

New or insufficiently known African Crane Flies. II.
(Tipulidae: Diptera)

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(With 43 figures)

In the initial paper under this general title (Studia Entomologica, Vol. XIII (n. s.), 1970) various species of crane flies were discussed from the Congo, Rwanda, Uganda, Tanzania, South Africa, and Madagascar. At this time I am considering further species of Tipulidae from five separate sources.

In West Africa, Dr. John Thomas Medler, of the Department of Entomology of the University of Wisconsin, has made extensive collection in various parts of Nigeria while being stationed at the University of Ife, 1966-1970, the work to be continued. In East Africa, Arthur Loveridge, then at Harvard University, collected in Tanzania in January to April 1930. Harry Hoogstraal, with the United States Naval Medical Research Unit, Cairo, Egypt, U.A.R., in Kenya during June 1948. Ashley B. Gurney, of the Systematic Entomology Laboratory, United States Department of Agriculture, Washington, in Ethiopia, during June and July 1965. Marion E. Smith, of the Department of Entomology, University of Massachusetts, in Ethiopia, Uganda Kenya and Tanzania, from October to December 1964. I am deeply indebted to all of the above named friends for the privilege of retaining the type materials of the new species in the Alexander Collection of Crane flies.

This paper is dedicated to my dear friend and colleague Father Thomas Borgmeier on the occasion of his eightieth birthday.

Tipulinae

1. *Nephrotoma medleri* sp. n.

Size small (wing of male 9 mm.); mesonotal praescutum, scutum and pleura polished black, mediotergite and pleurotergite variegated by orange areas; halteres and legs black, bases of fore femora yellowed; wings whitened, restrictedly patterned with brown, including the prearcular field, cell *Sc*, stigma and a seam adjoining vein *Cu*; abdomen black, segments two to four orange yellow, apices broadly black; male hypopygium with outer dististyle long and narrow, eighth sternite with posterior border truncate.

Male. — Length, about 11 mm.; wing, 9 mm. Frontal prolongation of head light orange, polished black above, nasus slightly paler, both of these with long black setae; palpi with first segment black, remaining segments brown, the terminal one darker at tip. Antennae with scape obscure orange, pedicel light brown; flagellum broken. Front yellow, anterior vertex, including the low tubercle more orange, remainder of vertex dark orange, with numerous porrect setae, longer on genae; occipital brand brown.

Pronotal scutum broadly black on sides, central area yellowed, darker laterally, the reduced scutellum chiefly brown. Mesonotal praescutum and scutum polished black, humeral border restrictedly yellowed; no indication of praescutal interspaces by setae or otherwise; scutellum brown, paler behind; mediotergite orange-yellow, the posterior third blackened, sides narrowly darkened; pleurotergite polished black with a large light yellow slightly elevated area. Pleura polished black, dorsopleural membrane broadly light yellow. Halteres black. Legs, including coxae and trochanters, black, bases of fore femora yellowed; claws of male relatively small, with a conspicuous spine at near midlength. Wings whitened, restrictedly patterned with brown, including the prearcular field, cell *Sc*, stigma, and a seam in cell *M* adjoining vein *Cu*; a very narrow darkening over anterior cord, cell *C* slightly more yellowed; veins black. Stigma with about six trichia at anterior end, none in outer wing cells. Longitudinal veins beyond general level of cord with trichia. Venation: Cell M_1 a short distance before fork of *M*.

Abdomen with basal segment black, segments two to four orange-yellow, posterior borders broadly black, outer segments black, hypopygium, including tergite and styli, yellowed. Male hypopygium (Fig. 3) with tergite, *t*, narrowly transverse, posterior border with two low lobes that are separated by a deep U-shaped emargination, the sparse spinoid setae arranged about as in figure. Ninth sternite, *s*, bearing a small yellow cushion, slightly widened outwardly, apex truncated, surface with abundant short yellow setae. Outer dististyle, *d*, long and narrow, especially the outer third, the length about four times the greatest width; inner style with apex of beak shallowly emarginate, lower beak broad, apex obtuse, dorsal crest low, more elevated posteriorly, region of outer basal lobe blackened, including a slender more dorsal spine. Phallosome, *p*, with apophyses short, their outer half extended into hyaline membrane. Eighth sternite slightly narrowed out-

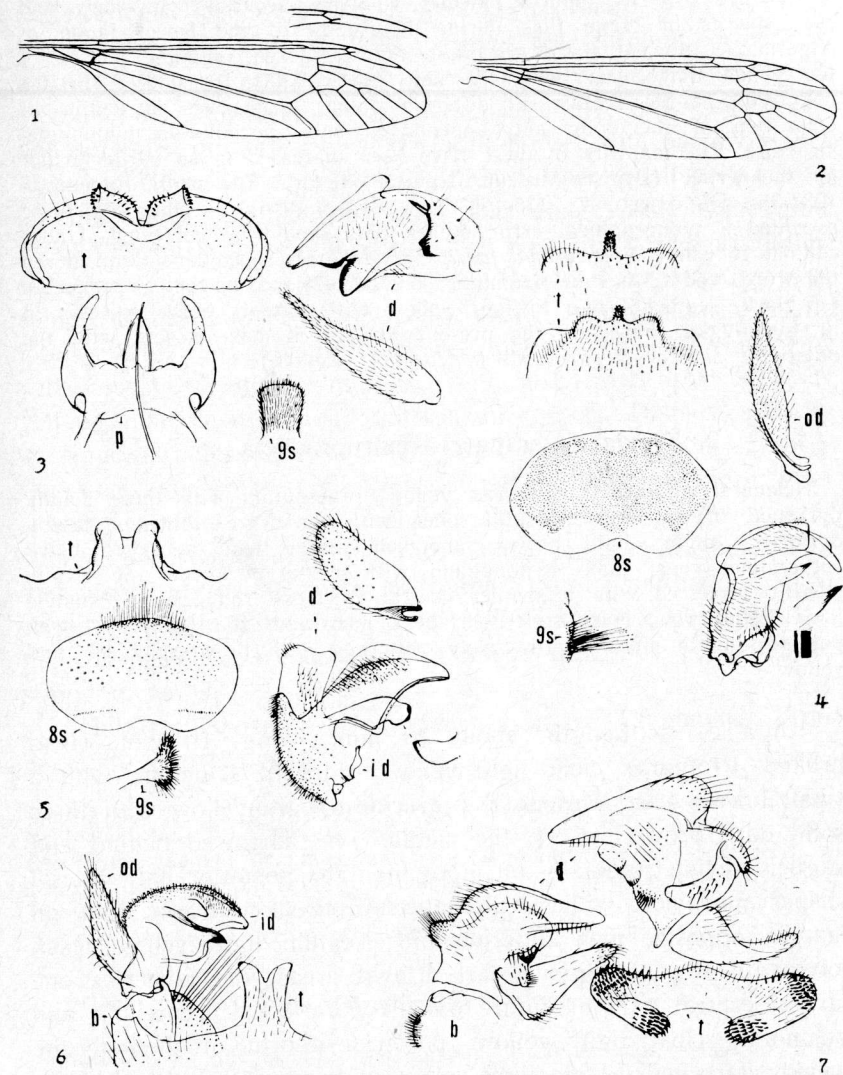


Fig. 1. *Tipula (Acutipula) levicula* sp.n.; venation. — Fig. 2. *Tipula (Afrotipula) aethiopica* sp.n.; venation. — Fig. 3. *Nephrotoma medleri* sp.n.; male hypopygium. — Fig. 4. *Tipula (Acutipula) centroproducta* sp.n.; male hypopygium. — Fig. 5. *Tipula (Acutipula) loveridgei* sp.n.; male hypopygium. — Fig. 6. *Tipula (Acutipula) levicula* sp.n.; male hypopygium. — Fig. 7. *Tipula (Afrotipula) aethiopica* sp.n.; male hypopygium. — (Symbols, Male hypopygium: *b*, basistyle; *d*, dististyle; *id*, inner dististyle; *od*, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite).

wardly, with no concentration of setae, posterior border truncated, without lobes or emargination.

Habitat: Nigeria. Holotype, ♂, 10 miles north of Mai Samari, North East State, 3,000 feet, March 30, 1970 (Medler).

Named for Dr. John T. Medler who has secured many new and rare species of crane flies during his study of the insect fauna of Nigeria. At present there are more than a dozen regional species of the genus that agree with the new species here considered in the coloration of the thorax, all differing among themselves in details of coloration of the body and appendages and specially in hypopygial structure. The majority of these have been discussed in an earlier paper by the writer (British Museum Natural History Ruwenzori Expedition 1934-35, vol. 1, no. 7: 135-165, figs. 1-31; 1956). In the key there provided a typographical error occurs that should be corrected. Under couplet 16 where *Nephrotoma fuscipennis triflava* Alexander is considered the word 'yellow' has been omitted, the correct reading being "abdomen jet black, segments two to four yellow with narrow black apices". In its hypopygial characters the present fly agrees most closely with the otherwise distinct *Nephrotoma fuscipennis* (Karsch).

2. *Tipula (Acutipula) centropuncta* sp. n.

General coloration of thorax yellow, praescutum with three solidly darkened brown stripes, scutal lobes with dark areas; wings faintly darkened, stigma light brown; abdomen yellow with a broad black subterminal ring; male hypopygium with posterior border of tergite slightly produced with a slender central spiculate rod; outer dististyle long and narrow, inner style with beak narrowed, apex of lower beak pointed; eighth sternite attractively patterned with brownish black and yellow.

Male. — Length, about 20 mm.; wing, 19 mm. Head broken. Prothorax clear light yellow, sides of scutellum with a small brown area. Mesonotal praescutum light yellow with three solid dark brown stripes, the median one narrowed behind and vaguely divided medially on more than the posterior half, lateral stripes narrower, with a disconnected circular brown spot on margin opposite their anterior end; scutum light yellow, each lobe with two contiguous dark brown areas, the posterior one larger, central part of suture narrowly darkened; scutellum and postnotum clear light yellow, posterior fourth of mediotergite weakly darkened. Pleura light yellow with more orange markings, including a broader area covering most of anepisternum, extended forward over the propleura, posteriorly into the dorsal pteropleurite, ventral sternopleurite similarly colored. Halteres with stem dark brown, base narrowly yellow, knob paler brown, its base obscure yellow. Legs with coxae and trochanters orange; remainder of legs broken. Wings faintly darkened, prearcular field and cell *Sc* more yellowed, stigma light brown; veins darker brown. Venation: *Rs* subequal to *R*₂₋₃; *R*₁₋₂ entire; basal section of *R*₄₋₅ shortened, *r-m* correspondingly longer; petiole of cell *M* and *m* subequal; *m-cu* on *M*₃₋₄ shortly before fork.

Abdomen yellow, basal segment clear orange; a broad black subterminal ring that includes tergites five through seven and sternites six and seven, with outer two-thirds of fifth; eighth sternite, *8s*, conspicuously patterned, chiefly brownish black, anterior third broadly yellow, posterior border with narrow yellow areas on sides and at midline, with a further small yellow spot on either side; remainder of hypopygium orange. Male hypopygium (Fig. 4) with the tergite, *t*, distinctive; posterior border at midline slightly produced, the margin with low lateral lobules and a more slender central rod provided with crowded black spinules, lateral lobules with very sparse blackened points and numerous long yellow setae. Ninth sternite, *9s*, with a narrow brush of long yellow setae, more caudad with smaller setae. Dististyles about as figured, outer style, *od*, long and narrow, its length about five times the greatest width at shortly beyond midlength, apex subacute; inner style, *id*, about as shown, beak narrow, gently curved, lower beak a slender rod, its tip acute; outer basal lobe and other outgrowths about as figured. Eighth sternite, *8s* large, posterior margin subtruncate to very slightly convex, without setae; the conspicuous darkened pattern above described is shown by stippling.

Habitat: Tanzania. Holotype, ♂, Igale, Tanganyika, April 24, 1930 (Loveridge).

By my key to the African species of *Acutipula* (Ruwenzori Report, 1956, pp. 165-169) this species runs to couplet 28, including *Tipula (Acutipula) kenia* Alexander and *T. (A.) kinangopensis* (Riedel), all differing evidently in details of coloration and in hypopygial structure. The ninth tergite of the present fly is most similar to that of *T. (A.) sjostedti* Alexander yet quite distinct in details.

3. *Tipula (Acutipula) levicula* sp. n.

Belongs to the *zambeziensis* group; size medium, wing of male 14 mm.); thoracic dorsum obscure yellow anteriorly, the praescutal stripes very vaguely indicated, this region with very abundant microscopic black setulae, pleura uniformly clear light yellow; legs light brown, tips of femora slightly more darkened; wings subhyaline, stigma long-oval, brown, outer half of vein *R*₁₋₂ atrophied; abdominal tergites yellowish brown, narrowly darkened laterally, sternites and hypopygium yellow; male hypopygium with posterior border of tergite produced into a depressed-flattened plate, the apex divided to form two unarmed blades; inner dististyle with dorsal crest slightly elevated, provided with dense yellow setae, lower beak a blackened point.

Male. — Length, about 14 mm.; wing, 14 mm. Frontal prolongation of head light orange, narrowly darkened laterally at apex, nasus very short; palpi black, third segment paler.

Antennae with scape and pedicel yellow; remainder broken. Head behind dark orange, anterior vertex behind the antennal fossae appearing subhyaline to shiny nacreous, possibly representing an abnormal condition.

Pronotum and mesonotal praescutum and scutum almost uniformly obscure yellow, the four praescutal stripes very poorly indicated; praescutum, scutum and base of scutellum with very abundant small to microscopic black setulae including the praescutal interspaces, more sparse medially at the suture; posterior part or scutellum, parascutella and postnotum more yellowed, glabrous. Pleura uniformly clear light yellow. Halteres dark brown. Legs with coxae and trochanters clear light yellow; a single (fore) leg remains, light brown, tips of femora slightly more darkened; fore tibiae without spurs. Wings (Fig. 1) subhyaline, stigma brown, long-oval; veins dark brown. Sparse trichia on veins R_{4-5} and distal section of M_1 . Venation: R_s relatively long, subequal to R_{2-3} ; outer half of vein R_{1-2} atrophied; m subequal to petiole of cell M_1 ; $m-cu$ shortly before fork of M_{3-4} .

Abdominal tergites light yellowish brown, narrowly more darkened laterally, sternites and hypopygium yellow. Male hypopygium (Fig. 6) with posterior border of tergite, t , produced into a depressed-flattened yellow blade, outwardly divided into two slightly divergent plates without armature. Inner face of basistyle, b , with long yellow setae, becoming more abundant and longer on the adjoining ninth sternite. Outer dististyle, od , nearly four times as long as broad, apex narrowed; inner style as shown, beak narrowly obtuse, dorsal crest slightly elevated, provided with dense yellow setae, lower beak extended into a blackened point, face of style above the beak with a triangular lobe. Eighth sternite with posterior border nearly truncate, unmodified, the setae small and scattered.

Habitat: Nigeria. Holotype, ♂, Ile-Ife, May 25, 1969 (Medler).

In the Ruwenzori Report, 1956, cited under the preceding species, the various groups of species into which the subgenus *Acutipula* has been divided are listed. The present fly belongs to the *zambeziensis* group, which includes in addition to the typical species, also the following: *Tipula (Acutipula) amissa* Alexander, of Mozambique, *T. (A.) auspicias* Alexander, Cameroon, *T. (A.) dahomiensis* Alexander, Dahomey, and *T. (A.) oryx* Alexander, Cameroon. All of these species differ among themselves in hypopygial characters and also in the length and structure of the male antennae.

4. *Tipula (Acutipula) loveridgei* sp. n.

Belongs to the *zambeziensis* group; general coloration of entire body light orange, praescutum and scutal lobes patterned with darker orange; abdomen yellow, segments seven and eight brownish black to form a ring; legs light brown, outer segments darker; wings very light brown, cell Sc and the stigma slightly darker brown; male hypopygium with posterior border of tergite produced into two flattened smooth blades; inner dististyle with dorsal crest high, region of outer basal lobe a broad flattened plate, near its base with a smaller projection; posterior border of eighth sternite gently convex, at midline with a concentration of long yellow setae.

Male. — Length, about 18-19 mm.; wing, 16.5-17 mm.; antenna, about 3.5-3.7 mm. Frontal prolongation of head light orange, including the long nasus; palpi light brown, terminal segment black. Antennae with scape light yellow, pedicel obscure yellow, flagellum brownish black to black, the small enlargements of the segments vaguely brighter at extreme bases; longest verticils subequal to the segments. Head light orange, with a very vague darker orange central stripe.

Pronotum orange. Mesonotum light orange, praescutum with four poorly indicated darker orange stripes, the central pair nearly confluent, scutal lobes each with two similarly colored areas. Pleura almost uniformly light orange. Halteres with stem light brown, base narrowly yellow, knob darker brown. Legs with coxae orange, trochanters yellow; femora light brown, bases more yellowed, tips narrowly darker brown; tibiae and tarsi darker brown; claws of male small, with a conspicuous tooth. Wings very light brown, cell Sc and the stigma slightly darker brown; veins dark brown. Venation: R_s relatively long, slightly exceeding R_{2-3} ; vein R_{1-2} entire; petiole of cell M_1 shorter than m ; $m-cu$ close to fork of M_{3-4} .

Abdomen orange yellow, lateral borders of tergites narrowly brown, becoming slightly wider on intermediate segments, tergites five and six slightly darker at midline, segments seven and eight brownish black to form a ring; sternites five and six darker yellow than basal segments; hypopygium orange. Male hypopygium (Fig. 5) with posterior border of tergite, t , produced into two flattened slightly elevated twisted blades, without armature, tips decurved, in lateral aspect appearing pointed. Appendage of ninth sternite, $9s$, about as shown, appearing clavate, stem slender, apex expanded, provided with numerous spinoid setae. Dististyles about as shown, inner style, id , with dorsal crest high and conspicuous; lower beak a short slightly curved arm, its apex narrowly darkened; region of outer basal lobe a broad flattened

plate, its apex gently concave, the upper lobule with a group of short erect setae, at base of lobe with a smaller projection, its posterior margin densely fringed with short yellow setae. Eighth sternite, 8s, with long conspicuous yellow setae at midline of the convex posterior border.

Habitat: Tanzania (Tanganyika). Holotype, ♂, Kigogo, Ugungwe Mts., at light, January 14, 1930 (Loveridge). Paratopotype, ♂.

This interesting fly is named for Arthur Loveridge, distinguished student of the herpetology and natural history of Africa. The species is most nearly related to certain South African members of the *zambeziensis* group of *Acutipula* that have been discussed in an earlier paper by the writer (Tipulidae, in South African Animal Life, vol. 10, pp. 294-295; 1964). In this faunal area the following species occur: *Tipula (Acutipula) grahamiana* Alexander (*grahami* Alexander, preoccupied), of Natal, *T. (A.) milanjensis* Alexander, Malawi (Nyasaland), *T. (A.) zambeziensis* Alexander, Northern and Southern Rhodesia, and *T. (A.) zuluensis* Alexander, Southern Rhodesia and Natal. Additional allied species of the group from tropical Africa have been listed under the preceding species. The various species are most readily distinguished by hypopygial characters, including especially the tergite, appendage of the ninth sternite, and the inner dististyle.

5. *Tipula (Afrotipula) aethiopica* sp. n.

Size medium (wing of male nearly 16 mm.); general coloration of praescutum light yellow with four pale brown stripes that are narrowly bordered by pale brown; pleura almost uniformly light brownish yellow; antennae very short in both sexes; legs yellow, tips of femora brownish black, claws of male simple; wings yellowed, stigma small, clear yellow; a restricted pattern of small dark brown spots; cell M_1 sessile; abdominal tergites brown, sides yellowed, sternites more broadly dark brown, the yellow sides chiefly concealed beneath the tergal borders; male hypopygium with tergite very narrowly transverse, the width from side to side about five times the length, each end of tergite with two separate groups of blackened spinoid pegs.

Male. — Length, about 15 mm.; wing 15.5 mm.; antenna, about 2.5 mm. Female. — Length, about 17-18 mm.; wing 17-17.5 mm.; antenna, about 2.9-3 mm. Frontal prolongation of head yellow, nasus short and stout, with long pale yellow setae; proximal two segments of palpi obscure yellow, outer segments brownish black. Antennae very short in both sexes, as shown by the measurements, yellow virtually throughout, in male with outer seven segments narrowly darkened basally; verticils slightly exceeding the segments. Head brownish yellow with a capillary brown vitta extending from the low vertical tubercle to the occiput.

Pronotum brownish yellow. Mesonotal praescutum with ground light yellow with four pale brown stripes that are narrowly bordered by pale brown, on intermediate stripes including only the outer margins, the midline a slightly darker brown capillary vitta; scutum brownish yellow, scutellum and postnotum somewhat clearer yellow, with a very vague central darkening; vestiture of praescutal interspaces pale, very small and appressed. Pleura almost uniformly light brownish yellow, clearer on metapleura and meron, anterior sclerites vaguely darker; dorsopleural membrane orange. Halteres with stem obscure yellow, knob weakly infuscated. Legs with coxae yellow, posterior pair clearer, trochanters yellow; femora yellow, tips brownish black, slightly more extensive on fore legs where nearly one-fifth the segment is included; tibiae obscure yellow, tips more narrowly darkened; tarsi dark brown to black; claws simple; tibial spurs long. Wings (Fig. 2) yellowed, prearcular and costal fields, with the small stigma, clearer yellow; very small dark brown spots at origin of R_s , tip of vein Sc_2 and over outer end of cell $1st M_2$; veins light brown, darker in the patterned areas, yellow in the brightened costal field. Venation: Sc_1 preserved; R_s long about two and one-half times R_{2-3} ; cell M_1 sessile, more broadly so in male; *m-cu* joining M_4 some distance beyond the erect base, this basal section with a few trichia.

In male, abdominal tergites broadly dark brown medially, sides yellow, lateral margins grayish on outer segments; sternites medially almost uniformly brownish black to black; in female, abdominal segments more uniformly paler, sternites beyond the yellow basal segment dark brown medially, lateral borders broadly yellow but concealed beneath the tergal margins except in gravid females. Ovipositor with cerci long and slender, nearly straight. Male hypopygium (Fig. 7) with ninth tergite, *t*, transversely very narrow, the length at midline only about one-fifth the breadth from side to side; lateral ends of tergite with two separate groups of blackened peglike setae, the inner or more posterior group with fewer pegs; posterior border of tergite slightly produced at midline, with numerous long yellow setae. Basistyle, *b*, on mesal face with a conspicuous lobe provided with long setae. Dististyles, *d*, about as shown, apparently differing slightly on the two sides, as indicated by the subfigure; rostral prolongation of inner style long and straight, apex obtuse. Phallosome with aedeagus elongate, gonapophyses apparently lacking.

Habitat: Ethiopia. Holotype, ♂, Bahar Dar, Lake Tana, at light, December 6, 1964 (Marion E. Smith). Allotopotype, ♀, pinned with one paratype female. Paratopotypes, 4 ♀ ♀, December 6-7, 1964, one represented only by wings mounted on slide.

Two other species of the subgenus *Afrotipula* Alexander have been described, including the subgenotype, *Tipula* (*Afrotipula*) *infracta* Alexander, of Uganda, and *T. (A.) brachycera* Riedel, of Kenya. These have the male antennae longer than in the present fly and with the hypopygia distinct. The wing pattern in the three species differs slightly, being most distinct in *infracta*. The length of the male antennae in the species is for *infracta* about 6.5-7 mm.; *brachycera*, 4 mm.; and *aethiopica*, 2.5 mm.

Limoniinae

Limoniini

6. *Limonia* (*Atypophthalmus*) *gurneyana* sp. n.

Size medium (wing of male 7 mm.); mesonotum brown, sides yellowed, including also the pleura; legs light brown; wings weakly darkened, stigma distinct; male hypopygium with dististyle unequally bilobed, rostral prolongation a long glabrous blade with a very long slender rod on outer margin at base; gonapophyses appearing as powerful flattened yellow blades.

Male. — Length, about 6.5 mm.; wing, 7 mm. Rostrum slender, about one-half the remainder of head, brown; palpi black. Antennae with scape and pedicel black; flagellum broken. Head brownish gray; anterior vertex narrow, less than the diameter of two rows of ommatidia.

Pronotal scutum brown medially, scutellum and pretergites clear light yellow. Mesonotal praescutum brown, sides broadly yellow; scutal lobes brown, central area yellow; scutellum and mediotergite light brown, parascutella, pleurotergite and pleura light yellow, sternum weakly infuscated. Halteres with stem dirty white, knob brown. Legs with coxae and trochanters yellow; remainder of legs light brown (tarsi broken). Wings weakly darkened, stigma subcircular, darker brown; veins dark brown. Longitudinal veins beyond general level of origin of *Rs* with trichia. Venation: *Sc* long, *Sc*₂ ending about opposite four-fifths *Rs*, *Sc*₁, shorter; cell *1st M*₂ longer than *M*₄, *m-cu* close to fork of *M*.

Abdominal tergites brown, basal sternites light yellow, posterior ends very vaguely darker; ninth segment entirely light yellow, remainder of hypopygium conspicuously black. Male hypopygium (Fig. 11) with tergite, *t*, very large, transversely suboval, outermost setae in a transverse row back from margin.

Basistyle, *b*, with ventromesal lobe large and conspicuous, before apex on lower margin with an incision, the apical lobule small; setae of lobe sparse and small; on mesal face of style before apex with a strong fingerlike lobe that is tipped with several long yellow setae, the longest exceeding the lobe. Dististyle, *d*, unusually complex, the body consisting of two slightly unequal lobes; rostral prolongation long, glabrous, nearly equal to the body of style, at base on outer margin with an even longer slender rod; lower margin of prolongation near base with a small setiferous tubercle. Phallosome with gonapophyses, *g*, appearing as powerful flattened yellow blades, the narrowed tips obtuse; aedeagus depressed-flattened, broadest before midlength, with two elevated ridges, genital tubes projecting beyond apex of aedeagus.

Habitat: Ethiopia. Holotype, ♂, Jimma, June 29 — July 1, 1965 (Gurney).

This very distinct fly is named for the collector, Dr. Ashley B. Gurney, my former student at the University of Massachusetts, an outstanding authority on the Orthoptera and several other smaller insect orders. The African species of the subgenus *Atypophthalmus* Brunetti have been listed by the writer in an earlier paper (Trans. Amer. Ent. Soc., 91: 43-45; 1965). The male hypopygium of the present fly is very different from that of other species, in some respects suggesting that of *Limonia* (*Atypophthalmus*) *submendica* Alexander, of Central and West Africa. This latter species and some others had not been included in the present subgenus but apparently should be referred there.

7. *Limonia* (*Dicranomyia*) *guttula* (Alexander)

Dicranomyia guttula Alexander; Canad. Ent., 47: 80, fig. (wing); 1915.
Dicranomyia pauciguttata Alexander; An. Mag. Nat. Hist., (9) 8: 163; 1921.
Limonia (*Dicranomyia*) *sus* Alexandre; Ann. Mag. Nat. Hist., (12) 3: 942; 1950.

The present fly now is known to have a vast range in the Old World, as shown by the following record of stations.

Ethiopian: — Mozambique (type of *guttula*); Cameroon (type of *pauciguttata*); Nigeria- Ile-Ife, October 27, 1969 (Medler); Cape Verde Islands (vide Nielsen, Notulae Ent., 46: 18; 1966); Madagascar.

Oriental: — Ceylon, Province Deerwood, Kuruwita (Lund Expedition, 1962).

Australasian: — New Guinea, Hollandia, January 21, 1945 (type of *sus*).

8. *Limonia* (*Tricholimonia*) *sparsisetosa* sp. n.

Size large (wing of male 13 mm.); general coloration of thorax yellow, praescutum with a conspicuous blackened anchor-shaped mark, remainder of notum and the pleura with further blackened pattern; knobs of halteres brownish black; femora yellow, tips broadly blackened; wings strongly tinged with light brown, stigma only slightly darker; stigmal trichia relatively sparse, numbering about twelve; abdomen yellow with a conspicuous black ring that involves segments six and seven, hypopygium yellow; male hypopygium of the general type of *Dicranomyia*, with two dististyles, the large fleshy ventral style with two decurved spines; gonapophysis with mesal-apical lobe very long and slender, pale.

Male. — Length, about 15 mm.; wing, 13 mm.; antenna about 2.2 mm. Rostrum yellow, palpi brown, terminal segment blackened. Antennae with scape and pedicel light yellow, the latter with numerous black setae; flagellum light brown, segments slightly dilated at midlength and here with long verticils, the longest unilaterally arranged, about twice the length of the segment. Head with front light yellow, vertex obscure yellow with a more brownish cloud on either side.

Pronotal scutum yellow with a conspicuous black central stripe, scutellum and pretergites yellow. Mesonotal praescutum orange, paling to yellow on sides, with a polished black central stripe, at the suture becoming confluent with short oval lateral areas to form an anchor shaped pattern; scutum yellow, each lobe with a single major black area; scutellum densely golden yellow pollinose, parascutella more orange yellow; mediotergite with anterior half polished yellow, blackened posteriorly, pleurotergite dull yellow with a small circular brownish black spot before the halter. Pleura yellow, mesepisternum extensively blackened, a dorsal area reaching the wing base, one on sternopleurite smaller. Halteres yellow, knob brownish black. Legs with coxae and trochanters orange; femora yellow, tips broadly blackened; tibiae brownish yellow, blackened at apices, tarsi brownish black; claws of male small, with about six or seven teeth, the outermost largest, the basal series very small and crowded. Wings (Fig. 8) strongly tinged with yellowish brown or light brown, the small stigma only slightly darker; veins brown, C, Sc and R paler brown. Stigmal trichia very few in number, totalling about a dozen or less (in figure indicated by stippling). Venation: Sc relatively long, Sc₁ ending just before fork of Rs, Sc₂ shorter; Rs nearly straight, about two and one-half times the basal section of R₄₋₅; cell 1st M₂ subequal in length to distal section of vein M₁₋₂; m-cu at or close to fork of M.

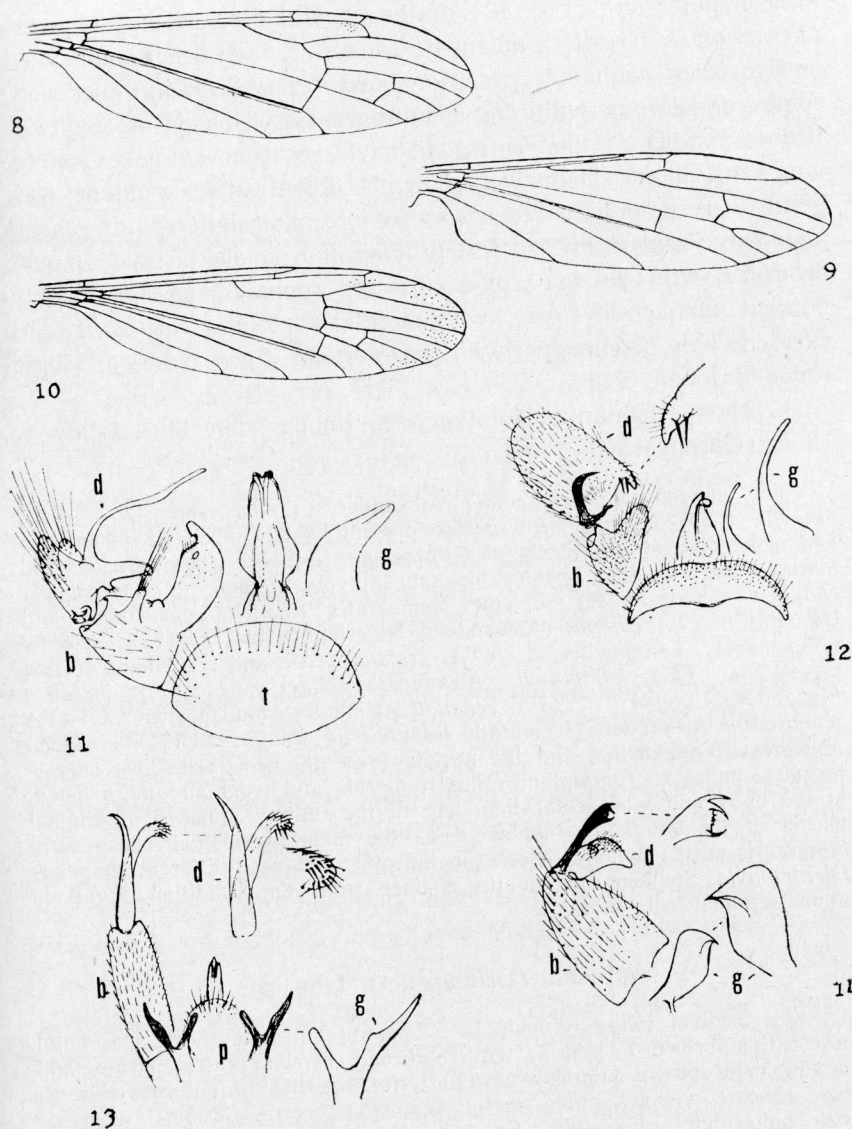


Fig. 8. *Limonia* (*Tricholimonia*) *sparsisetosa* sp.n.; venation. — Fig. 9. *Antocha* (*Orimargula*) *tana* sp.n.; venation. — Fig. 10. *Paradelphomyia* (*Oxyrhiza*) *platymera* sp.n.; venation. — Fig. 11. *Limonia* (*Atyphthalmus*) *gurneyana* sp.n.; male hypopygium. — Fig. 12. *Limonia* (*Tricholimonia*) *sparsisetosa* sp.n.; male hypopygium. — Fig. 13. *Antocha* (*Orimargula*) *tana* sp.n.; male hypopygium. — Fig. 14. *Paradelphomyia* (*Oxyrhiza*) *platymera* sp.n.; male hypopygium. — (Symbols, Male hypopygium: b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; t, tergite).

Abdomen yellow, fifth segment just beyond base with a narrow blackened ring, second and third sternites faintly marked with brown; segments six and seven black to form a conspicuous ring; outer segments, including the hypopygial parts, yellow.

Male hypopygium (Fig. 12) of the general type of the subgenus *Dicranomyia*; tergite, *t*, narrowly transverse, lateral ends narrowed and directed cephalad, posterior border very broadly thickened, setae concolorous with the membrane. Basistyle, *b*, about two-fifths the area of the ventral dististyle, ventromesal lobe simple, long and stout. Dististyle, *d*, with dorsal style a stout rod, gently curved, outer sixth narrowed into a straight spine; ventral style large and fleshy, rostral prolongation small, on slide mount decurved, with the two spines directed cephalad, sessile, acutely pointed. Gonapophysis, *g*, with mesal-apical lobe very long and slender, pale. Aedeagus with base stout, apex with a single rounded lobe.

Habitat: Ethiopia. Holotype, ♂, Jimma, June 29 — July 1, 1965 (Gurney).

The subgenus *Tricholimonia* Alexander (Trans. Amer. Ent. Soc., 91: 51; 1965) includes ten species presently known, all of large size and somewhat striking general appearance. All are from Africa and Madagascar, including besides the subgenotype, *Limonia* (*Tricholimonia*) *congoensis* (Alexander), of the Democratic Republic of Congo and Uganda; *L. (T.) compta* (Alexander), Nigeria, Angola; *L. (T.) edwardsi* (Alexander), Tanganyika; *L. (T.) grahami* (Alexander), Ghana (Gold Coast); *L. (T.) humphreyi* (Alexander), Nigeria; *L. (T.) imitatrix* Alexander, Uganda; *L. (T.) renaudi* Alexander, Madagascar; *L. (T.) schoutedeni* Alexander, Democratic Republic of Congo; *L. (T.) zernyana* Alexander, Tanganyika, and the novelty presently described. This species is most similar to *compta*, differing from this and from all others listed, in the body and wing coloration, and in the reduced number of stigmal trichia of the wings. In this subgenus the male hypopygium in general features is most similar to species in the otherwise very different subgenus *Dicranomyia* Stephens and quite distinct from the condition found in other regional subgenera.

9. *Antocha* (*Orimargula*) *tana* sp. n.

Size medium (wing of male to 5.5 mm.); antennae short; mesonotal praescutum brownish yellow with a broad brown central stripe and narrow paler brown lateral areas, posterior sclerites of notum yellowed; legs obscure yellow, outer tarsal segments brown, terminal segment with epicondyle, claw with two very long spines; wings subhyaline, unpatterned, outer radial and medial veins with macrotrichia; male hypopygium with inner dististyle slightly decurved at apex, provided with numerous pale setae.

Male. — Length, about 4.5-5 mm.; wing, 5-5.5 mm.; antenna, about 1 mm. Female. — Length, about 4.5-5.5 mm.; wing, 5.5-6.5 mm. Rostrum relatively long, gray; palpi black, long and conspicuous, terminal segment one-half longer than the third. Antennae black, relatively short; flagellar segments oval, slightly exceeding their verticils, terminal segment about one-half

longer than the penultimate. Head gray, the broad posterior vertex weakly infuscated.

Prothorax elongate, brownish black. Mesonotal praescutum with ground brownish yellow, with a broad brown central stripe and very pale brown narrower lateral areas, the central stripe in cases paler brown with a capillary dark brown line; scutal lobes pale brown, median region and most of posterior sclerites of notum yellowed, mediotergite weakly more darkened behind. Pleura chiefly brownish yellow to light brown, pteropleurite slightly darker. Halteres with stem yellow, knob weakly infuscated. Legs with coxae and trochanters yellow; remainder of legs obscure yellow, outer tarsal segments brown; terminal segment with epicondyle and distinct subapical lobe, claws long and slender, each with two very long spines, the more basal one shorter. Wings (Fig. 9) subhyaline, unpatterned; veins brown, outer radial veins, excluding R_{4-5} , paler and more delicate. Macrotrichia on distal one-third to one-half of vein R_3 and on outer ends of R_{4-5} and medial branches. Venation: R_{2-3} subequal to R_2 ; M_{3-4} subequal to basal section of M_{1-2} ; *m-cu* nearly in alignment with R_2 .

Abdomen dark brown, male hypopygium and base of ovipositor in cases more yellowed. Male hypopygium (Fig. 13) with proctiger semioval in outline, distal end with scattered delicate setae. Basistyle, *b*, long, about twice the small dististyles, *d*, the latter very shallowly united at bases; outer style narrowed gradually to the acute tip, inner style with the slightly decurved apex provided with numerous pale setae. Phallosome, *p*, with gonapophyses bifid, the inner arm a narrow paddle; aedeagus very slender.

Habitat: Ethiopia. Holotype, ♂, Bahar Dar, Lake Tana, source of the Blue Nile, December 6, 1964 (Marion E. Smith). Allotopotype, ♀. Paratopotypes, numerous ♂ ♀, with the types, December 6-8, 1964 (Smith), July 4, 1965 (Gurney).

The Ethiopian species of *Antocha* (*Orimargula*) have been listed in a recent paper by the writer (The Entomologist, May 1967, p. 127; 1967). Important characters for separating the numerous species are found in the armature of the tarsi, including the presence or absence of an epicondyle (a conspicuous lobe near base of ventral surface of terminal segment) and the numbers of major spines on the claws. Among these species the most similar is *Antocha* (*Orimargula*) *transvaalia* Alexander, of Transvaal and Rhodesia, which differs in relatively minor characters of the antennae, claws and hypopygium. In this latter species the terminal antennal segment is shorter than the penultimate.

Hexatomini

10. *Paradelphomyia (Oxyrhiza) platymera* sp. n.

General coloration of thorax dark brownish gray, pleura faintly striped; legs light brown; wings slightly yellowed, restrictedly patterned with pale brown, with macrotrichia in outer ends of cells R_3 to M_3 inclusive; abdominal tergites dark brown, sternites paler, posterior borders pale; male hypopygium with dististyles terminal, outer style slightly expanded at the trispinous distal end; gonapophysis broad, apical point very small.

Male. — Length, about 4.5 mm.; wing, 5 mm. Female. — Length, about 5 mm.; wing 5.5-5.8 mm. Rostrum and palpi black; flagellum broken. Head dark grayish brown.

Pronotum dark brown. Mesonotal praescutum and scutum chiefly dark brown, very slightly dusted with gray; scutellum obscure yellow, mediotergite obscure yellow, sparsely pruinose, posterior third darkened on either side, pleurotergite still more pruinose. Pleura with anepisternum and ventral sternopleurite dark brown, sparsely pruinose, dorsal sternopleurite and ventral pteropleurite more yellowed to produce a faint striped appearance. Halteres with stem light yellow, base still brighter, knob weakly infuscated. Legs with coxae and trochanters yellow, remainder of legs light brown. Wings (Fig. 10) slightly yellowed, prearcular and costal fields more conspicuously brightened; a restricted pale brown pattern that includes a small cloud at origin of R_s and narrow seams at Sc_2 , cord and outer end of cell $1st M_2$, with further small inconspicuous marks at ends of all longitudinal veins excepting R_5 , larger and more evident in outer radial and anal fields; stigma pale brown; veins brown. Macrotrichia in stigmal region and in outer ends of cells R_3 to M_3 inclusive, their positions about as shown by stipplings. Venation: Sc_1 ending before to nearly opposite fork of R_s ; vein R_2 faint, subequal to R_{1-2} and R_{2-3} ; cell M_1 lacking, $1st M_2$ slightly longer than vein M_4 ; $m-cu$ varying from about one-third to one-fifth M_{3-4} .

Abdominal tergites dark brown, sternites more yellowish brown to light brown, their posterior borders pale; hypopygium, especially the ninth segment, more yellowed. Male hypopygium (Fig. 14) with dististyles, d , terminal; outer style blackened, slightly expanded at outer end, apex with three major spines, the lower pair widely separated, the intervening margin with three or four microscopic teeth; inner style large and fleshy, the outer margin bilobed. Gonapophysis, g , broad, apical point very small.

Habitat: Ethiopia. Holotype, ♂, Jimma, June 29 — July 1, 1965 (Gurney). Allotopotype, ♀. Paratopotypes, 2 ♀♀.

Among the approximately ten Ethiopian species of the genus presently known, the present fly is most similar to *Paradelphomyia (Oxyrhiza) jaurei* (Alexander), presently known from Southern Rhodesia and Natal, differing in the less heavily patterned wings and in details of the hypopygium, particularly the outer dististyle and the gonapophyses.

11. *Austrolimnophila (Austrolimnophila) agma* sp. n.

Size medium (wing of male 8.5 mm.); mesonotal praescutum obscure yellow with four indistinct light brown stripes, pleura chiefly obscure brownish yellow; knobs of halteres dark brown; legs with coxae light yellow, trochanters more obscure yellow, remainder uniformly light brown; wings almost uniformly light brown, stigma darker brown; vein R_{2-3-4} long, nearly five times the basal section of R_5 , petiole of cell M_1 less than two times m , cell $2nd A$ narrow; male hypopygium with a stout lobe on mesal face of basistyle near apex; dististyles subequal in length, the outer terminating in smooth blackened curved point, interbase very small, phallosome small and compact, aedeagus stout.

Male. — Length, about 7.5 mm.; wing, 8.5 mm.; antenna, about 2 mm. Rostrum brownish yellow, palpi dark brown. Antennae short; scape brownish yellow, pedicel clearer yellow, flagellum dark brown, the segments elongate, exceeding their verticils. Head large, especially the eyes; vertical region of type destroyed by pests, occipital region light brown.

Pronotum light brown, scutellum yellowed. Mesonotal praescutum obscure yellow, disk with four indistinct light brown stripes; posterior sclerites of notum light brown, scutellum slightly more yellowed. Pleura chiefly obscure brownish yellow. Halteres with stem light brown, base yellowed, knob dark brown. Legs with coxae light yellow, middle and hind pairs long; trochanters obscure yellow; remainder of legs uniformly light brown. Wings (Fig. 15) almost uniformly light brown, stigma long-oval, darker brown; veins dark brown. Longitudinal veins of about the outer three-fourths of wing with trichia. Venation: Sc_2 longer and stouter than Sc_1 , ending about opposite one-third R_{2-3-4} , the latter long, nearly five times the basal section of R_5 ; petiole of cell M_1 less than twice m ; $m-cu$ at near midlength of M_{3-4} ; vein $2nd A$ long and nearly straight, the cell narrow.

Abdominal tergites brownish black, extreme posterior borders of segments pale; sternites bicolored, bases darkened, apices broadly light yellow; ninth segment, including hypopygial appendages, brownish black. Male hypopygium (Fig. 22) with tergite, t , transverse, narrowed posteriorly, apex with a broad semicircular emargination to produce narrowly obtuse yellow lobes. Basistyle,

b, stout, on mesal face near apex with a stout lobe. Outer dististyle, *d*, narrowed outwardly, terminating in a slender curved point, blackened and entirely smooth, basal two-thirds of outer surface of style with numerous setae, about six of these very long approximately one-fourth the length of style; inner style subequal in length to outer, broad at base, narrowest at near midlength, outer end yellowed, apex obtuse, near base with several microscopic punctures that apparently lack setae. Interbase, *i*, an unusually small slightly curved smooth point. Phallosome, *p*, small and compact, aedeagus very small and stout.

Habitat: Tanzania (Tanganyika). Holotype, ♂, Marungu, Kilimandjaro, 6,000 feet, October 25, 1964 (Marion E. Smith).

The most similar regional species include *Austrolimnophila* (*Austrolimnophila*) *claduroneura* (Speiser), *A. (A.) claduroneurodes* Alexander, and *A. (A.) leleupi* Alexander, most readily told from the present fly by the coloration of the body, wings and halteres and in the details of venation. In the present species the dark brown wing veins and conspicuously darkened stigma are different from the above listed species. It should be noted that the male specimen of *claduroneura* as figured and briefly described by Speiser (Kilimandjaro-Meru Report, pp. 52-53, fig. 9; 1909) may prove to be distinct from the type specimen of the species.

12. *Austrolimnophila* (*Austrolimnophila*) *hoogstraali* sp. n.

Allied to *diffusa*; mesonotal praescutum with three dark brown stripes, anterior third of central one paler, pleura chiefly yellowed; legs with femora yellow, tips narrowly dark brown; wings brownish yellow, vaguely patterned with pale brown, more extensively so in the female; abdominal tergites brown, incisures broadly yellow, sternites chiefly light yellow, sides narrowly brown; male hypopygium large and complex, especially the basistyle and both dististyles, ventromesal lobe of basistyle very large, with very long yellow setae that form a conspicuous brush.

Male. — Length, about 11 mm.; wing, 11 mm. Female. — Length, about 10-11 mm.; wing, 10-11.5 mm. Rostrum yellow; basal one or two segments of palpus yellow, outer ones dark brown. Antennae with scape and pedicel yellow, in certain paratypes darker brown; flagellum broken. Head light gray; in holotype male with a small vertical tubercle, not evident in the females.

Pronotum clear yellow. Mesonotal praescutum obscure yellow to brownish yellow, disk with three dark brown stripes, anterior third of central one paler, the stripe vaguely divided behind; in cases, sides of praescutum slightly gray pruinose; scutal lobes patterned with dark brown, central part gray; scutellum brownish gray, parascutella yellowed; mediotergite obscure yellow, gray pruinose anteriorly, pleurotergite yellowish gray. Pleura chiefly

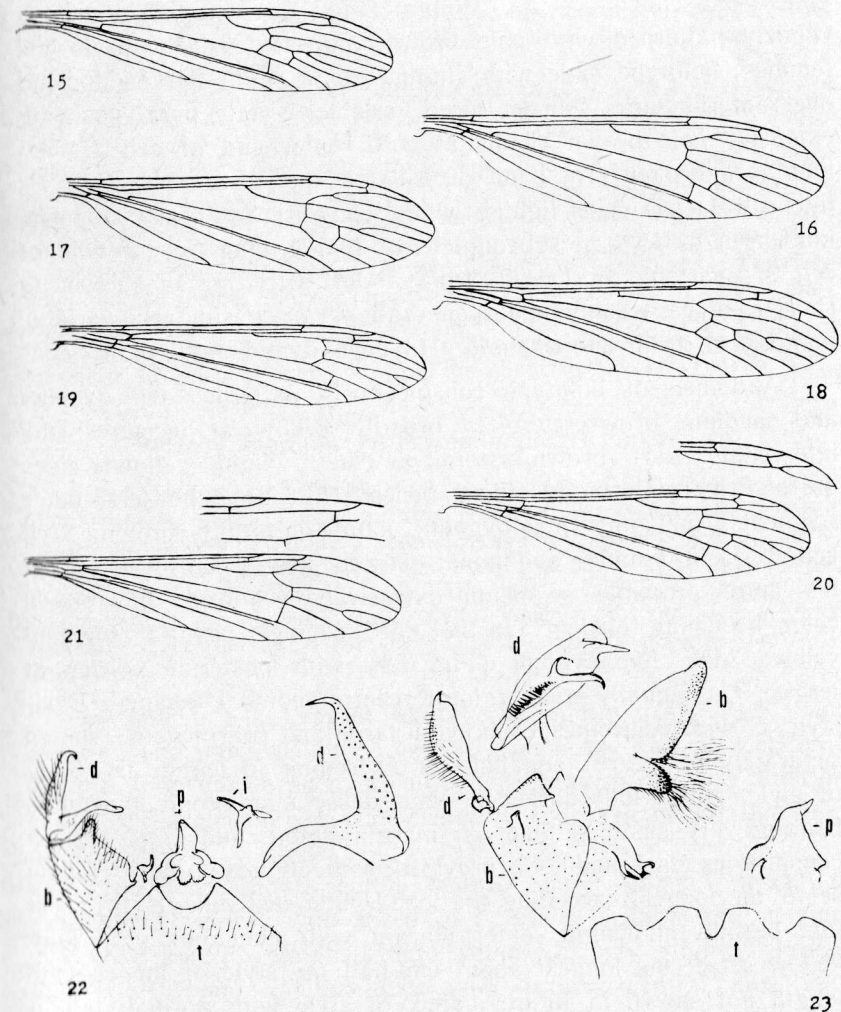


Fig. 15. *Austrolimnophila* (*Austrolimnophila*) *agma* sp.n.; venation. — Fig. 16. *Austrolimnophila* (*Austrolimnophila*) *hoogstraali* sp.n.; venation. — Fig. 17. *Austrolimnophila* (*Austrolimnophila*) *tanana* sp.n.; venation. — Fig. 18. *Pseudolimnophila* (*Austrolimnophila*) *subprinceps* sp.n.; venation. — Fig. 19. *Ptilaria chionopoda* sp.n.; venation. — Fig. 20. *Ptilaria sordidipes* sp.n.; venation. — Fig. 21. *Eupitiria nigeriana* sp.n.; venation. — Fig. 22. *Austrolimnophila* (*Austrolimnophila*) *agma* sp.n.; male hypopygium. — Fig. 23. *Austrolimnophila* (*Austrolimnophila*) *hoogstraali* sp.n.; male hypopygium. — (S y m b o l s. Male hypopygium: *b*, basistyle; *d*, dististyle; *i*, interbase; *p*, phallosome; *t*, tergite).

yellowed. Halteres with stem yellow, knob brown. Legs with coxae and trochanters clear yellow; femora yellow, tips narrowly but conspicuously dark brown; tibiae yellow, extreme tips darkened; tarsi brownish yellow to light brown; claws very small, yellow; vestiture of legs including setae and shorter interpolated elongate

scales or scalelike setae. Wings (Fig. 16) brownish yellow, vaguely patterned with pale brown, more extensively so in the females; holotype male with stigma and a slight darkened cloud over anterior cord, females more variable, certain paratypes with extensive pale brown clouds at cord, outer end of cell $1st M_2$ and as a broken crossband of isolated spots from origin of R_s into cell $1st A$; veins light brown. Venation: Sc_2 nearly opposite midlength of R_{2-3-4} , subequal to or longer than Sc_1 ; petiole of cell M_1 variable in length, from about twice m , as shown, to shorter, in cases only about one-half m ; $m-cu$ similarly variable in position, from shortly before to beyond midlength of M_{3-4} .

Abdomen of holotype conspicuously patterned with yellow and medium brown; tergites broadly yellow at incisures, the intervening part brown, sternites chiefly light yellow, sides narrowly brown, chiefly hidden beneath the tergal borders; outer segments, including hypopygium, more uniformly brown, styli yellowed; in female, abdominal pattern nearly as in male but the more proximal segments extensively yellowed, the brown color becoming evident on the third segment, genital segment yellow. Male hypopygium (Fig. 23) with posterior border of tergite, t , unequally triemarginate, central notch U-shaped. Basistyle, b , with ventromesal lobe very large and conspicuous (shown separately in figure) equalling or exceeding in length the body of style, apical half darkened, with dense microscopic punctures bearing very small setulae, on margin before midlength with a conspicuous darkened lobe provided with abundant dense yellow setae, the longest exceeding the lobe. Outer dististyle, d , broadest just beyond midlength, outer margin with numerous very long yellow setae, the longest about one-half the style or longer (the length not shown in figure), apex of style with a small lateral spine; inner style about as figured, arising from a stout stem at near one-fourth the length, with a double comb of spines, the posterior ones larger, outer spines reduced to microscopic points (style shown separately in figure). Phallosome, p , small and compact.

Habitat: Kenya. Holotype, ♂, Eastern Mau Forest Reservation, El Burgeon District, Rift Valley Province, 8,000 feet, June 9, 1948 (Hoogstraal). Allotopotype, ♀, with type. Paratopotypes, 4 ♀ ♀, with types.

The species is named for Dr. Harry Hoogstraal, outstanding student of the ticks and other groups of the arthropoda. I am indebted to Dr. Hoogstraal for several collections of crane flies that he had collected

in the Australasian, Oriental, Ethiopian and Neotropical regions. The *diffusa* group of the genus was briefly discussed by me in an earlier paper (Ruwenzori Report, 1956, p. 264) where three species, *Austrolimnophila (Austrolimnophila) diffusa* Alexander, *A. (A.) phantasma* Alexander, and *A. (A.) praepostera* Alexander, were discussed. All of these had been collected in Kenya and Uganda by Edwards who indicated that they were forest-inhabiting flies generally found resting on tree trunks. All four species of the group presently known are separable by details of the highly complicated male hypopygium, and to a lesser degree by differences in coloration of the body and legs. A further species of the genus, *A. (A.) birungana* (Alexander), described from Mount Mikeno, Albert National Park, Birunga, still is known only from the female sex and may be found to belong to this group of species. It is readily told from all of the above by the very different coloration of the legs and body and by slight details of venation.

13. *Austrolimnophila (Austrolimnophila) tanana* sp. n.

Size large (wing of female 11.5 mm.); head small, grayish brown; thorax yellow, praescutum with three pale brown stripes, the anterior half of median stripe strongly yellowed; halteres yellow; femora yellow, tips black; wings yellowed, prearcular and costal fields clear light yellow, including the veins, remaining veins dark brown, vein R_5 in longitudinal alignment with R_s ; abdomen orange yellow, tergites six and seven slightly brownish black, sternites two to five with dorsal margins narrowly blackened.

Female. — Length, about 11.5 mm.; wing, 11.5 mm. Rostrum and palpi yellow. Antennae with scape and pedicel light yellow; flagellum broken. Head small, grayish brown; anterior vertex relatively narrow, only slightly more than the diameter of the scape.

Pronotum yellow, scutum slightly more orange. Mesonotal praescutum yellow, with three pale brown stripes, the median one with anterior half strongly yellowed, only slightly darker than the ground; scutal lobes dark brown, central area and posterior sclerites of notum light yellow. Pleura uniformly light yellow. Halteres yellow. Legs with coxae and trochanters yellow; femora yellow, tips rather broadly black, including about the outer eighth of segment; tibiae brownish yellow, tips very narrowly darkened; tarsi darker outwardly. Wings (Fig. 17) yellowed, unpatterned, prearcular and costal fields clear light yellow, including the veins, remaining veins dark brown. Venation: Sc ending shortly beyond fork of R_s , Sc_1 and Sc_2 subequal; vein R_5 in longitudinal alignment with R_s ; petiole of cell M_1 about one-half longer than m ; $m-cu$ at midlength of M_{3-4} .

Abdomen orange yellow, tergites six and seven slightly brownish black, especially at the midline, sternites two to five with dorsal margins narrowly but conspicuously blackened.

Habitat: Ethiopia. Holotype, ♀, Bahar Dar, Lake Tana, July 4, 1965 (Gurney).

The most similar Ethiopian species is *Austrolimnophila* (*Austrolimnophila*) *transvaalica* (Alexander), of South Africa, which is approximately similar in size and coloration, differing evidently in the coloration of the wing veins, legs and abdomen, and in details of venation, particularly of the radial field.

14. *Pseudolimnophila* (*Calolimnophila*) *subprinceps* sp. n.

Mesonotal praescutum restrictedly brownish black, virtually covered by four orange stripes, posterior sclerites of notum extensively darkened, pleura whitish gray, with broad darkened dorsal and ventral longitudinal stripes; legs with coxae whitened, the remainder yellow; wings with ground whitened, very restricted because of broad darkened seams to the veins, costal interspaces more extensive than the darkened areas; petiole of cell M_1 long, about one-half the cell and approximately four times m ; abdominal tergites uniformly dark brown, lateral margins of proximal two broadly light gray, sternites light yellow, dorsal membrane blackened.

Female. — Length, about 8 mm.; wing, 10 mm.; antenna, about 2 mm. Rostrum brown, palpi brownish black. Antennae with scape brownish yellow, pedicel and first flagellar segment light yellow, remainder of organ black; first flagellar segment oval, succeeding ones long-cylindrical, outer segments, including the last longer; verticils of subterminal segments very long. Head anteriorly light brown, posterior vertex and occiput darker brown.

Pronotal scutum buffy with a dark brown central area that is widened behind, scutellum and pretergites light yellow. Mesonotal praescutum with the restricted interspaces brownish black, the disk virtually covered by four orange stripes, the most conspicuous darkening forming a fork encircling the lateral stripes, extreme cephalic border of praescutum infuscated; a capillary dark median vitta that is narrowly interrupted before midlength, widened behind; scutal lobes brownish orange, yellowed posteriorly, patterned with pale brown, including also the central area; scutellum chiefly yellow, base slightly paler; mediotergite brown on central part in front and posteriorly on sides, the anterior borders and adjoining pleurotergite obscure yellow. Pleura chiefly whitish gray, patterned with brown, including a broad dorsal stripe extending from propleura and extreme base of fore coxa caudad to the mediotergite as described; ventral stripe more blackened, including the mesosternum and meron, dorsal sternopleurite narrowly pale brown. Halteres with stem yellow, clearer basally, knob brown at base, apex paler. Legs

with middle and hind coxae whitened, the extreme bases darkened by the ventral pleural stripe; remainder of legs yellowed, tibiae and tarsi more clearly so. Wings (Fig. 18) with the ground obscure whitish, more yellowed on costal fourth, disk appearing darker by broad seams to the veins, prearcular and costal fields more yellowed; a restricted darker costal pattern that includes areas at arculus, origin of R_s , end of Sc , and nearly confluent marks in stigmal region over fork of R_{2-3-4} and R_2 , these areas reaching the costa; further slightly differentiated darkenings along cord, outer end of cell $1st M_2$, and as marginal clouds over the longitudinal veins, leaving yellow marginal spots between the veins; a series of about four darkenings along vein Cu that are subequal to the interspaces; veins brown, more yellowed in the costal and cubital interspaces. Longitudinal veins beyond general level of cord with abundant trichia, including also outer ends of R_s and M and more extensively on both anal veins. Venation: Sc_1 ending just beyond fork of R_s ; supernumerary crossvein in cell R_3 at near two-thirds the length of cell; petiole of cell M_1 long, about one-half the cell and approximately four times m ; $m-cu$ before midlength of M_{3-4} .

Abdominal tergites uniformly dark brown, margins of first two segments broadly light gray, sternites light yellow, dorsal membrane conspicuously more blackened. Ovipositor with both cerci and hypovalvae long, slender, virtually straight.

Habitat: Nigeria. Holotype, ♀, Ngel Nyaki, North East State, 5,000 feet, March 31, 1970 (Medler); in high forest, 40 miles south of Serti, Saradauna Province.

The most similar species is *Pseudolimnophila* (*Calolimnophila*) *princeps* Alexander, of Cameroon, the species differing evidently in the pattern of the thorax and abdomen and in details of wing coloration and venation. Both species have the wings without a major darkening between arculus and origin of R_s , in this respect differing further from *P. (C.) imperita* Alexander, likewise from the Cameroon.

15. *Pilaria chionopoda* sp. n.

General coloration of mesonotum brownish black, lateral praescutal borders yellowed, pleura light yellow; tarsi white, outer half of basitarsus and all of segments two and three snowy white; wings strongly infuscated; cell M_2 narrow, open by atrophy of basal section of M_3 to produce a pectinate venation, cell $2nd A$ long and narrow.

Male. — Length, about 7.5 mm.; wing, 7.2 mm. Rostrum yellow; palpi black. Antennae with scape yellowish brown, pedicel darker brown; flagellum broken. Head brownish black, very

sparsely pruinose; anterior vertex broad, about three times the diameter of scape.

Pronotum short, brownish yellow. Mesonotum brownish black, lateral border of praescutum obscure yellow; scutum and scutellum brownish black, postnotum brownish yellow, pleurotergite clearer yellow. Pleura light yellow. Halteres brown, knob darker. Legs with coxae and trochanters clear yellow; femora and tibiae brown to brownish black; basitarsus with proximal half black, the remainder and segments two and three snowy white, outer two segments and extreme tip of third brown. Wings (Fig. 19) strongly infuscated, stigma not differentiated; veins darker brown. Stigmal trichia very restricted in number. Venation: *Sc* of moderate length, ending some distance before fork of *Rs*, the latter very long, subequal to *R*₄; basal section of *M*₃ atrophied to produce a pectinate venation; cell *M*₁ small, shorter than its petiole; *m-cu* nearly twice its length beyond fork of *M*; cell *2nd A* long and narrow.

Abdominal tergites dark brown to blackish brown, sternites vaguely paler, yellowish brown; hypopygium yellow.

Habitat: Ethiopia. Holotype, ♂, 35 km south of Jimma, July 1, 1965 (Gurney).

The previously known Ethiopian members of the genus are discussed and keyed in the Alexander Ruwenzori Report, 1956, previously cited. In the present fly the pectinate venation of the medial field is quite different from the condition in the five other Ethiopian species and appears to represent a normal condition being identical in both wings of the unique type. In the general features of venation and in the leg structures, it resembles *Pilaria chionomera* Alexander, differing in venational details and in the more restricted number of stigmal trichia.

16. *Pilaria sordidipes* sp. n.

Size small (wing of female about 5 mm.); mesonotum almost uniformly dark chestnut brown, pleurotergite and pleura clear light yellow; legs brown, tarsi only slightly paler; wings weakly darkened, stigmal region without trichia; abdominal tergites brownish black, sternites testaceous yellow.

Female. — Length, about 5 mm.; wing, 4.9 mm.; antenna, about 1.3 mm. Rostrum very reduced, yellow; palpi black. Antennae with scape and pedicel obscure yellow, flagellum black; flagellar segments elongate, progressively more slender outwardly but subequal in length, about two-thirds their verticils. Head polished black.

Prothorax very reduced, brown. Mesonotum almost uniformly dark chestnut brown, sides of praescutum and scutum slightly

more yellowed. Pleura and pleurotergite clear light yellow. Halteres blackened. Legs with coxae and trochanters light yellow; remainder of legs brown, the tarsi only slightly paler; claws small. Wings (Fig. 20) relatively narrow, weakly darkened, stigma barely indicated, without trichia; veins darker brown. Venation: Cell *M*₁ present, shorter than its petiole; *m-cu* at three-fifths to two-thirds *M*₃₋₄; position of vein *R*₂ differing in the wings of the holotype, on one being before the fork, leaving a short element *R*₃₋₄, on the opposite wing placed beyond the fork on *R*₃, leaving a very short element *R*₂₋₃.

Abdominal tergites brownish black, sternites testaceous yellow. Ovipositor with valves long and slender, especially the gently upcurved cerci.

Habitat: Nigeria. Holotype, ♀, Ile — Ife, June 20, 1970 (Medler); wings mounted on two separate slides.

The Ethiopian members of the genus previously known are from the Congo and the mountainous sections of Ethiopia, Kenya and Uganda. All of these have the tarsi whitened to some degree. The species most similar to the present fly is *Pilaria subalbipes* Alexander, described from Mount Ruwenzori, Uganda. This has the head reddish brown, mesonotum fulvous yellow, and with the coloration of the legs slightly different from the present fly.

17. *Eupilaria nigeriana* sp. n.

General coloration of body brown, sparsely gray pruinose; wings strongly darkened, outer half of vein *R*₃ atrophied, cell *M*₂ open by atrophy of basal section of *M*₃, *m-cu* at fork of *M*.

Female. — Length, about 7 mm.; wing, 6 mm.; antenna, about 1.2 mm. Rostrum brown, sparsely pruinose; palpi black. Antennae brown, apparently 15-segmented; proximal flagellar segments shortest, the outer ones progressively longer, cylindrical, with long verticils that exceed the segments. Head gray; eyes large, with very delicate ommatidia.

Thorax almost uniformly light brown, sparsely pruinose, praescutum without differentiated pattern. Halteres brown, base of stem restrictedly paler. Legs with coxae and trochanters light brown; remainder medium brown (broken beyond tibia); tibial spurs present. Wings (Fig. 21) strongly darkened, stigma slightly darker brown, small and ill-defined; veins brown. Longitudinal veins beyond cord with relatively small trichia, present also on about the outer two-thirds of *Rs*, *M* and *1st A*. Venation: *Sc*₁ ending nearly opposite fork of *Rs*, *Sc*₂ removed, *Sc*₁ subequal to *R*₂₋₃₋₄; more than distal half of vein *R*₃ atrophied; cell *1st M*₂

open by atrophy of basal section of M_3 , cell $2nd M_2$ shorter than its petiole (second section of M_{1-2}), $m-cu$ at fork of M ; vein Cu_2 originating beyond the arculus, conspicuously separated from Cu_1 ; cell $2nd A$ relatively narrow, prearcular field short.

Abdomen elongate; tergites dark brown, sternites paler brown. Ovipositor with cerci long, gently upcurved, tips subacute; hypovalvae shorter, tips narrowly acute.

Habitat: Nigeria. Holotype, ♀, Ngel Nyaki, North East State, 5,000 feet, March 31, 1970 (Medler); 40 miles south of Serti, Sardauna Province.

Although only the female sex is available I am referring the present fly to *Eupilaria* Alexander with little question. The present is the first record of the genus for Africa, the rather numerous other species being Oriental in distribution. Virtually all known members of the genus have vein R_3 entire and with cell $1st M_2$ closed. *Eupilaria taprobanica* Alexander and *E. thysanotos* Alexander, both of Ceylon, have the distal end of R_3 atrophied as in the present fly but have cell M_2 open by the atrophy of vein m .

Eriopterini

18. *Clydonodozus abyssinicus* sp. n.

Mesonotal praescutum orange yellow with four black stripes, remainder of thorax extensively blackened, scutellum yellow; femora with bases yellow, broadly blackened outwardly; wings light yellow, stigma scarcely differentiated, certain veins very narrowly seamed with brown; abdomen yellow, sternites with a virtually continuous black median stripe.

Male. — Length, about 14 mm.; wing, 13 mm. Rostrum light yellow, palpi broken. Antennae broken. Front yellow, vertex dark brown, sparsely golden yellow pollinose.

Pronotum yellow, scutum above broadly blackened. Mesonotal praescutum orange yellow with four black stripes, the intermediate pair narrowly separated by a capillary ground line, lateral stripes slightly broader; scutum orange yellow, each lobe with two transversely placed black spots, the inner ones only narrowly separated from one another at the midline, lateral spots extended forwards to connect with the lateral praescutal stripes; scutellum yellow, postnotum blackened, mediotergite with anterior half obscure yellow. Propleura and dorsopleural membrane yellow, mesepisternum brownish black, restrictedly yellowed anteriorly, more extensively so on ventral parts, pteropleurite black, light gray pruinose, metapleura and meron yellow. Halteres with stem yellow, knobs broken. Legs with coxae and trochanters yellow; femora yellow basally, broadly blackened outwardly, on middle

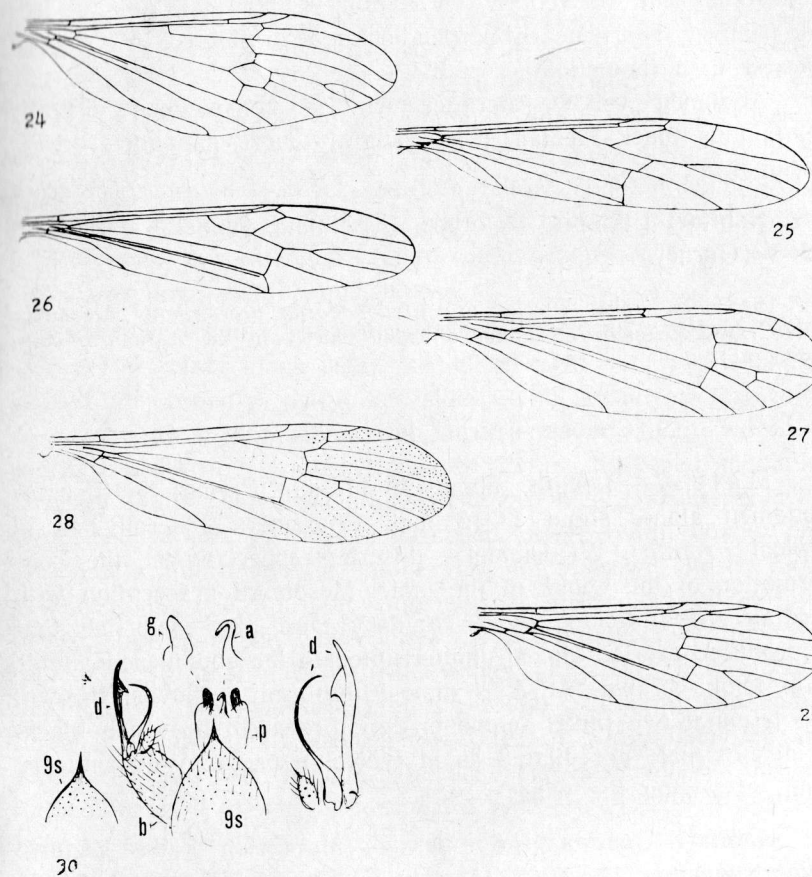


Fig. 24. *Clydonodozus abyssinicus* sp.n.; venation. — Fig. 25. *Trentepohlia (Trentepohlia) centrofusoides* sp.n.; venation. — Fig. 26. *Trentepohlia (Trentepohlia) estella* sp.n.; venation. — Fig. 27. *Gonomyia (Lipophleps) medleri* sp.n.; venation. — Fig. 28. *Trichotrimicra flavidella* sp.n.; venation. — Fig. 29. *Baeoura nigeriana* sp.n.; venation. — Fig. 30. *Gonomyia (Lipophleps) medleri* sp.n.; male hypopygium. — (Symbois: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; s, sternite).

legs including the outer three-fourths, on posterior pair more narrowly blackened (fore legs broken); tibiae light brown, tips narrowly blackened; tarsi black. Wings (Fig. 24) light yellow, prearcular and costal fields more saturated yellow, the color extended distally to the wing tip, stigma not or scarcely differentiated; certain veins very narrowly and indistinctly seamed with brown, slightly more evident on R_s , R_5 , Cu and $2nd A$. Macrotrichia present on costa, lacking on other veins excepting a single trichion

near outer end of vein R_5 . Venation: Costal cell not dilated; R_s relatively short, nearly perpendicular at origin; cell M_1 slightly shorter than its petiole.

Abdomen yellow, sternites with a conspicuous virtually continuous black median stripe, slightly more expanded at the sutures.

Habitat: Ethiopia. Holotype, ♂, Jimma, June 29 — July 1, 1965 (Gurney).

The most similar species are *Clydonodozus brevicellulus* Alexander and *C. pallidistigma* Alexander, differing chiefly in the distinctive coloration of the thorax and wings.

19. *Conosia irrorata intermedia* subsp. n.

Male. — Length, about 14-17 mm.; wing, 9-10 mm.; abdomen alone, about 11-13 mm. Characters generally as in typical *irrorata* (Wiedemann), differing especially in the conformation of the wings of the male. Mesonotal praescutum with median stripe divided by a capillary more darkened line that is produced caudad almost uninterrupted to the abdomen. Halteres with knobs brown. All legs almost uniformly yellowish brown, the terminal two tarsal segments dark brown to brownish black. Wings of male not dilated as in typical *irrorata*. Abdomen very long, exceeding the wing.

Habitat: Uganda. Holotype, ♂, Murchison Falls, Victoria Nile, November 18, 1964 (Marion E. Smith). Paratopotypes, 4 ♂♂, on three pins.

The present fly is almost intermediate in wing characters between *Conosia irrorata* (Wiedemann), with a vast distribution throughout the Palaeotropical regions, and *C. angustipennis* Alexander, of South Africa and Madagascar. Two further nominal Ethiopian members of the genus were described by Edwards (Ann. Mag. Nat. Hist., (10) 14: 333; 1934) from the small islands in the Gulf of Guinea, West Africa, these being *C. principalis* Edwards, from Principe, and *C. thomensis* Edwards, from Sao Thomé, each having been described from a single male specimen. The exact interrelationships of the various members of the genus *Conosia* remain in question since the male hypopygia of the species appear to show only slight differences. The outline of the wing of the male provides a character that appears to indicate that several distinct species are involved in the matter.

20. *Trentepohlia (Trentepohlia) centrofusoides* sp. n.

Mesonotum chiefly yellow with a broad brownish black central stripe, the sides and pleura yellow; wings light yellow with a continuous brown

longitudinal stripe extending from base of cell 2nd A to the apex, with additional darkened seams over vein R_3 and base of R_5 ; vein R_{3-4} long, R_3 erect; abdominal tergites medially dark brown, sides yellow, eighth segment blackened.

Male. — Length, about 6.5 mm.; wing, 6.3 mm. Rostrum and maxillary palpi brownish black, labial palpi pale. Antennae with scape brownish black, pedicel yellow (remainder broken). Head with anterior vertex light gray, the narrowed part between eyes carinate, this extended caudad to the occiput; posterior vertex obscure yellow, clearer on genae.

Cervical region brown. Pronotal scutum yellow, with conspicuous erect black setae, scutellum light yellow. Mesonotal praescutum broadly yellow on sides, with a narrow brownish black central stripe, at the suture widened to about twice its average width; posterior sclerites of notum darkened medially, laterally light yellow, including also the pleura. Halteres with stem yellow, knob weakly darkened. Legs with coxae and trochanters light yellow; femora very light brown, bases more yellowed, extreme tip more narrowly of this color; tibiae light brown, tips narrowly dark brown; basitarsi yellow, tips and remainder of tarsi dark brown. Wings (Fig. 25) with ground light yellow, more saturated in the costal, subcostal and radial fields involving about the anterior third of wing, including the veins; the narrower posterior border very pale yellow, the intermediate third of wing a continuous pale brown stripe extending from base of cell 2nd A to the wing tip, this color accentuated by the included darkened veins; conspicuous dark brown spots on basal third of R_s and a larger area on vein R_3 . Sparse scattered trichia on distal section of vein R_5 . Venation: R_{1-2} and R_2 short, subequal, the latter only about one-sixth R_{3-4} ; vein R_3 erect, gently curved; apical fusion of Cu_1 and 1st A short.

Abdominal tergites dark brown medially, narrower and darker on basal segments, lateral borders yellow, sternites more uniformly yellowed; eighth segment blackened to form a narrow ring; hypopygium brownish yellow.

Habitat: Ethiopia. Holotype, ♂, Jimma, July 2-3, 1965 (Gurney).

Trentepohlia (Trentepohlia) centrofusca Alexander and *T. (T.) mediofusca* Alexander, both from Madagascar, have a somewhat comparable wing pattern but are quite distinct from the present fly. This is closer to *centrofusca* from which it differs most evidently in the wing pattern, including the conspicuously darkened seams over veins R_3 and base of R_s .

21. *Trentepohlia (Trentepohlia) estella* sp. n.

General coloration of thoracic dorsum brown, sides yellowed; rostrum and labial palpi yellow; halteres brownish black, base of stem light yellow. Legs with femora light brown, apices abruptly white, tibiae and tarsi whitened; wings whitened, with a conspicuous brown pattern that includes areas at and before cord and on apical fourth of wing, both interrupted by ground markings; apical fusion of veins Cu_1 and $1st A$ punctiform; abdominal tergites brown, posterior borders and all of subterminal segments darker brown, basal sternites light yellow, their apices conspicuously dark brown.

Male. — Length, about 7.5 mm.; wing, 7 mm. Rostrum and labial palpi yellow, maxillary palpi black. Antennae relatively long; scape and pedicel dark brown, flagellum paler brown; segments elongate, exceeding their longest verticils. Head yellow; vertex narrow, carinate, extended posteriorly to the occiput.

Cervical region and pronotal scutum dark brown, scutellum and pretergites light yellow. Mesonotal praescutum with sides broadly yellow, disk with a broad central dark brown stripe, more expanded and diffuse at the suture; scutal lobes brown, median region only slightly paler; scutellum and mediotergite brown, parascutella, pleurotergite and pleura light yellow. Halteres brownish black, base of stem light yellow. Legs with all coxae and trochanters light yellow; femora light brown, slightly paler basally, apices abruptly white, tibiae and tarsi whitened; claws of male very small, simple. Wings (Fig. 26) whitened, with a conspicuous brown pattern that includes chiefly the apical fourth and a broad band at and before cord, both of these areas broken by ground markings; darkened apex includes center of cell R_3 , band at cord with a major ground area in cell R_1 before stigma and a more extensive whitening near outer ends of cells R and M ; a further narrow darkened line near bases of cells R and M , less distinctly continued to margin in cubital and anal cells; veins yellow in the ground, conspicuously darkened in the patterned areas. Venation: R_s arcuated, slightly longer than R_{2-3-4} or basal section of R_5 ; apical fusion of veins Cu_1 and $1st A$ at margin punctiform.

Abdominal tergites brown, basal segment and posterior ends of succeeding ones darker brown, subterminal segments more uniformly dark brown, hypopygium slightly paler; proximal sternites clear light yellow, apices conspicuously dark brown, outer sternites uniformly darkened.

Habitat: Uganda. Holotype, ♂, Fort Portal, 5,000 feet, November 25, 1964 (Marion E. Smith).

The species is named for Dr. Marion Estelle Smith, to whom I am indebted for many new and interesting species of Tipulidae from the Nearctic, Neotropical and Ethiopian regions. Dr. Smith is well known for her excellent studies on the biology of various groups of Diptera. The most similar regional species include *Trentepohlia (Trentepohlia) amantis* Alexander, of the Democratic Republic of Congo and Uganda; *T. (T.) fenestrata* Alexander, Uganda, and *T. (T.) perpicturata* Alexander, Cameroon, all being distinguished among themselves chiefly by the pattern of the legs and wings. The abruptly whitened tips of the femora in the present fly should be emphasized. A somewhat comparable condition is found in certain other species, including *T. (T.) larotypa* Alexander, Uganda, and *T. (T.) pomeroyi* Alexander, Nigeria, which in other characters are quite distinct from the present fly.

22. *Gonomyia (Lipophleps) medleri* sp. n.

Size small (wing of male about 3.2 mm.); rostrum and palpi black; mesonotum chiefly blackened, variegated with light yellow, especially the posterior border of the scutellum, pleura light brown with a yellow ventral stripe; halteres dark brown; femora brownish yellow with a darker brown nearly terminal ring, in cases the femora almost uniformly darkened; wings weakly infuscated, prearcular and costal fields light yellow, including the outer radial cells; abdomen black, posterior borders of tergites broadly light yellow, sternites more narrowly so; male hypopygium with three dististyles, the outermost a blackened rod, its mesal edge produced into a recurved flattened point; phallosome with blackened suboval apophyses, aedeagus crook-like; ninth sternite narrowed outwardly into a long slender blackened spine.

Male. — Length, about 3 mm.; wing, 3.2-3.3 mm. Female. — Length, about 4 mm.; wing, 3.4 mm. Rostrum and palpi black. Antennae brownish black, in male flagellar segments slender, the more proximal ones with the usual excessively long verticils. Head gray; eyes of male very large.

Pronotum above, pretergites and lateral praescutal borders clear light yellow. Mesonotum chiefly blackened, pruinose; extreme posterolateral borders of scutal lobe and broad posterior margins of scutellum clear light yellow, lateral areas of postnotum more obscure yellow. Pleura light brown with a conspicuous yellow ventral stripe that includes the fore coxae and dorsal sternopleurite and meron. Halteres dark brown, knob brownish black. Legs with coxae yellow, trochanters brownish yellow; femora brownish yellow with a darker brown nearly terminal ring, in cases the entire femur more uniformly darkened. Wings (Fig. 27) weakly darkened, prearcular and costal fields light yellow, including also cells R_1 , R_2 and R_3 ; stigma pale brown; base of R_s and anterior cord very restrictedly darkened, indicated chiefly by the darker veins; veins brown, slightly more yellowed in costal field. Longitudinal veins beyond cord chiefly with trichia,

lacking on Cu_1 and the veins comprising cell $1st M_2$. Venation: Sc short, Sc_1 ending shortly before origin of Rs , Sc_2 near its tip; cell R_3 present, vein R_3 suberect to erect; $m-cu$ at or close to fork of M .

Abdominal tergites conspicuously bicolored, black, posterior borders broadly light yellow, the sternites more narrowly of this color; hypopygium brownish yellow. Male hypopygium (Fig. 30) with three dististyles, d , the outer longest, appearing as a blackened rod, on mesal edge beyond midlength with a recurved flattened point; intermediate style about two-thirds as long, a slender gently curved blackened rod from a more dilated paler base, the tip acute; inner style small, oval, pale yellow. Phallosome, p , including two blackened suboval apophyses that subtend the crook-like aedeagus, a . What appears to be the ninth sternite, $9s$, is a large plate that narrows outwardly into a slender black spine.

Habitat: Nigeria. Holotype, ♂, Ile-Ife, August 11, 1969 (Medler). Allotopotype, ♀, pinned with type. Paratopotypes, several ♂ ♀.

The species is dedicated to the collector whose important work on the insects of Nigeria has been discussed in the introduction to the present paper. *Gonomyia (Lipophleps) medleri* is most similar to species such as *G. (L.) flavonotata* Alexander, *G. (L.) katangae* Alexander, and *G. (L.) liberiensis* Alexander, which differ among themselves chiefly in hypopygial characters. A further species, *G. (L.) sobrina* Alexander, of northern Nigeria, still is known to me only by the unique female type which differs from the present fly most evidently in the larger size and in details of coloration of the body and wings.

23. *Trichotrimicra flavidella* sp. n.

Size small (wing of female to 4.5 mm.); general coloration of head and thorax yellow; legs brownish yellow; wings pale brownish yellow, stigma vaguely more darkened, cells of outer half of wing with numerous pale macrotrichia.

Female. — Length, about 3.5-4 mm.; wing, 3.5-4.5 mm. Rostrum light yellow, palpi slightly darker. Antennae brown; verticils much longer than the segments. Head yellow.

Pronotum and pretergites clear light yellow. Mesonotal praescutum darker brownish yellow, the sides and posterior sclerites of notum, as well as the pleura, clear light yellow, the last with a barely indicated pale brown longitudinal darkening extending from above the fore coxae to beneath the halteres. Halteres yellow, in cases the knobs vaguely more darkened. Legs with coxae and trochanters light yellow, remainder of legs

brownish yellow; claws very small, yellow. Wings (Fig. 28) pale brownish yellow, prearcular field clear yellow, stigmal region vaguely more darkened; veins pale brown. Macrotrichia in cells of outer half of wing, more numerous in distal ends of cells (position indicated in figure by stippling). Venation: Sc_1 ending shortly before fork of Rs , Sc_2 slightly removed; R_2 slightly oblique, subequal to R_{2-3} ; cell $1st M_2$ small; $m-cu$ shortly before fork of M , in cases about to one-third its length; vein $2nd A$ straight.

Abdominal tergites brown, sternites and genital shield yellowed.

Habitat: Kenya. Holotype, ♀, Subukia, Nakuru District, Rift Valley Province, 6,400 feet, June 1948 (Hoogstraal). Paratopotypes, 5 ♀ ♀, on two pins.

The most similar regional species are *Trichotrimicra subnubila* (Alexander), of Kenya and Uganda, and *T. vanstraeleni* (Alexander), Democratic Republic of Congo and Kenya, readily told from the present fly by the brown coloration of the head and thorax.

24. *Baeoura nigeriana* sp. n.

General coloration of thorax gray, praescutum with four slightly more blackened stripes, lateral borders broadly more intensely blackened; antennae and legs black; wings pale brown, with alternating paler bands including the outer fourth, Rs shorter than R_3 ; R_{2-3-4} and basal section of R_5 short, subequal.

Female. — Length, about 3.8 mm.; wing, 4.5 mm. Rostrum blackened, palpi more intensely so. Antennae black throughout; proximal flagellar segments oval, the outer ones progressively more elongate. Head light gray.

Pronotum dark gray. Mesonotal praescutum restrictedly light gray with four slightly more blackened stripes, the sides behind the humeral region broadly more intensely blackened; posterior sclerites of notum light gray, scutal lobes darkened. Pleura blackened, sparsely pruinose; dorsopleural membrane infuscated. Halteres brown, including the large knobs. Legs with coxae blackened, sparsely pruinose, trochanters brown; remainder of legs black. Wings (Fig. 29) with the ground pale brown, including the proximal third and a broad band at cord, the area between the darkened bands and the outer fourth of wing broadly pale; veins brown. Venation: Rs moderately long, shorter than R_3 ; veins R_{2-3-4} and basal section of R_5 subequal, short; $m-cu$ at near midlength of M_{3-4} .

Abdomen uniformly dark brown. Ovipositor with all four primary valves very short and obtuse, the short lateral armature oval.

Habitat: Nigeria. Holotype, ♀, Ngel Nyaki, North East State, 5,000 feet, March 31, 1970 (Medler); in high forest.

Baeoura nigeriana is readily distinguished from all Ethiopian members of the genus by the patterned wings. In the previously cited paper on the Tipulidae, in South African Animal Life, vol. 10, pp. 407-410; 1964, by the writer, the approximately eight species hitherto made known are discussed in some detail. The present record is the first from tropical Africa, the vast majority of the known species being from the Oriental region.

25. *Erioptera subirrorata* Alexander

Erioptera subirrorata Alexander; Ann. Mag. Nat. Hist., (9) 6: 29; 1920.
Erioptera subirrorata Alexander; British Mus. Nat. Hist., Ruwenzori Expedition 1934-35, vol. 1, no. 7: 347; 1956.

Ethiopia: Jimma, June 29 — July 3, 1965 (Gurney).
Previously recorded from Kenya, Southern Rhodesia and Transvaal.

It is uncertain to me whether this is the same species as *Erioptera transmarina* Bergroth (Wien. Ent. Zeitg. 8: 115-116; 1889), described from Algeria where it was collected by Huguenin and was based on the female sex. It appears that the two species are similar and allied.

26. *Toxorhina (Ceratocheilus) lyrata* sp. n.

Allied to *cornigera*; thoracic pleura yellowed, with a dark brown dorsal stripe; wings cream-colored, with a conspicuous brown pattern that includes a common area extending from origin of R_s to tip of vein R_1 ; male hypopygium with aedeagus unusually large, lyriform, the stout arms with apices truncated, extended into acute points.

Male. — Length, excluding rostrum, about 4 mm.; wing, 4 mm. Rostrum brownish black, evidently very long (broken in unique type, the remaining portion about 2 mm.). Antennae with scape brown, enlarged; remainder of organ lacking. Head light gray, the corniculus yellow, entire; anterior vertex relatively broad, about twice the diameter of scape.

Cervical region brownish black. Thorax of type badly damaged, apparently chiefly yellowed, patterned with darker, including a conspicuous dark brown dorsal stripe on pleura, extended caudad to include the posterior third of mediotergite, ventral sternopleurite similarly darkened. Halteres broken. Legs with coxae and trochanters obscure yellow; remainder of legs chiefly light brown, the color produced in part by abundant setae. Wings

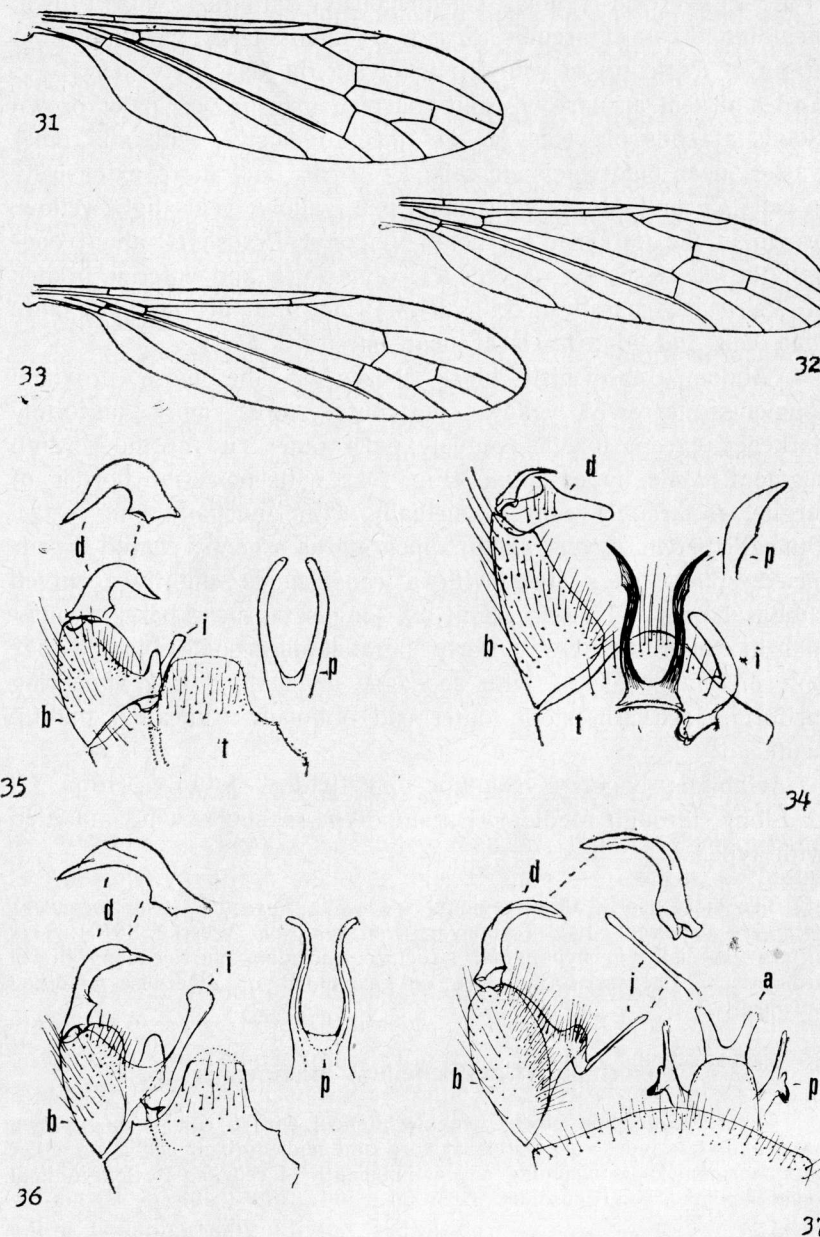


Fig. 31. *Toxorhina (Ceratocheilus) lyrata* sp.n.; venation. — Fig. 32. *Toxorhina (Ceratocheilus) pictipennis* sp.n.; venation. — Fig. 33. *Toxorhina (Toxorhina) stenomera* sp.n.; venation. — Fig. 34. *Toxorhina (Ceratocheilus) lyrata* sp.n.; male hypopygium. — Fig. 35. *Toxorhina (Toxorhina) grahami grahami* Alexander; male hypopygium. — Fig. 36. *Toxorhina (Toxorhina) grahami acutapez* subsp.n.; male hypopygium. — Fig. 37. *Toxorhina (Toxorhina) stenomera* sp.n.; hypopygium. — (S y m b o l s, Male hypopygium: a, aedeagus; b, basistyle; d, dististyle; i, interbase; p, phallosome; t, tergite).

(Fig. 31) cream yellow, conspicuously patterned with brown, including areas at arculus, Sc_2 , a common mark extending from origin of R_s to tip of vein R_1 , involving the base of vein R_{2-3-4} ; cord and vein m , narrowly but conspicuously brown; paler brown clouds at ends of veins M_3 to $2nd A$ inclusive, with still paler washes near outer ends of cells R_3 to M_1 and more extensively in cells Cu and $1st A$; wing apex pale yellow; veins light yellow, brown in the darkened portions. Venation: R_s short, about one-half the basal section of vein R_5 , veins R_{1-2} and anterior branch of R_s nearly parallel; cell $1st M_2$ long, about one-half more than cell $2nd M_2$; $m-cu$ at near one-third M_{3-4} .

Abdomen brownish black, bases of the more proximal segments narrowly yellow, the outer three more uniformly darkened except for the vaguely paler outer end of the seventh segment. Male hypopygium (Fig. 34) with posterior border of tergite, t , strongly convex, medially with unusually long setae. Outer dististyle, d , very small, appearing as a gently curved broad-based spine, inner style with a conspicuous slightly recurved subbasal point and with about six long setae near base of outer margin. Interbase, i , a nearly parallel-sided pale blade, apex obtuse. Phallosome, p , with aedeagus unusually large, appearing lyriform, each arm stout, outer end obliquely truncated, the tip acute.

Habitat: Nigeria. Holotype, ♂, Ibadan, July 26, 1966 (J. L. Libby, through Medler). Paratopotype, a single wing mounted with type.

The most nearly allied regional species is *Toxorhina (Ceratocheilus) cornigera* (Speiser), 1908 (synonym, *winn sampsoni* Wesche, 1910). This differs especially in hypopygial structure, including the slender filiform arms of the aedeagus that are not expanded or otherwise modified outwardly.

27. *Toxorhina (Ceratocheilus) pictipennis* sp. n.

General coloration black; wings whitened, with a conspicuous brown pattern that includes crossbands at cord and midlength of cell R , together with marginal spots including one at midlength of cell $2nd A$; longitudinal veins behind costa unusually glabrous.

Female. — Length, excluding rostrum, about 7 mm.; wing, 4.3 mm. Rostrum broken beyond base. Antennae with scape and pedicel black, flagellar enlargement slightly paler. Head gray, the cornicle large and swollen, directed cephalad.

Pronotum and cervical region black. Mesonotal praescutum chiefly covered by confluent black stripes, humeral region paler

gray; scutum and scutellum polished black, postnotum and pleura intensely dull black. Halteres black. Legs with coxae black, trochanters obscure yellow; remainder of legs dark brown. Wings (Fig. 32) whitened, with a conspicuous brown pattern that includes larger areas at arculus, nearly complete bands at near midlength of cell R and at cord, and further marks at end of vein R_3 , completely crossing the cell; still other spots at outer end of cell $1st M_2$, outer end of cell R_3 , and marginal markings at ends of veins, including also a conspicuous area at midlength of cell $2nd A$; veins pale brown, slightly darker in the patterned areas, Sc and R slightly paler. Veins unusually glabrous, including Sc and R , with a few trichia near outer ends of veins R_5 , M_{1-2} and M_3 . Venation: R_s short, about one-fourth the basal section of R_5 ; cell $1st M_2$ long, nearly equal to the veins beyond it.

Abdomen dull black.

Habitat: Nigeria. Holotype, ♀, Idanre, May 2, 1970 (Medler).

Toxorhina (Ceratocheilus) pictipennis is readily told from other regional species by the unusually conspicuous darkened wing pattern that forms crossbands and distinctive marginal spots at the ends of the veins and in cell $2nd A$. The most similar species is *Toxorhina (Ceratocheilus) edwardsi* (Alexander), which has the wing pattern quite distinct.

28. *Toxorhina (Toxorhina) grahami acutapex* subsp. n.

Male. — Length, excluding rostrum, about 4.5 mm.; wing, 3.8-3.9 mm.; rostrum, about 3 mm. Female. — Length, excluding rostrum, about 5-6 mm.; wing, 4-4.8 mm.; rostrum, about 3.8-4 mm.

General coloration as in typical *grahami*. Head and thorax light gray, the latter scarcely patterned. Knobs of halteres infuscated. Male hypopygium (Fig. 36) differs from that of typical *grahami* (Fig. 35) especially in the dististyles and interbase. In the present race attention is called to the dististyle, d , especially the gently curvature of the lower or concave margin and the extended apical point. The interbase, i , of the present race is more conspicuously dilated at apex.

Habitat: Nigeria. Holotype, ♂, Ile-Ife, April 21, 1969 (Medler). Allotopotype, ♀, pinned in copula with type. Paratopotypes, one ♂, May 25, 1969, one ♀, January 20, 1970. Paratype, ♀, Oweru, West State, July 20, 1969 (Medler).

29. *Toxorhina (Toxorhina) stenomera* sp. n.

General coloration of mesonotum dark brown, praescutum with three darker brown stripes; knobs of halteres darkened; wings weakly infuscated, outer veins with trichia; male hypopygium with interbase long and slender, its length more than ten times the diameter; lobe of mesal face of basistyle with very long coarse setae; dististyle single, strongly curved to the subacute tip; arms of aedeagus short and broad, the length about four to five times the diameter at base.

Male. — Length, excluding rostrum, about 6.3-6.5 mm.; wing, 5.5-6 mm.; rostrum, about 3.8-4 mm. Female. — Length, excluding rostrum, about 6.8-7 mm.; wing, 6.5-7 mm.; rostrum, about 4.8-5 mm. Rostrum about two-thirds the remainder of body, black. Antennae black. Head dark brown, sparsely pruinose.

Cervical region black, pronotum dark brown. Mesonotal praescutum with ground brownish gray, sides pale gray, disk with three darker brown stripes; posterior sclerites of notum dark brown to brownish black, sparsely pruinose, central region of scutum light brown. Propleura brown, remainder of pleura and the pleurotergite blackened, sparsely pruinose. Halteres with stem dirty white, base obscure orange, apex of knob brown. Legs with coxae brownish black, pruinose; trochanters obscure yellow; femora brown, paler basally, remainder of legs dark brown to brownish black. Wings (Fig. 33) weakly darkened, extreme base more yellowed, including the veins, the remaining veins conspicuously dark brown. Anterior longitudinal veins beyond general level of origin of *Rs* with trichia, including *Rs* and *R₅*, together with *M₃* and two outer sections of *M₁₋₂*; trichia black, conspicuous. Venation: *Sc₁* ending shortly beyond origin of *Rs*; *m-cu* before fork of *M*.

Abdominal tergites and hypopygium dark brown, sternites in cases more yellowed with narrowly darkened sides; ovipositor chiefly yellow. Male hypopygium (Fig. 37) with lobe of mesal face of basistyle, *b*, with very long coarse blackened setae, the similarly abundant setae on mesal face of style somewhat paler and more slender; interbase, *i*, dilated at base, thence strongly bent and extended into a slender rod, tip not dilated but obtuse, the length of rod exceeding ten times its diameter. Dististyle, *d*, yellow, single, terminal in position, curved strongly to the subacute apex, on face with a low flange. Aedeagus, *a*, with arms short and broad, the length about four to five times the basal diameter.

Habitat: Tanzania (Tanganyika). Holotype, ♂, Marungu, Kilimandjaro, 6,000 feet, October 25, 1964 (Marion E. Smith).

Allotopotype, ♀, pinned with type. Paratopotypes, 1 ♂, 1 ♀, on a single pin.

Other African species of the typical subgenus that have a single dististyle on the hypopygium include *Toxorhina (Toxorhina) cuthbertsoni* Alexander, of South Africa, *T. (T.) grahami* (Wesche), West Africa, and *T. (T.) tonkouiana* Alexander, West Africa. All of these differ in hypopygial characters, especially in the interbase and mesal lobe of the basistyle. The unusually long and slender interbase has suggested the specific name for the present fly.

30. *Styrgomyia acuapicalis* sp. n.

Size small (wing of male less than 4 mm.); general coloration of body light yellow, posterior borders of abdominal tergites very narrowly light brown; legs yellow, fore and middle femora restrictedly ringed with darker, posterior pair unpatterned; wings yellow with a very limited darkened pattern, vein *2nd A* curved to margin; male hypopygium with inner arm of dististyle an oval flattened blade, its apex produced into an acute blackened spine; phallosome including two powerful black lateral spines and two broader flattened plates.

Male. — Length, about 6 mm.; wing, 3.8 mm. Rostrum and palpi yellowed. Antennae yellow, scape and pedicel only slightly darker. Head yellowed.

Thorax entirely light yellow. Halteres obscure yellow. Legs yellow, fore and middle femora with a very pale brown incomplete ring on upper surface only, posterior legs unpatterned. Wings yellow, darkened pattern very restricted; veins yellow, *r-m*, *m-cu* and outer end of cell *1st M₂* brown; vein *2nd A* curved to margin, without a spur, tip not darkened.

Abdomen yellow, posterior borders of tergites very narrowly light brown, narrowly interrupted at midline. Male hypopygium (Fig. 39) with apical lobe of tergite, *t*, broad; sternite, *s*, narrow, apical modified setae relatively small, separated from one another by a distance about equal to the diameter of a single puncture, apex of sternite slightly produced beyond the setae. Dististyle, *d*, with outer lobe long and slender, setae sparse and inconspicuous; intermediate two arms with blackened spinoid pegs about as shown, those of outer lobe about 30 in number, of the inner fewer, about 20, placed on outer margin; innermost arm an oval flattened blade, its apex produced into an acute black spine. Phallosome, *p*, distinctive, including two powerful divergent black lateral spines and two broader blackened plates, their posterior apices weakly toothed; apex of phallosome heavily blackened, apparently trifid, as shown, the central point smaller.

Habitat: Nigeria. Holotype, ♂, Ile-Ife, June 20, 1970 (Medler).

By my key to the Tropical African members of the genus earlier cited (Ruwenzori Report, 1956, pp. 370-373) the present fly runs to couplet 27 that includes *Styringomyia dendroides* Alexander and *S. schoutedeni* Alexander. It differs from these and all other generally similar regional species in hypopygial structure.

31. *Styringomyia medleriana* sp. n.

General coloration of mesonotum dark brown, pleura yellowed; wings yellow (conspicuously patterned with brown, vein *2nd A* angulated and long-spurred near apex; male hypopygium with basistyle bispinous; dististyle with outer arm darkened, more thickened before midlength, with about 10 blackened spinoid pegs; inner arms blackened, short and compact, with rows of blackened pegs; phallosome blackened, including an outer group of three strong spines and a stouter more basal black rod.

Male. — Length, about 7.5 mm.; wing, 5 mm. Described from the type mounted on microscope slide. Rostrum light brown; palpi with proximal three segments brown, their bases vaguely paler, terminal segment pale yellow, nearly as long as the combined preceding two. Antennae with scape yellowed beneath, brown above, pedicel dark brown, flagellum light yellow. Head chiefly brownish yellow, darker posteriorly.

Pronotum brown. Mesonotum chiefly dark brown, variegated by yellow at and near suture, pleura chiefly yellow, restrictedly more darkened above. Halteres broken. Legs with coxae and trochanters yellow; remainder broken. Wings (Fig. 38) very pale yellow, conspicuously patterned with brown, including more evident areas over anterior cord, including virtually all of vein *R*₂₋₃, outer end of cell *1st M*₂ and the fork of vein *2nd A*, the color extensively involving the membrane as well as the veins; more restricted darkenings on *m-cu*, fork of *M*₃₋₄, with still paler marks at ends of veins *R*₄₋₅ and veins *M*₂ to *1st A* inclusive; veins yellow, brown in the more heavily darkened parts. Venation: *R*₂₋₃ slightly oblique, longer than basal section of *R*₄₋₅, distal fourth pale; cell *2nd M*₂ narrowly sessile, *m-cu* at near midlength of *M*₃₋₄; vein *2nd A* near apex bent at virtually a right angle, long-spurred.

Abdomen with tergites yellow, each with paired darkenings at posterior border, those on segments six and seven more extensive and with further central darkening extending almost to base of segment; sternites and hypopygium yellow. Male hypopygium (Fig. 40) with apical tergal lobe, *t*, elongate, about one-half longer than its diameter across base, narrowed outwardly, apex

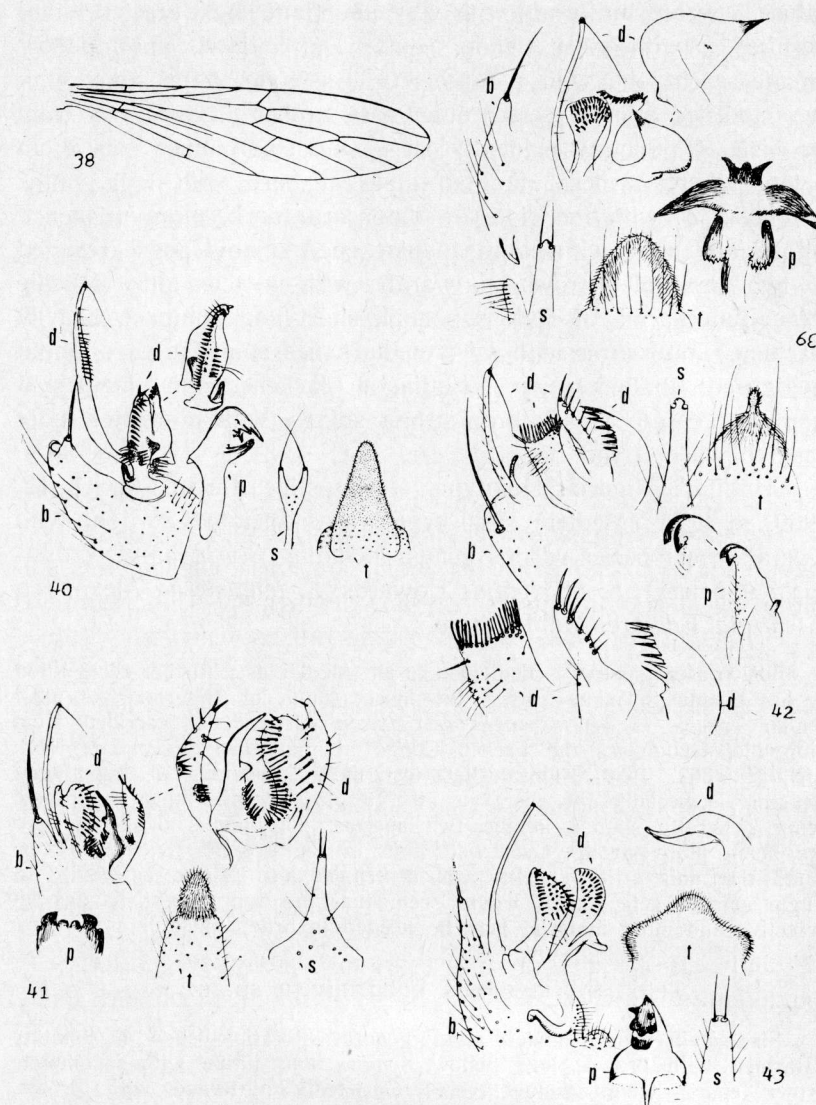


Fig. 38. *Styringomyia medleriana* sp.n.; venation. — Fig. 39. *Styringomyia acuapicalis* sp.n.; male hypopygium. — Fig. 40. *Styringomyia medleriana* sp.n.; male hypopygium. — Fig. 41. *Styringomyia quadrivisa* sp.n.; male hypopygium. — Fig. 42. *Styringomyia sessilis* sp.n.; male hypopygium. — Fig. 43. *Styringomyia trilobula* sp.n.; male hypopygium. — (Symbols: *b*, basistyle; *d*, dististyle; *i*, interbase; *p*, phallosome; *s*, sternite; *t*, tergite).

obtuse, covered uniformly with very abundant short erect setulae; sternite, *s*, with stem slender, outer end dilated, apex deeply furcate, each lobe with a long seta. Basistyle, *b*, at apex with two modified spinoid setae, outer seta broken in type but from the size of puncture evidently large, the small inner seta from a low tubercle; mesal face of style at base with long setae. Dististyle, *d*, with the elongate outer arm dark, more thickened before midlength, with about 16 blackened spinoid pegs arranged in two incomplete rows, outwardly with a few long delicate setae; inner arms of style subequal, short and compact, heavily blackened, both arms with rows of blackened spinelike pegs, about as figured. Phallosome, *p*, including a blackened outer mass that is produced into about three strong spines, with a stouter more basal blackened rod.

Habitat: Nigeria. Holotype, ♂, on slide, Ile-Ife, March 12, 1969, at light (Medler). The type was associated at light with several other species of this genus, including *Styringomyia crassica* (Speiser), *S. nigripalpis* Edwards, *S. tenuisterna* Alexander, *S. vittata* Edwards, and others.

The present species is dedicated to Dr. Medler as a further recognition of his efforts to make known the insect fauna of Nigeria. The most similar species is *Styringomyia serristylata* Alexander (described from Libreville, Gabon, as the French Congo at that time; Rev. Zool. Bot. Afr., 19: 362; 1930). This differs especially in details of hypopygial structure, especially the dististyle, the tergite, sternite and phallosome being generally similar in the two species. The wings of *serristylata* are much more strongly yellowed than in the present fly. It may be noted that this latter species was described and figured as having a single spinoid seta but it would seem that the type might have been defective and more material may be needed in order to settle this point.

32. *Styringomyia quadridivisa* sp. n.

Size small (wing of male 4 mm.); general coloration yellow, mesonotum patterned with brown; legs yellow, femora and tibiae with incomplete brown rings; wings yellow, very restrictedly patterned with brown, including marks on anterior cord, *m* and the posterior end of *m-cu*, vein *2nd A* curved strongly to the margin; abdomen yellow, tergites narrowly darkened posteriorly; male hypopygium with tergite terminating in a cushion that is densely covered with yellow setulae; sternite with outer end long and pale, basal punctures of terminal modified setae contiguous.

Male. — Length, about 6 mm.; wing, 4 mm. Female. — Length, about 4.5 mm.; wing, 3 mm. Types mounted on microscope slide. Rostrum yellow, palpi brown, the bases of segments narrowly yellowed. Antennae with scape brown, paler beneath, pedicel brown, flagellum yellow. Head yellow, anterior vertex darker.

Thorax chiefly yellow, mesonotum patterned with brown, especially evident on pronotum and postnotum. Pleura more uniformly yellowed, posterior spiracle encircled by brown. Legs with coxae and trochanters yellow; femora yellow, each dorsally with two incomplete brown rings; tibiae similar, apex and a subterminal ring at near one-third the length brown; tarsi yellow, terminal segment brown; posterior femur of male on lower face at apex with a compact group of about eight strong slightly curved spinoid setae, the longest one nearly straight. Wings yellow, very restrictedly patterned with brown, including the anterior cord, especially *r-m*, and less evidently on *m* and posterior end of *m-cu*, the areas only slightly involving the membrane; veins yellow excepting the darkened parts described. Venation: Cell *2nd M₂* narrowly to more broadly sessile; vein *2nd A* curved strongly to the margin.

Abdomen yellow, tergites darkened posteriorly, narrowest on the intermediate segments, more extensive on subterminal ones, sternites and hypopygium yellowed. Ovipositor with cerci only slightly darkened at the obtuse apices. Male hypopygium (Fig. 41) with the tergite, *t*, terminating in a cushion, the setulae of distal third directed outwardly, those of the more dilated base directed basad. Sternite, *s*, with outer end long and pale, basal punctures of terminal setae contiguous. Spine of basistyle, *b*, single. Dististyle, *d*, with inner mass compact, the distribution of spinoid setae about as shown. Phallosome, *p*, appearing as a blackened mass, the individual components difficult to determine in the material available.

Habitat: Nigeria. Holotype, ♂ on slide, Ile-Ife, June 20, 1970 (Medler). Allotopotype, ♀, with the male. Paratopotypes, ♂ ♀, on a single pin.

By my key to the Tropical African species of *Styringomyia* cited earlier in this paper, the present fly runs to couplet 27 that includes *Styringomyia dendroides* Alexander and *S. schoutedeni* Alexander, from which, and from *S. acuapicalis* sp. n., it differs conspicuously in hypopygial characters and less evidently in details of coloration. Other somewhat similar species include *S. impunctata* Edwards and *S. subimmaculata* Alexander.

33. *Styringomyia sessilis* sp. n.

General coloration of thorax yellow, patterned with brown, the ventral pleura clear light yellow; femora yellow, with two broad brown annuli; wings weakly suffused, with a darker brown cloud at *r-m*, vein

2nd A curved to margin; abdominal tergites light brown; male hypopygium with the modified spinoid seta of basistyle sessile; dististyle with setae of outer arm delicate, inner three arms with conspicuous armature, the innermost with this appearing as spines, the others as spinoid setae; tergite terminating in a setiferous cushion that narrows outwardly to a slender lobe; sternite long and narrow, the terminal setigerous punctures narrowly separated.

Male. — Length, about 6.5 mm.; wing, 4.2 mm. Female. — Length, about 4 mm.; wing, 4.2 mm. Rostrum and palpi black. Antennae with scape obscure yellow beneath, brownish black above, pedicel black; flagellum obscure yellow, outer segments slightly more darkened. Head light brownish yellow.

Pronotum yellow, narrowly bordered by brownish black. Mesonotal praescutum chiefly obscure yellow, the stripes vaguely delimited by pale brown; scutum obscure yellow, scutellum brownish black with a narrow yellow central line, parascutella obscure yellow; mediotergite brown, very narrowly more yellowed at midline, pleurotergite yellowed. Pleura above narrowly light brown, including the dorsopleural membrane, ventral region, including the coxae and trochanters, abruptly clear light yellow. Halteres brown. Legs with basal segments as described; femora yellow with two broad brown annuli, these nearly as extensive as the separating yellow ring; tibiae yellow, tips narrowly brownish black, with a vague paler ring just before midlength; tarsi pale yellow, tips of fore and middle pairs brown, terminal segment dark brown; posterior tarsi short. Wings with a weak brown suffusion, slightly darker in female, in male the proximal fourth slightly more yellowed; a distinct darker brown cloud at *r-m*, involving the membrane; veins brown, distinct. Costal fringe relatively long. Venation: Cell *2nd M₂* sessile; vein *2nd A* curved to margin.

Abdominal tergites and hypopygium almost uniformly light brown, the incisures very narrowly darker, sternites slightly more yellowed. Male hypopygium (Fig. 42) with the tergite, *t*, terminating in a cushion that narrows to a slender lobe, the entire surface with abundant long yellow setae, the more basal ones directed cephalad. Sternite, *s*, long and narrow, the two terminal setigerous punctures separated by a distance about equal to their own diameter (their spinoid setae broken in type). Basistyle, *b*, with the usual modified spinoid seta sessile, not on a basal lobe as usual in the genus, the seta unusually long, subequal in length to the outer arm of dististyle. Dististyle, *d*, about as figured; outer arm with delicate setae only, at base

with a slender fingerlike lobe; three inner lobes darkened and conspicuous, the outermost more flattened, apex gently concave, with about a score of strong spinoid setae, with additional delicate normal setae more basal; intermediate arm longer and more slender, with eight spinoid setae, the outermost larger; inner arm broad at base, narrowed outwardly, the margin with ten strong black spines (not spinoid setae). Phallosome, *p*, unusually long and slender, terminating in two paired blackened hooks, their basal stem with a small fingerlike lobule.

Habitat: Nigeria. Holotype, ♂, Ile-Ife, June 20, 1970 (Medler). Allotopotype, ♀, with type.

Among the numerous regional species of the genus, only *Styringomyia sjoestedti* Edwards, of Cameroon, agrees with the present fly in the hypopygial character of having the basistyle with the major spinoid seta sessile. All other species have from one to three such setae, in all cases placed at the apex of a conspicuous basal tubercle. In other respects, including hypopygial details, the present species is quite distinct from *sjoestedti*.

34. *Styringomyia trilobula* sp. n.

General coloration of head and thorax almost uniformly yellowed, posterior ends of abdominal tergites restrictedly darkened; legs whitened, without darkened annuli; wings restrictedly patterned with brown, including marks on *r-m*, *m* and distal end of *2nd A*, the color virtually restricted to the veins, anterior branch of *Rs* not darkened; male hypopygium with posterior end of tergite trilobed, all lobes obtusely rounded and with abundant delicate setulae.

Male. — Length, about 6.5 mm.; wing, 4.5 mm. Described from type mounted on microscope slide. Rostrum yellowed, palpi slightly darker. Antennae with scape and pedicel light brown, flagellum yellow, the segments with long black setae. Head chiefly yellowed.

Thorax of type almost uniformly yellowed. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs whitened, without darkened annuli as in other species (both posterior legs preserved, the others broken). Wings faintly yellowed, restrictedly patterned with brown, including *r-m*, *m*, and distal end of vein *2nd A*, the color virtually restricted to the veins, anterior branch of *Rs* not darkened. Venation: Cell *2nd M₂* narrowly sessile; vein *2nd A* near apex angulated and short-spurred.

Abdomen yellow, posterior ends of tergites with two narrowly separated darkenings. Male hypopygium (Fig. 43) with tergite,

t, large, posterior end trilobed, all lobes obtusely rounded and provided with abundant delicate setulae; sternite, *s*, with outer end relatively narrow, setae terminal, slender, their punctures very slightly separated. Basistyle, *b*, with a single terminal seta (broken beyond puncture). Dististyle, *d*, with outer arm long and very slender; intermediate arms appearing as flattened blades, the numerous blackened peglike setae arranged about as shown; inner style with a strong lateral lobe or blade, shaped about as shown in figure and subfigure. Phallosome, *p*, with outer mass heavily blackened, short-spinous, cephalic border with smaller lateral points and a central extension.

Habitat: Nigeria. Holotype, ♂ on slide, Ile-Ife, March 12, 1969 (Medler).

Other African species of the genus that have the apex of the ninth tergite of the hypopygium trilobed include *Styringomyia annulipes* (Enderlein), *S. liberiensis* Alexander, *S. lineaticeps* Edwards, and *S. occidentalis* Edwards, all with this structure quite different from the condition in the present fly. The uniformly pale legs likewise differ from those of other regional members of the genus with the exception of *S. schoutedeni* Alexander, which has the tergite and dististyle quite distinct.