

Fig. 9. First lamella of mandible. $\times 350$.

Fig. 10. Left prehensor with part of prosternum, ventral view. $\times 30$.

Fig. 11. Impression of tenth sternite. $\times 75$.

PLATE XII.

Mecistocephalus apator, sp. n.

Fig. 1. Head in outline, dorsal view. $\times 30$.

Fig. 2. Median region of labrum. $\times 195$.

Fig. 3. Maxillæ, ventral view. $\times 60$.

Fig. 4. First lamella of mandible. $\times 380$.

Fig. 5. Right prehensor and part of prosternum, ventral view. $\times 45$.

Fig. 6. Caudal end, dorsal view. $\times 45$.

Mecistocephalus monticolens, sp. n.

Fig. 7. Head in outline, dorsal view. $\times 30$.

Fig. 8. Anterior region of head, ventral view, the maxillæ removed. $\times 45$.

Fig. 9. Median region of labrum. $\times 195$.

Fig. 10. Left prehensor and part of prosternum, ventral view. $\times 45$.

Fig. 11. Impression on tenth sternite. $\times 45$.

XXXIX.—*Undescribed Species of African Crane-flies in the Collection of the British Museum (Natural History): Tipulidæ, Diptera.*—Part I. *Subfamily Limnobiinæ.* By CHARLES P. ALEXANDER, Ph.D., Urbana, Illinois, U.S.A.

[Concluded from p. 44.]

Trentepohlia (Trentepohlia) ugandæ, sp. n.

Mesonotal præscutum reddish brown with three darker brown stripes; pleura dark brown; halteres pale; legs brownish yellow, the posterior tibiæ with four long bristle-like hairs near the tip; wings yellowish with a solid dark area at the cord and another in the apical radial cells of the wing; abdomen dark brown, the basal segments indistinctly ringed with paler.

Female.—Length about 9 mm.; wing 8·7 mm.; hind femur 11·8 mm.; tibia 11·5 mm.; tarsus 7 mm.

Rostrum and palpi dark brown. Antennæ dark brown. Head dark brown, sparsely grey-pruinose.

Pronotum dark brown. Mesonotal præscutum light reddish brown, with three darker brown stripes, the lateral stripes less distinct than the median stripe; lobes of the scutum, scutellum, and postnotum dark brown. Propleura reddish; mesopleura and sternum dark brown. Halteres

pale. Legs with the coxæ and trochanters dull yellow, the fore coxæ slightly darker; femora pale brownish yellow, not noticeably darkened at the tips; tibiæ similar, the tips a little darkened; tarsi brown; posterior femora with a series of about nine small bristles near the base, posterior tibiæ with a series of four long, slightly curved bristles before the tip. Wings yellowish, the anal cells more greyish; a broad, almost solid brown mark just beyond the origin of *Rs*, sending a narrow seam along the cord almost to the wing-margin; wing-apex in cells R_2 , R_3 , and the tips of 2nd R_1 , R_5 , and M_2 darkened, the centre of cell R_2 being almost filled by a roughly oval, subhyaline area; a dark cloud at the fork of R_{4+5} and M_{1+2} ; a narrow dark seam along vein *Cu*; veins yellowish, especially in the costal region, dark brown in the darkened areas. Venation: as in *T. exornata* Bergroth; basal deflection of Cu_1 a short distance before the fork of *M*.

Abdomen dark brownish black, the apical half of the basal segments indistinctly paler brown to produce an annulated appearance. Ovipositor with the tergal valves blackened, the tips injured in the unique type; sternal valves yellowish horn-colour, flattened, blade-like, the tips acute.

Hab. Uganda.

Holotype, ♀, Northern Buddu, altitude 3800 feet, September 16–18, 1911 (*S. A. Neave*).

Presented by the Imperial Bureau of Entomology, 1915. 57.

Type in the collection of the British Museum (Natural History).

Trentepohlia ugandæ is close to *T. exornata* Bergroth and *T. speiseri* Edwards, but is readily told by the conspicuously larger size and slightly different coloration. The wing-pattern of these three species is remarkably uniform; *T. ugandæ* agrees with *T. speiseri* and disagrees with *T. exornata* in having the dark area along the sector almost solidly brown.

Genus LECTERIA, Osten-Sacken.

Lecteria laticincta, sp. n.

General coloration rich reddish brown; legs very hairy (at least in the ♀), the tibiæ with two narrow pale rings; wings hyaline with heavy, irregular cross-bands of brown,

margined with darker brown; no other spots or dots on the membrane.

Female.—Length about 13 mm.; wing 11.3 mm.

Rostrum and palpi brown. Antennal scape dark brown, the flagellum paler brown; first scapal segment elongate-cylindrical, the outer face with a few long setæ; the five basal segments of the flagellum are very short and crowded, the first three being united into a fusion-segment; distal flagellar segments elongate; verticils very long and conspicuous. Head brown, strongly narrowed behind; eyes protuberant; vertex provided with long, powerful bristles.

Mesonotal præscutum rich reddish brown, indistinctly striped with darker brown and clothed with long semi-erect hairs; remainder of the mesonotum somewhat similar, the postnotum more orange. Pleura pale brown with a slight greyish cast. Halteres pale brownish yellow, the knobs dark brown. Legs clothed with conspicuous semi-erect hairs; coxæ and trochanters pale brown; femora brown with a narrow white ring at about two-thirds the length; tibiæ brown, the tips very narrowly blackened; a narrow postmedial white ring and a very narrow and indistinct subbasal ring that is indicated only by a few pale hairs at this point; metatarsi white, the tips narrowly blackened; second and third tarsal segments brown, the tips blackened; the last two tarsal segments brownish black; one or possibly more spines at the extreme base of the metatarsus; compared with the related *L. triacanthos*, Alexander, the legs are shorter and much more hairy, this latter possibly a sexual character; pale tibial bands narrower and much less distinct. Wings subhyaline, heavily and irregularly cross-banded with brown, much more extensive than the nearly hyaline ground-colour; no other spots or dots on the membrane; the bands are pale brown, narrowly margined with darker brown; costal cell to beyond the origin of *Rs* darkened; the first band includes the wing-base in cells *R*, *M*, *Cu* and the outer three-fifths of cell *2nd A*, this latter connected with the second band at the origin of *Rs*; this band runs almost straight across the wing, near the end of cell *M* broadly connected with the third very broad band which occupies the cord; the last band lies just before the wing-tip and is connected with the band at the cord in cell *1st M*₂, and narrowly along the costa; the hyaline areas are thus located as follows: base of cell *2nd A*; the largest before the origin of *Rs*, running across cells *R*, *M*, and *Cu*; the next largest, just before the cord in cells *R* and *M*, narrowly separated by *Sc* from a slightly more yellowish

area in the costal cell immediately above *Rs* ; other areas in the ends of cells *Cu* and 1st *A* ; beyond the cord in cells 2nd *R*₁ to *R*₅ ; a small spot in the end of cell *R*₂ ; outer two-thirds of cell *M*₁ largely pale ; a large rounded spot near the end of cell *Cu*₁ ; tiny white spots before the arculus, at the end of cell 2nd *M*₂ and near the base of cell *M*₃ ; veins dark brown. Venation : *Rs* short, less than *R*₂ ; petiole of cell *M*₁ very short, but little longer than *m* ; basal deflection of *Cu*₁ a little before mid-length of cell 1st *M*₂.

Abdominal tergites yellowish orange, variegated with reddish, the margins cinnamon-brown ; pleural membrane dark brown ; sternites orange-yellow ; terminal segments dark brown. Ovipositor with the valves dark brown, the tergal valves broadly tipped with horn-colour, slightly up-curved at the tips ; sternal valves straight, slender.

Hab. Southern Nigeria.

Holotype, ♀, Akwete, May 13, 1910 (*J. J. Simpson*).

Type in the collection of the British Museum (Natural History).

Lecteria laticincta may be readily distinguished from the closely allied *L. triacanthos*, Alexander, and *L. simpsoni*, sp. n., by the broader bands on the wing and the entire absence of small spots and dots in the hyaline interspaces.

Lecteria simpsoni, sp. n.

Similar to *L. triacanthos*, Alexander, but the wings longer and narrower, with darker interrupted cross-bands and comparatively few dots in the interspaces.

Male.—Length 14.5 mm. ; wing 13.5 mm., its greatest width 3.2 mm.

Closely related to *L. triacanthos*, from which it differs as follows :—

Legs with the pale bands on the femora and tibiae more yellow than white (tarsi broken). Wings narrower, the large brown spots on the wings much darker, this effect produced by the much broader dark margins that surround the spots, the pale centres often indistinct ; these large spots are broken up so that they appear as interrupted bands ; the spots occur at the origin of *Rs* ; fork of *Rs* narrowly connected with a large seam along the cord ; a large, somewhat isolated spot at *r* and the fork of *R*₂₊₃ ; another spot at the tip of *R*₂ ; the small dots on the wing are relatively few in number, much fewer than in *L. triacanthos* ; thus in cell *C* there are but six or seven small scattered spots ; none in cell *R* proximad of the spot at the origin of *Rs* ; only two

or three in cell *R* between the large areas and similarly restricted in the remaining cells of the wing. Venation: this shows cell 1st M_2 and all the posterior cells of the wing longer and narrower due to the long narrow shape of the wing.

Abdomen with the caudal margins of the tergites narrowly blackened.

Hab. Southern Nigeria.

Holotype, ♂, Ikotekpene, May 19, 1910 (*J. J. Simpson*).

Type in the collection of the British Museum (Natural History).

The species is dedicated to the collector, Dr. J. J. Simpson, whose collecting in West Africa has added many interesting species to the British Museum.

Lecteria pluriguttata, sp. n.

General coloration pale brownish or greyish buff, the head and thorax with a narrow, dark brown, capillary line; wings pale brownish grey with abundant brownish and greyish dots in all the cells.

Male.—Length 28.5 mm.; wing 18 mm.; abdomen alone about 22 mm.

Rostrum and palpi dark brown. Antennæ with the first scapal segment dark brown, greyish-pruinose; second segment dark brown; three basal flagellar segments light yellow, the remainder of the flagellum dark brown with long, conspicuous verticils. Head with the convex light brownish grey with a conspicuous dark brown median stripe and somewhat shorter lateral stripes.

Pronotum greyish buff, the scutum with a narrow, brown, median line, the scutellum with two brown spots. Mesonotal præscutum with the ground-colour dark brown with three broad, light greyish-buff stripes, the median stripe split for about two-thirds its length by a transversely impressed capillary brown line; pseudosutural foveæ conspicuous, brown; scutum obscure yellowish buff with the median depression broad, the lobes indistinctly marked with darker; scutellum projecting, pale buffy; postnotum similar; a more or less distinct capillary brown line extending from the suture to the base of the abdomen. Pleura pale testaceous with a more or less distinct broad longitudinal stripe, most distinct in the paratype. Sternum dark brown. Halteres dark brown, the base of the stem and the knobs conspicuously light yellow. Legs with the coxæ pale grey, their outer faces more or less infuscated; trochanters brown;

femora pale brown, more yellowish basally, the tips broadly darker brown; tibiae similar, the tips narrowly dark brown; tarsi dark brown; legs with conspicuous semi-erect hairs; no spines at base of metatarsi. Wings pale brownish grey, the costal and subcostal cells more yellowish; the entire wing-surface is densely sprinkled with small brown and grey dots that are of nearly uniform size throughout; these occur in all the cells of the wing, but appear to be somewhat more crowded proximad of the cord. Venation showing some variation; in the type, R_2 is shorter; basal deflection of R_{4+5} longer; cell 1st M_2 hexagonally rectangular, the fusion of M_3 and Cu_1 longer than the basal deflection of Cu_1 ; petiole of cell M_1 longer than the cell. In the paratype the opposite of the above conditions hold; it may be that two species are involved, but this seems scarcely probable.

Abdomen obscure yellow, the tergites narrowly and indistinctly margined with brown; segments seven to nine more uniformly brown. Male hypopygium with the ninth tergite not darker than the remainder of the hypopygium, the surface dull, the caudal margin deeply bilobed, the adjacent lobes rounded and provided with long yellowish bristles.

Hab. Southern Nigeria.

Holotype, ♂, Ilesha, March 4, 1910 (*J. J. Simpson*).

Paratype, ♀, Ibadan, November 21, 1913 (*W. A. Lamborn*).

Type presented by the Entomological Research Committee, 1910. 222; paratype, 1916. 48.

Lecteria pluriguttata is readily told from its close allies (*L. africana*, Alexander, *L. atricauda*, Alexander) by the multiguttate wings.

Genus CLYDONODOZUS, Enderlein.

Clydonodozus puncticosta, sp. n.

Head black, the front and anterior part of the vertex golden-pollinose; mesonotum reddish brown, the præscutum with two indistinct brown stripes; femora dull yellow, the tips narrowly dark brownish black; wings dull greyish, the costal region more yellowish; costal cell with about ten spurs and cross-veins extending from costa, these conspicuously seamed with brown; cord and outer end of cell 1st M_2 seamed with brown; abdominal sternites margined anteriorly and laterally with brownish black, and with an elongate median dash of the same colour.

Female.—Length about 18 mm., of which the abdomen

includes 13.6 mm. ; wing 12 mm. ; hind leg, femur 9 mm., tibia 11.4 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the base of the elongate first scapal segment sparsely golden-pollinose ; second scapal segment obliquely subglobular ; three basal flagellar segments united into a stout fusion-segment, the suture between the second and third weakly indicated ; remaining flagellar segments gradually becoming longer and narrower outwardly ; verticils rather short. Anterior part of the vertex densely golden-pollinose ; between the eyes at the narrowest point a broad velvety-black band enclosing an oval golden median area ; remainder of the vertex black, sparsely golden-pollinose ; vertex with a small raised median area.

Pronotum rather conspicuous, shiny chestnut-brown. Mesonotal præscutum reddish brown with two narrow, indistinct, brown stripes, one on either side of the pale median line ; remainder of the mesonotum reddish. Pleura shiny reddish brown, darker brown on the dorsal edge of the mesepisternum and on the mesepimeron, the latter silvery-pruinose. Halteres pale brown, the knobs darker brown. Legs with the coxæ reddish brown, the fore coxæ darker ; trochanters reddish brown ; femora dull yellow, the tips narrowly dark brownish black ; tibiæ dark brown, the tips narrowly brownish black ; tarsi dark brown. Wings dull grey, the costal region more yellowish, this colour including cells *C*, *Sc*, and *2nd R*₁ ; outer end of cell *R*₂ more infuscated ; costal cell with a series of about ten or eleven cross-veins and spurs extending from costa, these conspicuously seamed with brown ; dark brown spots at the ends of veins *Sc*₁, *R*₁, and *R*₂ ; paler brown seams at the origin of *Rs*, along the cord, outer end of cell *1st M*₂, and the fork of *M*₁₊₂ ; indistinct seams along veins *M* and *2nd A*, and more distinctly along *Cu* ; veins dark brown ; those in the costal region more yellowish. Venation : *Sc*₁ and *R*₁ ending rather close together at the wing-margin as in the genus ; *Rs* strongly angulated at origin and here sending a broken cross-vein to vein *M* as in *C. multistriatus* End. ; *R*₂₊₃ shorter than the deflection of *R*₄₊₅ ; *R*₂ almost perpendicular at origin, *r* inserted at the bend ; *R*₁ beyond *r* about equal to the basal deflection of *Cu*₁ ; vein *R*₃ bent strongly towards *R*₄₊₅ near its tip, so cell *R*₂ is nearly as wide at the margin as cell *2nd R*₁ ; *r-m* nearly as long as the deflection of *R*₄₊₅ ; cell *1st M*₂ rather small, the inner end not conspicuously produced and pointed ; cell *M*₁

a little shorter than its petiole; basal deflection of Cu_1 nearly at mid-length of cell 1st M_2 .

Abdominal tergites obscure yellowish, the intermediate segments with indistinct median dashes of brown; sternites very clearly marked, yellow, the lateral and basal margins brownish black; a conspicuous elongate-oval median dash that does not attain the margins. Ovipositor with the tergal valves very long and slender, slightly upcurved.

Hab. Sierra Leone.

Holotype, ♀, Kambah, March 22, 1912 (*J. J. Simpson*).

Presented by the Entomological Research Committee, 1913. 394.

Type in the collection of the British Museum (Natural History).

Clydonodozus neavei, sp. n.

Head black, sparsely brownish-pollinose; mesonotal præscutum with two narrow brown stripes; wings yellowish subhyaline with a very extensive brown pattern, the more conspicuous being a very broad band along the cord completely filling cell 1st M_2 ; the costal, cubital, and anal cells are largely brown; cell 1st M_2 long, the inner end pointed.

Sex?—Wing 10.4 mm.

Rostrum and palpi pale. Antennæ broken. Head black, sparsely brown-pollinose; vertex broad; eyes widely separated above, narrowly beneath.

Pronotum reddish brown. Mesonotal præscutum reddish brown with two long, narrow, brown stripes, narrowly separated by a pale median line; lateral stripes broader but less clearly defined; remainder of the mesonotum dark brown, sparsely grey-pruinose, especially the postnotum. Pleura reddish brown, sparsely pruinose. Halteres pale brown, the knobs darker brown. Legs with the coxæ reddish, the outer faces of the fore and middle coxæ dark brown; trochanters reddish; remainder of the legs broken. Wings yellowish subhyaline with a very extensive brown pattern, arranged as follows: costal cell yellowish brown basally, about mid-distance between the arculus and the origin of Rs passing into uniform dark brown; the stigmal area is broken in the only remaining wing; a broad rounded brown spot at the arculus; another about mid-distance to the origin of Rs ; a third at the origin of Rs ; a very broad seam at the cord, broadened out at the fork of M , so that the entire cell 1st M_2 is dark, this same area sending a seam to the fork of M_{1+2} ; a broad brown seam occupies the basal

half of cell *M*, passing across cell *Cu* where it occupies nearly half the length of the cell, reaching the wing-margin at the end of vein 2nd *A*; large brown clouds along the wing-margin at the ends of the veins; 2nd *Anal* cell brown excepting the basal third; veins dark brown. Venation: *Rs* almost square at origin; basal deflection of *R*₄₊₅ about one-half longer than *r-m*; inner end of the long cell 1st *M*₂ pointed; *r-m* and the basal deflection of *Cu*₁ inserted beyond mid-length of cell 1st *M*₂; petiole of cell *M*₁ about as long as this cell.

Abdomen reddish brown, the apex broken, so that the sex and length are uncertain.

Hab. Belgian Congo.

Holotype, sex?, Lualaba River, altitude 2500–4000 feet, November 5, 1907 (*S. A. Neave*). B.M. no. 1907. 230.

Type in the collection of the British Museum (Natural History).

Clydonodozus brevicellulus, sp. n.

Resembles *C. neavei*, but the wing-pattern is less extensive, the band along the cord narrow and not suffusing cell 1st *M*₂; mesonotal præscutum with reddish stripes; legs dark brownish black with only the femoral bases paler.

Male.—Length about 11.5 mm.; wing 11.1 mm.

Rostrum reddish brown; palpi darker brown. Antennæ with the elongate basal segment of the scape dark brown, a little paler basally; second segment dark brown; flagellum small, the verticils of moderate length; basal two or three flagellar segments united into a fusion-segment as in the genus. Head dark brown, the front and anterior part of vertex golden-pollinose.

Mesonotal præscutum reddish brown with a shiny reddish stripe on either side of the median line, these narrowed behind; remainder of the mesonotum reddish brown, sparsely pollinose. Pleura reddish brown, the mesepimeron and lateral margins of the postnotum greyish-pruinose. Halteres pale brown. Legs with the coxæ and trochanters deep reddish brown; remainder of the legs dark brown, the femora paler basally. Wings with *aa* strong, dull yellow tinge, the costal cell and ends of cells 2nd *R*₁, *R*₂, and *R*₃ brownish yellow; pale brown clouds and seams at the origin of *Rs*; mid-distance between arculus and the origin of *Rs*; along the cord, darkest at the stigma and completely traversing the wing as a narrow seam, at cell 1st *M*₂ forking and suffusing the veins that surround this cell; a small

cloud at the fork of M_{1+2} ; indistinct seams along veins M and Cu ; veins pale brown, those in the costal region more yellowish brown. Venation: Rs strongly arcuated at origin; cell 1st M_2 rather short, the inner end only moderately pointed and prolonged; basal deflection of Cu_1 beyond mid-length of cell 1st M_2 ; cell M_1 shorter than its petiole.

Abdominal tergites obscure yellowish, the ends of the eighth and ninth tergites brown; sternites yellow with a narrow, dark brown, median stripe that is but narrowly interrupted at the caudal margins of the segments; lateral margins of the sternites narrowly dark brown.

Hab. Ashanti.

Holotype, ♂, Obuasi, 1907 (Dr. W. M. Graham), B.M. no. 1908. 245.

Type in the collection of the British Museum (Natural History).

Clydonodozus pallidistigma, sp. n.

Male.—Length 15 mm.; wing 12.6 mm.

Generally similar to *C. brevicellulus*, differing as follows:—

Mesonotal præscutum reddish brown with three darker brown stripes, the median stripe entire; legs with the femora dark brown, the tips broadly black, especially those of the fore legs, those of the hind legs narrower; tibiæ black, the bases narrowly paler; tarsi black. Wings with the pattern narrowly streaked longitudinally, not clouded and banded as in *C. brevicellulus*; costal cell and cell 2nd R_1 are strongly infuscated and weakly marmorate, but cell Sc is light yellow to the apex, so the stigmal region is conspicuously pale; longitudinal veins inconspicuously seamed with brown, most distinct on Rs and R_3 ; veins dark brown. Venation: Rs with an interrupted cross-vein as in *C. puncticosta* and other species; Rs and R_3 in direct alignment; cell 1st M_2 rather long and pointed at the inner end; basal deflection of Cu_1 beyond mid-length of cell 1st M_2 ; cell M_1 a little shorter than its petiole.

Abdomen yellow with the median stripe on the sternites very distinct, dark brown, passing into black on the distal segments and scarcely interrupted at the caudal margins of the segments.

Hab. Uganda.

Holotype, ♂, Northern Buddu, altitude 3800 feet, September 16–18, 1911 (S. A. Neave).

Presented by the Imperial Bureau of Entomology, 1915. 57.

Type in the collection of the British Museum (Natural History).

Clydonodozus angustifasciatus, sp. n.

Mesonotal præscutum with three dark brownish-black stripes, the median stripe entire; scutal lobes dark; legs yellow, the femora and tibiæ narrowly tipped with black; wings yellowish, a narrow dark brown seam along the cord; abdominal sternites with a continuous median brownish-black stripe.

Male.—Length 15.2 mm.; wing 12.4 mm.; abdomen alone, 11.5 mm.

Female.—Length 17.5 mm.; wing 12.2 mm.

Generally similar to the other species of the genus herein described, differing as follows:—

Mesonotal præscutum with three dark brownish-black stripes, the median stripe entire or only shallowly bifid anteriorly; scutal lobes dark brown; scutellum yellowish testaceous; postnotum pale yellowish. Mesopleura largely dark coloured. Legs dull yellow, the tips of the femora and tibiæ narrowly (1 mm.) black; tarsi brownish yellow, the distal segments dark brown. Wings dull yellow, the costal region more suffused; conspicuous brown clouds at the origin of R_s and the tip of R_2 ; a narrow dark brown seam across the wing at the cord, beginning at the stigma, completely encircling cell 1st M_2 ; a brown cloud at the fork of M_{1+2} ; in the allotype the base of the wing and vein M are likewise seamed with brown. Venation: R_s strongly angulated at origin, at the bend with an interrupted cross-vein to M as in the genotype and many other species of this genus; R_{2+3} very short, only about two-thirds the length of $r-m$ or about equal to m ; inner end of cell 1st M_2 prolonged and pointed; cell M_1 a little longer than its petiole; basal deflection of Cu_1 slightly or far beyond mid-length of cell 1st M_2 , in the type and paratype being at nearly three-fourths the length. In the allotype, cell 1st M_2 is smaller and its inner end is not so prolonged.

Abdominal sternites with the median brownish-black band almost continuous from the base of the abdomen to the eighth sternite, scarcely (if at all) interrupted at the incisures; eighth sternite black basally, the distal half dull yellow.

Hab. Uganda.

Holotype, ♂, Mpanga Forest, Toro, altitude 4800 feet, November 13–23, 1911 (S. A. Neave), B.M. no. 1911. 193.

Allotopotype, ♀.

Paratopotype, ♂.

Clydonodozus angustifasciatus interruptus, subsp. n.

Male.—Length 13·2 mm.; wing 10·6 mm.; abdomen alone 10 mm.

In the general features of wing- and leg-pattern, this subspecies is very similar to typical *angustifasciatus*, differing in the following features:—

Size smaller. Median præscutal stripe split by a pale median vitta; abdomen much shorter; the median stripe on the sternites reduced to short delicate lines that are nearly their own length from the posterior margins of the segments and almost as remote from the anterior margin; anterior and lateral margins of the intermediate segments narrowly blackened, the lateral margins becoming obsolete behind at about two-thirds the length of the segments; eighth sternite shorter, black with a large, rounded, pale spot on either side, the apex black. Gonapophyses of the male hypopygium straight, parallel, the tips flattened and twisted almost as in the typical variety.

Hab. Uganda.

Holotype, ♂, South of Lake George, altitude 3200–3400 feet, October 17–19, 1911 (*S. A. Neave*).

Presented by the Imperial Bureau of Entomology, 1915. 57.

Type in the collection of the British Museum (Natural History).

Genus PSEUDOLIMNOPHILA, Alexander.

Pseudolimnophila rex, sp. n.

Size large (wing of ♂ over 13 mm.); antennæ brownish black, the first flagellar segment yellowish; legs brownish black; wings with a strong dusky tinge, the cross-veins and deflections indistinctly darker; a supernumerary cross-vein in cell R_2 ; basal deflection of Cu_1 just beyond the fork of M .

Male.—Length 13·5 mm.; wing 13·3 mm.; hind leg, femur 11 mm., tibia 11·2 mm.

Rostrum and palpi dark brown. Antennæ with the elongate first scapal segment brown, greyish-pruinose; second segment dark brown; first flagellar segment light yellow; remaining flagellar segments dark brownish black, elongate, with long verticils. Head greyish brown, the anterior part of the vertex indistinctly yellowish with a large dark mark between the eyes at the narrowest point; occiput brighter brown.

Pronotum narrowed to meet the very long, narrow, backward prolongation of the head, light cinnamon-brown. Mesonotum light brown, the præscutum with slightly darker stripes, this part of the body discoloured in the unique type; tuberculate pits not evident. Pleura dark, the bloom discoloured. Halteres light brown, the knobs dark brown. Legs with the coxæ dark brown; trochanters reddish brown; remainder of the legs dark brown. Wings with a strong dusky tinge, the costal and subcostal cells darker; faintly darker clouds at the origin of R_s , along the cord and outer end of cell 1st M_2 ; veins dark brownish black. Venation: Sc moderately long, Sc_1 ending beyond the fork of R_s , Sc_2 a little removed from the tip of Sc_1 ; R_s angulated and spurred at origin; a supernumerary cross-vein in cell R_2 near mid-length; r on R_2 , the distance between it and the fork of R_{2+3} about equal to the basal deflection of R_{4+5} ; R_1 beyond r about one-half longer than r ; R_{2+3} arcuated at origin, shorter than R_2 before the supernumerary cross-vein; petiole of cell M_1 about one-half as long as the cell and about equal to the deflection of R_{4+5} ; cell 1st M_2 relatively small, closed, basal deflection of Cu_1 slightly beyond the fork of M .

Abdomen dark brown.

Hab. Uganda.

Holotype, ♂, Mabira Forest, Chagwe, altitude 3500–3800 feet, July 16–25, 1911 (*S. A. Neave*). B.M. no. 1913. 140.

Type in the collection of the British Museum (Natural History).

Pseudolimnophila aurantiaca, sp. n.

General coloration light orange-brown; first flagellar segment dark brown with the basal third yellow; head light grey; wings pale grey, the stigma pale brown; R_s longer than R_{2+3} ; r close to the tip of R_1 ; cell 1st M_2 small; basal deflection of Cu_1 at about one-quarter the length of cell 1st M_2 .

Male.—Length 6.2–7.5 mm.; wing 6.5–8 mm.

Rostrum pale brown; palpi dark brown. Antennæ dark brown; first flagellar segment of about the same size and form as the second, dark brown, the basal third conspicuously light yellow. Head dark, light grey-pruinose; head only moderately prolonged behind.

Mesonotum light orange-brown without stripes; postnotum paler, yellow. Pleura pale yellow. Halteres pale, the knobs brown. Legs with the coxæ and trochanters

light yellow; femora pale brown, the bases paler, the tips dark brown; tibiae and tarsi dark brown. Wings very indistinctly pale grey, only the stigma indistinctly pale brown, oval in outline; veins dark brown. Venation: agreeing most nearly with *P. frugi* in that the basal deflection of Cu_1 is far before mid-length of cell 1st M_2 ; R_s longer than R_3 ; R_{2+3} longer and more arcuated than in *frugi*; r on R_2 immediately beyond the fork of R_{2+3} ; R_1 beyond r a little longer than this cross-vein alone; cell 1st M_2 small, shorter than the petiole of cell M_1 ; cell M_1 a little shorter than its petiole; basal deflection of Cu_1 at about one-quarter the length of cell 1st M_2 .

Abdomen light brown.

Hab. Southern Rhodesia.

Holotype, ♂, Mt. Chirinda, Melsetter District, altitude 3800 feet, March 4, 1910 (*C. F. M. Swynnerton*).

Paratopotype, ♂, December 6, 1911.

Presented by the Entomological Research Committee, 1912. 117. 145.

Type in the collection of the British Museum (Natural History).

Pseudolimnophila senex, sp. n.

Male.—Length 9.5 mm.; wing 10 mm.; hind leg, femur 9.1 mm., tibia 9 mm.

Related to *P. frugi* (Bergroth) of South Africa, but very much larger, differing moreover as follows:—

Pleura more plumbeous; legs entirely pale brownish yellow, the tips of the femora not darkened; wings with a strong greyish suffusion. Venation: r considerably removed from the tip of R_1 , the latter being twice the length of r alone; vein R_2 running generally parallel to R_3 for its entire length so that cell 2nd R_1 is much wider at the wing-margin than cell R_2 ; deflection of R_{4+5} about equal to $r-m$; petiole of cell M_1 unusually short, less than one-half cell M_1 ; cell 1st M_2 longer than vein Cu_1 beyond it; basal deflection of Cu_1 at about one-fourth to one-fifth the length of cell 1st M_2 ; pleurites of the male hypopygium long and slender.

Hab. Uganda.

Holotype, ♂, Ankole-Toro Border, East of Lake George, altitude 4500 feet, October 20–21, 1911 (*S. A. Neave*).

Presented by the Imperial Bureau of Entomology, 1915. 57.

Type in the collection of the British Museum (Natural History).

Pseudolimnophila cinctifemur, sp. n.

Head pale yellowish grey; antennæ with the first flagellar segment light yellow; mesonotal præscutum brownish yellow with an oblique lateral brown stripe; pleura silvery-grey with two narrow, brown, longitudinal stripes; legs light yellow, the femora with a very narrow, dark brown subterminal ring; wings grey, spotted with pale brown; cell M_1 small; abdomen dark brown, the sternites more yellowish.

Female.—Length about 8·5 mm.; wing 7·3 mm.

Rostrum and palpi dark brown. Antennæ with the first segment brownish yellow, sparsely pollinose; second segment yellowish brown, the tips dark brown; first flagellar segment small, subglobular, light yellow; remaining flagellar segments dark brown, the distal segments considerably elongated. Head pale yellowish grey, the occiput paler.

Pronotum conspicuous, pale brownish yellow, the anterior margin concave. Mesonotal præscutum rather bright brownish yellow, with a capillary dark brown median line; cephalic and lateral margins of the sclerite narrowly dark brown, the latter near the wing-root sending a broad brown stripe obliquely cephalad towards the dorso-median line, the two enclosing between them a humeral yellowish area of a rectangular form with the pseudosutural foveæ at about mid-length; scutum brown, the scutal lobes darker brown; scutellum and postnotum pale brownish grey, the latter with an indistinct capillary brown median line. Pleura indistinctly pale grey-pruinose with two short, longitudinal, brown lines, one on the mesepisternum, the other near the dorsal limits of the mesosternum; dorso-pleural membrane likewise darkened; a silvery-grey area on the sides of the postnotum, in front of the halteres. Mesosternum pale. Halteres light yellow. Legs with the coxæ light yellow, the extreme tips a little darker; trochanters dull yellow; femora light yellow, a short distance (0·9–1·0 mm.) before the tips with a very narrow (0·3 mm.) dark brown ring; remainder of the legs light yellow, only the distal tarsal segments dark brown. Wings grey, spotted with pale brown along the veins; in the costal cell a few darker brown spots and dots, the more conspicuous at the arculus, tip of Sc_1 , and tip of R_1 ; the largest of the pale brown areas occur at the origin of R_s , at the stigma, along the cord and outer end of cell 1st M_2 and at the ends of the longitudinal veins; a

series of small brown dots along veins *Cu* and 2nd *A*; no dots along *Rs* except the large one at the origin; the general effect of the wing-pattern is of a rather abundant basal and apical clouding with a broad cross-band that is almost as wide as the length of the sector, practically destitute of dark markings, only the series along vein *Cu* being present. Venation: *Rs* angulated at origin; basal deflections of R_{4+5} and Cu_1 subequal; $r-m$ shorter than m ; cell 1st M_2 rectangular, longer than the basal deflection of Cu_1 which is inserted at about the middle of its length; cell M_1 very small, only about two-fifths the length of its petiole.

Abdominal tergites dark brown; sternites brownish yellow. Ovipositor with the valves long and slender.

Hab. Southern Nigeria.

Holotype, ♀, Akassa, May 5, 1910 (*J. J. Simpson*).

Presented by the Entomological Research Committee, 1910. 222.

Type in the collection of the British Museum (Natural History).

Pseudolimnophila varipes, sp. n.

Male.—Length about 6 mm.; wing 7.2 mm.

Close to *P. cinctifemur*, differing as follows:—

Scapal segments dark brown, the flagellar segments pale yellow. Head pale brownish grey with a faint brown median line, paler adjoining the margin of the eyes. Pronotum with a median brown line. Mesonotal præscutum darker-coloured, but with the arrangement of the pattern generally similar. Mesosternum dark brown. Halteres with the knobs dark brown. Legs with the coxæ greyish; trochanters brownish yellow; femora brown throughout; remainder of the legs abruptly light yellow, only the terminal tarsal segments a little darker. Wing-pattern much heavier, the pale grey spots along the veins very numerous and in almost all cases large and confluent across the cells; a series of about fifteen small brown dots in the costal cell; larger and darker spots at the ends of veins Sc_1 , R_1 , R_2 , and R_3 . Venation: *Rs* shorter; R_{2+3} longer, about equal to the petiole of cell M_1 ; cell 1st M_2 very small, subquadrate, the basal deflection of Cu_1 inserted just before the middle of its length; petiole of cell M_1 nearly equal to this cell. Abdominal segments dark brown.

Hab. Uganda.

Holotype, ♂, Entebbe, June 8, 1910 (*Dr. C. A. Wiggins*).

Presented by the Imperial Bureau of Entomology, 1914. 142.

Type in the collection of the British Museum (Natural History).

This beautiful *Pseudolimnophila* is even closer to *P. rhodesiæ* (Alexander) of Rhodesia than it is to *P. cinctifemur*; from the former it differs in the coloration of the mesonotum; the wing-pattern is much heavier, the spots along most of the veins being confluent with one another across the intervening cells; in the costal cell an almost regular series of about fifteen brown dots; the venational details are slightly different, especially in the length of the veins beyond cell 1st M_2 . The colour of the legs in *P. rhodesiæ* is unknown. These three species form a rather isolated group of the genus distinguished by the beautifully patterned wings and the very small cell 1st M_2 .

Tribe LIMNOPHILINI.

Genus LIMNOPHILA, Macquart.

Limnophila distigma, sp. n.

Head grey; mesonotal præscutum yellowish grey with four darker stripes; pleura with a narrow brown longitudinal stripe; mesosternum dark brown; wings pale grey, sparsely spotted with dark brown at the forks and ends of the veins; *r* at the tip of R_1 ; basal deflection of Cu_1 at mid-length of cell 1st M_2 .

Sex?—Wing 8.7 mm.

Rostrum and palpi dark brown. Antennæ with the basal segment yellow; remainder of the antennæ broken. Head grey; eyes large, the vertex between them narrow.

Pronotum pale grey; prosternum distinct, separating the fore coxæ, appearing as a narrow, dark-coloured plate. Mesonotal præscutum pale yellowish grey with four darker stripes, the long intermediate pair narrowly separated by an indistinct, capillary, pale line; lateral stripes less distinct; scutum and scutellum pale yellowish grey, the lobes of the former indistinctly marked with brown; postnotum clear light grey. Pleura obscure brownish yellow with a rather narrow, interrupted, dark brown stripe extending from the propleura across the mesepisternum, ending as a rounded spot on the mesepimeron; a spot on the mesepisternum, ventrad of the stripe; mesosternum dark brown. Halteres dull yellow, the knobs brown. Legs with the coxæ pale

yellow, the outer face of the fore coxæ a little darker; trochanters yellow; remainder of the legs dark brown, the femoral bases paler brown. Wings with a pale brownish-grey tinge, sparsely marked with small, rounded, brown spots, as follows: at arculus; at origin of *Rs*; at the fork of *Sc*; at the fork of R_{2+3} ; tip of R_1 , the two last spots forming a geminate mark at the region of the stigma; spots at the tips of veins R_2 , R_3 , 2nd *A*, and smaller spots at the ends of all the intermediate longitudinal veins; cord and outer end of cell 1st M_2 very narrowly seamed with brown; a rounded brown cloud at the fork of M_{1+2} ; veins dark brown. Venation: *Sc* moderately long, Sc_1 ending a short distance beyond the fork of *Rs*, Sc_2 nearly at the tip of Sc_1 and exactly opposite the fork of *Rs*; *Rs* long, strongly angulated at origin; R_{2+3} long, gently arcuated, longer than cell 1st M_2 ; *r* at the tip of R_1 and just before mid-length of R_2 ; inner ends of cells R_3 , R_5 , and 1st M_2 almost in alignment; cell M_1 deep, about two and one-half times the length of its petiole; cell 1st M_2 large, subrectangular; outer deflection of M_3 a little longer than *m*; basal deflection of Cu_1 at or just beyond mid-length of cell 1st M_2 . Macrotrichiæ on the veins numerous, black; on veins *R* and 2nd *A* extending to basad of arculus.

Abdominal segments dark brown, the apices broadly yellowish, broader and more evident on the sternites. The abdomen is broken before mid-length in all three specimens available.

Hab. British Central Africa.

Holotype, sex? (*Dr. C. W. Daniels*), no. 82.

Paratopotypes, 2 specimens of uncertain sex, one carded with the type.

Type in the collection of the British Museum (Natural History).

Limnophila diffusa, sp. n.

Head grey; mesonotal præscutum yellow with three dark brown stripes; wings greyish yellow with a very pale diffuse pattern; abdominal segments ringed with brown and yellow.

Female.—Length 8.6 mm.; wing 9 mm.

Rostrum yellowish; palpi brown. Antennæ with the elongate first scapal segment pale brown, the second obscure yellow; flagellum broken. Head grey, the region of the occiput more brownish yellow.

Pronotum pale greyish brown. Mesonotal præscutum

yellow with three dark brown stripes, the long median stripe broadest in front, barely attaining the suture; pseudo-sutural foveæ dark brown, conspicuous; no evident tuberculate pits; scutum with the lobes dark brown; median area of the scutum and the scutellum pale brownish yellow; postnotum greyish-pruinose. Pleura yellow. Halteres pale brown, the knobs broken. Legs with the coxæ and trochanters yellow; femora brownish yellow; remainder of the legs pale brown, the tips of the femora and tibiæ scarcely darkened. Wings with a greyish-yellow tinge; stigma oval, brown; very diffuse, extensive grey clouds at the origin of R_s , along the cord and outer end of cell 1st M_2 ; veins dark brown. Venation: Sc long, Sc_1 ending nearly opposite or slightly before mid-length of R_{2+3} ; Sc_2 at the tip of Sc_1 ; r at the tip of R_1 and on R_2 a little before mid-length of the vein; R_s long, gently arcuated at origin; R_{2+3} shorter than cell 1st M_2 ; basal deflection of R_{4+5} and $r-m$ subequal; petiole of cell M_1 a little more than one-third the length of the cell; basal deflection of Cu_1 at or beyond mid-length of cell 1st M_2 .

Abdominal tergites dark brown, paler basally, distinctly ringed caudally with yellow to give the tergites an annulated appearance; sternites more uniformly yellowish. Ovipositor with the tergal valves long and slender, gently upcurved.

Hab. British East Africa.

Holotype, ♀, Kericho, altitude 5500 feet, November 1, 1912 (*R. B. Woosnam*). B.M. no. 1914. 2.

Paratopotypes, 2 ♀, one pinned on the same pin as the type-specimen of *Erioptera subirrorata*.

Type in the collection of the British Museum (Natural History).

Limnophila diffusa is generally similar to *L. distigma*, but is readily told by the wing-pattern and slightly different venation, especially the longer R_2 which is bent at about mid-length toward the wing-apex, so that cell 2nd R_1 is nearly three times as wide at the wing-margin as is cell R_2 ; R_{2+3} is much shorter and less arcuated.

Limnophila abyssinica, sp. n.

General coloration shiny black; legs black, the femoral bases yellow; wings yellowish, the veins heavily seamed with brown; abdomen black, the hypopygium reddish.

Male.—Length about 8 mm.; wing 8 mm.

Rostrum and palpi black. Antennæ with the scape black, the first segment very long, cylindrical; flagellum broken.

Head very broad, black, with a sparse brown pollen; vertex with numerous, mostly proclinate bristles; vertex between the small eyes very broad.

Pronotum moderately conspicuous, dark brown; scutum transversely rectangular; prosternum moderately broad, separating the fore coxæ. Mesonotum shiny black throughout. Pleura similar with a sparse brownish pollen. Halteres brown, the base of the stem paler brown, the knobs dark brownish black. Legs with the coxæ very large, black; trochanters reddish brown; legs black, the bases of the femora rather bright yellow, this narrowest on the fore legs where it occupies a little more than the basal quarter, broadest on the hind legs where about a third of the femur is included; femora rather stout. Wings yellowish subhyaline with a rather heavy brown pattern, distributed as follows: at *h*; in the basal cells extending from *C* to vein 1st *A*, lying a short distance beyond the arculus; an interrupted cross-band at the level of the origin of *Rs*, consisting of a large rounded spot at the latter position and a still larger, hour-glass shaped mark extending from cell *M* to the wing-margin at the end of vein 2nd *A*, narrowest at vein 1st *A*, this band interrupted on both sides of vein *M* in cells *R* and *M*; the third area consists of a similarly interrupted band at the cord, broadest at the costal margin, narrowed behind to the fork of *M*, continued behind this as a broad seam on the basal deflection of *Cu*₁, which forks, sending a branch to both 1st *A* and *Cu*₂ at the wing-margin; outer end of cell 1st *M*₂ seamed with brown; a small spot at the fork of *M*₁₊₂; conspicuous rounded brown clouds at the ends of all the longitudinal veins, those at the wing-tip being confluent across cells *R*₂ to *M*₁; a large rounded spot at the middle of cell 2nd *A*; veins yellow, dark brown in the darkened areas. Venation: *Sc* ending immediately before the fork of *Rs*, *Sc*₂ at the tip of *Sc*₁; *Rs* long, straight, forming an acute angle at its origin; *R*₂₊₃ short, about equal to *r-m*; *r* near the tip of *R*₁ and at about mid-length of the long *R*₂; basal deflection of *R*₄₊₅ about one-half longer than *r-m*; inner ends of cells *R*₃ and *R*₅ almost in alignment or the latter a little more distad; cell 1st *M*₂ rectangular, the basal deflection of *Cu*₁ at about three-fifths its length; cell 1st *M*₂ a little longer than its petiole; forks of vein *Cu* about equal; 2nd *Anal* vein sinuous.

Abdomen shiny black, the ninth pleurites and appendages conspicuously reddish; pleural appendages slender, gently curved, decussate.

Hab. Abyssinia.

Holotype, ♂, Higo Samula, October 30, 1911 (*R. J. Stordy*). B.M. no. 1912. 329.

Type in the collection of the British Museum (Natural History).

Limnophila unijuga, sp. n.

Head light grey; mesonotum light brownish yellow; a capillary dark brown dorso-median line extending from the head to the base of the abdomen; femora dark brown with an indistinct yellowish ring before the tips; wings light yellow with a narrow, dark brown cross-band at the cord and small brown spots at the ends of all the veins; R_{2+3} short, cell M_1 present.

Male.—Length 9 mm.; wing 10 mm.; hind leg, femur 7.2 mm., tibia 8 mm.

Female.—Length 11.5 mm.; wing 11.4 mm.

Rostrum and palpi dark brown. Antennæ with the first segment elongate, black; second scapal and first five flagellar segments bicolorous, the basal half dull yellow, the apical half dark brown; distal flagellar segments elongate, dark brown; basal flagellar segments narrowed basally, more enlarged distally. Head light grey with a conspicuous, capillary, black median line that is split and enlarged at its anterior end between the eyes; remainder of the vertex with scattered dark brown setigerous punctures; head somewhat narrowed behind, but not so accentuated as in *Pseudolimnophila*.

Pronotum light fawn-coloured, dark brown medially; prosternum between the large fore coxæ narrow. Mesonotal præscutum light brownish yellow with a capillary dark brown median line; tuberculate pits retreated rather far back to beyond mid-length of the distance to the pseudo-sutural foveæ, one on either side of the capillary median line above described; remainder of the mesonotum pale greyish yellow, the median line becoming much broader and darkening into black. Pleura dull yellow, the mesopleura indistinctly greyish-pruinose. Halteres dull yellow, the knobs dark brown. Legs with the coxæ and trochanters dull yellowish; femora dark brown, the bases narrowly paler; an indistinct obscure yellowish ring before the nearly subequal dark brown tips; tibiæ and tarsi dark brown. Wings with a strong yellowish tinge, sparsely marked with dark brown spots and seams, the most conspicuous being a dark seam along the cord; these marks are as follows: at the origin of R_s ; a narrow brown seam along the cord and outer end of cell 1st M_2 , in the female the

former band continues entirely across the wing; small brown dots at the ends of all the longitudinal veins, at r , at the fork of M_{1+2} , and at two-thirds the length of vein 1st A ; veins pale brown, darker in the brown areas. Venation: Sc ending about opposite the fork of Rs , Sc_2 at the tip of Sc_1 ; Rs moderately elongated, the base with a short angulation; R_{2+3} very short, about equal to r or a little longer; r at the tip of R_1 , a little before mid-length of R_2 ; inner ends of cells R_3 , R_5 , and 1st M_2 in alignment; cell 1st M_2 short and almost square in the allotype, more rectangular in the type, the basal deflection of Cu_1 at about mid-length; cell M_1 a little longer (male) or shorter (female) than its petiole.

Abdomen dull yellow, the outer tergites indistinctly darker caudally; pleurites of the hypopygium not greatly elongated. Terminal segments of the abdomen in the female abruptly smaller than the others, subtelesopic; valves of the ovipositor slender, the tergal valves a little upcurved at their tips.

Hab. British East Africa, Nyasaland.

Holotype, ♂, North slope of Kenya on the Embu-Meru Road, British East Africa, altitude 4500–5000 feet, February 13–14, 1911 (*S. A. Neave*). B.M. no. 1912. 70.

Allotype, ♀, Mt. Mlanje, Nyasaland, altitude 6500 feet, November 11, 1913 (*S. A. Neave*). B.M. no. 1914. 498.

Type in the collection of the British Museum (Natural History).

Limnophila difficilis, sp. n.

Antennæ elongate; head light grey; general coloration yellow, the mesonotal præscutum and scutum marked with dark brown; wings subhyaline, stigma indistinct; Sc_1 long, r some distance from the tip of R_1 , cell M_1 lacking, cell 1st M_2 open by the atrophy of the outer deflection of M_3 .

Female.—Length about 6.5 mm.; wing 7.6 mm.

Rostrum and palpi pale brown. Antennæ moderately elongated, the scapal segments obscure yellow, the flagellum pale brown; the apical segments of the flagellum are broken so that it is impossible to tell the exact length of the organ, but from the unusually elongate structure of the flagellar segments it is evident that the antennæ are of a distinctly elongate type; verticils numerous, scattered along the segment, the longest about equal to the segments that bear them. Head light grey with yellowish setæ.

Pronotum conspicuous, pale yellow. Mesonotal præscutum obscure yellow with four dark brown stripes, the

intermediate pair ending before the suture, very narrowly and indistinctly separated from one another by a pale capillary line; pseudosutural foveæ large, pale; no tuberculate pits; scutum obscure yellowish, each lobe with two confluent dark brown spots, the more lateral being continuations of the lateral præscutal stripes; scutellum and postnotum yellow. Pleura pale yellow. Halteres with the stem yellow, brightest basally, the knobs dark brown. Legs with the coxæ and trochanters yellow; remainder of the legs broken. Wings pale greyish subhyaline, the stigma very indistinct and ill-defined; veins dark brown. Venation: Sc_1 ending opposite the fork of R_s ; Sc_2 some distance from the tip of Sc_1 , the latter vein alone being a little longer than R_{2+3} ; R_s rather long, gently arcuated; R_{2+3} almost in alignment with R_s , rather short, a little longer than the deflection of R_{4+5} ; r on R_2 about, or less than, its own length beyond the fork of R_{2+3} ; R_1 beyond r , about equal to Sc_1 alone; basal deflection of R_{4+5} and $r-m$ in oblique alignment; cell M_1 lacking; cell 1st M_2 open by the atrophy of the outer deflection of M_3 ; cell 2nd M_2 a little more than twice its petiole; basal deflection of Cu_1 beyond the fork of M , the fusion of Cu_1 and M_3 being about two-thirds the length of the basal deflection of Cu_1 .

Abdomen light reddish brown; tips of the terebra broken in the unique type.

Hab. Nyasaland.

Holotype, ♀, Blantyre, 1914 (*Dr. J. B. Davey*).

Presented by the Imperial Bureau of Entomology, 1915.
128.

Type in the collection of the British Museum (Natural History).

The legs are lacking in the unique type, and it becomes a rather difficult matter to place this fly generically. However, there seems no doubt in my mind but that the above reference is the correct one.

Limnophila malagasya, sp. n.

Antennæ small, the flagellum yellowish; general coloration dark brown; halteres yellow; legs yellow, the tips of the femora broadly, of the tibiæ narrowly, dark brown; legs with an abundant outspreading pubescence; wings whitish subhyaline with a heavy brown pattern that is irregularly cross-banded, darkest in the costal cells, paler in the caudal cells; interspaces without dark markings.

Female.—Length 19 mm.; wing 18 mm.

Rostrum and palpi dark brown. Antennæ short ; scapal segments dark brown ; flagellar segments small and thin, pale brownish yellow ; verticils long. Head dark brown.

Pronotum and mesonotum dark brown, the præscutum with four narrow, dark brown stripes, the intermediate pair separated from one another by a pale grey line. Pleura dark brown, discoloured in the unique type. Halteres light yellow, the knobs scarcely darker. Legs with the coxæ obscure yellow, the bases indistinctly infuscated, especially the fore and middle coxæ ; trochanters pale brownish yellow ; femora yellow, the tips broadly dark brown ; tibiæ similar, the tips narrowly dark brown ; first two tarsal segments yellow, the tips very narrowly brown ; remaining tarsal segments brown ; legs moderately long and stout, the segments clothed with an abundant, delicate, nearly erect pubescence. Wings whitish subhyaline with a heavy brown pattern, the wing-base indistinctly yellowish ; the dark markings are arranged as follows : a series of about twelve to fifteen spots and blotches in the costal and subcostal cells ; the major wing-pattern appears as about four ill-defined cross-bands, those before the cord paler and confluent in cells *Cu* and 1st *A* ; the band at the cord is broadest and darker brown, extending from before the end of *Sc*₁ to beyond the end of *R*₁, including the bases of cells *R*₂ and *R*₃ ; in the vicinity of cell 1st *M*₂ the band is pale brown with nearly hyaline areas near the veins ; this third band completely traverses the wing, ending at the tips of veins *Cu*₂ and 1st *A* as very pale blotches ; this band is connected in cell *M* with the paler second band which occupies the level of the origin of *Rs* ; the fourth band occupies the wing-apex, appearing as two dark areas at the ends of veins *R*₂ and *R*₃, paler in the other cells, including about the outer half of cells *R*₃ and *R*₅, all of *M*₁, the outer three-quarters of 2nd *M*₂ and the tips of *M*₃ and *Cu*₁ ; a white spot near the end of cell *R*₂ separating the brown blotches at the ends of veins *R*₂ and *R*₃ ; series of a few pale brown spots along the wing-margin in cells 1st *A* and 2nd *A*, along the anal veins on their outer ends and near the base of cell *Cu* ; the white interspaces are free from brown dots ; veins dull yellow, brown in the darkened areas. Venation : *Sc* long, *Sc*₁ ending about opposite mid-length of *R*₂₊₃, *Sc*₂ at the tip of *Sc*₁ ; *Rs* long ; *R*₂₊₃ rather shorter than cell 1st *M*₂ ; *r* on *R*₁ about twice its length before the tip, and on *R*₂ about twice its length beyond the fork of *R*₂₊₃ ; inner ends of cells *R*₃, *R*₅, and 1st *M*₂ almost in alignment ; cell *M*₁ deep, nearly twice as long as its petiole ;

cell 1st M_2 moderately small, m less than one-half the outer deflection of M_3 ; basal deflection of Cu_1 at from two-thirds to three-quarters the length of cell 1st M_2 ; 2nd *Anal* vein sinuous.

Abdomen dark brown. Ovipositor with the valves long and slender, the tergal valves gently upcurved before the acute tips; sternal valves straight and very slender, acicular.

Hab. Madagascar.

Holotype, ♀, collected by M. D. Cowan. B.M. no. 80.45.

Type in the collection of the British Museum (Natural History).

Tribe HEXATOMINI.

Genus ERIOCERA, Macquart.

Eriocera leonensis, sp. n.

Antennæ short in both sexes; head orange; mesonotum brown, the præscutum with broad, shiny black stripes; legs black, the bases of the femora obscure yellowish; wings dark brownish black, cell M_1 lacking; abdomen dark brown, the basal two segments orange.

Male.—Length about 12.5 mm.; wing 13.6 mm.

Mouth-parts very small, dark brown. Antennæ short in both sexes, dark brown, the segments with numerous, long, scattered verticils. Head orange-red; vertical tubercle low, distinctly bifid by a shallow V-shaped notch.

Mesonotum light brown, the præscutum with three broad, shiny black stripes that almost obliterate the ground-colour; scutum light brown, the lateral and anterior parts of the lobes black; scutellum and postnotum light brownish yellow. Pleura dark brownish black; sides of the mesosternum paler. Halteres black, the extreme base paler. Legs with the coxæ black, the outer faces of the middle and hind coxæ marked with brown; trochanters dark brown, the inner faces obscure yellow; remainder of the legs black, only the basal fourth of the fore femora obscure yellow; middle and hind legs broken. Wings with a strong, almost uniform, brownish-black suffusion, a little paler in the caudal cells; veins dark brown. Venation: *Sc* ending just beyond the fork of *Rs*, Sc_2 a little removed from the tip of Sc_1 , the latter vein alone about equal to $r-m$; r some distance from the tip

of R_1 , this tip about equal to R_{2+3} ; r on R_2 about, or a little more than, its own length beyond the fork of R_{2+3} ; inner end of cell 1st M_2 broader than the outer end, the basal deflection of M_{1+2} long, indistinctly spurred; cell 1st M_2 about equal to vein M_3 beyond it; cell M_1 lacking; basal deflection of Cu_1 at the fork of M or some distance beyond (one-third the length of cell 1st M_2 in cases); forks of Cu very divergent, almost forming a straight angle, Cu_2 a very little shorter than the deflection of Cu_1 . Of the type-specimen but a single wing remains, but of the paratype both wings are preserved.

Abdomen with the basal two segments orange, the remaining segments passing into dark brown.

Hab. Sierra Leone.

Holotype, ♂, Baiima, August 10, 1912 (*J. J. Simpson*).

Paratype, sex?, Makump, September 19, 1912 (*J. J. Simpson*).

Presented by the Entomological Research Committee, 1913. 394.

Type in the collection of the British Museum (Natural History).

Eriocera leonensis is closely related to *E. obscura* (Bigot) of Madagascar, but the details of coloration are different.

Eriocera pusilla, sp. n.

Size very small (length under 6 mm.); general coloration dark brownish black; antennæ of the male greatly elongated; vertex of the male with a conspicuous globular crest; wings with cell R_2 small, cell M_1 lacking, cell 1st M_2 closed; ovipositor with fleshy valves.

Male.—Length 5.4 mm.; wing about 7 mm.

Female.—Length 5 mm.; wing about 5.7–6 mm.

Rostrum and palpi dark brown. Antennæ of the male greatly elongated; when entire probably at least twice the length of the body; in the unique male, there are but three flagellar segments remaining; the first scapal segment is pale brown, obscure yellowish beneath; second segment very small, dark brownish black; first flagellar segment with a dense, pale, erect pubescence and a single spine near three-fourths the length; second flagellar segment with widely separated spines arranged in two rows, the more distal of these more or less definitely in pairs; antennæ of female short. Head dark brownish black, the vertex of the

male immediately behind the antennal bases with a very large globular crest.

Thorax dark brownish black throughout; in the female, the scutellum grey-pruinose. Halteres dark brown. Legs with the coxæ and trochanters brownish black; remainder of the legs dark brown. Wings subhyaline; stigma brown; veins dark brown. Venation: *Rs* long, gently arcuated; R_{2+3} long, almost straight; *r* on R_{2+3} a variable distance before the fork, from about one-half to about twice its own length; cell R_2 small; cell M_1 lacking; cell 1st M_2 closed; basal deflection of Cu_1 at, or a short distance beyond, the fork of M .

Abdomen dark brownish black. Ovipositor with the valves blunt and fleshy as in *E. longicornis* Walker (eastern North America).

Hab. Northern Nigeria, Nyasaland.

Holotype, ♂, Zungeru, N. Nigeria, November 1910 (*Dr. J. W. Scott-Macfie*). B.M. no. 1911. 417.

Allotopotype, ♀, October 27, 1910. B.M. no. 1912. 119.

Paratype, ♀, Mlanje, Nyasaland, April 5, 1913 (*S. A. Neave*). B.M. no. 1913. 140.

Type in the collection of the British Museum (Natural History).

Eriocera pusilla is the smallest species of the genus known to the writer. No decisive differences are apparent between the specimens from Nigeria and that from Nyasaland.

Eriocera nyasicola, sp. n.

Antennæ of the male elongated; head obscure reddish; general coloration shiny black; legs black; wings pale brown, the costal margin dark brown; veins seamed with brown, cell M_1 lacking.

Male.—Length about 11 mm.; wing 13.6 mm.; antenna about 33 mm.

Female.—Length 15.8 mm.; wing 14.4 mm.

Rostrum and palpi dark brown, the basal segments of the latter lighter-coloured in the female. Antennæ of the male very long, approximately three times the length of the body, the third flagellar segment (8.5 mm.) equal to the combined thorax and abdomen; antennæ with the scapal segments deep wine-brown; flagellum black, the flagellar segments provided with rows of slender bristle-like spines that become even more slender, hair-like, on the last segment; these

spines are approximately equidistant from one another on all the segments; flagellar segments increasing in length from the first to the fourth; in the female, the scapal segments are orange; flagellum broken. Head orange, darker in the male; both sexes are provided with a large globular crest, larger and more erect in the male, more proclinate but entire in the female.

Thorax deep shiny black, very sparsely brownish-pollinose. Pleura similar, sparsely pruinose. Halteres black, the base of the stem paler. Legs with the coxæ black, sparsely grey-pruinose; trochanters brownish black; remainder of the legs black. Wings with a pale brownish tinge, the costal and subcostal cells dark brown; stigma rather small, dark brown; all the veins conspicuously seamed with brown; veins dark brown. Venation: r on R_2 about its own length or a little less beyond the fork of R_{2+3} ; inner ends of cells R_5 and 1st M_2 in alignment; a spur at the bend of the basal deflection of M_{1+2} ; cell M_1 lacking; cell 1st M_2 small, a little shorter than Cu_1 beyond it.

Abdomen shiny black, the basal segments brownish black. Genital segment and ovipositor horn-coloured, the valves of the latter elongate, the tergal valves slightly upcurved, acute.

Hab. Nyasaland.

Holotype, ♂, Mlanje, January 28, 1913 (*S. A. Neave*).

Allotopotype, ♀, January, February 1914 (*Dr. J. B. Davey*).

Paratopotype, ♂, with the type.

Presented by the Entomological Research Committee, 1913. 236.

Type in the collection of the British Museum (Natural History).

Eriocera tumidiscapa, sp. n.

Antennæ of the male exceedingly elongate; general coloration grey, the mesonotal præscutum with four brown stripes; femora yellowish, narrowly tipped with brown; wings subhyaline, the costal cell pale brown, cell M_1 lacking.

Male.—Length 10–12·4 mm.; wing 14–15·8 mm.; antenna 50–52 mm.

Generally similar to *E. nyasicola*, differing as follows:—

Larger; antennæ longer, in the male more than four times the length of the body; basal segment of the scape more tumid; vertical crest of the male still larger and more

globose. General coloration of the thorax grey, the præscutum with four brown stripes; thorax with a dense, erect, pale pubescence. Pleura dull grey. Legs with the femora dull yellow, the tips brown; tibiæ yellowish brown, the tips narrowly darker brown; tarsi dark brown. Wings paler than in *E. nyasicola*, the costal cell much paler brown; veins not, or indistinctly, seamed with brown. Abdomen yellowish brown, the segments narrowly margined with black. Male hypopygium small; pleurites slender, curved; appendages small.

Hab. Sierra Leone, Nyasaland.

Holotype, ♂, Sierra Leone (*W. G. Clements*). B.M. no. 93. 20.

Paratype, ♂, Mlanje, Nyasaland, January 2, 1913 (*S. A. Neave*).

Presented by the Entomological Research Committee, 1913. 236.

Type in the collection of the British Museum (Natural History).

XL.—*Notes on Myriapoda*.—XXIV. *Preliminary Note on a Millipede new to Science*. By the Rev. S. GRAHAM BRADE-BIRKS, M.Sc. (Manchester), Lecturer in Zoology and Geology, S.E. Agricultural College, Wye, Kent.

MR. H. C. CHAPELOW, Lecturer in Horticulture at Wye College, recently drew my attention to a plot of selected white czar runner-beans on Wye Field infested with millipedes.

Among the species present I took a pale form, which I have submitted to Monsieur Henry W. Brölemann, and he has been kind enough to assure me that my animal is new to science and to give me some account of its systematic position.

In the light of this information I submit the following brief preliminary description:—

Proteroiulus pallidus, sp. n.

Nearly allied to *Amsteinia fusca* (Am Stein), and in general appearance similar to *Typhloblaniulus guttulatus* (Bosc).



Alexander, Charles P. 1920. "XXXIX.—Undescribed species of African crane-flies in the collection of the British Museum (Natural History): Tipulidæ, Diptera.—Part I. subfamily Limnobiinæ." *The Annals and magazine of natural history; zoology, botany, and geology* 6, 336–364.
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