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## NEW OR LITTLE-KNOWN SPECIES OF EXOTIC TIPULIDAE (DIPTERA) VI.

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THE preceding part in this series was published in 1948, *Proc. R. ent. Soc. Lond.* (B) 17 18-27. In the present paper I am discussing various African species, chiefly from Rhodesia, Portuguese East Africa and Cape Province. Except where indicated to the contrary in the text, the types of the new species are preserved in my collection of these flies.

### *Limonia* (*Dicranomyia*) *mosselica* sp. n.

Belongs to the *tristis* (*liberta*) group; general coloration brownish grey, the praescutum with a broad, median, darker brown stripe; legs brown; wings greyish subhyaline, restrictedly patterned with brown;  $Sc_1$  ending just beyond origin of  $Rs$ ; cell 1st  $M_2$  exceeding the distal section of vein  $M_{1+2}$ ; male hypopygium with the ninth tergite produced medially, the caudal border strongly convex, with three elongate setae on either side near base; basistyle with the ventromesal lobe narrowed outwardly, with a concentration of long setae near apex; on face of lobe with a pencil of long black setae; dorsal dististyle unusually long and slender, the tip acute; ventral dististyle fleshy, its rostral prolongation conspicuous, obtuse at tip; rostral spines two, long and conspicuous, placed near base of prolongation.

*Male*.—Length about 6 mm.; wing 7 mm.

*Female*.—Length about 6 mm.; wing 6.5 mm.

Rostrum brownish black, relatively long, approximately one-third the remainder of head; palpi black. Antennae with scape pruinose; pedicel dark brown, flagellum black; flagellar segments oval. Head grey; anterior vertex (male) narrow, only about one-third the diameter of scape.

Pronotum dark brown. Mesonotum brown, grey pruinose; praescutum with a broad darker brown median stripe, with indications of fainter lateral areas; scutal lobes patterned with dark brown. Pleura dark brownish grey. Halteres with stem whitened, knob infuscated. Legs with the coxae dark brown, more or less pruinose; trochanters brown; remainder of legs brown, the terminal tarsal segments passing into black. Wings greyish subhyaline, the pre-arcular and costal fields more whitened; a very restricted brown pattern, as follows: Arculus, origin of  $Rs$ , cord and outer end of cell 1st  $M_2$ ; stigmal seam narrow and inconspicuous; veins brown, whitened in the paler areas. Venation:  $Sc_1$  ending just beyond origin of the angulated  $Rs$ ,  $Sc_2$  exactly opposite this origin; cell 1st  $M_2$  elongate, exceeding the distal section of vein  $M_{1+2}$ ;  $m-cu$  at fork of  $M$ .

Abdomen dark brown, more or less pruinose; hypopygium somewhat more brightened. Male hypopygium with the ninth tergite produced medially, the caudal border strongly convex, the cephalic margin less strongly so; two setae near apex of tergite and four others near each lateral border, the marginal three very long. Basistyle with ventromesal lobe small but complex, narrowed outwardly and more or less pointed; outer end with conspicuous setae from strong tubercles, the outermost larger; on outer face of lobe at near midlength with a close pencil of about 8 or 9 long black setae; elsewhere on basistyle with an elongate cylindrical lobe on face, this with about four very long setae at and near tip, the longest pair only a little shorter than the lobe. Dorsal dististyle unusually slender for a member of this group, the tip acute. Ventral dististyle fleshy, its rostral prolongation

conspicuous, obtuse at apex; rostral spines two, placed close to base of style, slightly separated, the spines relatively strong. Gonapophysis with mesal-apical lobe dark-coloured, the apex curved laterad into a small hook.

*Holotype*, ♂, CAPE PROVINCE: Mossel Bay, February, 1922 (*R. E. Turner*); British Museum (Natural History). *Allotopotype*, ♀; in Alexander Collection.

*Limonia (Dicranomyia) mosselica* is most similar to *L. (D.) gardineri* (Edwards) and a few allied regional forms, differing most conspicuously in the structure of the male hypopygium, particularly the vestiture of the tergite, unusually long and slender dorsal dististyle, and the armature of the basistyle and ventral dististyle.

### ***Helius (Helius) paramorosus* sp. n.**

General coloration of body dark brown or brownish black; rostrum relatively long and slender, exceeding in length the remainder of head; legs brown, tarsi fading to yellowish white, involving the distal ends of basitarsi and outer tarsal segments; wings with a brownish tinge, cells *C* and *Sc*, with the stigma, darker brown; branches of *Rs* strongly divergent; cell 1st *M*<sub>2</sub> shorter than any of the veins beyond it, *m-cu* close to the fork of *M*; male hypopygium with the apical teeth of the outer dististyle very small, blackened.

*Male*.—Length, including rostrum, about 6.5–8 mm.; wing 6–8 mm.; rostrum alone about 0.8–1.0 mm.

*Female*.—Length, including rostrum, about 8 mm.; wing 7 mm.; rostrum about 0.8 mm.

Rostrum relatively long and slender, exceeding in length the remainder of head, black throughout; palpi black. Antennae with scape and pedicel brownish black, flagellum black; antennae relatively short, only from one-fourth to one-fifth longer than the rostrum; basal flagellar segments oval, the outer ones more elongate. Head dark brown to brownish black; anterior vertex narrow, less than the diameter of scape.

Pronotum and mesonotum chiefly dark brown to black, the very restricted pretergites and humeral region of praescutum obscure yellow. Pleura dark reddish brown to brownish black, darkest on dorsal portions. Halteres infuscated, base of stem restrictedly yellow. Legs with coxae and trochanters reddish brown; remainder of legs brown, the tarsi fading to pale yellowish white, this colour involving the distal third or less of the basitarsi; claws with slender basal spines. Wings with a brownish tinge, cells *C* and *Sc*, with the stigma, darker brown; veins brown. Venation: *Sc*<sub>1</sub> ending a short distance before fork of *Rs*, *Sc*<sub>2</sub> a little longer, placed near its tip; branches of *Rs* strongly divergent, cell *R*<sub>3</sub> at margin approximately three times as wide as cell *R*<sub>2</sub>; cell 1st *M*<sub>2</sub> shorter than any of the veins beyond it; *m-cu* at or close to fork of *M*.

Abdominal tergites dark brown or brownish black, the sternites and hypopygium somewhat more brightened. Male hypopygium with the basistyle unarmed but provided with relatively abundant elongate setae. Outer dististyle relatively short and only gently curved, very indistinctly bidentate at tip, the teeth black. Inner dististyle about one-half longer than the outer style, the basal two-thirds more dilated and provided with abundant long setae, the narrowed outer portion paler and more blade-like, provided with shorter setae. Gonapophyses extending into slender pale blades, the outer portion at the bend with pale membrane that is provided with numerous pale setulae.

*Holotype*, ♂, SOUTHERN RHODESIA: Chirinda Forest, altitude 3600 ft., November, 1930 (*Cuthbertson*), No. 2807; "beside stream; curious bobbing motion while at rest." *Allotopotype*, ♀; Cuthbertson, No. 2800; "associated with *Dolichopeza cuthbertsoniana* in dark places along stream; clings to support, as a twig, with tarsus of left leg." *Paratopotypes*, 3 ♂; Cuthbertson, No. 2800. These bear various ecological notes: "Under leaves of overhanging vegetation

beside stream ; on mossy rocks in stream ; many under overhanging mossy rocks in dark places"—*Alexander Cuthbertson*.

The most similar described species are *Helius* (*Helius*) *morosus* (Alexander) and *H.* (*H.*) *submorosus* (Alexander), both from West Africa. These, while being generally similar, differ markedly in the venation, especially the branches of *Rs* and the shape of cell 1st  $M_2$ .

### ***Pseudolimnophila chrysopoda* sp. n.**

Size large (wing, male, 9 mm.) ; mesonotum almost uniformly light brown, the praescutum with faint darker stripes ; flagellum brownish black, the base of the first segment restrictedly brightened ; legs clear light yellow ; wings with a strong brownish yellow suffusion, restrictedly patterned with brown, including the stigma and seams at origin of *Rs*, cord and outer end of cell 1st  $M_2$  ;  $R_{2+3+4}$  relatively short and oblique, subequal to  $R_{1+2}$  ; *m-cu* about one-half its length beyond the fork of *M* or before the level of *r-m*.

*Male*.—Length about 10 mm. ; wing 9 mm.

Rostrum and palpi black. Antennae with scape and pedicel black, the latter somewhat more intense ; flagellum brownish black, the base of the first segment restrictedly brightened ; flagellar segments beyond the first one or two elongate-cylindrical, with long conspicuous verticils. Head dark grey, narrowed posteriorly.

Pronotum light brown. Mesonotum almost uniformly light brown, the praescutum with faint indications of darker stripes, the lateral portions more greyish ; pseudosutural foveae large, pale ; scutellum more yellowish on posterior portion ; postnotum grey pruinose, the mediotergite paler behind. Pleura chiefly dark brown, more or less variegated by paler. Halteres pale with darkened knobs. Legs clear light yellow, the outer tarsal segments infuscated. Wings with a strong brownish yellow suffusion, restrictedly patterned with brown, including the stigma and seams over origin of *Rs*, cord and outer end of cell 1st  $M_2$  ; proximal portion of wing in the region of areculus and bases of the anal cells less evidently clouded with brown ; veins yellow, darker in the patterned portions. Venation :  $Sc_1$  ending approximately opposite the fork of *Rs*,  $Sc_2$  near its tip ; *Rs* elongate ;  $R_{2+3+4}$  relatively short and oblique, about one-fifth longer than  $R_{2+3}$  or subequal to  $R_{1+2}$  ; veins  $R_3$  and  $R_4$  long and sinuous ; cell  $M_1$  about twice its petiole ; cell 1st  $M_2$  rectangular ; *m-cu* about one-half its length beyond fork of *M* ; anterior areculus strongly preserved.

Abdominal tergites yellowish brown ; sternites and hypopygium clear light yellow.

*Holotype*, ♂, SOUTHERN RHODESIA : Umtali, Vumba Mountains, altitude 4500 ft., April, 1929 (*Cuthbertson*) ; No. 2386.

The nearest ally of the present fly is *Pseudolimnophila frugii* (Bergroth), of southern and eastern Africa. By my key to the African species of the genus (1924, *Ark. Zool.* 16 (18) 4-7), this fly runs directly to *frugii*, from which it is readily told by the colour of the body, legs and wings and by the venation.

### ***Pseudolimnophila* (*Calolimnophila*) *imperita* sp. n.**

Size small (wing under 9 mm.) ; general coloration cinnamon brown, conspicuously patterned with dark brown, especially the praescutum ; pleura chiefly black ; halteres brownish black ; fore coxa blackened, with a transverse obscure yellow ring, middle and hind coxae light yellow, remainder of legs yellow ; wings with a brownish tinge, patterned with darker brown and light yellow, chiefly marginal ; *Rs* long, angulated and spurred at origin ; supernumerary crossvein in cell  $R_3$  at near three-fifths the length of the cell.

*Sex* ? Wing 8.3 mm.

Rostrum, mouthparts, palpi and antennae destroyed by Corrodentia. Head above light brown or greyish brown.

Pronotum yellowish brown, with a conspicuously dark brown median spot on scutum. Mesonotal praescutum light cinnamon brown, patterned with dark brown, including a capillary median vitta; a broad dark humeral area, with a further broad lateral darkening; more or less broken further darkenings occupying the region of the usual interspaces; pseudosutural foveae large and conspicuous, dark and shiny, occupying the humeral darkened area; posterior sclerites of notum chiefly light brown or yellowish brown, more or less patterned with darker, the surface pruinose or pollinose; mediotergite somewhat protuberant on posterior half; dorsal portions of both the mediotergite and pleurotergite yellowish brown, the ventral half and remainder of pleura brownish black to black. Halteres brownish black. Legs with the fore coxae black, narrowly ringed with an obscure yellow line, middle and posterior coxae clear light yellow, their bases narrowly blackened; all trochanters yellow; femora obscure brownish yellow, unmarked; tibiae and tarsi clear light yellow. Wings with a strong brownish tinge, variegated with somewhat darker brown and more yellow areas, the latter as a series of marginal spots between the veins, especially distinct in the costal, radial and medial fields; the darker areas are likewise marginal, alternating with the yellow spots; disk of wing almost unpatterned, a series of small spots along vein *Cu*; veins yellowish brown or light brown, darker in the patterned areas. Venation: *Sc*<sub>1</sub> ending just before level of fork of *Rs*, the latter elongate, angulated and spurred at origin; *R*<sub>2+3+4</sub> long, only slightly arcuated; supernumerary crossvein in cell *R*<sub>3</sub> at near three-fifths the length of cell; cell *M*<sub>1</sub> short, from two to three times its petiole; *m-cu* about one-half its length beyond the fork of *M*, the inner end of cell 1st *M*<sub>2</sub> slightly arcuated; vein 2nd *A* sinuous on outer half, strongly curved to the border.

Abdomen dark brown or brownish black; basal sternites light brown medially, darker on sides; outer segments more uniformly darkened; abdomen broken beyond the fifth segment.

*Holotype*, Sex ?, CAMEROUN: Ngobilo, 5th September, 1931 (*J. A. Reis*).

This interesting fly was one of very many species of TIPULIDAE from the Cameroun sent to me since 1920 by my friend, Dr. Jacob A. Reis, who died in the Cameroun on 29th December, 1945. Although Reis is known primarily as a collector of birds, chiefly for the Carnegie Museum, Pittsburg, Pa., U.S.A., he collected many thousands of specimens of insects, including TIPULIDAE.

The only other described small member of the subgenus is *Pseudolimmophila* (*Calolimmophila*) *comes* Alexander, which is readily distinguished by all features of coloration of the body, legs and wings, and by the venation, including the small cell *M*<sub>1</sub>, which is shorter than its petiole.

### ***Austrolimmophila luteipleura* sp. n.**

Head light grey, the anterior vertex unusually narrow, less than the diameter of scape; mesonotum chiefly dark brown, contrasting with the clear light yellow pleura and pleurotergite; scutellum and mediotergite light grey pruinose; halteres brown, base of stem restrictedly yellow; legs brownish yellow or light brown; wings with a very weak brownish tinge, unpatterned except for the pale brown oval stigma; *Rs* more than one-half longer than the slightly arcuated *R*<sub>2+3+4</sub>; petiole of cell *M*<sub>1</sub> short, only from one-fourth to one-fifth the cell; position of *m-cu* varying from one-half to four-fifths the length of cell 1st *M*<sub>2</sub>; abdominal tergites dark brown, basal sternites clear light yellow.

*Female*.—Length about 10 mm.; wing 9–10 mm.

Rostrum brownish yellow, sparsely pruinose; palpi brown. Antennae with the scape and pedicel dark brown; flagellum broken. Head dark in colour, heavily light grey pruinose; anterior vertex unusually narrow, slightly less than the diameter of scape; head only moderately narrowed behind.

Pronotum obscure yellow, clearer in front. Mesonotum chiefly dark brown, the prae-

scutal stripes confluent or virtually so; humeral region of praescutum more or less grey pruinose, scutellum and mediotergite more heavily light grey pruinose, the latter brownish yellow on sides. Pleura and pleurotergite, including the dorsopleural membrane, clear light yellow, unpatterned. Halteres brown, the base of stem restrictedly yellow. Legs with the coxae yellow or brownish yellow, more or less pruinose; trochanters yellow; remainder of legs brownish yellow or light brown, the terminal segments darker. Wings with a very weak brownish tinge, unpatterned except for the pale brown oval stigma; veins light brown. Venation:  $Sc$  relatively long,  $Sc_1$  ending opposite two-thirds to three-fourths  $R_{2+3+4}$ ,  $Sc_2$  near its tip;  $Rs$  moderately long, more than one-half longer than  $R_{2+3+4}$ , the latter only slightly arcuated; cell 1st  $M_2$  rectangular, a little widened outwardly, with  $m-cu$  at near one-half to nearly four-fifths its length; petiole of cell  $M_1$  short, only one-fourth to one-fifth the cell; anterior arculus lacking.

Abdominal tergites dark brown; basal sternites clear light yellow, the outer ones more obscured.

*Holotype*, ♀, SOUTHERN RHODESIA: Chirinda Forest, altitude 3600 ft., November, 1930 (*Cuthbertson*); No. 2803. *Paratopotype*, ♀; in British Museum (Natural History).

The present fly is most similar and more nearly related to *Austrolimnophila griseiceps* (Alexander), of the Cape of Good Hope (Caledon Division), from which it differs especially in the coloration of the body and wings and in the venation.

### *Austrolimnophila plumbeipleura* sp. n.

Size medium (wing, female, 8.5 mm.); head and thorax chiefly grey pruinose; wings with a faint greyish yellow ground; stigma oval, medium brown, relatively conspicuous;  $Sc_1$  ending about opposite two-fifths the length of  $Rs$ ,  $Sc_2$  close to its tip;  $R_{2+3+4}$  only moderately arcuated;  $m-cu$  at near two-thirds the length of cell 1st  $M_2$ ; abdomen dark brown, the posterior borders of the segments restrictedly testaceous yellow; sternites more uniformly pale yellow.

*Female*.—Length about 9.5 mm.; wing 8.5 mm.

Rostrum light brown; palpi darker brown. Antennae with the scape and pedicel obscure yellow; flagellum broken. Head grey; anterior vertex moderately wide, about equal in width to the diameter of scape.

Pronotum clear yellow above, more infuscated and pruinose on sides. [Mesonotum chiefly destroyed by insect pests]. Postnotum clear light grey pruinose. Pleura and pleurotergite infuscated, sparsely pruinose, to produce a more or less leaden appearance. Halteres obscure yellow, the knobs weakly infuscated. Legs with the coxae pale yellow, sparsely pruinose; trochanters brownish yellow; remainder of legs broken. Wings with a faint greyish-yellow ground, the prearcular and costal fields somewhat clearer yellow; stigma oval, medium brown, relatively conspicuous; exceedingly vague and restricted darkening along cord and outer end of cell 1st  $M_2$ ; veins brownish yellow, somewhat clearer yellow in the brightened fields. Venation:  $Sc_1$  ending about opposite two-fifths the length of  $Rs$ ,  $Sc_2$  longer, close to its tip;  $Rs$  long, about one-half to three-fifths longer than  $R_{2+3+4}$ , very slightly arcuated; veins  $R_2$  and  $R_4$  subparallel to one another for their entire length; cell  $M_1$  about four times its petiole; cell 1st  $M_2$  rectangular, slightly widened outwardly,  $m-cu$  at near two-thirds the length; anterior arculus lacking, its position indicated by a dusky cloud.

Abdomen chiefly dark brown, the posterior borders of the segments restrictedly testaceous yellow; sternites more uniformly pale yellow.

*Holotype*, ♀, PORTUGUESE EAST AFRICA: Border Farm, Rio Jardin, April, 1929 (*Cuthbertson*); No. 2386.

By means of keys to the regional species of the genus, the present fly runs to *Austrolimmophila griseiceps* (Alexander), of the Caledon Division, Cape of Good Hope. It differs in the details of coloration of the body and wings and in the venation, as the much smaller cell 1st  $M_2$ , which is only about one-half as long as the distal section of vein  $M_3$ . It is readily distinguished from *A. luteipleura* sp. n. by the coloration of the thoracic pleura and by the wing venation.

***Erioptera* (Meterioptera) quadrispicata** sp. n.

General coloration of mesonotal praescutum and scutal lobes reddish brown, the posterior sclerites of notum and the pleura extensively yellow; halteres yellow; wings greyish yellow, the anal cells somewhat darker, the prearcular and costal fields light yellow; vein 2nd  $A$  with its distal third sinuous; male hypopygium with the apex of the outer dististyle obtuse, with abundant setae and appressed small spines; inner dististyle a sinuous pale blade, the elongate apex fringed with short setae; phallosome terminating in four short blackened points.

*Male*.—Length about 3.5 mm.; wing 4 mm.

Rostrum and palpi dark brown. Antennae broken. Head greyish brown, clearer grey in front and on the orbits.

Pronotum light brown; pretergites yellow. Mesonotal praescutum and scutal lobes chiefly rich reddish brown, the former darker medially, but not forming a distinct stripe; pseudosutural foveae pale, inconspicuous against the ground; tuberculate pits black; median region of scutum posteriorly and the scutellum yellow; postnotum chiefly yellow. Pleura yellow, the ventral sternopleurite and meron more reddened. Halteres yellow. Legs with coxae and trochanters yellow; femora brown, restrictedly yellow basally; remainder of legs broken. Wings with a greyish yellow ground, the anal cells somewhat darker; prearcular and costal fields light yellow; veins very pale brown or brownish yellow, the prearcular and costal veins yellow. Venation: *m-cu* just before the fork of  $M$ ; vein 2nd  $A$  with the distal third unusually sinuous for a member of this subgenus.

Abdomen, including hypopygium, yellow. Male hypopygium with the outer dististyle a straight stout rod, the apex obtuse, provided with abundant setae or small spines, some of the outer ones stouter and more curved. Inner dististyle a sinuous and twisted pale blade, the outer portion produced into a long slender point or rod, provided with numerous short setae (apex of rod broken and its length cannot be stated, but the whole style considerably exceeds the total length of the outer dististyle.) Phallosome terminating in four short blackened points, of which the lateral pair are longer than the inner ones.

*Holotype*, ♂, SOUTHERN RHODESIA: Salisbury, January, 1930 (*Cuthbertson*).

The most similar described regional species is *Erioptera* (*Meterioptera*) *subaurea* Bergroth, 1888, which differs especially in the structure of the male hypopygium, particularly the entirely different gonapophyses.

***Cryptolabis* (*Baeoura*) unistylata** sp. n.

Size small (wing, male, less than 4.5 mm.); general coloration of thorax light greyish brown, pruinose; halteres yellow, the knobs very weakly darkened; legs light brown, the vestiture short and inconspicuous; wings with a uniform grey tinge;  $Sc$  short,  $Sc_1$  ending before level of fork of  $Rs$ ; male hypopygium with the dististyle a long narrow blade, approximately five times as long as wide; gonapophysis appearing as a pale blade, the outer apical angle produced laterad into a long spinous point.

*Male*.—Length about 3.8–4 mm.; wing 4.4–4 mm.

Rostrum and palpi brown. Antennae light to medium brown; flagellar segments oval, with coarse scattered setae and still longer verticils. Head grey.

Thorax light greyish brown, without pattern; pretergites obscure yellow; pleurotergite more yellowish. Pleura reddish, heavily grey pruinose. Halteres yellow, the knobs very weakly darkened. Legs with the coxae pale brown, sparsely pruinose; trochanters obscure yellow; remainder of legs light brown, the terminal tarsal segment darker; vestiture of legs short and inconspicuous. Wings with a uniform greyish suffusion, the prearcular field somewhat more yellowed; stigmal region barely differentiated; veins pale brown. Venation:  $Sc_1$  ending some distance before the level of the fork of  $R_s$ ,  $Sc_2$  a short distance from its tip, placed about opposite two-thirds the unusually long straight  $R_s$ ;  $R_2$  about two-thirds  $R_{2+3+4}$ ;  $R_3$  nearly straight, not deflected cephalad at outer end, as in *claripennis*,  $R_4$  bent more strongly caudad; vein 2nd  $A$  very gently sinuous at near midlength.

Abdomen dark brown, the hypopygium a little more brightened. Male hypopygium with the apex of the basistyle narrowed. Dististyle subapical in position, appearing as a long relatively narrow blade, the outer fourth narrowed; style about five times its greatest width. Gonapophyses appearing as flattened pale blades, the inner apical angle obtusely rounded, the outer apical angle produced laterad into a long spinous point or arm, the tip acute.

*Holotype*, ♂, CAPE PROVINCE: Gr. Winterhoek, Tulbagh, altitude 4000 ft., November, 1916 (*K. H. Barnard*); received in exchange with Edwards. *Paratopotype*, ♂.

*Cryptolabis (Baeoura) unistylata* is similar and related to the larger *C. (B.) claripennis* (Alexander), which differs in the coloration of the body, legs and wings. In this latter fly the wings are more whitish subhyaline, with the veins more clearly defined against the ground and with differences in venation, as the much longer  $Sc$  with  $Sc_1$  ending opposite or beyond the fork of  $R_{2+3+4}$ . The male hypopygium of the present fly is entirely different from that of *C. (B.) nigrolatera* (Alexander) and allies.