

NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES FROM NEW CALEDONIA¹

(Diptera: Tipulidae)

PART I

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The major island of New Caledonia, southernmost of the Melanesian Islands, lies in the Pacific Ocean about 875 miles east of Queensland, Australia. It has a length of 248 miles, with an average width of 31 miles, including an area of 8548 square miles, or slightly larger than Massachusetts.

The first crane-flies to be collected on New Caledonia were secured in 1928 by Professor and Mrs. T. D. A. Cockerell. A few scattered specimens were taken during the succeeding five years but the first important collection was one made by Dr. F. X. Williams in 1940 (Alexander, C. P. New or little-known Tipulidae from New Caledonia (Diptera). Proc. Hawaiian Ent. Soc., 12: 235-244; 1945). During the second World War many American troops were stationed on the island for varying periods of time and as a result of the interest of two entomologists, Mr. Charles F. Remington and Mr. John C. Herron, a large and representative series of the Tipulidae of the island became available. These were discussed in detail in a major paper that is still unpublished (Alexander, C. P. The crane-flies of New Caledonia (Diptera, Tipulidae). Trans. Royal Ent. Soc. London; in press). After this latter report was submitted for publication, still further specimens of these flies have become available, chiefly through the diligent efforts of Monsieur Louis R. Garrigou. Most of these latter specimens have been taken at relatively low altitudes on Mont Mou, in the southern part of the island, near Paita. I am very deeply indebted to Monsieur Garrigou for his appreciated efforts to make known the evidently rich Tipulid fauna of New Caledonia. All types of the novelties described at this time are preserved in my personal collection of these flies. A few further specimens are in the United States National Museum, collected by Mr. Wilfred Crabb, and sent to me for naming through the interest of Dr. Stone.

In the major paper above cited a total of 24 generic and subgeneric groups in the Tipulidae were recorded from New Caledonia. At this time I am adding six further generic and subgeneric groups, as follows (the asterisk indicates that the group is new to the island):

**Dolichozepe* Curtis.

Limonia Meigen; *subgenus *Discobola* Osten Sacken.

**Austrolimnophila* Alexander.

**Rhabdomastix* Skuse.

Erioptera Meigen; *subgenus *Meterioptera* Alexander.

**Toxorhina* Loew; *subgenus *Ceratocheilus* Wesche.

¹Contribution from the Entomological Laboratory, University of Massachusetts.

It may be regarded as certain that intensive collecting will add further generic groups to the island list, as at present known. In the United States National Museum (Lot 42-3133) there is a specimen of *Conosia irrorata* (Wiedemann), labelled "New Zealand; New Caledonia?—in airplane. Honolulu No. 23,632." This widespread fly has not been recorded from New Caledonia, New Zealand or the Hawaiian Islands, yet is regional (Fiji; eastern Australia; New Guinea).

Genus *Phacelodocera* Enderlein

Phacelodocera margaritae Alexander

Phalacrocera margaritae Alexander; Trans. Royal Ent. Soc. London (in press).

Allotopotype, ♀, Mont Mou, New Caledonia, altitude 900 feet, April, 1947 (L. R. Garrigou).

Female.—Length about 33 mm.; wing 24 mm.; antenna about 5.5 mm.

Characters as in the male, differing in the structure of the antennae. Antennae 15-segmented; flagellar branches much shorter than in the male, the longest not exceeding three times the length of the segment; first flagellar segment with a single branch, subequal to the segment, placed beyond midlength; flagellar segments two to nine, inclusive, each with two basal branches but without the third branch of the male sex; branches slightly unequal, the outer about one-third to one-half longer than the inner and slightly stouter; outer four segments simple, or the first (flagellar segment ten) with a swelling or protuberance on outer face; terminal segment about one-half longer than the penultimate. Ovipositor with the valves elongate, the cerci very slender, much exceeding the hypovalvae.

Genus *Dolichozepe* Curtis

Dolichozepe (Dolichozepe) austrocaledonica sp. n.

General coloration of mesonotum yellowish brown with three darker brown praescutal stripes; anterior vertex narrow; wings with a brownish tinge, stigma oval, darker brown; Sc_1 preserved; R_s very short, lying far distad, beyond the level of the other elements of the anterior cord; $r-m$ strongly arcuated; cell M_1 deep; $m-cu$ about its own length before the fork of M ; cell $2nd\ A$ relatively broad; male hypopygium with the outer dististyle long and narrow, nearly five times as long as the greatest width.

Male.—Length, about 8 mm.; wing, 9 mm.; antenna (to end of segment seven) 4 mm.

Frontal prolongation of head dark brown; palpi black. Antennae relatively long, as shown by the measurements; scape, pedicel and first flagellar segment brownish yellow, the remainder of flagellum dark brown; flagellar segments long-cylindrical, with scattered unilaterally arranged verticils, the longest a trifle more than one-third the length of the segment; antennae broken at end of seventh segment. Head brown; anterior vertex relatively narrow, a little less than twice the diameter of the scape.

Pronotum brown. Mesonotal praescutum with the ground yellowish brown, with three darker brown stripes that are only a little darker

than the ground; scutum brownish yellow, the lobes patterned with brown; scutellum dark brown, parascutella paler; mediotergite paler yellowish brown, the pleurotergite still more yellowed. Pleura more yellowed dorsally, the ventral portion, also involving the posterior coxae, infuscated. Halteres with the stem pale, knob infuscated. Legs with the fore and middle coxae paler than the posterior pair; trochanters yellow; remainder of legs broken. Wings with a brownish tinge, cell *Sc* a trifle more yellowed; stigma oval, darker brown, occupying the space between *Rs* and vein *R*₂; veins brown. Venation: *Sc*₁ preserved, at the extreme tip of *Sc*₂; *Rs* very short, lying far distad and simulating a crossvein, lying just distad of the level of the tip of *Sc*₁; *r-m* strongly arcuated to subangulate at near midlength; cell *M*₁ deep, nearly three times its petiole; *m-cu* about its own length before the fork of *M*; cell *2nd A* relatively broad.

Abdomen feebly bicolored, the broad bases and apices of the individual segments dark brown, the intermediate part more reddish brown or yellow; subterminal segment more uniformly dark brown; hypopygium brownish yellow. Male hypopygium with the outer dististyle relatively long and slender, the length nearly five times the greatest width, the entire surface with relatively few long black setae. Inner dististyle with the beak a flattened pale blade, the tip obtuse; lower beak blackened, even broader and more obtuse.

Habitat: New Caledonia. Holotype, ♂, Mont Mou, altitude 900 feet, February, 1947 (Garrigou).

In its venation, particularly the distal position of *Rs*, the present fly is more like certain Papuan species of the subgenus, all of which have cell *2nd A* very narrow. In general appearance it somewhat resembles the Australian *Dolichopeza* (*Dolichopeza*) *longijurca* Skuse and *D.* (*D.*) *palliditarsis* Alexander, which differ in the venation and in the structure of the male hypopygium. The genus had not been recorded from New Caledonia.

Genus *Limonia* Meigen

Subgenus *Discobola* Osten Sacken

Limonia (*Discobola*) *caledoniae* sp. n.

Size large (wing, male, over 16 mm.); mesothorax chiefly black, the praescutum brownish yellow with four brownish black stripes on the posterior portion; both the femora and tibiae black with a subterminal yellow ring; wings brownish fulvous, patterned with darker brown and yellow, the latter chiefly as series of dots along the veins; costal fringe of short setae from small blackened tubercles; abdominal segments bicolored; male hypopygium with the tergite oval, its caudal border convex.

Male.—Length, about 13 mm.; wing, 16.5 mm.

Rostrum and palpi black. Antennae black, the pedicel a trifle more testaceous; flagellar segments long-oval. Head brownish black, sparsely pruinose; anterior vertex reduced to a narrow strip; head narrowed behind.

Cervical region blackened. Pronotum brown, variegated with brownish black, with a sparse yellow pollen. Mesonotal praescutum

obscure brownish yellow, with four brownish black stripes, the intermediate pair more intense, restricted to slightly more than the posterior half of the sclerite and only a little longer than the lateral stripes; anterior and lateral praescutal borders darkened; posterior sclerites of notum black, the centers of the scutal lobes vaguely more brightened; central portion of scutum and base of scutellum more brownish black, opaque; mediotergite paler at proximal end. Pleura black, the sternopleurite somewhat paler. Halteres black, the base of stem narrowly pale. Legs with the fore and middle coxae black, the tips narrowly yellow; posterior coxae with the outer half yellowed; trochanters obscure yellow; femora brown, the base slightly paler, apex and a subterminal ring narrowly yellow, enclosing a broader black anteapical annulus; tibiae brownish black with a narrow yellow subterminal ring, the blackened apex even narrower; tarsi brownish black; claws with a single tooth; setae of legs relatively short. Wings with a strong fulvous brown tinge, variegated with darker brown and yellow areas; the brown pattern includes large costal areas alternating with subequal yellow ones, the third dark mark ocelliform, at the fork of *Sc*; vein *Cu* with a brown seam in cell *M*, broken by yellow dots; remaining veins with series of yellow dots, at ends of veins *R*₃ to *M*₄, inclusive, appearing as delicate marginal semicircles; anterior prearcular field obscure yellow; veins brown, those in the anterior fields of the wing alternating with yellow sections in the brightened portions. Costal fringe of short setae from small blackened tubercles. Venation: *Sc*₁ ending shortly before the fork of *Rs*, *Sc*₂ near its tip; *Rs* strongly arcuated at origin; free tip of *Sc*₁ joining *R*₁₊₂ at nearly a right angle; vein *R*₄₊₅ deflected strongly caudad near tip, ending close to wing apex; cell 1st *M*₂ elongate, irregular in outline, *m* being about one-third as long as the angulated basal section of *M*₃; *m-cu* shortly before fork of *M*; supernumerary crossvein in cell 1st *A* gently sinuous, more than twice the distal section of vein 2nd *A*.

Abdominal segments bicolored, the apical third of each dark brown or brownish black, the basal portion obscure yellow, becoming more brownish yellow on the outer segments; lateral borders of segments more narrowly darkened; hypopygium yellow. Male hypopygium with the tergite oval in outline, with both the caudal and cephalic borders convexly rounded. Basistyle with the ventromesal lobe large, applied to the entire mesal face of the style, near the outer end on lateral portion with a low secondary tubercle. Dorsal dististyle a very gently curved black rod, its tip acute. Ventral dististyle relatively small, without evident rostral spines. Gonapophyses appearing as double paired blades on either side of the slightly longer aedeagus, the inner blade more slender on its outer portion.

Habitat: New Caledonia. Holotype, ♂, Mont Mou, altitude 900 feet, June, 1947 (Garrigou).

Limonia (Discobola) caledoniae is entirely distinct from the more than 20 species of the subgenus so far made known. In some regards it suggests *L. (D.) ampla* (Hutton) and *L. (D.) dohrni* (Osten Sacken), of New Zealand, but the resemblance is not at all close. The subgenus had not been recorded from New Caledonia.

At this time I am re-naming a preoccupied species in this same subgenus: *Limonia (Discobola) gibberina* nom. nov.; for *L. (D.) gibbera*

Edwards, 1923, of New Zealand; *nec* L. (*Dicranomyia gibbera* Alexander, 1916. (*Discobola gibbera* Edwards; Trans. N. Z. Inst., 54: 286; 1923. *Dicranomyia gibbera* Alexander; Trans. Amer. Ent. Soc., 42: 6-7; 1916.)

Genus *Helius* St. Fargeau

Helius (Helius) aphrophilus sp. n.

General coloration of thorax dark brown; rostrum unusually long, approximately one-third the remainder of body; legs black, the tarsi paler; wings with a faint grayish tinge, restrictedly patterned with brown.

Male.—Length, excluding rostrum, about 5.5-6 mm.; wing, 6-7 mm.; rostrum about 1.8-2 mm.

Female.—Length, excluding rostrum, about 7.5-8 mm.; rostrum about 2-2.2 mm.

Rostrum elongate, black throughout. Antennae black, short; basal flagellar segments oval, the outer ones passing through elongate-oval to cylindrical; verticils slightly longer than the segments. Head black; anterior vertex narrow, subequal to the diameter of scape.

Thorax almost uniformly dark brown; vestiture of praescutal interspaces elongate but scattered. Halteres infuscated, the extreme base of stem yellow. Legs with the coxae dark brown; trochanters a little paler; remainder of legs black, the tarsi paling to light brown or brownish yellow. Wings with a faint grayish tinge, restrictedly patterned with brown, as follows: A spot at origin of *Rs* and another more basad in cell *R* at near one-third the length of cell; stigma; very narrow seams over cord and outer end of cell *1st M*₂; tip of vein *R*₃; wing tip less evidently darkened; veins brown. Venation: *Sc* long, *Sc*₁ ending a short distance before fork of *Rs*, *Sc*₂ longer than *Sc*₁; *r-m* subequal to or a little longer than the basal section of *R*₄₊₅; cell *1st M*₂ small, pentagonal, much shorter than the veins beyond it; *m-cu* at or close to the fork of *M*; cell *2nd A* relatively wide.

Abdominal tergites dark brown; sternites brown with posterior borders obscure yellow; subterminal segments more uniformly pale; hypopygium with the basistyles obscure yellow, the remainder dark brown. Male hypopygium with the basistyle unarmed. Outer dististyle relatively short and straight, the tip very indistinctly bifid. Inner dististyle longer, stout, the outer fourth somewhat more narrowed, the outer margin with several strong tubercles that bear strong setae. Gonapophyses with the lower apical angle extended into a long straight spine.

Habitat: New Caledonia. Holotype, ♂, Mont Mou, altitude 900 feet, December, 1946 (Garrigou). Allotopotype, ♀, pinned with type. Paratopotypes, several ♂♂, December, 1946, to March, 1947 (Garrigou); paratypes, ♂♀, St. Louis, altitude 1100 feet, December 2-30, 1945 (Herron), hanging on under faces of wet rocks in cascades and rapids of stream and on stones near waterfalls; ♂♀, near La Foa, February 26-April 25, 1945 (Remington).

The only other regional species having the rostrum elongate is *Helius (Helius) neocaledonicus* Alexander, which is readily told by the

larger size and the unpatterned wings. The present fly seems to prefer wet boulders near waterfalls and rapids, whence the specific name.

Genus *Austrolimnophila* Alexander

Austrolimnophila garrigoui sp. n.

General coloration brownish black, patterned with yellow; legs black, both the femora and tibiae very narrowly ringed with yellowish white, the tarsi paling to obscure yellow; wings strongly infuscated, with a conspicuous pattern of still darker brown, these latter areas bordered by cream-yellow; *Rs* square and short-spurred at origin; *m-cu* at near two-thirds the length of cell *1st M*₂; abdomen brownish black, the segments ringed posteriorly with pale.

Female.—Length, about 9 mm.; wing, 9.5 mm.

Rostrum brownish black; palpi black. Antennae (female) short; scape and pedicel black, the former pruinose; basal three flagellar segments yellow, the remainder black; flagellar segments becoming long-cylindrical, with elongate verticils that exceed the segments. Head brown, more or less yellow pollinose.

Pronotum brown, somewhat darker on the sides. Mesonotal praescutum black with two intermediate light brown stripes that are separated by a shiny black capillary vitta, the sublateral stripes and lateral border blackened; scutum light brown, each lobe variegated with brownish black spots; scutellum blackened basally, more pruinose on posterior border; postnotum black, heavily gray pruinose; a capillary dark central vitta on the mediotergite. Pleura and pleurotergite with the ground obscure brownish yellow, conspicuously patterned with black, including a complete dorsal stripe, the broad ventral sternopleurite, and a broken intermediate stripe appearing on the dorsal sternopleurite and again on the ventral pleurotergite. Halteres long and slender, dusky, the base of stem and apex of knob whitened. Legs with the coxae black, more or less pruinose basally, the tips whitened; fore coxae with the extreme base again black; trochanters brownish yellow; femora black, obscure yellow basally, with three narrow rings of yellowish white, these rings at near one-third, two-thirds and the tip, respectively; tibiae black, similarly with three narrow yellowish white rings, involving the base and tip and a similar annulus at near one-fifth the length; tarsi brownish black, paling into obscure brownish yellow. Wings with the ground strongly infuscated, with a conspicuous pattern of darker brown, all these areas ringed with cream-yellow to produce a handsome pattern; the dark marks include four in the prearcular field; at arculus, extending anteriorly to *C*; origin of *Rs*, extending from *C* almost to *M*; a band at cord, extending from *C* back to *M*, more narrowed behind; seams over outer end of cell *1st M*₂, *m-cu*, *R*₂, fork of *M*₁₊₂, and at ends of all longitudinal veins; two further dark areas in cell *2nd A*, at base and at near midlength; veins yellow in the brightest fields, elsewhere becoming brownish yellow and finally dark brown in the patterned portions. Venation: *Rs* square and short-spurred at origin; *R*₂₊₃₊₄ about one-half longer than the basal section of *R*₅; *R*₁₊₂ about three times *R*₂; cell *M*₁ nearly twice its petiole; *m-cu* at near two-thirds the length of cell *1st M*₂.

Abdomen brownish black, the posterior borders of the segments ringed with pale, very narrowly so on the tergites, more broadly so on the sternites. Genital shield black, valves of ovipositor horn-yellow.

Habitat: New Caledonia. Holotype, ♀, Mont Mou, altitude 900 feet, February, 1947 (Garrigou).

This beautiful and exceptionally distinct crane-fly is named for the collector, Louis Robert Garrigou, who has added materially to our knowledge of the Tipulidae of New Caledonia. Superficially the fly suggests certain species of *Epiphragma* in Tropical America, while being quite dissimilar to the two species of this latter genus so far discovered in New Caledonia. There is no trace of the supernumerary crossvein in cell *C*, characteristic of all species of *Epiphragma*. The genus *Austrolimnophila* is new to the island list.

Genus *Gynoplistia* Westwood

Gynoplistia (*Paralimnophila*) *neocaledonica* Alexander

Gynoplistia (*Paralimnophila*) *neocaledonica* Alexander; Proc. Hawaiian Ent. Soc., 12: 240-242, figs. 4, 8; 1945.

2 ♀ ♀, Mont Mou, New Caledonia, altitude 900 feet, March, 1947 (Garrigou).

Gynoplistia (*Paralimnophila*) *caledonica* sp. n.

Mesonotal praescutum fulvous in front, brown behind, the surface more or less pruinose; antennal flagellum brownish yellow; femora yellow, with two narrow dark brown rings, both subterminal; tibiae yellow, the apex narrowly brownish black; wings whitish subhyaline, restrictedly patterned with medium brown, the areas restricted to the vicinity of the veins; cell *R*₃ sessile or very short-petiolate.

Male.—Length, about 12 mm.; wing, 10.5 mm.

Rostrum dark gray; palpi brownish black; labial palpi obscure orange. Antennae with the scape brown, sparsely pruinose; pedicel paler brown; flagellum brownish yellow, the segments subcylindrical, slightly longer than the verticils. Head dark, heavily gray pruinose, the center of the posterior vertex and the occiput with a brown median spot.

Pronotum light brown, sparsely gray pruinose; pretergites pale yellow. Mesonotal praescutum in front fulvous, behind brown, more or less pruinose and patterned with still darker brown stripes, including a median vitta that is even more blackened and continues to the cephalic border of the sclerite; scutum infuscated; scutellum testaceous brown with a darker median vitta; mediotergite light gray, with a narrow more blackened central stripe; pleurotergite gray. Pleura yellow, including the dorsopleural membrane. Halteres uniformly yellow. Legs with the coxae pale yellow, sparsely pruinose; trochanters yellow; femora yellow, with two narrow dark brown rings, one nearly terminal, the other sub-apical, the two annuli separated by a much broader ground ring; tibiae yellow, the tips narrowly brownish black; tarsi yellow. Wings whitish subhyaline, restrictedly patterned with medium brown, as follows: A spot at origin of *Rs*, with a second larger area in transverse alignment in cells *Cu* and *1st A*; a more basal spot in cell *R*; stigma and a complete seam crossing the wing, the stigma slightly darker; outer end of cell

1st M_2 ; spots at fork of M_{1+2} and tips of veins R_3 and R_4 ; veins yellow, darker in the clouded portions. Venation: Sc moderately long, Sc_1 ending shortly before the fork of R_3 , Sc_2 a short distance before the tip; R_3 elongate, exceeding its anterior branch, cell R_3 sessile or very short-petiolate; vein R_{2+3+4} and basal section of R_5 interstitial or virtually so; $r-m$ short or obliterated by fusion of veins R_5 and M_{1+2} ; cell 1st M_2 rectangular; cell M_1 subequal to or a little shorter than its petiole; $m-cu$ about one-fourth its length beyond the fork of M .

Basal abdominal tergite brownish black medially, the margins yellow; succeeding tergites obscure yellow; a subterminal brownish black ring; hypopygium and preceding segment yellow. Male hypopygium with the tergite narrowed outwardly, its caudal margin very gently emarginate. Outer dististyle slender; inner style more or less mitten-shaped, the tip obtuse.

Habitat: New Caledonia. Holotype, ♂, Mont Mou, altitude 900 feet, April, 1947 (Garrigou).

Most similar to *Gynoplistia (Paralimnophila) neocaledonica* Alexander, differing conspicuously in the coloration of the antennae, legs and wings and in the venation.

***Gynoplistia (Gynoplistia) williamsiana* Alexander**

Gynoplistia (Gynoplistia) williamsiana Alexander; Proc. Hawaiian Ent. Soc., 12: 242-243, figs. 5, 9, 1945.

This is apparently the commonest and most widely distributed member of the genus in New Caledonia. Conception, November 8-11, 1944; Dumbea, October 14-29, 1944; Noumea, September 10, 1944 (all Wilfred Crabb); United States National Museum. Mont Mou, altitude 900 feet, June, 1947 (Garrigou).

Genus *Rhodomastix* Skuse

***Rhodomastix austrocaledoniensis* sp. n.**

Size very small (wing under 3.5 mm.); mesonotal praescutum and scutum brownish yellow, heavily gray pruinose, the posterior sclerites and the pleura clearer yellow; legs brown; wings with a light grayish tinge, veins pale brownish yellow; no macrotrichia on R_3 or its anterior branch; Sc_1 ending about opposite three-fifths the length of R_3 ; distance on costa between R_{1+2} and R_3 subequal in length to the latter vein; cell 1st M_2 small.

Sex? Length, about 2.7-2.8 mm.; wing, 3-3.3 mm.

Specimens damaged by Corrodentia. Head brownish yellow. Mesonotal praescutum and scutum brownish yellow, heavily light gray pruinose; scutellum and postnotum clearer yellow; lateral border of praescutum and the pretergites yellow. Pleura yellow, in cases weakly more infuscated. Legs with the coxae and trochanters yellow; remainder of legs brown. Wings with a light gray tinge, the costal border a trifle more yellowed; veins pale brownish yellow. No macrotrichia on R_3 or its anterior branch; relatively abundant coarse trichia on R_5 , excepting its base, and on distal ends of outer sections of veins M_{1+2} and M_3 . Venation: Sc_1 ending about opposite three-fifths the length of R_3 ;

R_{2+3+4} about three times the slightly oblique to suberect vein R_3 ; distance on costa between R_{1+2} and R_3 subequal in length to the latter vein; distal section of vein M_{1+2} gently arcuated at its base; cell *1st* M_2 small, about one-third as long as the distal section of vein M_{1+2} ; *m-cu* at near one-third the length of cell *1st* M_2 .

Habitat: New Caledonia. Holotype, Sex?, Mont Mou, altitude 1100 feet, June, 1947 (Garrigou). Paratopotypes, 2 fragmentary specimens.

Rhodomastix austrocaledoniensis is quite distinct from the relatively numerous species of the genus now known from Australia and New Zealand, being distinguished by the unusually small size and by the venation and trichiation of the wings. This widespread genus had not hitherto been recorded from New Caledonia.

Genus *Erioptera* Meigen

Subgenus *Meterioptera* Alexander

Erioptera (*Meterioptera*) *caledonia* sp. n.

Thorax brownish yellow, the pleura clearer yellow; basal fusion of flagellar segments apparently involving two segments; legs yellow, the outer tarsal segments blackened; wings grayish yellow; Sc_1 very long, nearly equal to R_s ; R_{2+3+4} and R_{2+3} in oblique alignment; vein *2nd* A very strongly sinuous on its outer fourth.

Male.—Length, about 3.5 mm.; wing, 3.5–3.7 mm.

Female.—Length, about 4 mm.; wing, 4–4.2 mm.

Rostrum yellow; palpi brownish black. Antennae with the scape, pedicel and basal flagellar segments yellow, the outer ones slightly darker; basal fusion of flagellar segments apparently involving two articles, the remaining ones oval, with long conspicuous verticils. Head obscure yellow.

Thorax brownish yellow, the pretergites and pleura clearer yellow. Halteres with stem yellow, knob weakly darkened. Legs with all coxae and trochanters yellow; remainder of legs yellow, the outer tarsal segments black. Wings grayish yellow, the prearcular and costal fields pale yellow; veins yellow, those comprising the cord slightly darker yellowish brown. Venation: Sc_1 ending opposite the fork of R_s , Sc_2 only a short distance beyond the origin of R_s , Sc_1 thus very long, nearly equal to R_s , the latter long; R_{2+3+4} in alignment with R_{2+3} , both oblique; *m-cu* just before the fork of M ; vein *2nd* A with the outer fourth strongly sinuous, running close to the wing margin.

Abdominal tergites brown, the sternites and genital segment more yellowed.

Habitat: New Caledonia. Holotype, ♀, Mont Mou, altitude 900 feet, February, 1947 (Garrigou). Paratopotypes, several ♂ ♀, February–June, 1947 (Garrigou).

The present fly is most similar to Australian species, such as *Erioptera* (*Meterioptera*) *illingworthi* Alexander, differing in the small size, and in the details of coloration and venation. The subgenus *Meterioptera* is new to the island list.

Genus *Molophilus* Curtis*Molophilus (Molophilus) vorax* sp. n.

Belongs to the *gracilis* group and subgroup; general coloration dark brown; antennae short; wings with a weak dusky tinge; costal fringe (male) long and conspicuous; male hypopygium with the basistyle terminating in three lobes, the dorsal one a slender spine; outer dististyle a strongly sinuous rod; inner style more flattened, nearly parallel-sided, its lower apical angle produced into an acute blackened spine.

Male.—Length, about 3 mm.; wing, 3.5 mm.

Rostrum and palpi dark brown. Antennae (male) short, if bent backward not attaining the wing root; scape pale, the remainder of organ dark brown; flagellar segments subcylindrical, with truncated ends, shorter than the longest verticils. Head dark brown.

Thorax almost uniformly dark brown, the sides of the praescutum and the pleura a trifle paler. Halteres with the stem darkened, narrowly pale at base, knob broken. Legs brownish yellow, with dark vestiture, the outer tarsal segments more darkened. Wings with a weak dusky tinge, the veins and macrotrichia darker brown. Costal fringe (male) long and conspicuous. Venation: R_2 lying shortly distad of level of *r-m*; petiole of cell M_3 a little more than twice the straight *m-cu*.

Abdomen, including hypopygium, dark brown or brownish black. Male hypopygium with the mesal and ventral apical lobes of the basistyle fleshy, setiferous, the dorsal one a slender spine of nearly the same length. Two dististyles occupying the notch of the basistyle, the outer a strongly sinuous or sigmoid rod, its base thickened, the outer half or more extended into an elongate black spine. Inner dististyle a flattened parallel-sided rod, the lower apical angle produced into an acute blackened spine, the upper apical portion with microscopic appressed spinulae. Aedeagus stout at base, narrowed very gradually to the slender tip.

Habitat: New Caledonia. Holotype, ♂, Mont Mou, altitude 900 feet, February, 1947 (Garrigou). Paratopotype, ♂, on slide, March, 1947 (Garrigou).

The only other regional member of the group is *Molophilus (Molophilus) tatarus* Alexander, which has the male hypopygium entirely different in structure.

Genus *Toxorhina* LoewSubgenus *Ceratocheilus* Wesche*Toxorhina (Ceratocheilus) caledonica* sp. n.

Rostrum very long, much exceeding the wing; disk of mesonotum dark brown, the cephalic and lateral portions of the praescutum yellow; pleura yellow, striped longitudinally with brownish black; halteres yellow; legs dark brown; wings weakly tinged with brown, restrictedly patterned with darker brown, appearing as seams along the cord and elsewhere; anterior branch of R_s sinuous, relatively long; cell 1st M_2 closed; abdominal tergites bicolored, dark brown, with a narrow obscure yellow crossband at near midlength of each.

Female.—Length, excluding rostrum, about 9 mm.; wing, 6 mm.; rostrum, about 8.3 mm.

Rostrum unusually long, as shown by the measurements, much exceeding the wing, black throughout. Antennae with the scape dark; remainder of organ broken. Head yellowish gray; anterior vertex without corniculus, relatively narrow, less than the diameter of the rostrum; setae of vertex relatively numerous and strong, chiefly proclinate.

Cervical region and pronotum brownish black. Mesonotal praescutum projecting strongly over the pronotum, the cephalic and lateral portions yellow, contrasting abruptly with the remainder of disk which is dark brown; posterior sclerites of notum similarly darkened, sparsely pruinose. Pleura whitish yellow, striped longitudinally with brownish black, the broadest and most conspicuous stripe dorsal in position, extending from the pronotum across the dorsal pleurites to the abdomen, passing through the root of the halteres; ventral sternopleurite less heavily infuscated. Halteres pale yellow. Legs with the coxae whitish yellow; trochanters brown; remainder of legs dark brown, the tarsi not or scarcely brightened. Wings with a weak brownish suffusion, the prearcular and basal costal area somewhat more yellowed; a relatively conspicuous brown pattern, appearing as seams to R_s , cord, anterior branch of R_s , base of outer section of vein R_5 and as a seam along Cu , chiefly in cell M ; cells C and Sc more brownish yellow; veins brown, paler at wing base. Macrotrichia on outer radial and medial veins, sparse or lacking on M_4 . Venation: Sc_1 ending about opposite one-third the length of R_s , Sc_2 nearly opposite the origin; R_s more strongly arcuated than in most other regional species; anterior branch of R_s sinuous, relatively long; cell *1st* M_2 closed, shorter than M_4 ; *m-cu* at or just beyond the fork of M ; cell *2nd* A relatively wide.

Abdomen with the tergites bicolored, dark brown, with a relatively narrow obscure yellow transverse band at near midlength, both base and apex darkened; sternites more uniformly pale yellow, the posterior borders narrowly margined with dark brown. Ovipositor with the genital shield dark brown; valves of ovipositor dark chestnut brown, very long, especially the slender nearly straight cerci.

Habitat: New Caledonia. Holotype, ♀, Mont Mou, altitude 900 feet, March, 1947 (Garrigou).

A very distinct species, readily told from others in New Guinea, Australia and New Zealand by the coloration of the body and wings. It is entirely different from the species next described. In its venation it is most like species such as *Toxorhina (Ceratocheilus) australasiae* Alexander but very distinct. Both the genus and subgenus were unrecorded from New Caledonia.

***Toxorhina (Ceratocheilus) juvenca* sp. n.**

Mesonotum light brown, the posterior sclerites gray; head light gray; legs brown, with black vestiture; wings with a weak brownish tinge, unpatterned; R_s and basal section of vein R_5 subequal in length; anterior branch of R_s longitudinal in position, sinuous, about twice as long as R_s ; cell *2nd* A very narrow.

Sex? Length, excluding rostrum, about 4.5 mm.; wing, 4 mm.; rostrum, about 4.2 mm.

Rostrum brown throughout, exceeding the wing in length. Antennae with the scape and pedicel yellow; flagellum broken. Head light gray; no corniculus; anterior vertex relatively broad, approximately four times the diameter of scape.

Pronotum fulvous yellow. Mesonotum light brown, paling to fulvous at the produced cephalic end, the lateral praescutal borders pale; scutal lobes light brown, the remainder of mesonotum gray; posterior margin of scutellum and lateral portion of mediotergite brown. Pleura brownish gray, the sternopleurite somewhat paler. Halteres with stem brown; knob broken. Legs with the coxae and trochanters light yellow; trochanters testaceous yellow; remainder of legs brown, with black vestiture. Wings with a weak brown tinge, unpatterned; veins dark brown. Venation: Sc short, Sc_1 ending about opposite one-fourth to one-fifth the length of Rs , Sc_2 opposite this origin; Rs subequal in length to basal section of R_5 and only about one-half as long as its anterior branch, the latter longitudinal in position, sinuous; distance on costa between the tips of veins R_{1+2} and R_3 slightly greater than the length of Rs alone; cell 1st M_2 subrectangular, M_{3+4} subequal to vein M_4 ; $m-cu$ shortly before the fork of M ; cell 2nd A very narrow, striplike.

Abdomen with basal segments brown, bordered by dark brown; outer segments broken.

Habitat: New Caledonia. Holotype, Sex? Mont Mou, altitude 900 feet, April, 1947 (Garrigou).

The present fly is readily told from the only other regional member of the genus and subgenus, *Toxorhina (Ceratocheilus) caledonica* sp. n., by the small size and unpatterned wings, with all venational details distinct.