

**Records and descriptions
of tropical african Crane-flies**

(Tipulidae, Diptera)

by **CHARLES P. ALEXANDER**

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Part V

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The preceding part under this general title was published in 1930 (1). In the present instalment and in further parts under the same title I expect to continue the review of the Tipulidae of Tropical Africa, placing particular stress on the rich fauna of the Belgian Congo. At the present time I am considering especially an interesting series of these flies that was taken by M. G. MARLIER, *Institut pour la Recherche Scientifique en Afrique Centrale*, I.R.S.A.C., on Mont Muhi, Itombwe North Kivu, during July 1955, I wish to express my thanks to the Chief of the Entomological Section of the Musée Royal du Congo Belge, Mr. P. BASILEWSKY for the loan of this collection. Types of the novelties and representatives of the species have been returned to the Musée Royal du Congo Belge, at Tervuren.

(1) ALEXANDER, Charles, P.

1923 — Records and descriptions of tropical African crane-flies (Tipulidae, Diptera). Part I.

Rev. Zool. Africaine, 11: 1 - 16; MARCH.

1923 — The same. Part II.

Ibid., 11: 369 - 383; December.

1926 — The same. Part III.

Ibid., 14: 165 - 184, 11 figs.; August.

1930 — The same. Part IV.

Rev. Zool. Bot. Africaine, 19: 337 - 367, 25 figs.; October,

TIPULINAE

Tipula (*Acutipula*) *bantu*, sp. n.

Allied to *alphaspis*; size large (wing of male 27 mm.); mesonotal praescutum with four brownish yellow stripes that are conspicuously bordered by brown; anterior two-thirds of mediotergite with two dark brown areas; knobs of halteres pale; claws of male toothed; wings with a strong brown suffusion, stigma darker brown; a conspicuous brown seam on *m-cu*; male hypopygium with the tergal lobe simple, entire, provided with microscopic spiculate points; outer dististyle subtriangular in outline; posterior part of inner dististyle with three strong black spines, one isolated from the other two.

Male. Length about 26 mm.; wing 27 mm.; antenna about 4 mm.

Described from an alcoholic specimen. Frontal prolongation of head obscure yellow, nasus elongate; palpi with proximal segments black, the third brown, the long terminal segment dirty white. Antennae subequal in length to the palpi; proximal four segments obscure yellow, the succeeding segments vaguely bicolored, dark brown with still darker basal enlargements; verticils exceeding the segments. Head brownish orange.

Pronotum strongly elevated, brownish yellow, with a dark brown spot on either side. Mesonotal praescutum with four brownish yellow stripes that are conspicuously bordered by brown, the lateral margins yellow; scutum obscure yellow, each lobe with two more brownish yellow areas that are encircled by brown; scutellum brownish yellow, with a dusky line on either side; parascutella obscure yellow, with a brown central line and a more blackened posterior border; anterior two-thirds of mediotergite with two dark brown areas, the sides and posterior margin yellowed; pleurotergite brownish yellow, with a conspicuous dark brown line, chiefly on the dorsal margin of the katapleurotergite, reaching the abdomen behind. Pleura chiefly yellow, vaguely patterned with pale brown on dorsal pteropleurite and ventral sternopleurite. Halteres with stem pale brown, knob more whitened. Legs with the coxae obscure yellow, anterior face of fore pair more infuscated; trochanters obscure yellow; femora brown, the tips blackened; tibiae brown, narrowly tipped with dark brown, tarsi brown, becoming dark brown outwardly; claws of male toothed. Wings with a strong brownish suffusion, the prearcular and costal regions more suffused; stigma small but conspicuous, dark brown; a brown seam on *m-cu*; obliterative areas relatively conspicuous against the ground; veins brown.

Venation : *Rs* straight, shorter than *m-cu*; petiole of cell M_1 and *m* subequal; *m-cu* just beyond base of vein M_4 .

Abdominal tergites brownish fulvous medially, sides of the segments darker brown, interrupted by the more glabrous orange basal rings; sternites more uniformly brownish fulvous, the subterminal segments darker; hypopygium chiefly yellowish brown. Male hypopygium (figs 5, 6) with the median region of the tergite produced into a simple lobe, its apex obtuse and set with numerous black spicules. Basistyle, *b*, very small, sutures incomplete. Ninth sternite with tiny lobules on either side of midline, each with a pencil of reddish bristles. Outer dististyle, *d*, subtriangular in outline, widened outwardly, the outer apical margin more narrowed than the broadly obtuse inner angle; inner style with beak slender; region of posterior crest produced backward into a narrowed blade that terminates in two strong black spines, with a third more isolated spine on outer margin of body of style.

Holotype, alcoholic ♂, Kivu, Mont Muhi, Riviere Isale, July 29-31, 1955 (G. MARLIER).

This conspicuous fly is very distinct from *Tipula* (*Acutipula*) *alphaspis* SPEISER and *T. (A.) urundiana* ALEXANDER, the most nearly related regional species, in the structure of the male hypopygium.

***Dolichozeza* (*Afrodolichozeza*) *marlieri*, sp. n.**

Size large (wing of male 13-16 mm.); mesonotal praescutum and scutum black, scutellum yellow, mediotergite yellow, patterned with black; propleura yellow, remainder of thoracic pleura chiefly black; legs black, the extreme femoral bases yellow; wings with a brownish tinge, stigma dark brown; abdomen with the basal segments and hypopygium yellow, segments six to eight black, forming a conspicuous ring; male hypopygium with the inner dististyle bearing a tail-like extension on outer margin.

Male. Length about 11-13 mm.; wing 13-16 mm.; antenna about 5-5.3 mm.

Described from alcoholic specimens. Frontal prolongation of head brown; nasus slender; palpi dark brown, paling to brownish white on outer half. Antennae relatively long; scape and pedicel yellow, flagellum black; flagellar segments elongate, nearly cylindrical, much longer than the unilaterally distributed verticils. Head dark brown, presumably pruinose in fresh specimens.

Pronotum light yellow. Mesonotal praescutum and scutum black, the humeral region of the former restrictedly obscure yellow; scutellum

yellow, parascutella more infuscated; mediotergite yellow on central portion, with darkened areas at posterior border and sublaterally; pleurotergite brownish black; vestiture of notum sparse. Propleura yellow; remainder of pleura brownish black, the pteropleurite paler, obscure yellow. Halteres with stem obscure yellow, knob infuscated, paler at apex. Legs with fore coxae and trochanters yellow, mid-coxae and meron blackened, posterior coxae obscure yellow; remainder of legs black, the extreme femoral bases yellowed; claws simple. Wings (fig. 1) with a brownish tinge, the prearcular and costal areas a little darker; stigma oval, dark brown, conspicuous; pale brown seams over *m-cu* and outer section of Cu_1 , less evident on main stem of Cu_1 , particularly at base; oblitative area at and surrounding fork of *M* conspicuous, the prestigmal brightening less evident; veins light brown, *Sc* more yellowed. Cells beyond cord with abundant macrotrichia (indicated in figure by stippling). Venation : Sc_2 ending about opposite origin of the straight to gently arcuated *Rs*; R_{1+2} entirely preserved; cell M_1 deep, approximately five times its petiole; *m-cu* about three-fourths its length before fork of *M*.

Abdomen with proximal five segments yellow, their posterior borders very restrictedly darkened; segments six to eight, inclusive, dark brown or black, forming a ring; hypopygium light yellow. Male hypopygium (fig. 7) with the posterior border of tergite, *t*, trilobed, the lateral lobes a trifle smaller than the central one which is glabrous except at base; lateral lobes with setae except at tips. Outer dististyle, *d*, slightly flattened, about four times as long as broad; inner style with a tail-like extension arising at base of outer margin, bent outwardly and lying parallel to outer margin of style, provided with conspicuous erect setae; disk of style with the setae shorter, pale, retrorse, beak of style slender. Aedeagus slender, subtended by narrow pale bladeliike apophyses, *g*.

Holotype, alcoholic ♂, Kivu, Mont Muhi, Riviere Isale, July 29-31, 1955 (G. MARLIER). *Paratopotypes*, 4 ♂♂; *paratypes*, 2 ♂♂, Rivière Luindja, Mont Muhi, July 1955 (G. MARLIER).

I take pleasure in naming this distinct fly for the collector, M. G. MARLIER, who has added materially to our knowledge of the crane-fly fauna of Mont Muhi and elsewhere in the Kivu. It is quite distinct from all other known species of the subgenus, including *Dolichopeza* (*Afro-dolichopeza*) *altivaga* ALEXANDER, *D. (A.) anitra* ALEXANDER, and *D. (A.) fidens* ALEXANDER, differing in the large size, coloration of the abdomen and, especially, the structure of the male hypopygium, particularly the inner dististyle.

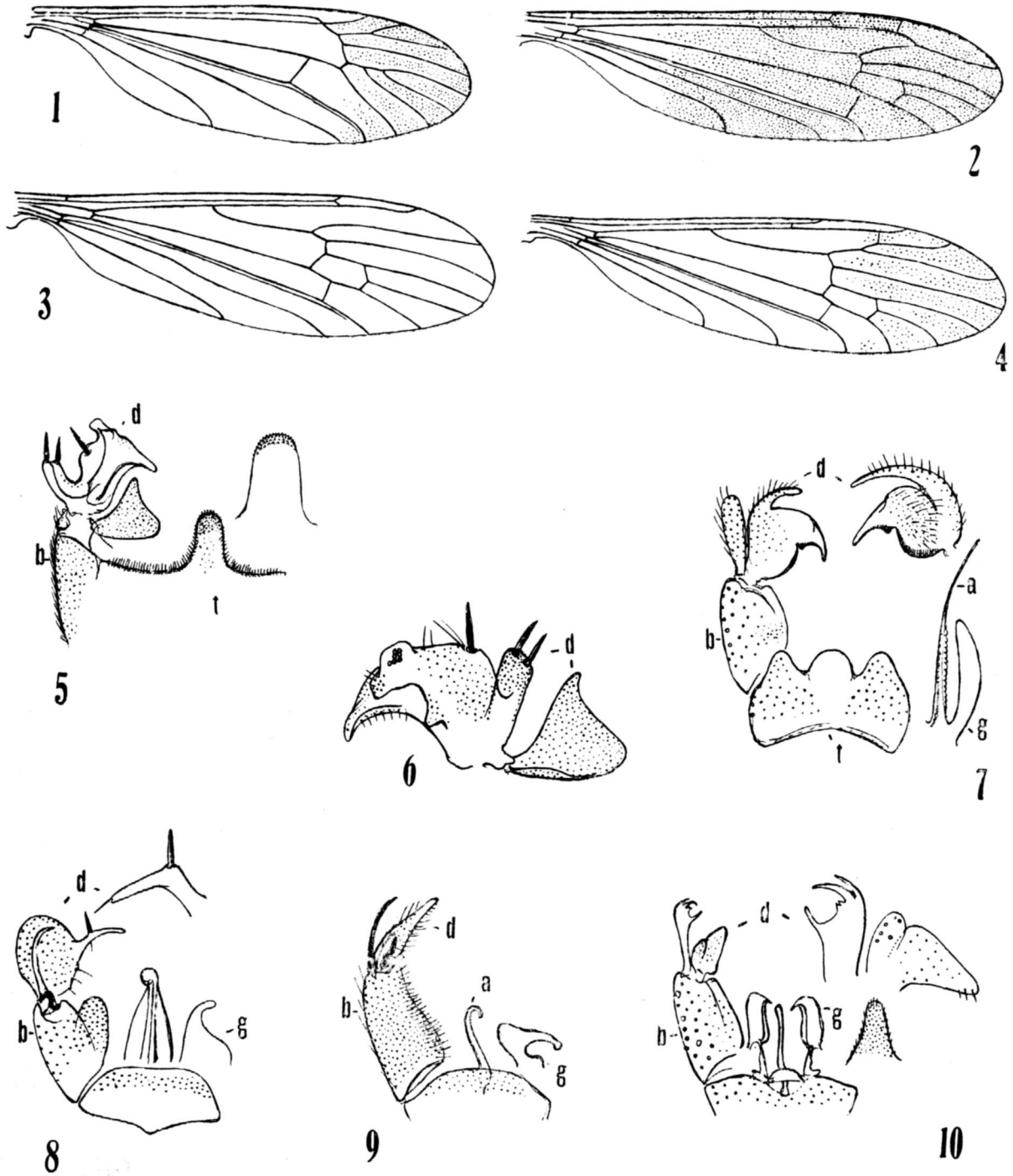


Fig. 1. — *Dolichopeza (Afrodolichopeza) marlieri*, sp. n.; venation.
Fig. 2. — *Limonia staneri*, sp. n.; venation.
Fig. 3. — *Helius (Helius) brachyphallus*, sp. n.; venation.
Fig. 4. — *Paradelphomyia (Oxyrhiza) paucimacula*, sp. n.; venation.
Fig. 5. — *Tipula (Acutipula) bantu*, sp. n.; male hypopygium, dorsal.
Fig. 6. — *Tipula (Acutipula) bantu*, sp. n.; male hypopygium, dististyles.
Fig. 7. — *Dolichopeza (Afrodolichopeza) marlieri*, sp. n.; male hypopygium, dorsal.
Fig. 8. — *Limonia staneri*, sp. n.; male hypopygium, dorsal.
Fig. 9. — *Helius (Helius) brachyphallus*, sp. n.; male hypopygium, dorsal.
Fig. 10. — *Paradelphomyia (Oxyrhiza) paucimacula*, sp. n.; male hypopygium, dorsal.
(Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; t, tergite).

LIMONIINAE

LIMONIINI

Limonia staneri sp. n.

Allied to *holotricha*; size medium (wing of male 9 mm.); thoracic dorsum and pleura light brown, the praescutum with four vague brown stripes; legs brown, the tips of the tibiae, with the tarsi, pale yellow; wings weakly tinged with brown, the costal border broadly somewhat darker brown; abundant macrotrichia in the wing cells; male hypopygium with a single rostral spine; gonapophysis with mesal-apical lobe curved.

Male. Length about 8 mm.; wing 9 mm.

Female. Length about 7.5 mm.; wing 8 mm.

Coloration obscured, appearing as though having been immersed in spirit before pinning. Rostrum very small, brown; palpi very reduced, black. Antennae with scape and pedicel dark brown, flagellum somewhat paler; basal flagellar segments subglobular, the outer ones passing into short-oval and thence to elongate. Head light cinnamon brown; anterior vertex of male relatively broad, about two and one-half times the diameter of the scape.

Thoracic dorsum light brown to darker brown, the praescutum virtually covered by four stripes of this color, the median line slightly differentiated, the lateral and humeral regions somewhat more brightened. Pleura light brown. Halteres light brown, knobs dark brown. Legs with the coxae light brown; trochanters yellow; femora brown; tibiae slightly darker, the tips yellow, broadest on the posterior pair where about the outer fifth is included; tarsi pale yellow, the two outer segments darker. Wings (fig. 2) weakly tinged with brown, the costal border broadly somewhat darker brown, this color including much of the radial field; no other dark pattern on wing; veins pale brown, a little darker in the clouded portion. Abundant macrotrichia in cells of outer five-sixths or more of wing, only the proximal ends of the basal cells without them (their location shown by stippling in figure). Venation : Sc long, Sc_1 ending about opposite three-fourths Rs , Sc_2 , a short distance from its tip, at near two-thirds Rs ; free tip of Sc_2 distinct, tip of R_{1+2} atrophied; cell *1st* M_2 subequal (type male) or shorter (allotype female) than the veins beyond it; *m-cu* varying from close to fork of M to some distance beyond.

Abdominal tergites dark brown, sternites weakly bicolored, brown, the posterior borders broadly more yellowed. Ovipositor with the genital

shield dark brown; valves yellow, cerci small and weak, very slender. Male hypopygium (fig. 3) with the tergite transverse, the posterior border truncate or virtually so, with abundant setae on nearly the posterior half. Ventromesal lobe of basistyle, *b*, simple. Dorsal dististyle, *d*, slender, microscopically scabrous; ventral style relatively small, its total area somewhat less than that of the basistyle; rostral prolongation slender, with a single stout spine that is a little more than one-half the length of the apical part. Gonapophysis, *g*, with the mesal-apical lobe curved, obtuse at tip.

Holotype, a broken ♂, Eala, Belgian Congo, August 1930 (P. STANER).
Allotype, a broken ♀.

This fly is dedicated to the collector, M. P. STANER, Inspecteur royal des Colonies. The fly is most nearly allied to *Limonia holotricha* ALEXANDER, of the Cameroons, a larger species with the pattern of the body and wings, together with the details of the male hypopygium, slightly different.

***Limonia subapicalis* ALEXANDER**

Libnotes capensis ALEXANDER; Ann. So. Afr. Mus., 17 : 143-145, pl. 10, fig. 6 (venation); 1917 — preoccupied.

Limonia subapicalis ALEXANDER; Rept. Harvard Afr. Exped., 2 : 1007; 1930 — renaming of the latter.

Widely distributed in eastern Africa, from Uganda to Natal.

Kivu (Itombwe N.) : Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER).

***Limonia (Metalimnobia) oligotricha* ALEXANDER**

Limonia (Metalimnobia) oligotricha ALEXANDER; Ann. Mus. Congo Tervuren, Zool., 36 : 277-278, fig. 11 (venation), fig. 13 (♂ hypopygium); 1955.

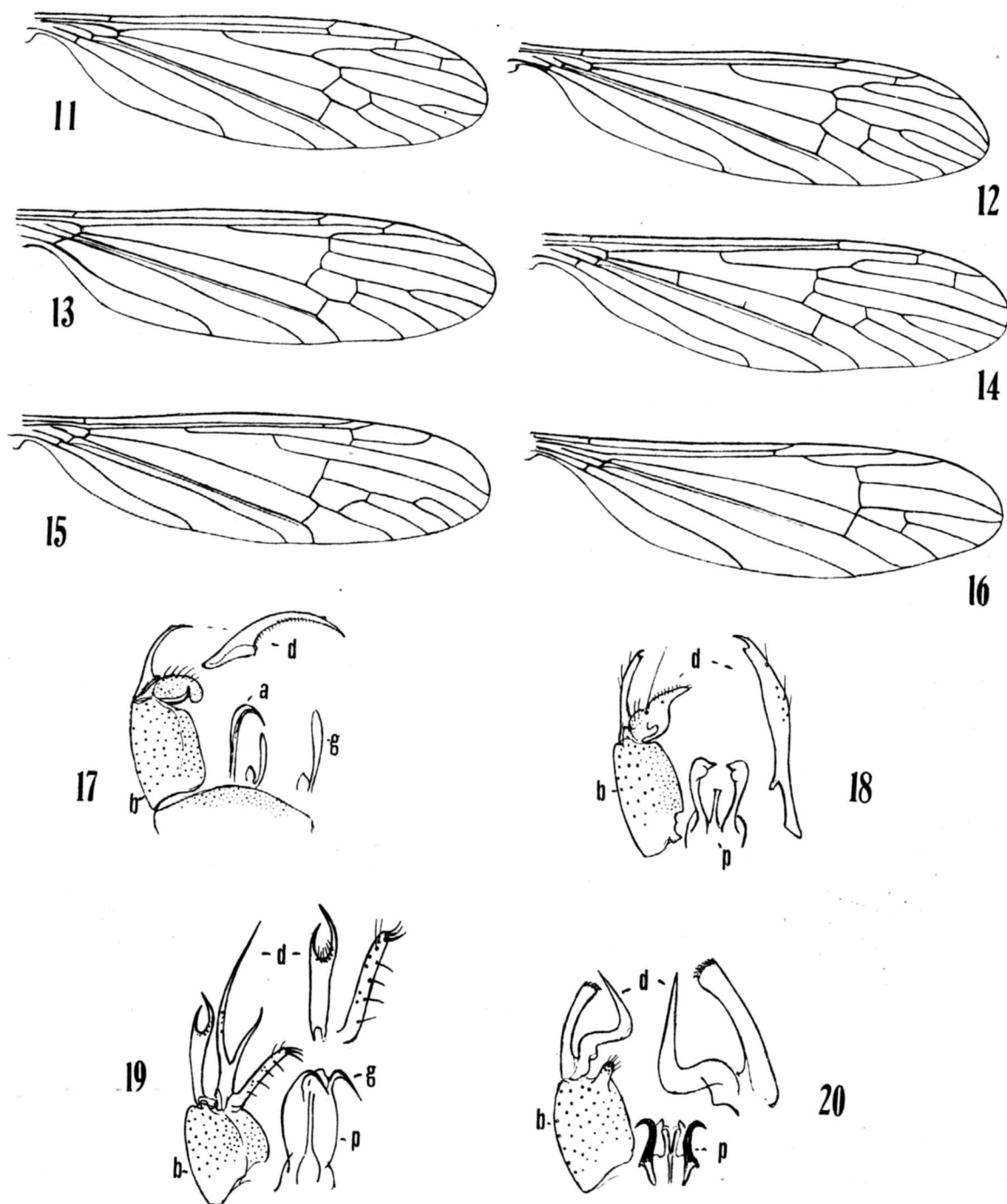
Described from Uganda and the Belgian Congo.

Kivu (Itombwe N.) : Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER).

***Limonia (Dicramomyia) redundans* ALEXANDER**

Limonia (Dicranomyia) redundans ALEXANDER; Ruwenzori Report, Diptera Tipulidae (in press).

Kivu (Itombwe N.) : Mont Muhi, July 28, 1955 (G. MARLIER). On



- Fig. 11. — *Pseudolimmophila* (*Calolimmophila*) *sottiauxi*, sp. n.; venation.
 Fig. 12. — *Pseudolimmophila* (*Pseudolimmophila*) *flavithorax*, sp. n.; venation.
 Fig. 13. — *Limnophila* (*Afrolimmophila*) *melampodia*, sp. n.; venation.
 Fig. 14. — *Limnophila* (*Dicranophragma*) *sesquivena* sp. n.; venation.
 Fig. 15. — *Lecteria* (*Lecteria*) *uniarmillata*, sp. n.; venation.
 Fig. 16. — *Gonomyia* (*Lipophleps*) *furcillata*, sp. n.; venation.
 Fig. 17. — *Limnophila* (*Afrolimmophila*) *melampodia*, sp. n.; male hypopygium, dorsal.
 Fig. 18. — *Limnophila* (*Dicranophragma*) *sesquivena*, sp. n.; male hypopygium, dorsal.
 Fig. 19. — *Gonomyia* (*Lipophleps*) *furcillata*, sp. n.; male hypopygium, dorsal.
 Fig. 20. — *Erioptera* (*Meterioptera*) *scioptera*, sp. n.; male hypopygium, dorsal.
 (Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome).

wet rocks, associated with *Helius* (*Helius*) *brachyphallus*, sp. n. The females are somewhat larger than the types (wing to 11 mm.).

***Helius* (*Helius*) *brachyphallus*, sp. n.**

Size relatively large (wing 8 mm. or more); rostrum elongate, if bent backward extending to just beyond the base of abdomen; legs brownish black, outer tarsal segments a trifle paler; wings with a strong blackish tinge, cells *C*, *Sc*, stigma and a seam along vein *Cu* still darker; male hypopygium with the outer dististyle small and slender, black, the tip simple; aedeagus unusually small and inconspicuous.

Male. Length, excluding rostrum, about 8-8.5 mm.; wing 8 mm.; rostrum about 2 mm.

Female. Length, excluding rostrum, about 9.5-10 mm.; wing 9-9.5 mm.; rostrum about 2.5 mm.

Described from alcoholic specimens. Rostrum elongate, as shown by the measurements, if bent backward extending to just beyond the base of abdomen, black throughout; palpi black. Antennae black, shorter than the rostrum; flagellar segments suboval, verticils short. Head dark brown.

Thorax almost uniformly dark brown, the praescutal suture, central area of scutum and parascutella somewhat paler. Pleura similarly darkened, especially dorsally and in front beneath, the extensive central area somewhat paler, including much of the sternopleurite and pteropleurite. Halteres infuscated. Legs with the coxae brown; trochanters a little more yellowed; remainder of legs brownish black, the outer tarsal segments a trifle paler. Wings (fig. 3) with a strong blackish tinge, cells *C* and *Sc*, stigma, a seam along vein *Cu*, and the narrow wing border more darkened; veins brown. Venation : *Sc* long, *Sc*₁ ending opposite or shortly beyond level of *r-m*, *Sc*₂ near its tip; *m-cu* at or near its tip; *m-cu* at or near midlength of cell *1st M*₂.

Abdomen, including hypopygium, dark brown. Male hypopygium (fig. 9) with the posterior border of tergite gently convex to subtruncate. Basistyle, *b*, without lobes; mesal face with abundant erect coarse setae. Outer dististyle, *d*, small and slender, black, narrowed to the virtually acute tip; inner style longer, the outer fourth pale, narrowed. Gonapophysis terminating in a slender point, the tip obtuse. Aedeagus unusually small and inconspicuous, as compared with *rostratus*.

Holotype, alcoholic ♂, Kivu, Mont Muhi, July 28, 1955, on wet rocks (G. MARLIER). *Allotopotype*, ♀. *Paratopotypes*, 1 ♂, ♀. Associated with *Limonia* (*Dicranomyia*) *redundans* ALEXANDER.

The most similar regional species is *Helius (Helius) rostratus* ALEXANDER, of Uganda, which is slightly smaller, with paler wings, and with the hypopygial details slightly different, especially the much larger aedeagus.

HEXATOMINI

Paradelphomyia (Oxyrhiza) paucimacula, sp. n.

General coloration of thorax brownish yellow, the pseudosutural foveae not evident against the ground; pleura uniformly pale; apex of knob of halteres pale; wings brownish yellow, with a restricted pattern of small clearly delimited brown spots; relatively abundant macrotrichia in outer cells of wing; male hypopygium with the outer dististyle terminating in three large spines, with two smaller denticles in the axis; inner dististyle with a basal lobule.

Male. Length about 5.5 mm.; wing 6.5 mm.

Female. Length about 7 mm.; wing 8 mm.

Described from alcoholic specimens. Head of male lost. In female, rostrum light brown; palpi darker. Antennae brown; proximal two flagellar segments more enlarged than the succeeding ones, the latter with elongate verticils. Head dark brown above, the sides paler.

Thorax brownish yellow, the notum apparently unpatterned; pseudosutural foveae pale and scarcely evident. Halteres with stem and apex of knob pale, the base of the latter weakly darkened. Legs with the coxae and trochanters yellow, with sparse but very conspicuous setae; remainder of legs brownish yellow, the tips of the femora a trifle more darkened; tibia spurs distinct. Wings (fig. 4) brownish yellow, with a restricted pattern of small clearly delimited brown spots, placed at origin of R_s , over cord and outer end of cell $1st M_2$, and marginally at ends of longitudinal veins, smallest on R_5 and $M_1 + 2$; stigma oval, paler brown; veins light brown, a little darker in the patterned areas. Macrotrichia in stigma and in cells beyond cord relatively abundant (shown in figure by stippling). Venation: Sc_1 ending about opposite fork of R_s , Sc_2 at near two-thirds the length of the latter vein; R_2 very faint, its apparent position as indicated in the figure, traversing the stigma; $m-cu$ about two-thirds its length beyond the fork of M .

Abdomen dark brown, the incisures of the more basal sternites vaguely paler; eighth segment and hypopygium more brownish yellow. Male hypopygium (fig. 10) with the outer dististyle, d , strongly dilated outwardly, with three major teeth and two small denticles in the axil; inner style fleshy, narrowed to the obtuse tip, with an accessory lobule

near base. Gonapophysis, *g*, unusually broad, the outer mesal part terminating in an acute point that is directed mesad, the inner edge with a pale flange. Aedeagus small.

Holotype, alcoholic ♂, Kivu, Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER). *Allotopotype*, alcoholic ♀.

Most similar to *Paradelphomyia (Oxyrhiza) aberdarica* ALEXANDER, of the Aberdare Range, Kenya, which differs in details of coloration, especially of the halteres and wings. The macrotrichia of the wings in the present fly are unusually abundant.

***Pseudolimnophila (Pseudolimnophila) flavithorax*, sp. n.**

Size large (wing of female 12 mm. or more); thorax almost uniformly light yellow; head and abdominal tergites dark brown; legs brown, the tips of the femora and tibiae somewhat darker; wings tinged with brownish yellow, the stigmal region vaguely more darkened; *m-cu* about one-third its length beyond the fork of *M*.

Female. Length about 11-11.5 mm.; wing 12-13 mm.

Described from alcoholic specimens. Rostrum and palpi black. Antennae with scape brown, remainder black, the extreme base of first flagellar segment paler; flagellar segments cylindrical, the outer ones long-cylindrical, with very long erect verticils. Head brownish black.

Pronotum light brown. Mesothorax uniformly light yellow, the praescutum with indications of a capillary pale brown median vitta on posterior half, even less evident on posterior sclerites. Halteres infuscated. Legs with all coxae and trochanters yellow; remainder of legs light brown to brown, the femoral tips somewhat darker; tibiae light brown, darker at tips; tarsi passing through brown to black. Wings (fig. 12) tinged with brownish yellow, the stigmal region vaguely more darkened; vague whitish longitudinal streaks in each of cells *R*, *M*, *1st M*₂, and *M*₄; veins brown. Venation: *Sc*₁ ending about opposite one-third *R*_{2 + 3 + 4}; *Rs* long; petiole of cell *M*₁ from about one-third to one-fourth the cell; *m-cu* about one-third its length beyond fork of *M*; anterior arculus preserved, as in the genus.

Abdominal tergites dark brown, sternites and genital shield more brownish yellow. Ovipositor with cerci slender, only slightly upcurved.

Holotype, alcoholic ♀, Kivu, Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER). *Paratopotype*, ♀.

Pseudolimnophila (Pseudolimnophila) flavithorax is readily told from all regional allies by the large size, virtually uniformly yellow thorax,

and brownish yellow wings, patterned only by the vaguely more darkened stigma. Superficially it suggests *Austrolimnophila* (*Austrolimnophila*) *transvaalira* (ALEXANDER), but is evidently a typical member of its genus.

***Pseudolimnophila* (*Calolimnophila*) *sottiauxi*, sp. n.**

Size small (wing about 7 mm.); general coloration of thoracic notum brown, praescutum with a narrow darker brown central vitta; antennae dark throughout; pleura light brown, pruinose, the anepisternum with a large and very conspicuous black spot; legs with coxae whitened, remainder of legs yellowish brown; wings with the restricted ground yellow, with barely indicated pale brown clouds; $R_2 + 3 + 4$ elongate, exceeding two-thirds R_s ; cell M_1 subequal to its petiole.

Male. Length about 6.5 mm.; wing 7 mm.

Female. Length about 7.5 mm.; wing 7 mm.

Rostrum and palpi dark brown. Antennae moderately long, if bent backward extending to shortly before the wing root; scape and pedicel dark, flagellum a little paler brown; flagellar segments cylindrical, the outer ones elongate; in male, segments with numerous erect setae and sparse very elongate verticils, the longest approximately twice as long as the segment. Head dark brown, sparsely pruinose, occiput paling to yellow.

Pronotum brown, scutellum paler. Mesonotal praescutum almost uniformly medium brown, sparsely pruinose, with a narrow darker brown central vitta; pseudosutural foveae darker; posterior sclerites of notum dark brown, sparsely pruinose; pleurotergite pruinose. Pleura light brown, pruinose, the anepisternum chiefly covered by a large and very conspicuous blackened spot, dorsal sternopleurite pale. Halteres short, infuscated, base of stem yellow. Legs with the coxae pale, almost white; trochanters yellowish brown; remainder of legs yellowish brown, only the terminal segment a little darker. Wings (fig. 11) with the restricted ground yellow, with a barely indicated pale brown clouding, chiefly evident at origin of R_s , cord, outer end of cell *1st* M_2 , supernumerary crossvein in cell R_3 , and ends of Anal veins; stigma oval, brown, with conspicuous trichia; veins brown. Costal fringe conspicuous, especially in the male. Venation : $R_2 + 3 + 4$ elongate, exceeding two-thirds R_s ; supernumerary crossvein beyond midlength of cell R_3 ; cell M_1 subequal to its petiole; *m-cu* from one-third to about one-half its length beyond the fork of M .

Abdomen, including hypopygium, dark brown, sternites a trifle paler, more so in the female.

Holotype, ♂, Kwango, Bakali-Inzia, Kitutu, June 14, 1919 (Dr. SOTTIAUX). *Allotopotype*, ♀.

This distinct fly is named in honor of the collector. When compared with other small members of the subgenus, including *Pseudolimnophila* (*Calolimnophila*) *comes* ALEXANDER and *P. (C.) imperita* ALEXANDER, it differs conspicuously in the almost unpatterned wings and the unmarked legs. Virtually all of the now relatively numerous species of *Calolimnophila* in the Ethiopian region have the wings heavily patterned with brown. In its general appearance, the present fly more suggests species such as *P. (P.) frugi* (BERGROTH), belonging to the typical subgenus and readily separated by the subgeneric characters.

***Limnophila* (*Afrolimnophila*) *melampodia*, sp. n.**

Size large (wing of male 13 mm. or more); general coloration black; legs black, the tibiae slightly paler; wings yellow, conspicuously patterned with brown; cell R_3 sessile; abdomen black, the hypopygium dark brown; male hypopygium with the posterior border of tergite gently convex; outer dististyle slender, with a small denticle on face some distance back from tip; setulae of lower face of style conspicuous.

Male. Length about 14-15 mm.; wing 13-15 mm.; antenna about 2.8-3.0 mm.

Described from alcoholic specimens. Rostrum black; palpi dark brown. Antennae with scape black, remainder of organ brownish black; proximal four or five flagellar segments more or less produced beneath, as in the subgenus; terminal segment about one-third longer than the penultimate. Head black.

Thorax black, possibly more or less pruinose in dry specimens. Halteres brownish yellow. Legs with the coxae black; trochanters brown; femora black, tibiae paler, brown to dark brown, the tips blackened; tarsi black. Wings (fig. 13) yellow, conspicuously patterned with brown, including large areas at origin of R_s and at mid-distance between this and the arculus; a band at cord, completely crossing the wing, confluent with a seam over the outer end of cell *lst M*₂, leaving the center of the latter pale; large dark marginal spots at ends of longitudinal veins, in cases forming an almost continuous border back to the level of the arculus; a longitudinal area in basal half of cell *M* adjoining vein *Cu*, with a circular spot on vein *lst A* at near midlength; a dark spot at fork of $M_1 + 2$; veins yellow, more infuscated in the patterned areas. One

paratype has the wing pattern much paler than the others yet seems to be conspecific. Venation : Cell R_3 sessile; cell M_1 about one-half longer than its petiole; $m-cu$ at or beyond midlength of cell *lst* M_2 .

Abdomen black, the hypopygium slightly paler, dark brown. Male hypopygium (fig. 17) with the posterior border of tergite gently convex, the outer part with numerous punctures. Outer dististyle, d , a simple slender rod, gently curved to the acute tip; some distance before apex with a small lateral point; lower or concave margin with a fringe of delicate setulae; inner style a massive lobe, its surface with strong setae, apex very blunt; no lateral lobule. Gonapophysis, g , appearing as a narrow pale blade. Aedeagus with the long tip recurved.

Holotype, alcoholic ♂, Kivu, Mont Muhi, Rivière Kariazo, 3000 meters, July 30, 1955 (G. MARLIER). *Paratopotype*, 1 ♂; *paratypes*, 2 ♂♂, Mont Muhi, Rivière Isale, July 29-31, 1955; 2 ♂♂, Mont Muhi, Rivière Luindja, 2625 meters, July 1955 (G. MARLIER).

Among the described species of the subgenus, this fly is most similar to *Limnophila* (*Afrolimnophila*) *vansomereni* ALEXANDER, which differs especially in the coloration of the legs and wings, and in slight details of the male hypopygium.

***Limnophila* (*Dicranophragma*) *sesquivena*, sp. n.**

General coloration polished black; antennal scape and pedicel black, flagellum much paler; femora yellow, the tips conspicuously brownish black; wings with the restricted ground yellow, very heavily patterned with brown; cell M with one complete and one incomplete crossvein.

Male. Length about 7-7.5 mm.; wing 7.5-8 mm.; antenna about 1.4-1.5 mm.

Female. Length about 8.5 mm.; wing 8.5 mm.

Described from alcoholic specimens. Rostrum and palpi black. Antennae short; scape and pedicel black, flagellum light brown to yellowish brown; flagellar segments oval, shorter than the verticils. Head black, presumably more or less pruinose in dry specimens.

Thorax uniformly polished black, possibly more or less pruinose in dry material. Halteres infuscated. Leg with all coxae brown; trochanters brownish yellow; femora yellow, the tips narrowly brownish black, the amount subequal on all legs, including about the outer ninth or tenth; tibiae yellow, the tips more narrowly blackened; tarsi brownish yellow, the outer segments passing into brownish black. Wings (fig. 14) with the restricted ground yellow, very heavily patterned with brown, more so in the female where the yellow appears chiefly as four costal areas, the

third crossing the wing as a narrow band; in the male, the yellow areas are somewhat larger and there are more evident yellow spots and dots at intervals along the veins; cell *2nd A* more extensively pale, the base and tip darkened; prearcular field broadly yellow in both sexes; veins brown, yellow in the brightened parts. Costal fringe short and inconspicuous in both sexes. Venation : Supernumerary crossvein in cell R_3 a little shorter than the distal section of vein R_3 ; one complete and one spur of a crossvein in cell *M*, the latter connecting posteriorly with vein *Cu*, lying about midway between the complete crossvein and *m-cu*.

Abdomen black, including the male hypopygium; genital shield of female slightly brightened. Ovipositor with cerci very slender, nearly straight. Male hypopygium (fig. 18) with the outer dististyle, *d*, slender, the outer margin with a few long setae, especially at near midlength; outer or axial spine longer and more slender than the inner triangular one; inner style fleshy, narrowed on distal third, the outer margin more or less notched, with several long setae, one of which, placed in the emargination, of unusual length. Aedeagus small and slender, much shorter than the stout gonapophyses, the latter acute at tips, with an obtuse subterminal lobe or flange.

Holotype, alcoholic ♂, Kivu, Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER). *Allotopotype*, ♀. *Paratopotypes*, 2 ♂♂.

Limnophila (*Dicranophragma*) *sesquivena* is readily told from the only other regional member of the subgenus, *L. (D.) diploneura* ALEXANDER, of Mount Ruwenzori, Uganda, by the coloration of the body, antennae, legs and, especially, the wings.

ERIOPTERINI

Lecteria (**Lecteria**) **radialis**, sp. n.

Size small (wing of male 12.5 mm.); general coloration of mesothorax reddish fulvous, unmarked; wings yellowish, with a restricted brown pattern, including an almost continuous seam in cell *R* adjoining vein R_s ; a linear brown dash in cell *1st A* at near two-thirds the length of the vein; R_s about one-third longer than $R_2 + 3 + 4$; abdomen orange, the incisures and lateral margins of the segments narrowly darkened.

Male. Length about 18 mm.; wing 12.5 mm.

Rostrum and palpi black. Antennae with the scape and pedicel black; flagellum broken. Head dark brownish gray.

Pronotum and mesonotum deep reddish fulvous, without markings,

the posterior sclerites more orange; pseudosutural foveae triangular in outline, blackish, with a smaller blackened mark lying just cephalad of it. Pleura fulvous orange, the dorsopleural region more dusky. Halteres yellow, knobs weakly infuscated. Legs with the coxae and trochanters orange yellow, the short fore coxae more infuscated; remainder of legs broken. Wings yellowish, with a restricted pale brown pattern, appearing as seams to or adjoining certain of the veins, the most conspicuous area on the disk being a nearly complete cloud in cell *R* extending the entire length of *Rs* and R_{2+3+4} ; narrow and less complete seams along cord, outer end of cell *1st M*₂ and a small spot at end of vein *R*₃; an elongate brown dash in cell *1st A* at near two-thirds the length of vein *1st A*; veins brown. Venation : *Rs* about one-third longer than R_{2+3+4} ; cell *1st M*₂ with its outer end strongly narrowed; *m-cu* at near midlength of M_{3+4} .

Abdomen orange, the incisures narrowly infuscated, the lateral margins of tergites narrowly blackened; outer abdominal segments, including the hypopygium, slightly more brownish orange.

Holotype, ♂, Albertville, Belgian Congo, December 1918 (R. MAYNÉ).

By my key to the African species of *Lecteria* (Rev. Zool. Africaine, 11 : 376-379; 1923), this fly runs to couplet 4, disagreeing with all species beyond in the unmarked mesonotal praescutum. It agrees most closely with *Lecteria* (*Lecteria*) *tanganicae* ALEXANDER and the species next defined as *L. (L.) uniarmillata*, sp. n., differing in the still smaller size and distinctive wing pattern. It is the only species so far made known having a nearly complete darkened seam extending the entire length of *Rs*.

***Lecteria* (*Lecteria*) *uniarmillata*, sp. n.**

Size medium (wing of female 15 mm.); general coloration of mesonotal praescutum obscure yellow, with four brown stripes, the intermediate pair separated by a central darkened line; femora dark brown, with a broad yellow subterminal ring; wings whitish, conspicuously patterned with brown; *Rs* lying close to *R*₁; M_{3+4} in virtual longitudinal alignment with *M*; abdominal tergites obscure orange, the lateral borders conspicuously blackened.

Female. Length about 19 mm.; wing 15 mm.

Rostrum and palpi dark brown. Antennae with scape obscure yellow on lower surface, darker above and at tip; pedicel brown; flagellar segments chiefly brown, the outer ones elongate, with very long verticils. Head chiefly brown, more blackened in front and on orbits.

Pronotal scutum cinnamon brown, darker behind; scutellum cinnamon brown. Mesonotal praescutum with the ground obscure yellow, with four brown stripes that are more or less distinctly bordered by darker brown, best evidenced as the internal border of the lateral stripe and the inner margins of the intermediate pair or stripes, the latter confluent in front to form a central line; pseudosutural foveae large; scutum brown, the lobes more or less patterned with darker; scutellum obscure yellow, parascutella darker; postnotum pale brown. Pleura brown, with a vague paler area on the dorsal sternopleurite and pteropleurite. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora dark brown, more yellowed basally, with a broad clear yellow subterminal ring, about twice as wide as the darkened tip; tibiae light brown, tips narrowly blackened; tarsal segments brownish yellow, the tips narrowly darkened, outer segments uniformly blackened; legs with long outspreading dark colored setae, those of the yellow femoral ring pale. Wings (fig. 15) with the restricted ground whitish, conspicuously patterned with brown, including major areas at arculus; origin of *Rs*, reaching *M* behind; basal section of vein *Rs*; broad seams over cord and outer end of cell 1st *M*₂; fork of *R*_{2 + 3 + 4}, tip of *R*₃, the narrow wing tip, and a broad seam in cell *M* adjoining vein *Cu*; cells *C* and *Sc* more uniformly darkened; less evident cloudings over outer end of vein *M* and distal section of *R*₅; veins yellow, darker in the clouded areas. Venation : *Rs* lying close to *R*₁, in direct longitudinal alignment with *R*_{2 + 3 + 4} and *R*₄; vein *R*₃ strongly upcurved at tip; origin of *R*₅ strongly arcuated; cell *M*₁ subequal to its petiole, *M*₂ in longitudinal alignment with *M*_{1 + 2}; *M*_{3 + 4} in virtual longitudinal alignment with *M*; *m* about one-third as long as basal section of *M*₃; *m-cu* at near midlength of *M*_{3 + 4}; cell 2nd *A* relatively narrow.

Abdominal tergites obscure orange, the posterior borders clearer orange; lateral margins conspicuously blackened, the areas narrowed posteriorly; sternites yellow, the intermediate and outer segments more infuscated basally. Ovipositor with the cerci very powerful.

Holotype, ♀, Lomani, Kabwe, Belgian Congo, July-August 1931 (P. QUARRÉ).

The most similar known species include *Lecteria* (*Lecteria*) *radialis*, sp. n., and *L. (L.) tanganicæ* ALEXANDER, which agree in having vein *M*_{3 + 4} in virtual longitudinal alignment with *M*, as in the present fly, differing evidently in the wing pattern, coloration of the body and legs, and in the details of venation.

Gonomyia (Lipophleps) furcillata, sp. n.

Allied to *calyce*; size large (wing of male 5 mm.); rostrum whitened; thoracic pleura chiefly pale, with a more whitened longitudinal stripe that is bordered both above and beneath by narrow brown lines; male hypopygium with three dististyles or profound branches, the outer style widened outwardly, terminating in two spines to appear forceps-like, phallosome pale, produced into two needlelike spines.

Male. Length about 4.5 mm.; wing 5 mm.

Described from an alcoholic specimen. Rostrum whitened; palpi black. Antennae with the scape and pedicel whitened above, remainder of organ brown; basal flagellar segments short-cylindrical, with exceedingly long verticils, the outer seven segments long-cylindrical, with shorter verticils. Head pale, almost white, the anterior vertex with a brown central line.

Pronotum and pretergites white. Mesonotal praescutum dark brown, the lateral borders whitened, humeral region restrictedly yellow; scutum with lobes brown, central area yellow, with a capillary brown line; scutellum brown, the posterior border extensively yellow; mediotergite infuscated. Pleura and pleurotergite yellow, with a more whitened longitudinal stripe extending from and including the fore coxae, behind reaching the abdomen, narrowly bordered both above and beneath by dark brown. Halteres whitened. Legs with the coxae white, the apex of fore pair narrowly darkened; trochanters yellow; remainder of legs light brown, the outer tarsal segments black. Wings (fig. 16) with a weak brownish tinge, the stigma scarcely differentiated; prearcular and costal regions more yellowed; veins pale brown. Venation: Sc_1 ending shortly before origin of Rs , Sc_2 a little removed from its tip; basal section of R_5 long, perpendicular; $m-cu$ at or close to fork of M .

Abdomen with tergites dark brown, the lateral and posterior borders of the segments yellow; sternites more extensively pale, vaguely patterned with pale brown; subterminal segment pale, the sides extensively darkened; hypopygium brownish yellow. Male hypopygium (fig. 19) generally as in *calyce*, differing in details, especially of the outer dististyle. Outer dististyle, d , stout, gently widened outwardly, forked at apex into two slightly unequal spines that are incurved toward one another to appear forceps-like; notch of the spines and inner margin of the longer one with numerous microscopic setulae; inner style profoundly divided, stem short, longest arm a flattened pale ribbon that narrows very gradually to an acute point, shorter or inner arm about one-half as long, narrowed into a gently curved black apical spine;

inner style a branch of the last, appearing as a narrow pale rod, with three modified setae near apex and with other long conspicuous bristles over the surface. Phallosome, *p*, pale, appearing as flattened blades that subtend the aedeagus; each blade produced into a very slender recurved spine; apex of aedeagus recurved.

Holotype, alcoholic ♂, Lwiro-Katana, Kivu, Belgian Congo, at light, August 15-20, 1955 (G. MARLIER).

This species is closest to *Gonomyia (Lipophleps) calyce* ALEXANDER, of the Ruwenzori Range, Uganda, which differs in the smaller size and in the structure of the male hypopygium, particularly of the inner dististyle and phallosome.

Tasiocera (Dasymolophilus) biacufera ALEXANDER

Tasiocera (Dasymolophilus) biacufera ALEXANDER; Ruwenzori Report, Diptera Tipulidae (in press).

Described from the Ruwenzori Range, Uganda.

Kivu : Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER).

Erioptera (Podoneura) bequaertiana ALEXANDER

Podoneura bequaertiana ALEXANDER; Rept. Harvard Afr. Exped., 2 : 1018, fig. 10, sub. 6 (venation); 1930.

Belgian Congo : Nyiragongo, Parc National Albert, 3000 meters, at upper limit of vegetation, 1933 (Dr. DE WULF).

Mont Muhi, Kivu, Rivière Isale, July 29-31, 1955 (G. MARLIER).

Erioptera (Meterioptera) dewulfi, sp. n.

General coloration of thorax gray, the praescutum with a median brown stripe; antennae with scape and pedicel dark brown, first flagellar segment yellow, succeeding ones darker; knobs of halteres infuscated; legs pale brown, the tips of the femora conspicuously white, bases and tips of tibiae more narrowly so; wings faintly tinged with brown, unpatterned.

Female. Length about 3.5 mm.; wing 4 mm.

Rostrum yellowish brown; palpi black. Antennae with scape and pedicel dark brown, first flagellar segment short, yellow; succeeding segments darker and more elongate, toward the end becoming long-oval, slightly exceeding their verticils. Head brownish gray; eyes large.

Pronotum and mesonotum gray, the praescutum with a median

brown stripe; pseudosutural foveae blackened, elongate, transverse; scutal lobes less evidently darkened. Pleura light gray. Halteres with stem pale, especially at base, knob infuscated. Legs with the coxae gray pruinose; trochanters testaceous; femora pale brown, vestiture dark, the tips conspicuously snowy white; tibiae pale brown, the extreme base and tip pale; tarsi yellow. Wings unpatterned, faintly tinged with brown, prearcular and costal regions slightly yellowed; veins pale brown, paler in the brightened areas. Macrotrichia of veins conspicuous. Venation: Sc_1 ending nearly opposite the fork of R_s , Sc_2 far retracted, lying just before origin of R_s ; $m-cu$ about one-third its length before fork of M ; vein $2nd\ A$ with outer third moderately sinuous.

Abdomen brown, the genital segment paler; valves of ovipositor pale horn yellow, both the cerci and hypovalvae gently upcurved.

Holotype, a broken ♀, Rutshuru, Kivu, Belgian Congo, January 1934 (Dr. DE WULF).

This small crane-fly is dedicated to the collector, Dr. DE WULF. The only other regional species of the subgenus having the femora whitened at tips is *Erioptera (Meterioptera) genualis* EDWARDS, still known only from the island of Sao Tomé in the Gulf of Guinea. This differs from the present fly in the pale brown thorax, yellow halteres, and different arrangement of white color on the legs.

***Erioptera (Meterioptera) scioptera*, sp. n.**

General coloration of thoracic notum medium brown, the pleura with a ventral pale longitudinal stripe; legs brown, unpatterned; wings weakly infuscated, vein $2nd\ A$ strongly sinuous near outer end; male hypopygium with the tergite broad, its posterior border very gently emarginate; inner dististyle with the long outer point subglabrous or with short setae only; gonopophyses appearing as short darkened rods.

Male. Length about 3-3.2 mm.; wing 3.5-3.8 mm.

Rostrum small, pale brown; palpi dark brown. Antennae with the scape and pedicel brownish black, the latter enlarged; flagellum brown, the proximal segments short, the outer ones elongate; verticils very long and conspicuous. Head brown, sparsely pruinose.

Pronotum light brown, the pretergites and sides of the scutellum pale yellow. Mesonotal praescutum medium brown, scarcely patterned, the humeral and lateral portions more brightened; pseudosutural foveae and tuberculate pits dark brown; scutum light brown, scutellum darker; mediotergite light gray, pruinose. Pleura brown, with a ventral pale longitudinal stripe that is narrowly bordered both above and below by darker brown, best indicated on the sternopleurite; meron yellowish

brown. Halteres with stem pale, knob weakly darkened. Legs with the coxae brownish yellow; tibiae yellow; remainder of legs brown, unpatterned; outer tarsal segments darker. Wings weakly infuscated but not as conspicuously so as in *fumipennis*; prearcular, costal and stigmal regions a little more yellowed; veins pale brown, macrotrichia darker. Venation : much as in *fumipennis*; cell 2nd *A* broader, vein 2nd *A* with outer fourth more strongly sinuous.

Abdomen dark brown, hypopygium obscure fulvous. Male hypopygium (fig. 20) with the tergite broad, its posterior border very gently emarginate, the lobes low. Outer lobe of basistyle, *b* conspicuous, with elongate setae at tip. Outer dististyle, *d*, nearly straight, the slightly dilated apex with about ten or eleven strong curved spines in a compact group; inner style dilated at base, bent at slightly more than a right angle near midlength, thence narrowed to an acute point, setae very reduced or lacking. Phallosome with gonapophyses appearing as short darkened rods, their outcurved tips acute; inner part of phallosome entirely pale, the only darkened points being the apophyses.

Holotype, ♂, Chambi, Escarpment Kabasha, Kivu, Belgian Congo, October 1933 (Dr. DE WULF). *Paratopotypes*, 2 broken ♂♂.

The most similar Ethiopian member of the subgenus is *Erioptera* (*Meterioptera*) *fumipennis* ALEXANDER, of Natal and the Transvaal, which differs in slight distinctions of the body and wing and in the details of structure of the hypopygium, principally of the inner dististyle and phallosome.

***Styryngomyia nigrisoma*, sp. n.**

Belongs to the *leucopeza* group; general coloration dark brown, the praescutum lined with gray; antennal flagellum yellowish brown; halteres brownish black throughout; legs black, posterior tarsi chiefly yellow; wings with a strong blackish suffusion, darkened seam on *r-m* very small or lacking; male hypopygium with the apical lobes of both the tergite and sternite simple and unusually slender; outer arm of dististyle with a few delicate setae along its stem.

Male. Length about 7 mm.; wing 4.2-4.3 mm.

Female. Length about 5-5.5 mm.; wing 3.6-3.8 mm.

Rostrum and palpi brownish black. Antennae with scape dark brown, pedicel black, flagellum yellowish brown to brown. Head dark brown; a pair of enlarged setae on anterior vertex.

Pronotum obscure yellow, variegated with blackish. Mesonotum chiefly brownish black, the praescutum lined with more pruinose areas.

Pleura brownish black. Halteres brownish black throughout. Legs with the coxae and trochanters dark brown; fore and middle legs entirely black excepting the extreme paler bases of the tarsal segments; posterior femora and tibiae entirely black, tarsi light yellow, only the terminal segment darkened. Wings with a strong blackish suffusion, deepest in the outer radial field; a scarcely evident darkened seam on *r-m*, this much smaller than in *obscuricincta*; veins brownish black. Costal fringe long and conspicuous. Venation : Cell *1st M*₂ elongate; cell *2nd M*₂ sessile, *m-cu* its own length or less beyond fork of *M*.

Abdominal tergites dark brown, margined caudally and laterally with blackish; hypopygium brownish black. Male hypopygium with the apex of the ninth tergite a slender simple lobe that is about three times as long as its greatest width, the surface with abundant erect setulae. Ninth sternite long and slender, with nearly the same conformation as the tergal lobe, the apex simple; extreme tip broken and in perfect specimens presumably bears modified or more powerful setae than those elsewhere on surface. Lateral spine of basistyle relatively long, flattened. Outer arm of dististyle with a long terminal seta; bristles along surface of arm small and delicate, few in number.

Holotype, ♂, Kisala, Belgian Congo, October 14, 1920 (H. SCHOUTEDEN). *Allotopotype*, ♀. *Paratypes*, 1 ♂, 1 ♀, Ganda Lundi, Belgian Congo, October 6, 1920 (H. SCHOUTEDEN).

Styringomyia nigrisoma is most nearly related to *S. obscuricincta* EDWARDS, of the Gold Coast, differing especially in the unringed posterior femora, the nearly obliterated darkened seam on *r-m* of the wings, and especially in the structure of the male hypopygium, as the unusually narrow simple tips of both the tergite and the sternite.

Toxorhina (Toxorhina) grossa ALEXANDER

Toxorhina (Toxorhina) grossa ALEXANDER; Ruwenzori Report, Diptera Tipulidae (in press).

The types were from Mount Ruwenzori, Uganda, 6500 feet, taken in December-January by EDWARDS.

Kivu (Itombwe N.) : Mont Muhi, Rivière Isale, July 29-31, 1955 (G. MARLIER).

The present specimens agree closely with the type female and I do not question the determination. In the type cell *1st M*₂ of the wings is closed. In the present series, the cell is generally closed but in some individuals is open by the atrophy of crossvein *m*; *m-cu* while commonly at the fork of *M* is, in cases, some distance before this fork, the extreme case being nearly equal to its own length.