 11), fork fairly large, first thin vein evenly curved. Halteres pale brownish.

Length about 1 mm.

*Locality.* Mahé: Cascade Estate, about 800—1500 feet. One female.

14. *Aphiochæta planipes*, n. sp. (Plate 5, fig. 9).

In general appearance much resembling *extans* and *consueta*, but distinguished by the venation and the dilated last joint of the posterior tarsi in the male.

♂. Frons brownish-yellow to black, frontal bristles normal, under pair of supra-antennal bristles very small, antennæ and palpi yellow.

Thorax brownish-yellow, pleuræ yellow, mesopleura bare, only two scutellar bristles.

Abdominal markings as in *consueta* but variable, the dark markings to the fourth segment may be more restricted or even almost absent, but the hind margins of the fourth, fifth and sixth segments are more or less darkened, hypopygium not hidden and with large yellow anal organ.

Legs pale yellow, including the hind knees, posterior tarsi brownish towards the tip and the last joint of all four tarsi dilated, that of the middle tarsi about twice as long as the preceding joint and nearly twice as wide, that of the hind tarsi about as long as the preceding joint and nearly twice the width, unguis and pulvilli minute. Cilia to hind tibiæ moderate, to middle tibiæ only present behind the seam.

Wings (fig. 9) differing from those of *extans* and *consueta* in the shorter costa with slightly longer ciliation, in the more open fork (the upper branch being more upright) and in the first thin vein, being more upcurved at the tip. Halteres with yellow stems and yellowish-brown knobs, at least towards the end.

♀. Costa somewhat longer in proportion to length of wing and abdomen brownish-yellow to blackish-brown, always paler about the base of each segment; posterior tarsi simple, the last joint only as wide as the preceding joint.

Length, ♂ about 1.75 mm., ♀ often not exceeding 1.5 mm.

*Locality.* Silhouette: Mare aux Cochons and forest above. Mahé: high forest of Morne Blanc and Pilot, X.—XI. 1908; Cascade Estate, about 800—1500 feet. Four males, four females.

*Note.* About eight specimens, all except one gummed to card, differ from *planipes* in having simple tarsi in the male, cubital fork smaller and more acute and thick veins nearer the costa. They must represent a distinct species, but as they do not present any striking character and are not in good condition I refrain from naming them.

*Locality.* Silhouette: near Pot-à-eau, VIII. 1908 (two females); Mare aux Cochons, IX. 1908 (one male); forest above Mare aux Cochons (four females). Mahé: country above Port Glaud, about 500—1000 feet, 5. XI. 1908 (one female).

15. *Aphiochæta spreata*, n. sp. (Plate 5, fig. 10).

♂. Frons greyish-black, longer than broad, inner bristle of lower frontal row placed beneath the outer and almost as near the eye margin, upper pair of supra-antennal bristles much wider apart than the very little shorter lower pair, antennæ small, reddish-brown, palpi yellow.

Thorax blackish-brown, scutellum with only two bristles, pleuræ brownish-black, getting paler towards the coxæ, mesopleura bare.

Abdomen black with a greyish tinge in some lights, hypopygium small, greyish with a short but stout greyish-yellow anal organ.

Legs yellow, front tarsi slender, hind femora somewhat darkened above with 3—4 long hairs beneath at the base, cilia to hind tibiæ very distinct.

Wings (fig. 10) with short costal ciliation, subcostal vein ending nearer the end of costa than to humeral cross-vein. Halteres dusky, more darkened above.

♀. Very much like the male.

Length about 1.5 mm.

*Locality.* Mahé: from near Morne Blanc, X.—XI. 1908; Cascade Estate, about 800—1500 feet; scrubby forest vegetation, top of Mount Sebert, 1800 feet or more, I. 1909. Two males, one female.

16. *Aphiochæta frontata*, n. sp.

♂. Frons longer than broad, shining black, upper pair of supra-antennal bristles wider apart than the lower pair, antennæ very small and dark, palpi yellow.

Thorax black, pleuræ reddish-black, mesopleura bare, scutellum with only two bristles.

Abdomen black with a greyish tinge in some lights, hypopygium small, bare, with a short yellow anal organ.

Legs: front pair yellow with stout tarsi, middle legs with the femora darkened, hind legs dark except for the yellowish trochanters, hind tibiæ with very distinct ciliation, middle tibiæ with ciliation each side of seam.

Wings long and narrow, somewhat as in *spreata* but the costa extending beyond the middle of wing, subcostal vein ending about half-way between the humeral cross-vein and end of costa. Halteres black.

Length about 1.5 mm.

*Locality.* Mahé: Mare aux Cochons district, about 1500 feet. One male.

17. *Aphiochæta invenusta*, n. sp.

♂. Frons greyish-black, if anything broader than long, the inner bristles of lower

frontal row placed beneath the outer but not so near the eye margin, upper pair of supra-antennal bristles much wider apart than the but little smaller lower pair.

Thorax greyish-black, scutellum with only two distinct bristles, pleuræ brownish-black, mesopleura with one long stout bristle and a number of minute ones.

Abdomen dull black, hypopygium greyish with a long curved bristle on each side near the base and a long yellow anal organ.

Legs yellow, hind legs somewhat brownish, front tarsi long, cilia to hind tibiæ indistinct.

Wings quite clear, much as in *innocens* but costal ciliation shorter, thin veins very faint. Halteres blackish.

Length about 1 mm.

*Locality.* Mahé: Cascade Estate, about 800—1500 feet. One male.

*Note.* One male specimen, gummed to card, from the same locality, like *invenusta* has dark halteres and bristly mesopleura though I cannot trace the long stout bristle, but is not much more than half the size of that species, has a narrower frons, wings not so clear, thin veins more distinct, slightly longer costa, subcostal vein not ending quite so near the fork and is probably a distinct species.

18. *Aphiochæta media*, n. sp.

♂. Frons greyish-black, about as wide as long, bristles normal though the outer bristle of lower frontal row is placed somewhat above the inner, upper pair of supra-antennal bristles wider apart than the smaller lower pair, antennæ small, yellowish, obscured above, palpi yellow.

Thorax brownish-yellow, with only two scutellar bristles, pleuræ yellow, mesopleura bare.

Abdomen dull black with very narrow whitish-yellow hind margins to all segments, and the basal and discal portion of all segments more or less brownish-red, hypopygium small and greyish, anal organ stout and yellow.

Legs yellow with hind knees obscured, front tarsi slender, hind femora with a few not very long hairs beneath at base, cilia to hind tibiæ inconspicuous.

Wings with a yellow tinge, venation much as in *innocens*. Halteres yellow.

Length about .75 mm.

*Locality.* Mahé: Cascade Estate, about 800—1500 feet. Two males.

*Note.* Two specimens, No. 1 from Mahé, Cascade Estate, about 800 feet and over, and No. 2, also from Mahé, Cascade Estate, though having pale halteres and bare pleuræ differ from *media* in their darker colour, and rather longer costa and from each other in that No. 1 has a dull abdomen, somewhat stout front tarsi, longer costa with longer and more scanty ciliation and subcostal vein ending only slightly more than half-way between humeral cross-vein and end of costa; while No. 2 has somewhat shining abdomen, and subcostal vein ending much nearer to end of costa than to humeral cross-vein.

19. *Aphiochæta latinervis*, n. sp. (Plate 5, fig. 11).

♂. Frons greyish-black, longer than wide, inner bristles of lower frontal row placed

beneath the outer and near the eye margin, supra-antennal bristles almost equally large, upper pair wider apart than the lower, antennæ very small, brownish-black, palpi yellow.

Thorax brownish-black with a tendency to red, scutellum with only two strong bristles, pleuræ the colour of the thorax, mesopleura bristly.

Abdomen dull black, hind margin of the sixth segment and the somewhat hidden hypopygium grey, anal organ short and grey.

Legs yellow, hind legs somewhat dusky, front tarsi stout, cilia on hind tibiæ inconspicuous.

Wings (fig. 11) with the costa and second thick vein remarkably thickened and the fork very indistinct. Halteres brownish-black.

Length about 1 mm.

*Locality.* Mahé: Anonyme Island, from grass, or ferns, or trees, I. 1909. One male.

20. *Aphiochæta soluta*, n. sp. (Plate 5, fig. 12).

Frons black, somewhat shining, longer than broad, inner bristles of lower frontal row placed almost immediately beneath the outer ones and close to the eye margin, upper pair of supra-antennal bristles placed wider apart than the almost equally large lower pair, antennæ small, brownish-black, palpi dusky yellow.

Thorax with a tendency to red, scutellum with only one pair of bristles, pleuræ brownish-yellow, mesopleura with a number of fine bristles and 1—2 stronger ones.

Abdomen black with a greyish gloss in some lights, hypopygium small, not very prominent, anal organ stout, dusky yellow.

Legs yellow with hind knees darkened, cilia to hind tibiæ distinct, about 8—10 in number, hind femora with a ciliation of about 7 long curved hairs at base beneath, front tibiæ somewhat thickened.

Wings (fig. 12) with long costal ciliation and narrow fork, first thin vein very evenly curved. Halteres yellow.

Length from 1.5 mm. ♂, to 2 mm. ♀.

*Locality.* Silhouette: forest above Mare aux Cochons, 2. IX. 1908. Mahé: Cascade Estate, about 800 feet and over; high forest of Morne Blanc and Pilot, X.—XI. 1908; Mare aux Cochons district, about 1500 feet, 26. I.—2. II. 1909; scrubby forest vegetation, top of Mount Sebert, 1800 feet or more, I. 1909. Four males, twelve females.

*Note 1.* Two males from Mahé, Cascade Estate, about 800 feet and over are very much like *soluta* but the lower row of frontal bristles are normally arranged, the mesopleura bears one strong bristle standing out distinct from the other minute bristles, the hind femora at the base beneath bear a closely-set cilia of short curved hairs in the place of the seven long curved hairs of *soluta* ♂. The hind margins of the abdominal segments are narrowly yellowish. It is probably a distinct species.

*Note 2.* There is probably yet another species near *soluta* in the collection, but I refrain from naming it because the British species have taught me that this group is a very difficult one and requires further study based upon long series.

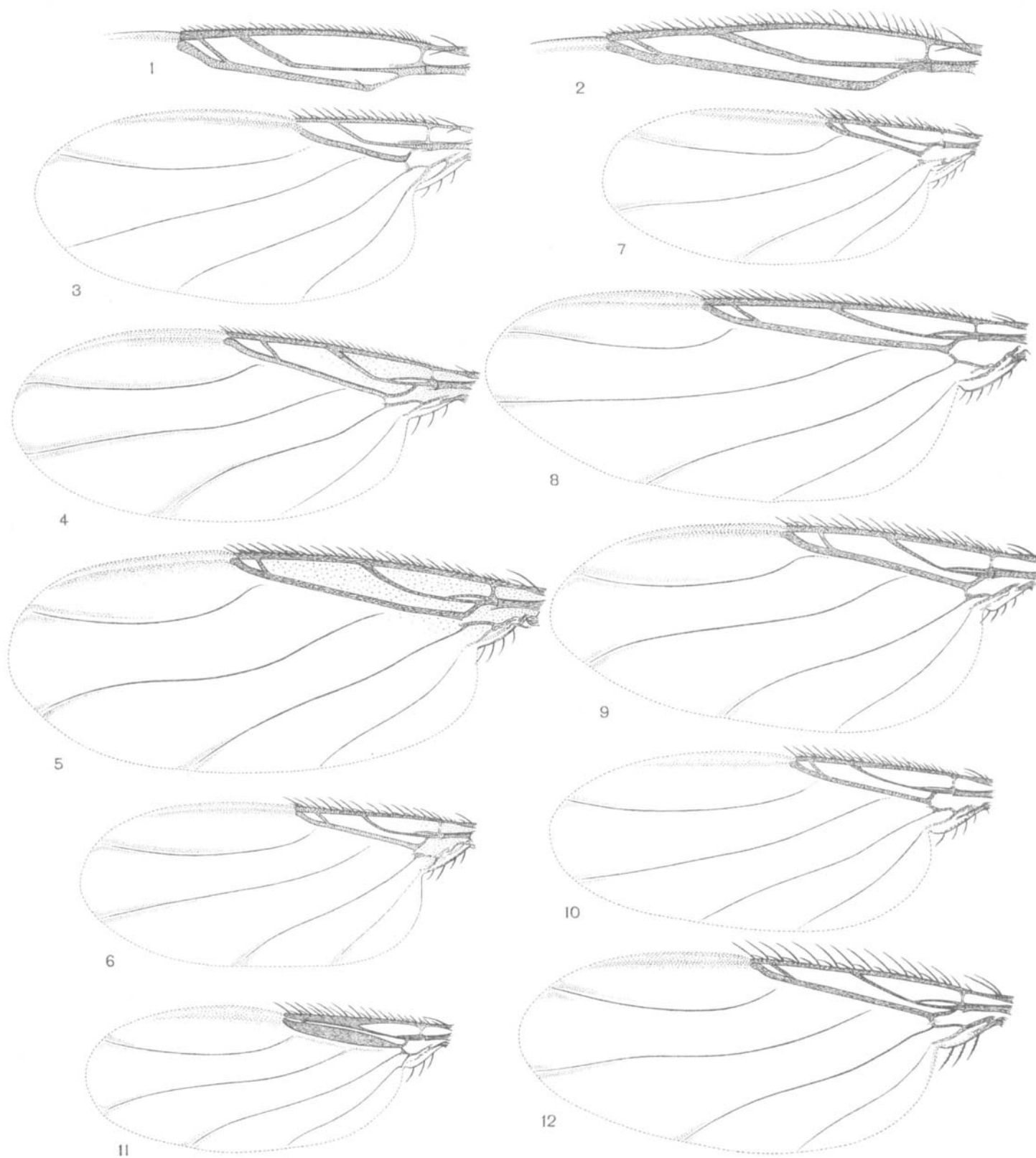
♂. Resembling the last two, the lower row of frontal bristles normal but the two inner bristles of this row placed nearer the outer bristles than in the last species, upper pair of supra-antennal bristles not so wide apart as in either of the last two species, mesopleura as in *soluta*, hind femora beneath with short hairs but not with a closely set cilia as in the last species. Differing from each of the above species in having long bristles on the hind margin of the sixth segment and about four long bristles on each side of the hypopygium, and in the cilia to hind tibiæ, being stronger especially about the middle of the tibia and the legs somewhat darker in colour.

♀. Resembling the male and differing from the female of *soluta* in the position of the lower row of frontal bristles.

*Locality.* Mahé: Cascade Estate, about 800 feet and over; from near Morne Blanc, X.—XI. 1908. Three males, one female.

#### EXPLANATION OF PLATE 5.

- Fig. 1. *Dohrniphora cleghorni*, ♂ costal margin of wing.
- Fig. 2. *Dohrniphora* sp., ♀ costal margin of wing.
- Fig. 3. *Aphiochæta aculeipes*, ♂ wing. × 57.
- Fig. 4. *Aphiochæta limbata*, ♂ wing. × 66.
- Fig. 5. *Aphiochæta egena*, ♀ wing. × 54.
- Fig. 6. *Aphiochæta viduata*, ♀ wing. × 57.
- Fig. 7. *Aphiochæta innocens*, ♀ wing. × 57.
- Fig. 8. *Aphiochæta extans*, ♀ wing. × 45.
- Fig. 9. *Aphiochæta planipes*, ♂ wing. × 51.
- Fig. 10. *Aphiochæta spreta*, ♂ wing. × 63.
- Fig. 11. *Aphiochæta latinervis*, ♂ wing. × 60.
- Fig. 12. *Aphiochæta soluta*, ♀ wing. × 48.



J.E.C. del.

E. Wilson, Cambridge

DIPTERA - PHORIDAE