

*Mogannia distinguenda*, sp. n.

Body above bright emerald-green, eyes blackish; body beneath ochraceous; face and anterior legs pale castaneous, intermediate and posterior legs ochraceous; base of face emerald-green; tegmina and wings hyaline; tegmina with the costal area to just beyond apex of radial area sanguineous, veins on basal half emerald-green, remaining venation more or less fuscous; wings pale hyaline, narrowly sanguineous at base, the venation greenish on about basal half, remainder fuscous; head conically produced in front, eyes and ocelli fuscous; opercula and lateral areas of sternum with a pale greenish tint; abdomen beneath with a central longitudinal carination; opercula small, not covering the cavities, which are dark fuscous.

Long., excl. tegm., ♂, 14; exp. tegm. 40 mm.

*Hab.* Indo-China; Haut Mekong, Muong Sing (*R. V. de Salvaza*).

*Mogannia obliqua*.

*Mogannia obliqua*, Walk. List Hom., Suppl. p. 39 (1858).

*Hab.* Indo-China; Haut Mekong, Muong Sing.

A single specimen of this species, not uncommon in India, Burma, Malay Peninsula, and Java, has now been received from Indo-China.

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XLVII.—*New or little-known Tipulidæ (Diptera)*.—II. *Ethiopian Species*. By CHARLES P. ALEXANDER, Ph.D., Urbana, Illinois, U.S.A.

THE crane-flies described in this instalment were included in material sent to me for study by Dr. Hugh Scott of the University Museum, Cambridge, and Rev. J. A. Reis of the Cameroun. Dr. Scott has requested that the types of the new species described from the material submitted by him be deposited in the British Museum. The other types are preserved in the collection of the author. I am indebted to Prof. Lamb, Dr. Scott, and Reverend Reis for the loan of this material.

*Dicranomyia marshalli*, sp. n.

Wings very long and narrow, vein *Sc* short; general  
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coloration of the body greyish; halteres long and slender; fore femora dark brown, the other femora paler.

*Female*.—Length 7·8–8·4 mm.; wing 9–10 mm.

Rostrum rather long for most species of this genus of flies, about equal to half the length of the head or to the antennal scape, dark brown, including the palpi. Antennæ dark brown, the flagellar segments long-oval, with a short white pubescence and a few curved verticils. Head black, grey-pruinose.

Thorax dark grey, the præscutum with the stripes indistinct or lacking. Halteres long and slender, pale, the knobs brown. Legs with the coxæ small, dull yellow, the outer face of the fore coxæ infuscated; trochanters pale yellowish brown; fore femora dark brown, with only the extreme base pale; middle and hind femora yellowish; tibiæ light brownish yellow, the tips narrowly darkened; tarsi dark brown. Wings very long and narrow, somewhat as in the Holarctic *Dicranomyia longipennis* (Schummel), pale yellowish grey, the stigma and veins pale. Venation: *Sc* short, *Sc*<sub>1</sub> ending about opposite or slightly beyond the origin of *Rs*, *Sc*<sub>2</sub> removed a short distance from the tip of *Sc*<sub>1</sub>, the latter alone being about equal to two-thirds the basal deflection of *Cu*<sub>1</sub>; basal deflection of *R*<sub>4+5</sub> about one-half the sector; basal deflection of *Cu*<sub>1</sub> far before the fork of *M*, the fusion of *M* and the deflection of *Cu*<sub>1</sub> being usually about one-half the length of the latter alone; cell 2nd anal long and narrow, conforming to the elongate shape of the wing.

Abdomen dark brown, the ovipositor yellowish horn-colour. Tergal valves of the ovipositor slender, divergent, gently upcurved; sternal valves much higher, compressed, the tips subacute.

*Hab.* Rhodesia.

*Holotype*, ♀, Salisbury, Mashonaland (*G. A. K. Marshall*).

*Paratopotypes*, 3 ♀.

Type in the collection of the British Museum; paratypes in the collections of Cambridge University and the writer.

*Dicranomyia fuscopleura*, sp. n.

Size very small (wing of male about 4 mm.); antennæ dark brown, the flagellar segments with a short basal pedicel; mesothorax dull brownish yellow, the pleura with a broad, dark brown longitudinal stripe; wings faintly tinged with grey, the stigma brown; vein *Sc* long, cell 1st *M*<sub>2</sub> closed.

*Male*.—Length about 2·8–3 mm.; wing 3·9–4 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the flagellar segments oval, the intermediate segments with an indistinct basal pedicel. Head dark brown.

Mesonotum dull brownish yellow, the præscutum without distinct stripes. Pleura somewhat brighter yellow, with a broad brown longitudinal stripe extending from the cervical sclerites to the base of the abdomen, passing immediately beneath the base of the halteres. Mesosternum brownish. Halteres long, light brown, the knobs and the end of the stem darker brown. Legs with the coxæ and trochanters dull testaceous yellow; remainder of the legs broken. Wings with a faint grey tinge, the stigma rounded-oval, brown; veins dark brown. Venation: *Sc* long, *Sc*<sub>1</sub> extending to slightly beyond mid-length of the long sector, *Sc*<sub>2</sub> at the tip of *Sc*<sub>1</sub>; *r* at the tip of *R*<sub>1</sub>, bisecting the stigma; *Rs* long, more than twice the basal deflection of *R*<sub>4+5</sub>; cell 1st *M*<sub>2</sub> closed, large, longer than vein *M*<sub>3</sub> beyond it; basal deflection of *Cu*<sub>1</sub> just beyond the fork of *M*.

Abdomen dark brown.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, Cameroun, altitude about 1000 feet, July 18, 1919.

*Dicranomyia fuscopleura* is a tiny fly that is readily told from related described species by the size and conspicuously striped thoracic pleura.

*Dicranomyia recedens*, sp. n.

Antennal scape dark brownish black, the basal flagellar segments yellowish, the remainder of the antennæ dark brown; thorax and abdomen dark brownish black; legs brown, the tarsi pale; wings hyaline, the caudal half darkened, the costal margin with six large dark brown blotches; *Sc* long, *r* some distance from the tip of *R*<sub>1</sub>.

*Male*.—Length 4·8 mm.; wing 5 mm.

*Female*.—Length 6 mm.; wing 5·7 mm.

Rostrum and palpi dark brown. Antennæ with the scape dark brownish black, the basal flagellar segments yellowish, soon passing into dark brown. Head dark.

Mesothorax dark brownish black, the types mouldy, without distinct markings on the præscutum. Halteres black, only the extreme base of the stem paler. Legs with the coxæ and trochanters blackish; femora brownish, with an indistinct pale subterminal ring; tibiæ brown, the tips

pale brown; tarsi pale brown, only the terminal two or three segments darker brown and somewhat inflated; claws long and slender, with a very long, erect basal tooth and a shorter appressed tooth beyond mid-length. Wings with the cephalic half hyaline, the caudal cells strongly suffused with brownish grey, the membrane with a heavy dark brown pattern including six costal blotches; costal cell largely darkened; cell *Sc* largely pale, traversed by the first, third, and fourth brown blotches; the first of these areas occupies the arculus; the third at the origin of *Rs*, almost reaching vein *M*; the fourth, largest, occupies the end of vein *Sc* and passes through cell 1st *R*<sub>1</sub> to beyond the fork of the sector; the fifth blotch occupies the end of vein *R*<sub>1</sub> and *r*, and attains vein *R*<sub>4+5</sub>; the last blotch occupies the ends of cells 2nd *R*<sub>1</sub> and *R*<sub>3</sub>; slightly paler but broad seams along the cord and outer end of cell 1st *M*<sub>2</sub> and as seams along veins *R*<sub>4+5</sub>, *M*, and *Cu*; dark clouds at the ends of veins *Cu*<sub>1</sub>, *Cu*<sub>2</sub>, 1st *A* and 2nd *A*, and in the anal angle of the wing; veins dark brown. Venation: *Sc* very long, *Sc*<sub>2</sub> ending just before the fork of *Rs*, *Sc*<sub>2</sub> at the extreme tip of *Sc*<sub>1</sub>, and exceeding it in length; *Rs* long, strongly arcuated at origin; *r* retreated back from the tip of *R*<sub>1</sub>, so that *R*<sub>1</sub> beyond *r* is about half again as long as *r*; cell 1st *M*<sub>2</sub> closed; basal deflection of *Cu*<sub>1</sub> before the fork of *M*.

Abdomen dark brown. Male hypopygium rather large and complicated in structure for this genus of flies. Ovipositor with the valves short, the tergal valves slender, strongly upcurved; sternal valves transversely flattened and connected with one another by a membrane.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, Cameroun, altitude about 1000 feet, July 17, 1919 (*J. A. Reis*).

*Allotopotype*, ♀.

This handsome fly is undoubtedly related to *D. recurvans*, Alex. (Los Islands), but is readily told by the wing-pattern and venational details. The two species form a distinct group of the genus, in which *r* is at some distance from the tip of *R*<sub>1</sub>, and the female ovipositor shows a peculiar specialized structure. The recently described *D. trigonia* (Edwards) of Sumatra (Journ. Fed. Malay States Mus. vol. viii. pt. 3, pp. 15, 16; July 1919) is evidently another member of this peculiar group.

*Geranomyia (Geranomyia) mashonica*, sp. n.

General coloration brown, the thoracic pleura plumbeous; rostrum yellowish; wings pale subhyaline, the stigma small, rounded-oval, pale brown, vein *Sc* long.

*Male*.—Length (excluding rostrum) 5 mm.; wing 6.5 mm.; rostrum about 2.3 mm.

Rostrum moderately elongate, light brownish yellow throughout. Antennæ with the scapal segments pale brown, the flagellum darker brown, oval-cylindrical. Head light grey, the genæ more yellowish.

Mesonotum plumbeous brown, possibly discoloured, as there is an irregular median yellowish area on the præscutum. Pleura dark plumbeous. Halteres rather short, pale yellow, the knobs scarcely darker. Legs with the coxæ dark plumbeous; trochanters yellowish brown; remainder of the legs broken. Wings pale yellowish subhyaline; stigma small, rounded-oval, pale brown; veins pale. Venation: *Sc* long, extending to nearly opposite three-fourths the length of *Rs*, *Sc*<sub>2</sub> not far from the tip of *Sc*<sub>1</sub>, *Sc*<sub>1</sub> alone being a little shorter than *m*; *r* at the tip of *R*<sub>1</sub>; basal deflection of *R*<sub>4+5</sub> a little less than one-half the long sector; *r-m* short, less than *m*; cell 1st *M*<sub>2</sub> rather long, the portion of *M*<sub>1+2</sub> between *r-m* and *m* being about equal to or a little longer than that portion beyond *m*; basal deflection of *Cu*<sub>1</sub> at the fork of *M*.

Abdomen reddish yellow, especially the broad posterior margins of the tergites. Hypopygium reddish, the ventral pleural appendages long, greatly exceeding the short pleurites; dorsal appendages relatively small, the tip suddenly narrowed and acute.

*Hab.* Rhodesia.

*Holotype*, ♂, Salisbury, Mashonaland (*G. A. K. Marshall*). Collector's No. 23.

Type in the collection of the British Museum.

*Geranomyia mashonica* requires comparison only with *G. maculistiigma* (Enderlein) of Madagascar. The latter is a differently coloured fly with the stigma dark brown, the basal deflection of *R*<sub>4+5</sub> very short and cell 1st *M*<sub>2</sub> small and subquadrate.

*Ceratocheilus flavirostris*, sp. n.

Rostrum almost as long as the body, light yellow, the extreme base abruptly blackened; antennæ with the basal

segments light yellowish, the flagellar segments dark brown; general coloration of the body black, the sides of the mesonotal præscutum reddish brown; halteres black; legs with the coxæ black, the apical tarsal segments pale; wings subhyaline with a heavy dark brown pattern; vein  $R_{2+3}$  straight, perpendicular to the sector; basal deflection of  $Cu_1$  at about mid-length of cell 1st  $M_2$ .

*Male*.—Length (excluding rostrum) 6.8 mm.; wing 4.5 mm.; rostrum alone 6 mm.

Rostrum elongate, in the male sex at least, nearly as long as the body, the extreme base brownish black, the remainder of the organ very pale yellow. Antennæ with the enlarged basal segments conspicuously light yellow, the flagellum dark brown, the distal segments provided with very long hairs. Head dark brownish black, possibly discoloured, paler adjoining the inner margin of the eye.

Mesonotal præscutum dark reddish brown, the lateral margins very narrowly paler, the dorso-median area darker; remainder of the mesonotum black. Pleura black. Halteres black. Legs with the coxæ black; trochanters pale testaceous yellow; femora brown, paler at the base; tibiæ and tarsi darker brown, the apical tarsal segments pale whitish brown, the claws reddish. Wings greyish subhyaline, with a heavy dark pattern, arranged as follows: the single dark brown spot is located at  $Sc_2$ , immediately above the origin of  $Rs$ ; less intense brown spots on  $R_{2+3}$  continued along the cord to the fork of  $Cu$ ; a similar but narrower seam at the outer end of cell 1st  $M_2$ ; a very small cloud at the origin of  $Rs$ ; a large blotch at the base of  $M$ ; large spots in the cells, as follows: two in cell  $R_1$ , the outermost much the larger, subequal in size to the seam on  $R_{2+3}$ ; four equidistant marks in cell  $M$ , each of these divided into two unequal parts by a longitudinal obliterative streak in this cell; two spots in cell  $R_3$ , the proximal one larger; a large blotch at the end of vein 2nd  $A$ , entirely traversing the cell; a small blotch in the middle of cell 1st  $A$ ; brown clouds at the ends of veins  $M_3$ ,  $Cu_1$ , and  $Cu_2$ ; the apex of the wing in cells  $R_3$ ,  $R_5$ , and  $M_2$  milky white; the dark areas on the wing are produced by the concentration of the microscopic setæ which cover the membrane at these points; vein  $R_1$  yellow, the remaining veins dark brown. Venation:  $Sc_1$  ending just beyond the origin of  $Rs$ ,  $Sc_2$  being almost exactly at this point;  $Rs$  evenly and gently arcuate;  $R_{2+3}$  perfectly straight and perpendicular to the end of  $Rs$ , so that cell  $R_1$  is almost a triangle; cell 1st  $M_2$  closed;

basal deflection of  $Cu_1$  at about mid-length of the lower side of cell 1st  $M_2$ .

Abdomen black, the penultimate segment brighter.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, Cameroun, altitude about 1000 feet, July 17, 1919 (*J. A. Reis*).

*Paratype*, ♂, Grande Bassan, Jonchier, Ivory Coast, 1903 (*R. Blanchard*), in the Paris Museum.

*Ceratocheilus flavirostris* is readily told by the dark colour of the body, the pale yellow rostrum, and the very heavily spotted wings. The short straight  $R_{2+3}$  and the position of the basal deflection of  $Cu_1$  is distinctive of this species.

#### RHAMPHIDINA, subgen. nov.

Rostrum long and slender, longer than the head. Antennæ with 16 segments. Wings with *Sc* moderately elongate, ending about opposite mid-length of *Rs* and not close to  $R_1$  at the wing-margin;  $Sc_2$  at the extreme tip of  $Sc_1$ ;  $R_{2+3}$  sinuate, diverging from the almost straight  $R_{4+5}$ ; cell 1st  $M_2$  open by the atrophy of *M*; basal deflection of  $Cu_1$  before the fork of *M*.

Type of the subgenus.—*Rhamphidia* (*Rhamphidina*) *camerounensis*, sp. n. (Cameroun).

#### *Rhamphidia* (*Rhamphidina*) *camerounensis*, sp. n.

General coloration dark brown, the thoracic pleura more yellowish; halteres brown; wings hyaline, the stigma pale brown; cell  $R_1$  narrowed before its outer end; cell 1st  $M_2$  open.

*Male*.—Length about 4.2 mm.; wing 3.8–4 mm.

Rostrum long and slender, longer than the head, dark brown; palpi dark brown. Antennæ dark brown. Head dark brown.

Mesonotum brown, the lateral portions and the pleura dull yellowish testaceous. Halteres dark brown, the stem pale. Legs with the coxæ brownish testaceous; trochanters testaceous; femora dark brown; tibiæ dark brown, the tip and all the tarsi broken. Wings hyaline, the stigma pale brown; veins dark brown. Venation: *Sc* rather short,  $Sc_1$  ending just beyond mid-length of *Rs*,  $Sc_2$  at the extreme tip of  $Sc_1$  and exceeding it in length; *Rs* long, almost straight;  $R_{2+3}$  long, gently sinuate; cell  $R_1$  narrowed

before its outer end; cell 1st  $M_2$  open by the atrophy of  $m$ ; basal deflection of  $Cu_1$  a short distance before the fork of  $M$ , this distance usually a little less than the length of the deflection of  $Cu_1$  alone.

Abdomen dark brown. Male hypopygium with the pleurites rather stout, broad at the base, the inner face set with abundant erect spinous setæ; two pleural appendages, the outer appendage short, heavily chitinized, the tip indistinctly bifid; inner appendage long, broad at the base, suddenly narrowed to the slender curved tip, which bears a single long bristle at its apex; along the cephalic or proximal margin of this appendage at about mid-length a group of about seven stout erect setæ. Gonapophyses appearing as flattened blades whose posterior lateral angle is produced into a long acute point; penis-guard curved at the tip.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, altitude about 1000 feet, July 18, 1919 (*J. A. Reis*).

*Paratopotype*, ♂.

#### RHAMPHIDIOIDES, subgen. nov.

Rostrum nearly as long as the head. Antennæ with 16 segments, the scapal segments enlarged; flagellar segments slender, with appressed verticils. Legs long and slender; claws simple. Wings with vein  $Sc$  long, ending nearly opposite the fork of the long sector,  $Sc_2$  far before the tip of  $Sc_1$ ;  $Sc_1$  and  $R_1$  close together at the wing-margin, the space on costa between them about equal to the basal deflection of  $Cu_1$ ;  $r$  lacking; veins  $R_{2+3}$  and  $R_{4+5}$  strongly divergent at their outer ends, cell  $R_3$  being very broadly trumpet-shaped outwardly; cell 1st  $M_2$  closed; basal deflection of  $Cu_1$  far before the fork of  $M$ . Male hypopygium with the pleurites long and slender; two pleural appendages. Ovipositor with the valves very long and slender, the tergal valves especially so.

Type of the subgenus.—*Rhamphidia* (*Rhamphidioides*) *venustissima*, sp. n. (Cameroun).

The habitus of this beautiful little fly is quite unlike typical *Rhamphidia*, and it is probable that the similarity that seems to exist between the two groups will be found to be superficial only when more material is obtained. The legs are long and slender; the wings with  $Sc$  very long and close to  $R_1$  at the wing-margin and with  $Sc_2$  far back from



its tip, cell  $R_3$  very wide at the wing-margin, and the basal deflection of  $Cu_1$  before the fork of  $M$  all indicate a rather isolated group. *Leiponeura alluaudi*, Riedel, is very probably a member of this subgenus. The biological notes by the collector add another genus and species to the list of spider-web Tipulidæ and, curiously enough, this species, like the others, has white feet.

*Rhamphidia (Rhamphidioides) venustissima*, sp. n.

Rostrum brown; antennæ with the four basal segments yellow, the remainder of the flagellum dark brown; mesonotum dark brown, the sides of the præscutum yellowish; pleura yellow, spotted with brown; legs dark brown, the tips of the tarsi white; wings subhyaline with a heavy dark brown and grey pattern; basal deflection of  $Cu_1$  before the fork of  $M$ ; abdomen yellow, the intermediate segments with two transverse brown bands that produce a close banded appearance.

*Male*.—Length about 4·3 mm.; wing 3·5 mm.

*Female*.—Length about 5·3 mm.; wing 3·9 mm.

Rostrum moderately elongated, nearly as long as the head, dark brown; palpi small, yellow basally, the tips brown. Antennæ with the four basal segments bright yellow, the remainder of the flagellum dark brown. Head dark brown.

Pronotum dull yellow. Mesonotal præscutum deep yellow, dark brown medially; remainder of the mesonotum dark brown. Pleura dull yellow, spotted with brown. Halteres dull yellow, the knobs dark brown, a more or less distinct dark brown band beyond the base of the stem. Legs with the fore and middle coxæ marked with brown on their outer faces, the hind coxæ entirely yellow; trochanters brown; femora and tibiæ dark brown, the extreme base and tip of the latter pale; tarsi with the metatarsi dark brown, on the outer half passing into creamy white; remainder of the tarsi creamy white. Wings subhyaline with a heavy dark brown pattern, consisting of five large radial blotches; a sparse grey clouding in the posterior cells; cell  $C$  yellow, unmarked except for the narrow seam at  $h$ ; subcostal cell yellow, dark brown at the base and tip, and at  $Sc_2$ ; the five dark brown areas are as follows: at arculus; at the origin of  $Rs$ , extending completely across cell  $R$ ; the stigmal blotch, extending to cell 1st  $M_2$ ; a large area at the end of vein  $R_{2+3}$  extending caudad to vein  $R_{4+5}$ ; end of cell  $R_3$ ; the grey seams in the posterior cells include the remainder

of the cord; cell 1st  $M_2$ ; in the ends of the anal cells; in the end of cell  $Cu_1$  and very faintly across the posterior cells in alignment with the fourth and fifth radial blotches described above; veins  $C$ ,  $Sc$ , and  $R$  yellow; remaining veins dark brown. Venation:  $Sc_2$  retracted far back from the tip of  $Sc_1$ , lying about midway between the origin of  $R_s$  and the tip of  $Sc_1$ ;  $R_s$  long, arcuated at origin; cell  $R_3$  very wide at the wing-margin; basal deflection of  $Cu_1$  some distance before the fork of  $M$ , in some specimens this distance being greater than the deflection of  $Cu_1$ , in others less.

Abdominal tergites yellow, the intermediate segments with two broad brown cross-bands, one basal, the other postmedial, about equal in width to the yellow apices and much broader than the yellow band between them; the first segment has only the apical yellow band; the apical segments are uniformly darkened; sternites similar to the tergites, but the brown markings less clear-cut. Male hypopygium with the pleurites very long and slender, narrowed to the tip; pleural appendages two, the outermost slender, arcuated, chitinized; inner appendage longer, stout at the base, narrowed to the tip which is slightly expanded. Gonapophyses in the form of flattened yellow curved hooks that are acutely pointed at their tips. Ovipositor with the tergal valves exceedingly long and slender, slightly upcurved at their tips; sternal valves long, the tips acutely pointed.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, Cameroun, altitude about 1000 feet, July 17, 1919 (*J. A. Reis*).

*Allotopotype*, ♀.

*Paratopotype*, ♂.

"Resting on spider-webs in between the roots of trees."

*Paratropeza (Gymnastes) teucholaboides*, sp. n.

General coloration black, two spots on the vertex, the dorso-pleural membranes of the thorax and the apices of the halteres yellow; femora with the tips swollen, black, with a narrow subapical yellow ring; wings dark brown, the base and two narrow cross-bands hyaline.

*Male*.—Length about 4.7 mm.; wing 5 mm.

*Female*.—Length 6 mm.; wing 5.6 mm.

Rostrum and palpi black. Antennæ black, the flagellar segments oval. Head black, the anterior part of the vertex silvery pruinose and with a large yellowish spot at the inner

margin of the eye, these marks but narrowly separated by a capillary median brown line.

Prothorax black. Mesothorax black, the dorso-thoracic membranes light sulphur-yellow. Halteres black, the tips of the knobs conspicuously yellow. Legs with the coxæ and trochanters black; femora dark brown, the tips broadly swollen and blackened, immediately before the enlargement with a narrow yellow ring; tibiæ brown, the tips broadly blackened; tarsi dark brown, the base of the metatarsus yellow, this broadest on the hind legs. Wings narrow, dark brown; base of the wing and two narrow cross-bands pale, the first of these cross-bands before the cord, the second just beyond the outer end of cell 1st  $M_2$ . Venation: *Sc* ending just before mid-length of *Rs*; only the extreme base of  $R_2$  preserved, and this in alignment with the subatrophied *r* so as to appear as a single weak cross-vein; *r-m* connecting with *Rs* before its symmetrical fork; cell 1st  $M_2$  long and narrow, broadened outwardly, the basal deflection of  $Cu_1$  about at the fork of *M*.

Abdomen black, in the male with the posterior margins of the tergites very narrowly and indistinctly yellow. Ovipositor horn-coloured, the valves rather long and slender.

*Hab.* Rhodesia (Merset District).

*Holotype*, ♂, Chirinda Forest, October 1905 (*G. A. K. Marshall*).

*Allotopotype*, ♀.

Type in the collection of the British Museum.

By means of the existing keys, *Paratropeza teucholaboides* would run to the genus *Teucholabis*, Osten-Sacken, but a comparison with certain Oriental species of *Paratropeza*, such as *P. ornatipennis* (de Meijere) and *P. flavitibia*, Alexander, convinces me that we have here to do with a highly specialized member of *Paratropeza*, which gives us a distinct clue as to the manner in which the reduced radial venation of *Teucholabis* has been evolved. This is produced by the atrophy of the tip of  $R_2$  beyond the radial cross-vein and the straightening out of the base of  $R_2$  into alignment with *r*. In the Oriental species of *Paratropeza*, including *P. pictipennis* (Edwards), in addition to the two species mentioned above, the tip of  $R_2$  is preserved, but the entire branch is small, nearly vertical in position and often with the radial cross-vein inserted near the middle of its length. It may become necessary to relegate *Paratropeza* to subgeneric rank under *Teucholabis*, giving us a case entirely comparable to *Gonomyia* and its reduced subgenus *Leiponeura*.

*Trentepohlia (Trentepohlia) fuscoapicalis*, sp. n.

General coloration dark brown, the thoracic pleura and abdominal sternites dull yellow; tarsi and most of the tibiæ whitish; wings greyish subhyaline, the wing-tip dark brown; petiole of cell  $R_3$  nearly one-half the length of this cell.

*Male*.—Length 5.2 mm.; wing 4.8 mm.

Rostrum yellow; palpi dark brown. Antennæ dark brown, unusually long for a member of this genus, if bent backward extending beyond the wing-base; verticils long, especially a single verticil on each segment, arranged in a single second row. Head dark brown, brighter on the occiput.

Mesonotal præscutum dull brownish yellow, dark brown medially; remainder of the mesonotum dark brown. Pleura dull brownish yellow. Halteres short, dark brown. Legs with the coxæ and trochanters dull yellow; femora pale brown; tibiæ similar, soon passing into white; tarsi white; femora with three short black spines near the base, these possibly lacking on the posterior femora which are concealed in the type. Wings greyish subhyaline, the wing-tip and narrow seams along the veins dark brown; stigma scarcely darker than the wing-tip; costal and subcostal cells, the stigma, cell 2nd  $R_1$ , all of  $R_2$ , the outer third of  $R_3$ , and the tip of  $R_5$  darkened; narrow brown seams along all the radial veins, along  $M_{1+2}$ , and on  $Cu$  and its branches; veins dark brown. Venation:  $R_{2+3}$  beyond  $r$  a little shorter than  $r$  alone, and about one-third to one-fourth the length of  $R_2$ ; petiole of cell  $R_5$  between one-third and one-half the length of this cell and considerably longer than the basal deflection of  $R_{4+5}$ .

Abdominal tergites uniformly dark brown, the sternites dull yellowish.

*Hab.* West Africa.

*Holotype*, ♂, Lonji, about 50 miles north of Kribi, near the Ulou River, Cameroun, altitude about 1000 feet, July 17, 1919 (*J. A. Reis*).

*Trentepohlia fuscoapicalis* is a small species of the subgenus that is apparently closest to *T. curtipennis* (Speis.), likewise from Cameroun. This latter species is rust-yellow with the abdominal segments narrowly ringed with brown; the wings with a large brownish-yellow stigma and with the apex suffused with yellowish.

*Tipula mashona*, sp. n.

Belongs to the *oleracea* group; close to *T. soror*, Wiedemann; antennal flagellum dark brown; general coloration grey, the præscutum with three pale stripes that are margined with dark brown, the median stripe split by a dark brown line.

*Male*.—Length about 21 mm.; wing 20 mm.

Rostrum light grey above, the sides brown; nasus with long yellow hairs. Antennæ with the first and second segments pale brownish yellow, sparsely grey-pruinose, third segment yellowish brown, darker at the end, remaining segments dark brown, the basal swelling moderately prominent. Head light grey.

Mesonotal præscutum grey with three indistinct greyish stripes that are distinctly margined with dark brown, the median stripe split by a double capillary brown line; lateral stripes with the brown margins becoming obliterated on the lateral side; scutum grey, the lobes with brown markings anteriorly; remainder of the notum light grey. Pleura pale, light grey-pruinose, the dorso-pleural membranes dull buffy yellow. Halteres long, the knobs dark brown. Legs with the coxæ yellowish, the mesocoxæ and metacoxæ sparsely grey-pruinose; trochanters dull brownish yellow; femora brown, the tips darker; tibiæ pale brown, the tips narrowly darkened; tarsi long, dark brown, the base of the metatarsi a little paler. Wings pale grey, the costal region brown, including cells *C*, *Sc*, 1st *R*<sub>1</sub>, and 2nd *R*<sub>1</sub>; a broad subhyaline streak, including most of cell *R*, the anterior portion of *M*, the base of *R*<sub>3</sub> and almost all of *R*<sub>5</sub>; a brown seam along *Cu*. Venation: cell *R*<sub>2</sub> small, narrow at the base, *R*<sub>3</sub> almost in alignment with *R*<sub>2+3</sub>.

Abdomen discoloured; the tergites apparently dark brown with a distinct blackish sublateral mark on either side, the lateral margins broadly pale. Hypopygium pale. Male hypopygium with the ninth tergite about as in *T. soror*, broad and flattened; the caudal margin with a broad median lobe that is feebly notched medially, the lobes roughened and with the outer angle a little produced, smooth; viewed caudally, each of these lobes is seen to be produced ventrally into a flattened blade whose caudal margin is densely covered with blackened spinules. The pleural appendages are almost as in *T. soror*. Ninth sternite strongly carinate, the dorsal inner angle with a dense tuft of yellowish hairs directed inward. Eighth sternite unarmed.

*Hab.* Rhodesia.

*Holotype*, ♂, Salisbury, Mashonaland, March 1905 (G. A. K. Marshall).

Type in the collection of the British Museum.

*Tipula mashona* is very closely allied to *T. soror*, Wiedemann, but may be distinguished by the dark brown antennal flagellum, the clear grey coloration of the head and thorax, and other characters.

*Nephrotoma mossambica*, sp. n.

Close to *N. unicingulata*, Alexander; præscutal stripes very broad, confluent or nearly so; legs brownish black, the femoral bases paler; wings with the apical cells sparsely pubescent, *Rs* short and straight; abdominal tergites one to five with a black median mark, segments six to eight ringed with black.

*Male*.—Length about 13 mm.; wing 15 mm.

*Female*.—Length about 18 mm.; wing 16 mm.

Frontal prolongation of the head dull yellow; nasus long and slender. Palpi pale brown. Antennal scape orange; flagellum black; antennæ moderately elongate, if bent backward, extending about to the base of the abdomen. Head orange, the occipital mark elongate, dull brown.

Pronotum light yellow. Mesonotal præscutum pale whitish yellow with three very broad black stripes that are almost confluent, the humeral angles of the ground-colour; scutum black with only a narrow yellowish median line; scutellum brownish testaceous; postnotum yellow with about the posterior two-fifths brownish testaceous. Pleura whitish, indistinctly marked with yellowish. Halteres brown, the knobs yellowish. Legs with the coxæ and trochanters pale yellowish; femora dark brownish black with the base paler, more brownish, this narrowest on the fore legs, more extensive on the hind legs; remainder of the legs dark brownish black, less intense on the basal half of the tibiæ. Wings with a strong brownish-yellow tinge, the wing-apex passing into brown; cell *Sc* yellowish brown; stigma dark brown; an indistinct brown seam along the cord extending to cell 1st *M*<sub>2</sub>; veins dark brown. Apices of cells *R*<sub>3</sub>, *R*<sub>5</sub>, and *M*<sub>1</sub> sparsely pubescent. Venation as in *N. unicingulata*, but *Rs* shorter and straighter, almost in alignment with the deflection of *R*<sub>4+5</sub>; cell *M*<sub>1</sub> more broadly sessile.

Abdominal tergites orange-yellow, the first tergite largely black; tergite two with a linear black mark on the basal half and a similar mark on the apical half; segments three

to five each with a similar mark occupying the apical two-thirds of the segment; segments six to eight with a conspicuous black ring as in *N. unicingulata*, this including all of segments six to eight excepting the basal half of the sixth sternite, which is orange; sternites unmarked. Hypopygium reddish orange; ninth tergite with a broad, rounded posterior notch; outer pleural appendage tapering to a long point.

The female is generally similar to the male, but the occipital mark is less distinct, the præscutal stripes confluent, the scutellum and posterior margin of the postnotum darker brown, the pleural markings darker. The tergal valves of the ovipositor are long and straight.

*Hab.* Rhodesia (Melsetter District).

*Holotype*, ♂, Chirinda Forest, October 1905 (*G. A. K. Marshall*).

*Allotopotype*, ♀.

Type in the collection of the British Museum.

*Nephrotoma mossambica* is closely related to *N. unicingulata*, Alexander (Transvaal to Cape Colony), in the cingulated abdomen and the apically pubescent wings. It is readily told by the much more extensive black areas on the mesonotum, the darker legs, the darker wings with the sector short and straight, and by the narrow black markings on abdominal tergites one to six.

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#### XLVIII.—Notes on certain British Freshwater Entomostraca.

By ROBERT GURNEY, M.A.

THE following notes refer to a few species taken during the past summer, mainly in Norfolk, some of which have not previously been found in Britain:—

##### 1. *Chirocephalus diaphanus* (Prevost)\*.

On Sept. 12, 1919, I found a number of specimens of the Fairy Shrimp in a small pool on Bratley Heath by the

\* Daday, in his "Monograph of the Phyllopoda Anostraca" (*Ann. Sci. Nat.* xi. 1910, p. 206), adopts the specific name *stagnalis*, Shaw. As a matter of fact, Shaw is antedated by King (1767), but in either case the name is inadmissible for this species under Article 31 of the Rules of Nomenclature (see *Int. Rev. Hydrob.*, Suppl. vi. 1914, Heft 2). Had it not been so, there would be three species in closely-allied genera to all of which the same specific name might be attached. Fortunately, only one of them (*Tanytastix stagnalis*, Linn.) can properly claim that name.