

NEW OR LITTLE-KNOWN TIPULIDAE
FROM THE COMORO ISLANDS. I

(DIPTERA)

par

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The Comoros constitute a group of French islands in the Mozambique Channel, between Madagascar and the African mainland. They lie opposite the northern end of Madagascar between Latitudes 11° and 13° South and Longitudes 43° and 45° 30' East, and comprise the four major islands of Grande Comore, Moheli, Mayotte and Johanna.

Until very recently our knowledge of the *Tipulidae* of this important group of islands has been quite lacking. Following the discovery of the remarkable coelacanth fish, *Latimeria chalumnae* Smith, off the southeastern African coast and its subsequent rediscovery in evidently greater numbers off the Comoros, work on this very important problem was begun by the staff of the Institut de Recherche scientifique de Madagascar, under the leadership of the Director, Doctor J. Millot. During recent years, Doctor Millot and various staff members have visited the islands and in the course of their researches on *Latimeria* have had the opportunity to make extensive collections of insects. The species discussed herewith were taken by Doctor Millot and the museum assistant, M. Andria Robinson, between 1954 and 1956. The types and representatives of other species have been returned to Doctor Paulian to be incorporated in the collections of the Institut at Tsimbazaza, Tananarive. My deep thanks and appreciation are extended to the authorities of the Institut for the opportunity to study this important series of African crane-flies.

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*Tipulinae*1. *Ctenacroscelis albovittatus* (Macquart)

Tipula albovittata Macquart ; *Dipt. exot.*, 1, pt. 1 : 53 ; 1838.

Tipula brunnea Bigot ; *Ann. Soc. ent. France*, (3) 7, pl. 3, fig. 2 ; 1859.

Tipula rubiginosa Bigot ; in MAILLARD, Notes sur l'île de la Réunion, 2, Dipt., p. 37 ; 1863.

Mayotte : Combani, february 1956 (Robinson).

Moheli : november 1955 (Robinson).

Widespread in Tropical Africa and the satellite islands, including Madagascar, Mauritius and Reunion.

2. *Nephrotoma comoroensis* n. sp.

General coloration polished yellow, patterned with brown, including darker brown areas on praescutum and scutum, the latter without conspicuous setae ; occipital brand very poorly differentiated ; femora yellow, tips narrowly brownish black ; claws of male toothed ; wings grayish yellow, costal field light yellow, stigma pale brown ; male hypopygium with the posterior border of tergite very gently concave, the low lobes spiculose ; inner dististyle with a high nearly hyaline dorsal crest, region of outer basal lobe with two long slender spines ; gonapophysis pale, bipartite, the outer arm an acute spine.

♂ : Length about 12-14 mm ; wing 12-14 mm ; antenna about 3-4,2 mm.

♀ : Length about 15 mm ; wing 12 mm.

Frontal prolongation of head yellow, nasus somewhat darker ; dorsal surface of prolongation with scattered coarse setae, longer on nasus ; palpi with first segment obscure yellow, succeeding two yellowish brown, terminal segment medium brown. Antennae of male ranging from short (see above measurements) to longer, shortest in the type ; scape and pedicel orange-yellow, flagellum black ; in the type, flagellar segments scarcely incised, longer than the verticils ; in the paratype, antennae longer, flagellum paler brown, the basal enlargements of the segments slightly developed, longest verticils unilaterally distributed, exceeding the segments ; in the female, flagellum more yellowed, the basal enlargements a little darker. Head orange yellow, pale yellow on the low entire vertical tubercle ; a barely indicated darkened cloud at narrowest point of vertex, adjoining the eye ; occipital brand very poorly differentiated, slightly more nitidous ; sides of posterior vertex with long black setae.

Pronotum brown, darker brown on sides and propleura ; setae short.

Mesonotal praescutum with the ground orange yellow, clear yellow on the humeral and lateral portions; three more reddish brown stripes that are best-indicated by black borders on outer margins of anterior half of the central stripe, the lateral stripes more solidly darkened; scutum yellow medially, each lobe with two contiguous blackened areas; vestiture of praescutum and scutum small and sparse, restricted to the interspaces; scutellum and mediotergite more testaceous to yellow, with sparse but long and conspicuous erect to proclinate setae. Pleura and pleurotergite light yellow, variegated by more reddish areas on the anapleurotergite, anepisternum and ventral sternopleurite. Halteres with stem brownish yellow, base of knob darker, apex obscure yellow. Legs of male with all coxae and trochanters reddish yellow; femora yellow, the tips narrowly brownish black, the amount subequal on all legs; tibiae brownish yellow, tarsi passing through brown to black; claws of male hairy, toothed; in female, tips of femora not or scarcely more darkened. Wings grayish yellow, the prearcular and costal fields light yellow; stigma oval, pale brown; veins brown. Macrotrichia in basal part of stigma, none in the cells. Venation: Cell *1st M*₂ small, the veins issuing from it correspondingly long; cell *M*₁ normally sessile, irregularly petiolate in one wing of type; *m-cu* a short distance before fork of *M*.

Abdominal tergites of male orange, the mid-dorsal region a little darker except on the clear yellow basal ring; a broken brownish black lateral stripe, chiefly at the outer end of the segment, on the more proximal segments also on the basal part; subterminal segments blackened, forming a narrow ring; sternites and hypopygium yellow. In the female, the black coloration is more extensive and conspicuous. Ovipositor with cerci long and straight, tips narrowly obtuse. Male hypopygium (fig. 7) with the tergite (*t*) transverse, narrowed outwardly, the posterior border very gently concave, with two low sparsely spiculate lobes, the cephalic part of each with a strong lobe that is directed backward or cephalad, tipped with strong spicules. Outer dististyle (*d*) relatively long and narrow, the length about four times the greatest breadth, narrowed gradually to the acute tip. Inner style with the beak slender; dorsal crest high, nearly hyaline, the margin fringed with delicate setulae; region of outer basal lobe with two slender blackened spines. Gonapophysis (*g*) much longer than the small aedeagus, bipartite, the inner lobe flattened, angularly bent at near mid-length, the outer arm an acute spine. Eighth sternite relatively short, posterior border nearly transverse, without lobes or setal brushes.

HOLOTYPE ♂: Anjouan Moutsamoudou, may 1954 (Millot). ALLOTYPE ♀: Fomboni, Moheli, june 1954 (Millot). PARATYPES 1 ♂, 2 ♀♀, with the allotype.

Quite distinct from the only other member of the genus so far discovered on the Comoros, *Nephrotoma Milloti*, n. sp., described next, differing in the pattern of the mesonotum, vestiture of head and thorax and, espe-

cially, the quite distinct structure of the male hypopygium, particularly the tergite, inner dististyle, and gonapophysis.

3. *Nephrotoma Milloti* n. sp.

General coloration of mesonotum light yellow, the praescutum and scutal lobes patterned with reddish brown; head and mesonotum with abundant erect black setae, on the praescutum including both the stripes and interspaces; femora yellow, tips narrowly blackened; wings tinged with yellow, stigma pale brown; cell 1st M_2 small, the veins beyond it correspondingly long; abdomen yellow, the lateral tergal borders and a subterminal ring in the male darkened; male hypopygium with the posterior border of tergite four-lobed; outer dististyle short and broad, inner style without blackened armature in the region of the outer basal lobe.

♂ : Length about 13-13,5 mm; wing 11,5-12 mm; antenna about 4,8-5 mm.

♀ : Length about 18 mm; wing 14,2 mm.

Frontal prolongation of head light yellow, including nasus, the latter with a few long black setae; palpi with first segment brownish yellow, succeeding segments light brown, the terminal one darker. Antennae of male relatively long, as shown by the measurements; scape, pedicel and proximal two-thirds of first flagellar segment yellow, the remainder of organ black; flagellar segments rather strongly incised, a trifle exceeding the longest verticils; in female, antennae short, with simple segments. Head yellow, the brand broad, pale brown; entire posterior part of head, including the brand, with numerous black setae, those nearer the eyes larger; anterior vertex of normal width, greater than one-half of the diameter of the eye as seen from above.

Pronotum light yellow, with abundant erect black setae. Mesonotum light yellow, the praescutum with three reddish brown stripes, the lateral pair straight; entire surface of praescutum with abundant erect black setae, occupying both stripes and interspaces; posterior sclerites of notum yellow, all with abundant black setae, much longer on the mediotergite; scutal lobes chiefly reddish brown; pleurotergite chiefly glabrous, the katalpleurotergite with relatively few short black setae. Pleura yellow, glabrous. Halteres with stem yellow, knob dark brown, the tip obscure yellow. Legs with coxae pale yellow, with relatively sparse long yellow setae; trochanters yellow; femora and tibiae yellow, tips rather narrowly blackened, especially the tibiae, the amount subequal on all legs; tarsi obscure brownish yellow, passing through brown to black; claws of male toothed. Wings (fig. 1) relatively narrow, tinged with yellow, stigma pale brown; veins brown. Stigma with macrotrichia on basal part; no trichia in outer wing cells. Venation: Sc_1 weakly preserved; $m-cu$ at or immediately

before the fork of M_3 ; cell $1st M_2$ small, the veins beyond it correspondingly long; cell M_1 narrowly to broadly sessile.

Abdomen yellow, the lateral borders vaguely more darkened; segments seven and eight in male dark brown to form a ring; hypopygium yellow; segments with abundant but very short and insignificant setae. In the female, tergites with three vague more brownish stripes, the median one beginning on the third segment, the lateral stripes broader and more continuous. Ovipositor with cerci long and straight, tips subacute. Male hypopygium (fig. 8) with the tergite (t) large, the posterior border four-lobed, including a pair of obtuse intermediate blades and outer lateral arms, all provided with blackened spicules. Outer dististyle (d) unusually short and broad, the length up to one-half longer than the greatest width. Inner style with the beak blackened, slender; no developed dorsal crest; posterior crest produced backward as a rounded lobe; region of outer basal lobe without blackened spines or flanges. Gonapophysis (g) of either side appearing as a pale subhyaline blade that is deeply bilobed, the inner lobe more slender. Eighth sternite large, posterior border virtually truncate, without lobes or setal brushes.

HOLOTYPE ♂ : Grande Comore, June 1, 1954 (Robinson). ALLOTOPOTYPE ♀ : pinned with type. PARATOPOTYPE ♀ : November 1954 (Millot). PARATYPES alcoholic ♂ ♀ : Fomboni, Grande Comore, November 1954 (Millot).

I am very pleased to dedicate this interesting fly to Director J. Millot. The species is very distinct in the abundant black setae of the mesonotum, especially the praescutum and scutum. A few other members of the genus, including *Nephrotoma comoroensis* n. sp., and *N. angustifrons* Edwards, of São Tomé, have conspicuous setae on the scutellum and mediotergite but with the anterior part of the mesonotum glabrous or virtually so.

Limoniinae

LIMONIINI

4. *Limonia discobolina* (Edwards)

Limnobia discobolina Edwards; *Ann. Mag. Nat. Hist.* (9) 12 : 334-335; 1923.

Limonia (Limonia) discobolina Alexander; *Mém. Inst. sci. Madag.* (A) 5 : 43; 1951.

Grande Comore : Fomboni, November 1954 (Millot).

Described from Rodriguez Island; later recorded from Madagascar.

5. *Limonia millotiana* n. sp.

General coloration brown, the praescutum with four brownish yellow stripes; rostrum and palpi very reduced; antennae brownish black, flagellar segments with short abrupt apical pedicels; knobs of halteres dark brown; legs medium brown, tarsi and tips of tibiae yellowed; wings uniformly infuscated, without pattern; all cells, except near wing base, with abundant macrotrichia; free tip of Sc_2 some distance before level of R_2 ; basal section of R_{4+5} longer than $r-m$; abdomen brown, the incisures narrowly pale.

♂ : Length about 7,5 mm; wing 6,5 mm.

Described from an alcoholic specimen. Rostrum very reduced, yellow; palpi short, evidently with only one or two segments, porrect, dark brown. Antennae brownish black; flagellar segments oval, with short abrupt more yellowed apical pedicels; outer segments more elongate, with less evident pedicels; terminal segment elongate, about one-fourth longer than the penultimate; longest verticils unilaterally arranged, longer than the segments. Head brown; anterior vertex relatively broad, nearly twice the diameter of the scape.

Pronotum brown. Mesonotal praescutum with the restricted interspaces light brown, the four stripes still paler, brownish yellow; setae sparse but very long, erect; scutum pale brown, each lobe with a paler center; scutellum light brown, postnotum paler. Dorsal pleura and pleurotergite light brown, ventral pleurites paler. Halteres with stem pale, knob dark brown. Legs with all coxae and trochanters pale; a single leg remains, medium brown, the tip of tibia and the tarsal segments more yellowed, terminal segments broken. Wings (fig. 2) uniformly infuscated, without pattern; veins darker brown. Wing surface with abundant macrotrichia (their position shown in figure by stippling), lacking only in the proximal ends of basal cells and in the prearcular field. Venation: Sc_1 ending nearly opposite fork of Rs , Sc_2 near its tip; free tip of Sc_2 very faint, some distance before level of R_2 ; basal section of R_{4+5} about one-half longer than $r-m$; cell 1st M_2 about as long as the distal section of vein M_3 ; $m-cu$ longer than distal section of Cu_1 , placed shortly beyond the fork of M .

Abdomen brown, the incisures narrowly pale; vestiture relatively scattered. Ovipositor with cerci short, gently upcurved to the acute tips; hypovalvae longer, blackened basally, nearly straight.

HOLOTYPE ♀ : Grande Comore, Nioumbadjou, at grotto entrance, november 1954 (Millot).

This attractive fly is named in honor of Director J. Millot, who collected several *Tipulidae* of unusual interest in the Comoros. The only other described Ethiopian species with hairy unpatterned wings are *Limonia*

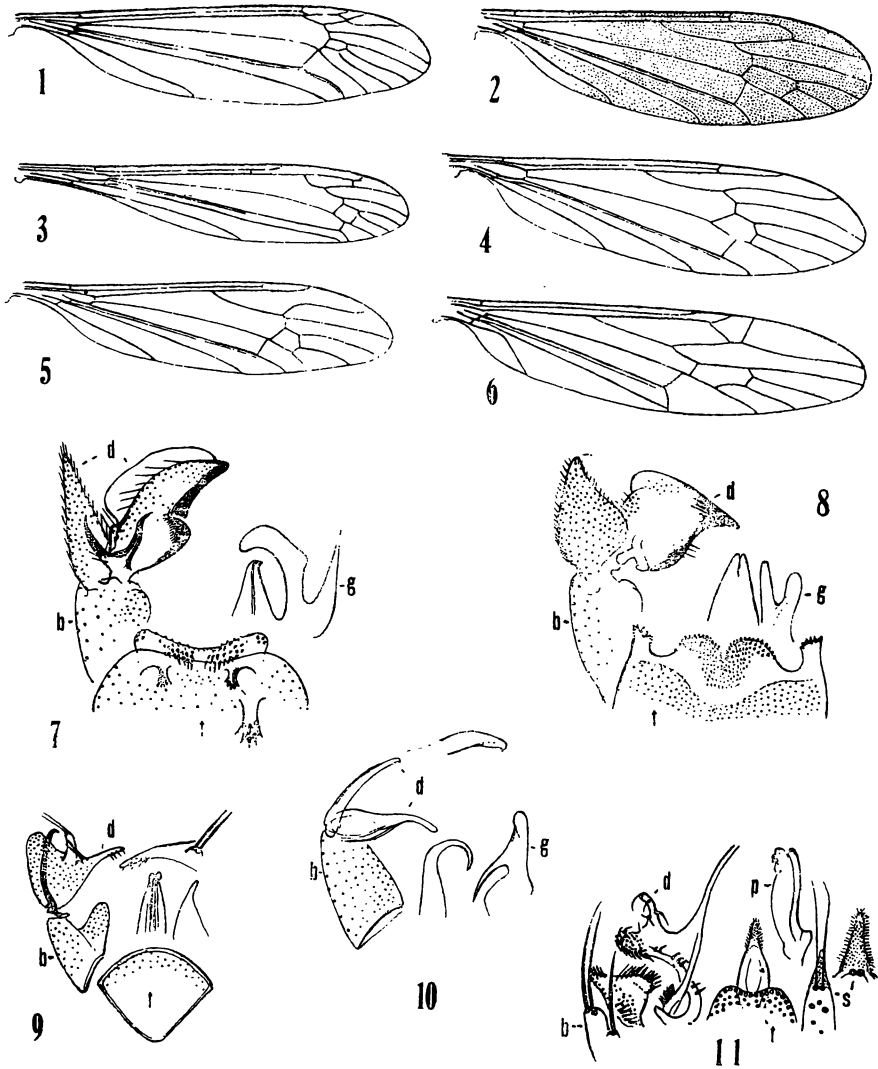


Fig. 1 à 11. — 1. *Nephrotoma Milloti* n. sp.; nervation. — 2. *Limonia millotiana* n. sp.; nervation. — 3. *Limonia (Euglochina) comorensis* n. sp.; nervation. — 4. *Helius (Helius) comoreanus* n. sp.; nervation. — 5. *Elephantomyia (Elephantomyia) Pauliani* n. sp.; nervation. — 6. *Trentepohlia (Mongoma) atrobasis* n. sp.; nervation. — 7. *Nephrotoma comoroensis* n. sp.; hypopyge male. — 8. *Nephrotoma Milloti* n. sp.; hypopyge male. — 9. *Limonia comoreana* n. sp.; hypopyge male. — 10. *Helius (Helius) comoreanus* n. sp.; hypopyge male. — 11. *Styringomyia moheliana* n. sp.; hypopyge male. — *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *s*, sternite; *t*, tergite.

bequaerti Alexander and *L. holotricha* Alexander, of the Cameroons, which differ in details of coloration of the body and wings and in the venation. Other related species in eastern and southeastern Africa, include *L. cuthbertsoni* Alexander, of Mozambique, which has the wings conspicuously patterned.

6. *Limonia comoreana* n. sp.

Allied to *subapicalis*; central dark area of mesonotal praescutum divided behind; mediotergite black, paler laterally; pleura yellow, narrowly striped with brown; femora yellow, with a narrow brown subterminal ring; wings whitish subhyaline, with a conspicuous brown pattern of spots and dots; abdomen yellow, sides of tergites narrowly infuscated, becoming obsolete on the sixth segment; male hypopygium with the tergite very large; two rostral spines.

♂ : Length about 13 mm; wing 14 mm.

Described from an alcoholic specimen. Rostrum and palpi black, labella paler. Antennae with scape black, pedicel brownish black, flagellum obscure yellow, terminal segments slightly darker. Head black; anterior vertex reduced to a narrow line that is about as wide as two rows of ommatidia.

Pronotum yellow. Mesonotal praescutum yellow, with a central dark brown area that is split by pale on posterior half, confluent with the narrow lateral stripes, the latter crossing the suture and joining the larger areas on each scutal lobe; scutellum black, narrowly pale medially on anterior part, parascutella pale; mediotergite black, paler laterally; pleurotergite yellow dorsally, the katapleurotergite darkened. Pleura yellow, narrowly striped with brown, including the propleura and ventral anepisternum, and very restrictedly on the ventral sternopleurite; pteropleurite uniformly pale. Halteres yellow. Legs with the coxae and trochanters yellow, fore coxae restrictedly darkened basally; femora yellow, with a narrow brown subterminal ring, this shorter than the pale tip; tibiae brown, paler basally; tarsi pale brown; claws toothed. Wings whitish subhyaline, with a conspicuous brown pattern that includes seams over the cord, outer end of cell *1st M*₂, and other veins; sparse brown spots in the cells, more numerous on the basal half; stigma extensively darkened but with a pale spot in each of cells *Sc*₁ and *R*; veins brown. Venation: Free tip of *Sc*₂ and *R*₂ in transverse alignment; cell *1st M*₂ relatively short, second section of *M*₁₊₂ subequal to the third.

Abdomen yellow, the sides of the tergites narrowly infuscated, more extensively so on the basal segments, behind reduced to narrow lines, becoming obsolete on the sixth segment; sternites and outer segments, including the hypopygium, pale. Male hypopygium (fig. 9) with the ter-

gite (*t*) very large, virtually as long as broad, posterior margin evenly convexly rounded, the cephalic border more strongly produced; setae rather numerous along posterior margin. Basistyle and ventral dististyle subequal in area; dorsal dististyle a slender rod; ventral style (*d*) with abundant long setae; rostral prolongation unusually slender, with two rostral spines from a low tubercle; accessory lobule with abundant setulae, terminating in two strong bristles that are longer than the rostral spines. Gonapophysis pale, gradually narrowed into a slender terminal lobe.

HOLOTYPE ♂ : Grande Comore, Nioumbadjou, at grotto entrance, november 1954 (Milot).

The most similar regional species include *Limonia ditior* Alexander and *L. subapicalis* Alexander, which differ in the details of coloration and, especially, in the structure of the male hypopygium, particularly the tergite and ventral dististyle.

7. *Limonia (Idioglochina) corallicola mayotteana* n. subsp.

♂ : Length about 4 mm; wing 4,5 mm.

♀ : Length about 4,5 mm; wing 4,5 mm.

The typical form was from Mauritius where it was discovered by Dr J. Vinson on a coral reef at Flic en Flac, june 30, 1954. The present fly differs in slight features of coloration and structure of the male hypopygium.

Thoracic pleura with a single entire brownish black stripe, extending from the cervical region to the base of abdomen, passing beneath the halteres. Knobs of halteres weakly darkened. Legs medium brown, including the tibiae and tarsi.

Male hypopygium with the setae of the ninth tergite more numerous, with about 11 on either side, additional to a group of about 6 setae at the midline. Rostral prolongation much narrower and less evidently cultrate than in the typical form; major outer spine less than one-half as long. The marked difference in the hypopygium in the two forms may indicate a distinct species when more material of the typical form becomes available.

HOLOTYPE ♂ : Mayotte, february 1956 (Robinson). ALLOTYPE ♀.
PARATYPES 4 ♂ ♀.

I now believe that this species, together with the South African *Limonia (Idioglochina) lightfooti* (Alexander), should be transferred to the subgenus *Idioglochina* Alexander, now known to include many species in the Oriental-Australasian faunas and, as far as known, coastal marine in habits.

8. *Limonia (Euglochina) comoroensis* n. sp.

General coloration of mesonotum dark brown, pleura and pleurotergite yellow; legs dark brown, including the broad proximal ends of the basitarsi, the remainder of tarsi snowy white; wings with veins Cu_1 and *1st A* separate at margin.

♂ : Length about 7,5-8 mm; wing 7,5-8 mm.

♀ : Length about 6,5-7 mm; wing 6,5-7 mm.

Rostrum light brown; palpi black. Antennae dark brown; flagellar segments elongate-oval with short but distinct apical pedicels. Head brown on anterior vertex, darker brown behind; anterior vertex moderately broad, somewhat greater than the diameter of the scape.

Pronotum dark brown. Mesonotum chiefly dark brown, the humeral region of praescutum yellow; pseudosutural foveae pale, inconspicuous; posterior sclerites a little darker than the praescutum. Pleura and pleurotergite yellow. Halteres elongate, brownish black, base of stem restrictedly paler. Legs with coxae and trochanters yellow or testaceous yellow; remainder of legs dark brown, the tarsi, including outer ends of basitarsi, snowy white, involving about the outer one-half to two-thirds of fore basitarsi, outer one-half to three-fourths of the posterior pair. Wings (fig. 3) with a brownish tinge, the long-oval stigma darker brown; veins dark brown. Venation: *Sc* relatively long, Sc_1 ending shortly before origin of *Rs*, Sc_1 elongate, exceeding *Rs*, the latter strongly arcuated to weakly angulated at origin; cell *1st M*₂ in cases relatively short, subquadrate to rectangular, with *m-cu* at or beyond midlength; vein Cu_2 becoming obsolete before level of end of vein *Sc*; veins Cu_1 and *1st A* separate at wing margin; cell *2nd A* long.

Abdominal tergites and hypopygium dark brown; sternites obscure yellow, the bases of the segments narrowly darkened to present a dimidiate appearance.

HOLOTYPE ♂ : Grande Comore, source de Maoueini, June 1954 (Millot and Robinson). ALLOTOPOTYPE ♀ : with the type. PARATOPOTYPES 5 ♂ ♀, badly broken. PARATYPE, alcoholic ♂ : Grande Comore, Nioumbadjou, November 1954 (Millot).

The only other described Ethiopian member of the subgenus is *Limonia (Euglochina) connectans* (Alexander), widely distributed in Continental Africa. It is most readily told from the present fly by the apical fusion of veins Cu_1 and *1st A*, closing cell *Cu*.

9. *Helius* (*Helius*) *comoreanus* n. sp.

Allied to *malagasicus*; general coloration of notum medium brown, the posterior sclerites and pleura more yellowed; rostrum fully twice the remainder of head, subequal in length to the antenna; legs brownish black, the outer tarsal segments pale yellow; wings subhyaline, the outer border and a seam along vein *Cu* weakly darkened; inner end of cell *1st M*₂ pointed; *m-cu* at near two-thirds the length of *M*₃₊₄; male hypopygium with the outer dististyle simple, its tip obtuse.

♂ : Length, excluding rostrum, about 6,5 mm; wing 6,5 mm; rostrum about 1 mm; antenna about 1 mm.

♀ : Length, excluding rostrum, about 8 mm; wing 7 mm; rostrum about 1 mm; antenna about 1 mm.

Described from alcoholic specimens. Rostrum brownish black, fully twice as long as the remainder of head; palpi brownish black. Antennae subequal in length to the rostrum, dark brown; flagellar segments oval; verticils short. Head black, possibly pruinose in fresh specimens.

Cervical sclerites and pronotum light brown. Mesonotum medium brown, including vague paler stripes on praescutum, separated by capillary darker lines; scutal lobes darker; posterior sclerites of notum and the pleura more yellowed. Halteres pale. Legs with the coxae pale, the fore pair a little darker; trochanters yellow; remainder of legs brownish black, the femoral bases slightly paler; outer tarsal segments, including the tip of the basitarsus, pale yellow. Wings (fig. 4) subhyaline, the narrow outer margin and a seam along vein *Cu* in cell *M* slightly darker; costal region not or scarcely darker than the disk; stigma long and narrow, darker brown; veins dark brown. Costal fringe short in both sexes; veins beyond cord with abundant short trichia. Venation: *Sc*₁ ending opposite fork of *Rs*, *Sc*₂ near its tip; basal section of *R*₄₊₅ about one-half longer than *Rs*, branches of the latter parallel for about two-thirds their length, thence diverging, cell *R*₂ at margin subequal to cell *R*₃; inner end of cell *1st M*₃ pointed, *m* longer than the basal section of *M*₃; *m-cu* at near two-thirds to three fourths *M*₃₊₄; cell *2nd A* relatively wide.

Abdominal tergites dark brown, sternites paler. Ovipositor with valves long and straight. Male hypopygium (fig. 10) with the basistyle (*b*) simple, narrowed outwardly. Outer dististyle (*d*) a simple blackened rod that is only slightly bent on outer half, the tip simple and obtuse; inner style longer and stouter, the outer third narrowed, tip obtuse. Gonapophysis with tip obtuse, the margin with a long slender acute spine that is slightly decurved. Aedeagus longer, slightly curved.

HOLOTYPE ♂ : Grande Comore, source de la Grille, november 1954 (Milot). ALLOTOPOTYPE ♀.

The most similar species is the Madagascan *Helius (Helius) malagasicus* Alexander, differing in the coloration and in the venation, especially the size and shape of cell $1st M_2$ and the position of *m-cu*.

HEXATOMINI

10. *Elephantomyia (Elephantomyia) Pauliani* n. sp.

General coloration of body yellow, thorax unpatterned ; rostrum exceeding one-half the remainder of body ; head gray ; halteres pale yellow ; wings whitish subhyaline, unpatterned except for the small subcircular brown stigma ; *Sc* relatively short, Sc_1 ending about opposite three-fourths *Rs* ; anterior branch of *Rs* strongly erect at origin ; cell $1st M_2$ small, irregularly pentagonal in outline, M_{3+4} the longest element ; *m-cu* at or shortly before the fork of *M*.

♂ : Length, excluding rostrum, about 6 mm ; wing 7 mm ; rostrum about 3,5 mm.

Described from an alcoholic specimen. Rostrum exceeding one-half the remainder of body, light brown ; palpi pale brown. Antennae dark brown, scape a little paler. Head gray ; anterior vertex relatively narrow, about equal to the diameter of the scape.

Thorax uniformly pale yellow ; mesonotum glabrous. Halteres pale yellow. Legs with coxae and trochanters yellow ; remainder of legs obscure yellow, the color appearing darker from the abundant short setae ; tarsi somewhat paler yellow. Wings (fig. 5) whitish subhyaline, unpatterned, except for the small subcircular brown stigma which is more or less freckled with paler brown ; veins pale, those of outer half of wing with abundant trichia. Venation : *Sc* relatively short, Sc_1 ending about opposite three-fourths *Rs*, Sc_2 near its tip and longer ; anterior branch of *Rs* strongly erect at origin, thence extending generally parallel to the posterior branch, cell R_2 at margin more extensive than cell R_3 ; *r-m* shortly beyond fork of *Rs* ; cell $1st M_2$ small, irregularly pentagonal in outline, M_{3+4} the longest element, a little exceeding vein M_4 ; *m-cu* at or shortly before the fork of *M*.

Abdomen, including hypopygium, yellow.

HOLOTYPE ♂ : Grande Comore, Nioumbadjou, at grotto entrance, november 1954 (Millot).

I take great pleasure in naming this fly for Dr Renaud Paulian, to whom I am indebted for invaluable cooperation in the study of the crane-flies of Madagascar and adjoining islands. The most similar species is *Elephantomyia (Elephantomyia) fuscodorsata* Alexander, of Madagascar, which differs evidently in the coloration of the body and wings.

ERIOPTERINI

11. *Conosia angustissima* Alexander

Conosia angustissima Alexander ; *Philip. J. Sci.*, 33 : 306, pl. 2, fig. 17 ; 1927.

Mayotte : february 1956 (Robinson).

This small *Conosia* with narrow dark-patterned wings had been known from South Africa and Madagascar.

12. *Trentepohlia (Mongoma) atrobasis* n. sp.

General coloration yellow ; antennae pale yellow ; femora obscure yellow, the tips narrowly more whitened ; tibiae very pale brown, with less than the outer half snowy white ; tarsi yellow, the proximal ends of basitarsi blackened ; wings tinged with yellow, cells *C* and *Sc* more saturated yellow ; vein R_{3+4} distinct, about one-fourth vein R_3 .

♀ : Length about 7 mm ; wing 6 mm.

Rostrum and palpi pale. Antennae pale yellow, the scape with a small dark spot on inner face at base ; flagellar segments short-subcylindrical, with short verticils. Head crushed, apparently light gray.

Thorax yellow, the praescutum vaguely patterned with more reddish areas, pleura still paler. Halteres yellow, short, with large knobs. Legs with coxae and trochanters whitened ; femora obscure yellow, the tips narrowly more whitened ; tibiae very pale brown on slightly more than the basal half, the remainder snowy white ; tarsi yellow, the proximal ends of basitarsi conspicuously blackened. Wings (fig. 6) tinged with yellow, cells *C* and *Sc* more saturated yellow ; veins yellow. Venation : Vein R_{3+4} distinct, about one-fourth R_3 , the latter vein unusually erect ; cell R_2 pentagonal in outline.

Abdomen yellowish brown, the sternites clearer yellow basally, the extreme posterior borders pale, more evident on the outer segments.

HOLOTYPE : Mayotte, february 1956 (Robinson).

The most similar species is *Trentepohlia (Mongoma) metatarsatra* Alexander, of East Africa, a larger fly, with the pattern of the legs slightly different, and the venation distinct. The most similar species in Madagascar is *T. (M.) scalator* Alexander, which is quite distinct in the coloration of the body and legs.

13. *Hovamyia armillata* (Enderlein)

Gonomyia armillata Enderlein ; *Zool. Jahrb., Syst.*, 32 : 55-56 ; 1912.

Moheli : Mironzoni, november 1955 (Robinson).

The type was from Madagascar. The present material agrees closely with ENDERLEIN'S description except in the details of the wing pattern, where it is indicated that the veins comprising the cord are brown and seamed with bright brown. In the present material, although the veins are darkened there is little or no evidence of infuscation of the adjoining membrane. The fly is very different from the only member of the genus so far known from the African mainland, *Hovamyia venustipes* (Alexander).

14. *Styringomyia annulipes* (Enderlein)

Pycnocrepis annulipes Enderlein ; *Zool. Jahrb., Syst.*, 32 : 65-66, fig. ; 1912.

Styringomyia howardi Alexander ; *Can. Ent.*, 44 : 83-85, fig. ; 1912.

Mayotte : february 1956 (Robinson).

Known from Mozambique, Madagascar and the Seychelles.

15. *Styringomyia moheliana* n. sp.

Allied to *bourbonensis* ; general coloration of notum fulvous yellow, without distinct darker pattern, pleura yellow ; femora obscure yellow, tips narrowly infuscated ; wings brownish yellow, unpatterned ; male hypopygium with the outer pair of setae of sternite removed from the apex ; basistyle with three modified setae.

♂ : Length about 7,5 mm ; wing 6 mm.

Rostrum light yellow, with small black setae ; palpi uniformly dark brown. Antennae with scape dark brown, pedicel testaceous ; proximal flagellar segments bicolored, pale brown, the incisures pale, the outermost segments uniformly darkened. Head yellow, the narrowed part of the vertex with a pair of small pale brown depressed areas ; setae large and conspicuous, with four very large proclinate bristles arranged in a semi-circle on the anterior vertex ; one pair of large proclinate bristles on posterior vertex behind the depressed areas ; other smaller setae on posterior vertex.

Pronotum yellowed. Mesonotum somewhat more fulvous yellow, without distinct darker pattern ; setae of pronotum large, of the mesonotum smaller. Pleura yellow. Halteres infuscated. Legs with the coxae and trochanters yellow ; femora obscure yellow, the tips narrowly infuscated ; tibiae simi-

lar, tips infuscated, surface with two subbasal bristles and three larger erect ones on outer half, these additional to the normal vestiture; tarsi brownish yellow, darker outwardly. Wings brownish yellow, unpatterned; veins pale brown; costal fringe of male moderately long. Venation: Cell 2nd M_2 narrowly sessile to barely petiolate; vein 2nd A simple, not angulated or spurred.

Abdominal tergites dark brown, unpatterned; hypopygium brownish yellow. Male hypopygium (fig. 11) with the tergite (t) broad, the terminal lobe abruptly narrowed, tapering gradually to a slender point, the surface setuliferous; sternite (s) narrow, the two outermost setae far removed from the narrowly produced apex and about twice the length of the latter, their punctures contiguous. Basistyle (b) with three modified bristles, two placed close together on a low outer tubercle, the third more basal. Dististyle (d) complex, as figured, including the usual long outer arm (only the base of this is shown) and modified inner lobes that are armed with groups of black setae.

HOLOTYPE ♂: Moheli, border of lac Iconi, June 1954 (Milot).

This interesting fly is best distinguished from *Styringomyia bourbonensis* Alexander, of la Réunion, by the general fulvous yellow color of the mesonotum, pattern of the legs, and the details of the male hypopygium, especially the dististyle.