

**The Crane-Flies of South Africa in the Natal  
Museum (Diptera: Tipulidae)**

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**The Crane-Flies of South Africa in the Natal Museum  
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With 40 Text-figures.

INTRODUCTION.

IN the present paper I am planning to discuss the crane-flies of the Natal Museum, based primarily on the large and important series of these flies secured by its entomologist, Mr. Brian Stuckenberg. The types of the new and other species are returned for the museum collection, which may well become one of the leading repositories of these flies. Despite the many scattered collections that have been made over the past half century, it is evident that very much further work on these flies remains to be done and that important discoveries will be made. Coincidentally with the present work I am reviewing the extensive material taken in South Africa by Dr. Per Brinck and his colleagues and which will be discussed in the general reports of his expedition to South Africa. In this latter work I am planning to provide revised keys to the crane-flies now known from Africa, south of the Kunene and Zambezi Rivers, or approximately 18° south latitude.

In the first part I am discussing material taken by Mr. Stuckenberg in Natal and Cape Province, including some species of unusual interest from the Indumeni Forest, Cathedral Peak Area, Natal, secured in February, 1954. The species are numbered and this plan will be followed in the succeeding parts under this general title, thus providing an idea of the total number of species dealt with.

Although a rather large number of papers have been published that bear upon the Tipulidae of the area under consideration, three are more comprehensive and provide a basis for the further study of the group. These are the following :

Alexander, C. P. 1917, "The crane-flies of South Africa in the South African Museum (Diptera, Tipulidæ)." Parts I and II. 'Ann. S. Afr. Mus.', Vol. 17, 139-184, pls. 10-14; and Vol. 18, 181-230, pls. 3-4 (1921).

Wood, H. G. 1952. "The crane-flies of the South-west Cape (Diptera, Tipuloidea)." 'Ann. S. Afr. Mus.', Vol. 39; 1-327, 105 figs.

Dr. Wood's report is of special interest and value because of the excellent biological studies, including no fewer than 43 life histories of the Tipulidæ, representing the great majority of all generic groups known from the area. It



is to be hoped that such important work on the biology and ecology of the South African Tipulidæ may be continued.

I wish to express my thanks to the authorities of the Natal Museum and particularly to Mr. Stuckenberg for the opportunity to proceed with this study.

## PART I.

### 1. *Longurio (Longurio) syndactyla* n. sp. Text-fig. 6.

Size small (wing, male, 8 mm.); general coloration grey, the præscutum with two intermediate brown stripes; halteres long and slender, knob brownish black; legs black, femoral bases broadly obscure yellow; wings with a brownish tinge, without stigma; *Rs* longer than *R*<sub>3</sub>, cell *M*<sub>1</sub> long-petiolate, cell 2nd *A* narrow; male hypopygium with the posterior border of tergite shallowly emarginate, the lobes obtuse; a single dististyle that divided at near midlength into the usual inner and outer styles, the latter without spinous armature.

*Male*.—Length about 8 mm.; wing 8 mm.

Rostrum black, sparsely pruinose above; palpi black. Antennae with scape and pedicel black; flagellum broken. Head brown on central portion of vertex, the anterior vertex and broad orbits light grey; vertical tubercle conspicuous, its anterior end truncate; posterior vertex with two rows of black setæ, separated by a median space.

Pronotum brownish grey. Mesonotal præscutum light brown, with two conspicuous dark brown intermediate stripes and small isolated brown lateral spots lying behind the pseudosutural foveæ; scutal lobes more or less darkened; posterior sclerites of notum light grey. Pleura light grey. Halteres long and slender, stem obscure yellow, knob brownish black. Legs with the coxæ light grey; trochanters brownish yellow; remainder of legs black, the femoral bases obscure yellow, on the posterior legs involving about the proximal third, narrower on the fore and middle legs; claws small, simple. Wings with a brownish tinge, the costal border and space between the cubital branches somewhat darker; obliterative area across the base of cell 1st *M*<sub>2</sub> relatively conspicuous; no differentiated stigmal area; veins dark brown. Veins unusually glabrous, beyond the cord virtually lacking, there being only four or five near outer end of vein *R*<sub>4+5</sub>. Venation: *R*<sub>1+2</sub> preserved; *Rs* longer than *R*<sub>3</sub>; cell *M*<sub>1</sub> subequal to its petiole; basal section of vein *M*<sub>4</sub> distinct, perpendicular; cell 2nd *A* narrow.

Abdominal tergites dark brown, sparsely pruinose; basal sternites somewhat more brightened; hypopygium yellowish brown. Male hypopygium (text-fig. 6) with the tergite, *t*, large, slightly widened outwardly, the posterior border with a broad and shallow emargination, the lobes low and appearing more or less divergent. Basistyle, *b*, short and stout. Dististyle, *d*, single, the parts fused on more than the proximal half, the inner style a flattened yellow blade,

its base with long retrorse setæ but without spines ; outer style subequal in length, with conspicuous setæ throughout the length ; no modified spinelike setæ on the entire style.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg).

Readily distinguished from the numerous regional members of the genus by the structure of the male hypopygium, especially the dististyles, as the basal fusion and total lack of spines, the latter being characteristic of somewhat similar small species, as *Longurio (Longurio) bonæspei* (Bergroth), *L. (L.) versfeldi* Wood, and others.

## 2. *Tipula (Acutipula) pomposa* Bergroth.

*Tipula pomposa* Bergroth, 1888 : Ent. Tidskrift, **9** : 139, fig. 4 (♂ hypopygium).

*Tipula pomposa* Alexander, 1917 : Ann. S. Afr. Mus., **17** : 168, pl. 13, fig. 52, pl. 14, fig. 60 (♂ hypopygium).

*Tipula pomposa* Wood, 1952 : Ann. S. Afr. Mus., **39** : 44-49, fig. 10 (pupa), fig. 11 (♂ hypopygium), fig. 12 (larva).

Described from Caffraria, Cape Province ; later recorded from Zululand, Natal, and the Transvaal.

Natal Museum : Natal, Indumeni Forest, Cathedral Peak Area, February 3, 1954 (B. Stuckenberg). Cape Province, Grahamstown, October 6-12, 1953 (B. Stuckenberg).

## 3. *Limonia (Dicranomyia) satura* n. sp. Text-fig. 7.

Size large (wing, male, over 9 mm.) ; general coloration dark brown ; mesonotal præscutum brownish grey with three darker brown stripes, the relatively narrow central vitta faintly divided at anterior end by a pale line ; wings strongly infuscated, stigma darker ; *Sc* short, *Sc*<sub>1</sub> ending shortly before origin of *Rs*, cell 1st *M*<sub>2</sub> closed ; male hypopygium with the ninth tergite shallowly emarginate ; ventral dististyle very large, more than twice the basistyle ; rostral prolongation flattened, cleaver-like, the two spines placed close together on the face ; ædeagus unusually broad, the simple apical lobe very small.

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

Rostrum and palpi very small, brownish black. Antennæ black throughout ; flagellar segments oval, the outer ones more elongate, shorter than the conspicuous verticils. Head dark grey ; anterior vertex narrow.

Pronotum dark brown. Mesonotum brownish grey, with three darker brown stripes, the relatively narrow central one more or less divided at cephalic end by a pale line ; scutal lobes light brown, darker along mesal edge ; scutellum and postnotum brown, the central portion more or less variegated with darker. Pleura and pleurotergite dark brown. Halteres with stem yellow, knob dark brown. Legs with the fore coxæ dark brown, the others darkened basally, the tips yellow, broadest on the posterior pair ; trochanters yellow ; remainder of



legs broken. Wings large, strongly tinged with brown, the oval stigma still darker; very narrow and vague darker seams at origin of *Rs* and along cord; veins brown. Venation; *Sc* short, *Sc*<sub>1</sub> ending just before origin of *Rs*, *Sc*<sub>2</sub> near its tip; cell 1st *M*<sub>2</sub> shorter than vein *M*<sub>4</sub>; *m-cu* very close to the fork of *M*.

Abdomen dark brown, the basal sternites vaguely paler. Male hypopygium (text-fig. 7) with the tergite, *t*, relatively large, transverse, narrowed outwardly, the posterior border with a very shallow emargination; lobes low and obtuse, with very long setæ. Basistyle, *b*, with the ventromesal lobe obtuse. Dorsal dististyle unusually broad, especially before the long acute terminal spine. Ventral dististyle, *d*, very large and fleshy, its area about two and a half times that of the basistyle; rostral prolongation flattened, cleaver-like, the two spines placed close together on face. Gonapophysis, *g*, with mesal-apical lobe very slender. Aedeagus unusually broad, the simple apical lobe very small.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg).

This large but inconspicuous member of the subgenus is quite distinct from all other regional members in the large size, coloration of the body and wings, and in the structure of the male hypopygium. The broad wings are suggestive of *Limonia* (*Dicranomyia*) *lightfooti* (Alexander), which has cell *M*<sub>2</sub> of the wings open. The latter fly may prove to be a species of *Idioglochina* rather than pertaining to the present subgenus.

#### 4. *Limonia* (*Geranomyia*) *gracilipalpis* n. sp. Text-fig. 8.

Size large (wing, male, 9 mm.); rostrum relatively short, maxillary palpi very long, apparently 3-segmented; antennæ moderately long, black throughout; general coloration of thorax grey, the præscutum with a single dark brown stripe, pleura with two short dark stripes on the mesepisternum; halteres dusky; femora brownish yellow, with a vague darkened ring just before tip; wings weakly infuscated, very restrictedly patterned with pale brown; *Sc* short, *Sc*<sub>1</sub> ending about opposite one-third the length of *Rs*; male hypopygium with the rostral spines very slender, placed near base of the flattened subcaltrate rostral prolongation.

*Male*.—Length, excluding rostrum, about 8 mm.; wing 9 mm.; rostrum about 1.9 mm.

Rostrum brownish black, relatively short, only a little longer than the antennæ; maxillary palpi very long and slender, black apparently 3-segmented, approximately one-half as long as the labial palpi beyond their insertion. Antennæ black, relatively long; flagellar segments oval, with small verticils. Head brownish grey; anterior vertex narrow, only about one-half the diameter of the scape.

Pronotum dark brown. Mesonotum grey, the præscutum with a single dark brown stripe, median in position, lateral stripes barely indicated as a dusky spot

near suture; pseudosutural fovea represented by a tiny black impression far removed from margin and at near one-third the length of the sclerite; scutal lobes patterned with dark brown, the median region and posterior callosities of the lobes paler. Pleura and pleurotergite grey, the former with two narrow and inconspicuous brown stripes, one on ventral part of the anepisternum, the other near the lower portion of the sternopleurite. Halteres dusky, the base of stem restrictedly yellow. Legs with the coxæ yellow, the fore pair dark at base; trochanters yellow; femora brownish yellow, narrowly and indistinctly darkened just before apex; tibiæ and tarsi light brown. Wings weakly infuscated, very restrictedly patterned with pale brown, including the oval stigma and very narrow seams over cord and outer end of cell 1st  $M_2$ ; veins pale brown,  $C$  and  $Cu$  more yellowed. Venation:  $Sc$  relatively short,  $Sc_1$  ending about opposite one-third to one-fourth the length of  $Rs$ ,  $Sc_2$  a short distance from its tip; cell 1st  $M_2$  about as long as the distal section of vein  $M_3$ ;  $m-cu$  very close to fork of  $M$ .

Abdomen brown, including the hypopygium except for the yellow ventral dististyle. Male hypopygium (text-fig. 8) with the tergite,  $t$ , narrowly transverse, the posterior border with a U-shaped notch, the lobes broadly obtuse. Basistyle,  $b$ , small, the ventromesal lobe large, obtuse. Dorsal dististyle a strong curved rod, narrowed very gradually into a long straight spine; ventral dististyle,  $d$ , small, its area subequal to that of the basistyle: rostral prolongation subpendulous, flattened, terminating in a small point; rostral spines two, placed rather close together near base of prolongation, straight, the inner spine from a very low basal tubercle, the other almost sessile. Gonapophysis,  $g$ , with the mesal-apical lobe blackened, gently curved to the acute tip, the concave margin microscopically denticulate. Ædeagus relatively slender, the apical lobes small and obtuse.

*Holotype*, ♂, Grahamstown, Cape Province, October 15, 1953 (B. Stuckenberg). *Allotopotype*, ♀, November 8, 1952.

The present fly is quite distinct from other regional members of the subgenus, including *Limonia (Geranomyia) rubrithorax* (Alexander) and *L. (G.) subimaculata* (Alexander), differing especially in the coloration of the body and wings, and in the structure of the palpi and male hypopygium.

##### 5. *Antocha (Orimargula) indumeni* n. sp. Text-figs. 1, 9.

Size large (wing, male, 7 mm. or more); antennæ short; general coloration of body dark brown; antennæ, legs and knobs of halteres dark brown; wings with a strong blackish tinge, the veins beyond cord unusually glabrous; male hypopygium with two dististyles, the outer style terminating in an acute spine, the surface with abundant delicate setulæ.

*Male*.—Length about 5–5.2 mm.; wing 7–7.2 mm.; antenna about 1 mm.

Rostrum and palpi dark brown. Antennæ black throughout, short; flagellar



segments oval, the outer two subequal and a trifle longer. Head dark grey; anterior vertex broad.

Cervical region and pronotum brownish black, pronotal scutellum obscure yellow. Mesonotal præscutum with the disk dark brown, the narrow lateral borders grey; posterior sclerites of notum dark brown. Pleura dark brown, vaguely pruinose, especially on the dorsal sternopleurite; dorsopleural membrane dark. Halteres with stem dusky, narrowly yellowed at base, knob dark brown. Legs with all coxæ and trochanters brownish testaceous; remainder of legs dark brown, the femoral bases not or scarcely paler; claws with three conspicuous spines, the outermost longest. Wings (text-fig. 1) with a strong blackish tinge, *Rs* and basal section of  $R_{4+5}$  vaguely seamed with darker; veins brown. Wing veins very glabrous, lacking beyond cord except for an extended series on the distal section of vein  $R_{4+5}$ . Venation: Anterior branch of *Rs* delicate and tending to be subevanescent; cell  $M_3$  from two and one-half to nearly three times its petiole; *m-cu* its own length or more before the fork of *M*; cell 2nd *A* very broad.

Abdomen, including hypopygium, dark brown, sparsely pruinose; basal sternites vaguely more brightened. Male hypopygium (text-fig. 9) with the tergite, *t*, narrow, transverse, its width approximately three times the length; posterior border truncate to very slightly emarginate, the outer lateral margins more sclerotized, glabrous; posterior part of tergite with numerous setæ, extending more cephalad on the lateral parts. Proctiger darkened, semi-oval, the apex broadly obtuse, with long pale setæ (apex only shown in figure). Basistyle, *b*, slender, unmodified; setæ of outer face long and sparse, of the inner surface shorter and retrorse. Dististyles, *d*, two, the outer more sclerotized, terminating in an acute spine, the outer surface almost to tip with abundant erect pale setulæ; inner style a little longer and broader, with conspicuous setæ, twisted or shirred at near two-thirds the length. Gonapophysis unusually simple, appearing as a lengthened blade, its tip obtuse. Ædeagus slender.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg). *Paratopotypes*, 2 ♂♂.

This species is quite distinct from the smaller and paler *Antocha* (*Orimargula*) *transvaalia* (Alexander) described from the Transvaal, later recorded from Cape Province by Wood. With the continued accession of numerous new species, it is evident that the supposed distinctions between the subgenera *Antocha* and *Orimargula* are so slight as to be virtually non-existent and the two groups are maintained as separate for convenience only.

#### 6. *Limnophilomyia stuckenbergi* n. sp. Text-figs. 2, 10.

Thoracic dorsum brown, the præscutum with three more brownish yellow stripes, pleura more yellowed; antennæ of male elongate; legs brown, the tarsi and narrow tips of the tibiæ snowy white; wings with a strong blackish

suffusion; cell 1st  $M_2$  present, rectangular in outline, nearly twice as long as wide; male hypopygium with the tergal lobes short and broad, nearly as long as wide; dististyle enlarged at base, curved outwardly, with a low outer flange; ædeagus with an appendage.

*Male*.—Length about 6–6.3 mm.; wing 6.5–7.2 mm.; antenna about 5.5–6 mm.

*Female*.—Length about 7.5 mm.; wing 7.3 mm.; antenna about 2.2 mm.

Rostrum brown; palpi black. Antennæ of male elongate, a little shorter than the body, of the female much shorter; scape and pedicel testaceous, flagellum black; flagellar segments of male very long cylindrical, all with abundant erect verticillate setæ that are nearly twice as long as the diameter of the segment; in female, verticils sparse but long and conspicuous, the abundant normal setæ much shorter. Head dark brownish grey; anterior vertex of male reduced to a narrow strip.

Pronotum reduced, brown. Mesonotum brown, the disk almost covered by three more brownish yellow stripes; postnotum and pleura more obscure yellow. Halteres with stem brown, pale at base, knob dark brown. Legs with the coxæ and trochanters yellow; femora brown; tibiæ brown, the narrow tips and the tarsi snowy white. Wings (text-fig. 2) with a strong blackish suffusion, the stigma not or scarcely darker; veins brown. Venation:  $Sc_1$  ending shortly beyond fork of  $R_s$ ,  $Sc_2$  at its tip;  $R_2$  some distance before fork, preserving an element  $R_{3+4}$  that varies from about one-half to fully the length of  $R_2$ ; cell 1st  $M_2$  present, rectangular, being slightly less than twice as long as wide;  $m-cu$  at or beyond the fork of  $M$ , the maximum distance about as figured; anal veins strongly convergent opposite the arculus.

Abdominal tergites black, the sternites obscure yellow, the posterior borders of the intermediate segments more darkened; subterminal segments uniformly blackened to form a narrow ring; hypopygium obscure yellow. Ovipositor with the cerci very slender, only slightly curved. Male hypopygium (text-fig. 10) with the tergite,  $t$ , distinctive, the lobes short and broad, only a little longer than wide, the outer apical angle slightly produced, glabrous, the inner part of each lobe with abundant delicate setæ. Dististyle,  $d$ , dilated at base, the outer two-thirds narrowed and curved to the acute tip, the outer part with a long flange so as to appear more or less grooved. Ædeagus,  $a$ ; beneath with a long double claviform appendage.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg). *Allotopotype*, ♀, with type. *Paratopotype*, 1 ♀, with type.

I take great pleasure in naming this interesting fly for Mr. Brian Stuckenberg, who has added materially to our knowledge of the South African Tipulidæ. The only other known regional member of the genus is *Limnophilomyia lacteitarsus* (Alexander), of the Cape Province and Cape Peninsula. This differs from the present fly in the restricted amount of white on all legs, the short subquadrate



cell 1st  $M_2$ , position of vein  $R_2$  beyond the fork, and especially in the structure of the male hypopygium, notably the tergite, dististyle, and phallosome.

I proposed *Limnophilomyia* in 1921 as a subgenus of *Limnophila* Macquart, based on a broken specimen from the south-west Cape, described as *Limnophila* (*Limnophilomyia*) *lacteitarsis*. Wood (1952) clarified the systematic position of the fly through securing abundant materials of the adult and particularly by his discovery of the larva and pupa. From the latter, when compared with Roger's recent discovery in North America of the immature stages of *Lipsothrix sylvia* (Alexander), it becomes evident that *Limnophilomyia* and *Lipsothrix* are allied though still amply distinct. The true systematic position of these two genera remains very much in question, though for the present I am retaining them in the tribe Eriopterini. They seem unquestionably to be among the most ancient known types of the family.

From Wood's description and figures of the male hypopygium of *Limnophilomyia lacteitarsis* it is known that in this species the tergal lobes are very long and narrow, almost one-half as long as the slender basistyles, their tips obliquely truncated, the lobes narrower than the deep U-shaped emargination that separates them; dististyle very long and slender, tapering to the narrow obtuse tip; ædeagus very large, curved, without an appendage, as in the present fly. Both Wood and I had interpreted vein  $R_2$  (the radial crossvein as originally considered) as being lacking in the genotype, but actually it is more or less preserved though very faint. When best indicated it appears as a semi-atrophied element lying shortly beyond the fork of  $R_{2+3+4}$ .

In addition to the two South African species discussed above, three others from Tanganyika and Uganda have been described by the writer and are now in press.

7. *Elephantomyia* (*Elephantomyia*) *pleurolineata* n. sp. Text-figs. 3, 11.

Size large (wing, male, 9 mm.); rostrum black, subequal in length to body; mesonotum light brown, patterned with dark brown, including a median stripe on præscutum and paired spots on scutellum; pleura buffy, with a very conspicuous brownish black dorsal stripe; legs dark brown; wings weakly infuscated, restrictedly patterned with still darker brown; male hypopygium with the outer dististyle small, conspicuously forked at tip; gonapophysis slender; ædeagus unusually simple.

*Male*.—Length, excluding rostrum, about 8.5 mm.; wing 9 mm.; rostrum about 8.5 mm.

*Female*.—Length, excluding rostrum, about 10 mm.; wing 9.5 mm.

Rostrum black throughout, elongate, subequal in length to remainder of body (tip broken in the unique female). Antennæ with scape and pedicel black; first flagellar segment obscure yellow, the remaining segments passing from pale to dark brown. Head grey, the front and anterior vertex paler grey; anterior vertex a little broader than the diameter of scape.

Pronotum light brown, the sides black. Mesonotum light brown, conspicuously patterned with dark brown, including a median stripe on præscutum that starts as a narrow point at the cephalic border, widened and shallowly forked behind, the arms crossing the suture and involving the mesal parts of the scutal lobes; scutellum buffy, with two circular brown spots; mediotergite light grey, the margins narrowly more infuscated. In the allotype, the præscutum is patterned a little differently, including a median stripe that becomes obsolete at near three-fourths the length of the sclerite, connected with the lateral stripes that cross the suture behind. Pleura and pleurotergite buffy with a very conspicuous brownish black dorsal stripe extending from the propleura backward passing beneath the root of the halteres to the abdomen. Halteres with stem obscure yellow, knob infuscated. Legs with the coxæ and trochanters yellow; femora dark brown, the bases rather narrowly more yellowed; tibiæ and tarsi dark brown; segments of legs with conspicuous erect setae additional to the normal shorter ones. Wings (text-fig. 3) weakly infuscated, with a darker brown pattern, including the oval stigma and conspicuous seams over the cord and outer end of cell 1st  $M_2$ ; veins dark brown. Venation: Branches of  $R_s$  gently divergent, cell  $R_2$  at margin about one-third more extensive than cell  $R_3$ ; cell 1st  $M_2$  short-rectangular;  $m-cu$  beyond fork of  $M$ , the distance variable, the maximum condition about as figured.

Abdominal tergites obscure yellow, very broadly margined laterally and posteriorly with brown or black; seventh and eighth segments more uniformly darkened; sternites more uniformly pale; hypopygium obscure yellow. Male hypopygium (text-fig. 11) with the basistyle,  $b$ , short and stout, on basal half of mesal face with a low lobe that bears about a score of strong black bristles. Outer dististyle,  $d$ , small, slender, deeply forked at outer end; inner style stout, weakly bent beyond midlength, narrowed to the obtuse apex. Gonapophysis a straight slender rod, the tip acute. Ædeagus,  $a$ , unusually simple, appearing as a gently sinuous rod of moderate length.

*Holotype*, ♂, Grahamstown, Cape Province, October 24, 1953 (B. Stuckenberg). *Allotopotype*, ♀, with the type.

Among the regional forms, the present fly requires comparison only with *Elephantomyia* (*Elephantomyia*) *luteipennis* Alexander and *E. (E.) montana* Alexander, differing from all species in the very conspicuous pleural stripe and in the structure of the male hypopygium.

#### Genus *Gnophomyia* Osten Sacken.

*Gnophomyia* Osten Sacken, 1859; Proc. Acad. Nat. Sci. Philadelphia, 1859: 223.

#### Subgenus *Idiognophomyia* n. subgen.

Generally as in the typical subgenus. Meron moderately large, about as wide as the diameter of the coxa. Legs with abundant flattened scales, additional to the normal setæ. Wings with  $Sc$  relatively short,  $Sc_1$  ending about opposite



the fork of  $R_s$ ,  $Sc_1$  very long, approximately as long as cell 1st  $M_2$ . Ovipositor with the valves very short and blunt. Male hypopygium with the basistyle on mesal face with a lobe bearing a group of spine-like setæ.

*Type of the subgenus.*—*Gnophomyia capicola* Alexander (South Africa).

Other included species: *Gnophomyia brevicellula* Alexander ((Formosa); *G. comstocki* Alexander (south-western United States); *G. ignava* (Alexander) (Cape Colony); *G. laterospinosa* Alexander (Japan); *G. vanitas* Alexander (Malaya). The essential characters of the group include the scaly legs, the very reduced ovipositor, and the structure of the male hypopygium.

The presence of scales or greatly flattened setæ on the legs of Tipulidæ has been noted in various groups, but the taxonomic significance is only now becoming appreciated. In the present group the character is very conspicuous and contrasts sharply with the condition in typical *Gnophomyia* and in the subgenus *Eugnophomyia* Alexander. It should be noted that these scales are supplementary to the normal setæ and to the microtrichia and are not modifications of the latter. They are evidently derived from normal setæ by progressive flattening, in the extreme case being approximately four times as long as broad.

8. *Gnophomyia (Idiognophomyia) capicola* Alexander. Text-fig. 4.

*Gnophomyia capicola* Alexander, 1934; *Encycl. Entomol., Diptera*, 7: 57–58.

Described from Keiskammahœk, Lenye Forest, Cape Province, altitude 3,000 ft., June 15, 1921 (H. K. Munro).

Natal Museum: Natal, Lions Bush, Nottingham, August 9, 1954 (B. Stuckenberg).

The seasonal range as given above indicates that the fly is adult at the beginning and end of the cold or winter season.

9. *Gonomyia (Lipophleps) sulphurelloides* Alexander.

*Gonomyia (Gonomyia) sulphurelloides* Alexander, 1921; *Ann. S. Afr. Mus.*, 18: 197–198, pl. 3, fig. 11 (venation).

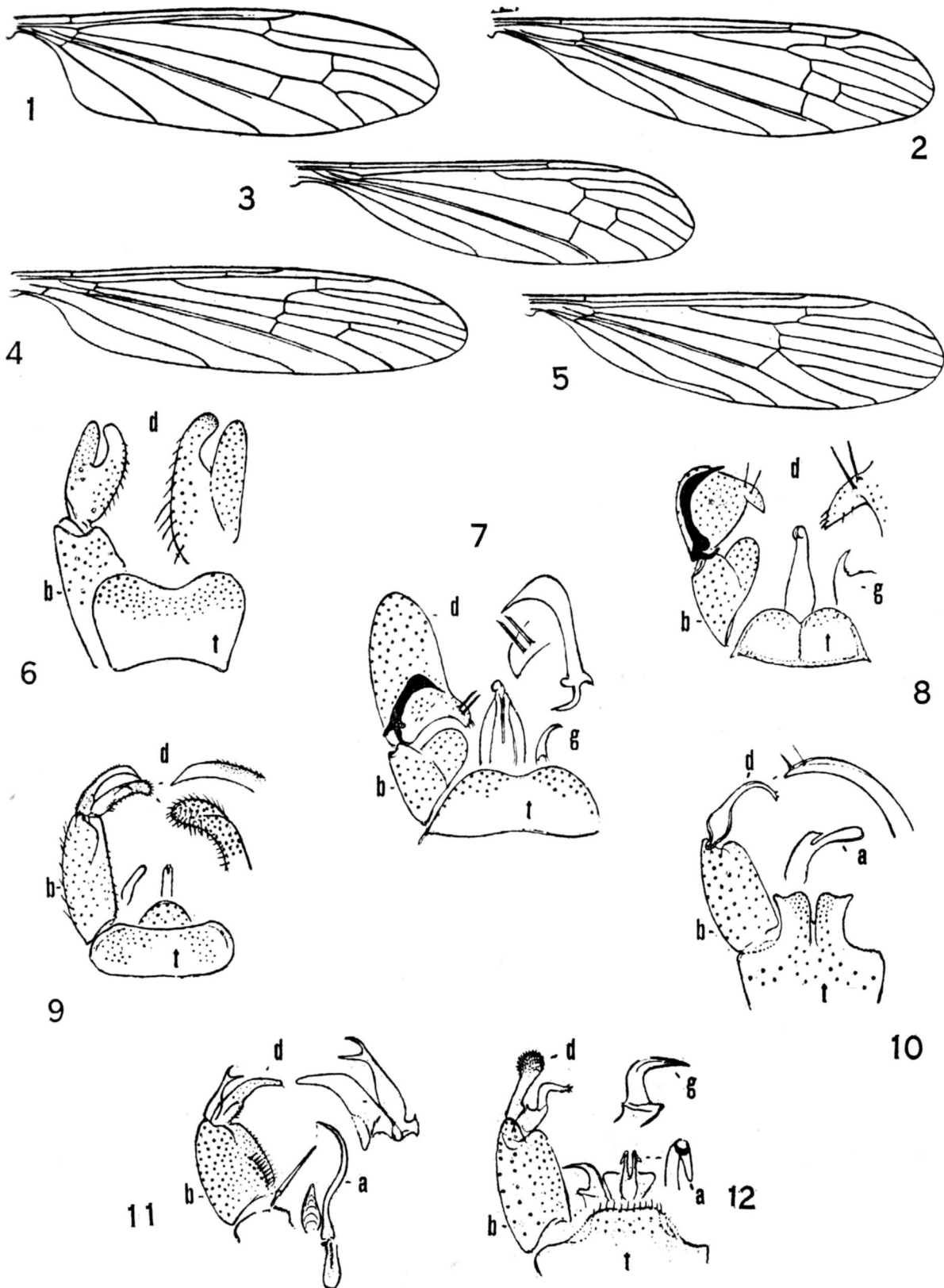
Described from Kranskop, Natal, taken in November, 1917, by K. H. Barnard. Transvaal, Florida, December, 1918 (R. W. Tucker).

Natal Museum: Natal, Indumeni Forest, Cathedral Peak Area, February 3, 1954 (B. Stuckenberg).

10. *Erioptera (Erioptera) celestissima* n. sp. Text-figs. 5, 12.

Head and mesonotum polished black, the ventral thoracic pleurites and sternopleura polished yellow; knobs of halteres large, black; femora obscure yellow, vaguely darker at tips; wings dark brown, variegated by two pale areas along costal border and two others at posterior margin; male hypopygium with the outer dististyle a relatively short club, the apex with rows of abundant spinulæ; inner dististyle angularly bent to the acute tip; gonapophysis

TEXT-FIGS. 1-12.



1. *Antocha (Orimargula) indumeni* n. sp.; venation. 2. *Limnophilomyia stuckenbergi* n. sp.; venation. 3. *Elephantomyia (Elephantomyia) pleurolineata* n. sp.; venation. 4. *Gnophomyia (Idiognophomyia) capicola* Alexander; venation. 5. *Erioptera (Erioptera) celestissima* n. sp.; venation. 6. *Longurio (Longurio) syndactyla* n. sp.; male hypopygium. 7. *Limonia (Dicranomyia) satura* n. sp.; male hypopygium. 8. *Limonia (Geranomomyia) gracilipalpis* n. sp.; male hypopygium. 9. *Antocha (Orimargula) indumeni* n. sp.; male hypopygium. 10. *Limnophilomyia stuckenbergi* n. sp.; male hypopygium. 11. *Elephantomyia (Elephantomyia) pleurolineata* n. sp.; male hypopygium. 12. *Erioptera (Erioptera) celestissima* n. sp.; male hypopygium.

(Hypopygial symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; t, 9th tergite.)



appearing as a simple horn; ædeagus deeply bifid, each arm at apex with a long recurved flap.

*Male*.—Length about 4 mm.; wing 4.6 mm.

Rostrum and palpi black. Antennæ dark brown, the scape darker; flagellar segments long-oval, shorter than the verticils. Head polished black; anterior vertex narrow, about twice the diameter of the scape.

Pronotum and mesonotum polished black, this colour also involving the dorsal pteropleurite and anepisternum; remainder of pleura, including the sternopleura, meron, ventral pteropleurite and metapleura abruptly polished yellow. Halteres with stem yellow, knob very large, black, with conspicuous vestiture. Legs with all coxæ and trochanters yellow; femora obscure yellow, vaguely darker at tips, the colour obscured by scales and setæ; tibiae and basitarsi obscure yellow, the tips narrowly darker: outer tarsal segments dark brown; legs with conspicuous scales, additional to the setæ. Wings (text-fig. 5) chiefly dark brown, variegated by four major pale yellow areas, including two along costa, the first just before origin of *Rs*, extending caudad to vein *M*; second area triangular in outline, extending from *C* to fork of *M*, narrowed posteriorly; along the posterior border with two smaller pale areas, in outer end of cell *Cu* adjoining vein 1st *A* and at midlength of vein 2nd *A*, this including parts of both anal cells; cells *C* and *Sc* more yellowed than remainder of membrane, including a small spot at outer end of the darker brown stigma; veins and macrotrichia brown, yellow in the pale areas. Venation: *R*<sub>2</sub> and *R*<sub>2+3</sub> subequal; *m-cu* at fork of *M*; vein 2nd *A* strongly sinuous.

Abdomen, including hypopygium, black. Male hypopygium (text-fig. 12) with the tergite, *t*, broadly produced medially, the truncate apex fringed with long setæ. Dististyles two, nearly terminal; outer style, *d*, a relatively short club, its apex with rows of abundant spinulæ; inner style shorter, twisted and angularly bent, narrowed to an acute point; apex with several short setæ. Phallosome with the gonapophyses, *g*, appearing as simple curved horns, the long acute apices blackened. Ædeagus, *a*, deeply bifid, each arm long and slender with an elongate recurved flap.

*Holotype*, ♂, Grahamstown, Cape Province, October 15, 1953. (B. Stuckenberg). *Allotopotype*, ♀, February 5, 1953.

The most similar regional species is *Erioptera (Erioptera) carior* Alexander, of the eastern Transvaal, which differs in all details of coloration of the body and wings and, especially, in the structure of the male hypopygium.

## PART II.

In this second part I have described some interesting species of Tipulidæ taken by Mr. B. Stuckenberg, chiefly in the Indumeni Forest, Cathedral Peak Area, Natal, with a few others from the Cape Province. I am indebted to Mr. Stuckenberg and to Mr. P. Graham, who secured some of the interesting material

now under consideration. The types of the novelties have been returned for deposition in the Natal Museum.

11. *Longurio (Longurio) stuckenbergi* n. sp. Text-fig. 22.

Males fully-winged, females subapterous; antennæ short in both sexes; wings of male brown, conspicuously streaked longitudinally with white; male hypopygium with the dististyles fused for nearly the basal half, long and slender; outer style without spines, forked at apex.

*Male*.—Length about 10–11 mm.; wing 10·5–11 mm.; antenna about 1·5 mm.

*Female*.—Length about 8·5–9 mm.; wing 2 mm.

*Male*.—Frontal prolongation of head relatively long, nearly equal to remainder of head; nasus short and broad to scarcely indicated, with unusually strong black setæ; prolongation grey above, light brown on sides; palpi black. Antennæ short, brown to brownish black, 11-segmented; flagellar segments with short verticils. Head light grey, with vague indications of a capillary darker line on vertex; vertical tubercle low, directed forward over the antennal bases, the apex obtuse to truncate.

Pronotal scutum grey, scutellum yellow. Mesonotal præscutum with margins light grey, the disk with four brown stripes, the intermediate pair darker on anterior half, the posterior parts and the broad lateral stripes paler brown; posterior sclerites of notum light grey, parascutella yellow. Pleura and pleurotergite clear light grey; dorsopleural membrane more yellowed. Halteres elongate, stem brownish yellow, knob infuscated. Legs with the coxæ and trochanters clear grey; femora reddish brown, gradually darkened outwardly, the tips brownish black; tibiæ brown, passing into black; tarsi black; claws small and simple; legs of male distinctly longer and more slender than those of the female. Wings normal, dark brown, conspicuously streaked longitudinally with whitish, most of the pale colour being on the central third of wing, virtually reaching the apex in cells  $R_5$  and  $M_1$ ; further white stripes in cells *Cu* and 1st *A*, with a small prestigmal spot; white areas in all outer medial cells; veins brown. Macrotrichia on veins  $R_3$ ,  $R_{4+5}$ ,  $M_1$ ,  $M_2$  and  $M_3$ . Venation; *Rs* longer than  $R_{2+3}$ ;  $R_{1+2}$  entire; cell  $M_1$  variable in size, from subequal to about twice its petiole; cell 1st  $M_2$  large, subequal to or exceeding vein  $M_3$  beyond it, with *m-cu* just before mid-length of vein  $M_{3+4}$ ; cell 2nd *A* narrow basally, more broadened on outer half.

Abdomen grey, the basal tergites more yellowish grey; basal sternites pale brown, succeeding ones darker; hypopygium brownish yellow. Male hypopygium (text-fig. 22) with the tergite, *t*, suberect, transverse, the posterior border nearly truncate, the median area farther produced into two small lobules, separated by a tiny median notch; surface of tergite with long setæ scattered over much of the surface, lacking on the cephalic fourth. Basistyle, *b*, elongate, simple. Dististyles, *d*, long and slender, nearly two-thirds as long as the basi-

style, fused on nearly the proximal half, the outer free parts subequal in length and more or less opposable to appear chelate: outer style without blackened spines, as are common in the genus, conspicuously forked near apex. Ædeagus, *a*, from a complex phallosome, the free portion long and slender.

*Female*.—Differs conspicuously from the male in the subapterous condition and the shorter legs. Antennæ apparently with the outer two or three segments more or less fused. Wings long and narrow, the outer half more expanded; general coloration dark brown; venation quite distorted.

*Holotype*, ♂, Grahamstown, Cape Province, March 30, 1953 (B. Stuckenberg). *Allotopotype*, ♀, with type. *Paratopotypes*, 2 ♂♂, 1 ♀, with type. "Associated with the plant *Elytropappus rhinocerotis*"—B. Stuckenberg.

The present fly is dedicated to the collector, Mr. B. Stuckenberg, to whom much of our recent knowledge of the crane-flies of Natal is due. Superficially, the fly is much like *Longurio jonesi* (Alexander), of Zululand, which differs in the elongate antennæ of the male and in all details of coloration, venation, and structure of the male hypopygium.

12. *Dolichozeza (Trichodolichozeza) altiarca* n. sp. Text-fig. 15.

Size medium (wing, male, 9.5 mm.); general coloration yellow, head and mesonotum patterned with brown; pleura yellow, conspicuously striped with brown; wings with a brownish tinge, patterned with darker and with cream-coloured areas; abundant macrotrichia in outer wing cells; medial forks moderately deep; male hypopygium with the ninth tergite highly arched, the posterior border narrowly margined with black; ventral ledge complete, with a row of spines; outer dististyle small; inner style massive, blackened, more or less trilobed.

*Male*.—Length about 9 mm.; wing 9.5 mm.; antenna about 3 mm.

*Female*.—Length about 10–10.5 mm.; wing 10–11 mm.

Frontal prolongation of head light yellow, narrowly darkened laterally; nasus distinct, with long yellow setæ; palpi obscure yellow, terminal segment blackened. Antennæ relatively short; scape and pedicel clear light yellow; basal flagellar segments brownish black, the tips restrictedly yellow, this decreasing in amount on the outer segments, beyond the third or fourth becoming uniformly brownish black. Head yellow, with conspicuous brown areas on sides of the posterior vertex, the broad central area and narrow orbits yellow; a small brownish black spot adjoining the eye on side of the posterior vertex.

Pronotal scutum yellow, with three brown areas, scutellum more yellowed. Mesonotum buffy yellow, conspicuously patterned with dark brown; præscutum with three dark brown stripes, the median one extensively divided by brownish yellow, entire at posterior end; humeral region variegated with paler brown; central area of scutum, most of scutellum and the mediotergite excepting at the sides greyish testaceous; pleurotergite chiefly pale, infuscated dorsally.



Pleura yellow, conspicuously striped with dark brown, the dorsal stripe extending from above the fore coxa to the pteropleurite, lower stripe from the fore coxa across the dorsal sternopleurite; an additional dark mark on the dorsal pteropleurite beneath the wing root. Halteres with stem dusky, pale at base, knob dark brown, the outer half whitened. Legs with the fore coxæ darkened, remaining coxæ and trochanters yellow, the latter with a dark spot on lower surface; femora obscure yellow; the tips dark brown; tibiæ pale brown, tips scarcely darkened; tarsi brown. Wings with a brownish tinge, patterned with darker brown and cream-coloured areas; stigma oval, dark brown; narrow brown seams on anterior and posterior cords; space behind vein *Cu* dusky; conspicuous pale areas before and beyond stigma and across the fork of *M*; veins dark brown, pale in the obliterative areas. Abundant macrotrichia in outer ends of cells  $R_2$  to  $M_4$ , inclusive. Venation:  $R_{1+2}$  weakly preserved; medial forks moderately deep, cell  $M_1$  about one-half longer than its petiole: *m-cu* about one-half its length before the fork of *M*.

Abdomen bicoloured, tergites dark brown at ends, the broad central ring yellow, this becoming narrower on the outer segments, the subterminal ones infuscated; sternites more extensively yellow, their bases narrowly darkened; hypopygium obscure yellow. Male hypopygium (text-fig. 15) with the ninth tergite, *t*, arched, the posterior border narrowly margined with black, the lateral ends of the plate with a few spines; ventral ledge with a complete row of spines, the lateral ends enlarged and with more abundant crowded spines. Outer dististyle, *d*, small, dusky, about three times as long as broad; inner style massive, blackened, more or less trilobed, with paired outer lobes and a very conspicuous erect basal one. Sheath of ædeagus moderately dilated.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg). *Allotopotype*, ♀. *Paratopotype*, ♀.

Readily told from other generally similar species, such as *Dolichopeza* (*Trichodolichopeza*) *centrosoma* n. sp., by the structure of the male hypopygium.

### 13. *Dolichopeza* (*Trichodolichopeza*) *cathedralis* n. sp. Text-figs. 16–17.

Size relatively small (wing, 8.5 mm.); mesonotum grey, with a broad dark brown central stripe on præscutum, pleura buffy grey, with an inconspicuous pale brown pattern; wings grey, stigma dark brown; macrotrichia in outer ends of cells  $R_3$ ,  $R_5$  and  $M_1$ ; intermediate abdominal tergites yellow, the posterior borders brownish black; male hypopygium with the outer dististyle long and slender; inner style relatively narrow, the beak short and stout, with two conspicuous darkened lobes.

*Male*.—Length about 8 mm.; wing 8.5 mm.; antenna about 2.5 mm.

Frontal prolongation of head light yellow on dorsal half, brownish black beneath; nasus small but evident, with long black setæ; palpi light brown, darker outwardly. Antennæ with scape and pedicel very light yellow, flagellum

black; segments in male longer than the verticels. Head brownish grey, virtually unpatterned or with the orbits slightly clearer grey; vertical tubercle produced cephalad, with long black setæ on sides.

Pronotum dark brown. Mesonotal præscutum with the restricted ground grey, with a broad dark brown central stripe and poorly indicated lateral ones; posterior sclerites of notum chiefly dark brown. Pleura light buffy grey, extensively patterned with light brown on the anepisternum, ventral sternopleurite and meron, the pattern conspicuous. Halteres with stem obscure yellow, clearer basally, knob brownish black, with the apex narrowly and vaguely pale. Legs with the coxæ and trochanters pale; femora brown, vaguely pale basally; tibiæ and tarsi brownish black, the extreme base of the former pale. Wings with a faint grey suffusion, variegated by the conspicuous dark brown stigma, which is preceded and followed by more whitened areas; narrow slightly darker seams along cord; veins dark. Relatively sparse macrotrichia in outer ends of cells  $R_3$ ,  $R_5$  and  $M_1$ . Venation: No trace of vein  $R_{1+2}$ ; medial forks relatively deep, cell  $M_1$  about three and a half times its petiole;  $m-cu$  nearly its length before fork of  $M$ .

Abdominal tergites yellow, the incisures, especially the posterior borders of the segments, brownish black, more extensive on outer segments, on the sixth to eighth uniformly blackened to form a ring; basal sternites more extensively yellow, the posterior margins darkened; hypopygium brownish yellow. Male hypopygium (text-figs. 16, 17) with the ninth tergite,  $t$ , having the dorsal ledge narrowly blackened, smooth, the margin vaguely trilobed, on either side with long setæ; ventral armature with the lateral lobes subtriangular, with short stout blackened pegs, these interconnected beneath as a single row. Outer dististyle,  $d$ , long and slender, at least six or seven times as long as broad; inner style about as figured, relatively narrow, the beak short and stout with a large blackened lobe near its base, with a second darkened lobe nearer base of style. Sheath of ædeagus only moderately developed.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg).

The fly differs from various other regional species that are more or less similar, including *Dolichozepeza* (*Trichodolichozepeza*) *altiarca*, n. sp., chiefly in the very distinct male hypopygium.

#### 14. *Dolichozepeza* (*Trichodolichozepeza*) *centrosoma* n. sp. Text-fig. 18.

Size relatively large (wing, male, 10 mm.); general coloration yellow, the præscutum with four dark brown stripes; pleura and pleurotergite uniformly yellow; wings tinged with brown, stigma darker, obliterative areas relatively small and inconspicuous; medial forks moderately long; male hypopygium with the tergal armature very heavily blackened and conspicuous, especially the ventral arms and a shield-shaped central mass.

*Male*.—Length about 9.5 mm.; wing 10 mm.; antenna about 3 mm.

Frontal prolongation of head yellow above, including the conspicuous nasus, the lower half dark brown; palpi black. Antennæ with the scape and pedicel light yellow; proximal flagellar segments vaguely bicoloured, dark brown, the tips narrowly reddened, beyond the fourth segment uniformly darkened; verticils shorter than the segments. Head with the front and low vertical tubercle yellow; posterior vertex narrowly pale medially, the sides broadly more orange brown.

Pronotal scutum dark brown medially, yellow on sides; scutellum and pretergites pale yellow. Mesonotal præscutum buffy, with four dark brown stripes, the intermediate pair narrow, widened in front, very attenuated behind, separated by a median vitta that is slightly wider than the stripes at the posterior end; scutum obscure yellow medially, the lobes chiefly dark brown; scutellum and central area of the mediotergite obscure yellow, the sides broadly brown. Pleura and pleurotergite, together with the dorsopleural membrane, uniformly yellow. Halteres infuscated, the base of stem narrowly yellow. Legs with the coxæ and trochanters yellow; femora obscure yellow, the tips narrowly brownish black; tibiæ brown, the tips darkened; tarsi brownish black. Wings tinged with brown, the pre-arcular and costal fields more yellowed; stigma oval, darker brown; pale areas before and beyond stigma and at fork of *M* relatively small and indistinct; veins dark brown, paler in the brightened areas. Macrotrichia of outer wing cells abundant. Venation:  $R_{1+2}$  weakly preserved; medial forks of moderate length, cell  $M_1$  a little less than three times its petiole.

Abdomen yellow, rather poorly patterned with brown, more conspicuously so on the outer segments, the darkening of the segments chiefly basal, on the outer segments with additional apical darkening, restricting the ground; hypopygium yellow, the appendages black. Male hypopygium (text-fig. 18) with the armature of the ninth tergite, *t*, greatly developed, especially the ventral arms which are large, heavily blackened and set with numerous obtuse blackened pegs; in the central part of the genital chamber hanging pendant from the midportion of the dorsal plate is a blackened depressed shield-shaped structure that bears a single blunt tooth or tubercle. Outer dististyle, *d*, pale, relatively long, approximately five or six times as long as broad; inner style a simple arcuate blade, the concave lower portion heavily blackened, the margin crenulate or provided with blunt teeth, the most basal of which are large and obtuse; outer part of style yellowed.

*Holotype*, ♂, Grahamstown, Cape Province, October 24, 1953 (B. Stuckenberg).

Most similar to species such as *Dolichozeza* (*Trichodolichozeza*) *aurantiaca* Alexander, differing in the coloration of the body and wings, and especially in the structure of the male hypopygium. Particular attention is directed to the median tergal armature, as described and figured.



15. *Dolichozeza (Trichodolichozeza) chaka* n. sp. Text-figs. 13, 19.

Size relatively large (wing 11 mm. or more); mesonotal præscutum with three brown stripes, the posterior sclerites and pleura yellow, the latter unpatterned; wings tinged with brown, stigma dark brown; macrotrichia of outer wing cells moderately abundant; medial forks deep; male hypopygium with both dististyles acute at tips.

*Male*.—Length about 9.5–10 mm.; wing 11–11.5 mm.

*Female*.—Length about 11–12 mm.; wing 11–11.5 mm.

Frontal prolongation of head yellow; nasus short and stout, with long black setæ; palpi brownish black. Antennæ with the scape and pedicel yellow, flagellum black; flagellar segments longer than the verticils. Head with the front testaceous, the low vertical tubercle light yellow; posterior part of head chiefly darkened, the orbits and a vague central line light grey.

Pronotum yellowish brown, somewhat darker medially. Mesonotal præscutum with three vague, more or less confluent brown stripes, the humeral and cephalic portions more yellowed; posterior sclerites of notum more yellowed, in cases slightly infuscated. Pleura and pleurotergite obscure yellow. Halteres with stem dusky, paler at base, knobs more infuscated, paler in the allotype. Legs with all coxæ and trochanters yellow; femora yellowish brown, the tips passing into black; tibiæ and tarsi brown; femoral-tibial genua very narrowly pale; claws (male) with about three strong basal spines. Wings (text-fig. 13) tinged with brown, the costal and outer cells darker; stigma dark brown, preceded and followed by whitened areas; oblitative area across the fork of *M* relatively small and inconspicuous; very narrow brown seams on cord; veins brown. Relatively restricted macrotrichia in outer ends of cells *R*<sub>3</sub>, *R*<sub>5</sub>, *M*<sub>1</sub> and 2nd *M*<sub>2</sub> (their position indicated by stippling). Venation: Medial forks deep, cell *M*<sub>1</sub> approximately three to four times its petiole; *m-cu* about one-half its length before fork of *M*.

Abdomen variegated obscure yellow and medium brown, the bases of the segments darkened, the broad tips yellow; subterminal segments more uniformly darkened; hypopygium obscure yellow. Male hypopygium (text-fig. 19) differing in structure from all previously described members of the subgenus, relatively large and tumid, especially on the ventral portion. Ninth tergite, *t*, with the narrow dorsal plate unequally trilobed, the lateral lobes conspicuous, the central one very low; margins virtually smooth, setæ small and insignificant; lateral arms broad, semioval in outline, with numerous short blackened pegs. Dorsal edge of basistyle, *b*, with strong setæ. Both dististyles, *d*, pointed at tips, of somewhat similar shape, the larger outer style with the apical point shorter. Sheath of ædeagus, *a*, large and conspicuous, blackened, protruding from the genital chamber. Ninth sternite below the ædeagus with two setal pencils.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg). *Allotopotype*, ♀. *Paratopotypes*, 1 ♂, 1 ♀.

*Dolichozeza (Trichodolichozeza) chaka* is most similar to *D. (T.) aurantiaca* Alexander and some others, differing decisively in the structure of the male hypopygium. This is the only member of the subgenus so far described in which both dististyles are acutely pointed at tips.

16. *Dolichozeza (Trichodolichozeza) dorsoprojecta* n. sp. Text-fig. 20.

Size medium (wing, male, 9.5 mm.); mesonotal præscutum buffy, with three narrow brown stripes; pleura obscure yellow, unpatterned; head light grey, variegated with darker on sides of the posterior vertex; basal flagellar segments narrowly pale at tips; wings with brown, the stigma dark brown; macrotrichia of wing cells numerous; vein  $R_{1+2}$  preserved; medial forks shallow; male hypopygium with the ventrolateral prolongation of the tergite produced dorsally into a long slender rod; outer dististyle very small, inner style compact.

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

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

Frontal prolongation of head light yellow above, slightly darker beneath; nasus moderately long, with long yellow setæ; palpi light brown, the terminal segment blackened. Antennæ of moderate length; scape and pedicel light yellow, basal two flagellar segments dark brown with the extreme tips paler to produce a very vague bicolored appearance, outer segments black; flagellar segments longer than the verticils. Front and anterior vertex yellow, the vertical tubercle shallowly notched; posterior part of head light brown, variegated with darker on sides.

Pronotum obscure yellow, narrowly dark brown above and on sides. Mesonotal præscutum with the restricted ground buffy, with three narrow brown stripes; central region of scutum and base of scutellum pale, the remainder brown; mediotergite yellow on central portion, the sides pale brown, more expanded behind, pleurotergite pale. Pleura obscure yellow, without pattern, propleura darker; dorsopleural membrane clearer yellow. Halteres with stem yellow, knob infuscated, the apex narrowly pale. Legs with the coxæ and trochanters yellow, fore coxæ a little darker; remainder of legs brown, tarsi passing into black; claws small, simple. Wings with a brownish tinge, the large stigma dark brown, with narrow paler brown seams on anterior and posterior cords; oblitative areas before and beyond stigma and across fork of *M* conspicuous; veins brown, pale in the oblitative areas. Macrotrichia of cells numerous and well distributed, from cell  $R_2$  to  $M_3$ , inclusive. Venation: *Rs* oblique;  $R_{1+2}$  distinctly preserved, pale yellow; medial forks in type male shallow, cell  $M_1$  subequal to its petiole; *m-cu* about one-third its length before fork of *M*. In the female, medial forks a little deeper, cell  $M_1$  nearly twice its petiole.

Abdomen bicoloured, yellow, the segments ringed with brown, broadest on the bases, very narrow on the posterior margins, the broad intermediate ring of the yellow ground: hypopygium yellow, styli blackened. Male hypopygium (text-fig. 20) with the tergal plate, *t*, blackened, with a rounded emargination, the lateral angles very strongly produced; ventrolateral portions unique, the main body enlarged, pendant, as normal in the subgenus, but with a more slender elongate arm that juts dorsad to beyond the level of the tergal plate; all parts with abundant black spinoid pegs. Outer dististyle, *d*, unusually small, appearing as a short darkened club, its length only about three times the greatest width; inner style black, suboval in outline and unusually compact. Sheath of ædeagus very short, near its base with a pair of flattened lobes that are provided with dense dark coloured setæ.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg). *Allotopotype*, ♀.

In the nature of the pattern of the head and the retention of vein  $R_{1+2}$ , the present fly agrees with *Dolichozeza* (*Trichodolichozeza*) *picticeps* Alexander, which in all other regards is a very distinct fly. The details of the hypopygium of the present fly are peculiar and distinctive.

17. *Dolichozeza* (*Trichodolichozeza*) *parvistyla* n. sp. Text-figs. 14, 21.

Size small (wing, male, about 8 mm.); mesonotum light brown, the præscutum with four dark brown stripes; pleura yellow, patterned with medium brown; knob of halteres dark brown; wings pale brownish grey, stigma darker brown: macrotrichia of cells very reduced, including about six in the outer end of cell  $R_5$ ; medial forks moderately deep, cell  $M_1$  nearly three times its petiole; intermediate abdominal tergites with the base brown, apex yellow; male hypopygium with the outer dististyle short; inner style produced into a long beak that bears two acute apical spines; no lobes on basal part of style.

*Male*.—Length about 7.5 mm.; wing 8.1 mm.

Frontal prolongation of head above light yellow, white pruinose, the sides and lower surface dark brown; nasus very short, with long pale setæ; palpi black. Antennæ with scape and pedicel yellow; flagellum broken. Front and anterior vertex light yellow; posterior part of head light grey, infuscated on either side of the posterior vertex, leaving ground areas on orbits and as a central line: anterior vertex broad, approximately four times the diameter of the scape.

Pronotum yellow, the central area of the scutum dark brown. Mesonotal præscutum light brown, with four dark brown stripes, the intermediate pair only vaguely separated; humeral region slightly darkened; scutum narrowly pale on central portion, lobes brown; posterior sclerites of notum brown, sparsely pruinose, the base of the scutellum with two small darkened spots. Pleura and pleurotergite, including dorsopleural membrane, yellow, patterned with medium brown on the ventral parts of anepisternum, sternopleurite and



meron. Halteres with stem obscure yellow, brighter at base, knob dark brown. Legs with the coxæ and trochanters yellow, fore coxæ a little darker; remainder of legs broken. Wings (text-fig. 14) pale grey, the costal border more yellowed most conspicuous as prestigmal and poststigmal brightenings; stigma oval, darker brown; obliterative area on disk conspicuous; veins brown, paler in the yellow areas. Macrotrichia of cells very reduced in number, including about six in cell  $R_5$ , chiefly near outer end (their position indicated by stippling); stigma glabrous. Venation:  $R_s$  relatively long, oblique, exceeding the basal section of  $R_{4+5}$ ; no trace of  $R_{1+2}$ ; medial forks moderately deep, cell  $M_1$  nearly three times its petiole;  $m-cu$  about two-thirds its length before fork of  $M$ .

Abdominal tergites variegated dark brown and obscure yellow; basal tergite dark brown, the lateral border pale; intermediate tergites dimidiate, the base brown, apex yellow, on the outer segments the dark colour more extensive; hypopygium pale. Male hypopygium (text-fig. 21) with the ninth tergite,  $t$ , small, the central dorsal plate gently emarginate, blackened, with scattered setæ but without spines; ventral arm extensive, the lateral lobe narrowed to a point, spinoid pegs numerous. Outer dististyle,  $d$ , short, only about four or five times as long as broad, setæ longer than the width of the style; inner style pale, produced into a long beak that bears two acute spines on the lower margin at apex; near base of prolongation with a low darkened lobe, the extensive basal part of style unarmed, but provided with dense short yellow setulæ and fewer scattered pale setæ. Sheath of ædeagus relatively short and not especially dilated.

*Holotype*, ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg).

Readily told from other members of the subgenus by the very small size, great reduction in number of macrotrichia of the cells, and the structure of the male hypopygium, particularly the tergite and dististyles.

#### 18. *Nephrotoma edwardsi* Alexander.

*Nephrotoma edwardsi* Alexander, 1917; Ann. S. Afr. Mus., vol. 17: 173-174, pl. 12, fig. 35 (venation).

The type was from Barberton, Transvaal. Inchanga, Natal, March 24, 1954 (B. Stuckenberg); Hilton Road, near Pietermaritzburg, Natal, February 1950 (P. Graham).

Wings with the stigmal trichia very reduced in number.

#### 19. *Tipula (Acutipula) grahami* n. sp. Text-fig. 23.

Allied to *zambeziensis*; halteres obscure yellow, knob infuscated; male hypopygium with the tergal lobes relatively small, only slightly diverging, separated by a notch that is fully as wide as the lobe itself; inner dististyle

with the beak relatively short and stout, only moderately produced; notch of ninth sternite with two groups of setæ on either side.

*Male*.—Length about 16 mm.; wing 15 mm.

Frontal prolongation of head yellow, with abundant short black setæ, longer on the conspicuous nasus; palpi brown, paler at the incisures. Antennæ broken at midlength, of moderate length, if entire scarcely reaching the wing root; scape yellow, pedicel brownish yellow; flagellum dark brown; verticils a little shorter than the segments. Head obscure yellow; postantennal impressions brown, conspicuous.

*Thoracic dorsum yellow, the præscutum with four more orange-yellow stripes that are scarcely delimited from the ground; posterior sclerites and pleura clear yellow; surface of thorax glabrous. Halteres with stem obscure yellow, clearer at base, knob infuscated. Legs with the coxæ and trochanters yellow; femora obscure yellow, the tips narrowly but conspicuously blackened; tibiæ brownish yellow, the tips blackened; tarsi passing into brownish black; claws (male) with a single strong tooth. Wings broad, tinged with pale brown, the costal border and especially cell *Sc* clearer yellow; stigma small, pale brownish yellow; veins brown, more yellowed in the brightened areas. Veins beyond cord unusually glabrous;  $R_{4+5}$  with a long series of trichia. Venation: *Rs* about as long as the steep *m-cu*;  $R_{2+3}$  a little longer than  $R_{1+2}$ .*

Abdomen yellow, the tergites with conspicuous stripes, the lateral pair nearly continuous, the median one distinct on outer half of organ; subterminal segments uniformly blackened to form a ring; hypopygium brownish yellow. Male hypopygium most as in *zambeziensis* but with the details distinct. Ninth tergite (text-fig. 23,t) with the lobes small, only slightly divergent, separated by a notch that is fully as wide as the lobe itself. Outer dististyle much as in *zambeziensis*; inner style with the beak relatively short and stout, only moderately produced, the tip broadly obtuse; lower beak narrow, its upper edge darkened; on face of style with further lobes or blades. Ninth sternite with two groups of setæ on either side, the outer series from a low rounded lobe, the posterior group more compact. Eighth sternite unarmed.

*Holotype*, ♂, Hilton Road, near Pietermaritzburg, Natal, January 1950 (P. Graham).

*Tipula (Acutipula) grahami* is named in honour of the collector of this and other interesting crane-flies in South Africa. *T. (A) zambeziensis* was described from a specimen taken near the Victoria Falls, Southern Rhodesia: a paratype female that was assigned to this species (from Krantz Kloof, Natal, January, 1915, taken by Marley) presumably refers to the present fly, but the specimen is no longer available to me for re-examination.

#### 20. *Hexatoma (Eriocera) preposita* n. sp.

Size large (wing, 14 mm.); antennæ (male) very long, exceeding twice the body length; mesonotal præscutum light grey, with four conspicuous dark

brown stripes, interspaces with long erect pale setæ; legs obscure yellow, the tips of the femora, tibiæ and basitarsi blackened; wings relatively narrow, weakly tinged with yellow; stigma and narrow seams over the veins brown; vein  $R_2$  nearly its own length before fork; cell 1st  $M_2$  narrowly rectangular abdomen brownish yellow, the first and the outer two segments dark brown.

*Male*.—Length about 10 mm.; wing about 14 mm.; antenna about 25 mm.

Rostrum brownish yellow; palpi black. Antennæ (male) very long, more than twice the body; scape enlarged, brownish yellow; pedicel very small; first flagellar segment brownish yellow at base, darkened outwardly, the remaining segments black; flagellar segments very elongate-cylindrical, with strong emergence bristles that become fewer and weaker on the outer segments. Head light brown, pruinose; vertical tubercle very large and bulbous, entire, yellowish brown, with a pair of confluent dark brown spots at summit.

Pronotum brown. Mesonotal præscutum light grey, with four conspicuous dark brown stripes, the intermediate pair narrowly confluent behind; thoracic interspaces with long erect pale setæ; scutum darkened, more or less pruinose; scutellum testaceous, pruinose; mediotergite brownish yellow on central portion, dark brown on sides; mediotergite and pleurotergite with long erect white setæ. Pleura dark, heavily grey pruinose; dorsopleural membrane buffy. Halteres with stem yellow, knob dark brown. Legs with the coxæ and trochanters obscure yellow; femora and tibiæ obscure yellow, the tips black; basitarsi brownish yellow, passing into black; remainder of tarsi black. Wings relatively narrow, as compared with *tumidiscapa*, with a weak yellow tinge; cells  $C$  and  $Sc$  a trifle darkened; stigma small, brown; narrow and inconspicuous brown seams over most of the veins, especially conspicuous in the radial field. Venation:  $R_2$  nearly its own length before fork; cell 1st  $M_2$  narrowly rectangular.

Abdomen brownish yellow, the first segment darker brown; outer two segments, including the small hypopygium, dark brown.

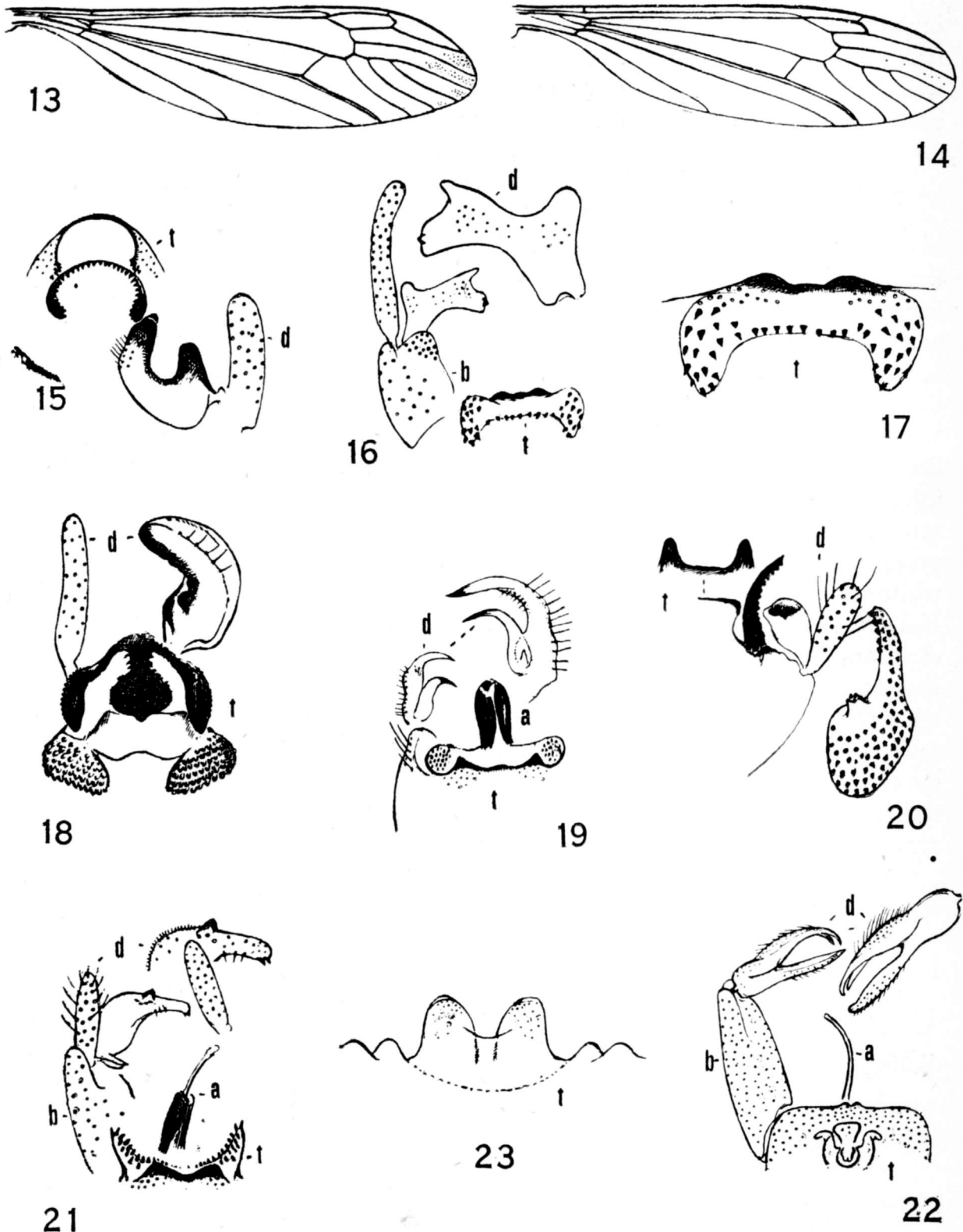
*Holotype*, a broken ♂, Indumeni Forest, Cathedral Peak Area, Natal, February 3, 1954 (B. Stuckenberg).

The most similar regional species is *Hexatoma (Eriocera) tumidiscapa* Alexander, ranging from Liberia and the Ivory Coast to Nyasaland, which is distinguished by the coloration of the body and wings and by the venation.

## 21. *Elephantomyia (Elephantomyia) ovalistigma* n. sp.

Size medium (wing, female, 6.5 mm.); general coloration dark brown, posterior thoracic pleurites paler; antennæ black; legs brown; wings with a weak brownish tinge, stigma broadly oval, darker brown;  $Sc_1$  ending about opposite four-fifths the length of  $Rs$ ; cell  $R_3$  at margin about three-fourths as extensive as cell  $R_2$ .





13. *Dolichozepeza (Trichodolichozepeza) chaka* n. sp.; venation. 14. *Dolichozepeza (Trichodolichozepeza) parvistyla* n. sp.; venation. 15. *Dolichozepeza (Trichodolichozepeza) altiarca* n. sp.; male hypopygium. 16. *Dolichozepeza (Trichodolichozepeza) cathedralis* n. sp.; male hypopygium. 17. *Dolichozepeza (Trichodolichozepeza) cathedralis* n. sp.; ninth tergite. 18. *Dolichozepeza (Trichodolichozepeza) centrosoma* n. sp.; male hypopygium. 19. *Dolichozepeza (Trichodolichozepeza) chaka* n. sp.; male hypopygium. 20. *Dolichozepeza (Trichodolichozepeza) dorsoprojecta* n. sp.; male hypopygium. 21. *Dolichozepeza (Trichodolichozepeza) parvistyla* n. sp.; male hypopygium. 22. *Longurio (Longurio) stuckenbergi* n. sp.; male hypopygium. 23. *Tipula (Acutipula) grahami* n. sp.; male hypopygium.

(Hypopygial symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *t*, 9th tergite.)

*Female*.—Length, excluding rostrum, about 6.5 mm.; wing 6.5 mm.; rostrum about 4 mm.

Rostrum moderately long, nearly two-thirds the wing, black; palpi relatively conspicuous. Antennæ black throughout; flagellar segments cylindrical, with elongate verticils. Head grey; anterior vertex narrow, about two-thirds as wide as the diameter of the scape.

Pronotum and mesonotum chiefly dark brown, the lateral ends of the pronotal scutellum, median region of scutum and the scutellum testaceous brown. Pleura anteriorly dark brown, the ventral sternopleurite, metapleura and pleurotergite paler. Halteres with stem pale, knob infuscated. Legs with the fore coxæ infuscated, remaining coxæ testaceous yellow; trochanters yellow; remainder of legs brown, virtually uniform throughout. Wings with a weak brownish tinge, the base more yellowed; stigma broadly oval, darker brown; veins pale brown, more brownish yellow in the pre-arcular field. Venation: *Sc* moderately long, *Sc*<sub>1</sub> ending about opposite four-fifths the length of *Rs*, *Sc*<sub>2</sub> a short distance from its tip; branches of *Rs* parallel for more than the basal half, thence gradually diverging, cell *R*<sub>3</sub> at margin about three-fourths as extensive as cell *R*<sub>2</sub>; cell 1st *M*<sub>2</sub> shorter than vein *M*<sub>4</sub>; *m-cu* at least one-third its length beyond the fork of *M*.

Abdomen dark brown, the sternites a trifle paler. Ovipositor with the cerci very long and slender, nearly straight; hypovalvæ also long and straight but stouter.

*Holotype*, ♀, Saint Helier Estate, near Hillcrest, Natal, December 20, 1954 (B. Stuckenberg).

The most similar regional species include *Elephantomyia* (*Elephantomyia*) *luteipennis* Alexander and *E. (E.) montana* Alexander, which differ in the coloration of the body and wings and in the venation, especially the course and extent of the outer radial veins.

### PART III.

In continuing the survey of the Tipulidæ of South Africa, particularly the species occurring in Natal, the third part deals with certain of the material secured by Mr. B. Stuckenberg in the Drakensberg, particularly in the Indumeni Forest and in the Cathedral Peak Area, and also some very interesting forms from isolated pockets of native forest persisting at Kranskop and in the Town Bush at Pietermaritzburg, Natal.

#### 22. *Ctenacroscelis quathlambicus* n. sp. Text-fig. 28.

General coloration of mesonotum buffy, the præscutum with four dark grey stripes that are narrowly bordered by dark brown, the lateral margins more broadly infuscated; antennæ 12-segmented; tips of femora broadly dark brown; claws simple; wings obscure brownish yellow, vaguely patterned with

pale brown, most evident in the outer radial field ; cell  $M_1$  very short-petiolate to virtually sessile ; male hypopygium with the lateral tergal lobes broad and obtuse ; inner dististyle broad, especially just beyond midlength.

*Male*.—Length about 18–20 mm. ; wing 19–23.5 mm. ; antenna about 2.9–3.1 mm.

*Female*.—Length about 22 mm. ; wing 20 mm. ; antenna about 2.5 mm.

Frontal prolongation of head a little shorter than the remainder, grey pruinose above, infuscated on sides and beneath ; nasus long and conspicuous ; palpi dark brown. Antennæ 12-segmented, relatively short in both sexes, brown, the basal segments somewhat paler brown ; flagellar segments suboval ; unproduced ; verticils very small and inconspicuous. Head grey pruinose, the vertex with two pale brown lines ; anterior vertex low and rounded.

Pronotum brownish grey, more infuscated medially. Mesonotal præscutum buffy, with four dark grey stripes that are narrowly bordered by brown, the pale median interspace subequal to the submedian brown lines ; lateral stripes less evidently bordered, lateral margin broadly dark brown, with a short yellow line internally at the suture ; scutum pale, each lobe with two grey areas that are more or less distinctly bordered by brown ; posterior sclerites of notum whitened, the mediotergite with a capillary brown central vitta. Pleura whitened, with a broad brown dorsal area extending from the propleura to beneath the wing root ; ventral sternopleurite brownish grey. Halteres with stem yellow, knob infuscated. Legs with the coxæ whitened ; trochanters yellow ; femora obscure yellow, the tips broadly and gradually dark brown, most extensive on fore legs, narrowest on the posterior pair ; tibiæ obscure yellow, the tips narrowly darkened ; tarsi reddish brown, passing into black ; claws simple. Wings obscure brownish yellow, vaguely patterned with pale brown, chiefly beyond the cord in the centres of cells  $R_2$ ,  $R_3$  and  $R_5$ , the outer end of cell 1st  $M_2$  and thence along vein  $M_1$  to the apex ; less distinct darkenings basad of cord, most evident in cell  $M$  adjoining vein  $Cu$  and in cell 1st  $A$  ; cell  $C$  more brownish yellow ; veins brownish yellow, darker brown in the patterned areas. Venation :  $R_s$  shorter than cell 1st  $M_2$  ; cell  $M_1$  short-petiolate to virtually sessile ;  $m-cu$  unusually far distad on  $M_{3+4}$ .

Abdomen brownish yellow, the outer segments more infuscated ; basal tergite and cephalic half of ninth tergite darker ; remainder of hypopygium brownish yellow. Male hypopygium (text-fig. 28) with the posterior border of tergite,  $t$ , shallowly emarginate, the lobes broad and obtuse. Outer dististyle,  $d$ , dilated on proximal half ; inner style broad, especially just beyond midlength, the apex narrow, truncate.

*Holotype*, ♂, Cathedral Peak Area, Drakensberg, Natal, 6,400 ft., March 19–23, 1955 (B. Stuckenberg). *Allotopotype*, ♀. *Paratopotype*, ♂.

The present fly is quite distinct from *Ctenacroscelis albovittatus* ((Macquart), the only other member of the genus at present known from the African mainland in the diagnostic features listed, especially the simple claws, short petiole of

cell  $M_1$  of the wings, and the structure of the male hypopygium, especially the tergite and inner dististyle. The specific name is derived from the native name of the Drakensberg.

23. *Longurio drakensbergensis* n. sp. Text-figs. 24, 29.

Size small (wing, male, 8 mm.); general coloration buffy brown, the præscutum with three slightly darker stripes; antennæ of male moderately elongate, exceeding one-third the length of wing; wings broad, suffused with brown, especially at base and along costa;  $R_{1+2}$  atrophied; *m-cu* long, arcuated; male hypopygium with the spines of the inner dististyle about seven or eight in number, slightly recurved; ædeagus long and conspicuous.

*Male*.—Length about 7.5 mm.; wing 8 mm.; antenna about 3.1–3.2 mm.

Frontal prolongation of head brownish yellow; nasus short and blunt; palpi relatively short, brown, darker outwardly. Antennæ of male moderately elongate, more than one-third the wing; scape and pedicel dark brown, flagellum black; flagellar segments cylindrical, clothed with a dense white pubescence throughout their length; verticils scarcely differentiated from the pubescence; terminal segment very reduced. Head brown, sparsely pruinose, especially in front and on orbits; vertical tubercle scarcely developed.

Pronotum medium brown. Mesonotal præscutum buffy brown, with three somewhat darker brownish grey stripes that are poorly defined against the ground; posterior sclerites of notum chiefly buffy to light brown, the postnotum more yellowed; vestiture of notum lacking or greatly reduced. Pleura buffy yellow, the propleura, anepisternum and ventral sternopleurite more brownish grey. Halteres with stem yellow, knob infuscated. Legs with the fore coxæ weakly darkened, remaining coxæ buffy; trochanters yellow; remainder of legs dark brown to black. the femoral bases obscure yellow, narrowest on fore pair where less than the proximal half is included, broadest on the posterior legs where only about the outer fifth is blackened; claws simple. Wings (text-fig. 24) broad, suffused with brown, especially the basal, costal and stigmal regions; obliterative streak restricted, but involving the outer end of cell  $R$ ; veins brown. Veins beyond cord with relatively sparse macrotrichia. Venation:  $Sc$  short,  $Sc_2$  ending about opposite one-half to two-thirds  $Rs$ ,  $Sc_1$  at its tip;  $R_{1+2}$  atrophied; petiole of cell  $M_1$  short, variable in length, the longest about twice  $m$ ; *m-cu* long, arcuated, on vein  $M_4$  shortly beyond its origin; vein  $Cu$  scarcely shirred at *m-cu*; distal half of cell 2nd  $A$  widened.

Basal tergite yellow, succeeding ones passing into black; basal sternites obscure brownish yellow, passing into brown; hypopygium yellowish brown. Male hypopygium (text-fig. 29) with the tergite transverse, the posterior border very gently emarginate; setæ abundant, restricted to the posterior half of plate, all setæ approximately equal in size, directed caudad or slightly mesad. Basistyle,  $b$ , moderately long. Dististyles,  $d$ , interconnected at base



only ; outer style long-oval with relatively few setæ : inner style with the beak compressed-flattened, very obtuse ; crest of style with seven or eight slightly retrorse spines and more abundant elongate setæ. *Ædeagus* long and conspicuous.

*Holotype*, ♂, Cathedral Peak Hotel, Drakensberg, February 19, 1955 (B. Stuckenberg). *Paratopotype*, ♂.

The only approximately similar regional species include *Longurio cinerei-thorax* (Alexander) and *L. rubronigra* (Alexander), which have the coloration distinct, short antennæ and vein  $R_{1+2}$  preserved.

24. *Longurio niphopoda* n. sp. Text-figs. 25, 30.

General coloration of mesonotum light brown, pleura yellow ; legs with the tibiæ and tarsi snowy white, the tibial bases narrowly darkened ; wings weakly infuscated, unpatterned except for the oval dark brown stigma ; cell  $M_1$  a trifle longer than its petiole ; *m-cu* at near midlength of  $M_{3+4}$  ; abdomen conspicuously bicoloured, the segments yellow with about the outer fourth dark brown ; male hypopygium with the posterior border of the tergite truncate or virtually so.

*Male*.—Length about 10–10.5 mm.; wing 10.5–11 mm.; antenna about 8.5–9 mm.

Frontal prologation of head buffy yellow ; palpi dark brown. Antennæ of male elongate, as shown by the measurements ; scape and pedicel short, obscure yellow ; flagellar segments elongate-cylindrical, the first enlarged at base to appear as a small secondary segment, pale in colour ; remainder of organ black, with an abundant erect white pubescence distributed over the entire segment ; verticils virtually lacking, only one or two to each segment and very small, about as long as the pubescence. Front yellow, the posterior portion of head more obscure yellow, the central area of vertex weakly infuscated ; no vertical tubercle.

Pronotum brownish testaceous. Mesonotum light brown, the posterior sclerites more yellowed ; vestiture lacking. Pleura yellow. Halteres infuscated, the base of stem narrowly yellow. Legs with the coxæ and trochanters pale yellow ; femora yellowish brown, slightly darker at the tips ; tibiæ snowy white, the bases narrowly infuscated, somewhat more extensively so on the fore and middle tibiæ ; tarsi snowy white, terminal segment infuscated ; claws of male simple. Wings (text-fig. 25) weakly infuscated, unpatterned except for the oval darker brown stigma ; veins dark brown. Macrotrichia of veins beyond cord short but relatively abundant. Venation : Both  $Sc_1$  and  $Sc_2$  ending before level of fork of  $R_s$  ;  $R_{1+2}$  well-preserved ; anterior cord oblique ; cell  $M_1$  a trifle longer than its petiole ; *m-cu* at near midlength of  $M_{3+4}$  ; cell 2nd *A* narrow.

Abdomen conspicuously bicoloured, the segments yellow with about the outer fourth dark brown, the amount of the latter decreasing on the fifth and sixth segments; subterminal segments more uniformly blackened; hypopygium brown. Male hypopygium (text-fig. 30) with the tergite relatively large, the posterior border truncate or virtually so, thickened; the dorsal surface of the outer three-fourths of tergal plate with numerous setæ; ventral surface with a sclerotized framework, appearing as a narrow semicircular band. Basistyle, *b*, small. Dististyles, *d*, fused on about their basal half; outer style long-oval, with abundant setæ; inner style subequal in length, extended into a flattened black beak-like part, the outer surface with abundant setæ. Ædeagus unusually simple.

*Holotype*, ♂, Kranskop, Natal, November 11, 1954 (B. Stuckenberg). *Paratopotype*, 1 teneral ♂.

Three species of *Longurio* in south-eastern Africa, including *L. africana* (Alexander), *L. aspropoda* Alexander, and the present fly, form a compact group, being evidently allied to the more northern *L. riedeliana* (Alexander). The present fly differs from the others in the pattern and venation of the wings, coloration of the abdomen, and in the details of structure of the male hypopygium. The coloration of the legs in *africana* is unknown, but it seems possible that at least the tarsi are white, as in the other forms. However, in *riedeliana*, of Nyasaland, the legs are darkened. The various species in this group were formerly placed in the genus *Habromastix* Skuse, but it seems advisable to refer all such forms to the more comprehensive genus *Longurio* Loew, until the matter can be more thoroughly investigated. It is probable that *Habromastix* will be found to be a synonym of *Longurio* or, at most, to represent a subgenus of the same.

25. *Thaumastoptera natalensis* n. sp. Text-figs. 26, 31.

General coloration of thorax almost uniformly obscure yellow; antennæ brownish black; halteres very stout, especially the knob; legs yellow; wings with a weak brownish yellow tinge, veins pale;  $Sc_1$  ending slightly beyond midlength of  $R_s$ ,  $Sc_2$  before the origin of the latter; basal section of  $R_{4+5}$  angulated at near midlength: petiole of cell 2nd  $M_2$  very short, subequal to  $r-m$ ;  $m-cu$  about three times its length before the fork of  $M$ ; male hypopygium with the dististyle a stout curved hook, the inner or concave edge provided with strong setæ.

*Male*.—Length about 4.5 mm.; wing 5 mm.; antenna about 0.9 mm.

Rostrum obscure yellow; palpi brown. Antennæ brownish black, the scape a little paler; flagellar segments oval, somewhat shorter than the verticils. Head brownish yellow; anterior vertex broad, nearly three times the diameter of the scape

Pronotum brownish yellow. Mesonotum almost uniformly obscure yellow, the pleura a little lighter. Halteres pale, the knobs weakly infuscated; stem

very short, dilated into the exceptionally large knob. Legs with the coxæ and trochanters yellow; remainder of legs pale yellow; claws long and slender simple. Wings (text-fig. 26) with a weak brownish yellow tinge, the pre-arcular and costal fields somewhat clearer yellow; veins pale brownish yellow, poorly visible against the ground. Venation:  $Sc_1$  ending slightly beyond midlength of  $R_s$ ,  $Sc_2$  shortly before the origin of the latter so  $Sc_1$  is very long, exceeding one-half  $R_s$ ; basal section of  $R_{4+5}$  weakly to strongly angulated, in one wing of the type conspicuously spurred at the point of angulation; petiole of cell 2nd  $M_2$  very short, subequal to  $r-m$ ;  $m-cu$  approximately three times its length before the fork of  $M$ ; cell 2nd  $A$  broad.

Abdomen, including hypopygium, medium brown. Male hypopygium (text-fig. 31) with the basistyle,  $b$ , short and stout, the setæ concentrated on the outer half. Dististyle,  $d$ , unusually stout, appearing as a flattened curved hook, dilated beyond base, on the concave edge with a row of five strong setæ just back from the terminal spine; a more concentrated group of five or six similar setæ placed more basally at near midlength of style. Gonapophysis,  $g$ , appearing as a stout curved rod, the apex very obtuse or truncate.

*Holotype*, ♂, Town Bush, Pietermaritzburg, Natal, November 2, 1954 (B. Stuckenberg).

This fly is of unusual interest since the genus had not hitherto been known from the Ethiopian Region. There are two species in Europe and one each in South India and Mindanao, all differing conspicuously from the present fly in coloration, details of venation and in the structure of the male hypopygium. It may be noted that a species from Aldabra described by Edwards as *Thaumastoptera aldabrensis* ('Trans. Linn. Soc. London,' (2, Zool.) 15; 205, pl. 10, fig. 10, wing; 1912), actually belongs to the genus *Gonomyia* Meigen, subgenus *Idiocera* Dale, and has no close relationship with the present fly.

#### 26. *Limnophila hetaira* n. sp. Text-fig. 27.

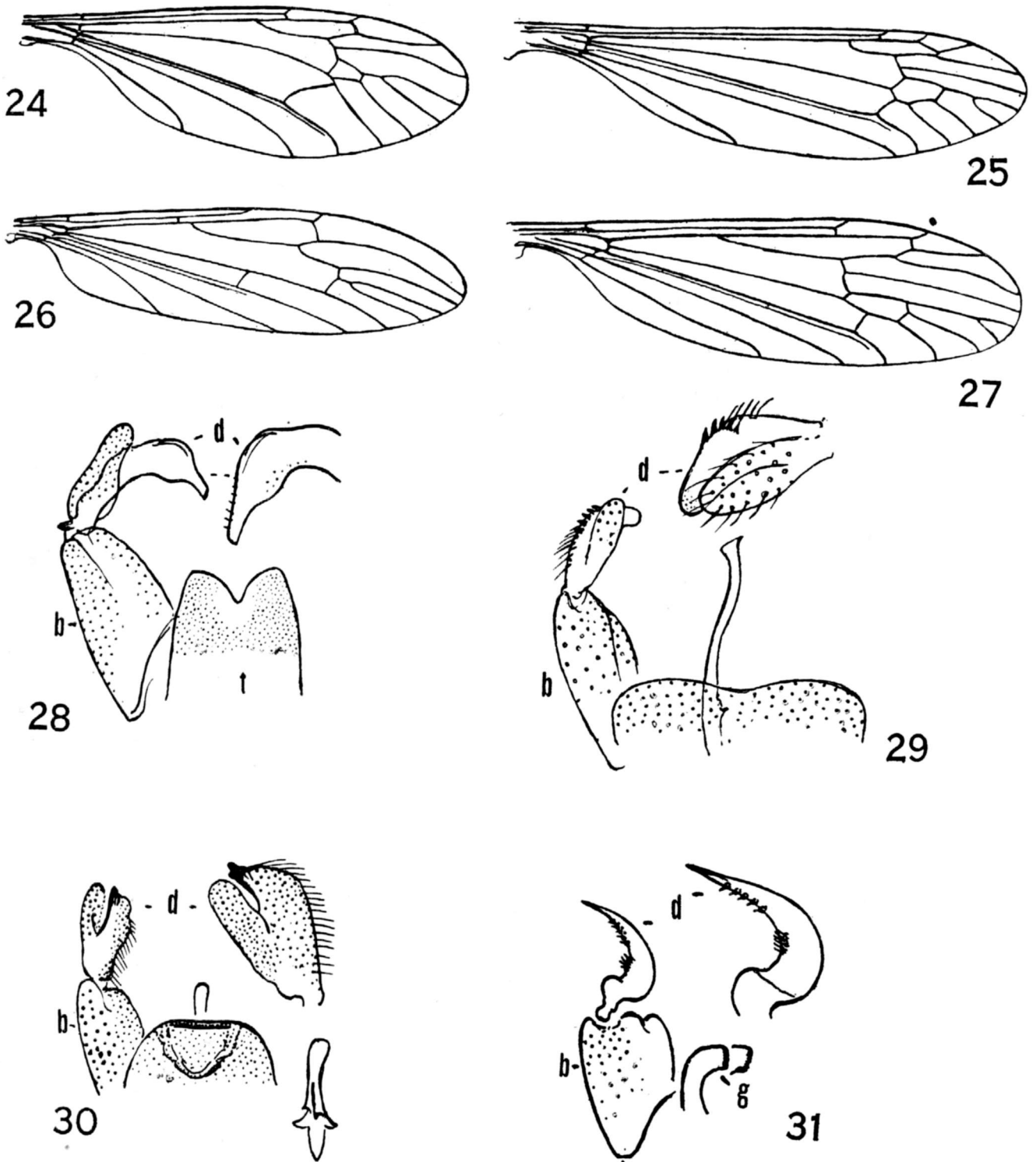
Belongs to the *filata* group; general coloration of thorax dark brown, scarcely patterned; antennæ black throughout; legs dark brown, the femoral bases paler; wings relatively broad, tinged with brown, vaguely patterned with still darker brown, including the stigma; cell  $M_1$  small, a little less than one-half its petiole; ovipositor with the cerci very long.

*Female*.—Length about 6.5 mm.; wing  $6 \times 17.5$  mm.

Rostrum and palpi black. Antennæ black throughout; basal flagellar segments oval, the outer ones more elongate, with longer verticles. Head brownish grey; anterior vertex broad, nearly four times the diameter of the scape.

Thoracic dorsum almost uniformly dark brown, without distinct pattern; pseudosutural foveæ blackened, elongate. Pleura somewhat paler brown. Halteres with stem pale, especially at base, knob infuscated. Legs with the

TEXT-FIGS. 24-31.



24. *Longurio drakensbergensis* n. sp. ; venation. 25. *Longurio niphopoda* n. sp. ; venation.  
 26. *Thaumastoptera natalensis* n. sp. ; venation. 27. *Limnophila hetaira* n. sp. ; venation.  
 28. *Ctenacroscelis quathlambicus* n. sp. ; male hypopygium. 29. *Longurio drakensbergensis* n. sp. ; male hypopygium. 30. *Longurio niphopoda* n. sp. ; male hypopygium.  
 31. *Thaumastoptera natalensis* n. sp. ; male hypopygium.

(Hypopygial symbols : a, aedeagus ; b, basistyle ; d, dististyle ; t, 9th tergite.)



fore coxæ darkened, middle and hind pairs more brownish yellow; trochanters obscure yellow; remainder of legs dark brown, the femoral bases paler; tibial spurs long and conspicuous. Wings (text-fig. 27) relatively broad, as compared with *suffilata*; membrane tinged with brown, vaguely patterned with darker brown, including the stigma, pre-arcular and costal regions, and the anterior cord; veins brown. Venation:  $Sc_1$  ending shortly beyond the fork of  $Rs$ ,  $Sc_2$  shorter, placed near its tip;  $R_2$  pale but evident, a little shorter than  $R_{1+2}$ ; cell  $M_1$  small, a little less than one-half its petiole;  $m-cu$  shortly before midlength of cell 1st  $M_2$ .

Abdomen dark brown. Ovipositor with the cerci very long, the tips gently expanded and upcurved.

*Holotype*, ♀, Cathedral Peak Area, Drakensberg, Natal, 6,400 ft., March 19–23, 1955 (B. Stuckenberg).

The present species is most similar to *Limnophila natalica* n. sp., differing in the darker coloration, including the body and the wing pattern, the latter with an evident stigmal darkening. The more northern *L. suffilata* Alexander is similarly related, being distinguished by the long narrow wings, with the venational details distinct.

27. *Limnophila natalica* n. sp. Text-figs. 32, 36.

Belongs to the *filata* group; size small (wing, male, less than 5.5 mm.); general coloration of thorax medium brown, without distinct pattern; antennæ short, black throughout, verticils of outer segments conspicuous;  $Sc$  relatively short, both  $Sc_1$  and  $Sc_2$  ending before the fork of  $Rs$ ; vein  $R_2$  obsolete or virtually so; vein  $R_4$  deflected strongly caudad; cell  $M_1$  present, subequal in length to its petiole; male hypopygium with the setæ of mesal face of basistyle very long; outer dististyle blackened, very hairy, narrowed into a slightly curved beak.

*Male*.—Length about 4.5 mm.; wing 5.3 mm.; antenna about 0.8 mm.

Rostrum and palpi black. Antennæ black throughout, short, as shown by the measurements; basal flagellar segments oval, with few verticils, the outer segments more elongate, with conspicuous verticils; terminal segment about one-third longer than the penultimate. Head brown.

Pronotum brown. Mesonotum medium brown, without pattern; pseudo-sutural foveæ relatively large and conspicuous, blackened. Pleura somewhat paler brown. Halteres with stem pale, knob slightly more darkened. Legs with the coxæ and trochanters brownish yellow; remainder of legs brown, the femora somewhat darker. Wings (text-fig. 32) with a weak greyish tinge, unpatterned; veins light brown. Venation:  $Sc$  relatively short, both  $Sc_1$  and  $Sc_2$  before the fork of  $Rs$ ; vein  $R_2$  obsolete or virtually so; vein  $R_4$  deflected strongly caudad; cell  $R_3$  thus widened at margin, exceeding cell  $R_2$ ;  $r-m$  arcuated; cell  $M_1$  subequal in length to its petiole;  $m-cu$  just before midlength of cell 1st  $M_2$ .

Abdomen dark brown. Male hypopygium (text-fig. 36) with the basistyle, *b*, relatively stout, the mesal face with very long pale setæ. Outer dististyle, *d*, blackened, subcylindrical, narrowed outwardly, terminating in a slightly curved blackened beak; surface of style with numerous long pale setæ, the longest approximately one-half the length of the style; inner dististyle subequal in size, the outer third pale and more membranous. Gonapophysis, *g*, incurved toward the ædeagus, at apex extended into a long acute point.

*Holotype*, ♂, Town Bush, Pietermaritzburg, Natal, November 2, 1954 (B. Stuckenberg).

When compared with *Limnophila hetaira* n. sp., which it most closely resembles, the present fly differs most evidently in the coloration and in the pattern and venation of the wings. The male sex of *heteira* remains unknown.

### 28. *Gonomyia (Idiocera) dædalus* n. sp. Text-fig. 33.

Size large (wing, female, 7.5 mm.); mesonotal præscutum chiefly covered by three brownish grey stripes: pleura reddish brown, with a broad pale yellow longitudinal stripe; wings with a conspicuous dark brown pattern;  $Sc_1$  ending about opposite one-fifth the length of *Rs*; vein  $R_3$  erect, vein  $R_4$  turned strongly cephalad at margin; abdomen dark brown, the posterior borders of the segments narrowly yellowed.

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

Rostrum brown; palpi brownish black. Antennæ with the scape light yellow, vaguely patterned with brown; pedicel brownish yellow, flagellum black; flagellar segments elongate, slightly exceeding the verticils in length. Head above dark brown, sparsely pruinose, the anterior vertex more yellowed.

Pronotum infuscated in front, light yellow behind. Mesonotal præscutum chiefly covered by three confluent brownish grey stripes, the humeral and lateral areas yellow; scutum chiefly brownish grey, the median area a trifle brightened; scutellum brownish yellow; mediotergite dark brown, the anterolateral part yellow; pleurotergite reddish brown, its posterior end yellowed. Pleura reddish brown, with a broad pale yellow longitudinal stripe extending from the fore coxæ to the base of abdomen, expanded behind to include the pteropleurite and meron; dorsopleural membrane pale. Halteres with stem yellow, knob brownish black. Legs with the coxæ whitish yellow; trochanters yellow; remainder of legs yellow, the femoral tips very vaguely more darkened; outer tarsal segments brownish black. Wings (text-fig. 33) weakly suffused with brownish yellow, the costal border somewhat clearer yellow; a restricted but conspicuous dark brown pattern, as follows: Origin of *Rs*, slightly disconnected from a smaller spot at fork of *Sc*; stigma; cord, including *m-cu*; veins  $R_3$  and  $R_4$  at margin, fork of  $M_{1+2}$ , and at tip of vein 2nd *A*; veins brown, the pre-arcular and costal veins yellow. Venation: *Sc* relatively long,  $Sc_1$  ending about opposite one-fifth the length of *Rs*,  $Sc_2$  near its tip; vein  $R_3$  erect, vein  $R_4$

turned strongly cephalad on outer end, cells  $R_3$  and  $R_4$  at margin being subequal in extent or the latter slightly more so;  $m-cu$  about twice its length before the fork of  $M$ ; a short spur into cell 1st  $A$  near outer end of vein 2nd  $A$ .

Abdomen dark brown, the posterior borders of the segments narrowly yellow; pleural membrane yellow.

*Holotype*, ♀, Cathedral Peak Area, Drakensberg, Natal, 6,400 ft., March 19–23, 1955 (B. Stuckenberg).

This large and conspicuous member of the subgenus is quite distinct from the other regional forms having the wings more or less heavily patterned including *Gonomyia (Idiocera) thomassetiana* Alexander, which differs in the coloration of the body, legs and wings, and in details of venation. The discovery of the male sex will undoubtedly provide further distinguishing characters in the hypopygium.

29. *Gonomyia (Lipophleps) elachistos* n. sp. Text-figs. 34, 38.

General coloration of mesonotum dark brownish grey, scutellum brightened only on extreme posterior border; pleura brownish yellow, with a broad pale yellow longitudinal stripe that is bordered above and beneath by brown; halteres uniformly yellow; legs brownish yellow, passing into brown; wings with a weak brownish tinge, the costal region light yellow; cell  $R_3$  very small; male hypopygium with the outer dististyle profoundly bifid, the inner arm terminating in a long black spine; inner dististyle elongate; phallosome pale terminating in a pale recurved apical lobe.

*Male*.—Length about 3.5 mm.; wing 4.2 mm.

Rostrum and palpi black. Antennæ with the scape and pedicel chiefly yellow, flagellum black; flagellar segments elongate, with very long unilaterally distributed verticils. Head yellow, the centre of the posterior vertex infuscated.

Pronotal scutum yellow, darkened on sides; scutellum and pretergites yellowish white. Mesonotal præscutum and scutum dark brownish grey; scutellum similar, the extreme posterior border more yellowed; mediotergite brownish grey, the lateral borders, with the pleurotergite, yellow. Pleura brownish yellow above, with a broad pale yellow ventral longitudinal stripe extending from and including the fore coxæ, reaching the abdomen behind, bordered above by a narrow dark brown line; ventral sternopleurite broadly brown; dorsopleural membrane clear light yellow. Halteres uniformly pale yellow. Legs with the fore coxæ pale, as described, remaining coxæ light brown; trochanters obscure yellow; femora obscure yellow or brownish yellow, becoming darker brown at tips; tibiæ and tarsi brown. Wings (text-fig. 34) with a weak brownish tinge, the pre-arcular and costal fields light yellow; stigma scarcely differentiated; veins brown, yellow in the brightened areas. Venation:  $Sc$  short, both  $Sc_1$  and  $Sc_2$  before origin of  $Rs$ , the latter angulated and weakly spurred at origin; cell  $R_3$  exceedingly reduced in size, its marginal extent less than one-half that of cell  $R_2$ ;  $m-cu$  nearly its own length before the fork of  $M$ .

Abdominal tergites dark brown, the posterior borders and incisures pale ; sternites lighter in colour ; hypopygium brownish yellow, the outer dististyle blackened. Male hypopygium (text-fig. 38) with the outer dististyle, *d*, deeply bifid, the outer arm longest, appearing as a flattened glabrous dark-coloured blade that narrows to an acute tip ; inner arm terminating in a long black spine that is incurved toward the outer arm, its outer surface with several strong setæ ; on outer margin, at base of the style, with a small oval blade ; inner style long and slender, gradually narrowed outwardly, terminating in two pale setæ, with a row of long simple bristles along the face. Phallosome, *P*, pale throughout, appearing as a roughly triangular structure that terminates in a pale recurved apical lobe.

*Holotype*, ♂, Cathedral Peak Area, Drakensberg, Natal, 6,400 ft., March 19–23, 1955 (B. Stuckenberg).

In the very reduced cell  $R_3$  of the wings, the present fly agrees most nearly with *Gonomyia* (*Lipophleps*) *sulphurelloides* Alexander, which has the structure of the male hypopygium much more complex and entirely distinct from the present species.

30. *Gonomyia* (*Gonomyia*) *gnophosoma* n. sp. Text-figs. 35, 37.

Belongs to the *tenella* group ; general coloration of thorax, including the mesonotal scutellum, dark brown, the pleura more pruinose, without a longitudinal pale stripe ; antennæ, halteres and legs brownish black to black ; wings with a strong dusky tinge, cell  $R_3$  large ; male hypopygium with the outer dististyle a blackened rod, provided with unusually long setæ ; inner dististyle with the spine of outer face very long ; phallosome with two blackened spines.

*Male*.—Length about 4·42 mm.; wing 5 mm.; antenna about 0·8 mm.

*Female*.—Length about 4·5 mm.; wing 5·2 mm.

Rostrum and palpi black. Antennæ with scape and pedicel brownish black, the flagellum slightly paler ; basal flagellar segments oval, the outer ones more elongate, with longer verticils. Head dark brown, grey pruinose.

Thoracic dorsum dark brown, only the lateral ends of the pronotal scutellum and the pretergites yellowed. Pleura and pleurotergite blackened, the colour obscured by a heavy grey pruinosity ; very vague yellowed areas on propleura, extreme dorsal pteropleurite, and the meral region, not forming a stripe as is common in the genus. Halteres blackened. Legs with the coxæ pale brown, trochanters somewhat darker ; remainder of legs brownish black to black. Wings (text-fig. 35) with a strong dusky tinge, the stigma still darker ; veins dark brown. Venation :  $Sc_1$  ending approximately opposite the origin of  $R_s$ ,  $Sc_2$  commonly far from its tip,  $Sc_1$  alone about one-third to one-fourth  $R_s$ , in cases with  $Sc_1$  shorter ; cell  $R_3$  large and sprawly, at the margin being at least five times as extensive as cell  $R_5$  ; *m-cu* close to the fork of *M*.

Abdomen dark brown ; hypopygium a little paler, the dististyles black. Male hypopygium (text-fig. 37) with the apical lobe of basistyle, *b*, relatively



small, about one-third the length of the outer dististyle, with coarse setæ. Outer dististyle, *d*, a simple blackened rod, slightly dilated on outer end, the outer two-thirds with unusually long setæ, the longest about one-half as long as the style itself; inner style with the body elongate-oval, narrowed to the tip which bears two modified or fasciculate setæ; outer face to style beyond base with a very powerful spine that is longer than the body, narrowed to an acute point, with a single strong seta before tip; face of body of style with about ten to twelve smaller setæ. Phallosome, *p*, terminating in an acute point; two subtending blackened spines, one more nearly straight than the other, which arises from a paler more expanded base.

*Holotype*, ♂, Indumeni Forest, Drakensberg, Natal, March 22, 1955 (B. Stuckenberg). *Allotype*, ♀, Cathedral Peak Area, Drakensberg, March 19–23, 1955 (B. Stuckenberg). *Paratopotype*, ♂, with the type.

*Gonomyia* (*Gonomyia*) *gnophosoma* is quite distinct from the other regional members of the *tenella* group, including *G. (G.) mimetica* Alexander, in the coloration and, especially, the structure of the male hypopygium.

#### *Quathlambia* n. genus.

Rostrum very reduced; palpi 4 segmented, the segments subequal. Antennæ 16-segmented, without basal fusion of the flagellar segments, the latter suboval to subcylindrical, with truncated ends; longest verticils subequal in length to the segments. Anterior vertex broad. Cervical region well-developed. Pronotal scutellum large. Mesonotum moderately flattened; pseudosutural foveæ very large, transversely oval, tuberculate pits less evident, lying far forward. Halteres reduced to a small oval scale, evidently representing the usual club, the stem lacking. Middle and posterior legs moderately separated, about as in *Gnophomyia*; legs long and slender, the segments with conspicuous appressed scales among the normal setæ; no tibial spurs; claws simple. Wings greatly reduced in both sexes, shorter than the thorax, the venation scarcely evident. Ovipositor (text-fig. 40) with both cerci and hypovalvæ reduced to blunt lobes, the latter slightly longer. Male hypopygium (text-fig. 39) with the tergite very narrow, with a median ridge or crest, provided with strong spinous setæ. Basistyle virtually simple; dististyles two, distinctly separated. Gonapophysis appearing as a pale simple blade. Ædeagus a short massive blackened structure, with a basal flange.

*Type of genus*.—*Quathlambia stuckenbergi* n. sp. (Natal).

Superficially, the type and only known species much resembles a species of *Platylimnobia* Alexander, the only other genus of subapterous Limoniine Tipulidæ known from South Africa. However, from the characters listed it is apparent that it is not closely related to the above, being much nearer to the subgenus *Idiognophomyia* Alexander, of the genus *Gnophomyia* Osten Sacken, as discussed in the first part of this series of papers (p. 403). By the same token it

appears that *Idiognophomyia* should be elevated to full generic status. The characters that the two groups have in common are found in the presence of scales on the legs and in the structure of the ovipositor and eggs. Due to the reduction in size of wings in the present fly, venation is unavailable for comparison. The structure of the male hypopygium is distinct from that of *Idiognophomyia capicola* (Alexander) and other species referred to this genus.

Attention is called to the somewhat remarkable eggs found in *Quathlambia* and *Idiognophomyia* (compare text-fig. 40). As extracted from the abdomens of the females, these are conspicuous by their great size and apparently also by their scanty numbers. The surface of the chorion is reticulated or cross-hatched by lines, to produce diamond-shaped areas. The eggs are pale in colour, contrasting with the eggs of *Cryptolabis* Osten Sacken, which are very large, black in colour, and without the reticulate pattern of the present groups.

The generic name, *Quathlambia*, is the native name (Zulu) for the Drakensberg Mountains (alternative spellings include Qathlamba and Kwathlamba).

31. *Quathlambia stuckenbergi* n. sp. Text-figs. 39, 40.

Size small (length about 4 to 5 mm.); general coloration of thorax brownish black, the pleura patterned with light yellow; halteres greatly reduced; wings reduced, shorter than the thorax.

*Male*.—Length about 4·0–5·5 mm.; wing about 0·8–0·9 mm.

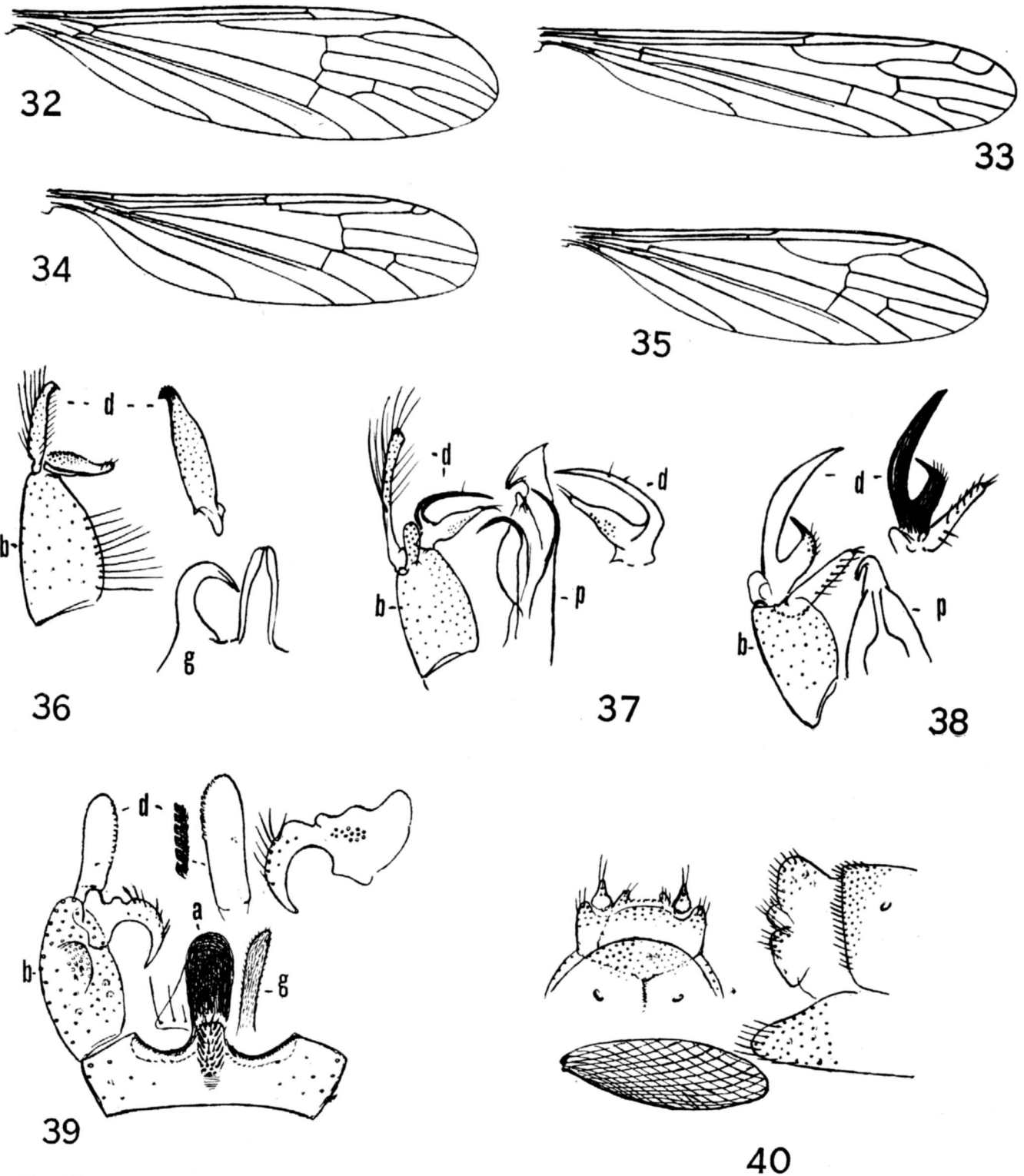
*Female*.—Length about 3·5–4·0 mm.; wing 0·7–0·8 mm.

Rostrum and palpi black. Antennæ black, scape more pruinose. Head dark grey; anterior vertex broad.

Cervical sclerites brownish black. Pronotal scutum black, the scutellum and pretergites light yellow. Mesonotum brownish black, sparsely pruinose, the humeral and lateral portions of præscutum, posterior lateral angles of the scutal lobes, parascutella and a vague spot at base of scutellum yellow. Pleura conspicuously patterned, light yellow and dark brown, the former including the dorsopleural membrane and a broad stripe extending from behind the fore coxæ to the base of abdomen involving the dorsal sternopleurite and ventral anepisternum, pteropleurite, meron and metapleura. Legs black throughout. Wings pale yellow, a little deeper yellow basally.

Abdominal tergites dark brown, grey pruinose, in cases with the posterior borders of the intermediate segments narrowly and indistinctly yellowed; sternites medium brown: hypopygium obscure yellow, patterned with brown, the styli castaneous to black. In the female, the abdominal tergites are almost uniformly plumbeous grey, including the ovipositor; pleural membrane yellow; sternites similarly darkened, the posterior borders narrowly yellow. Ovipositor (text-fig. 40) with the cerci and other tergal parts very short and reduced; hypoalvæ slightly longer, more sheath-like. Eggs very large, pale, chorion reticulated. Male hypopygium (text-fig. 39) as described under the generic

TEXT-FIGS. 32-40.



32. *Limnophila natalica* n. sp.; venation. 33. *Gonomyia (Idiocera) daedalus* n. sp.; venation. 34. *Gonomyia (Lipophleps) elachistos* n. sp.; venation. 35. *Gonomyia (Gonomyia) gnophosoma* n. sp.; venation. 36. *Limnophila natalica* n. sp.; male hypopygium. 37. *Gonomyia (Gonomyia) gnophosoma* n. sp.; male hypopygium. 38. *Gonomyia (Lipophleps) elachistos* n. sp.; male hypopygium. 39. *Quathlambia stuckenbergi* n.sp.; male hypopygium. 40. *Quathlambia stuckenbergi* n. sp.; ovipositor, egg.

(Hypopygial symbols : *b*, basistyle ; *d*, dististyle ; *p*, phallosome.)

definition. Basistyle, *b*, with a stout lobe on face, with a concentration of strong setæ. Both dististyles, *d*, apical or nearly so; outer style glabrous, appearing as a paddle-like blade, its inner margin with small truncated teeth separated by narrow incisions; inner style with the base dilated, the outer half a strongly curved blackened hook, narrowed to the subacute tip, the outer surface with relatively sparse long retrorse setæ. Gonapophysis, *g*, appearing as a simple pale densely setuliferous blade. Ædeagus, *a*, a massive black cylindrical structure, its apex obtuse, on basal half extended into a triangular flange, provided with two elongate setæ, the outermost largest.

*Holotype*, ♂, "The Organ Pipes", Cathedral Peak Area, Drakensberg, Natal, 8,000–10,000 ft., in grass on steep slopes, March 20, 1955 (B. Stuckenberg).

*Allotopotype*, ♀, mounted with the type. *Paratopotypes*, 10 ♂♀.

I take unusual pleasure in dedicating this very interesting fly to the collector, who has added so materially to our knowledge of the interesting Dipterous fauna of Natal. The flies may be confused with the generally similar species of *Platylimnobia*, which are similarly subapterous, but which are readily told by the characters of the antennæ, ovipositor and male hypopygium, in addition to the lack of scales on the legs. The virtual loss of the halteres is almost exactly as in *Platylimnobia* and appears to have paralleled the reduction of the wings in the same groups. It is of interest, however, that the Holarctic species of the genus *Chionea* Dalman, with the wings even more reduced, have the halteres large and conspicuous. The degree of reduction of wings in the present fly is about as in categories 5 and 6 of Bezzi's arrangement, based on wing atrophy.<sup>1</sup>

<sup>1</sup> Bezzi, Mario, "Riduzione e scomparsa delle ali negli insetti Ditteri," 'Rivista di Scienze Naturali,' 7: 85–182, 11 figs.; 1916.