

**NEW OR LITTLE-KNOWN CRANE-FLIES  
FROM MADAGASCAR  
(TIPULOIDEA, DIPTERA)**

**Part I**

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INTRODUCTION

In the series of papers here instituted, I expect to consider the unusually interesting crane-fly fauna of Madagascar. It is planned to describe and figure the various species, and, when the fauna becomes sufficiently well known to warrant it, to prepare keys to the more involved genera. The various species will be numbered consecutively throughout the entire series of papers so that the total number reported to any particular date may be known and any fly further recorded or discussed in subsequent parts may be referred to by the same number. The three chief sources of material at present available include (1) an extensive series of specimens received from Mr. Charles Lambertson, Secretary of the Academie Malgache, taken by himself and by native collectors, particularly in the forests of the district of Rogez and elsewhere in the more central parts of the island ; (2) a small but very interesting series taken by Mr. Harry Hoogstraal in the Fort Dauphin District of southeastern Madagascar ; and (3) the lots of materials received from Dr. Renaud Paulian, Deputy Director of the Institut Scientifique de Madagascar. The latter materials are of special interest and value since certain of the flies were taken in the scattered remnants of primaeval forest persisting on the highest mountains of central and northern Madagascar, particularly on Mont Tsaratanana and Mont d'Ambre. The types of new species found in the Lambertson and Hoogstraal materials are preserved in my collection, those from the Paulian series in the collection of the Institut in Tsimbazaza, with additional paratypes and named materials from various sources to be added to both collections for completeness. I am very greatly indebted to Messrs. Hoogstraal, Lambertson and Paulian

(\*) L'auteur dresse la liste des Tipulides actuellement connus de Madagascar et décrit vingt espèces nouvelles, deux sous-genres et un genre nouveau, provenant presque en totalité des récoltes récentes du personnel de l'Institut. En outre une espèce nouvelle, décrite de Rodriguez, a été retrouvée à Madagascar.

for their interest in collecting these fragile and often neglected flies and so further making known the evidently rich Tipuloidean fauna of the great island.

It is surprising how relatively few species of *Tipulidae* had been recorded from Madagascar prior to 1950. The basic list of species provided later in this report indicates that two species were described by BIGOT in 1859, two by KARSCH in 1886, one (from recent copal) by MEUNIER in 1906, and six by ENDERLEIN in 1912. The remaining species have been described by the present writer in various papers published in 1920 and thereafter. Various other crane-flies have been described from the adjacent African mainland and from certain of the satellite islands, including Réunion, Rodriguez, Aldabra, and Séchelles, that are now being discovered in Madagascar and will be reported in this series of papers.

During the past thirty years I have been privileged to study the crane-fly materials from Africa, including Madagascar, in most of the American and European Museums. Species from Madagascar were included in the materials from the British Museum (collected by Charles Alluaud, 1900; E. Bartlett; W. D. Cowan; Dr. Forsyth-Major, and A. Sauzier, 1906); the Paris Museum (by Charles Alluaud, 1900; P. Camboué, 1894, and A. Grandidier, 1891); and in the Vienna Museum, taken by Sikora. In materials purchased some years ago by Dr. G. C. Crampton from Mr. G. Olsoufieff, and presented to me, were included the only species of the family *Ptychopteridae* (*Ptychoptera* Meign) so far discovered on the island. No representatives of the other families commonly but very artificially grouped together as being « crane-flies », including the *Tanyderidae*, *Trichoceridae* and *Anisopodidae*, have yet been recorded from Madagascar.

Six biotic districts are recognized in Madagascar, the most extensive being the Humid East district in Oriental Province, where most of the *Tipulidae* so far discovered have been taken. Also in Oriental Province is the isolated and extremely interesting Mont d'Ambre district in the far north. The Sambirano district of the Oriental Province and the Northern Savanna district of the Occidental Province are similarly northern. The extensive Western Savanna district occupies most of Occidental Province, while the Subdesert Province takes in the southwestern end of the island. Very numerous works on the fauna and flora of Madagascar are now available, including the monumental volumes of the great pioneer student and traveller, Alfred GRANDIDIER (1) and others. For an excellent account of the topography, climate, biotic and forest distribution, and many other pertinent data, the important paper by RAND (2) may be consulted.

(1) MILNE-EDWARDS (A.), and GRANDIDIER (A.). — Histoire Physique, Naturelle et Politique de Madagascar; Aves, 4 volumes: 1879-1882.

(2) RAND (A. L.). — The distribution and habits of Madagascar birds. A summary of the field notes of the Mission Zoologique Franco-Anglo-Américaine à Madagascar. *Bull. Amer. Mus. Nat. Hist.*, 72: 143-499, text-figures 1-48: 1936.

## GENERA AND SUBGENERA OF TIPULIDAE

## TIPULINAE

*Ctenacroscelis* Enderlein  
*Dolichopeza* Curtis  
 Subgenus *Hovapeza* subgen. n.  
*Tipula* Linnaeus  
 Subgenus *Acutipula* Alexander  
*Nephrotoma* Meigen

## LIMONIINAE

## Limoniini

*Limonia* Meigen  
 Subgenus *Dicranomyia* Stephens  
           *Geranomyia* Haliday  
           *Limonia* Meigen  
           *Rhipidia* Meigen  
           *Trypticomya* Skuse  
*Dicranoptycha* Osten Sacken  
*Orimarga* Osten Sacken

## Hexatomini

*Austrolimnophila* Alexander  
*Pseudolimnophila* Alexander  
 Subgenus *Calolimnophila* Alexander  
*Troglophila* Brunetti  
*Limnophila* Macquart  
 Subgenus *Nesolimnophila* Alexander  
*Hexatoma* Latreille  
 Subgenus *Ericocera* Macquart  
           *Prahexatoma* subgen. n.  
*Elephantomyia* Osten Sacken  
*Atarba* Osten Sacken

## Eriopterini

*Conosia* Osten Sacken  
*Trentepholia* Bigot  
 Subgenus *Mongoma* Westwood  
           *Trenlepohlia* Bigot  
*Gonomyia* Meigen  
 Subgenus *Idiocera* Dale  
           *Lipophleps* Bergroth  
*Hovamyia* gen. n.  
*Erioptera* Meigen  
 Subgenus *Erioptera* Meigen  
           *Meterioptera* Alexander  
           *Podoneura* Bergroth  
*Tasiocera* Skuse  
 Subgenus *Dasymolophilus* Gøetghebuer  
*Molophilus* Curtis  
*Styringomyia* Loew  
*Toxorhina* Loew  
 Subgenus *Ceratocheilus* Wesché  
           *Toxorhina* Loew

## SPECIES OF TIPULIDAE

## TIPULINAE

- Ctenacroscelis brunneus* (Bigot, 1859)  
*Dolichozepea malagasya* Karsch, 1886  
*Dolichozepea (Hovapeza) tisiphone* sp. n.  
*Tipula (Acutipula) amymona* sp. n.  
*T. (A.) Bartletti* Alexander, 1920  
*T. (A.) hova* Alexander, 1920  
*T. (A.) octoplagiata* sp. n.  
*T. spinimarginata* sp. n.  
*Nephrotoma flavonigra* Alexander, 1920  
*N. imerina* Alexander, 1920  
*N. madagascariensis* (Enderlein, 1912)  
*N. xanthoplaea* Alexander, 1920

## LIMONIINAE

## Limoniini

- Limonia (Dicranomyia) tipulipes* (Karsch, 1886)  
*L. (Limonia) discobolina* Edwards, 1923  
*Dicranoptycha aurogeniculata* sp. n.

## Hexatomini

- Austrolimnophila fulvipennis* (Alexander, 1921)  
*A. recens* (Alexander, 1921)  
*A. volentis* sp. n.  
*Pseudolimnophila (Calolimnophila) octoseriata* sp. n.  
*Troglophila (?) malitiosa* sp. n.  
*Limnophila (Nesolimnophila) Grandidieri* Alexander, 1920  
*L. (N.) malagasya* Alexander, 1920  
*L. sikorai* Alexander, 1921  
*L. velitor* sp. n.  
*Hexatoma (Eriocera) dysantes* sp. n.  
*H. (E.) madagascariensis* Alexander, 1933  
*H. (E.) obscura* (Bigot, 1859); preoccupied, renamed as above.  
*H. (Parahexatoma) decurvata* Alexander, 1937  
*H. (P.) Lambertoni* sp. n.  
*H. (P.) Pauliani* sp. n.  
*Elephantomyia (Elephantomyia) hoogstraaliana* sp. n.  
*E. (E.) maculistigma* (Enderlein, 1912)

## Eriopterini

- Conosia malagasya* Alexander, 1921  
*Trentepohlia (Mongoma) madagascariensis* Alexander, 1920  
*T. (Trentepohlia) Alluaudi* Alexander, 1920  
*T. (T.) gracilis* (Enderlein, 1912)  
*Hovamyia armillata* sp. n.  
*H. jacentia* (Enderlein, 1912)  
*H. monilifera* (Alexander, 1920)  
*H. suffuscipes* sp. n.  
*Erioptera (Podoneura) malagastica* Alexander, 1950  
*E. ambricola* sp. n.  
*Tasiocera (Dasymolophilus) hova* sp. n.  
*Molophilus (Molophilus) invidus* sp. n.  
*Styringomyia annulipes* (Enderlein, 1912)  
*S. solocipennis* (Enderlein, 1912)  
*Toxorhina (Ceratocheilus) approximata* sp. n.  
*T. (C.) madagascariensis* Meunier, 1906  
*T. (Toxorhina) serpens* sp. n.

## SYSTEMATIC ACCOUNT

## TIPULINAE

Genus *Dolichozepe* CurtisSubgenus *Hovapeze* subgen. n.

Characters as in typical *Dolichozepe*, differing in the venation of the outer radial field and in the distal position of *m-cu*, as well as in the structure of the ovipositor. Venation (fig. 1) with the radial field much as in *Tipula*. the medial field as in *Dolichozepe*;  $Sc_1$  lacking; free tip of  $Sc_2$  preserved;  $R_{1+2}$  entirely preserved; medial field with the venation pectinate, as in typical *Dolichozepe*, cell  $M_2$  being open by the atrophy of the basal section of  $M_3$ ; *m-cu* about one-third its own length beyond the fork of *M*. Ovipositor with the cerci reduced to small suboval fleshy lobes, the hypovalvae a little longer; spermatheca with ducts short and simple.

TYPE of subgenus. — *Dolichozepe (Hovapeze) tisiphone* sp. n.  
(Ethiopian Region; Malagasian Subregion).

The chief subgeneric characters of the present group lie in the venation, particularly in the entirely preserved  $R_{1+2}$  and the distal position of *m-cu*, which lies far beyond the fork of *Media*. The short fleshy ovipositor is quite different from all known subgenera with the exception of *Mitopeze* Edwards, which likewise has the valves of the ovipositor very reduced but with the venation quite distinct from that of the present group. In *Mitopeze*, the spermathecal ducts are enormously lengthened, if extended exceeding the entire body in length.

1. *Dolichozepe (Hovapeze) tisiphone*, sp. n.

General coloration of head and thorax yellow; antennæ very small; femora yellow, the tips narrowly dark brown; wings with a weak brownish tinge, cell *C* more yellowed, *Sc* and the stigma darker;  $R_{1+2}$  entirely preserved; *m-cu* beyond the fork of *M*; abdomen obscure yellow, the tergites patterned with brown.

FEMALE. — Length about 9-9.5 mm.; wing 11-11.5 mm.

Frontal prolongation of head relatively short, less than the remainder of head, nasus distinct; palpi with the first segment yellow, the outer ones brownish black. Antennæ short, in the female being less than the palpi; basal two segments light yellow, the succeeding ones brown, passing into brownish black. Head brownish yellow, sparsely pruinose; anterior vertex

relatively broad, more than three times the diameter of scape; ommatidia of eyes very small and delicate.

Thorax almost uniformly fulvous yellow, the dorsum subnitidous, with small sparse setae; pleura more pollinose. Halteres with stem obscure brownish yellow, the knobs weakly infuscated. Legs with the coxae and trochanters yellow; femora obscure yellow, the tips rather narrowly but conspicuously dark brown; tibiae brownish yellow, the tips slightly darker; tarsi dark brown to brownish black; tibial spurs small but distinct, shorter than the surrounding setae. Wings (fig. 1) with a weak brownish tinge, cell *C* more yellowed, *Sc* brownish yellow, the oval stigma brown; vaguely indicated oblitative marks before and beyond the stigma; oblitative area across cell 1st  $M_2$  not or scarcely evident; veins brown. Venation: Vein  $R_2$  nearly erect, relatively long; cell  $M_1$  about twice as long as its petiole; *m-cu* oblique; cell 2nd *A* narrow, more so at outer end.

Abdominal tergites obscure yellow, the segments with the posterior border and a median extension therefrom dark brown, the amount of dark color increasing on the outer segments; sternites apparently more uniformly yellow (filled with black eggs that discolor the surface). Ovipositor short and fleshy, as described under the subgenus.

HOLOTYPE, ♀, Mont d'Ambre, December 1948 (Paulian). PARATOPOTYPES, 2 broken ♀ ♀.

The present fly is entirely distinct from the only other member of the genus so far recorded from Madagascar, and likewise quite different from species of the four subgeneric groups occurring on the African mainland. The second species above mentioned is *Dolichozepea malagasya* Karsch (*Berlin. entomol. Zeitschr.*, 30 : 64; 1886), of which a few additional notes on the unique type female were added by Osten SACKEN (*l. c.*, 31 : 238; 1887). This larger fly has the frontal prolongation of the head longer than in typical *Dolichozepea*, with a distinct nasus. The bases of the flagellar segments are evidently swollen; the legs stouter, with shorter tarsi. The venation is quite like that of typical *Dolichozepea* in the very short oblique *Rs*, subequal to and in alignment with the basal section of  $R_{4+5}$ ; cell  $M_1$  of wing very deep, being six or seven times as long as its petiole; *m-cu* about one-third its length before the fork of *M*. Ovipositor with elongate sclerotized valves, as in typical *Dolichozepea*. The point of difference from the typical form is in the venation of the radial field where there is a short spur of vein  $R_{1+2}$  persisting that is entirely lacking in *Dolichozepea*, s.s.

## 2. *Tipula* (*Acutipula*) *amymona*, sp. n.

Mesonotal præscutum opaque brownish black, with four grayish plumbeous stripes; each scutal lobe similarly blackened, with two plumbeous areas; palpi and antennæ yellow; scutellum abruptly light yellow; medio-

tergite blackened, with a yellow central stripe; pleura chiefly dark brown or brownish black, the pleurotergite with a yellowish circular area surrounding the root of the haltere, the latter yellow; femora yellow, broadly blackened at tips; wings faintly tinged with brown, the prearcular and costal fields bright yellow; stigma dark brown, narrow; abdomen variega-

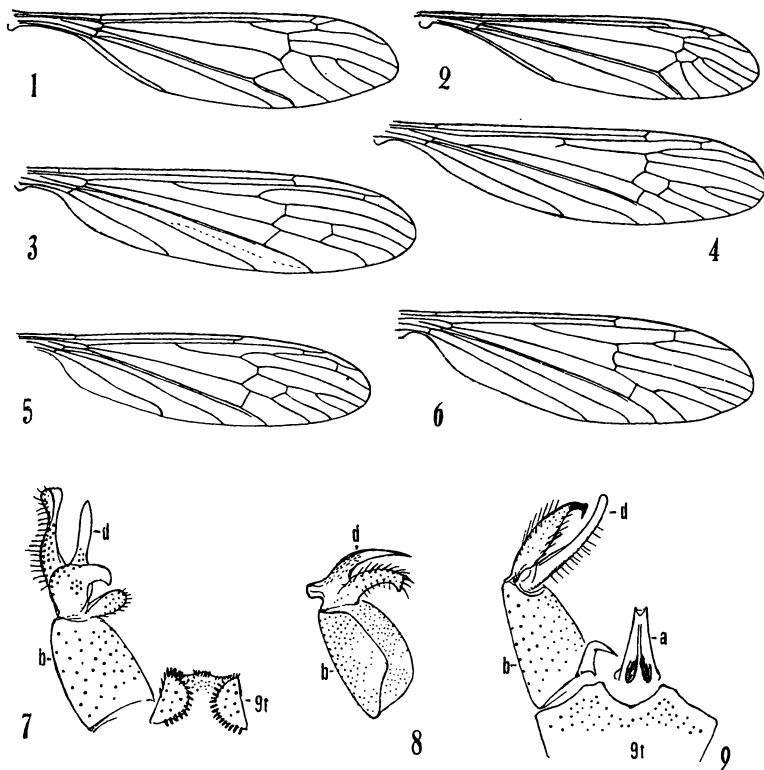


Fig. 1, *Dolichozeza (Hovapeza) tisiphone*, sp. n.; venation. — Fig. 2, *Tipula spinimarginata*, sp. n.; venation. — Fig. 3, *Dicranoptycha aurogeniculata*, sp. n.; venation. — Fig. 4, *Austrolimnophila volentis*, sp. n.; venation. — Fig. 5, *Pseudolimnophila (Calolimnophila) octoseriata*, sp. n.; venation. — Fig. 6, *Troglophila (?) malitiosa*, sp. n.; venation. — Fig. 7, *Tipula spinimarginata*, sp. n.; mâle hypopygium. — Fig. 8, *Dicranoptycha aurogeniculata*, sp. n.; mâle hypopygium. — Fig. 9, *Austrolimnophila volentis*, sp. n.; mâle hypopygium.

(Symbols : a, aedeagus; b, basistyle; d, dististyles; t, tergite).

ted yellow and black; tergites two to five yellow, patterned with brown, six to eight black; basal sternites yellow, patterned with brown, six to nine blackened; genital shield bright yellow; ovipositor with cerci slender and virtually straight.

FEMALE. — Length about 25 mm.; wing 20 mm.; antenna about 3.6 mm.

Frontal prolongation of head brownish yellow, nasus elongate; palpi pale yellow. Antennæ yellow throughout or with the terminal two segments a very little more obscured; flagellar segments subcylindrical, the basal swellings not or scarcely developed; verticils slightly exceeding the segments. Head yellow, the anterior vertex behind the antennæ more testaceous yellow, glabrous; occipital region weakly darkened, forming a vague band; vertical tubercle very low.

Pronotal scutum blackened, the scutellum, pretergites and extreme humeral border of the præscutum more whitened. Mesonotal præscutum with the ground opaque brownish black, with four more grayish plumbeous stripes; scutal lobes similarly black, each with two separate grayish plumbeous areas; suture and median region of scutum narrowly yellow; scutellum clear light yellow, parascutella more infuscated; mediotergite blackened, the central portion conspicuously yellowish white, the area narrowed behind, the posterior portion on either side grayish plumbeous. Pleura chiefly dark brown or brownish black, more or less pruinose, especially the ventral sternopleurite; posterior dorsopleural region infuscated; a circular yellowed area surrounding the root of the haltere, the central part of the pleurotergite, before the haltere, restrictedly darkened. Halteres uniformly pale yellow. Legs with the coxæ blackened; trochanters obscure yellow; femora obscure yellow basally, the tips broadly blackened, including the outer fourth to half, narrowest on the posterior legs; tibiæ obscure yellow, the tips narrowly infuscated; tarsi black; claws relatively small, simple. Wings with a faint brownish tinge, the prearcular and costal fields bright yellow; stigma dark brown, narrow; veins brown, yellow in the flavous areas. Venation: *Rs* shorter than *m-cu*; *R*<sub>2+3</sub> strongly elevated at origin, a little longer than *Rs*; basal section of *R*<sub>4+5</sub> short; petiole of cell *M*<sub>1</sub> subequal to or just exceeding *m*; *m-cu* just before the fork of *M*<sub>3+4</sub>; cell 2nd *A* broad.

First abdominal tergite brownish black; second tergite chiefly yellow, the posterior border dark brown, the lateral margins more narrowly darkened; tergites three and four yellow, with a conspicuous brown median stripe and narrow darkened lateral borders; tergite five yellow; tergites six to eight black, more or less pruinose; first sternite more or less darkened, sternites two to five yellow. Ovipositor with the cerci slender, straight or even slightly decurved at tips, the latter narrowly obtuse; hypovalvæ more compressed.

HOLOTYPE, ♀, Forêt d'Ambohitantly, December 1947 (Paulian).

The species most similar to this strikingly patterned crane-fly include *Tipula (Acutipula) Neavei* Alexander and *T. (A.) ruwenzori* Alexander, of Tropical Africa, both differing conspicuously in all details of coloration of the body.



### 3. *Tipula* (*Acutipula*) *octoplagiata*, sp. n.

Size large (wing, female, 22 mm.); general coloration yellow, the præscutum and scutum with a total of eight brownish black areas, the præscutal stripes narrowly bordered by more opaque black; femora obscure yellow, the tips abruptly blackened; wings with a weak brownish tinge, the prearcular field and cell *C* more brownish yellow, cell *Sc* and the exceedingly narrow stigma darker brown; abdominal segments variegated yellow and black, tergites four to seven, inclusive, chiefly blackened; ovipositor with the cerci slender, nearly straight.

FEMALE. — Length about 27 mm.; wing 22 mm.; antenna about 3.3 mm.

Frontal prolongation of head yellow, slightly more intense along the mid-dorsal line; nasus distinct; basal three segments of palpi yellow, the terminal one brown. Antennæ with scape and pedicel yellow, flagellum brown; flagellar segments cylindrical, shorter than the longest verticils. Head above yellow, without vertical tubercle but with a more glabrous area behind each antennal fossa.

Prothorax yellow. Mesonotum pale yellow, the præscutum with four entire brownish black stripes, the intermediate pair separated by a narrower more reddish line, the centers of the areas subnitidous, bordered by slightly more intensely blackened opaque borders; scutal lobes each with two barely contiguous dark brown areas; posterior sclerites of notum with a small brown central spot on basal third. Pleura and pleurotergite uniformly pale yellow. Halteres with stem brown, narrowly more yellowed at base, the knob more infuscated. Legs with the coxae and trochanters pale yellow; femora obscure yellow, clearer basally, the tips abruptly and conspicuously blackened, on the posterior legs involving about the distal seventh; tibiae brownish yellow, the tips very narrowly blackened; tarsi black. Wings with a weak brownish tinge, the prearcular field and cell *C* more brownish yellow, cell *Sc* and the exceedingly narrow stigma still darker brown; a very narrow to scarcely apparent dark seam over the anterior cord; veins brown. Venation: *Rs* straight, about three-fourths *m-cu* and a little shorter than  $R_{2+3}$ ;  $R_{1+2}$  weak, cell  $R_2$  narrow and pointed at base; inner end of cell *1st M*<sub>2</sub> pointed; petiole cell *M*<sub>1</sub> and *m* subequal; *m-cu* shortly before  $M_{3+4}$ ; cell *2nd A* moderately wide.

Basal abdominal tergite yellow; tergites two and three with tree black stripes, the sublateral portions broadly yellow on tergite two, much more restricted on three; tergites four to seven chiefly blackened, five and six with the basal ring very vaguely tinged with yellow; sternites more uniformly yellow; the sixth and seventh extensively blackened; genital shield relatively short, fulvous yellow. Ovipositor with the cerci broad at base, abruptly narrowed into the slender, nearly straight outer portion; hypovalvae compressed-flattened.

HOLOTYPE, ♀, Mont d'Ambre, December 1948 (Paulian).

The most similar regional species is *Tipula (Acutipula) bartletti* Alexander, which differs in all details of coloration and venation.

#### 4. *Tipula spinimarginata*, sp. n.

Size relatively small (wing, male, 11 mm.); general coloration of mesonotum reddish brown, without distinct pattern; antennae (male) elongate; legs obscure brownish yellow, the outer tarsal segments somewhat darker; wings with a weak brownish tinge, cell *Sc* and the stigma darker brown;  $R_{1+2}$  entire; cell *M* very deep, its petiole shorter than *m*; cell *2nd A* long and very narrow; male hypopygium with the sides of the tergite incurved, the margins provided with strong black spinous setae; inner dististyle irregular in outline.

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

Frontal prolongation of head short, yellow; nasus distinct; palpi testaceous, darker outwardly. Antennae with scape and pedicel yellow, flagellum dark brown; antenna broken beyond the fourth segment but evidently relatively long, when entire probably exceeding one-half the length of the wing; flagellar segments virtually cylindrical, the basal swellings scarcely developed; verticils short. Front obscure yellow; head behind more infuscated.

Pronotum testaceous yellow. Mesonotum chiefly reddish brown, the praescutum without distinct pattern, the surface subnitidous and virtually glabrous; scutellum a little darker; pleura and pleurotergite more yellowed. Halteres weakly infuscated, the base of stem narrowly yellow. Legs with the coxae and trochanters pale yellow; femora obscure brownish yellow, the outer tarsal segments somewhat darker; all outer tarsal segments broken; tibial spurs short, subequal in length to a dense comb of long setae at tip of tibia. Wings (fig. 2) with a weak brownish tinge, cell *Sc* and the stigma darker brown; a whitish prestigmal spot in cell  $R_1$ ; obliterative area across base of cell *1st M*<sub>2</sub> relatively inconspicuous; veins brown. Petiole of wing relatively long and narrow. Venation: *Sc*<sub>2</sub> ending just beyond midlength of *Rs*;  $R_{1+2}$  entire, with trichia for about two-thirds its length; cell *1st M*<sub>2</sub> relatively small, irregularly hexagonal; cell  $M_1$  very deep, its petiole shorter than *m*; *m-cu* at near two-thirds the length of  $M_{3+4}$ ; cell *2nd A* long and very narrow.

Abdominal tergites medium brown, the incisures narrowly more yellowed; subterminal segments more uniformly darkened; sternites clearer yellow; hypopygium yellow. Male hypopygium (fig. 7) with the tergite, *9t*, transverse, the sides incurved, margined with strong black spinous setae, the inflexed condition possibly not normal; caudal margin of segment

with weaker setae, more concentrated on the slightly produced median area. Outer dististyle short and broad, the length approximately twice the width, the apex obtuse. Inner dististyle, *d*, about as figured, very irregular in outline; main body of style produced into a compressed-subcultrate beak, below which rises a slender subcylindrical lobe; a second elongate arm of the style extends caudad, the outer surface with conspicuous erect coarse setae.

HOLOTYPE, ♂, Forêt d'Ambohitantely, December 1947 (Paulian).

There are no close relatives known to me nor can I attempt to place the fly in a subgenus on the basis of available material. It is entirely distinct from the various species hitherto known from Madagascar, all of these falling in the subgenus *Acutipula* Alexander.

### LIMONIINAE

#### *Limoniini*

#### 5. *Limonia* (*Limonia*) *discobolina* (Edwards).

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

The type was from Rodriguez Island. One damaged ♀, Mont Tsaratanana, altitude 1500 meters, October 1949 (Paulian).

#### 6. *Dicranoptycha aurogeniculata*, sp. n.

Size large (wing, male, over 12 mm.); general coloration black; thoracic dorsum clothed with dense black setae; legs black, the genua broadly and conspicuously golden yellow; segments of legs provided with flattened elongate scales, additional to the normal setae; wings with a strong blackish tinge; costal fringe (male) short; male hypopygium with the outer dististyle slender, the dorsal surface of basal half with microscopic setulae; inner dististyle with lower apical angle produced into a small point, the surface of the style with long coarse setae.

MALE. — Length about 13 mm.; wing 12.5 mm.

Rostrum brownish black; palpi dull black. Antennae black throughout; flagellar segments cylindrical, becoming more elongate outwardly; verticils very long, especially those of the lower face of the intermediate segments which are approximately three times the segments. Head dull black, hairy.

Thorax uniformly brownish black, the notum conspicuously clothed

with dense black setae, the pleura more glabrous. Halteres dark brown, the base of stem restrictedly pale. Legs with the coxae and trochanters black; remainder of legs black, the genua, including the broad tips of the femora and the subequal base of the tibia golden yellow; extreme proximal end of basitarsus yellowed; vestiture of legs including elongate flattened scales, as well as normal setae, the scales agreeing in color with the part that bears them, being yellow on the genua, black elsewhere; setae of the genua sparse but blackened; claws simple. Wings (fig. 3) with a strong blackish tinge, the prearcular and costal fields even darker; veins and macrotrichia dark. Folds in cells *1st A*, *Cu* and cell *R* adjoining vein *M* pale and conspicuous (the one in cell *Cu* indicated in figure by a broken line); costal fringe short and inconspicuous. Venation: *Rs* nearly four times as *m-cu* or one-half longer than in cell *1st M*<sub>2</sub>.

Abdomen, including hypopygium, black. Male hypopygium (fig. 8) with the outer dististyle, *d*, slender, at base produced backward into an obtuse lobe; style narrowed gradually to the long acute apex, the dorsal surface of basal half provided with microscopic setulae. Inner dististyle subequal in length but stout, very gradually narrowed outwardly, the lower apical angle produced into a small point, the outer surface with abundant coarse setae, those near apex strong and curved.

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

*Dicranoptycha aurogeniculata* is readily told from the other black species of the genus in the Ethiopian fauna, including *D. atricolor* Alexander and *D. natalia* Alexander, of eastern and southeastern Africa, respectively, by the striking pattern of the legs, which is unique among the described species in the entire genus. *Dicranoptycha* had not been recorded from Madagascar but is represented by a few species on the African mainland and one further form, *D. malabarica* Alexander, in southern India, so its occurrence there was not unexpected. The character of elongate scales on the segments of the legs, as described above, is not peculiar to this fly but is found in many other species that I have examined and almost certainly will be found to be a constant character throughout the genus.

### *Hexatomini*

#### 7. *Austrolimnophila volentis*, sp. n.

Size medium (wing 8.5 mm.); mesonotum cinnamon brown, the postnotum somewhat darker; pleura chiefly covered by a broad brownish black longitudinal stripe; halteres yellow; legs yellowish brown; wings fulvous brown, heavily patterned with darker brown clouds and seams; *Rs* long,

angulated and more or less spurred at origin ;  $R_{2+3+4}$  about one-half longer than the basal section of  $R_5$  ; cell  $M_1$  longer than its petiole ;  $m-cu$  at near midlength of cell  $1st M_2$  ; male hypopygium with the outer dististyle hairy, its apex narrowed into a blackened beak ; interbase a strongly curved sclerotized rod, the long tip acute.

MALE. — Length about 9 mm. ; wing 8.5 mm.

Rostrum brown ; palpi brownish black. Antennae with scape and pedicel black ; remainder of organ broken. Head brown, the orbits narrowly and vaguely paler ; anterior vertex relatively narrow, about three times the diameter of the scape.

Pronotum obscure yellow above, the scutellum clearer yellow. Mesonotal praescutum chiefly cinnamon brown, the humeral region somewhat more yellowed ; postnotum slightly more infuscated. Pleura with a broad conspicuous brownish black longitudinal stripe, extending from the cervical region, becoming more diffuse behind, passing beneath the root of the halteres to the abdomen ; dorsopleural membrane yellow ; ventral pleurites, including most of the sternopleurite and the meron, obscure yellow. Halteres yellow. Legs with the coxae and trochanters pale yellow ; remainder of legs yellowish brown, the tarsi scarcely darker ; tibial spurs long and conspicuous ; claws long and slender. Wings (Fig. 4) with the ground fulvous brown, heavily patterned with darker brown clouds over arculus, origin of  $R_s$ , cord and outer end of cell  $1st M_2$ ,  $R_2$  and fork of  $M_{1+2}$  ; areas over cord unusually broad, covering virtually all of cell  $1st M_2$  ; veins brown, slightly darker brown in the patterned areas. Venation :  $Sc$  long,  $Sc_1$  ending shortly beyond the fork of  $R_s$   $Sc_2$  near its tip and a trifle longer ;  $R_s$  long, angulated and more or less spurred at origin ;  $R_{2+3+4}$  about one-half longer than the basal section of  $R_5$  ;  $R_{1+2}$  and  $R_2$  subequal ; outer radial veins elongate, all generally parallel to one another,  $R_3$  somewhat more arcuated before midlength ; cell  $M_1$  longer than its petiole ;  $m-cu$  at near midlength of cell  $1st M_2$  ; anterior arculus lacking.

Abdomen medium brown, narrowly more darkened laterally ; sternites vaguely bicolored, the bases of the segments brownish yellow, the apices somewhat clearer yellow ; outer segments uniformly brownish black. Male hypopygium (Fig. 9) having the caudal border of the tergal region,  $9t$ , with a truncated lobe on either side of a broad median emargination. Basistyle,  $b$ , relatively stout ; interbases appearing as strongly curved sclerotized rods, the tips acute. Outer dististyle,  $d$ , a subfusiform structure, the surface with abundant long setae, at apex narrowed into a blackened beak. Inner dististyle subequal in length, appearing as a gently curved long yellow rod, the tip obtuse, the inner edge with several long yellow setae. Aedeagus,  $a$ , relatively short and stout, at base with a pair of blackened lobes.

HOLOTYPE, ♂, Mont d'Ambre, December 1948 (Paulian).

*Austrolimnophila volentis* is quite distinct from the other regional members of the genus. It most resembles *A. ephippigera* Alexander and some allied forms but the relationship is not particularly close.

#### 8. *Pseudolimnophila* (*Calolimnophila*) *octoseriata*, sp. n.

General coloration gray, the praescutum with four concolorous stripes that are delimited by brown borders; antennae black, scape pruinose, first flagellar segment yellow; pleura gray, restrictedly spotted with brown; knob of halteres dark brown; wings brownish yellow, spotted and washed with brown, including a series of about eight equidistant marks along vein *Cu* extending from arculus to *m-cu*.

MALE. — Length about 6 mm.; wing 6.5 mm.

FEMALE. — Length about 8 mm.; wing 7.2 mm.

Rostrum brown, sparsely pruinose; palpi brownish black. Antennae with the elongate scape black, pruinose; pedicel black; first flagellar segment smaller than the pedicel, light yellow, succeeding flagellar segments black; flagellar segments beyond the first subcylindrical, with long verticils. Head light gray with a median brown stripe; head narrowed posteriorly.

Pronotum elongate, gray, with a median brown line. Mesonotal praescutum gray, with four concolorous gray stripes that are delimited by brown borders, the median dark stripe broadest; pseudosutural foveae black, oval, very conspicuous; tuberculate pits black, placed near the extreme cephalic end of the sclerite, separated by a distance about one-third the diameter of either; posterior sclerites of notum gray, the scutal lobes variegated with brown, the scutellum with very pale brown; mediotergite brown, heavily pruinose. Pleura light gray, restrictedly spotted with brown on the dorso-pleural region, ventral anepisternum and dorsal sternopleurite. Halteres with stem light yellow, its outer end and the knob dark brown. Legs with the coxae pale, gray pruinose; trochanters obscure yellow, weakly infuscated beneath; femora pale brown, slightly more brightened at bases, darker at tips; tibiae and basitarsi obscure yellow, the tips infuscated; remainder of tarsi brown. Wings (Fig. 5) brownish yellow, the costal region more saturated, the surface with brown spots and paler brown washes; the most conspicuous spots are at origin of *Rs* and tip of *Sc*, with a few others along veins *R* and *R*<sub>1</sub> in this vicinity; a series of about eight similar spots along vein *Cu* between arculus and *m-cu*; still other darkenings in outer radial field; paler brown seams at cord, outer end of cell *1st M*<sub>2</sub>, fork of *M*<sup>1+2</sup> and as numerous marginal clouds, both at the ends of the veins and in the interspaces; veins brown, more yellowed in the subcostal and cubital interspaces. Costal fringe long, especially in the male. Venation: supernumerary

crossvein in cell  $R_3$  at near two-thirds the length of the cell; cell  $M_1$  somewhat longer than its petiole;  $m-cu$  about one-third its length beyond the fork of  $M$ .

Abdomen brown, the surface pruinose, with long yellow setae.

HOLOTYPE, ♂, Forêt d'Ambohitantly, December 1947 (Paulian).

ALLOTOPOTYPE, 1 ♀.

All other species of the subgenus are from the African mainland. Of these, the present fly is most similar to *Pseudolimnophila* (*Calolimnophila*) *imperita* Alexander, of Cameroun, differing in all details of coloration, particularly of the wings.

#### 9. *Troglophila* (?) *malitiosa*, sp. n.

General coloration brownish black, the surface sparsely pruinose; antennae black throughout; legs black, tibial spurs present; wings grayish, the stigma very poorly indicated; cell  $M_1$  present; cell  $M_2$  open by the atrophy of  $m$ ;  $m-cu$  shortly beyond midlength of  $M_{3+4}$ .

FEMALE. — Length about 5.3-5.5 mm.; wing 5.5-5.7 mm.

Rostrum and palpi black. Antennae black throughout; basal flagellar segments short-oval, the outer ones passing through long-oval to long-cylindrical, the verticils much exceeding the segments. Head dark brown.

General coloration of thorax dark brown or brownish black, the sides of the notum somewhat more reddened; surface sparsely pruinose; pretergites brownish yellow. Halteres with stem yellow, knob infuscated. Legs with coxae obscure yellow; trochanters brownish yellow; remainder of legs black; tibial spurs present; claws small, simple. Wings (fig. 6) grayish, the stigma very pale to scarcely evident; veins brown. Venation:  $Sc_1$  ending just beyond the fork of  $Rs$ ,  $Sc_2$  at its tip;  $R_{1+2}$  from about one-half to two-thirds  $R_{2+3}$ ;  $R_{2+3+4}$  about one-half  $Rs$ ; cell  $M_1$  present; cell  $M_2$  open by the atrophy of  $m$ ;  $m-cu$  shortly beyond midlength of  $M_{3+4}$ ; vein 2nd  $A$  nearly straight.

Abdomen dark brown. Ovipositor with the valves, particularly the cerci, unusually long and very slender.

HOLOTYPE, ♀, Mont Tsaratanana, altitude 1500 meters, October 1949 (Paulian). PARATOPOTYPES, 2 ♀ ♀.

I am very uncertain as to the true generic position of this fly and its assignment to *Troglophila* Brunetti is entirely tentative. The venation is strongly suggestive of *Polymera* Wiedemann and this may prove to be its true position, or it may be found to belong to still some other group at present unknown. The discovery of the male sex should settle this uncer-

tainty as to generic position. It may be noted that Indian species of both *Polymera* and *Troglophila* are known but neither of these groups has yet been recorded from the Ethiopian Region.

10. *Limnophila velitor*, sp. n.

General coloration black, the surface of the thorax nitidous; halteres infuscated; femora brownish yellow, the tips narrowly more blackened; wings with a strong dusky tinge, the prearcular and costal fields, together with the stigma, still darker; sparse macrotrichia in outer wing cell; vein  $R_{2+3+4}$  relatively short, subequal to the basal section of  $R_5$ ; cell  $M_1$  subequal to its petiole; abdomen black; ovipositor with the cerci long and very slender.

FEMALE. — Length about 9 mm.; wing 9.5 mm.

Mouthparts reduced; palpi brownish black. Antennae broken. Head dull black; anterior vertex broad.

Thorax uniformly black, the surface nitidous; tuberculate pits linear, black, placed some distance back from the anterior margin of praescutum, separated from one another by a distance less than the narrow diameter of either. Pleura black. Halteres infuscated. Legs with the coxae brownish black, trochanters a trifle paler; femora brownish yellow, the tips narrowly more blackened; tibiae obscure brownish yellow, the tips very narrowly darker; tarsi obscure yellow, the outer segments brownish black. Wings (fig. 10) with a strong dusky tinge, the prearcular and costal fields still darker; stigma oval, about as dark as the costal border; pale streaks in outer cells, in cell  $R$  adjoining vein  $M$ , in cell  $1st A$  lying immediately behind the vein; veins brown. Sparse macrotrichia in outer ends of cells  $R_2$  to  $2nd M_2$ , inclusive (in figure, their position indicated by stippling), more numerous in centers of extreme outer ends of cells. Venation:  $Sc_1$ , ending opposite fork of  $R_s$ ,  $Sc_2$  at its tip;  $R_s$  relatively long, subequal to its anterior branch (veins  $R_{2+3}$  and  $R_4$  combined);  $R_{2+3+4}$  short, subequal to or less than the basal section of  $R_5$ ; inner ends of cells  $R_4$ ,  $R_5$  and  $1st M_2$  in subtransverse alignment; cell  $M_1$  subequal in length to its petiole; cell  $1st M_2$  small, with  $m-cu$  at or just beyond midlength; anterior arculus preserved.

Abdomen black, including the genital shield. Cerci long and very slender, only gently upcurved, reddish horn color; hypovalvae straight, much darker in color.

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

In its venation, the present fly is most like species such as *Limnophila abyssinica* Alexander, *L. vansomereni* Alexander, and allied forms, diffe-



ring from these in the presence of macrotrichia in the wing cells, quite as in the genus *Paradelphomyia* Alexander. Despite the lack of the male sex, I believe that the fly should be placed in *Limnophila*, s. l., at least until further material becomes available.

11. *Hexatoma* (*Eriocera*) *dysantes*, sp. n.

General coloration brownish black, the thorax unusually glabrous; antennae (male) very long, exceeding three times the length of the wing; vertical tubercle very large and bulbous, entire; femora obscure yellow, the tips narrowly dark brown; wings with a brownish tinge, more accentuated along the veins, the latter unusually glabrous; cell  $R_3$  short, its

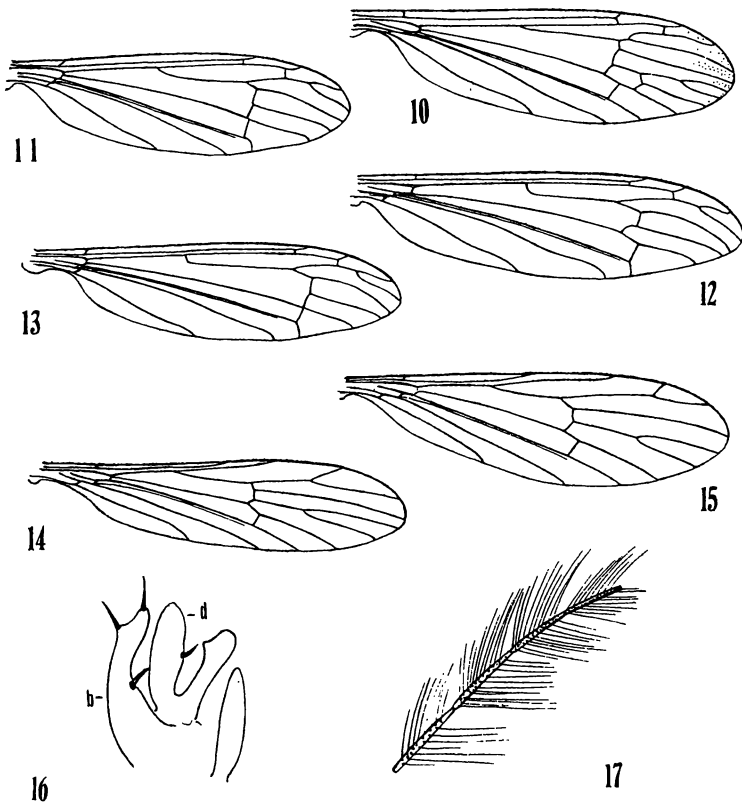


Fig. 10, *Limnophila velitor*, sp. n.; venation. — Fig. 11, *Hexatoma* (*Parahecatoma*) *Pauliani*, sp. n.; venation. — Fig. 12, 13, *Hexatoma* (*Parahecatoma*) *Lambertoni*, sp. n.; venation. — Fig. 14, *Hovamyia jacentia*, sp. n.; venation. — Fig. 15, *Hovamyia monilifera* (Alexander); venation. — Fig. 16, *Hovamyia monilifera* (Alexander); male hypopygium. — Fig. 17, *Erioptera ambricola*, sp. n.; antenna (♂), flagellar segments 2 to 5, inclusive.

(Symbols *b*, basistyle; *d*, dististyle).

petiole (vein  $R_{3+4}$ ) about two-thirds as long as vein  $R_3$ ; cell 1st  $M_2$  closed, with  $m-cu$  shortly beyond the fork of  $M$ ; cell  $M_1$  lacking.

MALE. — Length about 9 mm.; wing 11 mm.; antenna about 37 mm.

Rostrum reduced, brownish black; palpi brownish black. Antennae (male) elongate, as shown by the measurements; scape enlarged, dark brown, paler ventrally; remainder of organ black, pedicel very short; flagellar segments elongate-cylindrical, the basal ones with small scattered spines, on the second segment about 14 in number, on the third about 15. Head brownish black, the vertical tubercle unusually large and bulbous, entire.

Thorax uniformly brownish black, unusually glabrous. Halteres brownish black. Legs with the coxae brownish black; trochanters obscure yellow; femora and tibiae obscure yellow, the tips narrowly dark brown; tarsi brown, the outer two or three segments brownish black. Wings with a brownish tinge, most conspicuous along the veins, the centers of the cells a little paler; stigma small, inconspicuous, its outer end a trifle darker; anal cells more grayish brown; veins brown. Veins unusually glabrous, with only a very few minute trichia on distal section of vein  $R_5$  and somewhat larger and more numerous ones on the main branch of  $R$ . Venation:  $Sc_1$  ending beyond the level of  $r-m$ ,  $Sc_2$  about opposite this latter vein;  $R_{1+2}$  and  $R_2$  subequal, about two-thirds  $R_{3+4}$ ; cell  $R_3$  relatively small, vein  $R_3$  about one and one-half times  $R_{3+4}$ ; cell  $M_1$  lacking; cell 1st  $M_2$  closed, rectangular, a little shorter than the distal section of  $M_{1+2}$ ;  $m-cu$  from one-fourth to one-fifth its length beyond the fork of  $M$ , nearly one-half longer than the distal section of  $Cu_1$ , the two elements virtually in alignment with one another.

Abdomen brownish black, including the hypopygium.

HOLOTYPE, ♂, Ambodivoangy (Maroantsetra), February 15, 1949 (P. CaChan).

From the most nearly allied Ethiopian species, including *Hexatoma (Eriocera) capensis* (Alexander), *H. (E.) nyasicola* Alexander, and *H. (E.) tumidiscapa* (Alexander), the present fly differs conspicuously in the venation, especially of the radial field, where  $R$  is far before the fork, producing a long element  $R_{3+4}$  before cell  $R_3$ .

#### Subgenus *Parahexatoma*, subgen. n.

Characters as in typical *Hexatoma*, differing in the venation and the structure of the ovipositor. Wings (fig. 11-13) with  $R_2$  lying far before the fork, there being a long element  $R_{3+4}$ . Ovipositor with the valves, especially the cerci, very long and slender.

TYPE of subgenus. — *Hexatoma (Parahecatoma) Pauliani* sp. n. (Ethiopian Region : Malagasian Subregion).

Other included species are *Hexatoma (Parahecatoma) decurvans* Alexander and *H. (P.) Lambertoni* sp. n., both of Madagascar. From the venation, I would expect that *Hexatoma luteipennis* (Edwards, 1912) and *H. ferruginae* (Edwards, 1912), both from the Séchelles Islands, north of Madagascar, would belong here but this cannot be affirmed. The type series of the former species included a female but EDWARDS did not describe the ovipositor nor did he mention it in a later important paper on the genus (*Ann. Mag. Nat. Hist.*, (9) 8 : 67-99 ; 1921). In typical *Hexatoma*, the valves of the ovipositor are short and fleshy, quite different from the condition in the present group.

12. *Hexatoma (Parahecatoma) Lambertoni*, sp. n.

General coloration black, including the antennae and halteres ; femora black at base and tip, the broad intermediate section yellow ; tibiae clear light yellow, the tips broadly blackened ; wings uniformly darkened.

MALE. — Length about 13 mm. ; wing 13 mm. ; antenna about 3.1 mm.

FEMALE. — Length about 17-18 mm. ; 18 mm. ; wing 13.5-14 mm.

Rostrum and palpi black. Antennae black throughout, 7-segmented in male, 11-segmented in female ; flagellar segments cylindrical, provided with long coarse verticils, these becoming shorter and more delicate at the tip of the organ. Head dull black ; anterior vertex with two small tubercles placed side by side.

Thorax dull black ; praescutal setae lacking. Halteres brownish black. Legs with the coxae and trochanters black ; femora black at base and tip, the broad intermediate section yellow, subequal to the blackened tip, being a little narrower on the middle legs, a trifle more extensive on the posterior pair ; tibiae clear light yellow, the tips broadly blackened, involving about the distal fourth of segment, the extreme tibial base darkened ; tarsi black. Wings (fig. 12, 13) with a strong blackish tinge, the prearcular and costal fields, with the stigma, somewhat darker brown ; centers of outer radial cells a trifle paler ; veins brown. Macrotrichia on outer radial veins and on distal section of  $M_{3+4}$  excepting the base ; on  $M_4$  with trichia only on outer end. Venation :  $R_{1+2}$  from one and one-half to about two times  $R_2$  ;  $R_{1+2}$  long, in cases only a little shorter than vein  $R_3$ , in other specimens somewhat shorter ; medial field variable, usually with the inner ends of cells  $R_5$  and  $M_2$  in alignment, in others (fig. 12) with inner end of cell  $M_2$  arcuated and with  $m-cu$  approximately its own length beyond the fork  $M_2$  ;  $m-cu$  subequal to or slightly longer than the distal section of  $Cu_1$ .

Abdomen dull brownish black, including the male hypopygium and the

genital shield of the female. Valves of ovipositor very long and slender, especially the nearly straight blackened cerci.

HOLOTYPE, ♂, Rogez, in forests, altitude 900 meters, June 25, 1946 (Lamberton). ALLOTOPOTYPE, ♀. PARATOPOTYPES, 2 ♀ ♀.

I take great pleasure in naming this species for Mr. Charles Lamberton, veteran naturalist of Madagascar, who has added vastly to the knowledge of the insect fauna of the island. The species is quite distinct from the other regional members of the subgenus, particularly in the leg pattern, and in the coloration and venation of the wings.

### 13. *Hexatoma* (*Parahexatoma*) *Pauliani*, sp. n.

General coloration black, including the legs and halteres; legs chiefly blackened, including all tibiae; wings bicolored, brown, with about the proximal third light yellow; macrotrichia on outer radial veins and the anterior branch of media.

MALE. — Length about 9.5-11 mm.; wing 10-11.5 mm.; antenna about 2.4-2.5 mm.

FEMALE. — Length about 12-13 mm. wing 10.5-11 mm.

Rostrum and palpi black. Antennae black throughout, 7-segmented in male, 11-segmented in female; flagellar segments with abundant long setae but without spines; fourth flagellar segment in male longer than the third. Head dull black, very sparsely pollinose; anterior vertex with two conspicuous conical tubercles.

Thorax black, the surface slightly yellow pollinose, especially on the posterior sclerites of the mesonotum; vestiture relatively sparse and weak. Halteres black. Legs with the coxae black, sparsely yellow pollinose; trochanters black; fore and middle legs black, the bases of the fore femora restrictedly obscure brownish yellow; posterior femora brownish black, with about the outer fourth still more blackened; tarsi black. Wings (fig. 11) strongly bicolored, with about the proximal third clear yellow, thence deepening into brown; stigma very small, barely differentiated from the ground; veins brown in the darkened portions, yellow in the brightened base. Veins beyond the cord with abundant macrotrichia, including all outer branches of  $R_s$  excepting  $R_2$  and all but the base of the anterior branch of Media. Venation  $h$  very oblique; a long element  $R_{3+4}$  present, this from three-fourths to four-fifths vein  $R_3$  alone; vein  $R$  gently upcurved toward tip;  $R_{1+2}$  about one-half longer than  $R_2$ ; cell  $M_3$  open, as described under the subgenus.

Abdomen black throughout, without differentiated rings, the surface

subnitidous. Ovipositor with the valves long and slender, especially the slightly upcurved cerci.

HOLOTYPE, ♂, Mont Tsaratanana, altitude 1500-1800 meters, October 1949 (Paulian). ALLOTOPOTYPE, ♀, altitude 1500 meters, October 1949. PARATOPOTYPES, 5 ♂ ♀, altitude 1300-1800 meters, October 1949 (Paulian).

This handsome crane-fly is named in honor of Dr. Renaud Paulian, distinguished student of the Coleoptera, to whom I am indebted for various appreciated favors. The fly is quite distinct from the other regional members of the subgenus in the striking pattern of the wings, as well as in the coloration of the legs and the details of venation.

#### 14. *Elephantomyia* (*Elephantomyia*) *hoogstraaliana*, sp. n.

Mesonotum yellow, conspicuously patterned with dark brown; rostrum relatively short and stout, pale in color, much shorter than the body; legs yellow, the tips of the femora narrowly but conspicuously blackened; wings light yellow, patterned with pale brown; costal fringe of male long and conspicuous; abdominal tergites bicolored, brown, the apices yellow.

MALE. — Length, excluding rostrum, about 5.5-6 mm.; wing 6-6.5 mm.; rostrum broken.

FEMALE. — Length, excluding rostrum, about 8-9 mm.; wing 6.5-7 mm.; rostrum about 3.5-4 mm.

Rostrum relatively short and stout, much shorter than the body, brownish yellow to pale brown. Antennae pale brown; flagellar verticils long and conspicuous. Head dark brown; anterior vertex reduced to a narrow strip that is less than the diameter of two rows of ommatidia, the eyes correspondingly large.

Cervical region and pronotum light yellow. Mesothorax conspicuously patterned, dorsum yellow to brownish yellow, more or less pruinose, the praescutum with a  $\cap$  shaped dark brown mark, the lateral arms continued caudad across the suture onto the extreme outer lateral part of each scutal lobe, the whole area enclosing the extensive pale disk of the praescutum and the scutal lobes; scutellum brownish black, parascutella pale; postnotum, including both the mediotergite and pleurotergites, as well as the dorsal pteropleurite, brownish black, the area virtually encircling the wing-root; remainder of pleura pale yellow. Halteres pale yellow. Legs yellow, the femoral tips narrowly but conspicuously blackened; tibial spurs conspicuous. Wings light yellow, handsomely patterned with pale brown, including a major area beyond the arculus, exten-

ding from cell *M* to 2nd *A*, and a second band over the cord, including all of cell 1st *M*<sub>2</sub>, more extended basad along vein *M*; stigma oval, darker brown; prearcular and costal fields more saturated yellow; veins yellow, brown in the patterned areas. Costal fringe of male long and conspicuous, short in the female. Venation *r-m* at or just beyond the fork of *Rs*; cell 1st *M*<sub>2</sub> relatively small, varying from subquadrate to rectangular, in cases more irregularly pentagonal in outline; *m-cu* at or slightly before to beyond the fork of *M*; vein 2nd *A* virtually straight.

Abdomen yellow, the tergites bicolored, more strongly so in the female, the bases of the segments brown to dark brown, the subequal or narrower apices yellow; sternites and hypopygium yellow. Ovipositor with the valves, especially the cerci, very long and slender, virtually straight.

HOLOTYPE, ♂, Tanosy, Fort Dauphin District, November 1948 (Hoogstraal). ALLOTOPOTYPE, ♀, pinned with type. PARATOPOTYPES, 12 ♂♀ PARATYPES, several ♂♀, Bemangidy, 72 kilometers north of Fort Dauphin, Poste Manantenina, November 22, 1948 (Hoogstraal).

I dedicate this conspicuous crane-fly to my long-time friend, Mr. Harry Hoogstraal, to whom I am very greatly indebted for *Tipulidae* from many parts of the world, including Mexico, the Philippines, New Guinea, Tropical Africa and Madagascar. The fly is closest to species such as *Elephantomyia* (*Elephantomyia*) *hargreavesi* Alexander and *E. (E.) pictithorax* Alexander, of Tropical Africa, differing in all details of coloration. I have provided a key to the African species of the genus in an earlier paper (*Rev. Zool. Bot. Afr.*, 19 347-349; 1930).

### *Eriopterini*

#### *Hovamyia* gen. n.

Rostrum short. Antennae short, 16-segmented. Anterior vertex broad. Pronotum massive. Meron extensive, separating the middle and hind coxae. Bristles of head and pronotum strong, showing a definite chaetotaxy. Legs with the femora and tibiae densely provided with broadly flattened scales, additional to the sparse setae; no tibial spurs. Wings (Figs. 14, 15) with *Sc* moderately long, *Sc*<sub>1</sub> ending about opposite or beyond midlength of *Rs*; *R*<sub>1+2</sub> ending far before the termination of *R*<sub>3</sub>, the latter oblique to subtransverse, cell *R*<sub>3</sub> small, *Gonomya*-like; vein *R*<sub>2</sub> lacking; cell 1st *M*<sub>2</sub> closed (*venustipes*) or open by the atrophy of the basal section of vein *M*<sub>3</sub> in the remaining described species; *m-cu* approximately its own length or more beyond the fork of *M*; anterior arculus lacking or weakly preserved. Male hypopygium (Fig. 16) with the basistyle and dististyle sparsely armed with spinous setae. Aedeagus short and simple, dilated on its basal portion. Ovipositor with the cerci strong, sclerotized.

GENOTYPE. — *Hovamyia monilifera* (Alexander) (Ethiopian Region Malagasian Subregion).

Other included species are *Hovamyia armillata* (Enderlein), *H. jacentia* sp. n., and *H. suffuscipes* sp. n., of Madagascar, and *H. venustipes* (Alexander), of continental Tropical Africa. All of the hitherto known species have been described in the Eriopterine genus *Gonomyia* Meigen, which they superficially resemble in the general features of venation, particularly of the outer radial field. When describing *H. venustipes* (*Ann. Mag. Nat. Hist.*, (9)6 40; 1920), I indicated that the species was possibly not a true *Gonomyia* and stated that certain features of the head and thorax suggested the isolated genus *Styringomyia* Loew. The venation of the anterior fields of the wing, as well as the gross features of the male hypopygium, likewise show certain features of *Styringomyia* but the ovipositor is entirely different. However, it may well be that the present group finds its nearest ally in *Styringomyia*, though still very isolated. The abundant flattened scales on the legs are very conspicuous and provide an important generic character but it should be noted that the presence of scales is much more general throughout the Tipulidae than was formerly believed. The venation of *Hovamyia jacentia* (Fig. 14) and *H. monilifera* (Fig. 15) are shown for comparison.

#### 15. *Hovamyia jacentia* sp. n.

General coloration of mesonotum reddish brown, the posterior sclerites a little darker; pronotum and dorsal pleural region conspicuously whitened; femora obscure yellow, the tips broadly dark brown, preceded by a narrower obscure yellow ring; tibiae with four alternating white and brownish black rings, the apex being of the latter color; proximal end of basitarsus whitened; wings grayish subhyaline, unpatterned; cell  $R_3$  large and sprawly, vein  $R_3$  oblique;  $R_{2+3+4}$  and  $R_4$  subequal in length.

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

Rostrum brown; palpi brownish black. Antennae with the scape and pedicel yellow; flagellum broken. Head pale yellow, more infuscated in front, the posterior vertex with a darker central spot; anterior vertex broad.

Pronotal scutum whitened medially, light brown on sides; scutellum, pretergites and lateral borders of praescutum behind the humeri broadly white, the color extending beyond the wing root to the sides of the mediotergite; remainder of mesonotal praescutum and scutum reddish brown, unpatterned; scutellum obscure yellow, parascutella more infuscated mediotergite weakly infuscated, with a whitened area on either side, as described. Pleura infuscated dorsally, paling to obscure yellow beneath and on the sternopleurite. Halteres weakly infuscated, the base of stem obscure yellow. Legs with the coxae and trochanters yellow, the fore coxae a trifle darker; femora obscure yellow, becoming darker outwardly, the tips

broadly dark brown, preceded by a narrower obscure yellow ring; tibiae with base and a subterminal ring whitened, the more extensive apex and a subbasal ring brownish black; basitarsi chiefly whitened, the tips brownish black, broader on the fore legs where almost the outer half is included, remainder of tarsi black; legs clothed with abundant, broadly flattened scales, in addition to scattered slender black setae. Wings (Fig. 14) grayish subhyaline, unpatterned, the prearcular and costal fields a trifle paler; veins brownish yellow. Macrotrichia on veins of about the outer three-fourths of the wing. Venation:  $Sc_1$  ending about opposite two-thirds the length of  $R_s$ ; cell  $R_3$  large and sprawly, vein  $R_3$  oblique;  $R_{2+3+4}$  and  $R_4$  subequal; cell 2nd  $M_2$  longer than its petiole;  $m-cu$  nearly its own length beyond the fork of  $M$ .

Abdomen badly discolored by internal egg masses, apparently light brown. Ovipositor with the genital shield yellow; cerci powerful, strongly upcurved.

HOLOTYPE, ♀, Ambohimahavelona, Fort Dauphin District, October 27, 1948 (Hoogstraal).

The present fly is readily told from the other members of the genus by the unpatterned wings and the venation, particularly of the radial field. All other described species have cell  $R_3$  much smaller, shorter than its petiole.

#### 16. *Hovamyia suffuscipes*, sp. n.

Mesonotal praescutum gray medially, brown sublaterally, the lateral borders broadly silvery gray; pleura with a dorsal brown longitudinal stripe, bordered both above and below by more silvery lines; pattern of legs, especially of the tibia, obscured, not forming clearly alternating rings, as in the related species; wings clear light yellow, variegated by small brownish black spots, including a marginal series at the ends of the veins; cell  $R_3$  about one-half as long as its petiole.

FEMALE. — Length about 6 mm.; wing 5.9 mm.

Rostrum and palpi black. Antennae with the basal four or five segments yellow, the outer ones more infuscated; flagellar segments oval, shorter than the verticils. Head ochreous; anterior vertex relatively broad, nearly twice the diameter of the scape.

Pronotum whitish yellow above, darkened laterally. Mesonotal praescutum brown sublaterally, with an elongate gray triangle occupying the median region, the point directed cephalad; lateral praescutal borders broadly silvery gray; posterior sclerites of notum chiefly gray medially, darker on sides. Pleura with a brown dorsal longitudinal stripe, bordered above and below by more silvery areas, the ventral pleurites brownish



yellow, weakly darkened from the mid-coxae to the base of abdomen. Halteres pale yellow. Legs with the coxae and trochanters pale yellow; femora yellowed basally, passing into brown, with a vague yellow subterminal ring; tibiae chiefly obscured by dark vestiture, with indications of the ringed pattern found in the other members of the genus; on fore legs, these pale rings virtually lacking or greatly reduced, on middle legs slightly better indicated as a basal and a postmedial ring; posterior tibia chiefly pale, without rings, the tip darker; basitarsi more clearly whitened, the tips and remainder of tarsi black, the whites most extensive on the posterior legs. Wings clear light yellow, variegated by small brownish black spots at origin of  $R_s$ , cord, over vein  $R_3$ , fork of  $M_{1+2}$ , and as marginal dots on all longitudinal veins from  $R_4$  to  $2nd\ A$ , inclusive, smallest on  $R_5$ , none of the areas large or extensive; veins light yellow, black in the patterned portions. Venation: Vein  $R_3$  oblique, cell  $R_3$  about half as long as its petiole; cell  $2nd\ M_2$  less than its petiole;  $m-cu$  more than its own length beyond the fork of  $M$ .

Abdomen chiefly dark brown, the color evidently produced by internal discolorations showing through the integument; traces of a paler brown color show along the median tergal region. Ovipositor with the genital shield ochreous, the bases of the cerci and the hypovalvae blackened, the remainder of cerci horn yellow, strongly constructed.

HOLOTYPE, ♀, Mont Tsaratanana, altitude 1500 meters, October 1949 (Paulian).

Quite distinct from the other regional species in the pattern of the legs and wings.

#### 17. *Erioptera ambricola*, sp. n.

General coloration of mesothorax reddish brown; antennae (male) nearly as long as the body, the subcylindrical flagellar segments with whorls of very long erect verticils, mostly grouped at near midlength of the segments; wings with a strong brownish tinge;  $Sc_1$  ending before level of  $R_s$ ; cell  $1st\ M_2$  closed, shorter than any of the veins beyond it; male hypopygium with two nearly terminal dististyles, the outer deeply forked on outer half; inner dististyle a slender simple rod.

MALE. — Length about 4 mm.; wing 4.4 mm.; antenna about 3.9-4 mm.

Rostrum and palpi black. Antennae (Fig. 17) elongate, approximately equal to the body, dark brown to brownish black; flagellar segments elongate-fusiform to subcylindrical, with unusually long erect verticils, the longest exceeding the segments in length, more concentrated on the central portion of the segment (in a position of rest, the verticils lie at right angles to the surface or virtually so, not as obliquely as shown). Head dark brown; ommatidia of eyes coarse.

Pronotum brown. Mesonotal praescutum more reddish brown, vaguely more darkened at cephalic end; posterior sclerites of notum vaguely more pruinose. Pleura light reddish brown, sparsely pruinose. Halteres with stem obscure yellow, knob a trifle darker. Legs with the coxae and tro-

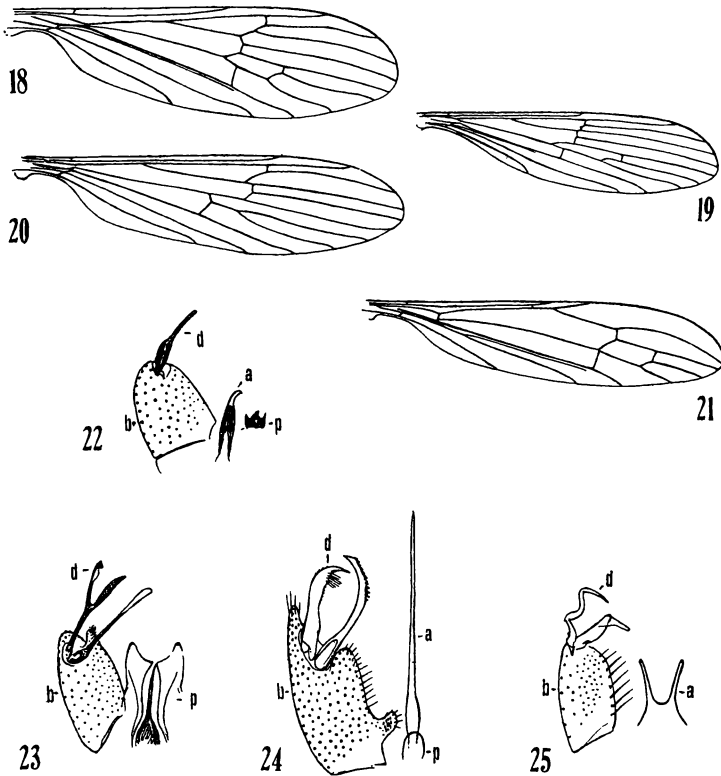


Fig. 18, *Erioptera ambricola*, sp. n.; venation. — Fig. 19, *Tasiocera* (*Dasymolophilus*) *hova*, sp. n.; venation. — Fig. 20, *Molophilus* (*Molophilus*) *invidus*, sp. n.; venation. — Fig. 21, *Toxorhina* (*Toxorhina*) *serpens*, sp. n.; venation. — Fig. 22, *Tasiocera* (*Dasymolophilus*) *hova*, sp. n.; mâle hypopygium. — Fig. 23, *Erioptera ambricola*, sp. n.; mâle hypopygium. — Fig. 24, *Molophilus* (*Molophilus*) *invidus*, sp. n.; mâle hypopygium. — Fig. 25, *Toxorhina* (*Toxorhina*) *serpens*, sp. n.; mâle hypopygium.

(Symbols : a, aedeagus ; b, basistyle ; d, dististyle, p, phallosome).

chanters testaceous yellow; remainder of legs brown; claws relatively small, hinged against the end of the last tarsal segment. Wings (Fig. 18) with a strong brownish tinge, the prearcular and costal fields a trifle more yellowed; more hyaline streaks in cell R adjoining vein M and immediately behind vein 1st A; veins and macrotrichia brown, the latter unusually long and conspicuous, in the outer radial field being more than

two-thirds as long as the width of the cell opposite the point of insertion; no trichia in cells of wing. Venation  $Sc$  relatively short,  $Sc_1$  ending some distance before the fork of  $Rs$ ,  $Sc_2$  not clearly distinguishable but apparently only slightly removed from the tip of  $Sc_1$ ;  $Rs$  relatively short, straight;  $R_{2+3+4}$  about one-half longer than  $R_{2+3}$  which is slightly longer than  $R_2$ ; cell 1st  $M_2$  closed, slightly widened outwardly, shorter than any of the veins beyond it; veins  $M_3$ ,  $M_4$  and  $Cu_1$  only slightly upcurved at tips;  $m-cu$  in virtual transverse alignment with  $r-m$ , from one-third to one-half its own length beyond the fork of  $M$ ; cell 2nd  $A$  of moderate length, the vein only slightly sinuous.

Abdomen dark brown, the hypopygium more brownish yellow. Male hypopygium (Fig. 23) with the dististyles,  $d$ , slightly subterminal in position; outer style with a slender basal stem that forks into two slightly longer arms, the outer one with a pale membranous flange on lower edge broadened outwardly, the apex obtuse. Phallosome,  $p$ , consisting of two beyond midlength; inner dististyle a long slender rod that is gradually flattened plates, the caudal margin of the combined pair emarginate. Aedeagus slender, not extending caudad beyond the level of the base of the emargination of the phallosome. Proctiger consisting of extensive pale membrane, the surface with abundant microscopic setulae.

HOLOTYPE, ♂, Mont d'Ambre, December 1948 (Paulian).

There is no close relative known to me, either on the African mainland or on any of the outlying islands. The elongate antenna somewhat suggests certain species of *Molophilus* but the fly seems certainly referable to *Erioptera* s. l. The structure of the male hypopygium somewhat resembles that of species of the subgenus *Empeda* Osten Sacken but the venation and structure of the antennae is entirely different.

#### 18. *Tasiocera* (*Dasymolophilus*) *hova*, sp. n.

General coloration medium brown, the abdomen darker wings with a strong brownish tinge; a pale longitudinal streak along vein  $M$  in cell  $R$ ; cell 1st  $M_2$  closed; male hypopygium with the dististyle a simple blackened rod, the basal third more dilated; phallosome a low blackened structure that terminates in a few short spines or points.

MALE. — Length about 3.5 mm.; wing 4.3 mm.; antenna about 0.7 mm.

Rostrum and palpi brown. Antennae brown, short, as shown by the measurements; basal flagellar segments short-cylindrical, the outer ones more elongate; verticils long and conspicuous, much exceeding the segments. Head medium brown.

Thorax medium brown, without a clearly defined pattern. Halteres weakly infuscated, the base of stem narrowly yellow. Legs with the coxae

and trochanters testaceous; remainder of legs brownish yellow, with dark vestiture; third and fourth tarsal segments with a concentration of long coarse setae on ventral surface. Wings (Fig. 19) with a strong brownish tinge; a conspicuous pale longitudinal streak along vein  $M$  in cell  $R$ ; veins pale brown, macrotrichia darker. Venation  $R_s$  in longitudinal alignment with vein  $R_4$ , the basal section of  $R_5$  lying opposite or just basad of the erect vein  $R_{2+3}$ , the latter angulated and spurred;  $r-m$  in transverse alignment with the basal section of  $R_5$ ; cell 1st  $M_2$  closed; vein 2nd  $A$  ending shortly beyond the level of origin of  $R_s$  cell 2nd  $A$  relatively broad.

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 22) with the basistyle,  $b$ , stout, provided with long strong setae, especially on outer face. Dististyle,  $d$ , a simple blackened rod, the basal third more dilated. Phallosome,  $p$ , consisting of a low squat blackened structure that terminates in a few short spines and points (structure shown separately in figure), lying above the blackened aedeagus, the tip of the latter narrowed and paler.

HOLOTYPE, ♂, Mont Tsaratanana, altitude 1800 meters, in moss forest, October 1949 (Paulian).

This species is somewhat like the smaller *Tasiocera (Dasymolophilus) minutissima* Edwards, of the Séchelles Islands, but with the venation and the details of structure of the male hypopygium quite distinct. I have several further species from East Africa still in manuscript, all differing in the hypopygial characters.

#### 19. *Molophilus (Molophilus) invidus* sp. n.

Belongs to the *gracilis* group; general coloration brownish gray antennae (male) short; wings grayish subhyaline, restrictedly patterned with pale brown, most evident as a seam over the cord; male hypopygium with a conspicuous lobe on proximal half of mesal face of basistyle; two dististyles, both nearly terminal in position, simple; outer style with a group of setae on lower face before apex; inner style with spinous points on outer face of distal third; aedeagus long and slender.

MALE. — Length about 4 mm.; wing 4.6 mm.; antenna about 1 mm.

Rostrum brown; palpi brownish black. Antennae (male) short, as shown by the measurements; scape obscure brownish yellow, pedicel and flagellum brown; flagellar segments much shorter than the verticils. Anterior vertex and occipital region buffy, the center of the vertex gray.

Pronotal scutum light brown, the scutellum and pretergites whitened. Mesonotum chiefly brownish gray, the humeral region of praescutum obscure yellow pseudosutural foveae and tuberculate pits blackened; pos-

terior callosities of scutal lobes yellowed; posterior border of scutellum obscure reddish brown. Pleura and pleurotergite brownish gray, the suture between the mediotergite and pleurotergite obscure yellow dorsopleural membrane dusky. Halteres with stem obscure yellow, knob weakly infuscated. Legs with the coxae and trochanters brownish testaceous; remainder of legs broken. Wings (Fig. 20) with a conspicuous yellow knob at extreme base behind the dorsopleural membrane; membrane grayish subhyaline, the prearcular and costal portions more yellowed; a restricted pale brown pattern, chiefly apparent along the cord, less evident on veins  $R_5$  and  $Cu$ ; remaining veins pale, macrotrichia dark. Venation  $R_{4+5}$  short, subequal to the basal section of vein  $R_5$  and shorter than  $r-m$ ; cell  $M_3$  deep, its petiole nearly twice  $m-cu$ ; vein  $2nd A$  only moderately sinuous, ending about opposite  $m-cu$ .

Abdomen dark brown, including hypopygium. Male hypopygium (fig. 24) with the outer apical lobe of basistyle,  $b$ , slender, with coarse setae; mesal face of style near base with a conspicuous lobe, the vestiture consisting of setae and a group of stout blackened spinous points. Both dististyles,  $d$ , simple, terminal in position or virtually so; outer style a stout blackened rod, curved and narrowed to the acute apical spine, the surface with appressed spinulae; lower margin before apex with a conspicuous group of setae. Inner dististyle a longer, more slender curved blackened rod, the tip subacute, the outer margin of distal third with spinous points, the outermost ones small and retrorse, the more basal ones stronger and erect. Phallosomic plate,  $p$ , oval, provided with very delicate scattered setulae. Aedeagus,  $a$ , unusually long and straight, slender, projecting beyond the level of the dististyles.

HOLOTYPE, ♂, Tananarive Tzimbazaza, March 1949 (Paulian).

The only described regional species with which the present fly requires comparison is *Molophilus (Molophilus) africanus* Riedel, still known only from Mount Kilimandjaro, on the border between Kenya and Tanganyika. This differs in the coloration of the body, legs and wings, and in the venational details, as figured by RIEDEL (Voy. ALLUAUD et JEANNEL Afr. Orient (1911-1912); Ins. Dipt., *Nematocera polyneura*, p. 82, fig. 10; 1914).

## 20. *Toxorhina (Ceratocheilus) approximata*, sp. n.

General coloration black, the thorax more pruinose; praescutum with three more brownish stripes; antennae and legs black; halteres yellow wings grayish subhyaline, cells  $C$  and  $Sc$  uniformly infuscated to form a narrow costal border; cord and outer end of cell  $1st M_2$  with brownish gray seams;  $Sc$  short,  $Sc_1$  ending about opposite origin of  $Rs$ ,  $Sc_1$  alone only a little more than one-half  $Rs$ ; anterior branch of  $Rs$  sinuous, the

outer end of cell  $R_2$  narrowed, only about one-half as extensive as at its base along  $Rs$ ; abdominal tergites uniformly blackened.

**FEMALE.** — Length, excluding rostrum, about 7 mm.; wing 4.8 mm.; rostrum alone 4 mm.

Rostrum black, a little shorter than the wing. Antennae black throughout. Head blackened, sparsely pruinose.

Mesonotum chiefly dark brown, pruinose, the praescutum with three more brownish stripes, the humeral and lateral portions more buffy. Pleura crushed and discolored in the unique type. Halteres pale yellow. Legs brownish black throughout. Wings grayish subhyaline; cells  $C$  and  $Sc$  uniformly infuscated, forming a narrow darkened costal border origin of  $Rs$ , cord and outer end of cell  $1st M_2$  with darker brownish gray seams; veins dark brown. Venation  $Sc_1$  ending opposite origin of  $Rs$ ,  $Sc_2$  a short distance before this origin,  $Sc_1$  alone only a trifle over one-half  $Rs$ ; anterior branch of  $Rs$  sinuous, its outer end swung toward  $R_{1+2}$  so cell  $R_2$  at margin is only about one-half as extensive as it is at base along  $Rs$ ; cell  $1st M_2$  large;  $m-cu$  about one-third its length beyond the fork of  $M$ . Other details of venation not evident because of folding of wing.

Abdominal tergites uniformly black; sternites a trifle paler, piceous brown. Ovipositor with the cerci very long, brownish black, the tips reddened, slightly upcurved.

**HOLOTYPE**, ♀, Mont Tsaratanana, altitude 1500 meters, October 1949 (Paulian).

I am considering this fly as being distinct from *Toxorhina* (*Ceratocheilus*) *seychellarum* (Edwards), chiefly on EDWARDS'S comparison with the common and wide-spread *T. (C.) cornigera* Speiser, from which the present fly is quite distinct in its wing pattern and venation. The arrangement of the veins of the radial field in the present fly is different from that of all other regional species known to me.

## 21. *Toxorhina* (*Toxorhina*) *serpens*, sp. n.

General coloration of thorax brownish ochreous, the praescutum with three poorly indicated brown stripes; scutal lobes dark brown; rostrum slightly longer than the body, black; wings with a weak brownish tinge,  $Sc$  short,  $Sc_1$  a little longer than  $r-m$ ; cell  $1st M_2$  large; male hypopygium with two dististyles, the outer unusually long and slender, strongly twisted; arms of aedeagus relatively short.

**MALE.** — Length, excluding rostrum, about 4 mm.; wing 4.6 mm.; rostrum alone about 4.4 mm.

Rostrum black, relatively long, slightly exceeding the body. Antennae short; scape ochreous, remainder of organ black; flagellar segments short and crowded. Head ochreous.

Pronotum above ochreous, darker on sides. Mesonotal praescutum obscure brownish ochreous, with three poorly indicated brown stripes, the lateral pair especially faint; scutal lobes dark brown, the median area testaceous gray; posterior sclerites of notum brown, gray pruinose, the pleurotergite and lateral borders of mediotergite more yellowed. Pleura with a broad diffuse brown dorsal stripe, the ventral region and the sternum pale yellow. Halteres broken. Legs with the coxae yellow, the fore pair a trifle darker basally trochanters testaceous; remainder of legs brown, blackened by the abundant vestiture. Wings (fig. 21) with a weak brownish tinge, the base more yellowed; veins brown, the basal ones brownish yellow. Costal region beyond  $R_{1+2}$  strongly incrassated, provided with short dense setae. Venation  $Sc$  short,  $Sc_1$  ending opposite or immediately before origin of  $Rs$ ,  $Sc_2$  some distance from its tip,  $Sc_1$  alone a little longer than  $r-m$ ; cell  $1st M_2$  large, nearly as long as the distal section of  $M_{1+2}$ , the inner end slightly arcuated;  $m-cu$  at or shortly before the  $\Omega_{1K}$  of  $M$ ; vein  $2nd A$  nearly straight.

Abdomen, including hypopygium, medium brown. Male hypopygium (fig. 25) with the outer dististyle,  $d$ , unusually long and slender, strongly twisted. Inner dististyle on outer margin produced into a low knob beyond midlength. Arms of aedeagus,  $a$ , relatively short, slightly longer than the width of the phallosome across its base.

HOLOTYPE, ♂, Mont Tsaratanana, altitude 1500-1800 meters, October 1949 (Paulian).

There are only a few described regional species of the genus where the male hypopygium has two dististyles or a profoundly divided single style, these including *Toxorhina (Toxorhina) cisatlantica* Speiser and *T. (T.) taeniomera* Alexander. The present fly differs from these in all details of structure of the male hypopygium, particularly the dististyles and the short arms of the aedeagus.

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