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DIPTERA COLLECTED BY PROF. AND MRS. COCKERELL IN NEW CALEDONIA AND FIJI ISLANDS

BY C. H. CURRAN

During their extensive travels in the Orient and Australia, in the year 1928, Prof. and Mrs. Cockerell secured a fairly large number of flies, most of which have been donated to The American Museum of Natural History. Included in the collection were many interesting forms from New Caledonia and a few representatives from the Fiji Islands; these are included in the present report. The number of species recorded from New Caledonia is very small and, even though the present collection represents only a small portion of the insects collected during four weeks visit to the islands, it includes representatives of nineteen families, ten species new to science, and extends the known range of species described from various parts of Australia, the Orient, and Europe. Throughout the report the name of Prof. Cockerell has been omitted and it is to be understood that where no collector is named the flies were collected by him.

Tabanidæ

***Tabanus rubricallosus* Ricardo**

RICARDO, 1914, Ann. Mag. Nat. Hist., XIII, p. 478.

A single female from Île Charron, June 5.

This is a grayish species with clear wings, subcallus pollinose, front wide, ocellar callus absent, frontal callus very large, mesonotum with two median whitish vittæ; abdomen with a pair of transverse brown triangles on bases of segments three to five, the lateral margins white pilose, the hair of the dorsum mostly black.

Two additional species, *T. albonotatus* Bigot and *T. caledonicus* Ricardo, have been recorded from New Caledonia.

Bombyliidæ

***Villa basalis* Macquart?**

Anthrax basalis MACQUART, 1855, 'Dipt. Exot.,' Suppl., V, p. 75.

A female collected at Plum Farm on June 4 by Mrs. Cockerell is referred to this species with doubt. Macquart described the male only;

the female agrees well with the description, but there is yellowish and not white pile on the sides of the apical segment, the costal cell is more brown than figured, and the appendage on the branch of the third vein is very short.

Dolichopodidæ

Condylostylus nuptus Bezzi

1928, 'Dipt. of Fiji Islands,' p. 67.

Two females from Suva, Fiji, June 25, 1928.

Chrysosoma leucopogon Wiedemann

Psilopus leucopogon WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 220.

Male and two females, Plum Farm, May 31, June 3, June 6; male and two females, Mueo, May 19; male, seacoast near Bourail, May 26; all New Caledonia, (Mrs. Cockerell), and female, Suva, Fiji, June 25.

Chrysotus cockerellæ, new species

Dark green; tibiæ and tarsi reddish yellow; halteres black. Most nearly related to *javanensis* de Meijere but at once distinguished by the reddish yellow tibiæ. Length, 1.75 mm.

MALE.—Eyes contiguous below the antennæ, the face with grayish pollen; front with bronze tinge, the ocellar triangle and orbits blackish; hair of posterior orbits black; palpi brown, with pale brown hair. Antennæ black, the third segment small, much wider than long. Mesonotum with brownish pollen; pleura gray pollinose. Squamæ with black border and fringe; knob of halteres black. Legs black, the tibiæ and tarsi brownish yellow, the tarsi somewhat darkened apically; hair of legs conspicuous but not unusually abundant. Wings cinereous hyaline. Abdomen black-haired.

FEMALE.—Face narrow, gray pollinose. Color, in general, brighter.

TYPES.—Holotype, male, Paita, May 17, 1928; allotype, female Mueo, May 19, 1928, (Mrs. Cockerell); paratype, male, Plum Farm, June 6, 1928.

Phoridæ

Aphiochæta species

A single specimen from Plum Farm, June 6, belongs to the group with long costal bristles. It is a blackish species with the legs partly obscure yellowish.

Syrphidæ

Melanostoma univittatum Wiedemann

Syrphus univittatum WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 139.

Six specimens of each sex from Plum Farm, May 31, June 7; Bourail, May 21, 24; Mueo, May 19, 20, (Mrs. Cockerell); female, Ile Nou, June 10.

Ischiodon scutellaris Fabricius

Scæva scutellaris FABRICIUS, 1805, 'Syst. Antl.,' p. 252.

Female, Plum Farm, May 31.

Syrphus grandicornis Macquart

MACQUART, 1842, 'Dipt. Exot.,' II, part 2, p. 96.

Female, Noumea, May 29, (Mrs. Cockerell).

Asarkina salviæ Fabricius

Syrphus salviæ FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 306.

Male, Plum Farm, May 30, at flowers of *Poinsettia*.

Epistrophe viridaureus Wiedemann

Syrphus viridaureus WIEDEMANN, 1824, 'Anal. Ent.,' p. 35.

Female, Bourail, May 21, (Mrs. Cockerell).

Eristalis punctulata Macquart

MACQUART, 1847, 'Dipt. Exot.,' Suppl., II, p. 59.

Two females, Bourail, May 24 and 26; male, two females, Plum Farm, June 4, 6 and 7; and female, Dge, June 6; all collected by Mrs. Cockerell.

Cscinidæ

Hippelates bilineatus de Meijere

DE MEIJERE, 1904, Bijdr. Dierk., XVIII, p. 113.

Three specimens from Plum Farm, June 6 and one from Dge, June 6.

Drosophilidæ

Drosophila bilimbata Bezzi

BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 159.

Female, Bourail, May 24.

Agrees with the description, except that the apices of the abdominal segments are somewhat darkened.

Ephydridæ

Psilopa nigritella Stenheimer

STENHEIMER, 1844, 'Ephydr.,' p. 262.

Two females, Plum Farm, June 6, and female, Dge, June 6.

These agree with the description of the European form but males from both regions should be compared.

***Psilopa compta* Meigen**

Notiphila compta MEIGEN, 1830, 'Suite Buffon,' VI, p. 68.

Two females, Plum Farm, June 6.

The specimens agree with the description of *compta* Meigen, but males from both regions should be compared.

Borboridæ***Limosina* species**

Male, Dge, June 6.

Without named specimens from the Old World for comparison, satisfactory identifications of species in this genus cannot be made.

Sepsidæ***Sepsis tenella* de Meijere**

DE MEIJERE, 1906, Ann. Mus. Nat. Hung., IV, p. 183.

Saltelleseps tenella DUDA, 1926, Ann. Naturhist. Mus. Wien, p. 43.

A single male, Plum Farm, May 31, (Mrs. Cockerell).

This species evidently belongs to *Sepsis*, although somewhat aberrant in wing venation.

Ortalidæ***Rivellia abana* Curran**

CURRAN, 1929, Amer. Mus. Novit., No. 339, p. 11, Fig. 1.

Described from sixteen specimens of both sexes from Plum Farm and Bailly Island, June 5, 6, and 7.

Trypaneidæ***Ensina conflictæ* Curran**

CURRAN, 1929, Amer. Mus. Novit., No. 339, p. 11, Fig. 2.

Originally described from eight males and five females from Bailly Island and Dge, June 5 and 6.

Sapromyzidæ

There are four species, one of them from Fiji, in the collection.

***Steganopsis melanogaster* Thompson**

Lauzanina melanogaster THOMPSON, 1868, 'Eugenies Resa,' p. 567.

Eight specimens from Bailly Island, June 5; Dge, June 6; Plum Farm, June 6; and Île Nou, June 10.

***Homoneura varia* Kertész**

Sapromyza varia KERTESZ, 1900, Term. Fuzet., XXIII, p. 257.

One specimen, Bailly Island, June 5.

Homoneura horvathi Kertész

Sapromyza horvathi KERTESZ, 1900, Term. Fuzet., XXIII, p. 260.

One specimen, Mueo, May 19, (Mrs. Cockerell).

Trypaneoides Tonnoir and Malloch

There are several species belonging to this genus in the Orient, all of them with the wings brownish, marked with hyaline spots or bands. The species listed below evidently belong here.

Lauzania bicincta DE MEIJERE, 1910, Tijds. v. Ent., LIII, p. 138, Fig. Dutch East Indies.

Lauzania fenestrata DE MEIJERE, 1910, Tijds. v. Ent., LIII, p. 139, Fig. Dutch East Indies.

Trypaneoides guttata TONNOIR AND MALLOCH, 1926, Fig. New Zealand. Genotype.

Sapromyza nobilis KERTESZ, 1900, Term. Fuzet., XXIII, p. 259. New Guinea.

Sapromyza pulcherrima KERTESZ, 1900, Term. Fuzet., XXIII, p. 258. New Guinea.

Trypaneoides sumatrana MALLOCH, 1927, 'Suppl. Ent.,' XV, p. 105. Sumatra.

Lauzania tephritina DE MEIJERE, 1914, Tijds. v. Ent., LVII, p. 227, Fig. Dutch East Indies.

Trypaneoides tricincta MALLOCH, 1927, 'Suppl. Ent.,' XV, 105. Sumatra.

Lauzania trypetiformis DE MEIJERE, 1910, Tijds. v. Ent., LIII, p. 133, Fig. Batavia.

Sapromyza cirrhicauda BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 129.

Sapromyza leucosticta BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 132.

Trypaneoides caniventris Bezzi

Sapromyza caniventris BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 131.

Male and female, Lautoka, Fiji, May 9.

Lonchæidæ

Lonchæa filifera Bezzi

BEZZI, 1913, Philippine Journ. Sci., VIIID, p. 320.

Male, Bourail, May 23-24, (Mrs. Cockerell).

Although the specimen is not in good condition and the arista is missing, the determination is probably correct.

Tetanoceridæ

Sepedon latus Bezzi

Sepedon costalis latus BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 84.

A single female, Plum Farm, June 4, (Mrs. Cockerell).

Bezzi described this as a variety of *costalis* Walker but suspected that it was distinct, and in the same paper Major Austen confirmed this supposition.

Muscidæ***Stomoxys calcitrans* Linnæus**

Conops calcitrans LINNÆUS, 1761, 'Fauna Suec.', 2d Ed., p. 467.

Female, Noumea, May 16.

***Ophyra chalcogaster* Wiedemann**

Anthomyia chalcogaster WIEDEMANN, 1824, 'Anal. Ent.', p. 52; 1830, 'Ausser Zweifl.', II, p. 427.

Male and two females, Plum Farm, June 6, 1928; male, Bourail, May 22, 1928.

***Limnophora plumiseta* Stein**

STEIN, 1903, Mitt. Zool. Mus. Berl., II, p. 109.

Male and six females, Bourail, May 22, 24; Dge, June 6; Plum Farm, June 4, (Prof. and Mrs. Cockerell).

This species was originally described from Egypt and later recorded from the East Indies by Stein.

***ATHERIGONA* Rondani**

There are two species belonging to this genus from New Caledonia. One is a female related to *excisa* Thomson while the other, a male, lacks its legs and cannot be identified without material for comparison.

***CÆNOSIA* Meigen**

There are three species from New Caledonia belonging to this genus in the collection and another species has been described by Bigot. The following table separates the species of *Cænusia* and *Pygophora* before me from the island.

- | | |
|-------------------------------------|----------------------------------|
| 1. Arista bare ¹ | 2. |
| Arista plumose..... | 3. |
| 2. Antennæ black..... | <i>Cænæia</i> species. |
| Antennæ yellowish..... | <i>C. pumilis</i> Stein. |
| 3. Wings hyaline..... | <i>C. macularis</i> Wiedemann. |
| Wings with brown spot apically..... | <i>Pygophora aliena</i> Malloch. |

***Cænusia* species**

A female from Plum Farm, June 6, 1928, has the antennæ and palpi black, legs wholly yellowish and is about 3 mm. in length. Males are needed for identification.

¹Bigot's description does not mention the arista, hence the species cannot be recognized.

Cœnosia pumilis Stein

STEIN, 1900, Term. Fuzet., XXIII, p. 151.

One male, Plum Farm, June 6.

Cœnosia caledonica Bigot

BIGOT, 1884, Ann. Soc. Ent. France, p. 269.

The abdomen is partly yellow and the thorax bears two slender, brownish vittæ.

Cœnosia macularis Wiedemann

WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 438.

Two females, Mueo, May 19.

Pygophora aliena Malloch

MALLOCH, 1922, Ann. Mag. Nat. Hist., X, p. 381.

A single male, Mueo, May 19, (Mrs. Cockerell).

Sarcophagidæ

Rhinia discolor Fabricius

Idia discolor FABRICIUS, 1794, 'Ent. Syst.,' IV, p. 320.

Male, Plum Farm, June 4; and female, Bourail, May 21, (Mrs. Cockerell).

Lucilia nosocomiorum Doleschall

DOLESCHALL, 1857, Natur. Tijds. Ned. Ind., XIV, p. 413.

Two males from Noumea, May 17, and one from Plum Farm, June 6.

CALLIPHORA Desvoidy

There are three species from New Caledonia belonging to this genus, two of them new to science.

1. Lower lobe of squamæ with long hair on upper surface (*Calliphora*) 2.
Lower lobe of squamæ bare on upper surface *Melinda minuta* Curran.
2. Abdomen chiefly yellowish *C. centralis* Malloch.
Abdomen wholly green 3.
3. Small species, under 5 mm., genitalia as in figure . . . *C. melinda*, new species.
Species of medium size, 9 to 10 mm., genitalia as in figure . . *C. noumea*, new species.

Calliphora centralis Malloch

MALLOCH, 1927, Proc. Linn. Soc., N. S. W., LII, p. 311.

Male and female, Plum Farm, May 30 and 31, (Mrs. Cockerell).

***Calliphora noumea*, new species**

Figure 1

Related to *metallica* Malloch by comparison of the male genitalia but at once separated by the dark thorax and genitalic differences. Length, 9.5 mm.

MALE.—Head black; parafacials, anterior oral margin, palpi and antennæ reddish; third antennal segment somewhat brown on apical half. Head gray pollinose, the facial pollen with yellow tinge. Hair black, some yellow hair behind the mouth. Front scarcely as wide as the width of the ocellar triangle.

Thorax black, the mesonotum with metallic blue tinge, the whole thickly gray pollinose, the dark vittæ moderately distinct. Acrosticals, 2-3; dorsocentrals 3-3. Anterior spiracle orange, the border and upper edge brown. Hair wholly black.

Legs black, the tibiæ brownish, the anterior tibiæ with a single posterior bristle. Pulvilli brown.

Wings cinereous hyaline; squamæ brown with yellow rim, the immediate base white. Halteres yellow.

Abdomen green, quite thickly cinereous pollinose, very slightly tessellate; second segment without complete row of marginal bristles, with two or three laterally. Hair wholly black. Lateral view of genitalia as in figure 1.

TYPE.—Male, Noumea, May 17.

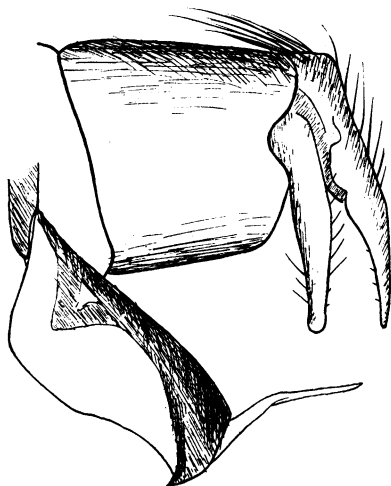


Fig. 1. *Calliphora noumea*, new species

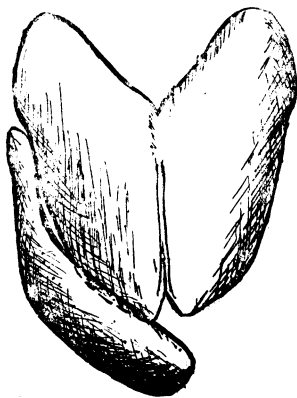


Fig. 2. *Calliphora melinda*, new species. Posterior and outer forceps of male genitalia.

***Calliphora melinda*, new species**

Figure 2

At once distinguished from the remaining species is the genus by the broad and short posterior forceps in the male. It is readily separated from *minor* Malloch by the blackish thorax. Length, 4.5 mm.

MALE.—Head black, cinereous white pollinose; face, palpi and antennæ red-

dish, the third antennal segment somewhat brown apically. Hair black, largely pale on the occiput. Front wider than ocellar triangle.

Mesonotum with bluish tinge, the thorax rather thickly cinereous pollinose, the vittæ distinct; hair wholly black. Anterior spiracle pale orange. Acrosticals, 2-3; dorsocentrals, 2-3.

Legs black; anterior tibiæ with a single posterior bristle. Pulvilli grayish brown.

Wings cinereous hyaline; squamæ with brownish tinge, especially on the disc. Halteres yellow.

Abdomen green, whitish pollinose; second segment with posterior bristles towards the sides but without a complete row; third segment with row of marginals. Posterior and outer forceps as in figure 2. Fifth sternite large, almost transverse apically with a deep U-shaped median emargination.

FEMALE.—Front wide, with almost parallel sides; pollen grayish yellow.

TYPES.—Holotype, male, Mueo, New Caledonia, May 20, (Mrs. Cockerell); allotype, female, Noumea, May 29, 1928, (Prof. and Mrs. Cockerell).

The genitalia of this species indicate a strong relationship to *Melinda*, but the presence of pile on the lower squamal lobe causes it to be placed in *Calliphora*. The female traces to *minor* Malloch in Malloch's key.

***Melinda minuta*, new species**

Figure 3

Similar in appearance to *Calliphora melinda* Curran but smaller, without squamal pile and with different genitalia. Length, 3.5 mm.

MALE.—Head black, cinereous pollinose; face, palpi and antennæ reddish, the third antennal segment brownish apically. Hair black, partly whitish on the occiput. Front at narrowest part almost twice as wide as ocellar triangle.

Thorax black, cinereous pollinose, the mesonotum with more or less greenish reflection posteriorly. Hair wholly black. Anterior spiracle small, pale orange. Acrosticals, 1-2; dorsocentrals, 3 or 4-3.

Legs black; pulvilli rather small, brownish yellow.

Wings cinereous hyaline, squamæ grayish yellow. Halteres yellow.

Abdomen green, moderately cinereous white pollinose, third and fourth segments each with row of marginals, the second with three or four on either side. Posterior and lateral forceps as in figure 3.

FEMALE.—Front of equal width, with two pairs of orbitals; outer verticals strong; dorsocentrals 2-3.

TYPES.—Holotype, male and allotype female, Île Nou, New Caledonia, June 10, 1928.

There are seven species belonging to the subfamily Sarcophaginæ, five of them previously known from Australia or Asia, two being undescribed. The table which follows will serve for the separation of the males.

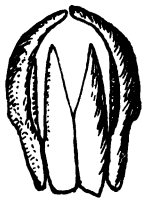


Fig. 3. *Melinda minuta*, new species. Male genitalia.

1. First vein bare (*Sarcophaga*).....2.
First vein bristled.....6.
2. Posterior tibiae with long hair only on the posterior surface.....3.
Posterior tibiae with long hair on antero- and postero-ventral surfaces.
S. knabi Parker.
3. Outer vertical bristles not developed.....4.
Outer vertical bristles three-fourths as long as verticals...*S. noumea*, new species.
4. Hair on anterior half of the cheeks black.....5.
Hair on cheeks practically all yellow.....*S. gamma* Johnston and Tiegs.
5. Propleura haired in middle.....*S. peregrina* Desvoidy.
Propleura bare.....*S. ceylonensis* Parker.
6. Apical cell long petiolate.....*Caledonia petiolata*, new species.
Apical cell open.....*Helicobia australis* Johnston and Tiegs.

***Sarcophaga ceylonensis* Parker**

?*Sarcophaga misera* WALKER, 1849, 'List. Dipt.,' IV, p. 829. JOHNSTON AND TIEGS, 1921, Proc. Roy. Soc. Queensland, XXXIII, p. 67; 1922, Rec. Austr. Mus., XIII, p. 178. HARDY, 1923, Proc. Linn. Soc. N. S. W., XLVIII, p. 112.

Sarcophaga ceylonensis PARKER, 1923, Ann. Mag. Nat. Hist., (9) XI, p. 125.

A single male from Sandringham, Victoria, Australia, April 1, 1928, (Rayment and Cöckerell).

There must be doubt concerning the identity of Walker's species, which was described from at least three females from Australia. Inasmuch as it is at present impossible to distinguish the females of related species with any degree of certainty it seems advisable to use the name proposed by Parker for what is evidently the species identified as *misera* by Australian workers.

***Sarcophaga gamma* Johnston and Tiegs**

JOHNSTON AND TIEGS, 1921, Proc. Roy. Soc. Queensland, XXXIII, p. 60; 1922, XXXIV, p. 182; 1922, Rec. Austr. Mus., XIII, p. 180. HARDY, 1923, Proc. Linn. Soc. N. S. W., XLVIII, p. 125.

Sarcophaga brunneopalpis JOHNSTON AND TIEGS, 1922, Proc. Roy. Soc. Queensland, XXXIV, p. 184.

Male and two females, Bourail, May 22; female, May 23, (Mrs. Cockerell).

***Sarcophaga knabi* Parker**

PARKER, 1919, Proc. U. S. Nat. Mus., LIV, p. 89.

Two males, Bourail, May 23-24, (Mrs. Cockerell); male, Lautoka, Fiji, May 9.

These specimens show slight differences from the figure given by Parker and from each other but they evidently belong here. The species was described from the Philippine Islands.

Sarcophaga peregrina* Robineau DesvoidyMyophora peregrina* DESVOIDY, 1830, 'Essai Myod.', p. 356.*Sarcophaga peregrina* JOHNSTON AND TIEGS, 1922, Rec. Austr. Mus., XIII, p. 177; 1922, Proc. Roy. Soc. Queensland, XXXIV, p. 182.

A single male from Levuka, Fiji Islands, May.

It is very doubtful that this is the species described by Desvoidy, since there are many species occurring throughout the oceanic region which agree fully with the poor description given by that author. Other species placed as synonyms of *peregrina* are: *subrotunda* Desvoidy, *rapida* Desvoidy, *irrequieta* Walker, and *ochripalpis* Thomson. None of these species are recognizable from the descriptions. *S. subrotunda* might well be the female of *peregrina* but, from the descriptions, it is almost certain that *rapida* and *ochripalpis* are not the same. *S. irrequieta* was described from a female and might be any one of a dozen species.

***Sarcophaga noumea*, new species**

Figure 4

Superficially similar to *S. gamma* Johnston and Tiegs but at once distinguished by the male genitalia. Length, 13.5 mm.

MALE.—Front five-sevenths as wide as greatest width of either eye, with eight pairs of frontals, the upper pair reclinate, the lower ones gently diverging; parafrontal at middle not half as wide as the black frontal vitta. Outer verticals strong; one row of bristles behind the eyes. Pollen of head golden yellow; hair of occiput and cheeks yellowish. Palpi blackish. Antennæ black, the third segment somewhat more than twice as long as wide.

Pollen of thorax grayish yellow, the three vittæ very distinct; acrosticals 0-1; four post-sutural dorsocentrals; propleura bare.

Wings cinereous hyaline; squamæ white; halteres with the knob somewhat darkened on outer surface.

Legs black; anterior and posterior femora each with one row of bristles below; middle femora with a row of bristles on either edge of the lower surface and with dense hair on the basal half of the anteroventral surface. Posterior tibiae with long hair on posteroventral surface except basally. Pulvilli large, brown.

Abdomen grayish tessellate, with median vitta and two rows of black spots, when viewed from behind, the inner row elongate and rising at base of the segment, the outer row irregular and situated at or near the posterior borders. Fifth sternite with short, coarse hair along inner edge. Lateral view of genitalia as in figure 1.

HOLOTYPE.—Male, Noumea, May 16, 1928.



Fig. 4. *Sarcophaga noumea*, new species. Lateral view of male genitalia.

***Helicobia australis* Johnston and Tiegs**

JOHNSTON AND TIEGS, 1921, Proc. Roy. Soc. Queensland, XXXIII, p. 50.

Male, seacoast near Bourail, May 25, (Mrs. Cockerell); two females, Ile Nou, June 10.

***CALEDONIA*, new genus**

In many respects similar to *Malacophagula* Bequaert but differing as follows: head not rounded, the occiput not unusually prominent; one pair of proclinate orbitals present; outer verticals strong; antennæ reaching three-fourths the distance to the oral margin. First wing vein with strong bristles; abdomen with dorsal marginals. The wing venation is quite as in *Malacophagula* except that the third vein ends slightly nearer the wing-tip. Acrosticals, 0-1; dorsocentrals, 1-3; 1 sublateral, no post-humeral; one supra-alar and one intra-alar; four notopleurals, two of them weak; two sternopleurals; propleura bare; no infrascapular setulæ. Legs simple; pulvilli of medium size. Abdomen without discals; second and third segments with pair of marginals, the fourth with a row; first and second segments each with one lateral marginal, the third with two.

GENOTYPE.—*Caledonia petiolata*, new species.

Bequaert has published illustrations of *Malacophagula neotropica* (Journ. of Parasitology, 1925, XI, p. 207). He found the species to be parasitic on a snail and it is not improbable that *Caledonia* has the same habit.

***Caledonia petiola*, new species**

Sarcophaga-like in appearance, but with the abdomen only very weakly tessellate. Length, 4 mm.

MALE.—Head gray pollinose, the cheeks and face with yellow tinge; front with parallel sides, two-thirds as wide as greatest width of either eye, the blackish frontal vitta one-third narrower than either parafrontal; five pairs of frontals, the lowest slightly below the base of the antennæ, together with the two adjacent pair convergent, the upper two pairs are much stronger and reclinate, the anterior pair situated at the lower third of the front, the other at the upper third; ocellars weak. Head with black bristly hair, a small amount of pale hair below the neck. Cheeks one-fourth as wide as eye-height. Oral margin not as prominent as antennal base, slightly produced. Parafacials narrow, with a single row of hairs, two or three of the lower ones bristle-like. Palpi rather slender, brown. Antennæ blackish, the third segment not twice as long as the second; arista plumose on basal half.

Thorax gray pollinose, the pleura with yellowish tinge; mesonotum with three brown vittæ, the median one extending onto the scutellum.

Wing veins yellowish basally; squamæ with yellow tinge; knob of halteres brown.

Basal two-thirds of the second to fourth abdominal segments and a large spot on either side of the apical half of the first segment, yellowish gray pollinose, the gray bands rather broadly interrupted in the middle.

HOLOTYPE.—Male, Bailly Island, New Caledonia, June 5, 1928.

Tachinidæ

Microceromasia caledonia, new species

Differs from *M. sphenophori* Villeneuve in having the thorax almost evenly pollinose behind the suture. Length, 4.75 mm.

MALE.—Head black, silvery white pollinose, the frontal vitta deep black, wider than either parafrontal; six or seven pairs of frontals; two pairs of orbitals; front five-sevenths as wide as greatest width of eye; outer verticals absent; no setæ behind the black occipital cilia. Cheeks one-sixth as wide as eye-height; parafacials narrow, slightly widening above. Palpi brown. Antennæ black, reaching almost to the vibrissæ, the third segment five times as long as the second, rather acute at dorsal apex; arista long, bare, thickened on basal third.

Thorax black, black-haired; mesonotum with grayish pollen in front, immediately before the suture, laterally in front of the suture and before the scutellum, in some lights with three blackish vittæ in front of the suture, in other lights with four vittæ, the mesonotum otherwise and the scutellum brownish pollinose; pleura whitish pollinose. Acrosticals and dorsocentrals 3-3; posterior sublateral and posthumeral absent; three pairs of scutellars, the second pair longest, the apical pair cruciate; sternopleurals in an almost equilateral triangle.

Legs black; pulvilli small; middle tibæ with a single anterior bristle; posterior tibæ with three or four anterodorsal and two posterodorsal bristles.

Wings tinged with brown, paler apically and posteriorly; apical cell ending moderately before the wing-tip; third vein with a single basal bristle. Squamæ large, whitish with faint brownish yellow tinge. Halteres reddish yellow.

Abdomen shining black, a little more than the basal third of the second to fourth segments white pollinose, the posterior border of the pollen not sharply defined; first and second segments each with pair of strong marginals, third and fourth with row; no discals. Genitalia small, concealed.

HOLOTYPE.—Male, Bailly Island, June 5, 1928.

This species may not belong to *Microceromasia* Villeneuve but it is impossible to decide its exact status. I have seen specimens from Australia identified as *M. sphenophori* Villeneuve, the type of the genus: these specimens have the posterior sublateral bristle present but this character is not mentioned in the description. Bezzi, in his 'Diptera of Fiji Islands,' states that the arista is pubescent in the species, but Villeneuve makes no such statement. The genus is somewhat related to *Epiphanocera* Townsend from Peru, but that genus has the cheeks almost one-third as wide as the eye-height.

Stomatomyia tricholygoides Bezzi

BEZZI, 1928, 'Dipt. of Fiji Islands,' p. 205.

Three males from Plum Farm, May 30 and June 4, and female, Noumea, May 29, (Prof. and Mrs. Cockerell).

These specimens agree perfectly with the description given by Bezzi, except that he states that the acrostical and dorsocentral bristles are

"3-2." This is quite evidently an error, as this arrangement of the bristles in the group never occurs. These bristles are arranged 3-3 in my specimens and this is probably what was intended by Bezzi. The genus *Phaeniciomyia* Townsend, described for a species from Arizona is very close to *Stomatomyia* Brauer and Bergenstamm, or at least to the specimens before me according to the description. It is possible that *tricholygoides* Bezzi belongs to *Phaeniciomyia* and not to *Stomatomyia*, but the types of the two genera must be compared before any definite conclusions can be reached.

Nemorilla oceanica, new species

Differs from *maculosa* Meigen in lacking discal bristles on the abdominal segments and relatively longer third antennal segment. Length, 6.25 mm.

MALE.—Black, with brownish and cinereous pollen. Head with whitish pollen, that on the cheeks and front brownish. Nine or ten pairs of frontals, none reclinate; outer verticals weak; a single row of occipital cilia; occipital pile whitish. Front about half as wide as greatest width of eye. Palpi and antennæ blackish, the latter reaching almost to the vibrissæ, the third segment reddish at base, about one and one-half times as long as the second; arista thickened on basal two-fifths, obscurely pubescent.

Thorax with brownish pollen, the sides of the mesonotum and two or four obscure, narrow vittæ on the anterior half of the dorsum, grayish, the pollen on the anterior part of the pleura with grayish tinge. Acrosticals 3-3; dorsocentrals 3-4; sternopleurals 1-1; three pairs of strong marginal scutellars and a weak cruciate apical pair.

Legs black; middle tibiæ with a single anterior bristle; posterior tibiæ evenly ciliate anterodorsally; pulvilli long, yellowish.

Wings cinereous hyaline, the veins blackish basally; third vein with two basal bristles. Squamæ whitish with yellow tinge on margin. Halteres yellow.

First abdominal segment not pollinose. Apical third of second, fourth of third and half of the fourth segment brownish pollinose, the bases of the segments cinereous, a median vitta which forms an oval spot on the second segment almost bare. First and second segments with pair of marginals, third and sixth with row, the fourth with discals; posterior forceps brown, outer forceps reddish. The sides of the second and third segments are more or less reddish but the color is obscured by the pollen.

TYPES.—Holotype, male, Mueo, New Caledonia, May 19, 1928; paratype, male, north of Bourail, May 19.

Sturmia ciliipes Macquart

Tachina ciliipes MACQUART, 1843, 'Dipt. Exot.,' II, part 3, p. 62.

Female, Mueo, May 20, and female, seacoast near Bourail, May 26, (Mrs. Cockerell).

Hippoboscidae

There are two species belonging to this family, but with the material before me I am unable to arrive at any conclusion as to the identity of one of them.

Hippobosca species

A female from Plum Farm, June 2, (no host).

The scutellum is stramineus with brown border, femora with a brownish median spot above and their apices brown; median and hind tibiæ with brown or black basal band, the posterior tibiæ with black apical band.

Ornithoetona nigricans Leach

Ornithomyia nigricans LEACH, 1818, Mem. Wern. Nat. Hist. Soc., II, p. 558, Figs. 7-10.

Female, Plum Farm, May 3, on small hawk, (Miss Bloa and Prof. Cockerell).

