

**NEW OR LITTLE-KNOWN CRANE-FLIES
FROM MADAGASCAR**

DIPTERA-TIPULOIDEA, PART II

by

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The plan to be followed in this series of reports was discussed in the introduction to the first part. The materials considered at this time again result from the three primary sources as before, (1) the materials taken by Mr. Charles Lambertson and native collectors, chiefly in the forest districts of Rogez ; (2) a few further materials from the collections of Mr. Harry Hoogstraal, taken in southeastern Madagascar ; and (3) the rich materials received from Dr. Renaud Paulian, Deputy Director of the Institut Scientifique de Madagascar. My sincere thanks are due to the three scientists mentioned and to others who have coöperated in this study.

LIMONIINAE

(LIMONIINI)

22. *Dicranoptycha polysticta*, sp. n.

General coloration light gray, the praescutum with four poorly indicated light brown stripes ; antennae darkened, the pedicel and first flagellar segment yellow ; wings subhyaline, with a very abundant dotted brown pattern that involves the cells but not the veins ; *r-m* before the fork of *Rs*, the latter angulated and short-spurred at origin ; cell 1st M_2 very long, nearly equal to 2nd M_2 ; abdominal tergites brown, the sternites yellow.

FEMALE. — Length about 13 mm. ; wing 11.5 mm.

Rostrum brown ; palpi pale yellowish brown. Antennae with the scape dark brown, sparsely pruinose ; pedicel narrowly darkened basally, paler at tip ; first flagellar segment yellow, succeeding ones dark brown, elongate

(*) The first part under this general title was published in the *Mém. Inst. Madag.*, 1951, A, V, 33-63, 25 fig.

cylindrical, a little shorter than their verticils. Head clear light gray anterior vertex broad.

Thorax almost uniformly light gray, the praescutum with four very poorly indicated light brown stripes; pseudosutural foveae narrow, reddish brown. Halteres yellow. Legs with the coxae darkened, paler apically trochanters yellow; remainder of legs yellow, the four outer tarsal segments dark brown; legs with long conspicuous semierect setae, shortest on proximal half of femora, and with narrow scales interspersed among the setae. Wings (fig. 1) with the ground color very pale yellow to subhyaline, the prearcular and costal fields more saturated yellow a very abundant dotted and spotted brown pattern, including all the cells excepting *Sc*, the prearcular field and stigmal region more nearly free from pattern; largest spots at arculus, origin of *Rs*, anterior cord and outer end of vein R_{1+2} , the latter at the distal end of the otherwise whitened stigmal area, other cells with abundant brown dots, in places more crowded and becoming more or less fused; veins yellow, brown where encroached upon by dark pattern. Venation Sc_1 ending shortly beyond the level of *m-cu*, about twice Sc_2 ; *Rs* long, angulated and short-spurred at origin; *r-m* from two to three times its own length before the fork of *Rs*; R_2 about one-third to one-fourth R_{1+2} , cell 1st M_2 very long, nearly equal to 2nd M_2 ; *m* long, nearly three times the transverse basal section of M_3 ; *m-cu* at near midlength of cell 1st M_2 ; pale fold in cell *Cu* very conspicuous.

Abdominal tergites brown, more yellowed laterally; sternites yellow. Ovipositor with the cerci compressed-flattened, a little widened just beyond midlength.

HOLOTYPE, ♀, Rogez District, in forests, altitude 900 meters, June 25, 1946 (Lamberton).

This species and the next are readily told from all hitherto known members of the genus by the spotted wings and the position of *r-m* before the fork of *Rs*.

KEY TO THE SPECIES OF DICRANOPTYCHA

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|---|---|
| 1. Wings subhyaline, abundantly spotted and dotted with brown. | 2 |
| — Wings blackened, without spotted pattern | 3 |
| 2. Spots and dots of the wing involving the cells but not the veins. | |
| — <i>polysticta</i> , sp. n. | |
| — Spots and dots of wing virtually restricted to the veins, the centers of the cells unpatterned or virtually so | |
| — <i>stictoneura</i> , sp. n. | |
| 3. Legs darkened, the tips of the femora and bases of the tibiae broadly yellow; male hypopygium with the outer dististyle slender, acutely pointed at apex | |
| — <i>aurogeniculata</i> Alexander | |
| — Legs with the femora yellowish brown, the tips broadly blackened; male hypopygium with the outer dististyle flattened, its tip obtuse | |
| — <i>azrael</i> , sp. n. | |

23. *Dicranoptycha stictoneura*, sp. n.

FEMALE. — Length about 11 mm. ; wing 10 mm.

Very similar to *Dicranoptycha polysticta*, sp. n., differing chiefly in the nature of the wing pattern.

Ground color of anterior third of wing pale yellow to subhyaline, of the remainder weakly suffused with brown, heaviest at about midwidth of the wing, variegated by whitened areas ; wing dots somewhat fewer and larger than in *polysticta* and restricted to the veins, the central parts of the cells unpatterned or virtually so ; dots along the veins alternating with whitened spots of approximately the same size ; in places, the dark dots confluent to form larger areas ; in addition to the series of darkenings along the veins, a comparable series along the posterior border from the wing tip to the axilla ; larger darkenings arranged much as in *polysticta*, at origin of *Rs*, anterior cord and outer radial field, the last darker and more nearly unbroken. Venation Spur at origin of *Rs* very long, about three times the basal section of *Rs*, with a conspicuous darkening at its free inner end ; *r-m* about twice its length before the fork of *Rs* a weak spur on *m* at near one-fourth the length, jutting backward into cell 1st M_2 ; vein 2nd *A* shorter.

HOLOTYPE, ♀, Rogez District, in forests, altitude 900 meters, June 25, 1946 (Lamberton).

Although the fly here discussed is similar in most regards to *Dicranoptycha polysticta*, sp. n., the nature of the wing pattern is so different in the two flies that I cannot consider the two as being conspecific. In *stictoneura* the dark markings are almost restricted to the veins and posterior wing border whereas in *polysticta* the darkened dots are virtually confined to the centers of the cells, leaving the veins clear or nearly so.

(6) *Dicranoptycha aurogeniculata* Alexander.

Dicranoptycha aurogeniculata Alexander *Mém. Inst. sci. Madag.*, (A) 5 43-44, 1951.

A few further specimens are available, all from the type locality. Rogez District, altitude 900 meters, October-December 1946 (Lamberton).

ALLOTYPE, ♀, Characters generally as in the type male. Ovipositor (fig. 3) distinctive. Both the cerci and hypovalvae fleshy, with long conspicuous setae to the tips ; apices of cerci obtusely rounded, of the hypovalvae slightly more pointed.

24. *Dicranoptycha azrael*, sp. n.

General coloration of head and thorax black, the posterior sclerites of the mesonotum and the pleura heavily gray pruinose; halteres obscure yellow; femora obscure yellow, the tips broadly blackened; wings with a strong brownish tinge, the prearcular field and cell *Sc* more yellowed; cell 1st M_2 of moderate size, with *m* arcuated, about twice the transverse basal section of M_3 ; abdomen, including hypopygium, brownish black; male hypopygium with the outer dististyle flattened, its tip obtuse, the surface with abundant microscopic spicules.

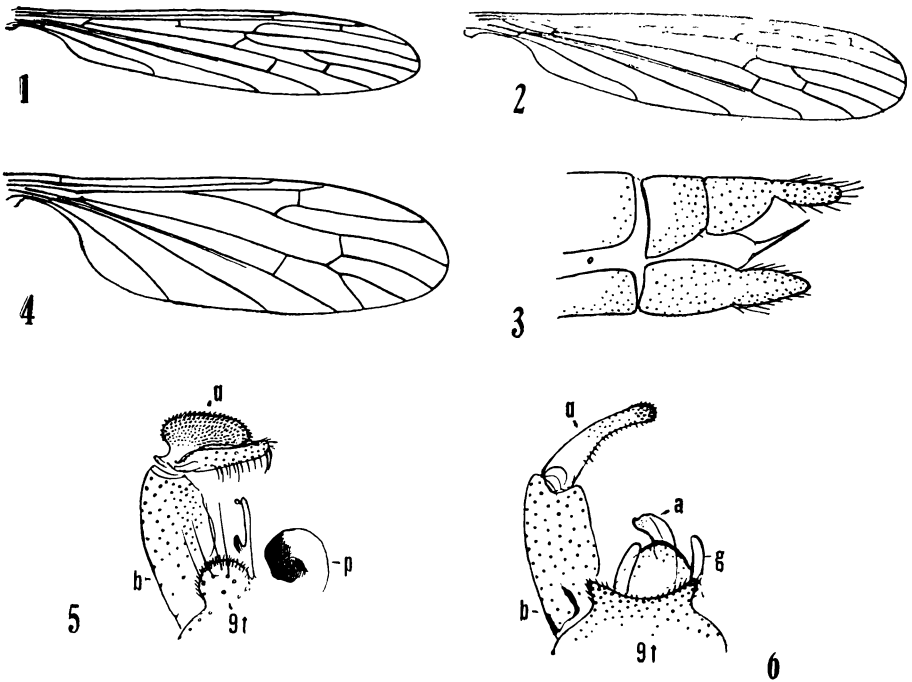


Fig. 1 à 6. — 1, *Dicranoptycha polysticta*, sp. n.; venation. — 2, *Dicranoptycha azrael*, sp. n.; venation. — 3, *Dicranoptycha aurogeniculata* Alexander; ovipositor, lateral. — 4, *Antocha (Orimargula) Pauliani*, sp. n.; venation. — 5, *Dicranoptycha azrael*, sp. n.; male hypopygium. — 6, *Antocha (Orimargula) Pauliani*, sp. n.; male hypopygium.

(Symbols *a*, aedeagus; *b*, basistyle; *d*, dististyle;
g, gonapophysis; *p*, phallosome; *t*, tergite.)

MALE. — Length about 11 mm.; wing 12.5 mm.; antenna about 2.2-2.3 mm.

Rostrum and palpi black. Antennae with the scape black, pedicel and first flagellar segment brown, the succeeding segments passing into dark brown; flagellar segments cylindrical, becoming more slender and attenuated outwardly; verticils very long. Head black, gray pruinose; anterior vertex nearly three times the diameter of the scape.

Thorax almost uniformly black, the central region of the scutum, and the scutellum, postnotum and pleura heavily light gray pruinose. Halteres obscure yellow. Legs with the coxae and trochanters dark brown, pruinose, the fore pair a little paler; femora obscure yellowish brown, clearer yellow basally, the tips broadly blackened; tibiae and basitarsi brownish yellow, the tips narrowly infuscated; outer tarsal segments passing into dark brown; femora and tibiae with abundant broad scales, additional to the setae. Wings (fig. 2) with a strong brownish tinge, the prearcular field and cell *Sc* yellow; stigma vaguely darker than the ground, with a more yellowed area near its proximal end; cord and outer end of cell *1st M*₂ very narrowly and insensibly darkened, best evidenced by a deepening in color of the veins; a whitish longitudinal streak in cell *R*, lying very close to vein *M*, more divergent outwardly; fold in cell *Cu*₂ conspicuous; veins brownish yellow in the brightened fields. Venation R_{1+2} about one and one-half to twice *R*₂; cell *1st M*₂ of moderate size, *m* arcuated, about twice the transverse basal section of *M*₃; *m-cu* about its own length beyond the fork of *M*.

Abdomen, including hypopygium, brownish black. Male hypopygium (fig. 5) with what appears to represent the tergite, *9t*, terminating in two large rounded lobes (only one shown in figure) that bear a number of unusually long strong setae and are covered with a short erect pubescence. Outer dististyle, *d*, flattened, its tip obtuse, the surface with abundant microscopic spicules, largest at apex and on outer face, those on the sides smaller; inner dististyle a little longer, with strong setae, two or three near apex much larger and stronger. Gonapophysis terminating in a slender rod, its tip twisted. Phallosome, *p*, a rounded glabrous mass, the apical margin obtuse, blackened.

HOLOTYPE, ♂, Rogez District, in forests, altitude 900 meters, august 1946 (Lamberton). PARATOPOTYPE, 1 ♂.

The most similar regional species is *Dicranoptycha aurogeniculata* Alexander, which is readily told by the pattern of the legs, as shown in the accompanying key. The structure of the male hypopygium, especially the outer dististyle, is entirely different in the two species.

25. *Antocha* (*Orimargula*) *Pauliani*, sp. n.

Size relatively large (wing, male, 5 mm. or more); mesonotal praescutum reddish brown, patterned with dark brown, including lateral stripes; halteres yellow; femora and tibiae obscure yellow, the tips narrowly but conspicuously blackened; wings milky gray, patterned with brown; male hypopygium with a single simple dististyle, this provided with spinulae at apex.

MALE. — Length about 4.5-5.5 mm.; wing 5.2-7 mm.; antenna about 0.7-0.8 mm.

FEMALE. — Length about 6.5 mm.; wing 7 mm.

Rostrum reduced, dark brown; palpi brownish black. Antennae 15-segmented, unusually short, black throughout; segments with a dense white pubescence; flagellar segments oval to short-oval, the proximal five with long unilaterally distributed verticils that are considerably longer than the segments; succeeding segments with verticils greatly reduced or lacking, the terminal one tipped with about three long bristles. Head dark gray, variegated with darker on sides of the posterior vertex, the latter provided with long yellow setae.

Cervical sclerites and pronotum brownish black. Mesonotal praescutum projecting strongly over the narrowed cervical region; ground color reddish brown to brown, in cases gray pruinose; a broad dark brown median stripe, paling to light brown behind and becoming obsolete some distance before the suture; lateral stripes similarly darkened, broad, reaching the lateral margin; scutum light brown, the scutellum and mediotergite darker, pruinose. Pleura and pleurotergite reddish brown, the anepisternum with a conspicuous darkened area; dorsopleural region obscure yellow. Halteres yellow. Legs with the fore coxae dark brown, the remaining pairs paling to reddish; femora and tibiae obscure yellow, the tips narrowly but conspicuously blackened; tarsi brownish yellow, the tips of the proximal two or three segments narrowly darkened, the two outer segments black; claws long and slender, only gently curved, with a long slender spine shortly before midlength, with a few microscopic denticles lying more basad. Wings (fig. 4) milky gray, patterned with brown, including the stigma and diffuse paler dark washes in costal field, along the cord and over most of the veins, broadest and most conspicuous over *2nd A*; prearcular field more yellowed; veins brown, more intense in the patterned areas, yellow in the basal fields. Anal angle moderately developed. Venation *Rs* convex upwardly; petiole of cell *M*₃ variable in length, from nearly as long as *r-m* to about one-half this length; *m-cu* more than its length before the fork of *M*.

Basal abdominal segments brownish yellow, patterned laterally with dark brown, outer segments more uniformly darkened, sparsely pruinose; hypopygium chestnut brown. Male hypopygium (fig. 6) with the tergite, *9t*, conspicuous, setiferous, the posterior border broadly and shallowly emarginate, the lateral lobes slender. Basistyle, *b*, slender, longer than the single dististyle, *d*, the latter gradually narrowed to the obtuse tip; lower surface of dististyle with strong setae, the apex with the armature more spinulose. Gonapophysis, *g*, appearing as a narrow flattened blade, the tip rounded.

HOLOTYPE, ♂, forest North of Anosibe, January 1951 (Paulian). ALLOTOPOTYPE, ♀, pinned with the type. PARATOPOTYPES, 10 ♂ ♀.

I am very pleased to dedicate this unusually interesting fly to Dr. Paulian, to whom we owe much of our recent knowledge of the rich insect fauna of Madagascar. The fly is quite distinct from all other described regional members of the subgenus in the patterned wings and, particularly, in the single simple dististyle of the male hypopygium. The genus and subgenus had not been previously recorded from Madagascar, though represented by several species on the African mainland and in the Oriental Region, so its occurrence was to be expected.

ERIOPTERINI

26. *Gonomyia* (*Idiocera*) *malagàsica*, sp. n.

General coloration gray, the praescutum with two intermediate pale brown stripes; rostrum dark brown; antennae black, the scape yellow on upper face; halteres obscure yellow; femora brownish yellow, darkened outwardly, tibiae brown, tarsi black; wings subhyaline, unpatterned except for the oval pale brown stigma; cell R_1 closed at margin by the approximation of veins R_{1+2} and R_3 ; male hypopygium with the outer dististyle elongate, extended laterad at tip into a long straight spine, with a small outer spine; phallosome near apex with two pairs of strong blackened spines that subtend the aedeagus.

MALE. — Length about 7 mm.; wing 6.5 mm.

Rostrum dark brown; palpi black. Antennae with the scape blackened beneath, obscure yellow on upper face, remainder of organ black; flagellar segments oval, a trifle shorter than the longest verticils. Head gray; anterior vertex broad, about two and one-half times the diameter of the scape.

Pronotum gray, its scutellum more yellowed. Mesonotum gray, the praescutum with two intermediate pale brown stripes that are obliterated in front, expanded before the suture; pseudosutural foveae brownish black, conspicuous; scutal lobes darkened; scutellum of unique type discolored, apparently with the posterior border brightened. Pleura and pleurotergite brownish gray, the former with a yellowed ventral stripe, expanded posteriorly over the metapleura. Halteres obscure yellow. Legs with the coxae pale, pruinose, the fore pair somewhat darker; trochanters obscure yellow; femora brownish yellow, darkened outwardly; tibiae brown; tarsi black. Wings (fig. 7) subhyaline, the base a little more yellowed; stigma oval, pale brown; veins brown. Costal fringe short. Venation Sc_1 ending about opposite one-fourth to one-fifth the length of Rs , Sc_2 a short distance before the origin of the latter; veins R_{1+2} and R_3 virtually contiguous at margin,

closing cell R_1 ; cell $2nd M_2$ from about 1.75 to nearly 2 times its petiole; $m-cu$ about 1.5 to 1.75 times its own length before the fork of M ; anterior arculus preserved.

Abdominal tergites dark brown, sparsely pruinose, the posterior borders very narrowly pale; basal sternites obscure yellow, sparsely pruinose, the outer segments more uniformly darkened. Male hypopygium (fig. 13) with the basistyle, b , produced beyond the point of insertion of the dististyles as a long lobe, apparently bearing a strong black spine near apex (in the unique type, the outer dististyle is superimposed over the basistyle and it is not entirely certain as to the point of origin of this spine but it appears to pertain to the basistyle). Outer dististyle, d , elongate, extended laterad at tip into a long straight spine, with a small outer spine before tip; intermediate style unequally bifid, the outer arm long and slender; inner style a simple slender rod, the tip narrowly pointed and blackened. Phallosome, p , consisting of two pairs of strong blackened spines, with the curved aedeagus between.

HOLOTYPE, ♂, Soavina, Southwest of Ambositra, January 1951 (Paulian).

This fly is readily told from the other described regional members of the subgenus by the structure of the male hypopygium, particularly the dististyles and the phallosome. In its virtually unpatterned wings, the fly comes closest to species allied to *Gonomyia (Idiocera) spuria* Bergroth, differing in the wing venation and, where this is known, in the structure of the male hypopygium.

27. *Gonomyia (Gonomyia) pontifex*, sp. n.

General coloration of mesonotum brown, the scutellum extensively yellow; rostrum, palpi, antennae and legs brown; wings with a brownish tinge, the prearcular and costal fields more whitened; cell R_3 large, vein R_4 subequal to or slightly longer than R_{2+3+4} ; $m-cu$ at or close to fork of M ; male hypopygium with three dististyles, all terminal in position; outer style blackened, the margin developed into a ridge that bears blackened teeth for most of its length, at base of this ridge with a strong hook; phallosome pale; terminating in a strongly curved black hook.

MALE. — Length about 3.6 mm.; wing 3.8 mm.

Rostrum and palpi dark brown. Antennae brown; scape enlarged; verticils of the more proximal flagellar segments very long. Head dark brown, pruinose, the central part of the vertex obscure yellow.

Pronotum whitened above, infuscated on sides; pretergites white. Mesonotum dark brown, the scutellum extensively yellow. Pleura dark brown, with a broad white longitudinal stripe. Halteres infuscated. Legs brown.

Wings (Fig. 8) with a brownish tinge, the prearcular and costal fields slightly more whitened; stigma very pale brown, only slightly differentiated from the ground; a conspicuous whitened streak behind the basal half of vein *1st A*; veins brown. Costal fringe relatively long and conspicuous. Venation *Sc* short, *Sc*₁ ending shortly before origin of *Rs*, *Sc*₂ near its tip; cell *R*₃ large, vein *R*₄ subequal to or slightly longer than *R*₂₊₃₊₄; inner end of cell *1st M*₂ narrowed, the cell nearly as long as the distal section of vein *M*₃; *m-cu* at or just before the fork of *M*.

Abdominal tergites brown, sternites and hypopygium more yellowed. Male hypopygium (fig. 14) with three dististyles, *d*, all terminal; outer style largest, appearing as a blackened rod that narrows to the terminal point, the margin for most of the length developed into a low ridge that is provided with blackened teeth; at base of the ridge with a strong curved spine or hook; a lower secondary ridge on face of basal half of style, the teeth microscopic; a single isolated seta at near midlength of style; intermediate style yellow, appearing as a curved blade that narrows to the acute blackened spine; inner style terminating in two strong fasciculate setae, the remainder of surface with several scattered setae. Phallosome, *p*, broadly flattened, pale, terminating in a strongly curved blackened hook.

HOLOTYPE, ♂, Rogez District, in forests, altitude 800 meters, January 1947 (Lamberton). PARATOPOTYPES, ♂.

Gonomyia (Gonomyia) pontifex is readily told from the other regional members of the genus by the large cell *R*₃ of the wings, which influences me to place the species in the typical subgenus rather than in *Lipophleps* Bergroth, where most of the other Madagascar species of the genus have been assigned. The fly is quite distinct, not only in the venation, but also in the structure of the male hypopygium.

28. *Gonomyia (Lipophleps) distenta*, sp. n.

General coloration of thorax reddish brown, the lateral borders of the notum and a broad stripe on the pleura whitened; femora brownish yellow, with a narrow, vague brownish ring before the subequal yellow tip; wings with a brownish tinge, weakly patterned with darker brown, including a small cloud at origin of *Rs* and the stigma; prearcular and costal fields whitened, expanded into larger prestigmal and poststigmal areas; cell *R*₃ present, small; cell *1st M*₂ a little shorter than the distal section of vein *M*₃; male hypopygium with the outer dististyle a long slender darkened rod, narrowed very gradually to the acute tip; phallosome a central structure, at apex divided into two divergent blackened horns.

MALE. — Length about 4 mm.; wing 4 mm.

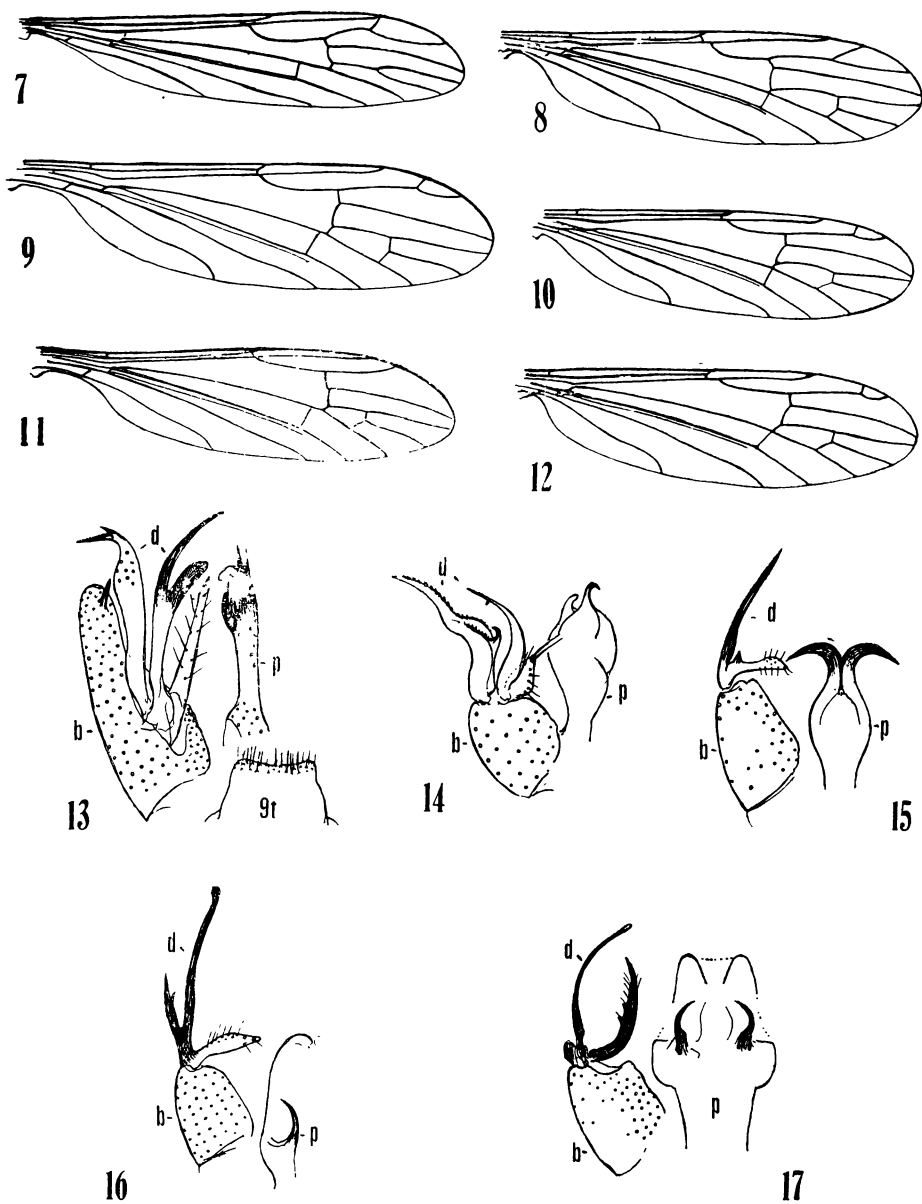


Fig. 7 à 17. — 7, *Gonomyia (Idiocera) malagastica*, sp. n.; venation. — 8, *Gonomyia (Gonomyia) pontifex*, sp. n.; venation. — 9, *Gonomyia (Lipophleps) distenta*, sp. n.; venation. — 10, *Gonomyia (Lipophleps) furcilla*, sp. n.; venation. — 11, *Gonomyia (Lipophleps) ornatipes* (Brunetti); venation. — 12, *Gonomyia (Lipophleps) rogeziana*, sp. n.; venation. — 13, *Gonomyia (Idiocera) malagastica*, sp. n.; male hypopygium. — 14, *Gonomyia (Gonomyia) pontifex*, sp. n.; male hypopygium. — 15, *Gonomyia (Lipophleps) distenta*, sp. n.; male hypopygium. — 16, *Gonomyia (Lipophleps) furcilla*, sp. n.; male hypopygium. — 17, *Gonomyia (Lipophleps) rogeziana*, sp. n.; male hypopygium.

(Symbols b, basistyle; d, dististyles; p, phallosome; t, tergite.)

Rostrum dark brown ; palpi black. Antennae with the basal segments yellow, the scape weakly darkened on lower face ; outer segments passing into brown, in male with greatly lengthened verticils. Head obscure yellow, the central part of vertex darkened ; in the type this region is deeply furrowed or channeled longitudinally, apparently an abnormal condition.

Pronotum and the broad pretergites yellowish white. Mesonotum chiefly reddish brown, without distinct pattern, the lateral praescutal borders narrowly pale ; pseudosutural foveae reddish, not very conspicuous against the ground. Pleura rich brown, paler posteriorly, with a conspicuous white longitudinal stripe. Halteres broken. Legs with the coxae and trochanters obscure yellow ; femora brownish yellow, with a narrow and vague brownish ring before the subequal yellow tip ; remainder of legs obscure yellow, the outer tarsal segments blackened. Wings (fig. 9) with a weak brownish tinge, the stigma and a small cloud at origin of *Rs* slightly darker brown ; prearcular region, cells *C* and *Sc*, and major prestigmal and post-stigmal areas whitened ; extreme wing tip vaguely whitened ; veins brown, pale yellow in the whitened portions. Venation Sc_1 ending opposite origin of *Rs*, Sc_2 at its tip ; vein R_3 subrectangular, short, cell R_3 small ; cell $1st M_2$ a little shorter than the distal section of vein M_3 ; *m-cu* shortly before the fork of *M*.

Abdomen, including hypopygium, pale brown. Male hypopygium (fig. 15) with the outer dististyle, *d*, a long slender darkened rod, narrowed very gradually to the acute tip ; inner dististyle pale, more dilated on outer face and here with several long pale setae, the two apical ones more fasciculate ; in the notch of the two styles with a conical blackened tooth. Phallosome, *p*, a central structure, at apex divided into two divergent glabrous blackened horns.

HOLOTYPE, ♂, Tanosy, Fort-Dauphin District, november 1948 (Hoogstraal).

The most similar described species is *Gonomyia (Lipophleps) noctabunda* Alexander, of continental Africa, which differs particularly in the structure of the male hypopygium, including the dististyles and the phallosome, the blackened horns of the latter being conspicuously setiferous.

29. *Gonomyia (Lipophleps) rogeziana*, sp. n.

General coloration of mesonotum dark brown, the scutellum broadly yellow ; thoracic pleura with a conspicuous white longitudinal stripe ; femora yellow, with a narrow and ill-defined subterminal brown ring ; wings with a brownish tinge, patterned with whitish and darker brown areas ; cell R_3 present, very small ; abdominal segments bicolored, dark brown, the posterior and lateral borders of the segments yellow male

hypopygium with the outer dististyle a long slender simple rod ; inner dististyle a shorter but powerful curved rod, at apex narrowed into a spine ; phallosome a large pale mass, with two blackened horns.

MALE. — Length about 3.2-3.3 mm. ; wing 3.7-3.9 mm.

Rostrum brown ; palpi black. Antennae broken. Head above obscure yellow, darkened medially.

Pronotum and pretergites pale yellow. Mesonotal praescutum and scutum dark brown, sparsely pruinose ; scutellum dark brown, broadly pale yellow behind ; mediotergite chiefly darkened, the sides, with the pleurotergite brownish yellow. Pleura brownish yellow dorsally, dark brown below, the latter with a very conspicuous white longitudinal stripe. Halteres broken. Legs with the coxae yellow, broadly dark brown basally ; trochanters yellow ; femora obscure yellow, with a narrow and ill-defined subterminal brown ring, the subequal apex darker yellow ; tibiae and tarsi brownish yellow, the outer tarsal segments darker. Wings (fig. 12) with a brownish tinge, the costal field and major areas before and beyond the stigma whitened ; a restricted darker brown pattern, including the stigma, origin of *Rs* and cord ; very vague brightenings of the ground, especially before and beyond the cord ; veins brown, paler in the whitened areas. Venation Sc_1 ending about opposite the origin of *Rs*, Sc_2 a short distance from its tip ; cell R_3 present but very small, vein R_3 nearly vertical ; cell 1st M_2 about equal in length to vein M_4 ; *m-cu* shortly before the fork of *M*.

Abdominal segments bicolored, dark brown, the posterior and lateral borders of the segments light yellow ; subterminal segments more extensively darkened ; hypopygium chiefly yellow, the mesal faces of basistyles yellow, the dististyles black. Male hypopygium (fig. 17) with the outer dististyle, *d*, a long slender simple rod, the apex narrowly pale and obtuse. Inner dististyle a shorter but more powerful curved blackened rod, the tip narrowed into a spine ; inner or concave margin at near midlength produced into two weak spines ; surface of style with scattered setae, long and conspicuous on distal third before the apical spike. Phallosome, *p*, large and conspicuous, chiefly pale but with a pair of curved blackened horns ; opposite the base of the latter the phallosomic plate is produced laterad into broad obtuse lobes.

HOLOTYPE, a fragmentary ♂, Rogez District, in forests, altitude 900 meters, august 1946 (Lamberton). PARATOPOTYPE, ♂.

While very similar in its general appearance to various other regional species, including *Gonomyia (Lipophleps) distenta*, sp. n., and *G. (L.) furcilla*, sp. n., the present fly is entirely distinct in the structure of the male hypopygium.

30. *Gonomyia* (*Lipophleps*) *furcilla*, sp. n.

MALE. — Length about 3.2 mm. ; wing 3.5 mm.

Characters generally as in *rogeziana*, sp. n., differing especially in the details of structure of the male hypopygium. Femora obscure yellow, the brown subterminal ring about equal in width to the yellow tip. Wings (fig. 10) much as in *rogeziana*; pale brown, the costal field and major areas before and beyond the stigma whitened; stigma and areas at origin of *Rs* and along the cord darker than the ground; veins brown, paler in the whitened portions. Venation *Sc* moderately long, both *Sc*₁ and *Sc*₂ ending close to the origin of *Rs*; cell *R*₃ preserved, small; cell 1st *M*₂ relatively large, about as long as the distal section of vein *M*₃; *m-cu* at fork of *M*.

Male hypopygium (fig. 16) with the dististyles, *d*, terminal, the outer one longest, appearing as a long slender rod that narrows very gradually to the obtuse tip; on outer face shortly beyond base bearing a strong arm about one-third to one-fourth as long, blackened, terminating in a long acute spine, with a smaller lateral point at near midlength; surface of expanded part of arm with long setae; inner dististyle a pale structure, expanded at near midlength, provided with about a dozen strong setae. Phallosome, *p*, consisting of a major central plate (one-half of which is shown), at the base on either side produced into a slender gently curved spine.

HOLOTYPE, a broken ♂ on slide, Rogez District, in forests, altitude 900 meters, august 1946 (Lamberton).

31. *Gonomyia* (*Lipophleps*) *ornatipes* (Brunetti).

Dicranomyia ornatipes Brunetti; *Fauna British India, Diptera Nematocera*, pp. 380-381, pl. 7, fig. 10; 1912.

Males and females, Ambohimahavelona, october 27, 1948 (Hoogstraal). The venation is shown (fig. 11).

The species was known hitherto from India and Burma. I can see no important differences between the present material and specimens in my collection from Southern India. The fly later described from Réunion as *Gonomyia* (*Lipophleps*) *mascarena* Alexander (*Ann. Mag. Nat. Hist.*, (9) 8 311-312, 1921) and still known only from the type female is generally similar and seems certainly to belong to the same group of species. The discovery of a male from the type locality would be necessary to establish the exact relationship between the two flies.

EDWARDS (*Rec. Indian Mus.*, 26 296; 1924) indicated that *ornatipes* was a synonym of *G. (L.) pilifera* de MEIJERE (*Tijd. voor Ent.*, 54 43, pl. 2, fig. 26, as *Atarba*; 1911) but I consider them as being distinct though very closely related, differing almost solely in details of structure of the phal-

losome of the male hypopygium. The scarcely recognizable *Limnobia bibula* Wiedemann (Aussereur. zweifl. Ins., 1, Anhang 552, 553; 1828), described from a single female from an unspecified locality in China, likewise seems to be closely allied and if ever determinable by a comparison of authentically named specimens, may prove to be an older name for either of these two forms or to represent a still further species.

32. *Trentepohlia* (*Mongoma*) *bicinctatra*, sp. n.

General coloration of mesonotum brown, variegated with yellow; rostrum yellow, maxillary palpi black; antennal scape and pedicel yellow, flagellum black; femur brown, the tips broadly white; tibia snowy white, with two black rings; tarsus white; wings whitish subhyaline, cells *C* and *Sc* more yellowed; stigma very small, dark brown; a faint dusky cloud extending the length of the wing at near midwidth; apical fusion of *Cu*₁ and *1st A* short; abdominal tergites brown, sternites yellow.

FEMALE. — Length about 14 mm.; wing 9 mm.

Rostrum and labial palpi yellow, maxillary palpi black. Antennae with the scape light yellow, pedicel a very little more darkened, flagellum black; flagellar segments cylindrical, gradually decreasing in length and thickness outwardly; verticils much shorter than the segments. Head yellow in front, deepening to orange-yellow behind; anterior vertex narrow, at its narrowest point subequal to the diameter of scape; no carina on posterior vertex.

Cervical region brown, pruinose. Pronotum yellow in front, darkened behind. Mesonotum brown, the humeral region of the praescutum yellow, the median region of scutum and the parascutella more obscure yellow; posterior sclerites of notum weakly pruinose. Pleura and pleurotergite yellow, weakly suffused, with a sparse white pruinosity. Halteres with stem dusky, yellow at base, knob infuscated. Legs with the coxae and trochanters yellow; femora brown, the tips broadly snowy white, involving about the outer tenth of the segment; tibiae snowy white, each with two black rings, one subbasal, the other subapical, separated by an approximately equal white ring, the basal white annulus narrower than the others; tarsi snowy white, the outer segments a trifle more yellowed; posterior basitarsi with a group of strong yellow setae on lower face at base. Wings (fig. 19) whitish subhyaline, cells *C* and *Sc* more yellowed; stigma very small, dark brown; a faint dusky cloud at near midwidth of wing extending for virtually the entire length, more expanded near wing tip; distal section of veins *Cu*₁ and *2nd A* narrowly clouded; veins brown, more yellowed in the costal field. Venation *Rs* about two and one-half times the basal section of *R*₅; *R*₂ about three times *R*₃₊₄; inner end of cell *M*₃ lying a little more basad than cell *R*₅; *m-cu* about two-thirds its length before the fork

M. the latter distance subequal to the apical fusion of veins Cu_1 and *A*.

Abdominal tergites brown, restrictedly more yellowed laterally, more distinctly so on the basal segments; sternites yellow.

HOLOTYPE, ♀, forest North of Anosibe, january 1951 (Paulian).

Readily told from all other regional members of the subgenus by the two black rings on each tibia. Other species having darkened tibial rings have single such annulus on each leg.

KEY TO THE SPECIES OF TRENTÉPOHLIA

- | | | |
|----|---|----|
| 1 | Three branches of <i>M</i> reach the wing margin (Subgenus <i>Mongoma</i> Westwood). Fig. 18-21 | 2 |
| | Two branches of <i>M</i> reach the wing margin (Subgenus <i>Trentépohtia</i> Bigot). Fig. 22 | 8 |
| | Wings distinctly patterned with darker spots | 3 |
| — | Wings without a distinct spotted pattern, in most species in the local fauna with a dusky seam at near midwidth extending for virtually the whole wing length | 4 |
| 3. | Rostrum brownish yellow; praescutum with three entire brown stripes; pleura and coxae dark brown; tibiae dark brown, the extreme base pale, the tip more broadly so | |
| | <i>madagascariensis madagascariensis</i> Alexander | |
| | Rostrum darkened; praescutum with the median stripe pale throughout; pleura variegated yellow and brown, including a conspicuous dark brown longitudinal stripe; coxae pale yellow; tibiae yellowish brown, with a narrow dark brown ring just beyond base, the tip rather narrowly whitened, preceded by a subequal more blackened ring. <i>madagascariensis spectabilis</i> , subsp. n. | |
| 4. | Wings quite unpatterned; tibiae pale brown, without blackened rings, the tips broadly white; abdominal tergites bicolored, the basal third or more yellow, the remainder dark brown | |
| | <i>scalator</i> , sp. n. | |
| — | Wings with a dusky longitudinal seam at near midwidth; tibiae whitened, with one or more black rings; abdominal tergites dark brown | 5 |
| 5. | Tibiae snowy white, each with two black rings, one subbasal, the other subapical | |
| | <i>bicinctatra</i> , sp. n. | |
| — | Tibiae white, with a single blackened ring | 6 |
| 6. | Dark tibial ring very broad, occupying approximately two-thirds to three-fourths the total extent, both ends narrowly white | |
| | <i>latatra</i> , sp. n. | |
| — | Dark tibial ring narrower, occupying one-third or less of the total extent, the ends broadly white | 7 |
| 7. | Dark tibial ring broader, widest on the middle legs where it occupies nearly one-fourth the segment, on the posterior legs about one-fifth | |
| | <i>regifica</i> , sp. n. | |
| — | Dark tibial ring very narrow, on the posterior legs occupying only about one-eighth of the segment | |
| | <i>Cachani</i> , sp. n. | |
| 8. | Fusion of veins Cu_1 and <i>1st A</i> extensive, longer than the distal section of Cu_1 alone; wings unpatterned | 9 |
| — | Fusion of veins Cu_1 and <i>1st A</i> slight, less than the distal section of Cu_1 alone; wings with more or less distinct pattern | 10 |

9. General coloration yellowish gray ; legs bright ochre yellow, the tips of the femora, tibiae and basitarsi brown ; wings subhyaline, slightly tinged with milky gray ; vein R_{3+4} longer than R_{2+3+4} **gracilis** Enderlein
 — General coloration dark brown ; legs darker, the femora dark brown to brownish black ; wings with a strong brownish tinge ; vein R_{3+4} less than one-half R_{2+3+4} **nigripes**, sp. n.
10. Legs yellow, the tips of the femora and tibiae blackened **Alluaudi** Alexander
 — Tibiae uniformly pale or with the tips whitened 11
11. Wings yellow, the pattern very restricted, including seams over the posterior cord, vein R_3 and the wing tip in the extreme outer end of cell R_3 **sutilis**, sp. n.
 — Wings yellow, the dark pattern heavy, including a complete crossband at cord and the broad wing tip. **Speiseri africana** Alexander

33. *Trentepohlia* (**Mongoma**) **Cachani**, sp. n.

Mesonotum dark brown, the praescutum broadly obscure yellow on sides ; pleura and pleurotergite yellow ; antennal scape brown, pruinose ; halteres brownish black ; femora brown, the tips broadly white ; tibiae white with a narrow black ring at near the basal third ; wings whitish subhyaline, scarcely patterned ; abdominal tergites dark brown, sternites yellow.

FEMALE. — Length about 14 mm. ; wing 9.8 mm.

Middle leg, femur 19 mm. ; tibia 16 mm. ; tarsus 12.5 mm.

Hind leg, femur 17.5 mm. ; tibia 17 mm. ; tarsus 10.5 mm.

Hind femur, white tip 2.2 mm. ; hind tibia, white base 4.5 mm. ; black ring 1.1 mm.

Rostrum brown ; maxillary palpi black. Antennae with the scape and pedicel brown, pruinose, flagellum black ; flagellar segments cylindrical, with short verticils. Head brown, sparsely pruinose, more heavily so on the anterior vertex behind the antennal bases.

Cervical region and anterior part of pronotum dark brown, paler brown behind, with three long and one shorter seta on either side. Mesonotum medially chiefly dark brown, the praescutum broadly obscure yellow on sides ; median region of scutum gray pruinose, the area continued onto the base of the scutellum ; mediotergite brown, more yellowed behind, sparsely pruinose. Pleura and pleurotergite yellow. Halteres brownish black, the base of stem narrowly yellow. Legs with the coxae and trochanters pale yellow ; femora brown, obscure yellow at base, deepening outwardly, the tips broadly and abruptly white, involving about the outer fifth (fore leg) to eighth (hind leg) ; tibia white, with a narrow black ring at near the basal third, tarsi white ; all femora with short spines near base, fewest (about 6) on fore legs, most numerous (11-13) on middle and hind femora ; posterior basitarsus at proximal end of lower surface with three strong

black spines, the outermost smaller. Wings (fig. 18) whitish subhyaline, scarcely patterned, the stigma being reduced to a narrow line near outer end of veins Sc_1 and R_{1+2} , and with a poorly indicated darkening along vein R_5 in the vicinity of cell $1st M_2$; veins brown. Venation Rs long, exceeding R_{2+3+4} or approximately three times the basal section of R_5 ; vein R_3 oblique; apical fusion of veins Cu_1 and $1st A$ relatively long, about equal to $m-cu$, the latter about its own length before the fork of M .

Abdominal tergites dark brown, sternites yellow.

HOLOTYPE, ♀, Ambodivoangy, Maroantsetra, february 15, 1949 (P. Cahan).

I am very pleased to name this species for the collector. The most similar described species is *Trentepohlia (Mongoma) regifica*, sp. n., which differs in the pattern of the legs, as shown by the key.

34. *Trentepohlia (Mongoma) latatra*, sp. n.

Mesonotum almost uniform medium brown, the pleura and pleurotergite yellow; antennal scape yellow, pedicel brown, flagellum black; femora dark brown, the tips narrowly white; tibiae chiefly dark brown, the base and tip snowy white; wings subhyaline, with a vague dusky suffusion for virtually the whole length at near midwidth; abdominal tergites dark brown, sternites obscure yellow.

MALE. — Length about 11-13 mm.; wing 9-10 mm.

FEMALE. — Length about 12-13 mm.; wing 9-10 mm.

Middle leg (male), femur 16.6 mm.; tibia 16.5 mm.; tarsus 12.5 mm.

Hind leg (male), femur 17 mm.; tibia 16 mm.; tarsus 10.5 mm.

Rostrum and labial palpi yellow; maxillary palpi with first segment yellow, the remainder black. Antennae with the scape yellow, pedicel brown, flagellum black; flagellar segments cylindrical, much exceeding the short verticils. Anterior vertex pale, silvery pruinose; head behind obscure yellow, darkened at the very narrow anterior vertex, the latter only about as wide as a single ommatidium.

Cervical region and pronotum dark brown dorsally, paling to yellow on sides; pretergites narrowly yellow. Mesonotal praescutum almost uniformly medium brown, the humeri not brightened; scutal lobes darkened, the median region obscure yellow; scutellum testaceous yellow, the disk weakly darkened; mediotergite dark brown, the lateral border, with the pleurotergite and pleura, yellow, the mesepisternum weakly darkened. Halteres dark brown. Legs with the coxae yellow, the fore pair a trifle darker; trochanters yellow; femora dark brown, the tips narrowly white, involving about the outer ninth (fore legs) to twelfth (hind leg); tibia white at

both ends, narrowest at base, much broader at apex, the intervening dark brown ring broad (11-12 mm.); tarsi white; spinous armature of femora lacking or restricted to three or four spines on fore femora; posterior basitarsus with a grouping of dark setae near proximal end. Wings subhyaline; stigma small, dark brown; a vague dusky suffusion extending for virtually the entire wing length at near mid-width; veins brown. Venation R_2 at fork of R_{2+3+4} or some distance before this, in the latter case R_{3+4} approximately one-third to nearly one-half R_2 ; $m-cu$ at or close to fork of M apical fusion of Cu_1 and $1st A$ a little less than $m-cu$.

Abdominal tergites dark brown, sternites obscure yellow.

HOLOTYPE, ♂, Rogez District, in forests, altitude 900 meters, October 1946 (Lamberton). ALLOTOPOTYPE, ♀. PARATOPOTYPES, 3 ♂ ♀, October 1946-January 1947.

This fly is distinguished from the most similar species, including *Trentepohlia (Mongoma) Cachani*, sp. n., and *T. (M.) regifca*, sp. n., by the unusually broad dark tibial rings.

35. *Trentepohlia (Mongoma) madagascariensis* Alexander.

Trentepohlia (Mongoma) madagascariensis Alexander; *Ann. Mag. Nat. Hist.*, (9) 6 40-41, 1920.

The type, a male, was from Tamatave, collected in 1906 by A. Sauzier, now preserved in the British Museum (Natural History).

Rostrum brownish yellow. Mesonotal praescutum with three entire brown stripes, pleura dark brown. Halteres yellow, the knobs dark brown. Legs with the coxae dark brown; femora brown, gradually deepening to black before the abruptly whitened tip; tibiae dark brown, the extreme base pale, the tips more broadly so.

35 a. *Trentepohlia (Mongoma) madagascariensis spectabilis*, subsp. n.

Generally as in the typical form, differing as follows

Rostrum darkened. Median praescutal stripe pale throughout, the dark brown represented by lateral borders that begin about opposite the anterior ends of the lateral stripes and extend cephalad; scutellum light yellow mediotergite dark brown, the lateral borders and adjacent margin of the pleurotergite yellow. Pleura variegated yellow and brown, including a very conspicuous dark brown longitudinal stripe that extends from the head to the base of the abdomen, passing beneath the root of the halteres; ventral sternopleurite paler brown, entirely separated from the dorsal stripe

by pale; dorsopleural membrane yellow. Halteres with the knobs only weakly infuscated. Legs with all coxae pale yellow; femora yellowish brown, the tips whitened, preceded by a brownish black ring that is subequal to or slightly more extensive than the pale apex; tibia yellowish

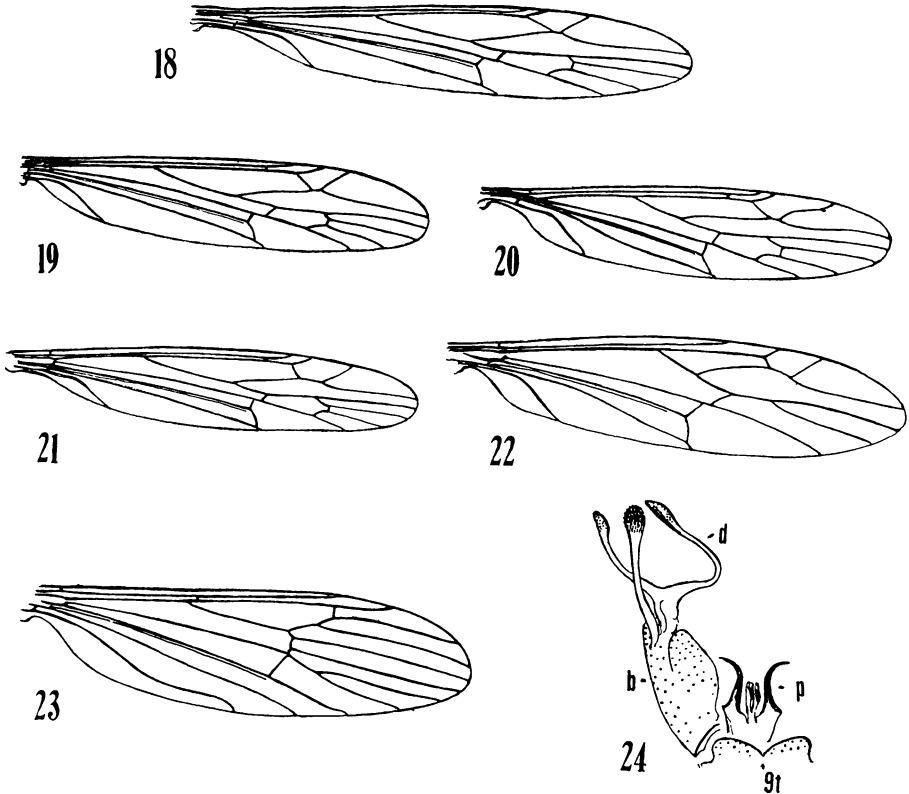


Fig. 18 à 24. — 18, *Trentepohlia (Mongoma) Cachani*, sp. n.; venation. — 19, *Trentepohlia (Mongoma) bicinctatra*, sp. n.; venation. — 20, *Trentepohlia (Mongoma) madagascariensis spectabilis*, subsp. n.; venation. — 21, *Trentepohlia (Mongoma) regifica*, sp. n.; venation. — 22, *Trentepohlia (Trentepohlia) sutilis*, sp. n.; venation. — 23, *Erioptera (Erioptera) genuatra*, sp. n.; venation. — 24, *Erioptera (Erioptera) genuatra*, sp. n.; male hypopygium.

(Symbols b, basistyle; d, dististyles; p, phallosome; t, tergite.)

brown with a narrow dark brown ring just beyond the base; tip of tibia rather narrowly whitened, preceded by a subequal more blackened ring; fore tarsi brown, the middle and hind pairs dark brown, the incisures restrictedly pale. Bases of femora (at least in female) without armature. Wings (fig. 20) with the ground whitish, with a conspicuous brown pattern distributed about as in typical *madagascariensis*; darkened area at

origin of R_s expanded over the outer third of cell R . Venation R_2 about three times R_{3+4} ; vein R_3 more than twice as long as R_2 , in the type with a spur at near two-thirds the length, jutting distad into the cell; m present, closing cell $1st\ M_2$; distal section of vein R_5 more than twice the element $R_5 + M_{1+2}$. Abdominal tergites obscure yellow, the bases of the intermediate segments rather narrowly pale brown; sternites similarly patterned with the brown bases more extensive.

HOLOTYPE, ♀, Rogez District, in forests, altitude 900 meters, October 1946 (Lamberton).

36. *Trentepohlia* (*Mongoma*) *regifica*, sp. n.

Mesonotum medium brown, the posterior sclerites light gray pruinose; antennal scape yellow; femora with broad white tips, tibiae white with a relatively broad subbasal black ring; wings whitish subhyaline, with a weak darkening for virtually the whole wing length at near midwidth; abdominal tergites dark brown, the lateral borders restrictedly pale.

FEMALE. — Length about 17 mm.; wing 12.5 mm.

Middle leg, femur 19 mm.; tibia 19.5 mm.; tarsus 15 mm.

Hind leg, femur 19.5 mm.; tibia 19 mm.; tarsus 12.5 mm.

Rostrum and labial palpi pale yellow; maxillary palpi black. Antennae with scape yellow, pedicel more testaceous yellow, flagellum black; flagellar segments cylindrical, much exceeding the verticils. Head above yellow, weakly infuscated on the center of vertex; anterior vertex silvery pruinose.

Cervical sclerites and pronotum brown. Mesonotal praescutum medium brown, the lateral portions and humeral region not or scarcely brightened; median region of praescutum, especially on posterior half, with abundant small black setae; posterior sclerites of notum light gray pruinose; centers of scutal lobes infuscated; scutal lobes and scutellum with abundant small setae. Pleura and pleurotergite, with the lateral borders of the mediotergite, yellow, slightly darker dorsally and on the propleura. Halteres weakly infuscated, the base of stem narrowly whitened. Legs with the coxae and trochanters yellow, the fore coxae darker; femora dark brown, deepening to brownish black before the broad white tips; tibiae snowy white, with a relatively broad subbasal black ring; remainder of legs snowy white; width of white tip of hind femur 2.3 mm.; white base of tibia 3.5 mm.; black tibial ring 3.5 mm. On middle legs, the white base of tibia 3 mm., the blackened ring nearly 5 mm.; bases of middle femora with about six spines, of hind femora about nine; basitarsus near proximal end with a strong black seta, largest on posterior legs, in cases with a reduced second bristle; fore legs not clearly visible but apparently with the armature lacking. Wings (fig. 21) whitish subhyaline, the darke-

ned stigma very reduced ; a weak darkening for virtually the whole length of wing at near midwidth, more conspicuous and expanded in the vicinity of cord ; veins brown. Venation R_2 about one-third longer than R_{3+4} ; vein R_3 oblique ; $m-cu$ about one-third its length before the fork of M ; apical fusion of veins Cu_1 and $1st A$ short.

Abdominal tergites dark brown, the lateral borders restrictedly pale ; sternites obscure yellow, the subterminal segment narrowly darkened. Cerci long and slender, blackened basally.

HOLOTYPE, ♀, Rogez District, in forests, altitude 900 meters, january 1947 (Lamberton).

This fly is most similar to species such as *Trentepohlia (Mongoma) Cuchani*, sp. n., and *T. (M.) latatra*, sp. n., differing especially in the leg pattern, as shown in the provided key.

37. *Trentepohlia (Mongoma) scalator*, sp. n.

General coloration yellow, the posterior sclerites of the notum somewhat darker ; femora obscure yellow, the tips narrowly but abruptly white, preceded by a darkened ring ; tibiae pale brown, the tips broadly white, tarsi dirty white ; wings nearly hyaline ; abdomen bicolored, the tergites dark brown, with less than the proximal half of each yellow.

MALE. — Length about 7.5-9 mm. ; wing 6.5-8 mm.

FEMALE. — Length about 7-8.5 mm. ; wing 6-7.5 mm.

Rostrum yellow, palpi a little darker. Antennae with the scape and pedicel yellow, flagellum dark brown, the segments subcylindrical, with short verticils. Head buffy yellow ; anterior vertex narrow.

Thorax almost uniformly yellow, the surface polished ; posterior sclerites of notum somewhat darker. Halteres pale. Legs with the coxae and trochanters yellow ; femora obscure yellow, the tips narrowly but abruptly white, preceded by a subequal infuscated ring ; tibiae pale brown, the tips broadly white ; tarsi dirty white ; femora with numerous strong bristles scattered at intervals virtually over the entire length, the tibiae with these fewer and still more scattered. Wings nearly hyaline, the prearcular and costal fields a trifle more yellowed ; veins very pale brown, more yellowed in the costal area. Costal fringe (male) relatively conspicuous. Venation R_s relatively long, more than twice the basal section of R_5 ; R_{3+4} usually short, approximately one-third to three-fourths R_2 , in cases shorter, just before the fork ; $m-cu$ variable in position, from opposite the fork of M to some distance before or beyond this point ; apical fusion of veins Cu_1 and $1st A$ moderate, in cases equal to m .

Abdomen bicolored, the tergites dark brown, with about the basal third

to two-fifths yellow, the sternites more uniformly yellow; hypopygium yellow. In some specimens the darkened pattern of the abdomen is much.

HOLOTYPE, ♂, Rogez District, in forests, altitude 800 meters, January 1947 (Lamberton). PARATOPOTYPES, ♂ ♀, altitude 800-900 meters, August 1946-January 1947 (Lamberton); PARATYPE, ♂, Anosibe, January 1951 (Paulian).

Readily told from the other regional members of the subgenus by the pattern of the legs and abdomen, in conjunction with the unmarked wings.

38. *Trentepohlia* (*Trentepohlia*) *gracilis* Enderlein.

Trentepohlia gracilis Enderlein, *Zool. Jahrb. Syst.*, 32 61-62, fig. M_1 .

The types were taken at Ambohimanga, in January 1906, by Hammerstein.

39. *Trentepohlia* (*Trentepohlia*) *nigripes*, sp. n.

Wing 7×1.4 mm.

Characters generally as in *gracilis* Enderlein. Body badly eaten by *Corrodentia*.

Thorax dark brown, the cephalic part of the praescutum still darker. Femora dark brown to brownish black, the tips gradually passing into black; tibiae dark brown, the tarsi a trifle paler brown. Wings with a strong brownish tinge, the costal border very narrowly yellowed, this area continued to the wing tip; stigma small and narrow, a trifle darker than the ground; veins R_5 , Cu and the Anals slightly suffused with darker; veins brown, the distal section of R_5 darker; veins of the costal field more yellowed. Venation Rs a little longer than the basal section of R_{4+5} ; R_{2+3+4} about two and one-half times R_{3+4} , the latter only about one-half longer than R_2 ; fusion of R_5 and M_{1+2} about twice the basal section of M_{1+2} ; cell $2nd\ A$ unusually wide.

From ENDERLEIN'S figure of *gracilis* (*Zool. Jahrb. Syst.*, 32 62, fig. M_1 ; 1912), the latter differs in the still narrower wings with the venational details distinct, Rs being shorter than the basal section of R_{4+5} ; R_{2+3+4} a little shorter than R_{3+4} , the latter approximately four times R_2 ; fusion of R_5 and M_{1+2} very short, less than the basal section of M_{1+2} ; cell $2nd\ A$ narrower. The description of *gracilis* calls for a yellowish gray fly, the legs bright ochre-yellow, with the tips of the femora, tibiae and basitarsi brown.

HOLOTYPE, in poor condition, Tzimbazaza (Paulian).

40. *Trentepohlia* (*Trentepohlia*) *Alluaudi* Alexander.

Trentepohlia (*Trentepohlia*) *Alluaudi* Alexander, *Bull. Mus. Hist. Nat. Paris*, 1920 219.

The types were from Ivondro, taken in July 1900 by Alluaud.

Ambila-Lemaitso, July 1951 (Paulian); Rogez District, in forest, altitude 800-900 meters, September-December 1946, January 1947 (Lamberton).

41. *Trentepohlia* (*Trentepohlia*) *Speiseri africana* Alexander

Trentepohlia Speiseri Edwards, *Ann. Mag. Nat. Hist.*, (8) 12 204, fig.; 1913.

Trentepohlia (*Trentepohlia*) *Speiseri africana* Alexander, *Rept. Harvard-African Expedition upon the African Republic of Liberia and the Belgian Congo*, p. 1016; 1930.

The type of *Speiseri* was from Ceylon, but EDWARDS referred to the same species materials from Cameroun, Gold Coast, Liberia, Sierra Leone, the Belgian Congo, and Uganda. The type of the race *africana* was from Liberia.

I am referring the Madagascar specimens to *africana* with considerable hesitation, since in the materials at hand there is no darkening of the tips of the femora, an important character in the definition of the subspecies. Also the thorax is almost uniformly blackened, the praescutum abruptly reddened, in cases with a narrow darkened median vitta on the praescutum. On the wing, the costal interspaces are deep yellow and the white crossband beyond the cord is usually interrupted by a dark seam along the fused vein $R_5 + M_{1+2}$. It seems probable that more than a single race or even species is involved in this complex.

42. *Trentepohlia* (*Trentepohlia*) *sutilis*, sp. n.

General coloration of body yellow; halteres and legs yellow; wings yellow, with restricted dark seams, the most persistent being one over vein R_3 .

MALE. — Length about 7-7.5 mm.; wing 6.5-6.8 mm.

FEMALE. — Length about 7 mm.; wing 6.5 mm.

Rostrum and palpi brown. Antennae dark brown, the scape slightly paler; flagellar segments cylindrical, a little exceeding the verticils. Head whitened.

Thorax almost uniformly shiny yellow, the central part of the medio-tergite more infuscated. In the female, the color of the thorax is darker,

especially the dorsum which is pale brown. Halteres and legs yellow, the outer tarsal segments even more whitened; middle femora in both sexes with two or three small erect spinous setae near base. Wings (fig. 22) yellow, the costal region more saturated; a very restricted dark pattern, including seams over the posterior cord, vein R_3 , and the wing tip in outer end of cell R_3 ; veins yellow, darker in the patterned areas. Venation R_s and basal section of R_5 subequal; apical fusion of veins Cu_1 and 1st A short, about as illustrated or slightly shorter than this.

Abdomen brownish yellow to yellow.

HOLOTYPE, ♂, Rogez District, in forests, altitude 900 meters, december 1946 (Lamberton). ALLOTOPOTYPE, ♀, with the type. PARATOPOTYPES, ♂ ♀, altitude 800-900 meters, october 1946-january 1947 (Lamberton).

In the local fauna, the present fly most resembles *Trentepohlia* (*Trentepohlia*) *Alluaudi* Alexander, which differs evidently in the pattern of the wings and legs, as shown by the key.

43. *Erioptera* (*Erioptera*) *genuatra*, sp. n.

Belongs to the *peringueyi* group; general coloration yellow, the scutellum, mediotergite and dorsal pleural stripe blackened; legs yellow, the femoral tips abruptly blackened, the extreme base of the tibia more narrowly so; wings yellow with three darkened bands, the outer one including virtually all the cells beyond the cord; male hypopygium with the inner dististyle profoundly bifid into two slender arms.

MALE. — Length about 4.5-5 mm.; wing 5 mm.

FEMALE. — Length about 5-5.5 mm.; wing 5.5-6 mm.

Head blackened; eyes of male very large, broadly holoptic beneath, smaller in female. Rostrum and palpi dark brown, relatively small. Antennae darkened basally.

Pronotum yellow. Mesonotal praescutum almost uniformly light yellow with faint indications of a median stripe at midlength; scutum yellow, each lobe weakly darkened laterally behind the suture; scutellum and mediotergite dark brown, broadly yellowed laterally; pleurotergite yellow. Pleura yellow, with a broad dark brown dorsal stripe that is expanded behind. Halteres yellow, the knobs brownish black. Legs with the fore coxae infuscated, the remaining coxae and the trochanters light yellow femora yellow, the tips rather broadly black, involving about the outer ninth or tenth; remainder of legs yellow, the extreme base of tibia blackened, the amount about one-third to one-fourth that of the femoral darkening; outer tarsal segments a little darker. Wings (fig. 23) with the ground color pale yellow, the prearcular and costal regions more saturated; stigma

small, dark brown; an extensive pale brown pattern including virtually all the cells beyond the cord, the outer ends of the radial and medial cells to beyond the apex paling to obscure yellow two less extensive darkened areas basad of the cord, one subbasal in position, the larger second one at the level of the origin of *Rs* and end of vein *2nd A*, interconnected in cell *Cu*; apical band separated from the basal areas by a narrow yellow band at near midlength of the wing, very restricted to virtually interrupted at the fork of *M*; veins very pale brown, yellow in the ground areas. Venation Vein *2nd A* strongly sinuous.

Abdomen with the basal tergites yellowish brown to light brown, the sternites clearer yellow outer segments, including the hypopygium and subterminal segments of female brownish black. Ovipositor with the cerci slender, straight. Male hypopygium (fig. 24) with the outer dististyle, *d*, long-stemmed, the head small; inner style profoundly bifid, each arm terminating in a feebly dilated blade that is microscopically roughened. Gonapophysis, *g*, blackened.

HOLOTYPE, ♀, Rogez District, in forests, altitude 900 meters, July 30, 1946 (Lamberton). ALLOTOPOTYPE, ♂, August 1946. PARATOPOTYPES, 3 ♂ ♀, August 1946-January 1947; PARATYPE, ♀, Tzimbazaza, March 1949 (Paulian).

In its general appearance, the species is most similar to *Erioptera* (*Erioptera*) *Peringueyi* Bergroth, of South and East Africa, which has the male hypopygium entirely different. In the latter regard the fly is most as in the otherwise very distinct *E. (E.) carissima* Alexander.

44. *Erioptera* (*Podoneura*) *anthracogramma malagasica* Alexander.

Podoneura anthracogramma Bergroth, *Entomologisk Tidskrift*, 1888 133-134, fig. 2.

Erioptera (*Podoneura*) *malagasica* Alexander, *Proc. Roy. ent. Soc. London*, (B) 19 88, 1950.

The type of *anthracogramma* was a female taken in the vicinity of Cape Town, South Africa. The typical form is now known to have an extensive range throughout South and East Africa. The type of *malagasica* was from Vinanitelo, Madagascar. The specimen is mounted on a microscope slide and from this the inner dististyle of the male hypopygium has an appearance that is quite different from that of the typical form, being more pointed at apex instead of obtuse. It now appears that the more pointed condition of the style is chiefly apparent and due to the position on the slide. In the light of the more abundant materials now on hand it appears best to place *malagasica* as a subspecies of the widespread mainland form. In the latter, the yellow pattern of the femora is more conspicuous than in

malagasica, the subterminal ring being broader while the femoral tips are narrowly but distinctly yellow, as described by BERGROTH. Several specimens of *malagasica* from the Rogez District, altitude 800-900 meters, september-december 1946 (Lamberton).

45. *Styryngomyia solocipennis* (Enderlein).

Pycnocyrtis solocipennis Enderlein, *Zool. Jahrb. Syst.*, 32 67. fig. P₁, 1912.

Tye types were from Ambohimanga, taken in february 1906. by Hammerstein. A few additional specimens, Rogez District, in forests, altitude 800-900 meters, october-december 1946, january 1947 (Lamberton).

46. *Styryngomyia leucoplagia*, sp. n.

General coloration black, sparsely pruinose; antennal flagellum dark brown, the incisures narrowly pale; halteres black; legs black, the femora with a yellow subterminal ring; wings blackened, with a broad whitened band before cord; male hypopygium with three major bristles on basistyle.

MALE. — Length about 6.5-7 mm.; wing 5-5.5 mm.

FEMALE. — Length about 4.5 mm.; wing 5 mm.

Rostrum and palpi black. Antennae dark brown, the flagellar incisures narrowly pale; verticils long and conspicuous. Head dark brown, sparsely pruinose, especially on vertex; cephalic bristles all black, proclinate, including two unequal pairs on the anterior vertex and a pair at cephalic part of the posterior vertex opposite the posterior border of eye; several additional setae on the posterior part of vertex.

Thoracic dorsum black, pruinose, leaving longitudinal stripes on the praescutum, the broad central stripe more or less divided behind; bristles of scutum and scutellum erect to subproclinate. Pleura black, more or less pruinose. Halteres black, the extreme base of stem brightened. Legs with all coxae black; trochanters black, the posterior pair a little more brightened; femora black, with a conspicuous yellow subterminal ring, in cases reduced or even totally obliterated; tibiae and tarsi black. Wings (fig. 30) with the ground color blackened, more intensely so in outer radial field; a broad white band before cord, in cases this more reduced to lacking; veins dark brown, paler in the whitened area. Costal fringe (male) of proximal half of wing long and conspicuous. Venation Anterior branch of *Rs* oblique; cell 2nd *M*₂ narrowly sessile to short-petiolate; vein 2nd *A* curved gently into the margin.

Abdomen, including hypopygium, black. Male hypopygium (fig. 26) with the ninth tergite, 9t, terminating in a broad densely setiferous lobe. its

apex gently rounded. Ninth sternite, *9s*, narrowed outwardly, terminating in two strong setae that are shorter than the narrowed part of the lobe; apex of sternite in cases projecting caudad between the apical setae as a small point; surface of lobe with about 23-24 setae of different lengths, some elongate, including an isolated subapical bristle. Basistyle, *b*, provided with three major bristles, two apical, placed on a stout outer lobe, unequal, the outer about one-half longer than the inner; third bristle subapical in position, subequal in length to the shorter outer bristle but stouter basally mesal face of style before apex with a compact cushion of short erect setae. Two dististyles, *d*, the inner a flattened blade, with numerous erect to slightly retrorse bristles; outer style expanded at base, narrowed into the usual long slender arm, the major bristle of the latter nearly two-thirds as long as the arm itself; expanded basal part of style with abundant black setae; at base on inner edge with a further slender arm that bears a strong comb of about 15 black spines, additional to a concentration of blackened spines at apex. Phallosome, *p*, about as figured, terminating in a strong cleaverlike beak.

HOLOTYPE, ♂, Rogez District, in forests, altitude 900 meters, december 1946 (Lamberton). ALLOTOPOTYPE, ♀, pinned with type. PARATOPO-
TYPES, several ♂ ♀, october-december 1946.

The most similar described regional species is *Styringomyia solocipennis* (Enderlein), which may be distinguished by the characters given in the accompanying key. In the large series of specimens of the present fly, some individuals show a reduction to total obliteration of the yellow ring on the femur or the white wing band, or both. Such individuals are uncommon and scarcely ever show the elimination of both characters in the same individual. In stature, the present fly is slightly larger and definitely stouter than *solocipennis*.

KEY TO THE SPECIES OF STYRINGOMYIA

(Based chiefly on males)

1. General coloration black, including the legs; (male hypopygium with three modified setae on basistyle) 4
- General coloration yellow; legs yellow, in cases patterned with darker; (male hypopygium with a single modified seta on basistyle, except in *Lambertoni*) 4
2. Wings blackened, with a major whitened area before the cord; femora black with a yellow subterminal ring *leucoplagia*, sp. n.
- Wings suffused with blackish, especially in the costal and outer radial fields, without pattern; legs uniformly black 3
3. Male hypopygium with the ninth sternite broad, the outer pair of setae terminal in position *solocipennis* (Enderlein)
- Male hypopygium with the ninth sternite narrow, the outer pair

- of setae placed near the center of the disk. (Extralimal : Réunion) **bourbonensis**, sp. n.
- 4. Wings and legs yellow, unpatterned ; male hypopygium with three modified setae on basistyle **Lambertoni**, sp. n.
- Wings and legs yellow, at least the latter patterned with darker ; male hypopygium with a single modified seta on basistyle 5
- 5. Male hypopygium with the apex of the ninth tergite conspicuously trilobed, the central cushion being subtended by lateral blackened lobes or shoulders **annulipes** (Enderlein)
- Male hypopygium with the lobe of the ninth tergite simple, without lateral lobes 6
- 6. Wings unpatterned ; knobs of halteres infuscated ; femora with a broad black subterminal ring **clio**, sp. n.
- Wings with a weak darkened pattern, including a spot over *r-m* ; halteres yellow ; femora very weakly patterned with darker, including two spots or incomplete rings on outer surface. **denticulata**, sp. n.

(Extralimal) **Styringomyia bourbonensis**, sp. n.

In general appearance very like *solocipennis* (Enderlein), to which it seems most nearly allied. It differs very conspicuously in the structure of the male hypopygium, particularly the dististyles, phallosome and ninth sternite.

Male hypopygium (fig. 25) with the apical lobe of the tergite, *9t* (10th tergite of EDWARDS), appearing as a long and narrow cushion, the margins infolded, the tip narrowly rounded. Ninth sternite, *9s*, long and narrow, with only four major setae, the outer pair placed close together at near midlength of the lobe ; beyond their insertion, the sternite narrows into a cushion that has somewhat the same outline as the lobe of the tergite. Basistyle, *b*, with three modified setae, two placed close together near the summit of a stout tubercle. Dististyles shaped about as figured (the individual elements drawn separately to avoid confusion). Phallosome, *p*, at apex produced into a small acute point.

HOLOTYPE, ♂, Réunion (in Alexander Collection).

I had earlier determined this fly as being *solocipennis* but there can be no doubt of the distinctness of the two.

47. **Styringomyia Lambertoni**, sp. n.

General coloration of body, antennae, legs and wings yellow, unpatterned or virtually so ; male hypopygium with three modified setae on the basistyle ; middle dististyle expanded outwardly, with abundant recurved black setae ; phallosome terminating in a blackened beak, with two spinous points on outer face.

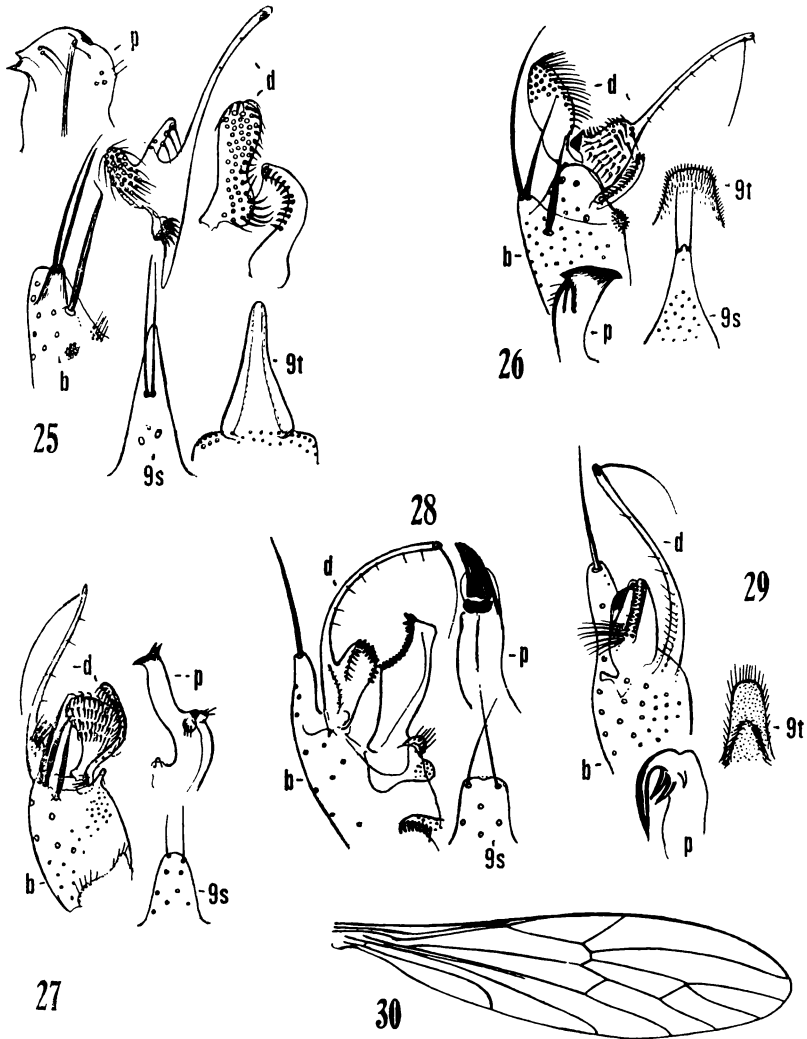


Fig. 25 à 30. — 25, *Styringomyia bourbonensis*, sp. n.; male hypopygium. — 26, *Styringomyia leucoplagia*, sp. n.; male hypopygium. — 27, *Styringomyia Lambertoni*, sp. n.; male hypopygium. — 28, *Styringomyia cio*, sp. n.; male hypopygium. — 29, *Styringomyia denticulata*, sp. n. male hypopygium. — 30, *Styringomyia leucoplagia*, sp. n. venation.

(Symbols *b*, basistyle; *d*, dististyles; *p*, phallosome; *s*, sternite; *t*, tergite.)

MALE. — Length about 7.5-8 mm.; wing 5.5-5.8 mm.

Rostrum and palpi pale brown. Antennae yellow, the scape a trifle darker. Head yellow.

Thorax uniformly yellow; mesonotal setae sparse to virtually lacking.

Halteres and legs yellow, the extreme tips of the tibiae and the last tarsal segment darkened. Wings yellow, entirely unpatterned ; veins darker yellow. Venation Cell *2nd M*₂ barely sessile to short-petiolate ; vein *2nd A* curved evenly into the margin.

Abdomen yellow, virtually unpatterned, the extreme apices of the tergites infuscated. Male hypopygium (fig. 27) with the tergite terminating in an elongate cushion, covered with abundant yellow setae. Ninth sternite, *9s*, relatively broad, with comparatively few setae, the outermost pair scarcely differentiated except for position. Basistyle, *b*, with three modified setae. Outer dististyle, *d*, with a group of long black setae at base and with about four scattered bristles along the surface. Middle style a pale mushroom-shaped cushion, provided with numerous recurved black setae. Inner style an elongate rod that bears long black setae throughout its length. Phallosome, *p*, terminating in a blackened beak, with two spinous points at the base of the outer face of the latter, these directed backward ; upper surface of phallosome with two pale lobes, each bearing three setae, together with a blackened knob.

HOLOTYPE, ♂, Rogez District, in forests, altitude 900 meters, october 1946 (Lamberton). PARATOPOTYPES, 2 ♂♂.

This unusually interesting *Styringomyia* is dedicated to the veteran naturalist and collector, Mr. Charles Lambertson. Its closest described ally is *Styringomyia flava* Brunetti, of South India, which differs particularly in all details of structure of the male hypopygium, especially the spines of the basistyle, the inner and middle dististyles, and the phallosome.

48. *Styringomyia annulipes* (Enderlein).

Pycnocrepis annulipes Enderlein, *Zool. Jahrb. Syst.*, 32 65-66, fig. 0₁.

The types were from Ambohimanga, taken from january to april 1906, by Hammerstein. Subsequently recorded from the Sechelles Islands and from Portuguese East Africa.

49. *Styringomyia clio*, sp. n.

General coloration yellow ; legs yellow, patterned with darker, the femora with a broad and conspicuous brownish black ring about its own length before the apex ; wings yellow, without pattern ; male hypopygium with the tergal lobe elongate, its apex subacute ; apex of ninth sternite broad, truncated ; modified seta of basistyle single ; outer dististyle suddenly dilated at base, armed with spines ; phallosome terminating in a blackened conical point.

MALE. — Length about 6-6.2 mm. ; wing 4-4.2 mm.

Rostrum and palpi yellow. Antennae yellow, the scape and pedicel a trifle darker. Head yellow ; setae of vertex slightly proclinate, the more posterior ones small and weak.

Thorax yellow, the posterior sclerites of the notum darker, the pleura clearer yellow. Halteres pale, the knobs infuscated. Legs with all coxae and trochanters yellow ; femora yellow, with a broad and conspicuous brownish black ring about its own length before the tip and a narrow and poorly indicated area at near midlength of the dorsal aspect ; tibiae yellow, the tip and a ring before midlength brown ; tarsi yellow, the terminal segment black. Wings yellow, without pattern, the outer costal portion somewhat more saturated ; veins brownish yellow. Costal fringe long at near midlength of wing, shorter outwardly. Venation Vein R_3 normally oblique ; cell $2nd M_2$ very short-petiolate to narrowly sessile ; cell $2nd A$ narrow, the vein curved gradually into the margin.

Abdomen yellow, the posterior borders of the segments narrowly darkened, the seventh tergite with a middorsal line ; hypopygium yellow. Male hypopygium (fig. 28) with the ninth tergite terminating in an elongate cushion, its apex subacute, without subtending lobes as in *annulipes* and some others. Apex of ninth sternite, $9s$, broad, truncate or virtually so, the surface with a few strong setae, two of which form the apical pair. Basistyle, b , with the modified seta single, from a strong enlarged tubercle that exceeds one-third the seta ; at base of mesal face of style with a curved arm that bears a comb of blackened spines. Dististyles, d , with the outer arm of the outer style suddenly and greatly dilated at base, armed about as shown ; inner style with a long marginal row of blackened teeth. Phallosome, p , terminating in a blackened conical point.

HOLOTYPE, ♂, Rogez District, altitude 800 meters, january 1947 (Lamberton). PARATOPOTYPES, 2 ♂♂.

The position of the present fly is indicated in the key provided earlier in this report.

50. *Styringomyia denticulata*, sp. n.

General coloration yellow, with a very sparse dark pattern ; legs with two darkened spots on upper surface of each femur ; wings yellow, with a restricted brown pattern that includes a seam over $r-m$; vein $2nd A$ bent at approximately a right angle into the wing margin ; male hypopygium with a single modified seta on basistyle, arising from an elongate seta ; dististyles simple, the inner one appearing as a pair of flattened plates or valves, their margins set with a series of blackened teeth ; phallosome ter-

minating in a strong decurved spine that is subtended by a pair of smaller tusk-like points.

MALE. — Length about 7 mm. ; wing 5 mm.

Rostrum yellow ; palpi pale, the terminal segment a trifle more darkened. Antennae yellow throughout. Head yellow setae small and weak, restricted to the anterior vertex.

Thorax almost uniformly yellow, the posterior sclerites, especially the mediotergite, more infuscated ; pronotum with the setae grouped chiefly in front, proclinate ; praescutum with the anterior half virtually free from setae, on the posterior half with about three strong bristles on either side, erect to weakly reclinate. Halteres yellow. Legs yellow, the femora with two weak brown spots on outer surface at near midlength and before the tip, not forming annuli ; tibiae with the tips narrowly darkened ; proximal tarsal segments more whitened, scarcely darkened at tips ; terminal segment brownish black. Wings yellow, with a restricted brown pattern, including a more distinct spot over *r-m*, and narrower seams at *m*, *m-cu* and tip of vein *2nd A* ; veins yellow, darkened in the patterned areas. Costal fringe of male long and conspicuous. Venation R_{2+3} oblique ; vein *2nd A* bent at approximately a right angle into the wing margin, weakly spurred at the bend.

Abdomen, including hypopygium, yellow, virtually unpatterned, the basal tergites with the posterior borders narrowly to very insensibly darkened, in the more heavily patterned specimens, the areas appearing as paired spots. Male hypopygium (fig. 29) with the ninth tergite, *9t*, a pale cushion, the relatively narrow apex obtuse. Basistyle, *b*, with a single modified seta from an elongate basal tubercle, the seta less than one-half the tubercle. Dististyles, *d*, unusually simple, the outer arm only moderately dilated at apex and here provided with about a dozen setae in a single row over about the proximal half ; inner style appearing as two flattened plates, their margins each with a series of approximately a dozen teeth, the plates opposable, suggesting a bivalve ; outer face of outer plate with a group of about 10-12 long setae. Phallosome, *p*, terminating in a strong decurved spine, its base subtended by a pair of smaller tusklike points.

HOLOTYPE, ♂, Rogez District, in forests, altitude 800 meters, January 1947 (Lamberton). ALLOTOPOTYPE, ♀, altitude 900 meters, December 1946. PARATOPOTYPES, 3 ♂♂, October-December 1946.

The position of the fly among the local species is shown by the preceding key. By EDWARDS'S key to the species of the genus, it runs to *Styringomyia Sjöstedi* EDWARDS, of the Cameroun, which has the male hypopygium quite distinct.

RESUME

L'auteur, poursuivant son étude du matériel reçu de Madagascar, décrit vingt-deux espèces nouvelles de *Limoniinae* de Madagascar et une espèce de la Réunion, et donne une clef des espèces de *Dicranoptycha*, *Trentepohlia* et *Styringomyia*. La plupart des espèces nouvelles proviennent de la région de Rogez, dans la forêt de l'Est.
