

Muscid flies of New Caledonia, with description of a new species (Diptera Muscidae)

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ABSTRACT

Twenty species belonging to twelve genera of the family Muscidae have been collected in the course of the survey of medically important flies in New Caledonia. *Limnophora*

caledonica n. sp. is described and figured, and seven species are newly recorded in New Caledonia.

RÉSUMÉ

Vingt espèces représentant douze genres de Muscidae ont été récoltées au cours de l'étude des mouches d'importance médicale en Nouvelle-Calédonie. *Limnophora caledonica* n.

sp. est décrite, et sept espèces sont signalées pour la première fois en Nouvelle-Calédonie.

Twelve genera and 16 species belonging to the Muscidae, including a *Fannia* species, which some authors (e.g. PONT, 1989) place in a separate family Fanniidae, were recorded from New Caledonia up to the present (PONT, 1989). During the field research on medically important flies made by the Tokyo Medical and Dental University Overseas Scientific Research Program, cooperated with the Institut Pasteur in Nouméa, New Caledonia, we collected 20 species of muscid flies, including a new species and seven newly recorded species. Description and figures of the new species and records of the other species are given in this paper. Two species were not identified. This is a complete list of the Muscidae known from New Caledonia up to now.

Muscina stabulans (Fallén)

Musca stabulans Fallén, 1817 : 252.

Material examined : no material in our collection.

Hydrotaea australis Malloch

Hydrotaea australis Malloch, 1923 : 667.

Material examined : 1 ♂ : Col de Pétchécara, 15 km W of Thio, 25.ii.1978 (S. SHINONAGA).

Hydrotaea chalcogaster (Wiedemann)

Anthomyia chalcogaster Wiedemann, 1824 : 52.

Material examined : 10 ♀♀ : Thio, 50 km E of Nouméa, 18.ii. 1978 (S. SHINONAGA); 3 ♂♂ : same data (H. SHIMA). 4 ♂♂, 5 ♀♀ : Col de Pétchécara, 20.ii.1978 (S. SHINONAGA); 1 ♂ : same data (H. KURAHASHI); 1 ♂ : same data (H. SHIMA). 1 ♀ : Hienghène, 21-22.ii.1978 (H. KURAHASHI).

Hydrotaea spinigera (Stein)

Ophyra spinigera Stein, 1910 : 555.

New record from New Caledonia.

Material examined : 19 ♂♂, 7 ♀♀ : Col de Pétchécara, 15 km W of Thio, 25.ii. 1978 (S. SHINONAGA).

Musca domestica Linnaeus

Musca domestica Linnaeus, 1758 : 596.

Material examined : collected at Nouméa dump and colonized for insecticides resistance test.

Musca terraeregina Johnston & Bancroft

Musca terraeregina Johnston & Bancroft, 1920 : 31.

New record from New Caledonia.

Material examined : 9 ♀♀ : Col de Pétchécara, 15 km W of Thio, 19.ii.1978 (S. SHINONAGA); 1 ♂, 1 ♀ : same data (H. KURAHASHI); 1 ♂, 4 ♀♀ : same locality, 25.ii.1978 (S. SHINONAGA). 1 ♂ : Col d'Amieu, 20 km SW of Canala, 20.ii.1978 (H. KURAHASHI). 1 ♂ : Hienghène to Bourail, 23.ii.1978 (H. KURAHASHI). 2 ♀♀ : Thio, 50 km E of Nouméa, 18.ii.1978 (S. SHINONAGA). 1 ♀ : Hienghène, 21-22.ii.1978 (S. SHINONAGA).

Atherigona orientalis Schiner

Atherigona orientalis Schiner, 1868 : 295.

New record from New Caledonia.

Material examined : 1 ♀ : Thio, 50 km E of Nouméa, 18.ii.1978 (S. SHINONAGA).

Atherigona orizae Malloch

Atherigona orizae Malloch, 1925 : 117.

Material examined : no material in our collection.

Atherigona simplex Thomson

Atherigona simplex Thomson, 1869 : 617.

Material examined : no material in our collection.

Atherigona tibiseta Malloch

Atherigona tibiseta Malloch, 1924 : 145.

Material examined : 2 ♂♂, 13 ♀♀ : Col de Pétchécara, 15 km W of Thio, 19.ii.1978 (S. SHINONAGA); 2 ♀♀ : same data (H. KURAHASHI); 3 ♀♀ : same locality, 20.ii.1978 (H. KURAHASHI); 2 ♀♀ : same locality, 25.ii.1978 (S. SHINONAGA). 1 ♀ : Pétchécara, 15 km W of Thio (H. SHIMA). 2 ♀♀ : Thio, 50 km W of Nouméa, 18.ii.1978 (S. SHINONAGA). 5 ♀♀ : Hienghène, 21-22.ii.1978 (S. SHINONAGA).

Dichaetomyia bilimbata (Bigot)

Spilogaster bilimbata Bigot, 1885 : 290.

Material examined : 3 ♂♂, 4 ♀♀ : Col de Pétchécara, 15 km W Thio, 19.ii.1978 (H. KURAHASHI); 1 ♀ : same data (S. SHINONAGA). 1 ♀ : Thio, 50 km E of Nouméa, 18.ii.1978 (S. SHINONAGA). 1 ♂, 2 ♀♀ : Col d'Amieu, 20 km SW of Canala, 20.ii.1978 (H. KURAHASHI); 1 ♀ : same

data (H. SHIMA). 1 ♂ : Hienghène, 21-22.II.1978 (H. KURAHASHI); 1 ♂, 1 ♀ : same locality (S. SHINONAGA). 1 ♀ : Hienghène to Bourail, 23.II.1978 (S. SHINONAGA).

Dichaetomyia sp. (*polita*-group)

Material examined : 1 ♂ : Col de Pétchécara, 15 km W of Thio, 19.II.1978 (H. KURAHASHI). 1 ♀ : Hienghène, 21-22.II.1978 (S. SHINONAGA). 1 ♂ : Hienghène to Bourail, 23.II.1978 (S. SHINONAGA).

Graphomyia maculata (Scopoli)

Musca maculata Scopoli, 1763 : 326.
New record from New Caledonia.

Material examined : 1 ♀ : Pétchécara, 15 km W of Thio, 10.II.1978 (S. SHINONAGA). 1 ♀ : Hienghène, 21-22.II.1978 (S. SHINONAGA); 1 ♀ : same data (H. SHIMA).

Hebecnema infuscata (Bigot)

Spilogaster infuscata Bigot, 1885 : 290.

Material examined : 9 ♂♂, 20 ♀♀ : Hienghène, 21-22.II.1978 (S. SHINONAGA). 1 ♂ : Thio, 50 km E of Nouméa, 18.II.1978 (H. KURAHASHI). 1 ♂ : Col de Pétchécara, 15 km W of Thio, 19.II.1978 (H. KURAHASHI); 1 ♂ : same data (S. SHINONAGA); 3 ♂♂ : same locality, 25.II.1978 (H. SHIMA).

Myiospila sp.

Material examined : 1 ♀ : Thio, 50 km E of Nouméa, 19.II.1978 (S. SHINONAGA).

Limnophora caledonica n. sp.

Description : male. Body length : 4,0-5,5 mm. Head : frons slightly open, narrowest part about 0,06 of head width; eyes bare; frontal stripe black, parafrontalia, parafacialia and face with silvery pollen; 7-10 strong inclinate *ori* on entire length of parafrontalia; a pair of proclinate *ors*; antenna black, 3rd segment 2,25 × as long as 2nd; arista black, feathered; palpus black.

Thorax. Scutum black with a light grey band in front of suture interrupted well mesad of *dc*, and uninterrupted one in front of scutellum (fig. 1); *ac* 0+1; *dc* 2+4 (anterior 2 small); *ia* 0+1; *h* 2; *ph* 1; *nt* 2+2; *pra* absent; *sa* 1; *scut* 1 preapical and 2 lateral; scutellum black, greyish

apically; meso- and metathoracic spiracles dark brown.

Wings. Hyaline; *r*1 bare; *R*4+5 with several setae on basal node; *m-m* straight; squamae dark brown.

Legs : black; *t*1 without *p*-seta; *f*2 with 2 preapical *p-pd*, 3 long *pv* near base; *t*2 with 2 *p*-setae *f*3 with a row of *ad*, 1 *av*; *T*3 with 1 *ad*, 1 *av*.

Abdomen. Ground color dark with greenish grey pollen; 2nd tergite black with greyish margin; 3rd and 4th tergites with triangular black marks on the middle; sternites black, 1st sternite bare, 2nd to 4th with a pair of long bristles respectively.

Genitalia. Hypopygium as shown in figures 2 and 3.

Female : body length : 5,0-6,0 mm. Frons about 0,26 at vertex and 0,36 at widest point of head width. Upper half of parafacialia without silvery pollen. Other characters similar to those of the male.

Type-material : holotype, male : Pétchécara, 15 km W of Thio, 19.II.1978 (S. SHINONAGA), Muséum national d'Histoire naturelle, Paris. Paratypes : 25 ♂♂, 16 ♀♀, same data as holotype; 1 ♂, 1 ♀ : same data (H. SHIMA). 8 ♂♂, 20 ♀♀ : Thio, 50 km E of Nouméa, 18.II.1978 (S. SHINONAGA). 3 ♂♂, 16 ♀♀ : Col de Pétchécara, 15 km W of Thio, 19.II.1978 (S. SHINONAGA). 4 ♂♂ : Col d'Amieu, 20 km SW of Canala, 24.II.1978 (H. KURAHASHI); 3 ♂♂, 1 ♀ : same data (H. SHIMA). 13 ♂♂, 3 ♀♀ : Hienghène, 21-22.II.1978 (S. SHINONAGA); 6 ♂♂ : same data (H. SHIMA); 1 ♂ : same data (H. KURAHASHI). 3 ♂♂ and 3 ♀♀ paratypes are deposited in Muséum national d'Histoire naturelle, Paris, British Museum (Nat. Hist.), London, U.S. National Museum, Washington, California Academy of Sciences, San Francisco, and Bishop Museum, Honolulu, respectively. The other paratypes are preserved in the National Science Museum, Tokyo.

Type-locality : Pétchécara.

Remarks : the present species differs from other Australasian and Oceanian *Limnophora* species which have 4 *post-dc* in external characters, especially in body color, shapes of greyish bands and dark marks on abdominal tergites.

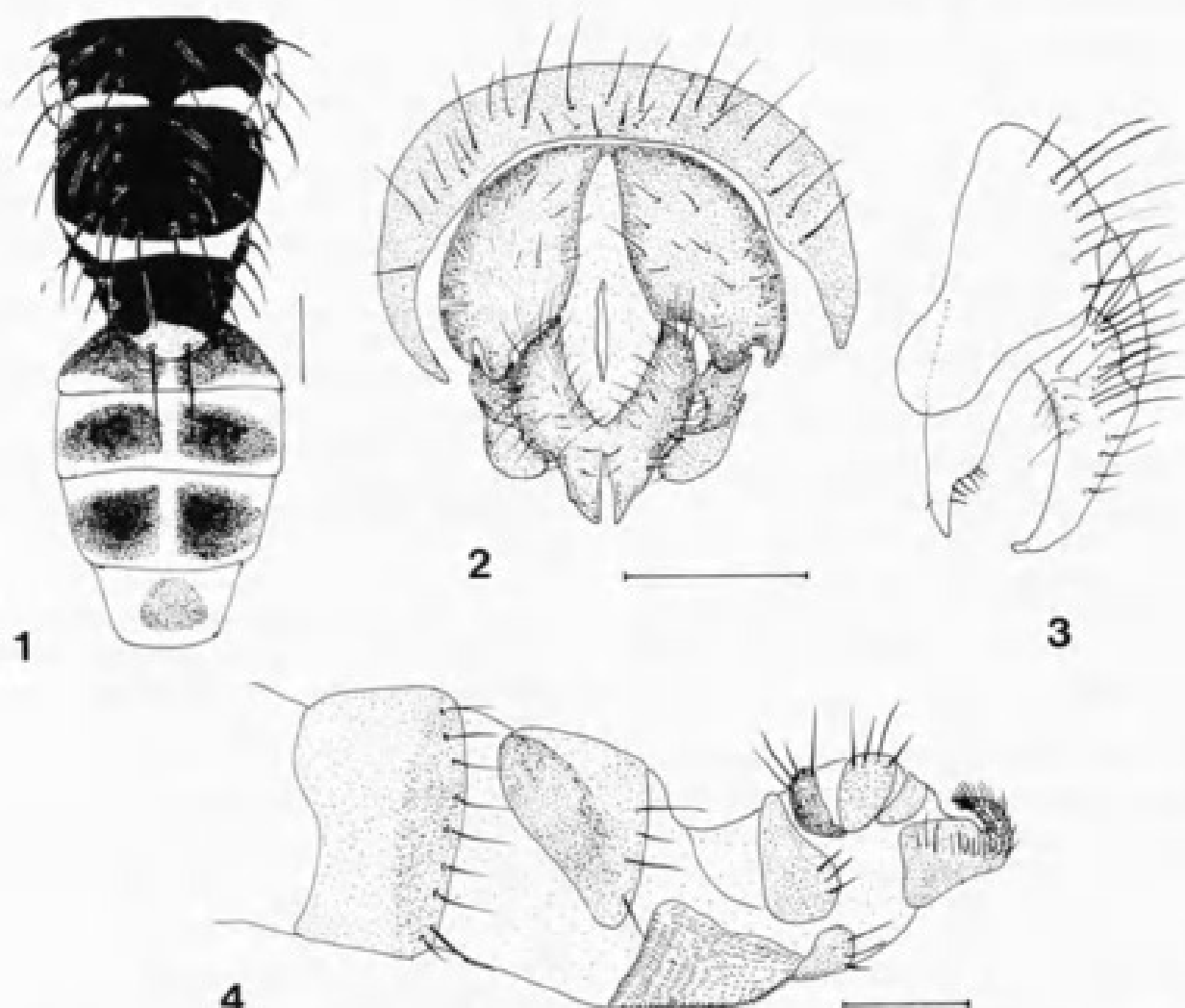


FIG. 1-4. — *Linnophora caledonica* n. sp. 1, Dorsal view of thorax and abdomen (male), scale : 1.0 mm ; 2, Posterior view of hypopygium ; 3, Lateral view of hypopygium, scale for 2 and 3 : 0.5 mm ; 4, Ovipositor (lateral view, scale : 0.5 mm).

Linnophora mesolissa Bezzi

Linnophora mesolissa Bezzi, 1928 : 175.

Material examined : 8 ♂♂, 21 ♀♀ : Thio, 50 km E of Nouméa, 18.ii.1978 (S. SHINONAGA) ; 1 ♀ : same data (H. SHIMA). 1 ♂, 7 ♀♀ : Col de Pêchécara, 15 km E of Thio, 19.ii.1978 (S. SHINONAGA) ; 2 ♂♂, 2 ♀♀ : same locality, 25.ii.1978 (S. SHINONAGA). 8 ♂♂, 3 ♀♀ : Pêchécara, 15 km W of Thio, 19.ii.1978 (S. SHINONAGA). 2 ♀♀ : Col d'Amieu, 20 km SW of Canala, 20.ii.1978 (S. SHINONAGA) ; 1 ♀ : same data (H. KURAHASHI). 1 ♂, 1 ♀ : Hienghène, 21-22.ii.1978 (S. SHINONAGA).

Lispe cana (Walker)

Anthomyia cana Walker, 1849 : 929.

Material examined : 13 ♂♂, 11 ♀♀ : Hienghène,

21-22.ii.1978 (S. SHINONAGA) ; 1 ♂, 1 ♀ : same data (H. KURAHASHI).

Lispe incerta Malloch

Lispe incerta Malloch, 1925 : 337.

Material examined : no material in our collection.

Lispe cyrtoneurina Stein

Lispe cyrtoneurina Stein, 1900a : 393.

New record from New Caledonia.

Material examined : 1 ♂ : Hienghène, 21-22.ii.1978 (H. KURAHASHI).

Lispe binotata Becker

Lispe binotata Becker, 1914 : 81.

New record from New Caledonia.

Material examined : 1 ♀ : Thio, 50 km E of Nouméa, 18.II.1978 (S. SHINONAGA).

Coenosia pumilio Stein

Coenosia pumilio Stein, 1900b : 151.

Material examined : no material in our collection.

Pectiniseta pectinata (Stein)

Coenosia pectinata Stein, 1900b : 147.

New record from New Caledonia.

Material examined : 3 ♀♀ : Pétchécara, 15 km W of Thio, 19.II.1978 (S. SHINONAGA). 2 ♂♂ : Col d'Amieu, 20 km SW of Canala, 20.II.1978 (H. KURAHASHI). 1 ♀ : Hienghène, 21-22.II.1978 (H. SHIMA).

Pygophora caledonica (Bigot)

Coenosia caledonica Bigot, 1885 : 269.

Material examined : 2 ♀♀ : Hienghène, 21-22.II.1978 (S. SHINONAGA); 1 ♀ : same data (H. KURAHASHI).

Pygophora minuta Malloch

Pygophora minuta Malloch, 1921 : 239.

Material examined : no material in our collection.

Fannia pusio (Wiedemann)

Anthomyia pusio Wiedemann, 1930 : 437.

Material examined : 36 ♂♂ : Col de Pétchécara, 15 km W of Thio, 25.II.1978 (S. SHINONAGA).

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