

DURBAN MUSEUM NOVITATES

Issued by the Museum and Art Gallery, Durban

Vol. IV

ISSUED 31ST AUGUST, 1956

Part XVIII

NEW OR LITTLE-KNOWN TIPULIDÆ (ORDER DIPTERA) IN THE DURBAN MUSEUM

by

CHARLES P. ALEXANDER

(University of Massachusetts, Amherst, Massachusetts, U.S.A.)

PART I

(with three plates)

In the present report I am considering an unusually interesting series of Tipulidæ belonging to the Durban Museum, sent to me for study by the Director, Mr. P. A. Clancey, and Assistant Director, my longtime friend, Mr. A. Lionel Bevis. Many years earlier I had determined certain specimens of these flies that had been sent to me by the then Director, Mr. E. C. Chubb. I am most grateful for the opportunity to study this important lot of specimens. The *Types* of the novelties and representatives of the remaining species have been returned to Mr. Bevis for incorporation in the Museum collection; paratypes and named materials of certain of the species are in my personal collection of these flies. In this paper the various species are numbered consecutively, and it is planned to continue this practice in subsequent parts under this general title as further materials come to hand.

Virtually all of the present specimens have been taken by Mr. Bevis in various parts of Natal and Basutoland, and from the high proportion of new and rare species included in the series it seems evident that much further collecting must be done before we have an adequate knowledge of seasonal and geographical distribution for these flies in this extremely desirable part of South Africa. Two species from Southern Rhodesia are included, one being based upon materials sent to me many years ago by my friend and co-worker on the Tipulidæ, the late Mr. Alexander Cutbertson, to whom we owe much of our knowledge of the crane-flies of Southern Rhodesia.

TIPULINÆ

1. *Cteneroscelis albovitatus* (Macquart)

Tipula albovitata Macquart; "Dipt. Exot.," 1, pt. 1: 53-54; 1838.

NATAL: Umbilo, Durban, April 28, 1942 (Bevis).

2. *Cteneroscelis quathlambicus* Alexander

Cteneroscelis quathlambicus Alexander; "Annals Natal Mus.," (in press).

NATAL: Unkomazana, December 21, 1938 (Bevis).

The *Types* were from the Cathedral Peak Area, Drakensberg Range, Natal, altitude 6400', taken in March, 1955, by B. B. Stuckenberg.

3. *Longurio (Longurio) hasuticannus*, sp. n.

General colouration of thorax grey, the praescutum with four scarcely differentiated brownish grey stripes; antennae 13-segmented, relatively long in male, approximately one-half the body, brownish black, terminal segment very small; wings broad, almost uniformly pale brown; Sc_2 ending about opposite three-fifths R_s , R_{1+2} atrophied; cell M_1 deep to very deep; male hypopygium with the tergal lobes truncate; beak of inner dististyle obtuse, the crest small, elevated, with a compact group of four or five black spines.

Male: Length about 7 mm.; wing 10-11 mm.; antenna about 3.8-4 mm. Fore-leg: femur about 5.0 mm.; tibia 5.5 mm.; tarsus 8.5 mm. Hind-leg: femur about 6 mm.; tibia 6 mm.; tarsus 12 mm.

Frontal prolongation of head short, brownish black, pruinose; nasus lacking; palpi brownish black. Antennae of male 13-segmented, relatively long, approximately one-half the body, brownish black; both scape and pedicel very small, flagellar segments sub-cylindrical, with a dense white pubescence, verticils scarcely differentiated; terminal segment short-oval, very small. Head above brownish grey, with a capillary blackened central vitta; anterior vertex very broad, eyes comparatively small; vertical tubercle very reduced to scarcely apparent, slightly compressed.

Pronotum brownish grey. Mesonotal praescutum grey with four scarcely differentiated brownish grey stripes; setae of sides of praescutum relatively long but pale; posterior sclerites of notum brownish grey. Pleura grey, the extensive dorsopleural region light brown.

Halteres long and slender, stem light brown, knob infuscated. Legs with the coxae light grey; trochanters pale brown; remainder of legs brownish black, the extreme femoral bases vaguely paler; posterior tarsi of male elongate but not as excessively so as in *inæquipes* (compare measurements); claws simple. Wings (Fig. 8) broad, almost uniformly pale brown; costal border and stigma a trifle darker. Macrotrichia on outer ends of veins beyond cord. Venation: Sc relatively short, Sc_2 ending about opposite three-fifths R_s , Sc_1 shorter, faintly indicated; basal section of R_2 and free tip of Sc_2 in transverse alignment; R_{1+2} atrophied; cell M_1 deep to very deep, its petiole in cases shorter than m , in other specimens approximately twice m ; cell $1st\ M_2$ small, pentagonal; cell $2nd\ A$ broad, especially on outer half.

Abdomen dark brown, the basal segment obscure fulvous; hypopygium small, dark brown. Male hypopygium (Fig. 11) with the tergite, t , transverse, its posterior border virtually truncate, with a median emargination; vestiture on posterior half, setae relatively short, directed strongly mesad. Outer dististyle, d , elongate-oval, dusky; inner style a little longer, the beak obtuse; crest small, elevated, with a compact group of four or five black spines. Aedeagus elongate, stout.

Holotype: ♂. Rafanyane Valley, Basutoland, January 21, 1947 (Bevis). *Paratopotypes*, 2 ♂♂.

In its general appearance the present fly is much like *Longurio (Longurio) inæquipes*, sp. n., differing in all details of structure of the antennae, legs and male hypopygium, and in the venation, as the atrophied vein R_{1+2} .

4. *Longurio (Longurio) cinerellina* (Alexander)

Tipula cinerellina Alexander, "Ann. So. Afr. Mus.," 18: 223-224, 1921.

ZUTULAND: Eshowe, November-December, 1943 (Bevis).

The *Type* was from this same station, taken in December, 1916, by H. W. Bell-Marley.

5. *Longurio (Longurio) inæquipes*, sp. n.

General colouration of head and thorax light grey, the praescutum with four light brown stripes, the lateral pair poorly defined; antennae of male moderately long, approximately one-fourth the body; legs chiefly brownish black, the posterior tarsi very long;

wings weakly infuscated, with a whitened central stripe extending the entire length; vein R_{1+2} preserved; male hypopygium with the crest of the inner dististyle with eight or nine nearly equal spines; apex of gonapophysis obtuse and microscopically roughened.

Male: Length about 10 mm.; wing 11.5 mm.; antenna about 2.5 mm. Fore-leg: femur 6 mm.; tibia 6.1 mm.; tarsus 10.5 mm. Hind-leg: femur 8 mm.; tibia 8.5 mm.; tarsus about 20-21 mm.

Frontal prolongation of head light brown, more greyish above at outer end; nasus stout, blackened; palpi brownish black. Antennae of male 13-segmented, relatively short, as shown by the measurements; scape and pedicel reddish brown, the former pruinose above; flagellum black; flagellar segments cylindrical, with short inconspicuous verticils; terminal segment very small. Head light grey; vertical tubercle low, entire.

Pronotum light grey, vaguely patterned with darker. Mesonotum light grey, the praescutum with four pale brown stripes, the intermediate pair conspicuous, narrowed behind, lateral stripes very poorly defined. Pleura light grey; dorsopleural membrane buffy yellow. Halteres long and slender, stem yellowish brown, with conspicuous erect setae, knob dark brown. Legs with the coxae light grey; trochanters yellow; remainder of legs brownish black, the femoral bases yellow, narrowest on the fore-legs where about the proximal fifth is included, on the posterior legs involving nearly the basal third; claws simple. Tarsi of hind-legs greatly lengthened, approximately twice those of the fore pair, as shown by the measurements. Wings (Fig. 10) with the ground weakly infuscated, with a broad central more whitened streak extending from the bases of cells $1st\ A$ and Cu and across M and $1st\ M_2$, reaching the wing tip in cell R_5 ; stigma not or scarcely differentiated; veins brown. Venation: Vein R_{1+2} preserved; Rs subequal to vein R_3 ; cell M_1 variable in size, in the type subequal to its petiole; cell $1st\ M_2$ large, the second section of M_{1+2} arcuated; in the left wing of the type a curious venational anomaly exists, with cell $1st\ M_2$ very large, reaching vein R_{4+5} (shown in sketch).

Abdomen dark grey, the lateral and posterior borders of the segments somewhat paler grey; hypopygium brown. Male hypopygium (Fig. 12) with the tergite large, its posterior border evenly emarginate; setae present on outer half of tergal plate. Outer dististyle, d , relatively narrow, its tip obtuse; inner style with beak relatively slender, crest with about eight or nine spines of nearly equal size and shape, about evenly spaced; lower margin of style produced into a conspicuous lobe or flange. Gonapophyses, δ ,

subtending the longer glabrous aedeagus, their tips obtuse and microscopically toothed or erose.

Holotype: ♂, Umkomazana, Natal, December 21, 1938 (Bevis).
Paratopotype, 1 ♂.

Longurio (*Longurio*) *inaequipes* superficially resembles *L. (L.) howaspei* (Bergroth) or *L. (L.) belloides* Alexander, in the weakly patterned wings, differing in the structure of the legs and male genitalia. In the greatly elongated posterior tarsi, the fly resembles *L. (L.) spinosa* Wood, of Cape Province, differing in the fully winged condition of the male and in other characters.

6. *Nephrotoma basutoensis* Alexander

Nephrotoma basutoensis Alexander: "South African Animal Life," Lund Univ. Exped., 1950-51; Tipulidae (in press).

BASUTOLAND: Bokong P.O., December 26, 1946 (Bevis); Malkhapung Dip, December 25-26, 1946 (Bevis).

NATAL: Umkomazana, December 21, 1938 (Bevis).

The male hypopygium is shown (Fig. 3).

7. *Nephrotoma clanceyi*, sp. n.

General colouration yellow, praescutum with three polished brown stripes; antennal flagellum black; prothorax yellow; pleurotergite whitened, posterior end of pleurotergite dark brown; legs with femora yellow, tips narrowly blackened, the amount subequal on all legs; claws of male toothed; wings brownish yellow, stigma dark brown; trichia in stigma and outer end of cell R_6 ; abdomen orange, tergites two to eight with an oval dark brown area that does not form a subterminal ring; male hypopygium with each tergal lobe produced beneath into two spiculate lobules; beak of inner dististyle very broad and obtuse; outer basal lobe without blackened points or flanges; eighth sternite with abundant elongate setae.

Male: Length about 13-14 mm.; wing 12-14 mm.; antenna about 5-6.2 mm.

Female: Length about 17-18 mm.; wing 14 mm.; antenna about 3 mm.

Frontal prolongation of head yellow; nasus brown, with dark setae; palpi with basal two segments obscure yellow, outer ones dark brown. Antennae of male moderately long; scape yellow,

pedicel and first flagellar segment dark brown, remainder of flagellum brownish black; flagellar segments moderately incised, exceeding in length the longest verticils. Head light yellow; occipital brand in male pale brown, broad-triangular, sending a short needlelike point or vitta forward, in the female, the brand paler; vertical tubercle very vaguely notched at summit.

Prothorax brownish yellow, not as distinctly darkened on sides as in *crocea*. Mesonotum yellowish white; praescutum with three polished brown stripes, the lateral pair darker, with a polished area opposite the anterior end; scutal lobes at each with a major brownish black area; scutellum testaceous brown, parascutella more darkened; mediotergite whitened, the posterior third with a pair of darkened areas; pleurotergite with the posterior end dark brown, the cephalic part of the katapleurotergite whitened; sides of mediotergite with a few elongate setae. Pleura yellowish white, with more reddened areas on propleura, anepisternum, ventral sternopleurite and meron. Halteres with stem light brown, base of knob darkened, apex obscure yellow. Legs with the coxae reddish, the anterior faces of fore pair still darker, all provided with long pale setae; trochanters yellow; femora yellow, the tips narrowly blackened, the amount subequal on all legs; tibiae brown, tips very narrowly darker; tarsi dark brown; claws of male long, hairy, toothed. Wings tinged with brownish yellow, cell *Sc* a little darker; stigma dark brown, oval, with abundant trichia in male, fewer in female; sparse trichia in outer end of cell *R*₅, more numerous in female; veins brown. Venation: *Sc*₁ entirely preserved; cell *M*₁ narrowly to more broadly sessile; *m-cu* before fork of *M*₂.

Abdomen of male orange, first segment darkened basally; tergites two to eight with an oval central dark brown area before apex, larger on segment eight but not forming a ring, lateral tergal borders darkened, in the paratype male, dark abdominal markings a little more extensive, including the subterminal segments; in the female, darkened spots on segments two to seven, inclusive, the last appearing as a ring on posterior third to half of segment; genital shield yellow; tips of cerci narrowly obtuse. Male hypopygium (Fig. 4) with the tergite, *t*, nearly as long as broad, gently narrowed outwardly, terminating in two broad lobes that are separated by a narrow notch; outer apical angle of each lobe produced into a slender point, stouter in the paratype; spicules of either lobe arranged chiefly in two groups directed cephalad, separated by a rounded notch, Outer dististyle, *d*, long and narrow, attenuated; inner style with the beak very broad and obtuse, the lower beak very

extensive, blackened; no blackened points or flanges in the region of the outer basal lobe; dorsal crest conspicuous, precipitate behind, attaining the apex of the beak in front, its outer margin microscopically corrugated. Phallosome, *ph*, with the gonapophyses appearing as pale membrane, narrowed and pointed in the type, broader and more obtuse in the paratype; a pale needlelike spine in the axil; aedeagus of moderate size. Eighth sternite, 8 s, broad, posterior border convex, the median area emarginate, with pale membrane, the whole surface with abundant long yellow setae.

Holotype: ♂, Victoria Falls, Southern Rhodesia, April 19, 1948 (Bevis). *Allotopotype*, ♀. *Paratopotype*, ♀; *paratype*, ♂, Eshowe, Zululand, November-December, 1943 (Bevis).

This attractive fly is named in honour of the Director of the Museum and Art Gallery of Durban, Mr. P. A. Clancey. It is most similar to species such as *Nephrotoma crocea* (Loew), *N. freemani* Alexander, and *N. tziizikemae* Alexander, differing in the pattern of the body and legs and especially in the structure of the male hypopygium, particularly the tergite, inner dististyle and eighth sternite. As indicated in the text, the paratype shows slight differences in the male hypopygium that may prove to be of some significance when more material becomes available.

8. *Nephrotoma eubertsoni*, sp. n.

Allied to *ampla* and *junidaphialis*; general colouration yellow, the praescutal disc chiefly blackened, the pale interspaces very narrow or lacking; frontal prolongation, including nasus, yellow; occipital brand very indistinct; postnotum without blackened setae; tips of femora dark brown, slightly more extensive on fore-legs; wings brownish yellow, the tips darkened; a brownish cloud over anterior cord; abdomen orange-yellow with a blackened subterminal ring; male hypopygium blackened, the eighth sternite conspicuously produced into two hairy lateral lobes and an elongate median tongue-like extension.

Male: Length about 13.5-14 mm.; wing 13.5-14 mm.

Female: Length about 17-18 mm.; wing 15-16 mm.

Frontal prolongation of head, including nasus, yellow; palpi obscure yellow. Antennae of male with scape and pedicel orange, flagellum black; tip of organ broken, when entire and if bent backward about reaching the root of the halteres; flagellar segments incised, a trifle longer than the verticils. Head orange, genae yellow;

vertical tubercle low, entire; occipital brand very pale, scarcely differentiated from the ground.

Pronotum yellow, the sides more orange. Mesonotal praescutum yellow, almost covered by three broad black stripes, the interspaces narrow to very narrow, in cases obliterated when the entire disc is polished black, restricting the ground to humeral triangles and small lateral areas before the suture; lateral praescutal stripes bent outwardly to the margin; scutal lobes extensively blackened, median region yellow; scutellum testaceous yellow; mediotergite clear light yellow, the posterior border with two reddish brown areas, the surface almost glabrous, with a few delicate pale setae only; pleurotergite yellow below, the anapleurotergite dark brown. Pleura yellow, variegated by more reddish areas on the ventral anepisternum, sternopleurite and meron. Halteres with stem brownish yellow, knob extensively pale yellow. Legs with the coxae orange-yellow; trochanters yellow; femora brownish yellow, the tips dark brown, on the fore pair a little more extensive than on the other pairs; tibiae and tarsi brownish black to black; claws of male toothed, hairy. Wings brownish yellow, the costal and prearcular fields not differently coloured; wing tip darkened, as in *fumidaphialis*; a weak brown cloud over anterior cord; stigma oval, dark brown, with trichia; veins brown. No trichia in outer wing cells in male, a few in cells R_3 to $2nd M_2$ in female. Venation: Vein R_3 slightly upcurved at outer end, widening the cell at margin; cell M_1 broadly sessile; *m-cu* a short distance before fork of M_4 .

Abdomen yellow or orange-yellow in male, tergites six to nine and sternites six to eight black, forming a conspicuous ring, remainder of hypopygium obscure yellow. In female, the lateral tergal borders continuously blackened, in some specimens tergites two to five with a blackened median triangle, smallest on segment five, in other cases the dark areas lacking; posterior border of tergite six and all of seven, together with sternite seven, black to form a ring. Ovipositor with cerci straight, tips very narrowly rounded to subacute. Male hypopygium (Fig. 5) with the tergite, t , terminating in two oval blackened lobes, separated by a U-shaped notch, provided with abundant spicules. Outer dististyle, d , only slightly attenuated; inner style without a blackened spine or flange in the region of the outer basal lobe. Eighth sternite, $8s$, distinctive, the posterior end produced ventrad and slightly caudad, consisting of two blackened hairy lobes with a long median extension, the surface of this microscopically setulose, its apex somewhat expanded.

Holotype: ♂. Vumba Highlands, eastern Southern Rhodesia, in kloof forest, altitude 5000'–5500', October, 1935 (Cuthbertson).
Allotopotype, ♀. *Paratopotypes*, 5 ♂♀.

Nephrotoma cuthbertsoni is named in honour of Mr. Alexander Cuthbertson (1901–1942), who added materially to our knowledge of the Tipulidae, both in Scotland and in South Africa. The species has been in my collection for many years but I have refrained from describing it while awaiting the discovery of male specimens of the allied *N. amphla* Alexander, described from Nyasaland. To this date no further specimens of *amphla* have come to hand and I feel that the present fly should be described. It differs from *amphla* in the darkened wing tip and infuscation over the anterior cord, as well as in further minor points of colouration. *N. fumidaphialis* Alexander is more isolated in the abundant blackened setae of the mesonotal postnotum and in the structure of the male hypopygium, as the different appendage of the eighth sternite.

9. *Nephrotoma hemichroa*, sp. n.

General colouration yellow, the mesonotum patterned with brownish black, including three praescutal stripes; frontal prolongation, including nasus, yellow; antennal flagellum bicoloured, yellow, the bases of the segments brownish black; prothorax uniformly yellow; fore femora chiefly black, the basal fourth yellowed; wings strongly tinted with yellow; cells C and Sc scarcely differentiated; stigma dark brown, with trichia; abdominal tergites yellow, with broad blackened triangles on segments two to seven, inclusive, on the last two forming narrow rings.

Female: Length about 16 mm.; wing 14 mm.; antenna about 3 mm.

Frontal prolongation of head light yellow, a trifle darkened dorsally; nasus yellow with darkened setae; palpi brownish yellow throughout. Antennae with proximal three segments yellow, the succeeding ones conspicuously bicoloured, yellow, the basal enlargements brownish black. Head light yellow; occipital brand long and narrow, pale brown, sending a capillary point cephalad to the base of the vertical tubercle, the latter bifid.

Pronotum yellow, not or scarcely darker on the sides. Mesonotal praescutum yellow with three polished brownish black stripes, the cephalic half of the central one a little paler; lateral stripes with a paler brown area at anterior end; scutum yellow on central part.

the lobes brownish black; scutellum testaceous, with a narrow still darker central vitta, parascutella dark brown, mediotergite pale yellow, the posterior fourth with two darkened areas; pleurotergite pale yellow, the posterior end of the anapleurotergite darkened. Pleura light yellow, including the dorsopleural membrane, the ventral anepisternum, sternopleurite and meron with extensive more reddened areas. Halteres with stem reddish yellow, knob dark brown, its tip vaguely obscure yellow. Legs with all coxae reddish yellow; trochanters yellow; fore femora chiefly black, with about the basal fourth yellow; remaining femora obscure yellow to brownish yellow, the tips narrowly darkened; tibiae dark brown; tarsi passing into black. Wings strongly tinged with yellow, cells C and Sc scarcely differentiated; stigma dark brown, with numerous macrotrichia; a few trichia in outer end of cell R_5 . Venation: Cell M_1 extremely short-petiolate to barely sessile; $m-cu$ a short distance before fork of M_4 , element M_{1+2+3} short.

Abdominal tergites yellow, the first chiefly brown; basal ring of second tergite with a brown central area; tergites two to seven, inclusive, with very broad and conspicuous blackened triangles, placed virtually at the posterior margin, on segments six and seven forming bands; lateral tergal borders brownish black; sternites and genital shield obscure yellow. Ovipositor with the cerci straight, very slender, tips subacute.

Holotype: ♀, Eshowe, Zululand, November-December, 1943 (Bevis).

Nephrotoma hemichroa differs from other generally similar regional forms in the conspicuously bicoloured antennae and broad darkened triangles on the abdominal tergites. In some respects it agrees with *N. sterna* Alexander, differing in the pattern of the head and abdomen. Based upon numerous other species of the genus throughout the world that have bicoloured antennae in the female sex, it is probable that the male of the present fly, when discovered, will be found to have the organ similarly bicoloured though probably longer.

10. *Nephrotoma lerothodi*, sp. n.

General colouration light yellow and black, the pattern highly contrasted; antennae black; occipital band very large; mesonotum and pleura yellow, heavily patterned with black; no macrotrichia in stigma or outer wing cells; abdomen conspicuously patterned with black; male hypopygium with the dorsal crest of the inner dististyle high, glabrous.

Male: Length about 10-11 mm.; wing 10-11 mm.; antenna about 4.5-5 mm.

Female: Length about 11-12 mm.; wing 9.5-10 mm.; antenna about 2 mm.

Frontal prolongation of head light yellow, dorsal surface, with the nasus, black; palpi black, relatively short. Antennae black, the scape a trifle paler; flagellar segments strongly incised, longer than the verticils. Head orange; a black spot adjoining eye at narrowest point of vertex; occipital band very large and broad, dull black, narrowly bordered by velvety black, the latter including a line forward onto the entire vertical tubercle.

Pronotum light yellow medially, the sides blackened. Mesonotal praescutum yellow, with three only moderately polished black stripes, the lateral pair bent outward to the margin; lateral praescutal border with a narrow velvety black dash; posterior sclerites of notum light yellow; scutal lobes polished black; scutellum black, parascutella yellow; mediotergite with a L-shaped black area; pleurotergite chiefly light yellow, the katapleurotergite darkened; thorax glabrous. Pleura yellow, conspicuously patterned with black, including areas on the ventral anepisternum and sternopleurite; a small area on pteropleurite. Halteres reddish brown. Legs with the coxae obscure yellow, the anterior face weakly more darkened; trochanters obscure fulvous; remainder of legs brownish black, the femoral bases broadly fulvous, narrowest on the fore-legs where nearly one-half is included, very extensive on the posterior pair where about five-sixths is involved; claws of male small and simple. Wings (Fig. 2) weakly tinged with brown, cells C and Sc darker; stigma rather pale brown; veins brown. No trichia in stigma or outer wing cells. Venation: Sc_2 ending opposite origin of R_5 , the latter gently arcuated; $r-m$ short, in cases obliterated by encroaching veins (as shown); cell M_1 short-petiolate to narrowly sessile; $m-cu$ before fork of M_4 .

Abdominal tergites yellow, very conspicuously patterned with black, in the male leaving broad pale lateral borders and in cases narrow basal rings; dark central line virtually continuous; sternites yellow; hypopygium more fulvous. In the female, the basal rings of the tergites, as well as the lateral borders, are yellow. Ovipositor with cerci straight and very slender, tips acute. Male hypopygium (Fig. 7) with the tergite transverse, outer lateral angles produced into small glabrous points; lobes separated by a shallow median notch, set with small blackened spicules. Outer dististyle, d , only

moderately attenuated; inner style with beak obtuse, lower beak extensively blackened; dorsal crest high, glabrous. Gonapophyses appearing as a paddle-like blade.

Holotype: ♂, Lehaha la Sekhonyana, Basutoland, December 29, 1946 (Bevis). *Allotopotype*, ♀. *Paratypes*, 15 ♂♂, all Basutoland: Makhapung Dip, 8000', January 23, 1955; Moliikaliko, January 7, 1954; Rafanyane Valley, January 2, 1947, January 10, 1955; near Sani Pass, December 24, 1938; Thabana Ntlenyana, 10,700', January 20, 1955 (Bevis).

The specific name, *lerothodi*, is that of the Basuto chief, Lerothodi, grandson of Moshesh. The fly is readily told from all other regional members of the genus by the highly contrasted yellow and black colouration of the body and the very large and conspicuous occipital brand.

12. *Nephrotoma mosheshi*, sp. n.

General colouration light yellow, praescutum with three polished black stripes; antennae of male elongate; head orange, occipital brand triangular, shiny black; wings whitish, patterned with pale brown, including the prearcular field, costal border, outer end of radial field and as seams along veins beyond the cord; no macrotrichia in wing cells; *m-cu* at or beyond fork of *M*; abdomen chiefly ferruginous, tergites patterned with darker, forming a weak sub-terminal ring; male hypopygium with the posterior border of the tergite unequally trilobed, with sparse armature; inner dististyle without a spine or flange in the region of the outer basal lobe.

Male: Length about 11–12 mm.; wing 12–13 mm.; antenna about 7.5–8 mm.

Frontal prolongation of head yellow, more reddened above, nasus black, palpi black. Antennae of male elongate, exceeding one-half the length of body; scape and pedicel light brown, flagellum black; flagellar segments elongate, basal enlargement distinct; verticils small, about one-fourth the length of the segment. Head orange, paling to light yellow on cheeks and beneath; occipital brand relatively small, triangular, shiny black; vertical tubercle entire.

Pronotum orange medially, dark brown on sides. Mesonotal praescutum light yellow, with three broad polished black stripes, lateral pair straight but with a weak discoloration near its outer end, not or scarcely reaching the border; posterior sclerites of notum light yellow, each scutal lobe brown; scutellum somewhat darkened, parascutella pale; postnotum clear light yellow. Pleura light yellow.

the ventral anepisternum and sternopleurite a trifle more reddened. Halteres very pale brown, knob more yellowish brown. Legs with the coxae and trochanters reddened; remainder of legs black, femoral bases brown, narrowest on the fore-legs where about one-fourth is included, much more extensive on the posterior legs where only the narrow tips are blackened; claws of male small, simple. Wings (Fig. 1) whitish, patterned with pale brown, including the prearcular field, cells C and Sc, stigma, outer end of radial field, and as a vague border extending back almost to the axilla; veins beyond cord narrowly bordered by pale brown to add to the streaked appearance; veins brown. A few stigmal trichia; none in wing cells. Venation: Sc long, Sc₂ ending about opposite one-third the length of the relatively long straight Rs; cell M₁ short-petiolate to narrowly sessile; *m-cu* at or beyond the fork of *M*.

Abdomen yellow basally, outer segments ferruginous; intermediate and outer tergites weakly patterned with dark brown on the median and lateral portions; a narrow subterminal ring; hypopygium small, fulvous. Male hypopygium (Fig. 6) with the tergite transverse, its posterior border unequally trilobed, the lateral lobes larger than the central one; ventral face of lateral lobes with unusually few blackened retrorse spicules, margin of the central lobe with about ten even smaller points. Outer dististyle, *d*, small, the outer half short, the length approximately three times the width; inner style small, beak pale, lower beak blackened; dorsal crest low, glabrous; a slightly darkened rim near base and posterior portion, provided with a few long setae but with no developed crest or flange. Aedeagus small; gonapophyses represented by small, almost hyaline blades, the tips obtuse.

Holotype: ♂, Rafanyane Valley, Basutoland, January 2, 1947 (Bevis). *Paratypes*, several ♂♂, all Basutoland: Jordan Valley, Likhahleng Pass, January 6, 1954; Makhapung Dip, 6000', January 23, 1955; Moliikaliko, January 7, 1954; Qachas Nek, December 30, 1938; near Simonkong, January 18, 1954 (Bevis).

The specific name, *mosheshi*, is that of the great Basuto leader Moshesh, who guided his people for much of the nineteenth century. The most similar species is *Nephrotoma antwanata* (Wiedemann), which has the lengthened antennae and details of venation somewhat the same, differing conspicuously in colouration and in structure of the male hypopygium.

12. *Nephrotoma petiolata* (Macquart)

Pachyrhina petiolata Macquart, "Dipt. Exot.," 1, pt. 1: 49, 1838.
Pachyrhina petiolata Bergroth, "Ent. Tidskr.," 9: 140, 1888.
Nephrotoma petiolata Alexander, "Ann. So. Afr. Mus.," 17:
 179-180, fig. 41 (venation); 1917.

ZULULAND: Eshowe, November-December, 1943 (Bevis).

CAPE PROVINCE: Kokstad, East Griqualand, November, 1935 (Bevis).

Macquart's *Type* was a female that had lost the head, recorded from "Cape Colony," without more exact data. The identification of the present fly, as was done also by Bergroth and Wood, is based essentially on probabilities, with no definite assurance that the species so determined is actually the same as Macquart's *Type*. The only alternative course would appear to be the placing of the name in a list of *species dubia*.

The species has the blackened tips of the fore femora very extensive and the claws of the male toothed and hairy. The blackened subterminal ring of the male abdomen involves segment seven and adjacent parts of six and eight, in a few cases included parts of only seven and eight.

13. *Tipula (Tipula) bevisiana*, sp. n.

Allied to *soror*, antennae of male elongate, approximately one-third the body, flagellum dark brown, segments strongly incised; tarsal claws (male) bispinose; wings with a weak brownish tinge, poorly patterned; male hypopygium with the beak of the inner dististyle cleaverlike, almost glabrous; outer basal lobe with the outer spine stout, inner arm a large glabrous yellow plate provided with an unusually large sensory area.

Male: Length about 15-16 mm.; wing 17-18 mm.; antenna about 5-5.3 mm.

Female: Length about 21 mm.; wing 19 mm.

Frontal prolongation of head light grey above, obscure yellow laterally; nasus distinct; palpi brownish black. Antennae of male relatively long, as shown by the measurements, if bent backward extending to middistance between bases of wings and halteres; scape and pedicel yellow, flagellum dark brown, segments strongly incised, about equal in length to the verticils. Head dark grey, the front and anterior orbits obscure yellow.

Pronotum grey, vaguely patterned with brown. Mesonotum grey, light grey on sides; four grey praescutal stripes that are delimited chiefly by narrow light brown borders, the outer margin of the lateral stripe obsolete or virtually so; posterior sclerites of notum clear light grey, the scutal lobes vaguely patterned with light brown behind the suture; pleurotergite more yellowish grey. Pleura light grey; dorsopleural region more yellowed, narrowly darkened dorsally before the wing root. Halteres with stem light brown, knob dark brown. Legs with the coxae and trochanters light yellow, the former white pollinose; femora obscure yellow, the tips brownish black; tibiae brownish yellow, tips more narrowly darkened; tarsi passing into black; claw of male with two strong spines. Wings with a weak brownish tinge, the prearcular and costal fields, with the stigma, darker; pale central stripe poorly defined; veins brown. Squama with setae. Venation: *Rs* relatively short, approximately one-third longer than *m-cu*.

Abdomen brownish grey, lateral tergal borders broadly obscure yellow, posterior margins narrowly and insensibly so; hypopygium chiefly fulvous. Male hypopygium (Fig. 13) with the tergite, *t*, produced into a relatively broad truncated lobe, the posterior margin narrowly split by a narrow notch; apices of the lobules and the declivous sides of the lobe with abundant small black spicules. Outer dististyle, *d*, a broad pale plate, expanded outwardly, the apex obliquely truncate, all angles rounded; inner style with the beak high, cleaverlike, almost glabrous except for marginal setae, the posterior end not produced backward; lower beak shallowly notched at tip, surface with scattered short setae; outer basal lobe with the outer arm a stout spine, its acute tip narrowly blackened, inner arm a large flattened glabrous yellow plate, dilated outwardly, the sensory area large, elongate, with numerous (thirty or more) pores, posterior margin of arm near base with a group of seven or eight short strong bristles.

Holotype: ♂, Molkholong, Basutoland, 7800', February 10, 1939 (Bevis). *Allotype*, ♀, Jordan Valley, near Likhahleng Pass, Basutoland, January 6, 1954 (Bevis). *Paratopotypes*, 2 ♂♂, with the *Type*; *Paratypes*, 1 ♂, with the allotype; 1 ♂, near Simonkong, Basutoland, January 13, 1954 (Bevis); 3 ♂♂, Cathedral Peak Area, Drakensberg Range, Natal, 6400', March 19-23, 1955 (Struckenberg).

I take great pleasure in naming this fly for Mr. A. Lionel Bevis, who has added materially to our knowledge of the Tipulidae of Natal and Basutoland. The species is quite distinct from *Tipula (Tipula)*

soror Wiedemann and certain related regional forms in the structure of the antennae and the male hypopygium. It should be noted that this is the species described and figured as being *T. (T.) soror* by Wood ('Ann. So. Afr. Mus.', 39: 30-38, (fig. 4), details of adult, 1952) from various stations in Cape Province. What is evidently the true *soror* has the hypopygial structure quite different, more as in the species next described as *T. (T.) chubbii*, sp. n., yet differing slightly. Since Wood's description of the antenna of his species agrees with true *soror*, it appears that he may have had two species confused in his extensive series, but it is certain that the male hypopygium as figured by him pertains to the present fly.

14. *Tipula (Tipula) chubbii*, sp. n.

Allied to *soror*; general colouration of head and thorax clear light grey, praescutum with four darker grey stripes that are bordered by brown; antennae of male elongate, if bent backward extending about to the base of abdomen, yellow, the outer segments bicoloured, verticils conspicuous; claws of male bispinous; wings infuscated, conspicuously striped with whitish; abdomen light brown, the tergites with narrow darker brown sublateral stripes; male hypopygium with the beak of the inner dististyle densely covered with small spinous points; outer arm of the outer basal lobe a long spine, its broad base setiferous.

Male: Length about 18 mm.; wing 18 mm.; antenna about 6 mm.

Frontal prolongation of head obscure yellow, light grey pruinose, especially above; nasus elongate; palpi black. Antennae of male elongate, if bent backward extending about to base of abdomen, yellow, the basal swellings of the outer segments brown, conspicuous; verticils long but shorter than the segments. Head above clear light grey; vertical tubercle very low.

Pronotum light grey medially, the sides dark brown. Mesonotum light ash grey, the praescutum with four darker grey stripes that are narrowly bordered by brown, the outer margins of the lateral pair ill-defined; each scutal lobe with two darker grey areas, margined internally with brown; posterior sclerites and pleura very light whitish grey, unpatterned. Halteres with stem light brown, knob dark brown. Legs with the coxae and trochanters whitened; femora yellow, the tips blackened; tibiae brownish yellow, the tips more narrowly brownish black; basal tarsal segments brown, the tips narrowly blackened, outer segments black; claws of male conspicuously bispinous. Wings with the ground infuscated, with still darker

streaks along veins *R* and *Cu*; prearcular and costal fields somewhat lighter brown; conspicuous longitudinal whitened areas in cell *R*, reaching the wing tip in cell *R*₅, involving the adjoining parts of cells *M* and 1st *M*₂; outer end of cell *Cu* and bases of anal cells broadly whitened; veins brown, paler brown in the costal and prearcular fields. Venation: *Rs* nearly twice *m-cu*; petiole of cell *M*₁ and *m* subequal.

Abdomen light brown, the tergites with a narrow darker brown sublateral stripe; outer tergites with indications of a broken central darkened line; hypopygium light brown. Male hypopygium (Fig. 14) with the tergal lobe broad, the outer angles rounded, the apical lobules and declivitous sides with abundant blackened spicules. Outer dististyle, *d*, broadly flattened, its apex obliquely truncated, outer angles rounded; inner style with the beak relatively short, the posterior end produced backward into an obtuse lobe, surface of blade densely covered with small spinous points, the margins with fewer elongate setae; lower beak black, relatively short, apex truncated; outer basal lobe with the outer arm a broad-based very slender spine, the surface with long delicate setae almost to tip; inner arm short and compact, more or less pincerlike, the inner claw very small, the outer one correspondingly massive; sensory area small, oval, with relatively few pores.

Holotype: ♂, Makhlotlong, Basutoland, 7900', January 24, 1955 (Bevis).

This interesting member of the *oleracea* group is dedicated to Mr. E. C. Chubb, former Director of the Museum and Art Gallery, Durban, to whom I am indebted for kindly favours in the past. The fly is most readily told from *Tipula (Tipula) soror* Wiedemann by the elongate antennae of the male and by the details of structure of the male hypopygium. The difference in vestiture of the beak of the inner dististyle in the two flies is noteworthy.

15. *Tipula (Tipula) setosipennis* Alexander

Tipula setosipennis Alexander, "Ann. Mag. Nat. Hist.," (9) 5: 61-62, 1920.

Basutoland: Makhlotlong, 7800', January 24, 1955 (Bevis).

Natal: Lidgettton, October 6, 1952 (Bevis).

This unusually distinct member of the *oleracea* group is known from the Transvaal, Basutoland and Natal.

16. *Tipula (Tipula) soror* Wiedemann*Tipula soror* Wiedemann, "Dipt. Exot.," 1: 24; 1821.*Tipula soror* Alexander, "Ann. So. Afr. Mus.," 17: 166, pl. 12, fig. 28 (wing), pl. 13, fig. 49, pl. 14, fig. 58 (♂ hypopygium); 1917.*Tipula soror* Wood, "Ann. So. Afr. Mus.," 39: 30-38, fig. 4 (adult), fig. 5 (larva), fig. 6; 1952. Consult remarks concerning this species under *Tipula bevisiana*, sp. n.

BASUTOLAND: Lehaha la Sekhonyana, December 29, 1946 (Bevis).

Rafanyane Valley, January 2, 1947 (Bevis).

NATAL: Howick, October 7, 1952 (Bevis).

CAPE PROVINCE: Kokstad, East Griqualand, November, 1935 (Bevis).

Tipula soror ^{o.v. Dorslandbergen}

Widely distributed in South Africa, including Southern Rhodesia, Natal, Cape Province and Cape Peninsula.

17. *Tipula (Acutipula) jocosca* Alexander*Tipula jocosca* Alexander, "Ann. So. Afr. Mus.," 17: 168-169, pl. 12, fig. 31 (wing); 1917.*Tipula jocosca* Alexander, "Ann. So. Afr. Mus.," 18: 226-227, pl. 4, figs. 27-28 (♂ hypopygium); 1921.*Tipula jocosca* Wood, "Ann. So. Afr. Mus.," 39: 38-45, fig. 7 (adult), fig. 8 (adult), fig. 9 (larva), fig. 10 (pupa); 1952.

ZULULAND: Eshowe, November-December, 1943 (Bevis).

Known from Natal, Zululand, Cape Province and Cape Peninsula.

18. *Tipula (Acutipula) natalia*, sp. n.

Size large (wing of male 22 mm.); general colouration of head and thorax orange, the praescutum with four dark grey stripes that are narrowly bordered by darker; scutal lobes extensively darkened; antennae with flagellar segments bicoloured; claws of male simple; wings very light brown, vaguely patterned with more whitened longitudinal areas, especially adjoining veins *M* and *1st A*; cell *M*₁ short-petiolate; abdomen beyond the first segment chiefly blackened, hypopygium brownish yellow; male hypopygium with the median tergal lobe relatively broad, divided at apex by a deep U-shaped notch forming two spiculate lobules; outer dististyle subtriangular in outline, virtually as long as broad.

Male: Length about 23 mm.; wing 22 mm.; antenna about 4 mm.

Frontal prolongation of head orange throughout, relatively long; nasus distinct; palpi dark brown; terminal segment relatively short, less than twice the penultimate. Antennae moderately long, yellow, the bases of the flagellar segments beyond the first darkened to produce a bicoloured appearance, outer ones more uniformly darkened; segments feebly incised, about as long as the verticils. Head orange, without a distinct vertical tubercle.

Pronotum orange. Mesonotum orange, the praescutum with four dark grey stripes that are narrowly bordered by darker, the median vitta especially distinct on anterior half; interspaces more yellowish brown; scutal lobes brownish grey except on posterior-lateral portions which are obscure yellow; scutellum and postnotum light yellow, more fulvous on central part. Pleura, including the dorso-pleural membrane, uniformly orange. Halteres medium brown, base of stem more fulvous. Legs with coxae and trochanters orange; femora yellow, tips narrowly but conspicuously black, the amount subequal on all legs; tibiae obscure yellow, tips narrowly infuscated; tarsi brown basally, passing into black; claws of male simple. Wings with the ground very light brown, vaguely patterned with white or pale yellow longitudinal streaks, including a major one along vein *M* in both cells *R* and *M* and a second area along vein *1st A*, involving parts of cells *Cu* and *1st A*; barely evident further brightenings in cell *1st M*₂ along vein *M*₂, and in outer end of cell *1st A*; stigma barely indicated; veins fulvous brown. Veins unusually glabrous. Venation: *Rs* shorter than *m-cu*; cell *M*₁ very deep, its petiole one-half *m* or less.

Abdomen with first segment orange, second obscure fulvous laterally, blackened above; succeeding segments black, with reddish tints sublaterally and on posterior borders; hypopygium brownish yellow. Male hypopygium (Fig. 17) with the region of the tergite, *t*, produced caudad into a relatively narrow median lobe that is divided by a deep U-shaped notch into two lobules that are provided with scattered black spinous setae. Outer dististyle, *d*, subtriangular in outline, virtually as long as broad, the outer angles rounded; inner style simple, the beak obtuse; outer basal lobe an even more obtuse blade.

Holotype: ♂. Umkomazana, Natal, November 26, 1941 (Bevis).

Tipula (Acutipula) natalia is readily told from *T. (A.) pomposa* Bergroth, the only other large-sized regional species of the subgenus having spiculate points on the tergal lobes of the male hypopygium. It has the wing pattern less distinct, claws of the male simple, and the details of the hypopygium, especially the tergite, distinct.

19. Tipula (Acutipula) pomposa Bergroth

Tipula pomposa Bergroth, "Ent. Tidskr.," 9: 139, fig. 4 (♂ hypopygium); 1888.

Tipula pomposa Alexander, "Ann. So. Afr. Mus.," 17: 168, pl. 12, fig. 30 (wing), pl. 13, fig. 52, pl. 14, fig. 60 (♂ hypopygium); 1917.

Tipula pomposa Wood, "Ann. So. Afr. Mus.," 39: 45-49, fig. 10 (pupa), fig. 11 (♂ hypopygium), fig. 12 (larva); 1952.

ZULULAND: Eshowe, October 19, 1941; November-December, 1943 (Bevis).

NATAL: Howick, October 7, 1952 (Bevis); Kloof, January 25, 1942 (Bevis).

Known from the Transvaal, Natal, Zululand and Cape Province.

20. Tipula (Acutipula) zuluensis, sp. n.

Allied to *grahami*; head and mesonotum light orange, the praescutum without clearly defined stripes; abdomen with basal two segments yellow, the remainder, including the hypopygium, brownish black; male hypopygium with the posterior border of tergite produced caudad into two narrow glabrous blades that are subparallel or virtually so.

Male: Length about 16-17 mm.; wing 15.5-16.5 mm.; antenna about 2.9-3 mm.

Frontal prolongation of head light orange; nasus relatively short; palpi light brown. Antennae with scape yellow, pedicel testaceous, basal flagellar segments obscure yellow, the outer ones darker brown, cylindrical, with conspicuous verticils. Head light orange.

Thorax light orange, the praescutum with the disc more intensely orange, scarcely forming distinct stripes; notum glabrous. Pleura and pleurotergite more orange yellow. Halteres with stem yellow, knob weakly darkened. Legs with the coxae light orange; trochanters yellow; femora yellow, tips narrowly brownish black; tibiae brownish yellow, tips narrowly darkened; tarsi brown, passing into dark brown; claws of male conspicuously toothed. Wings (Fig. 9) weakly infuscated, the prearcular and costal fields more brownish yellow; stigma small, narrow, poorly indicated; veins light brown, more brownish yellow in the more saturated fields. Veins beyond cord glabrous. Venation: cell R_2 relatively small, inner end pointed; petiole of cell M_1 subequal to or shorter than m .

Abdomen with basal two segments yellow, the remainder, including the hypopygium, brownish black. Male hypopygium (Fig. 18) with the posterior border of the tergite produced caudad into two narrow glabrous blades, subparallel to one another or only slightly divergent; median region between the lobes produced. Outer dististyle, *d*, oval in outline, about twice as long as broad; inner style complex (shown in two aspects in figure), beak obtuse, glabrous; dorsal crest elevated into low pale membrane; region of posterior crest with very abundant short dense setulae.

Holotype: ♂. Eshowe, Zululand, November-December, 1943 (Bevis). *Paratopotype*, a broken ♂.

Tipula (Acutipula) zuluensis is most readily distinguished from *T. (A.) grahami* Alexander, from Natal, by the almost uniformly darkened abdomen and in slight details of structure of the male hypopygium, especially the tergite.

21. Leptotipula limnophlioides Alexander

Leptotipula limnophlioides Alexander, "Ann. So. Afr. Mus.," 17: 160-162, pl. 11, fig. 22 (wing), pl. 13, fig. 43, pl. 14, fig. 54 (♂ hypopygium); 1917.

The *Type*, a male, was from Clairmont, Natal, taken in August, 1915, by Bell-Marley. I had seen one other fragmentary specimen, taken at Durban in 1922 by Mrs. R. W. Lightfoot. A further specimen is here described as allotype.

Female: Length about 12 mm.; wing 11 mm.

Generally as in the male. Whitened areas in prearcular field, postarcular, before origin of R_s , and before and beyond the stigma relatively conspicuous against the weakly darkened ground. Nasus conspicuous, tufted with long yellow setae. Antennae much shorter, a little less than the head, including nasus. Silvery rings on tergite conspicuous. Ovipositor with the cerci relatively stout, nearly straight, gradually narrowed to the acute tips; hypovalvae very deep, tips obtuse.

Allotype, ♀, Umbilo, Durban, August 18, 1942 (Bevis).

L I M O N I I N A E

L I M O N I I N I

22. Limonia (Limonia) mauleyi (Alexander)

Dicranomyia mauleyi Alexander, "Ann. So. Afr. Mus.," 17: 142, pl. 10, fig. 4 (wing); 1917.

NATAL: Durban, September 12, 1945 (Bevis).

23. *Limonia (Rhipidia) atomaria* (Loew)

Limnobia atomaria Loew, "Berlin Ent. Zeitschr.," 10: 58-59; 1866.

Rhipidia agra Bergroth, "Ent. Tidskr.," 9: 128-129; 1888.

CAPE PROVINCE: Kokstad, East Griqualand, November, 1935 (Bevis).

Both Bergroth's *Type of agra* and Loew's *Type of atomaria* were from Kaffraria, i.e. eastern Cape Province.

24. *Limonia (Rhipidia) miosema* Speiser

Limonia miosema Speiser, "Kilimandjaro-Meru Exped.," Diptera 4, Orthorapha Nematocera, pp. 50-51; 1909.

Limonia (Rhipidia) miosema Alexander, "Ruwenzori Report," Diptera Tipulidae (in press).

NATAL: Umbilo, Durban, November 29, 1953 (Bevis).

A small male that agrees well with the more northern material before me except in the small size (wing about 5 mm.) and in slight hypopygial details, as the unusually slender mesal-apical lobe of the gonapophysis.

Formerly known from the Belgian Congo, Kenya, and Tanganyika, south to Southern Rhodesia.

25. *Limonia (Dicranomyia) basuto*, sp. n.

Belongs to the *tristis* (*liberta*) group; general colouration grey, the median praescutal stripe broad; anterior vertex a little wider than the diameter of the scape; wings with a faint dusky tinge, stigmal area very small; *m-cu* at or just before fork of *M*; male hypopygium with the tergal setae numerous; dorsal dististyle suddenly narrowed at tip into a long straight spine; rostral prolongation obtuse, with two spines.

Male: Length about 7 mm.; wing 8 mm.

Rostrum grey; palpi black. Antennae black; flagellar segments oval, about as long as the verticils; terminal segment a trifle longer than the penultimate; head grey; anterior vertex at narrowest point a trifle wider than the diameter of the scape.

Pronotum dark brownish grey. Mesonotum grey, the praescutum with a broad brown central stripe that does not reach the suture and short inconspicuous lateral vittae; pseudosutural foveae black, nearly circular in outline; scutal lobes slightly darkened; posterior border of scutellum and extreme lateral margin of mediotergite vaguely reddened. Pleura grey, including the dorsopleural membrane; a somewhat more blackened dorsal stripe on the ventral anepisternum; dorsal end of pteropleurite beneath the wing root paler. Halteres with stem white, knob dark brown. Legs with the coxae dark brown; trochanters obscure yellow; remainder of legs elongate, femora and tibiae brown, the tips more blackened; tarsi black. Wings with a faint dusky tinge, the base restrictedly paler; stigma very small, appearing as a faint darkening over R_{1+2} and R_2 ; veins brown. Venation: *Sc* short, Sc_1 ending opposite origin of R_2 ; Sc_2 a short distance from its tip; R_1 longer than basal section of R_{4+5} ; angulated at origin; cell *1st M*₂ a little shorter than distal section of vein M_3 ; *m-cu* at or just before the fork of *M*.

Abdomen dark brown, the ventral dististyle of the hypopygium pale. Male hypopygium (Fig. 19) with the tergite, *t*, transverse, about twice as broad as long at the midline, narrowed outwardly, with a very slight median emargination, the lobes very low; rather numerous setae at apex and along sides (position indicated in figure by stippling); proclinger a conspicuous pale setuliferous membrane, indicated by darkened lines (not shown in figure). Basistyle, *b*, smaller than the ventral dististyle, ventromesal lobe long, with conspicuous setae on outer half but without lobules; body of style with a relatively small darkened lobe, tipped with a few setae; inner apical angle of style with a group of three or four strong setae but no tubercle. Dorsal dististyle, *d*, straight, a little expanded before the long straight apical line; ventral style sloping to the rostral prolongation, this obtuse at tip; two relatively short subequal rostral spines, placed close together near base of prolongation. Gonapophysis, *g*, with mesal-apical lobe slender, blackened, the acute tip slightly curved. Tip of aedeagus simple.

Holotype: ♂. Mamathhe's, Basutoland, January 1-9, 1953 (Bevis).

The most similar regional species is *Limonia (Dicranomyia) conanaria* Alexander (*sordidipennis* Alexander, preoccupied), of Southern Rhodesia, which differs especially in the structure of the male hypopygium, including the more sparse tergal setae, presence of a small lobule on the ventromesal lobe of the basistyle, differently shaped dorsal dististyle, and the conformation and armature of the

rostral prolongation of the ventral dististyle. The three rostral spines occurring in the *Type* of *contraria* may well prove to be an abnormality of the specimen.

26. *Limonia (Dicranomyia) nairohi* (Alexander)

Dicranomyia nairohi Alexander, "Bull. Mus. Hist. Nat. (Paris)," 1919, no. 7, 610-611; 1919.

BASUTOLAND: Qacha's Nek, January, 1939 (Bevis).

NATAL: Tugela Ferry, May, 1935 (Bevis); Umkomazana, December 21, 1938 (Bevis).

The species is widespread in eastern and south-eastern Africa from Kenya to Natal.

27. *Limonia (Dicranomyia) tipulipes* (Karsch)

Dicranomyia tipulipes Karsch, "Entomol. Nachricht.," 12: 51; 1886.

Limonia tipulipes Wood, "Ann. So. Afr. Mus.," 39: 170-176, figs. 50-52; 1952.

Limonia (Dicranomyia) tipulipes Alexander, "Mauritius Inst. Bull.," 3: 221-222, fig. 2 (venation); 1954; (complete synonymy).

BASUTOLAND: Jordan Valley, near Likhahleng, January 6, 1954 (Bevis); Mamathes, January 1-9, 1953 (Bevis).

NATAL: Howick, October 7, 1952 (Bevis); Kloof, May 26, 1927 (Bevis); Lidgetton, October 6, 1952 (Bevis); Umbilo, Durban, May 1, 1952 (Bevis); Umkomazana, December 21, 1938 (Bevis).

Very widespread in southern and eastern Africa, Madagascar and the Mascarene islands.

28. *Limonia (Dicranomyia) umkomazanæ*, sp. n.

Belongs to the *tristis* (*libetha*) group; general colouration grey; wings subhyaline, unpatterned except for the vaguely more darkened stigma; *r-m* long; *m-cu* about its own length before fork of *M*; male hypopygium transverse, approximately three times as broad as the length at midline, posterior border emarginate; an accessory lobe on face of basistyle; rostral spines separate at bases.

Male: Length about 6.5 mm.; wing 7.5 mm.

Rostrum grey; palpi brownish black. Antennae black; flagellar segments short-oval to oval, a little shorter than the verticals. Head grey; anterior vertex a little wider than the diameter of the scape.

Pronotum grey, patterned with brown on sides. Mesonotum grey, the praescutum with a brown central stripe and poorly defined lateral ones; scutal lobes infuscated. Pleura and pleurotergite grey, striped longitudinally with brown. Halteres with stem whitened, knob dark brown. Legs with the fore coxae and trochanters dark brown, remaining coxae and trochanters more reddish brown; remainder of legs elongate, femora and tibiae brown, not evidently patterned; tarsi passing into dark brown. Wings subhyaline, virtually unpatterned, only the small stigmal area vaguely darkened; veins light brown. Venation: *Sc*₁ ending about opposite origin of *Rs*, *Sc*₂ a short distance from its tip; *Rs* arcuated to weakly angulated near origin; *r-m* long; cell *1st M*₂ about as long as the distal section of *M*₃; *m-cu* about its own length before the fork of *M*.

Abdominal tergites dark brown, sternites more reddened; hypopygium chiefly dark. Male hypopygium (Fig. 20) with the tergite, *t*, transverse, the posterior border shallowly but conspicuously emarginate, forming low rounded lobes, approximately three times as broad as the length at midline; setae pale but relatively numerous, both on the lobes and at the midline; proctiger a membranous setuliferous sheet, with conspicuously darkened lateral margins (not shown in figure). Basistyle, *b*, smaller than the ventral dististyle; ventromesal lobe pale and without basal setae, the outer half with long pale setae, including a close group of three stouter ones on disc; on face of style with a relatively small lobe, tipped with a few long setae; a group of about five strong setae at inner apical angle of style. Dorsal dististyle, *d*, straight, only gently widened outwardly, bent at a right angle into a long straight spine; ventral style narrowed gradually to the prolongation, the latter relatively narrow and truncated at tip; rostral spines relatively small, from small separate tubercles. Gonapophysis, *g*, with mesal-apical lobe blackened, curved to the acute tip, the margin of the blade with three or four small points or tubercles. Aedeagus with apex simple.

Holotype: ♂. Umkomazana, Natal, December 21, 1938 (Bevis).

Limonia (Dicranomyia) umkomazanæ is most readily separated from other generally similar regional species of the *tristis* group, including *L. (D.) contraria* Alexander and *L. (D.) garidini* (Edwards), by the virtually unpatterned wings and the structure of the male hypopygium, especially of the tergite and ventral dististyle.

HEXATOMINI

29. *Austrolimnophila (Austrolimnophila) natalensis* (Alexander)

Limnophila natalensis Alexander, "Ann. So. Afr. Mus.," 18: 205-206, pl. 3, fig. 6 (venation); 1921.

ZULULAND: Eshowe, November-December, 1943 (Bevis).

30. *Hexatoma (Eriocera) bevisi*, sp. n.

General colouration of thorax black, sparsely pruinose, the praescutum with four black stripes; head chestnut-brown, vertical tubercle large and tumid, entire; antennae of male short, 7-segmented; femora yellow, tips blackened; wings obscure yellow, the veins with broad brown seams, producing a conspicuous pattern; veins glabrous; cell R_3 small, triangular; vein R_{3+4} about one-half longer than either R_{2+3+4} or R_5 ; abdomen obscure orange.

Male: Length about 11 mm.; wing 10 mm.; antenna about 2.5 mm.

Rostrum greatly reduced, castaneous; palpi black. Antennae of male short, 7-segmented; scape tumid, pedicel very small; first flagellar segment a little longer than the scape, narrowed outwardly; succeeding three segments subequal in length, about one-half as long as the first; terminal segment very small, oval. Head dark chestnut brown, more yellow pollinose on sides; vertical tubercle large and tumid, entire, glabrous; sides of posterior vertex with long pale setae.

Pronotum black, sparsely pruinose. Mesonotum chiefly black, appearing grey by a sparse pruinosity, the praescutum with four black stripes, the intermediate pair confluent in front, interspaces more heavily pruinose, with long erect setae. Pleura dark brown, patterned with more blackened areas on the anepisternum and ventral sternopleurite, the remaining surface heavily pruinose. Halteres with stem brownish yellow, knob blackened. Legs with the coxae and trochanters castaneous brown; femora yellow, the tips blackened, including about the outer fourth to sixth; tibiae light brown, the tips, with the tarsi, blackened; claws of male with a slender basal spine. Wings (Fig. 15) with the ground obscure yellow, heavily patterned with brown, appearing as broad seams to all the veins; costal border darkened; prearcular part of cell Sc bright yellow; veins brown, base of Sc yellow. Prearcular field of wing short; veins glabrous, beyond the cord with a few trichia on distal end of vein R_6 . Venation: Sc_1 ending nearly opposite the fork of Rs , Sc_2 a

short distance from its tip; R_{1+2} a trifle longer than R_2 ; cell R_3 small, triangular, vein R_{3+4} about one-half longer than either R_{2+3+4} or R_5 ; cell $1st M_2$ about equal in length to the distal section of M_{1+2} ; $m-cu$ nearly in alignment with $r-m$; cell $2nd A$ relatively broad.

Abdomen obscure orange, the tergites narrowly lined with darker sublaterally; hypopygium light brown, the dististyles black.

Holotype: ♂, Pulane, near Matoka, Basutoland, January 5, 1954 (Bevis).

This unusually distinct species of *Hexatoma* is named in honour of Mr. A. Lionel Bevis. The fly is readily told from all other Ethiopian members of the genus by the wing pattern, as well as by the venation, in conjunction with the short antennae of the male. It is the only species having vein R_{3+4} longer than R_{2+3+4} .

ERIOPTEINI

31. *Gnophomyia (Eugnophomyia) elegans* (Wiedemann)

Limnobia elegans Wiedemann, "Ausserer. zweif. Ins.," 2: 617; 1830.

Eriocera elegans Schiner, "Novara Reise," Dipt., p. 42; 1868.

Gnophomyia elegans Alexander, "Ann. So. Afr. Mus.," 17: 151, pl. 11, fig. 15 (wing); 1917.

ZULULAND: Eshowe, November-December, 1943 (Bevis).

Known from Zululand and Cape Province.

32. *Gnophomyia (Eugnophomyia) turneri* Alexander

Gnophomyia turneri Alexander, "Rev. Zool. Bot. Afr.," 19: 358-359, fig. 23 (wing); 1930.

ZULULAND: Eshowe, November-December, 1943 (Bevis); a single broken female.

The *Type*, also a female, was from Port St. Johns, Pondoland, Cape Province, collected in November, 1923, by the late Mr. R. E. Turner. The legs of the type were broken and are described from the present specimen. The femora are yellow with the extreme tips abruptly black; tibiae and tarsi brownish black.

33. *Gonomyia (Idiocera) spuria* Bergroth

Gonomyia spuria Bergroth, "Ent. Tidskr.," 9: 134-135; 1888.

NATAL: Tugela Ferry, May, 1935 (Bevis).

34. *Gonomyia (Gonomyia) unispicata*, sp. n.

Belongs to the *tenella* group, close to *minetica*; size large (6 mm. or more); general colouration of mesonotal praescutum brownish grey, pleura yellow with a bluish pruinosity, patterned with brown; rostrum yellow; antennae black; male hypopygium with the phallosome obtuse at apex, with a single strong blackened spine.

Male: Length about 5 mm.; wing 6 mm.

Female: Length about 6 mm.; wing 6.5 mm.

Rostrum obscure yellow; palpi dark brown. Antennae with scape and pedicel black, flagellum brown, the outer segments darker; basal flagellar segments enlarged, oval, the outer ones more slender and elongate; verticils of moderate length only. Head light grey.

Pronotum and pretergites yellow. Mesonotal praescutum chiefly covered by three brownish grey stripes, the restricted interspaces clearer grey, the lateral and humeral regions obscure yellow; scutum dark brown, the central area a little paler; scutellum brown basally, the posterior border broadly obscure yellow; mediotergite chiefly dark brown, sparsely pruinose. Pleura and pleurotergite yellow, with a white or bluish white pruinosity, the central part of the mesepisternum more darkened, the ventral sternopleurite more strongly so. Halteres pale, knobs slightly more darkened. Legs with the coxae pale, fore pair darker; trochanters testaceous yellow; remainder of legs medium brown, tarsi somewhat darker. Wings (Fig. 16) with a weak brownish tinge; stigma oval, very pale brown, feebly differentiated from the ground; veins pale brown. Venation: Sc_1 ending nearly opposite origin of R_s , Sc_2 slightly removed from its tip; R_{2+3+4} strongly arcuated to weakly subangulate at near midlength; vein R_4 elongate, extending almost to the wing tip, cell R_4 correspondingly narrowed; *m-cu* at fork of M .

Abdomen dark brown, the extreme lateral borders of the tergites yellow, posterior margins of the sternites narrowly pale; hypopygium brownish yellow. Male hypopygium (Fig. 21) with the apical lobe of the basistyle, *b*, about three times as long as broad and about one-half as long as the outer dististyle. Dististyles, *d*, two, the outer a narrow pale blade, its lower edge without setae; inner style with the body pale, long-oval, the fasciculate setae at apex, the lower one stouter; outer margin with a very extensive blackened flange that narrows into a gently curved spine, the margin before spine

slightly produced; disc of flange with a single powerful bristle, as in *minetica*. Phallosome, *p*, obtuse at apex, with a single strong blackened spine.

Holotype: ♂. Umkomazana, Natal, December 21, 1938 (Bevis).

Allotopotype, ♀, with the *Type*. *Paratopotypes*, 2 ♀♀, December 21, 1938, and November 26, 1941 (Bevis).

Although the present fly is obviously allied to *Gonomyia (Gonomyia) minetica* Alexander, I believe it to be distinct in the large size and details of structure of the male hypopygium, especially the phallosome.

35. *Teucholabis (Teucholabis) nodipes marleyi*, subsp. n.

Female: Length about 7 mm.; wing 6.3 mm.

Rostrum, palpi and antennae black. Head polished black.

Thorax almost uniformly polished orange, the praescutum with three relatively small isolated polished black stripes that occupy the posterior half of the sclerite, the central area oval in outline, ending far before the suture, the lateral stripes longer, not quite reaching the suture. Halteres infuscated. Legs with all coxae and trochanters orange; remainder of legs black, including all of the femora. Wings with a faintly yellowed ground, very restrictedly patterned with dark brown, the most conspicuous area being a narrow stripe extending from the stigma along the cord to vein Cu_1 ; extreme wing tip vaguely darkened; a small vague cloud at outer end of vein *2nd A*; veins pale brown, darker in the central band. Venation as in typical *nodipes*.

Abdomen uniformly orange, only the genital segment polished black; ovipositor dark reddish horn-colour, more darkened basally.

Holotype: ♀. Durban, Natal, March 7, 1945 (Bell-Marley).

This attractive fly is named in honour of the collector, Mr. H. W. Bell-Marley, who has added materially to our knowledge of the crane-flies of Natal. For the present I am considering all members of the typical subgenus in the Ethiopian Region to represent subspecies of *Teucholabis (Teucholabis) nodipes* Speiser (1913). The present fly is the seventh such race to be defined. The only other regional form is *T. (T.) n. chieligera* Alexander, known from Natal and Cape Province (Pondoland), which has the praescutum and

anterior ends of the scutal lobes black, the wings normally cross-banded with brown, and with the abdominal tergites bicoloured, yellow, with the subterminal portions broadly black.

The following note accompanying the *Type* specimen is of interest: "Larva feeds behind bark of dead tree in moist situations"—Bell-Marley. This type of larval habitat agrees with that of various members of the genus that have been reared to this date, including the genotype, *Tenckholabis* (*Tenckholabis*) *complexa* Osten Sacken, of the eastern Nearctic Region.

36. *Trentepohlia* (*Trentepohlia*) *humeralis* zuluensis, subsp. n.

Close to the typical subspecies, described from the Transvaal; legs of male yellow, the tips of the femora dark brown, of the tibiae less evidently so; wings with a heavy brown pattern, especially at origin of R_s and in cell R_3 , which are solidly darkened, without definite pale centres.

Male: Length about 6.5–7.5 mm.; wing 6.8–7 mm.

Female: Length about 9 mm.; wing 7.5 mm.

Rostrum and palpi black. Antennae with scape and pedicel brownish black, pedicel paler brown; relatively long, flagellar segments subcylindrical, with relatively short verticils. Head brownish black; anterior vertex narrow, carinate.

Cervical region brownish black; pronotum dark brown. Mesonotum pale brown, still darker medially to form a central stripe on anterior two-thirds; humeral region usually obscure yellow, in cases more darkened; posterior sclerites of notum darker brown to black. Pleura dark liver-brown to almost black. Halteres yellow. Legs with the fore coxae and trochanters liver-brown, remaining coxae and trochanters light yellow; femora yellow, the tips narrowly but conspicuously dark brown or black; tibiae obscure yellow, the tips less evidently darkened; tarsi obscure yellow, passing into brown. Wings with the ground colour whitish yellow, clearer yellow in the costal field; a conspicuous brown pattern, including the broad wing tip back to the level of the radial-medial fork, not or scarcely brightened in cell R_3 ; a solidly darkened area at origin of R_s ; much narrower seams over cord and along vein Cu in cell M ; paler brown suffusions in cell *2nd A* and at outer end of cells Cu and *1st A*; veins yellow in the ground, especially the costal field, brown in the infuscated

parts. Venation: virtually as in typical *humeralis*, in some cases vein R_3 slightly more concave. Abdomen dark brown to brownish black, including the hypopygium. Ovipositor with the cerci horn-coloured.

Holotype: ♂, Eshowe, Zululand, November–December, 1943 (Bevis). *Allotype*, ♀, Pietermaritzburg, Natal, March 27, 1955 (Stuckenberg). *Paratopotype*, a broken ♂; *Paratype*, 1 ♂, with the allotype.

Typical *humeralis* Alexander has the femora and tibiae dark brown, the former slightly paler basally. It should be noted that the species has the costal fringe of the male sex short and inconspicuous, contrasting with the long fringe in this sex of *Trentepohlia* (*Trentepohlia*) *exornata* (Bergroth).

37. *Trentepohlia* (*Trentepohlia*) *zambesiae* (Alexander)

Mongoma zambesiae Alexander, "Canad. Ent.," 44: 86–88, fig. (venation); 1912.

NATAL: Umbilo, Durban, April 23, 1955 (Bevis); 1 broken male. Described from Quelimane, Boror, Northern Mozambique, on material taken in December, 1908, by C. W. Howard.

38. *Erioptera* (*Erioptera*) *peringueyi* Bergroth

Erioptera peringueyi Bergroth, "Ent. Tidskr.," 9: 129–130; 1888. *Erioptera* (*Erioptera*) *peringueyi* Alexander, "Ann. So. Afr. Mus.," 17: 149, pl. 10, fig. 12 (wing); 1917.

BASUTOLAND: Mamath'e's, January 1–9, 1953 (Bevis).

NATAL: Unkomazana, December 21, 1938 (Bevis). Widely distributed in eastern and southern Africa.

39. *Erioptera* (*Podoneura*) *anthracogramma* (Bergroth)

Podoneura anthracogramma Bergroth, "Ent. Tidskr.," 9: 133–134, fig. 2 (wing); 1888.

Podoneura anthracogramma Wood, "Ann. So. Afr. Mus.," 39: 307–309, fig. 101 (adult); 1952.

BASUTOLAND: Mochlotlong, 7800', January 24, 1955 (Bevis).

Widespread in southern and eastern Africa and Madagascar.

40. *Erioptera* (*Trimicra*) *pilipes* (Fabricius), var.

Tipula pilipes Fabricius, "Martissa Ins.," 2: 324; 1787.

Limnobia lamuginipes Walker, "Ins. Saundersiana," p. 435; 1856.

Gnophomyia inconspicua Loew, "Berlin Entomol. Zeitschr.," 10: 59; 1866.

NATAL: Tugela Ferry, May, 1935 (Bevis).

The present fly is virtually cosmopolitan in its range, probably being the most widespread crane-fly. It occurs on all the continents and many of the most remote oceanic islands.

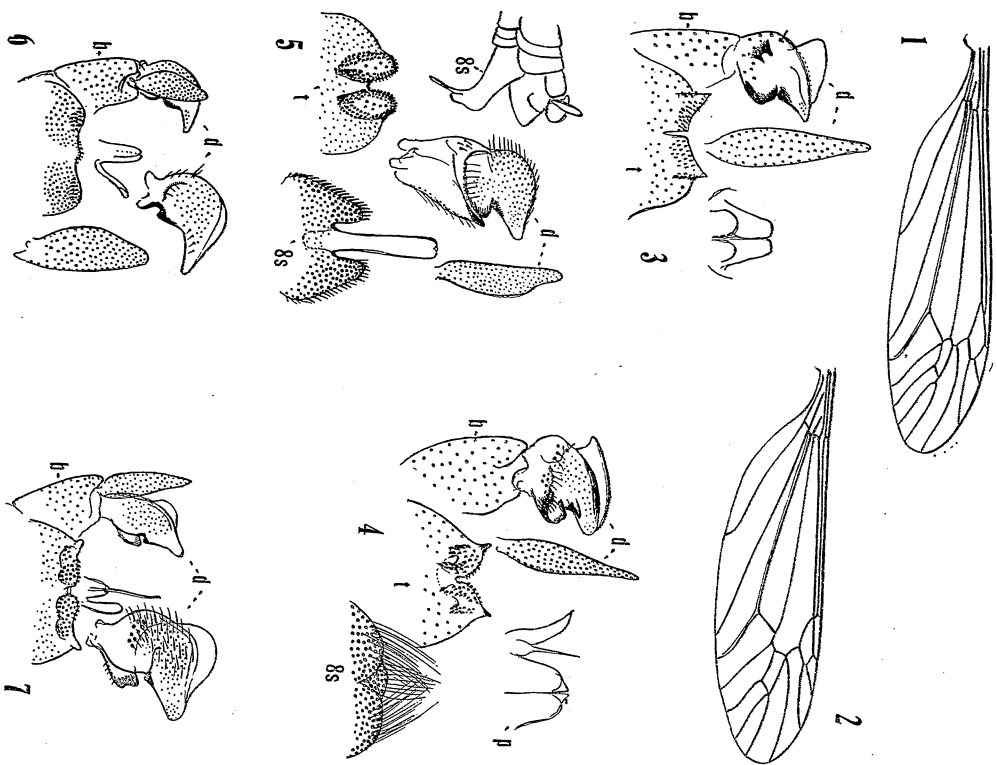


PLATE I

- Fig. 1 *Nephrotoma moshesh*, sp. n.; venation
 - Fig. 2 *Nephrotoma lerohodi*, sp. n.; venation
 - Fig. 3 *Nephrotoma basutoensis* Alexander; male hypopygium
 - Fig. 4 *Nephrotoma clanceyi*, sp. n.; male hypopygium
 - Fig. 5 *Nephrotoma culbertsoni*, sp. n.; male hypopygium
 - Fig. 6 *Nephrotoma moshesh*, sp. n.; male hypopygium
 - Fig. 7 *Nephrotoma lerohodi*, sp. n.; male hypopygium
- Symbols: a— aedeagus b— basistyle d— dististyles
 p— phallosome s— sternite t— tergite

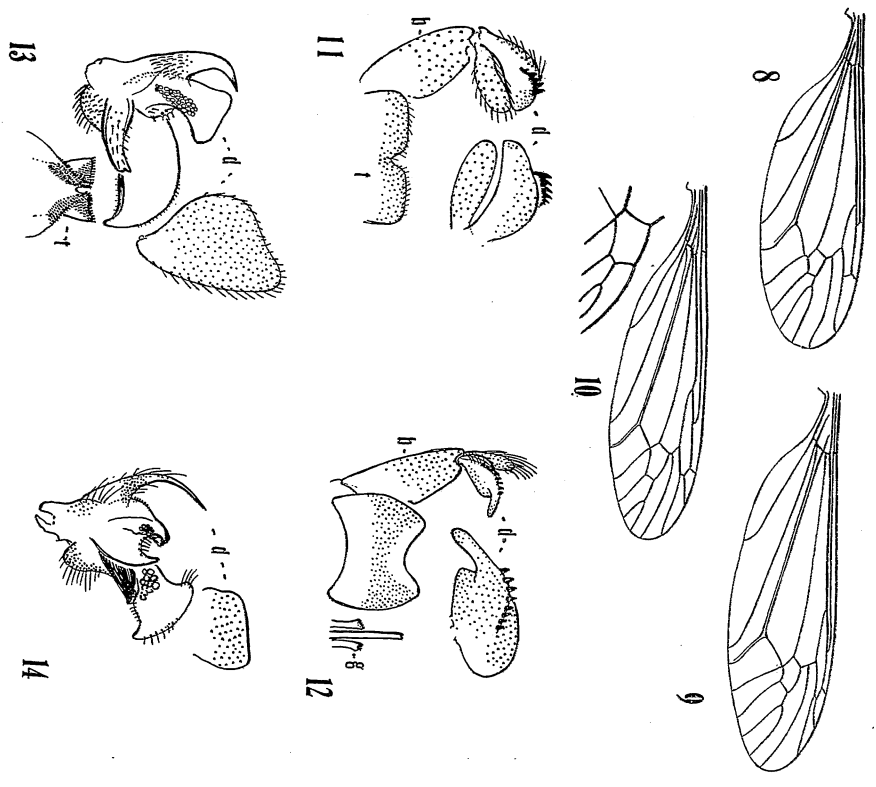


PLATE II

- Fig. 8 *Longurio (Longurio) basuticanus*, sp. n.; venation
- Fig. 9 *Tipula (Acutipula) zuluensis*, sp. n.; venation
- Fig. 10 *Longurio (Longurio) inaequipes*, sp. n.; venation
- Fig. 11 *Longurio (Longurio) basuticanus*, sp. n.; male hypopygium
- Fig. 12 *Longurio (Longurio) inaequipes*, sp. n.; male hypopygium
- Fig. 13 *Tipula (Tipula) bevisiana*, sp. n.; male hypopygium
- Fig. 14 *Tipula (Tipula) chubbii*, sp. n.; male hypopygium

Symbols: b—basistyle d—dististyle p—phallosome t—tergite

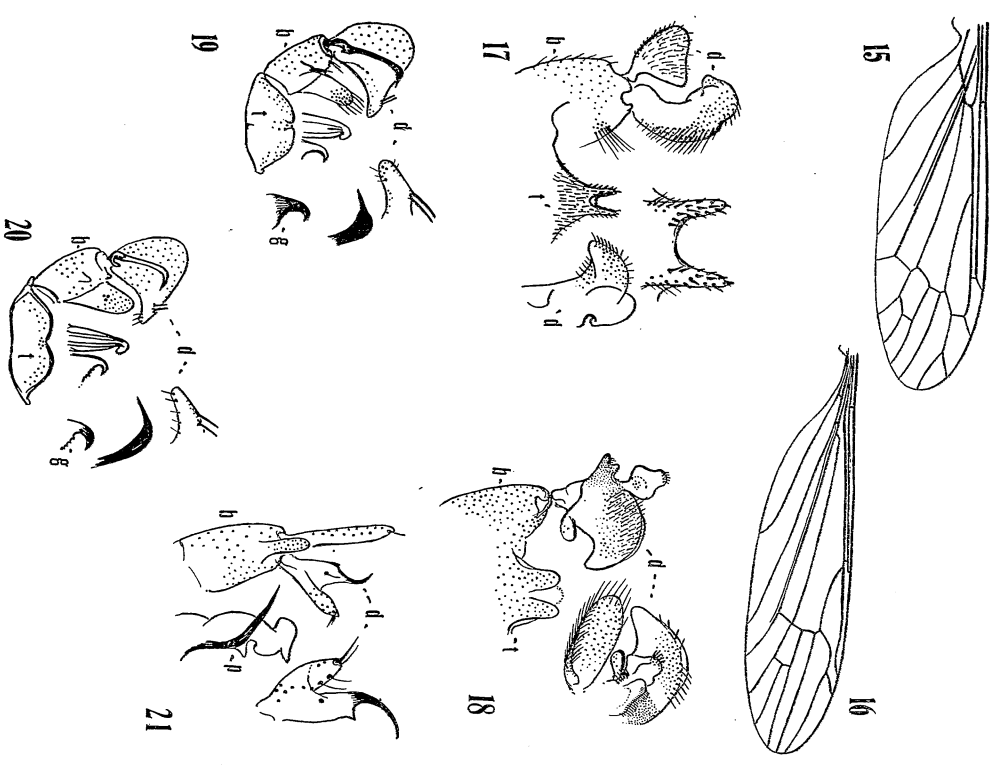


PLATE III

- Fig. 15 *Hexatoma (Eriocera) bevisi*, sp. n.; venation
- Fig. 16 *Gonomyia (Gonomyia) unispicula*, sp. n.; venation
- Fig. 17 *Tipula (Acutipula) natalia*, sp. n.; male hypopygium
- Fig. 18 *Tipula (Acutipula) zuluensis*, sp. n.; male hypopygium
- Fig. 19 *Limonia (Dicranomyia) basuto*, sp. n.; male hypopygium
- Fig. 20 *Limonia (Dicranomyia) unkomazanae*, sp. n.; male hypopygium
- Fig. 21 *Gonomyia (Gonomyia) unispicula*, sp. n.; male hypopygium

Symbols: b—basistyle d—dististyle g—gonapophysis p—phallosome