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Charles P. Alexander Ph.D.

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"..... per litora spargite muscum,
 Naiades, et circum vitreos considite fontes:
 Pollice virgineo teneros hic carpite flores:
 Floribus et pictum, divæ, replete canistrum.
 At vos, o Nymphæ Craterides, ite sub undas;
 Ite, recurvato variata corallia trunco
 Vellite muscosis e rupibus, et mihi conchas
 Ferte, Deæ pelagi, et pingui conchyliis succo."
N. Parthenii Giannettasi, Col. 1.

No. 31. JULY 1920.

I.—*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.

For several years past the writer has been engaged in the preparation of a monographic revision of the Tipuloidean flies of the Ethiopian Region. During the progress of this study the collections of many of the Museums in America, South Africa, and Europe were kindly sent me for study by the authorities in charge. The largest and most important collections of tropical African crane-flies are those contained in the British Museum of Natural History, and it is with the deepest appreciation and thanks that the writer acknowledges the kind assistance of Mr. F. W. Edwards in securing the loan of these unrivalled collections. The species herein diagnosed as new will be keyed, and many of them figured, in the forthcoming revision mentioned above.

Ann. & Mag. N. Hist. Ser. 9. Vol. vi. 1

Family Tipulidæ.

Subfamily LIMNOBIINÆ.

Tribe LIMNOBIINI.

Genus DICRANOMYIA, Stephens.

Dicranomyia scutellum-nigrum, sp. n.

Head dark ; mesonotal præscutum and postnotum yellowish, the scutal lobes and scutellum black ; pleura yellow with a transverse dark brown stripe on the mesepisternum ; wings long and narrow, yellow, with about four dark brown cross-bands, the second at the level of the sector, the third at the cord, the last at the wing-tip ; *Sc* long, cell 1st *M*₂ closed.

Female.—Length about 8.5 mm. ; wing about 9 mm. ; middle leg, femur, 8.5 mm. ; tibia, 8.9 mm.

Rostrum and palpi brownish yellow, the latter a little the darker, short. Antennæ with the scapal segments obscure yellowish, the second segment dark brown at the tip ; flagellum rather elongate, dark brown, each segment with a very long, second verticil. Head dark brown.

Mesonotal præscutum shiny yellowish red without darker markings ; scutal lobes brownish black, the median area and base of the scutellum obscure yellow ; remainder of the scutellum blackish ; postnotum yellowish. Pleura shiny yellowish with a single, rather narrow, transverse, dark brown stripe on the mesepisternum, continued ventrad on to the dorsal margin of the mesosternum, this line extending from the concolorous scutal lobes, passing immediately before the wing-root. Halteres yellow, the knobs dark brown. Legs with the coxæ and trochanters yellow ; femora brown, pale at the base, passing into dark brown at the apex ; tibiæ brown, the tips dark brown ; tarsi dark brown ; legs relatively long and slender ; claws broken. Wings long and relatively narrow, light yellowish, with about four brown cross-bands ; these markings are dark brown in the costal region but fade into grey in the anal cells ; these bands are distributed as follows : the first band lies just beyond the yellowish wing-base and completely traverses the wing, occupying the middle third of cell 2nd *A* ; the second band occupies the level of the origin of *Rs*, appearing as a large, dark brown area at this origin, continued caudad across the wing as a much paler, grey cloud ; the third band occupies the cord and completely traverses the wing, paler in the caudal cells ; a large rounded brown spot at the tip of *R*₁ ;

wing-tip extensively darkened, this including the outer halves of cells 2nd R_1 , R_3 , R_5 , all of 2nd M_2 and M_3 , and the apices of Cu_1 and Cu ; the outer end of cell 1st M_2 is seamed with brown, confluent with the dark wing-apex. Venation: Sc long, Sc_1 ending opposite the fork of Rs , Sc_2 at the tip of Sc_1 ; Rs long, strongly arcuated at origin; r at the tip of R_1 ; basal deflection of R_{4+5} less than twice the length of r ; cell 1st M_2 closed, large, longer than the veins beyond it; the remainder of the wing-tip is injured and cannot be described.

Abdominal tergites reddish yellow, the bases of the segments more or less blackish, this most distinct on tergites six and seven where it occupies about the basal half of the segment; on the basal and intermediate segments these marks are much paler; sternites similar, the black markings on segments six and seven distinct. Ovipositor with the valves chitinized, but relatively short and stout; sternal valves black at the base on either side of the median line, the tips acute; the weak and rather slender tergal valves are bent upward at about mid-length.

Hab. Southern Nigeria.

Holotype, ♀, Ilesha, September 18, 1910, caught in house, 1 p.m. (*Capt. L. E. H. Humfrey*).

Presented by the Entomological Research Committee, 1911-422.

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

Dicranomyia woosnami, sp. n.

General coloration light yellow; antennæ yellow; tips of the femora and tibiæ narrowly darkened, claws simple; wings hyaline, with sparse, small, brown spots; abdominal tergites marked with brown triangular cross-bands; ovipositor with the tergal valves very small, strongly curved.

Female.—Length about 6 mm.; wing 6.8 mm.

Rostrum and palpi dark brown. Antennæ with the first scapal segment dark brown, remainder of the antennæ light yellow, the terminal three segments very slightly darkened; flagellar segments long-oval with rather long, black verticils. Head dark brown, the vertex narrow.

Mesothorax clear shiny yellow without dark markings; metanotum dark brown. Halteres pale, the knobs a little darker than the stem. Legs with the coxæ and trochanters pale yellow; femora yellow, the tips narrowly dark brownish black; tibiæ brownish yellow, the tips very narrowly dark

brown; tarsi brown; claws slender, untoothed. Wings hyaline, iridescent, with small brown spots arranged as follows: at the origin of R_s ; fork of Sc ; tip of R_1 and on r ; very narrow and indistinct seams along the cord and outer end of cell 1st M_2 and a conspicuous spot at the end of vein 2nd A ; veins slender, dark brown. Venation: Sc rather short, Sc_1 ending a short distance beyond the origin of R_s ; Sc_2 at the tip of Sc_1 ; R_s strongly angulated and spurred at origin; r at the tip of R_1 ; basal deflection of R_{4+5} about equal to the basal deflection of M_{1+2} ; cell 1st M_2 large, rectangular, about as long as vein M_{1+2} beyond it; m a little shorter than the outer deflection of M_3 ; basal deflection of Cu_1 at or just beyond the fork of M .

Abdomen pale brownish yellow, the tergites with a broad-triangular brown band at the caudal margin of segments one to six, smallest on the sixth segment. Ovipositor with the tergal valves very tiny, slender, strongly upcurved, the tips acute; sternal valves brown, the bases blackened, very long and powerful, gently upcurved, the tips broad, obliquely truncated, and minutely angulated.

Hab. British East Africa.

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

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

The species is dedicated to the collector, Mr. R. B. Woosnam.

Genus LIMNOBIA, Meigen.

Limnobia trichoptera, sp. n.

Head black; antennæ black, the verticils unusually long; pronotum and mesonotum with a broad, median, black stripe; præscutum with brown lateral stripes; femora with one or two yellow rings before the tip; wings pale brown with darker costal markings and numerous small, pale yellowish, subhyaline areas in all the cells; distal cells of the wings with numerous macrotrichia; r at the tip of R_1 , basal deflection of Cu_1 before the fork of M .

Male.—Length 7.5 mm.; wing 9.5 mm.

Female.—Length about 7.5 mm.; wing 9.8–10 mm.

Rostrum and palpi dark brownish black. Antennæ black, the flagellar segments elongate, attenuate, with very long delicate verticils. Head deep velvety black.

Pronotum velvety black. Mesonotal præscutum light

yellow with a broad, black, median stripe which splits behind into two divergent arms enclosing a yellowish triangular area between them, this lying immediately before the suture; lateral stripes broad, dark brown; scutum with the lobes brown: scutellum obscure yellowish; postnotum pale yellowish brown, the sides darker. Pleura pale brownish yellow with indications of darker brown clouds on the me-episterna. Halteres moderately long and slender, dark brown, the extreme base paler. Legs with the coxæ pale brownish yellow; trochanters dull yellow; in the male allotype the femora are brown with a single yellow ring before the broad brown apex, a narrow yellow median area being barely indicated; in the females, however, the femora are pale brown, more yellow on the outer half, with a narrow blackish postmedial ring and a slightly narrower and paler subapical ring, the tip broadly yellow; tibiæ black, the extreme bases a little paler; tarsi black. Wings pale brown with darker brown marks along the costal region, the first at the arculus, the third at the origin of R_s , the fourth at the tip of Sc_1 ; stigma rectangular, dark brown; cord and outer end of cell 1st M_2 narrowly seamed with brown; remainder of the wing-surface variegated with yellowish spots and blotches, these occurring in all the cells, the more conspicuous being as follows: before and beyond the stigma; before the wing-tip in cells 2nd R_1 and R_3 before the cord, in cell 1st M_2 , in the bases and before the tips of cells 2nd M_2 and M_3 , in cell Cu before the basal deflection of Cu_1 , near the end of Cu , 1st A , and 2nd A ; veins dark brown; apical cells of the wing with macrotrichia, these including the stigma, cell 2nd R_1 , the outer half of R_3 and R_5 , all but the base of 2nd M_2 , M_3 , and the extreme tip of Cu_1 . Venation: Sc long, ending about opposite mid-length of R_s , Sc_2 at the extreme tip of Sc_1 and more than twice its length; R_s strongly angulated at origin; r at the tip of R_1 ; veins R_{2+3} and R_{4+5} running parallel to one another, so cell 2nd R_1 is very wide at the wing-margin; cell 1st M_2 closed, about as long as vein Cu_1 beyond it; basal deflection of Cu_1 before the fork of M , this distance longer than $r-m$.

Abdomen short in both sexes; tergites pale brown, the sternites yellowish; a blackish spot at the posterior lateral angles of the sternites. Male hypopygium with the pleurites rather small, on the proximal face with a large fleshy appendage, which is provided with long coarse hairs; pleural appendages small. Gonapophyses appearing as flattened plates, each terminating in an acute blackened point that is directed caudad and slightly laterad. Ovipositor with the

valves slender but weak, the tergal valves gently upcurved, the sternal valves blackened beneath at the base.

Hab. Rhodesia, Uganda.

Holotype, ♀, Mt. Chirinda, Melsetter District, Southern Rhodesia, altitude 3500 feet, June 11, 1911 (*C. F. M. Swynnerton*), collector's no. 3625.

Allotype, ♂, Mt. Kokanjero, S.W. of Elgon, Uganda, altitude 6400 feet, August 9, 1911 (*S. A. Neave*). B.M. no. 1913. 140.

Paratopotype, ♀.

Presented by the Entomological Research Committee, 1912. 145.

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

Limnobia rhanteria, sp. n.

Head dark grey with a median brown line; antennæ dark brownish black, the tips of the individual segments paler; mesonotal præscutum pale brown with four indistinct, darker brown stripes; thoracic pleura with a broad dark stripe, with a silvery stripe ventrad of it; femora with the tips yellow, with a subapical brown ring in this yellow portion; wings pale yellow, dotted and sprinkled with pale brown in all the cells; stigma with yellow centre; abdominal tergites brown, the sternites brownish yellow.

Male.—Length about 5·5–6 mm.; wing 9·5–10·4 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black, the flagellar segments indistinctly tipped with paler; the elongate first scapal segment is dusted with grey; flagellar segments oval, narrowed at the ends. Head dark grey with a median black stripe.

Pronotum pale brown, rather prominent. Mesonotal præscutum pale brown with four indistinct darker brown stripes, the median pair divided by a very indistinct, capillary median line; scutal lobes dark brown, the remainder of the scutum pale brownish yellow; scutellum pale brown, a little darker laterally, continued caudad from the dark scutal lobes; postnotum dark brown. Pleura pale brown with a darker chestnut-brown stripe extending from the fore coxæ to the base of the halteres, the mesosternum likewise dark brown, the space between these dark marks silvery pruinose. Halteres long and slender, dark brown, the base of the stem abruptly light yellow. Legs long and slender with the coxæ and trochanters reddish yellow; femora with the basal quarter pale, thence passing into dark brown, the tip broadly

yellow, enclosing a brown subapical annulus, this being a little broader than the actual yellow tip; tibiae and tarsi dark brown. Wings pale yellow, cells *C*, *Sc*, and 1st *R*₁ brighter yellow; wing-surface marbled and sprinkled with pale brown spots and clouds; stigmal area enclosing a pale yellow spot immediately before *r*; the marks at the origin of *Rs* and along the cord are somewhat darker brown, the middle half of *Rs* being yellow, the ends surrounded by these brown seams; 2nd *Anal* cell largely occupied by a brown cloud; compared with the somewhat similar *L. sokotrana*, the markings are fewer in number and more confluent. Venation: *Sc* moderately long, *Sc*₁ ending a short distance before the fork of *Rs*, *Sc*₂ at the tip of *Sc*₁; *r* at the tip of *R*₁; basal deflection of *Cu*₁ at or a short distance before the fork of *M*.

Abdominal tergites brownish, the sternites brownish yellow; hypopygium pale brown.

Hab. Uganda, British East Africa.

Holotype, ♂, Hill Bembadalada, May 26, 1911 (*Dr. C. H. Marshall*).

Paratype, ♂, Fort Hall, British East Africa, May 1, 1912 (*W. C. Prichard*).

Presented by the Entomological Research Committee, 1912. 109, 1913. 394.

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

The paratype male is much less distinctly marked than the type above described, but almost surely refers to the same species.

Limnobia pæcila, sp. n.

Head brown; antennae dark brown, the flagellar segments oval; pronotum and mesonotal præscutum reddish brown with a broad median stripe; pleura reddish brown; legs dark brownish black, the femora with an indistinct, narrow, reddish ring before the tip; wings yellowish subhyaline with brown spots and dots that are found in all the cells, but are more distinct and clear-cut in the cells of the costal half, paler and ill-defined in the cells of the caudal half of the wing; abdomen dark brown.

Male.—Length 8 mm.; wing 10.1 mm.; fore leg, femur 8.4 mm., tibia 10.8 mm.

Rostrum and palpi dark brown. Antennae dark brown, the flagellar segments oval. Head dark brown.

Pronotum dark brownish black, the sides reddish yellow.

Mesonotal præscutum reddish brown with a broad, brown, median stripe; scutal lobes dark brown; median area of the scutum and the base of the scutellum obscure yellow; remainder of the mesonotum dark brown. Pleura reddish brown without stripes. Halteres moderately elongated, the stem obscure yellow, passing into the dark brown knobs. Legs with the coxæ and trochanters brownish yellow; femora dark brownish black, the bases a little paler; a very obscure, narrow, reddish ring before the broad black tip; remainder of the legs black. Wings with a faint yellow tinge, with brown spots and dots scattered in all the cells, these heavier and more distinct in the cells of the costal half of the wing, very pale, ill-defined, and confluent in the caudal cells; these marks consist of a series of brown spots in cells *C* and *Sc*; a large brown spot at the origin of *Rs*, including cell *Sc*; a larger spot at the tip of *Sc*₁; stigma oval, dark brown, entire; wing-tip at the end of vein *R*₂₊₃ darkened; the spots in the radial cells are more scattered, but in the caudal cells they are so numerous and approximate that their limits become ill-defined and the general coloration of these cells of the wing becomes pale brown; veins dark brown. Venation: *Sc*₁ ending almost opposite or but slightly before the fork of *Rs*; *Sc*₂ at the tip of *Sc*₁; *r* at the tip of *R*₁ and subequal to this tip; basal deflection of *Cu*₁ at the fork of *M*.

Abdominal segments dark brown, the centres of the disk more reddish; hypopygium brown,

Hab. Gold Coast.

Holotype, ♂, Bibiani, October, 1910 (*Dr. H. G. F. Spurrell*).

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

Limnobia pœcila is generally similar to *L. rhanteria*, but is readily told by the diagnostic characters listed above.

Limnobia sokotrana, sp. n.

Antennæ black, the segments not conspicuously elongated, verticils short; vertex very narrow between the eyes; mesonotum obscure greenish yellow with a broad blackish median stripe; pleura yellow, with a conspicuous, longitudinal, brown stripe; halteres with the knobs yellow; legs with the femora long and slender, light brown, the tips dark brown and with a yellowish subapical ring; wings pale greyish yellow, with a few brown spots and seams at the ends of the veins in the costal region and along the cord; all the cells of the wing dotted with pale brownish grey;

cell 1st M_2 closed, basal deflection of Cu_1 just beyond the fork of M ; abdominal segments yellowish, the basal tergites dark brown.

Male.—Length about 9.5 mm.; wing 11.5 mm.; hind leg, femur 10 mm., tibia 9.2 mm.

Rostrum slightly elongate, dark brownish black; palpi black. Antennæ dark brown throughout; first scapal segment elongated; basal flagellar segments enlarged, subglobular, the distal segments cylindrical, the verticils shorter than the segments that bear them; terminal flagellar segment nearly twice as long as the penultimate, deeply constricted at mid-length to appear as two. Head dark brown; vertex between the eyes very narrow, so that the eyes are almost contiguous.

Pronotum obscure yellowish. Mesonotal præscutum obscure greenish yellow with a broad, brownish-black, median stripe that broadens out behind; scutal lobes largely blackish brown; scutellum and postnotum similar, sparsely grey-pruinose, the sides at the base paler. Pleura obscure yellow with a narrow, dark brown, longitudinal stripe extending from the propleura, passing above the fore coxæ and base of the halteres to the postnotum; mesosternum similarly dark brown. Halteres with the knobs and bases of the stem yellowish, the remainder of the stem pale brown. Legs with the coxæ yellow, the posterior coxæ darker; trochanters dull yellow; femora rather long and slender, light brown, the tips narrowly (1–1.1 mm.) dark brownish black; a dull yellowish subapical ring; tibiæ and tarsi dark brown; claws with four basal teeth. Wings with a pale greyish-yellow tinge, costal and subcostal cells more yellowish; membrane with a few brown spots and seams, and numerous pale brownish-grey dots in the cells; the larger brown markings are as follows: At h ; at the origin of Rs , continued along the vein to beyond a third its length; tip of Sc_1 ; at the tip of R_1 and along r ; as seams along the cord and outer end of 1st M_2 ; the small pale dots are well scattered over all the cells; there is a small yellowish area near the end of cell 1st R_1 , immediately before r , giving a somewhat ocellate appearance to the stigma. Venation: Sc long, ending but a short distance before the fork of Rs , Sc_2 at the tip of Sc_1 and subequal to it; Rs long, gently arcuated; r at the tip of R_1 ; R_{2+3} rather arcuated at origin, thence running parallel to R_{4+5} ; basal deflection of R_{4+5} about one-half longer than $r-m$; cell 1st M_2 closed, long-pentagonal, m being about two-fifths the length of the

long outer deflection of M_3 ; basal deflection of Cu_1 immediately before the fork of M .

Abdominal tergites one and two, and the sides of three dark brown; caudal margin of segments two to seven obscure yellow, the remaining tergites reddish yellow; sternite yellow.

Hab. Island of Sokotra.

Holotype, ♂, Adho, Diemellus, altitude 3500 feet, February 15, 1899 (*W. R. O.-Grant*), B.M. no. 1903. 75.

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

Limnobia nyasaensis, sp. n.

Antennæ black, the flagellar segments pale at their tips; head dark-coloured, grey-pruinose; mesonotum reddish yellow with an anterior dark brown median stripe on the præscutum; femora with the tips broadly dark brown; wings pale yellow, the costal and subcostal cells brighter, the membrane dotted with brown, the origin of Rs and r seamed with darker brown.

Male.—Length about 6 mm.; wing 9.3 mm.

Female.—Length about 8 mm.; wing 9.4 mm.

Rostrum and palpi dark brownish black. Antennæ black, the distal ends of the intermediate segments pale to produce a bicolourous appearance; basal flagellar segments subglobular, the intermediate oval, the distal segments elongate-oval. Head dark-coloured, grey-pruinose.

Pronotum reddish yellow with a dark brown median stripe. Mesonotal præscutum similar, with an anterior dark brown median line that becomes bifid and obliterated at about mid-length of the sclerite; remainder of the mesonotum and the pleura reddish yellow. Halteres rather long and slender, pale brown, the knobs dark brown. Legs with the coxæ and trochanters reddish yellow; femora brownish yellow, the tips broadly dark brown; tibiæ light brown, the tips narrowly dark brown; tarsi dark brown. Wings pale yellow, the costal and subcostal cells brighter; a dark brown seam at the origin of Rs and along r and the tip of R_1 ; narrow, paler brown seams along the cord and outer end of cell 1st M_2 ; scattered pale brown dots in all the cells as in *L. irrorata*, their number and position somewhat variable. Venation: Sc rather long, ending opposite about two-thirds the length of Rs , Sc_2 at the tip of Sc_1 ; r at the tip of R_1 , the latter being equal to or about twice the length of the former; cell 1st M_2 closed, irregularly pentagonal, m being

less than one-half the outer deflection of M_3 ; basal deflection of Cu_1 shortly before the fork of M .

Abdomen reddish brown.

Hab. Nyasaland.

Holotype, ♂, Mlanje, January 20, 1913 (*S. A. Neave*).

Allotopotype, ♀, January 24, 1913.

Presented by the Entomological Research Committee, 1913. 236.

Type in the collection of the British Museum.

Limnobia nyasaensis is close to *L. irrorata* (Enderlein), but differs in the broad dark brown femoral tips and the conspicuous dark brown seams at the origin of R_s and along r and the tip of R_1 .

Limnobia humfreyi, sp. n.

Antennæ brown; head dark grey; pronotum dull yellow with a broad black median stripe; mesonotum black, the humeral angles of the præscutum yellow; pleura obscure yellowish; halteres black, the basal third of the stem yellow; femora dark brown, the tips black; wings subhyaline, costal and subcostal cells dark brown; cord, outer end of cell 1st M_2 , and the wing-tip brown; abdominal tergite orange-yellow with segments two, six, and seven black.

Male.—Length about 11 mm.; wing 11 mm.

Rostrum and palpi dark brown. Antennæ with the scapal segments brown, the flagellar segments a little darker brown; flagellar segments oval, the distal segments a little more elongate, the longest verticils about one-half longer than the segments that bear them. Head dark grey, the eyes very large, the vertex between them narrowed to a linear strip.

Pronotum dull yellow with a broad black median stripe. Mesonotal præscutum dull yellow with a broad black median stripe that is broadened out behind near the suture to include the whole posterior half of the sclerite; scutal lobes black, the median area a little paler; scutellum and post-notum dark brownish black. Pleura obscure yellowish without darker markings. Halteres black, the basal third of the stem abruptly light yellow. Legs with the coxæ and trochanters dull yellow; femora dark brown, the tips black; tibiæ black, the extreme bases paler; tarsi black. Wings subhyaline, the costal and subcostal cells dark brown; stigma dark brown, hairy; brown spots and seams at the origin of R_s , along the cord and outer end of cell 1st M_2 ; a less distinct mark at arculus; the wing-tip is broadly infuscated, this including all but the base of cell 2nd R_1 , the outer half

of cells R_3 and R_5 , all but a spot at the base of cell 2nd M_2 , all of M_3 , all of Cu_1 , except a large subbasal spot, and the margins of the remaining cells of the wing; veins dark brownish black. Venation: Sc long, Sc_1 ending a short distance before the fork of Rs , Sc_2 at the tip of Sc_1 ; Rs angulated and slightly spurred at origin; r on the tip of R_1 and long, nearly equal to the basal deflection of Cu_1 ; basal deflection of R_{4+5} nearly three times the length of $r-m$; cell 1st M_2 long, narrow, a little widened distally, much longer than vein Cu_1 beyond it; basal deflection of Cu_1 just before the fork of M .

Abdominal tergite one light orange-yellow; two black, except at the extreme base; three orange, the caudal margin indistinctly darkened; four orange; five with the basal half orange, the caudal half and all of segments six and seven black; eight and nine and the hypopygium orange; sternites orange, segments three and the subterminal ring of the tergites occurring on the sternites also, black.

Hab. Southern Nigeria.

Holotype, ♂, Ilesha (*Capt. L. E. H. Humfrey*).

Presented by the Entomological Research Committee, 1911. 422.

This handsome species is closely allied to *L. congoensis*, Alexander (Belgian Congo), and several other species described at this time. It is with pleasure that the fly is dedicated to Captain Humfrey as an appreciation of the labour involved in collecting numerous Tipulidæ in Southern Nigeria.

Limnobia grahami, sp. n.

Head dusky black, a narrow median line and the margins of the eyes light grey; mesonotum brownish black, only the narrow humeral regions of the præscutum yellowish; mesopleura and mesosternum with a conspicuous transverse dark brown area; legs black; abdomen with segments one, four, eight, and nine yellow, two, three, five, six, and seven black.

Male.—Length about 9.5 mm.; wing 10.3 mm.

Rostrum and palpi dark brownish black. Antennæ with the first scapal segment dark brown, the second segment dark brown basally, the tip paler; flagellar segments elongate-cylindrical, the verticils longer than the segments. Head with the vertex blackish; the median area and the narrow margins adjoining the eyes light grey; the dusky black areas of the vertex and occiput bear numerous black

bristles; vertex between the eyes narrowed at the hinder part of the eyes, at the narrowest part rather light brown.

Pronotum yellowish, narrowly dark brown medially. Mesonotal præscutum brownish black, sparsely dusted with grey, especially behind; humeral region very narrowly dull yellow; remainder of the mesonotum black, the median area of the scutum greyish. Pleura obscure yellow, the mesepisternum, mesepimeron, and lateral sclerites of the postnotum dark brown, sparsely dusted with greyish, directly continuous with the median sclerite of the postnotum; sternites similarly dark brownish black. Halteres dark brown, the base of the stem narrowly yellowish. Legs with the coxæ obscure yellow, the outer faces infumed; trochanters brown; legs dark brownish black. Wings nearly hyaline, the costal and subcostal cells dark brown; stigma dark brown, hairy; wing-tip dark brown in cells *2nd R*₁ (except the base), the outer half of *R*₃ and *R*₅, all but the base of *2nd M*₂, *M*₃, and *Cu*₁, and the apices of the other caudal cells; cord and outer end of cell *1st M*₂ rather broadly seamed with dark brown; a spot at the origin of *Rs*; veins brownish black. Venation as in *L. humfreyi*.

Abdominal tergite one light yellow; two and three black except a narrow basal ring; four orange; five to seven black; eight, nine, and the hypopygium orange; sternites generally similar to the tergites.

Hab. Ashanti.

Holotype, ♂, Obuasi, July 5, 1907 (*Dr. W. M. Graham*); caught on window. B.M. no. 1908. 245.

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

Limnobia grahami is very close to *L. humfreyi*, but may be told by the increase of black markings on the mesonotal præscutum, the conspicuous dark area on the mesopleura, the black abdomen with the fourth segment clear orange, and other characters.

Limnobia edwardsi, sp. n.

Mesonotal præscutum yellow with a broad black median stripe; scutal lobes, the distal halves of the scutellum, and the postnotum deep velvety black, basal halves of the scutellum and the postnotum yellow; pleura yellow with a narrow transverse band across the mesopleura and mesosternum, completely girdling the thorax at this point; a dark mark in front of the halteres, the area between these two dark bands conspicuously yellow-pollinose; legs black; wings with the

brown seams on the cord broad, cell 1st M_2 long; abdominal tergites reddish with a black ring on segments six and seven.

Male.—Length (exclusive of head) about 12 mm.; wing 13 mm.

Head lost in the unique type.

Pronotum pale yellow with a broad median black stripe. Mesonotal præscutum golden-yellow, with a broad black median stripe, at the suture meeting the black scutal lobes, from which extends laterad a narrow black girdle across the pleura and sternum, completely encircling the body; median area of the scutum and the base of the scutellum golden-yellow pollinose; remainder of the scutellum black; postnotum with the basal half golden-yellow pollinose, the caudal half deep velvety black. Pleura light yellow, with a narrow transverse black band on the mesopleura and mesosternum as described above; sides of the postnotum cephalad of the base of the halteres black; the region immediately beneath the wing-root dark brown; the large oval space between these transverse black areas, occupying the mesepimeron and part of the mesosternum, light golden-yellow pollinose. Halteres with the extreme base of the stem dark brown; stem yellow, the knobs broken. Legs with the coxæ and trochanters light reddish yellow; remainder of the legs black, the bases of the fore femora narrowly obscure yellow. Wings pale yellowish subhyaline; cell *Sc* brown, cell *C* brown distally, the basal half pale; stigma oval, hairy, dark brown; a large brown spot at the origin of *Rs* and brown seams along the cord and outer end of cell 1st M_2 ; wing-tip narrowly darkened, this including the outer half of cell 2nd R_1 and the extreme outer ends of cells R_3 , R_{5+6} , 2nd M_2 , M_3 , Cu_1 , and Cu ; distal two-thirds of cell 2nd *A* greyish; vein *Cu* distinctly and rather broadly seamed with brown; the other longitudinal veins more narrowly and less distinctly seamed with brown, more distinct on the outer half of the wing; veins dark brownish black. Venation: *Sc* long, ending a short distance before the fork of *Rs*, Sc_2 at the tip of Sc_1 ; *Rs* slightly angulated at origin; *r* at the extreme tip of R_1 and more than twice the length of this tip; basal deflection of R_{4+5} about two-fifths the length of *Rs*; cell 1st M_2 long and comparatively narrow, longer than any of the veins issuing from it, its inner end arcuated, lying proximad of *r-m*; basal deflection of Cu_1 and short distance beyond the fork of *M*.

Abdominal tergite one yellow; two reddish with a black ring around the middle; three and four reddish; five reddish with a black ring around the middle; segments six and seven

black; eight, nine, and hypopygium reddish; eighth tergite telescoped beneath the seventh.

Hab. British East Africa.

Holotype, ♂, Nairobi, June–July, 1912 (*Dr. A. D. Milne*).
B.M. no. 1913. 192.

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

It is with great pleasure that this very beautiful *Limnobia* is dedicated to Mr. F. W. Edwards, in appreciation of his critical studies on tropical Tipulidæ.

Limnobia compta, sp. n.

Mesonotal præscutum yellow with a narrow, dark brown, median stripe, before the suture traversed by a broad transverse band that passes across the mesopleura and mesosternum, completely girdling the body; scutum with the lobes black; scutellum light yellow; postnotum black; pleura with a silvery-white area behind the black girdle; halteres black, pale basally; femora obscure brownish yellow, the tips dark brown; wings faintly yellow, with inconspicuous dark markings; basal abdominal segments black, ringed caudally with reddish; segments five to seven black, eight and nine orange.

Female.—Length about 10·5–11·5 mm.; wing 11–11·6 mm.

Rostrum and palpi dark brown. Antennæ with the scapal segments yellowish brown; flagellar segments pale brown, moderately elongated, and with long second verticils. Head light brown, sparsely grey-pruinose medially, the lateral portions dark brown.

Pronotum yellow with a moderately broad, dark brown, median stripe. Mesonotal præscutum subshiny, dull yellowish with a narrow, dark brown, median stripe that broadens out on the posterior half of the sclerite, before the suture with a broad transverse band that forms a cross with the median stripe; immediately in front of this cross the median stripe is considerably narrowed; the transverse band is continued laterad across the pleura and sternum, completely girdling the body; scutum obscure yellow, the lobes largely shiny black, indistinctly connected with the black pleural band; scutellum conspicuously light yellow-pollinose; postnotum shiny black. Pleura light yellow with a broad, transverse, black band as described above, this including the mesepisternum and mesosternum; lateral pieces of the postnotum immediately before the bases of the halteres black, these two black areas enclosing between them a

narrow silvery-white spot. Halteres rather short, black, the basal two-fifths of the stem pale yellow. Legs with the fore coxæ yellow; middle and hind coxæ with the outer faces largely black; trochanters obscure brownish yellow; femora yellowish basally, the tips dark brown, these broadest on the fore legs where less than the basal third is pale, narrowest on the hind legs where it includes only the distal fifth; tibiæ pale brown, the tips narrowly dark brown; tarsi dark brown. Wings with a faint yellowish tinge; the base of the wing before the arculus darkened: basal half of cell *Sc* darkened; stigma oval, hairy, dark brown; narrow and indistinct brown clouds at the origin of *Rs*, along the cord and outer end of cell 1st *M*₂, and as indistinct clouds along the longitudinal veins and in the ends of cells 2nd *M*₂, *M*₃, *Cu*₁, and at the end of vein 1st *A*; veins dark brownish black. Venation: *Sc* moderately short, *Sc*₁ ending but little beyond mid-length of *Rs*, *Sc*₂ at the tip of *Sc*₁; *r* at the tip of *R*₁; cell 1st *M*₂ rather small, not longer than vein *Cu*₁ beyond it; basal deflection of *Cu*₁ a short distance before the fork of *M*.

Abdominal segments one to four black, the caudal margins broadly reddish yellow; segments five to seven black, eight and nine orange; valves of the ovipositor short and blunt as in this group of species.

Hab. Southern Nigeria.

**Holotype*, ♀, Oshogbo (Dr. T. F. G. Mayer).

Paratopotype, ♀.

Presented by the Entomological Research Committee, 1911. 422.

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

Tribe ANTOCHINI.

Genus CERATOCHEILUS, Wesché.

Ceratocheilus edwardsi, sp. n.

Rostrum about as long as the body; head light grey; mesonotal præscutum light reddish orange; remainder of the mesonotum brown; pleura with a broad dark brown dorsal stripe; wings pale creamy with a heavy dark brown pattern; vein *R*₂₊₃ very long, bisinuous; cell 1st *M*₂ closed, basal deflection of *Cu*₁ before the fork of *M*.

Male.—Length (excluding rostrum) about 6.3 mm.; wing 4.4 mm.; rostrum about 6 mm.

Rostrum very long and slender, approximately as long as the body, dark brown, the extreme base almost black.

Antennæ dark brownish black. Head clear light grey, the vertex surrounding the antennal bases infuscated; corniculus flattened, sub-oval, narrowed at the base, pale orange, the surface whitish-pubescent. Space between the eyes broad.

Pronotum dark brown. Mesonotal præscutum greatly narrowed and projecting anteriorly over the pronotum, light reddish orange in colour without apparent darker markings; remainder of the mesonotum brown. Pleura pale, with a very broad, dark brown, dorsal stripe extending from the pronotum to the base of the abdomen. Sternum dark brown, this colour continued across the outer faces of the middle and hind coxæ. Halteres pale yellow, the base of the stem a little darker, the knobs large, dark brownish black. Legs with the fore coxæ light-coloured, the middle and hind coxæ more or less infumed on their outer faces; trochanters dull yellow; remainder of the legs dark brown, the femoral bases and the last tarsal segment paler. Wings with a pale creamy tinge, the wing-base and costal region more yellowish; a heavy dark brown pattern as follows:—a small seam at *h*; a large dark brown mark just beyond the arculus, extending from cell *C* to the 1st *Anal* vein; a large seam at *Sc*₂; a large U-shaped mark at the origin of *Rs*, one branch embracing the tip of *Sc*₁, the other the tip of *R*₁, the end of cell *Sc* between being pale, this brown mark continued caudad almost to vein *M*; a large rounded area at the end of vein *R*₂₊₃; cord and outer end of cell 1st *M*₂ seamed with dark brown; brown spots at the ends of veins of *Cu*₁, *Cu*₁, 1st *A*, and 2nd *A*; a large cloud beyond mid-length of vein 1st *A*; a paler brown subapical band extending from cell *R*₃ to *M*₃, the extreme wing-tip in cells *R*₃, *R*₅, and *M*₂ creamy white; veins yellow, dark brown in the darkened areas. Venation: *R*₂₊₃ very long for a member of this genus, gently bisinuous, approximately as long as the sector itself, cell *R*₁ being unusually long; cell 1st *M*₂ closed; basal deflection of *Cu*₁ before the fork of *M*, the distance a little longer than *m*.

Abdomen dark brown.

Hab. Southern Nigeria.

Holotype, ♂, Ikotobo, November 1913 (*Dr. J. W. Scott-Macfie*).

Presented by the Imperial Bureau of Entomology, 1914.

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

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This interesting fly is readily told from the other known species of the genus, nine in number, by the long vein R_{2+3} and the very heavy wing-pattern. *Ceratocheilus edwardsi* is dedicated to Mr. F. W. Edwards in appreciation of his critical work in determining the true status of the subfamily Ceratocheilinae of Wesch  and the synonymy of the genera therein included (Ann. & Mag. Nat. Hist. ser. 8, vol. viii. pp. 279-283, 1911).

Genus ELEPHANTOMYIA, Osten-Sacken.

Elephantomyia nitidithorax, sp. n.

Rostrum longer than the body, dark brown; head grey; mesonotal pr scutum shiny brownish yellow with three confluent shiny black stripes; pleura reddish yellow with a sooty-black dorsal area; legs dark brown; wings faintly brownish, stigma dark brown; abdomen dull brownish yellow, the tergites indistinctly ringed with darker brown.

Male.—Length (excluding rostrum) about 7 mm.; wing 8 mm.; rostrum about 6.8 mm.

Rostrum and palpi dark brown, about as long as the body. Antenn  dark brownish black, with fifteen segments, as in the genus, the flagellar segments with very long verticils. Head grey, the vertex between the eyes very narrow.

Cervical sclerites dull yellow. Pronotum dark brown. Mesonotal pr scutum shiny brownish yellow with three confluent shiny black stripes, the humeral angles of the ground-colour; scutum shiny yellowish brown; scutellum and postnotum deep brownish black. Pleura shiny reddish yellow; a sooty-black triangular area on the mesepisternum just beneath the margin of the mesonotal pr scutum; immediately behind this blackened area and beneath the wing-root a strong erect seta. Halteres brown, the knobs dark brown. Legs with the cox  and trochanters brownish yellow; remainder of the legs dark brown, the bases of the fore femora narrowly dull yellow. Wings with a faint brownish tinge, a little darker at the apex; stigma oval, dark brown; veins dark brown. Venation as in *E. westwoodi*, Osten-Sacken (genotype), except that Rs is a little longer, and angulated or slightly spurred at origin: Sc ending just before the fork of Rs ; basal deflection of Cu_1 but a short distance beyond the fork of M , at less than one-fourth the length of cell 1st M_2 .

Abdominal tergites dull brownish yellow, the basal and posterior margins of the segments narrowly and indistinctly

dark brown to produce an annulated appearance; sternites more yellowish; eighth segment uniformly darkened.

Hab. Southern Nigeria.

Holotype, ♂, Yaba, Lagos (*Dr. L. H. Booth*).

Presented by the Imperial Bureau of Entomology, 1914.
55.

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

Elephantomyia nitidithorax is closest to *E. wahlbergi*, Bergroth (Caffraria), from which it is distinguished by the different coloration of the præscutum and pleura, the dark brown legs, the differently coloured abdominal tergites, and the venation, the latter assuming that Bergroth's comparison of his species with the genotype, *E. westwoodi*, is correct.

Elephantomyia neavei, sp. n.

Rostrum less than half as long as the body, dark brown; head light brown, pale buffy grey adjoining the eyes; mesonotum buffy brown, the præscutum with a broad brown median stripe; scutal lobes with dark brown centres; wings subhyaline, the stigma pale; cell R_3 at the wing-margin broad; cell 1st M_2 very small; basal deflection of Cu_1 before the fork of M .

Male.—Length (excluding rostrum) about 7.5 mm.; wing 7.5 mm.; rostrum 3.3 mm.

Rostrum only moderately elongated, slender, dark brown; palpi rather long, dark brown. Antennæ dark brownish black, normal for this genus. Head light brown, pale buffy grey adjoining the inner margins of the eyes; vertex narrow.

Pronotum dark brown. Mesonotal præscutum light buffy brown with a broad, dark brown, median stripe, which is somewhat more reddish anteriorly; scutum light buffy brown, the centres of the lobes dark brown; remainder of the mesonotum pale buffy brown. Pleura pale plumbeous brown. Halteres pale. Legs with the coxæ and trochanters pale brownish yellow; remainder of the legs pale yellowish brown, the terminal tarsal segments darker brown. Wings subhyaline, the bases pale yellow; stigma pale brown; veins pale brown, Sc more yellowish. Venation: Sc rather short, ending about opposite two-thirds the length of the long straight Rs , Sc_2 at the tip of Sc_1 ; R_{2+3} rather short, parallel with R_{4+5} to near its tip, when it bends slightly cephalad so that cells R_1 and R_3 are approximately equal at the

wing-margin; cell 1st M_2 very small for a member of this genus, pentagonal, the section of M_{1+2} between $r-m$ and m shorter than the basal section and about equal to m ; the fusion of M_3 and Cu_1 longer than any of the other veins that surround cell 1st M_2 ; basal deflection of Cu_1 before the fork of M , this distance about equal to one-half the length of the basal deflection of Cu_1 .

Abdominal tergites dark brown, the hypopygium brown, the sternites reddish brown.

Hab. Nyasaland.

Holotype, ♂, Mt. Mlanje, December 5, 1912 (*S. A. Neave*).

Presented by the Entomological Research Committee, 1913. 236.

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

This curious fly requires comparison with no other of the known species of the genus. It is dedicated to the collector in appreciation of his efforts in collecting members of this neglected family of flies in Eastern Africa.

Genus DICRANOPTYCHA, Osten-Sacken.

Dicranoptycha atricolor, sp. n.

General coloration deep shiny black, the antennal scape and bases of the fore femora brighter.

Male.—Length about 10 mm.; wing 12 mm.; hind leg, femur 9 mm., tibia 10.3 mm.

Rostrum and palpi dark brown. Antennæ with the scape dark brown, the flagellar segments black. Head dark brown.

Pronotum and mesonotum deep shiny black. Pleura shiny black. Prosternum broad. Halteres dark brownish black. Legs with the coxæ and trochanters black; femora black, the bases of the fore femora dull yellow; tibiæ dark brown, tipped with black; metatarsi dark brown, tipped with black; remainder of the tarsal segments broken. Wings with a deep, dark brown tinge, more suffused in the costal region; veins dark brown. Venation: Sc longer than in *D. natalia*, Sc_1 ending about opposite $r-m$, Sc_2 beyond mid-length of the deflection of R_{4+5} ; R_1 beyond r shorter than the deflection of R_{4+5} ; Rs short, about equal to or shorter than cell 1st M_2 .

Abdomen black throughout.

Hab. Uganda.

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

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

Dicranoptycha atricolor may be confused only with the much smaller *D. natalia*, Alexander (Natal), which is readily told by the paler body-coloration, the yellow trochanters, and the different venational details as outlined above.

Genus RHAMPHIDIA, Meigen.

Rhamphidia iris, sp. n.

Rostrum very long and slender, nearly as long as the head and thorax taken together; head grey; mesonotal præscutum and scutum shiny black, remainder of the thorax orange-yellow; coxæ and trochanters black; wings iridescent, the apex and stigma brown; abdomen black, the last segment (in the female) orange.

Female.—Length (excluding rostrum) about 8 mm.; wing 7 mm.; rostrum 2 mm.

Rostrum very long and moderately slender, nearly as long as the combined head and thorax, dark brown, the short brown palpi at the tip. Antennæ dark brown throughout, the flagellar segments oval. Head dark, heavily light grey-pruinose; eyes large, the vertex between them very narrow.

Cervical sclerites dark brown. Pronotum orange-yellow, the anterior margin a little darkened. Mesonotal præscutum and most of the scutum shiny black, the posterior margins of the scutal lobes, scutellum, and postnotum orange-yellow. Pleura and sternum orange-yellow. Prosternum rather broad and extensive, narrowed anteriorly. Halteres black, only the extreme base of the stem yellowish. Legs with the coxæ and trochanters black, contrasting conspicuously with the light-coloured pleura; remainder of the legs broken. Wings subhyaline, highly iridescent, the costal and subcostal cells a little darker; wing-tip in cells R_1 to M_3 darkened; stigma oval, dark brown; veins dark brownish black. Venation (a single wing preserved in the unique type): Sc ending opposite the end of R_s , Sc_2 at the end of Sc_1 ; R_s long, almost straight; basal deflection of R_{4+5} about equal to m ; cell 1st M_2 closed; basal deflection of Cu_1 a little beyond mid-length of the cell 1st M_2 .

Abdomen black, the genital segment orange. Ovipositor

brown, the tips paler, the tergal valves very long, almost straight, slightly upcurved at the tips.

Hab. Uganda.

Holotype, ♀, "Col. Cole's house, NTB, early morning," November 1904 (*Capt. E. D. W. Greig*). B.M. 1905. 310.

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

Rhamphidia cacozena, sp. n.

Rostrum very long and slender, nearly as long as the head and thorax taken together; head grey; mesonotum black; pleura dark brown, the metapleura more brownish yellow; coxæ and trochanters black; wings iridescent, the apex and stigma brown; abdomen black, the last segment orange.

Female.—Length (excluding rostrum) about 5.5 mm.; wing 5 mm.; rostrum 1.4 mm.

Rostrum very long and moderately slender, nearly as long as the combined head and thorax; palpi dark brown. Antennæ dark brown. Head grey.

Pronotum brown. Mesonotum black. Pleura dark brown, the dorsal pleurites and metapleura obscure brownish yellow. Halteres dark brown, the base of the stem dull yellow. Legs with the coxæ and trochanters dark brown; femora dark brown; remainder of the legs broken. Wings subhyaline, the costal and subcostal cells and the wing-tips darkened; stigma dark brown, large, extending across cell R_1 to vein R_{2+3} ; membrane iridescent. Venation as in *R. iris*, but the basal deflection of Cu_1 before the middle of cell 1st M_2 ; cell R_3 at the wing-margin but little wider than cell R_1 .

Abdomen black, the genital segment and valves of the ovipositor orange; valves of the ovipositor straight, the tips a little upcurved.

Hab. Southern Nigeria.

Holotype, ♀, Ilesha, August 17, 1910 (*Capt. L. E. H. Humfrey*). "Caught in house."

Presented by the Entomological Research Committee, 1911. 422.

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

Rhamphidia cacozena very closely resembles *R. iris*, of which it appears almost as a miniature; the different coloration of the posterior sclerites of the mesonotum will separate the two species.

Rhamphidia obsoleta, sp. n.

Rostrum very long and slender, nearly as long as the head and thorax taken together; general coloration brown; wings nearly hyaline; stigma pale brown, the wing-tip not darkened.

Female.—Length (excluding rostrum) about 6.3 mm.; wing 5.7 mm.; rostrum 1.8 mm.

Rostrum long and comparatively slender, nearly as long as the combined head and thorax, dark brown; palpi dark brown. Antennæ dark brown. Head dark brown.

Mesonotum brown, the pleura scarcely paler. Halteres brown. Legs slender; coxæ and trochanters dark brown; remainder of the legs dark brown, the terminal tarsal segments a little paler. Wings nearly hyaline; stigma pale brown, not reaching vein R_{2+3} ; veins dark brown. Venation: Sc ending just beyond the end of Rs , Sc_2 at the tip of Sc_1 ; vein R_{2+3} running parallel with R_{4+5} , diverging only at the end of the cell, cell R_3 trumpet-shaped only at its outer end; cell R_3 but little wider at the wing-margin than cell R_1 ; cell 1st M_2 small, hexagonal, the section of M_{1+2} between $r-m$ and m subequal to the basal section of M_{1+2} and nearly twice as long as m ; m subequal to the outer deflection of M_3 ; basal deflection of Cu_1 slightly beyond mid-length of cell 1st M_2 .

Abdomen dark brown; valves of the ovipositor long and straight.

Hab. Sierra Leone.

Holotype, ♀, October 1904 (*Major F. Smith*). B.M. no. 1904. 347.

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

In general appearance, *Rhamphidia obsoleta* agrees most closely with *R. cacoxena* (Southern Nigeria), from which it may be told by the darker thoracic pleura, the lack of darkened wing-tips, the smaller and paler stigma, and the different venation, the longer Rs , the longer Sc which ends beyond the fork of Rs , the narrower and straighter cell R_3 which is suddenly dilated at its outer end, the lower cell 1st M_2 and the consequent elongation of $r-m$, and other characters.

Rhamphidia morosa, sp. n.

General coloration dark brown; rostrum about twice the length of the head; wings uniformly pale brown, the stigma

darker brown; cell R_3 about three times as wide as cell R_1 at the wing-margin; cell 1st M_2 closed, irregularly pentagonal.

Female.—Length (excluding rostrum) 6.6 mm.; wing 7 mm.; rostrum 1.3 mm.; abdomen alone 4.4 mm.

Rostrum about twice the length of the head, dark brown; palpi dark brown. Antennæ and head dark brown.

The thorax is badly injured in pinning and the coloration can be discussed in general terms only. Mesonotum dark brown, pleura a little paler. Halteres dark brown, the base of the stem a little paler. Legs long and slender; coxæ and trochanters dark brown; remainder of the legs dark brown, the femora a little paler basally, the tarsi somewhat paler at the tips. Wings with a uniform pale brown suffusion, the subcostal cell a little darker; stigma elongate-oval, darker brown; veins dark brown. Venation: Sc ending just before the fork of Rs , Sc_2 at the tip of Sc_1 ; R_{2+3} running rather close to R_1 before the end of the latter; cell R_3 very wide at the wing-margin, about three times as wide as cell R_1 ; cell 1st M_2 closed, irregularly pentagonal; M_{1+2} between $r-m$ and m being a little shorter than the basal deflection of M_{1+2} and but little longer than the gently arcuated m ; outer deflection of M_3 perpendicular, about two-thirds as long as m ; basal deflection of Cu_1 immediately before the fork of M .

Abdominal tergites dark brown, the sternites brownish yellow. Ovipositor with the valves long and straight, the extreme tips broken in the unique type.

Hab. Sierra Leone.

Holotype, ♀, October 1904 (*Major F. Smith*). B.M. 1904. 347.

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

Rhamphidia imperfecta, sp. n.

Rostrum long and slender, about twice the length of the head; general coloration dark brown; legs dark brown, the tarsi paler; wings hyaline, the stigma narrow, pale brown; cell 1st M_2 open, basal deflection of Cu_1 beyond the fork of M .

Sex?—Wing 5 mm.; rostrum 1 mm.

The type-specimen has the tip of the abdomen injured, so the sex cannot be determined.

Rostrum moderately elongate, about twice the length of the head, dark brown; palpi dark brown. Antennæ with

the scapal segments dark brown, the flagellum broken. Head dark brown, the cheeks with long curved setæ.

Mesonotum dark brown without apparent darker markings, the pleura a little paler. Halteres broken. Legs with the coxæ and trochanters testaceous brown; remainder of the legs dark brown, the tarsi somewhat paler brown. Wings hyaline; stigma narrow, indistinct, pale brown; veins dark brown. Venation: *Sc* ending just before the fork of *Rs*, *Sc*₂ at the tip of *Sc*₁; *Rs* long and almost straight; cell 1st *M*₂ open by the atrophy of *m*; basal deflection of *Cu*₁ inserted a short distance beyond the fork of *M*, the distance between it and the fork of *M* about one-third the fusion of *Cu*₁ and *M*₃.

Abdomen dark brownish black, the tip injured.

Hab. Sierra Leone.

Holotype, sex?, Daru (*Dr. Murphy*).

Presented by the Entomological Research Committee, 1913. 394.

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

Rhamphidia imperfecta may be told by the open cell 1st *M*₂, a character possessed only by *R. camarounensis*, Alexander, among the known Ethiopian species of the genus. This latter fly is the type of the subgenus *Rhamphidina*, distinguished by the shorter *Sc*, the very divergent veins *R*₂₊₃ and *R*₄₊₅ with the consequent widening of cell *R*₃, and the location of the basal deflection of *Cu*₁ before the fork of *M*.

Genus TEUCHOLABIS, Osten-Sacken.

Teucholabis rubrithorax, sp. n.

Head black; thorax shiny reddish yellow throughout; wings subhyaline with three narrow brown cross-bands, the last occupying the wing-tip far beyond the outer end of cell 1st *M*₂; abdomen black, the ovipositor reddish horn-colour.

Female.—Length about 7.5 mm.; wing 6.2 mm.

Rostrum slender, nearly as long as the head, dark brown; palpi dark brown. Antennæ dark brownish black, the scapal segments a little paler brown. Head black, the anterior part of the vertex sparsely grey-pubescent.

Neck brown. Pronotum reddish. Mesonotum shiny reddish yellow without distinct darker stripes. Pleura reddish yellow. Halteres dark brown, the knobs light yellow. Legs with the coxæ and trochanters reddish yellow;

fore femora with the basal three-fifths yellow, the slightly incrassated apex black; hind femora with the basal half dull yellow, passing into dark brown; tibiae dark brown, tipped with black; tarsi black. Wings subhyaline with three narrow brown cross-bands, the first at the level of the origin of the sector, most evident at the origin of the sector and the end of vein *2nd A*, very pale and indistinct in the intervening cells; the second band is located along the cord, broadest at costa, extending to the fork of *Cu* and thence as a much paler cloud to the wing-margin; the third band occupies the wing-apex, the inner margin almost straight, including the extreme tips of cells *2nd R*₁ and *M*₃, about the outer third of cells *R*₃, *R*₅, and *2nd M*₂; veins dark brown, veins *C*, *Sc*, and the wing-base more yellowish. Venation: *Sc* ending beyond mid-length of the long sector, *Sc*₂ far back from its tip, nearer to the origin of *Rs* than to the tip of *Sc*₁; cell *1st M*₂ long and narrow, widened distally, a little longer than vein *Cu*₁ beyond it; basal deflection of *Cu*₁ near the inner end of cell *1st M*₂.

Abdomen shiny black. Ovipositor reddish horn-colour, the bases of the sternal valves black; tergal valves of the ovipositor long and slender, strongly upcurved, the tips acute.

Hab. Gold Coast.

Holotype, ♀, Aburi, 1912–1913 (*W. H. Patterson*). B.M. no. 398.

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

Teucholabis nodipes, Speiser (Cameroun), has the mesothorax largely shiny black and the brown wing-pattern more extensive.

Teucholabis latifascia, sp. n.

Male.—Length about 7 mm.; wing 6.7 mm.

Female.—Length about 7 mm.; wing 6.2 mm.

Very similar to *T. rubrithorax*, differing as follows: The wing-apex and the brown band at the cord are much broader, the apex including about the outer third of cell *2nd R*₁, nearly the outer half of cell *R*₅, and the outer three-fourths of cell *2nd M*₂; the band at the cord is approximately one-half as wide as the hyaline band between it and the dark apex; the latter is approximately as wide as, or wider than, this hyaline band; the basal band is but little narrower than the band at the cord. Cell *1st M*₂ is longer, slightly exceeding in length that portion of vein *Cu*₁ beyond it and subequal to vein *M*₃ beyond it.

Hab. Ashanti.

Holotype, ♂, Obuasi, June 8, 1907 (*Dr. W. M. Graham*).
B.M. 1908. 245.

Allotopotype, ♀, July 5, 1907.

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

A note by the collector indicates that these specimens were "caught on window."

Tribe ERIOPTERINI.

Genus ERIOPTERA, Meigen.

Erioptera (Erioptera) carissima, sp. n.

Antennæ pale brownish yellow; head shiny black; mesonotal præscutum obscure yellow with three stripes, the median stripe reddish brown, the lateral stripes blackish; halteres pale yellow at the base, the remainder brownish black; legs light yellow; wings light yellow, with three pale greyish cross-bands, the tip broadly pale; male hypopygium with two pleural appendages, the inner one branched; gonapophyses powerful, directed laterad.

Male.—Length about 5.5 mm.; wing 5.3 mm.

Female.—Length about 5.8 mm.; wing 5.4 mm.

Rostrum and palpi pale brownish yellow. Antennæ in the male sex pale brownish yellow, in the female with the flagellum a shade darker brown than the scape. Head shiny brownish black, eyes of the male very large, broadly contiguous beneath.

Mesonotum highly polished, obscure yellowish, with three broad stripes, the median stripe reddish brown, the lateral stripes almost black; scutum with the lobes shiny brownish black, indistinctly margined with pale; scutellum dull brownish yellow; postnotum with the basal half brown, the posterior half almost black. Pleura with the dorsal sclerites deep chestnut-brown, the ventral sclerites yellowish; a conspicuous china-white area on the mesepisternum, cephalad and ventrad of the wing-root; in the paratype, this area is scarcely evident. Halteres with the basal half of the stem pale yellow, the remainder of the stem and the knobs dark brownish black. Legs with the coxæ and trochanters light yellow; femora clear golden yellow; tibiæ brownish yellow; tarsi pale, the apical segments dark brown. Wings light yellow, including a broad incomplete sub-basal band, a broad band immediately before the cord, and the broad

wing-apex, this latter narrowest in the type male; remainder of the wing-surface provided with three broad, pale grey cross-bands, as follows: the first just beyond the arculus, occupying most of the basal half of cell *2nd A*, in cells *R* and *M* narrowly connected with the broad second band which occupies the level of the sector and the end of vein *2nd A*, beginning in cell *Sc*, continued to the posterior margin, the third band lies just beyond the cord, narrowest near the dark brown stigma, continued caudad across the wing, occupying about the basal halves of cells *R*₂, *R*₃, *R*₅, *M*₂, and *M*₃, all but the base of cell *Cu*₁ and the tip of cell *Cu*; veins brown, a little darker in the grey areas. Venation: almost as in the related *E. péringueyi*, but vein *Cu*₂ is less strongly bent near the tip and vein *2nd A* runs closer to the wing-margin at its bend so that cell *2nd A* is very narrow at this point.

Abdominal tergites obscure yellow, shiny, indistinctly darker medially; sternites rather more uniformly yellowish. Male hypopygium with the pleurites stout, the inner apical angle a little produced and covered with numerous setigerous tubercles; two pleural appendages, the outer one straight, the stem slender, the apex enlarged into a globular head that is covered with parallel rows of overlapping, scale-like structures; the inner appendage is profoundly two-branched, the arms divergent at a straight angle; the short arm is straight, the long arm recurved just beyond the base so the long apex lies subparallel with the short arm; this arm is a little dilated before the acute tip and here provided with numerous short appressed hairs. Gonapophyses flattened, the inner angles produced into powerful blackened horns that are directed strongly laterad and thus divergent. Ninth pleurites dark brown basally, the tips brightened.

Hab. Nyasaland.

Holotype, ♂, Mt. Mlanje, January 18, 1914 (*S. A. Neave*).

Allotopotype, ♀, August 29, 1913.

Paratopotype, sex?, abdomen broken, September 3, 1913.

Presented by the Imperial Bureau of Entomology, 1914. 431, 1915. 58.

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

This beautiful crane-fly is readily told from *E. péringueyi*, Bergroth, the only described species that is close to it, by the well-marked diagnostic characters given above.

Erioptera (Erioptera) carissima nitidiuscula, subsp. n.

Female.—Length 6.1 mm.; wing 5.5 mm.

Very similar to typical *carissima*, differing as follows: The entire thoracic dorsum and pleura is a deep brownish black, with a light yellow area on the mesepisternum as described under the typical form. The dark wing-pattern is more extensive, all three bands being connected with one another in the cubital cells of the wing, the band beyond the cord suffusing the entire wing-apex, excepting a narrow delicate margin at the extreme tip. Abdomen dark brown, only the bases of the segments indistinctly paler; genital segments and valves of the ovipositor reddish horn-colour, as in the typical form.

Hab. British East Africa.

Holotype, ♀, Mumias District, north and south banks of the Nzoia River, North Kavironda, September 2, 1911 (*C. W. Woodhouse*); on self.

Presented by the Entomological Research Committee, 1912. 196.

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

Erioptera subirrorata, sp. n.

General coloration pale greyish brown, the dorsal pleural sclerites of the thorax rather darker; halteres with the knobs pale; legs with the femora yellowish, the tibiæ more brownish; wings faintly brownish yellow, the outer costal margin more suffused, the veins beyond the cord faintly irrorate with pale brown dots; cell 1st M_2 closed, 2nd *Anal* vein sinuate.

Sex?—Wing 6.3 mm.

Rostrum and the rather large palpi brown. Antennæ with the scapal segments brown, the flagellum broken. Head dull yellow, the vertex whitish-pruinose.

Mesonotum pale greyish brown, the lateral margins of the præscutum paler; tuberculate pits separated by a distance that is about equal to three times the diameter of one, located immediately cephalad of the level of the nearly transverse pseudosutural foveæ. Pleura dull yellow, the dorsal sclerites broadly but somewhat indistinctly infuscated to produce a dorsal stripe. Halteres brown, the knobs large, light brownish yellow. Legs with the coxæ and trochanters light yellow; femora yellow; tibiæ and tarsi brown, the distal segments of the latter darker brown. Wings with a faint brownish-yellow suffusion, the costal margin between

the origin of *Rs* and the wing-apex more suffused with brown, the basal half of the costal cell pale; veins beyond the cord in the radial and medial fields with series of small pale brown dots, somewhat after the fashion of *Conosia irrorata*; larger, dark brown spots along the costal margin at *Sc*₂, *Sc*₁, *R*₁, *R*₂, and *R*₃. Venation: *Sc*₂ retreated some distance from the tip of *Sc*₁, *Sc*₂ being at about one-third the distance between the origin of *Rs* and the tip of *Sc*₁; *r* on *R*₂ at about its own length beyond the fork of *R*₂₊₃; *R*₂₊₃ about equal to the basal deflection of *Cu*₁; cell 1st *M*₂ closed; *m* transverse; inner end of cell 1st *M*₂ narrowed; basal deflection of *Cu*₁ before the fork of *M*, the distance about equal to *r-m*; 2nd *Anal* vein sinuous, as in the subgenus *Erioptera*.

Abdomen broken.

Hab. British East Africa.

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

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

The unique type above described is in poor condition, one wing and the abdomen being lost. The well-marked characters diagnosed above will render the species easily recognizable. The type is pinned on the same pin with a paratype of *Limnophila diffusa*.

Erioptera ignava, sp. n.

Head dark grey; mesonotal præscutum yellow with three reddish-brown stripes; scutellum dark brown; postnotum with a median brown line; pleura with a broad dark brown dorsal stripe and a slightly narrower yellow ventral stripe; wings long and narrow, greyish yellow; cell 1st *M*₂ closed, vein 2nd *A* straight.

Male.—Length 5.8 mm.; wing 5.7 mm.

Female.—Length 6 mm.; wing 6.2 mm.

Rostrum varying from light to dark brown. Antennæ dark brown, the scapal segments slightly paler brown. Head dark grey, the vertex surrounding the eyes pale brownish yellow, in some cases forming a U-shaped mark behind the antennæ with the arms of the U directed backward; posterior region of the vertex with numerous, stiff, subproclinate bristles; eyes small, broadly separated both above and below.

Pronotum moderately prominent, light yellow, the scutellum with a shiny median area; procoxæ large, practically contiguous. Mesonotal præscutum yellow with three reddish-brown stripes, the lateral margins of the sclerite brighter;

sental lobes reddish brown, scutellum dark brown; postnotum dull yellow, dark brown medially. Pleura with the dorso-pleural membranes dull yellow; a broad conspicuous, brown to dark brown dorsal stripe, continued from the prosternum to the base of the abdomen; immediately beneath this stripe is a slightly narrower, light yellow stripe passing immediately above the coxal bases; sides of the mesosternum deep reddish, the median area light yellow, with a deep median impressed line. Halteres dark brown. Legs with the coxæ reddish; trochanters dull yellow; femora dull yellow, the tips indistinctly brownish; tibiæ yellowish brown; tarsi brown. Wings long and narrow, with a strong greyish-yellow tinge, the stigma indistinct; veins brown. Venation: Sc long, ending opposite to the fork of R_s , Sc_2 some distance from the tip of Sc_1 , so that it lies just beyond mid-distance between the origin of R_s and the tip of Sc_1 ; R_s long, slightly angulated at origin; R_{2+3} about two-fifths the length of R_s , r at its fork; cell R_2 very long and narrow; the very short basal deflection of R_{4+5} is almost in direct alignment with both R_s and R_{4+5} ; $r-m$ about twice r ; cell 1st M_2 very long and narrow, widened distally, a little longer than vein Cu_1 beyond it; basal deflection of Cu_1 at the fork of M ; 2nd *Anal* vein almost straight, cell 1st *A* consequently widest at the wing-margin.

Abdomen brownish yellow. Male hypopygium with the pleurites moderately elongated, the inner face concave; two short, shiny black appendages, the dorsal one about twice as large as the ventral. The female has the valves fleshy or at least not strongly chitinized as in most species of the genus; the tip of the abdomen is abruptly narrowed, viewed from beneath with the tip feebly bilobed.

Hab. Cape Colony.

Holotype, ♂, Cape Town, September 7.

Allotopotype, ♀, October 9.

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

This fly would seem to be one of the aberrant members of the genus *Erioptera*, though it is possible that more material would necessitate its removal from this group.

Erioptera nigrolatera, sp. n.

Head black, heavily light grey-pruinose; mesonotal præscutum with a broad grey median stripe, the broad lateral stripes sooty black; legs brown clothed with conspicuous erect hairs; wings dusky grey; cell 1st M_2 open by the atrophy of m , *Anal* veins divergent; abdomen brownish

black; gonapophyses of the male hypopygium shaped like a furcula, the arms expanded into blades at their tips.

Male.—Length 4–4.6 mm.; wing 5–5.3 mm.

Rostrum and palpi dark brown. Antennæ black, the distal flagellar segments more brownish; second scapal segment oval, tumid; two basal flagellar segments similar, but much smaller; remaining flagellar segments somewhat elongated, enlarged at mid-length and here with moderately long verticils. Head black, heavily light grey-pruinose.

Pronotum dark brown. Mesonotal præscutum with the lateral margin narrowly but conspicuously light yellow; disk pale grey with a broad, darker grey, median stripe and broad, sooty-black, lateral stripes; remainder of the mesonotum dark, sparsely pruinose. Pleura brown, sparsely pruinose, the dorso-pleural membrane dull yellow. Halteres brown. Legs with the coxæ dark brown, pruinose; trochanters yellowish brown; femora pale brown with rather sparse, but conspicuous, long erect hairs; remainder of the legs darker brown, the erect hairs a little less conspicuous. Wings with a dusky grey tinge; veins dark brownish black. Venation: Sc long, Sc_1 ending beyond the fork of R_{2+3} , Sc_2 retreated some distance from the tip of Sc_1 , lying immediately before the end of Rs ; Rs long and straight; R_{2+3} straight, a little shorter than the basal deflection of Cu_1 ; r very faint, located on R_2 at a distance from the fork of R_{2+3} that is about equal to this latter vein; R_2 slightly arcuated at its origin, so cell R_2 is wide at its base; veins R_3 and R_{4+5} almost parallel, M_{1+2} slightly upcurved at its tip; cell 1st M_2 opened by the atrophy of m ; basal deflection of Cu_1 at about mid-length of vein M_3 ; Anal veins divergent.

Abdomen dark brownish black, the appendages of the hypopygium horn-coloured. Male hypopygium with the tergal plate rather large, the caudal margin nearly circularly concave, the lateral angles produced into slender cylindrical horns that are directed caudad and slightly proximad; pleurites long, somewhat compressed, relatively slender, with but a single apparent appendage; this is relatively small, gradually narrowed to the acute bristle-like tip, the face provided with numerous setigerous punctures; just beyond mid-length of the appendage a slender, cylindrical, thumb-like appendage. Gonapophyses very conspicuous, appearing as a furcula on the ventral face of the genital chamber; each arm is a prominent flattened blade, shaped somewhat like a leg and foot, the toe produced into a long curved point that is decussate with its mate of the opposite side; at the base of the fork on the ventral face a slender, straight,

chitinized rod that bears a short lateral spine on its dorsal face.

Hab. Nyasaland.

Holotype, ♂, Mlanje, January, February, 1914 (*Dr. J. B. Davey*).

Paratopotype, ♂.

Presented by the Imperial Bureau of Entomology, 1914. 303, 1915. 58.

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

This species needs no comparison with any of the known species of the genus. Together with the last-described species, *E. ignava*, the present form must be considered an aberrant member of the genus *Erioptera*, and yet there are no sufficient tangible characters on which to remove either from this large and somewhat heterogeneous group.

Genus GNOPHOMYIA, Osten-Sacken.

Gnophomyia peramœna, sp. n.

Head, thoracic pleura, and segments seven to nine of the abdomen black; mesonotum, halteres, and base of the abdomen orange; legs black, the bases of the femora yellow; wings dark brown with a broad white band before the cord that does not attain the costal, subcostal, or anal cells; distal cells of the wing pubescent.

Male.—Length about 7 mm.; wing 7.2 mm.

Female.—Length about 9.5 mm.; wing 8.2 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black, the basal flagellar segments rather elongate, a little produced distally on the inner face, outer flagellar segments more oval. Head shiny black.

Pronotal scutum deep black. Mesonotum and dorso-pleural membranes orange. Tuberculate pits a little anterior to the level of the pseudosutural foveæ. Pleura deep black. Halteres orange. Legs with the coxæ and trochanters black; femora black with the bases yellow, narrowest on the fore femora where it occupies a little more than one-third of the segment, broadest on the hind legs where it includes about three-fifths of the segment; tibiæ and tarsi black. Wings dark brown, variegated with white; a broad white band before the cord, extending from vein *R* into cell *Cu*₁, very distinct in cells 2nd *R*₁, *R*, and *M*; an oval white spot in cell *R* before the origin of *Rs*; a less distinct pale area in the base of cell 1st *A*, lacking in the type-

female; base of the wing before the arculus orange-yellow; veins dark brown. Cells of the wing beyond the cord with strong macrotrichia; in the centre of cell *Cu* these macrotrichia continue basad almost to the level of the origin of *Rs*. Venation: *Sc*₁ ending about opposite *r*, *Sc*₂ far from the tip of *Sc*₁, located near the inner margin of the white band; *r* on *R*₂ just beyond its origin; cell 1st *M*₂ moderately broad, the basal deflection of *Cu*₁ inserted at from one-third to one-fourth its length.

Abdomen with the six basal segments orange, the remainder of the abdomen deep black.

Hab. Nyasaland.

Holotype, ♂, Mt. Mlanje, January 4, 1913 (*S. A. Neave*). Presented by the Entomological Research Committee, 1913. 236.

All topotype, ♀, January 23, 1913. Presented by the Imperial Bureau of Entomology, 1915. 58.

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

This exquisite fly is readily told from *G. elegans* (Wiedemann) by the apically pubescent wings and the very different coloration of the body and wings.

Gnophomyia perelegans, sp. n.

Head black, light grey-pruinose; thorax and abdomen metallic greenish blue; halteres brownish black, the knobs conspicuously pale yellow; legs black; wings dark brownish black with two broad whitish transverse bands; distal cells of the wing pubescent.

Female.—Length about 9.5 mm.; wing 8.6 mm.

Rostrum and palpi dark brownish black. Antennæ black, somewhat longer than in the corresponding sex of *G. peramæna*. Head broad, black, light grey-pruinose.

Entire thorax metallic greenish blue, the postnotum and pleura sparsely grey-pruinose. Halteres dark brownish black, the knobs conspicuously pale yellow. Legs with the coxæ blue-black, sparsely pruinose; remainder of the legs black. Wings dark brownish black, with two large whitish cross-bands, the first lying just before the level of the origin of *Rs*, extending from vein *R* through cells *R*, *M*, *Cu*, across the base of 1st *A* into cell 2nd *A*, but not reaching the wing-margin; the second band is larger, lying just before the cord, extending across cells 1st *R*₁, *R*, *M*, and *Cu*, narrowly interrupted along vein *Cu* in the latter cell; veins brownish black. Macrotrichia almost as in *G. peramæna*, but traversing the outer white band in cell *Cu*. Venation: *Sc* slightly shorter than in *G. peramæna*, *Sc*₁ ending just before the fork of *R*₂₊₃;

r on R_2 a little less than its own length beyond the fork of R_{2+3} ; basal deflection of Cu_1 inserted a short distance before mid-length of the small, nearly pentagonal, cell 1st M_2 .

Abdomen metallic greenish blue. Valves of the ovipositor black, a little paler at the extreme tips.

Hab. Nyasaland.

Holotype, ♀, Mt. Mlanje, December 28, 1912 (*S. A. Neave*).

Presented by the Imperial Bureau of Entomology, 1915. 58.

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

Gnophomyia perelegans is very closely allied to *G. peramaena*, despite the striking differences in the coloration of the body and legs. In both species the hind legs are conspicuously longer than the others and the femora are slightly incrassated.

Genus GONOMYIA, Meigen.

Gonomyia (*Gonomyia*) *nyasæ*, sp. n.

Antennæ black, the scapal segments paler; mesonotum pale brown, the scutellum broadly margined with white; pleura striped longitudinally brown and white; halteres yellow, the base of the knobs brown; legs pale brown; wings faintly greyish, stigma indistinct; cell R_2 very small, basal deflection of Cu_1 before the fork of M ; abdominal tergites uniformly dark brown; male hypopygium with both pleural appendages simple.

Male.—Length 3.4 mm.; wing 3.6 mm.

Rostrum dark brown; palpi black. Antennæ with the enlarged scapal segments pale yellowish brown; flagellum black with exceedingly elongate verticils. Head badly wrinkled in the unique type, pale brownish yellow, the vertex indistinctly darker medially.

Mesonotal præscutum pale brown, the extreme lateral margins yellowish white; scutum similar; scutellum pale brown, the caudal margins broadly white; postnotum dark brown, the sides more yellowish. Pleura dark brown, longitudinally striped with whitish, the dorsal stripe formed by the lateral margins of the mesonotal præscutum as described above, the ventral stripe lying across the base of the mesosternum. Halteres pale yellow, the knobs brown with only the tips yellow. Legs with the coxæ and trochanters pale brown; remainder of the legs pale brown, the distal tarsal segments dark brown; a few stiff setæ at the tips of the femora. Wings with a faint grey tinge; stigma indistinct; veins pale brown. Venation: Sc short, Sc_1 ending a short distance before the origin of R_3 ; vein R_{2+3} in alignment with R_3 and much longer than it; cell R_2 very tiny, vein R_2 being

less than one-half of $r-m$; inner ends of cells R_3 , R_5 , and 1st M_2 in alignment; basal deflection of Cu_1 just before the fork of M , the fusion about equal to R_2 .

Abdominal tergites dark brown, the sternite more yellowish brown. Male hypopygium with two pleural appendages, the outer appendage slender, much longer than the inner appendage, the tip broken in the unique type. Inner pleural appendage rather small, broad at the base, rapidly narrowed to the subacute, heavily blackened tip, the face with numerous setigerous punctures that bear stout setæ. Gonapophyses and penis-guard forming a large, pale, central organ of which the only heavily chitinized elements appear as two divergent, laterally directed horns.

Hab. Nyasaland.

Holotype, ♂, Mt. Mlanje, November 8, 1913 (*S. A. Neave*). B.M. no. 1914. 498.

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

Gonomyia nyasæ is very similar to *G. sulphurelloides*, Alexander (Natal to Nyasaland), from which it is readily told by the very different male hypopygium, in *G. sulphurelloides* the inner pleural appendage terminating in three points instead of being simple as in the present species.

Gonomyia (Gonomyia) noctabunda, sp. n.

Antennæ dark brown, the scape paler; pleura dark brown with a narrow, white, longitudinal stripe; femora yellowish brown with a narrow brown ring before the tips; wings nearly hyaline; veins dark brown, C , Sc , and R more yellowish; abdomen blackish, the segments narrowly margined caudally and laterally with pale yellowish white.

Male.—Length 2.8–3 mm.; wing 3.3 mm.

Female.—Length 3.8–4 mm.; wing 3.5–4 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the scapal segments a little paler, slightly enlarged. Head light orange-brown.

Mesonotal præscutum light brown, the lateral margins narrowly pale yellowish; remainder of mesonotum pale brown, light grey-pruinose, the scutellum margined caudally with pale whitish. Pleura dark brown with a conspicuous, narrow, white, longitudinal stripe; mesosternum dark brown. Halteres yellow, the knobs dark brown. Legs with the coxæ yellow, the basal half of the outer face brown; trochanters dull yellow; femora pale yellowish brown with a narrow dark brown ring just before the tip; tibiæ pale brown, the tips dark brown; tarsi dark brown. Wings nearly hyaline, the veins dark brown, conspicuous; C , Sc , and R more

yellowish; stigma indistinct. Venation: *Sc* ending before the origin of *Rs*, *Sc*₂ narrowly seamed with brown, removed a short distance from the tip of *Sc*₁, the distance between the tip of *Sc*₁ and the origin of *Rs* about equal to one-half the latter; *Rs* strongly angulated at origin, shorter than *R*₂₊₃; cell *R*₂ moderately large for a member of this group, vein *R*₂ slightly oblique; cell 1st *M*₂ usually closed, rarely open by the atrophy of the outer deflection of *M*₃; basal deflection of *Cu*₁ before the fork of *M*, the fusion of these two veins about to *r-m* or a little shorter. In the paratype, *Rs* is square at its origin and strongly spurred and *Sc*₁ ends almost opposite this origin; in all other characters the two specimens agree sufficiently well and until male specimens are found the insects cannot be further separated.

Abdomen blackish, the segments narrowly margined caudally and laterally with pale yellowish white, more distinctly on the tergites; genital segment of the female orange-yellow; ovipositor with the valves horn-coloured, acute. Male hypopygium with the pleurites moderately slender, bearing two pleural appendages of very unequal length; outer appendage unarmed, long and slender, of nearly uniform width beyond the base, the apex obtuse, the basal third pale, the apex blackened; inner pleural appendage small, suboval, the apex with numerous setigerous tubercles. Gonapophyses long and slender, tapering gradually to the acute blackened tips; just before the apex with a broad setigerous area. Penis-guard pale, broad basally, narrowed to the decurved tip.

Hab. Transvaal to British East Africa.

Holotype, ♂, "Lot 30, De Kaap Block B," near Kaapmuiden, Eastern Transvaal, October 11, 1919 (*H. K. Munro*).

Allotype, ♀, Parklands at Nairobi, British East Africa, April 26, 1911 (*J. G. Anderson*). Presented by the Entomological Research Committee, 1913. 394.

Paratopotype, a broken ♂, October 10, 1919; paratype, ♀, Camp, Upper Shire, Nyasaland, September 28, 1911 (*Dr. J. B. Davey*); in dining hut, at night. Paratype presented by the Imperial Bureau of Entomology, 1915. 58.

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

Gonomyia (Gonomyia) sobrina, sp. n.

General coloration dark brown; thoracic pleura dark brown with a narrow, whitish, longitudinal stripe; coxæ and trochanters light yellow; wings pale greyish; sparsely spotted with brown, the costa variegated with brown and

yellow; abdominal tergites black, narrowly ringed caudally with white.

Female.—Length 4.4 mm.; wing 4.4 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the scapal segments and first flagellar segment a little paler; flagellar verticils not greatly elongated (in the female). Head pale yellowish, the centre of the vertex brown.

Mesonotum dark brown, the anterior margin of the præscutum a little paler; scutal lobes adjoining the wing-roots pale; posterior half of the scutellum pale. Pleura dark brown with a narrow, white, longitudinal stripe extending backward from the fore coxæ. Mesosternum dark brown. Halteres yellow, the knobs brown. Legs with the coxæ and trochanters light yellow, contrasting with the dark colour of the body; remainder of the legs broken. Wings with a smoky tinge, sparsely marked with darker as follows: a spot at arculus; a spot at the origin of *Rs*; stigma rectangular, continued backward as a narrow seam along the cord; outer end of cell 1st *M*₂ seamed with pale brown; a brown seam on *R*₂; a spot at the tip of *R*₃; the basal cells of the wing immediately beyond the arculus, cell *R*₁ before and beyond the stigma, cell *R*₂ and the tips of cells *R*₃, *R*₅, *M*₁, and 2nd *M*₂ paler than the rest of the wing; veins dark brown; costa dull whitish, variegated with brown at *Rs*, stigma, and tips of veins *R*₂ and *R*₃. Venation: *Sc* moderately elongated, *Sc*₁ ending about opposite the origin of *Rs*; *Rs* and *R*₂₊₃ nearly equal; *R*₂ short, straight, almost perpendicular to the end of vein *R*₂₊₃; cells *R*₃ and *R*₅ with their inner ends in oblique alignment; cell 1st *M*₂ closed; basal deflection of *Cu*₁ a short distance before the fork of *M*—this distance less than one-half of *R*₂.

Abdomen black, the tergites narrowly ringed caudally with whitish; sternites similar, but the pale caudal margins less distinct. Valves of the ovipositor acute, the tergal valves much longer than the sternal valves, their tips gently upcurved.

Hab. Northern Nigeria.

Holotype, ♀, Ilorin, July 16, 1912 (*Dr. J. W. Scott-Macfie*).

Presented by the Imperial Bureau of Entomology, 1915. 58.

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

Gonomyia (Gonomyia) venustipes, sp. n.

Antennæ yellow; mesonotal præscutum whitish, rich cinnamon-brown sublaterally, the white lateral triangles delimited by dark brown; scutellum white, the caudal

margin narrowly dark brown; legs spotted with black and yellow; wings pale yellowish subhyaline, with small dark brown dots and spots; *Sc* long, cell 1st *M*₂ very long and narrow.

Female.—Length 4.1 mm.; wing 4.5 mm.

Rostrum and palpi brown. Antennæ with the first segment pale brown, the remainder of the antennæ very pale yellow. Head pale brown, sparsely grey-pruinose.

Pronotum large and conspicuous, pale whitish. Mesonotal præscutum with the broad central area whitish, this median stripe narrowed before the suture to assume the form of an hour-glass, at its narrowest point connected across by a delicate brown line; sublateral regions cinnamon-brown; the triangular lateral regions are conspicuously white, narrowly margined with dark brown, the anterior margin, at the pseudosutural foveæ, very distinct; scutum whitish, only the margins of the lobes more infuscated; scutellum white with two basal spots and the caudal margin narrowly dark brown; postnotum pale brownish yellow, brown laterally and less distinctly in the middle. The pattern of the pleura is not clearly evident in the two specimens at hand, as the pins penetrate this region and are badly verdigrised; the region is pale with a large pale brown area beneath the wing-root and possibly a dark ventral stripe; at least the mesopleura is heavily white-pruinose. Halteres pale, the knobs but little darker. Legs with the coxæ and trochanters pale; remainder of the legs broken (see footnote). Wings pale yellowish subhyaline with numerous small brown spots and dots, arranged as follows: the largest at the arculus, smaller ones at the origin of *Rs* and *Sc*₂; at the tip of *Sc*₁; at the tip of *R*₁; seams along the cord, outer end of cell 1st *M*₂, and vein *R*₂; distinct spots at the tips of all the longitudinal veins, largest at 2nd *A*; veins pale, brown in the darkened areas. Venation: *Sc* long, *Sc*₁ extending to about one-half the length of *Rs*, *Sc*₂ a little beyond the origin of *Rs*; *R*₁ ending opposite the fork of *Rs*, *R*₂₊₃ about two-thirds as long as *Rs*; *R*₂ perpendicular to the end of *R*₂₊₃; vein *R*₃ about equal to *R*₂₊₃; inner end of cell 1st *M*₂ far proximad of the inner ends of cells *R*₃ and *R*₅; cell 1st *M*₂ long and narrow, longer than any of the veins issuing from it; basal deflection of *Cu*₁ at from one-fourth to one-fifth the length of this long cell 1st *M*₂. In one specimen *Rs* is slightly spurred at its origin.

Abdomen varying from pale yellowish to dark brown, the genital segment orange-brown. Ovipositor with the valves powerful, long, and slender, the tergal valves strongly upcurved.

Hab. Sierra Leone.

Holotype, ♀, Kamba, November 16, 1913, 8 P.M. (*Dr. J. Y. Wood*).

Paratopotype, ♀.

Presented by the Imperial Bureau of Entomology, 1915. 58.

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

The following note by Mr. Edwards accompanies the specimens: "When these specimens were first shown me they had legs beautifully spotted with black and yellow; these were broken off and lost by the attendant who mounted them."

It is very possible that this curious fly is not a true member of the genus, but as it is here that it will run by the keys it is retained in this genus until further material is available. Certain features of the head and thorax suggest the isolated genus *Styringomyia*.

Genus *TRENTEPOHLIA*, Bigot.

Subgenus *MONGOMA*, Westwood.

Trentepohlia (Mongoma) madagascariensis, sp. n.

General coloration dark brown; mesonotal præscutum dull yellow with three dark brown stripes; legs brown, the tips of the femora and tibiæ narrowly creamy white; wings pale brownish, heavily marked with dark brown; basal abdominal segments annulated brown and yellow.

Male.—Length about 12 mm.; wing 10.5 mm.

Rostrum and palpi brownish yellow. Antennæ rather elongate, dark brown throughout, the last segment about twice the length of the penultimate. Head dark brown.

Mesonotal præscutum dull yellow, clearest laterally, with three dark brown stripes, the median stripe ending before the suture; scutum yellow, the lobes dark brown; scutellum and postnotum dark brown. Pleura dark brown. Halteres pale yellow, the knobs dark brown. Legs with the coxæ shiny dark brown; trochanters dull yellow; femora light brown, palest basally, passing into dark brown before the narrow (1.3 mm.) creamy-white tips; tibiæ dark brown with only the extreme bases and the moderately broad tips (2 mm.) pale; tarsi pale brown; fore femora with a row of small erect hairs on the inner face, two of these being more powerful than the others; on the posterior femora there are six or seven such spinous bristles; metatarsi with a few long hairs near the base. Wings with a pale brown suffusion,

heavily marked with dark blotches; costal and subcostal cells more yellowish; the brown markings are arranged as follows: at the origin and fork of R_s ; at the tip of R_1 and along r ; at the origin and tip of R_2 ; along the cord and outer end of cell 1st M_2 ; the cells in the radial field are paler, the wing-apex a little darker; veins dark brown, C , Sc , and R paler. Venation: r oblique, inserted on R_{2+3} about two-thirds of its length before the fork of the latter; R_2 about one-half longer than r ; cell 1st M_2 is apparently open by the atrophy of m ; cell R_5 about as long as its petiole; M_3 strongly arcuated or angulated at the point of its departure from Cu_1 , cell M_3 being much longer than its petiole; Cu_1 fused with M slightly before the fork of the latter; apical fusion of Cu_2 and 1st A very slight.

First abdominal tergite dull yellow; remaining segments dark brown, the posterior margins of the basal three or four segments conspicuously dull yellow.

Hab. Madagascar.

Holotype, ♂, Tamatave, 1906 (*A. Sauzier*). B.M. 1906. 291.

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

Trentepohlia madagascariensis is readily told from all other regional species of the subgenus by the heavily spotted wings.

Trentepohlia (Mongoma) metatarsatra, sp. n.

General coloration pale yellow; mesonotal præscutum without stripes; femora pale brown, the tips narrowly white; tibiæ white with a moderately broad brown ring beyond the base; metatarsi black, the remainder of the tarsi pale brown; wings pale greyish yellow; veins pale brown.

Sex?—Wing 7·8 mm.

The unique type is unfortunately in very poor condition, yet the well-marked diagnostic characters are entirely sufficient to enable the species to be recognized. The head and most of the abdomen are lacking.

Mesothorax shiny light reddish yellow without darker markings; scutellum and postnotum but slightly darker. Pleural light yellow. Halteres pale throughout. Of the legs, only a single one of the anterior pair remains, the coxæ and trochanters are light yellow, the distal margin of the latter blackened and produced into an acute tooth; femora very pale brown, passing into white (about 1·5 mm.) at the tips; tibiæ with the extreme base (about 1 mm.) pale, followed by an indistinct brown ring (about 4·5 mm.), the tips broadly white (about 7·3 mm.); metatarsi black, paling into brown

at the tips; remainder of the tarsi pale brown; fore femora with two or three scattered erect bristles; on the distal half of the femora pairs of small erect bristles, including two at the tip on the outer face. Wings with a pale greyish-yellow tinge; stigma pale yellow; veins pale brownish yellow. Venation: r inserted on R_{2+3} about one-third its own length before the fork of the latter; cell 1st M_2 closed, m inserted between M_{1+2} and M_3 .

Abdomen pale brownish yellow (terminal segments broken).

Hab. Southern Nigeria.

Holotype, sex?, Oshogbo (*Dr. T. F. G. Mayer*).

Presented by the Entomological Research Committee, 1911. 422.

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

Trentepohlia (Mongoma) albilatissima, sp. n.

Sex?—Wing 10 mm.

Closest to *T. albilata*, Alexander (Cameroun), differing as follows: mouth-parts, excepting the distal palpal segments, light yellow. Antennæ with the two basal segments light yellow, the first flagellar segment dark brown; remainder of the antennæ broken. Head light fawn-brown.

Mesonotal præscutum shiny reddish, without stripes. Pleura shiny reddish yellow. Legs with the tibiæ largely white, the brown postbasal band (2.5 mm.) a little shorter than the pale base (3.1 mm.), the latter somewhat more extensive than the pale femoral tip (2 mm.); the tibial tips very broadly (10.8 mm.) white, this occupying nearly the distal two-thirds of the tibia; tarsi white; the hind legs are quite similar, but the white apices are even broader (13 mm.), the entire tibia measuring 18.6 mm. Wings greyish subhyaline, the tips indistinctly darkened. Venation: r inserted on R_{2+3} nearly its own length before the fork of the latter; m at the fork of R_{4+5} and M_{1+2} ; basal deflection of Cu_1 just before the fork of M .

Abdomen broken.

Hab. Gold Coast.

Holotype, sex?, Aburi, 1912–1913 (*W. H. Patterson*).

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

The very narrow brown tibial ring will readily distinguish this fly from its near relative, *T. (M.) albilata*.

Subgenus *PARAMONGOMA*, Brunetti.

Trentepohlia (Paramongoma) nigeriensis, sp. n.

General coloration uniform pale brown, the pleura more yellowish; legs pale brown, the distal tarsal segments whitish; wings pale greyish subhyaline; r far before the fork of R_{2+3} .

Female.—Length about 4.5 mm.; wing 4.4 mm.

Rostrum and palpi dark brown. Antennæ dark brown. Head brown.

Mesonotum uniformly pale brown, the pleura more yellowish. Halteres brown. Legs with the coxæ and trochanters brownish yellow; remainder of the legs pale brown, on the distal tarsal segments passing into dull whitish. Wings pale greyish subhyaline; veins brown. Venation: Sc moderately long, the space on costa between Sc_1 and R_1 a little more than half the length of r ; r on R_{2+3} about two-thirds its length before the fork of the latter; R_2 a little longer than r ; cell 1st M_2 closed; basal deflection of Cu_1 before the fork of M , the fusion of Cu_1 and M about equal to m ; cell Cu widely open, the space along the wing-margin about equal to vein Cu_2 alone.

Abdomen dark brown, the genital segment and valves of the ovipositor more yellowish, the tergal valves very strongly upcurved.

Hab. Southern Nigeria.

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

Presented by the Entomological Research Committee, 1910. 222.

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

This new species may be told from the related *T. ramisiana*, Riedel (British East Africa), by the position of the radial cross-vein and other venational details.

Subgenus *TRENTEPOHLIA*, Bigot.

Trentepohlia (Trentepohlia) inflata, sp. n.

Antennal scape dark brown, the flagellum pale brownish yellow; mesonotal præscutum reddish brown with three darker brown stripes; wings comparatively narrow, with the costal margin near the origin of Rs conspicuously dilated; cell R_2 small, nearly triangular; brown wing-pattern extensive.

Female.—Length about 4.8 mm.; wing 4.3 mm.

Rostrum and palpi dark brown. Antennal scape dark

brown, the flagellum pale brownish yellow, the distal segments a little darker. Head dark brown.

Pronotum dark brown. Mesonotal præscutum reddish brown, darker medially and with three darker brown stripes; scutum with the lobes dark brown, the median area paler; scutellum projecting, dark brown; postnotum dark. Pleura indistinctly striped longitudinally with whitish on a dark brown background, the pale stripe lying just above the bases of the coxæ. Halteres brown, the knobs dark brown. Legs with the coxæ larger than is usual in this genus, dark brown, the tips paler; trochanters dark brown; remainder of the legs broken. Wings rather long and narrow, the costal region just beyond the origin of R_s curiously dilated, this enlargement ending opposite Sc_1 ; wings pale, subhyaline, the wing-base infuscated, continued as a cloud along vein Cu to its fork; a very large brown area occupies the region of the costal dilation, including almost all of cell 1st R_1 , excepting only a small rounded hyaline spot beneath Sc_1 and the extreme tip of the cell; this band also traverses cell R to vein M and continues along the cord to the wing-margin, connected broadly across vein R_{4+5} plus M_{1+2} with the outer blotch which appears as a broad seam along vein R_2 that is continued across cell R_3 and the fork of R_{4+5} plus M_{1+2} ; the outer end of cell R_2 and vein R_3 are narrowly seamed with brown; veins yellow, dark brown in the darkened areas. Venation: r is almost in alignment with R_1 and the outer section of R_{2+3} , this latter being very long, about twice as long as R_2 or the basal section of R_{2+3} ; R_2 is almost straight and subperpendicular to the end of R_{2+3} , giving to cell R_2 a triangular appearance.

Abdomen dark brown, the basal segments, especially the sternites, indistinctly ringed with obscure yellow, this colour embracing both the basal and caudal margins of the segments. Ovipositor normal for this subgenus, the valves reddish horn-coloured.

Hab. Southern Nigeria.

Holotype, ♀, Yaba, Lagos, April 8, 1910 (*Dr. J. J. Simpson*).

Presented by the Entomological Research Committee, 1910. 222.

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

This very small *Trentepohlia* is remarkable in the costal dilation of the wings. It will be interesting to learn to what extent this character is developed in the male.

[To be continued.]