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# RECORDS AND DESCRIPTIONS OF TROPICAL AFRICAN CRANE-FLIES

## (TIPULIDAE, DIPTERA)

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## PART III.

The earlier parts under this general title appeared in the *Revue Zoologique Africaine*, volume XI, in 1923. The species discussed at this time are all from the Cameroun where they were collected by my friend, the Rev. Jacob A. Reis. Certain of these species were included in material that had been sent to the Carnegie Museum and were re-distributed to me through the kind interest of Mr. Hugo Kahl. The types of these species are indicated in the text as being in the collection of the Carnegie Museum, the remaining material being preserved in my collection through the kindness of Mr. Reis. In continuation of the writer's attempt to key the various genera in the Ethiopian fauna, a consideration of the involved genus *Trentepohlia* is given in this paper.

### LIMONIINAE.

#### Genus **LIMONIA** Meigen.

**Limonia holotricha**, sp. n.

General coloration dark brown, the praescutal stripes paler, reddish brown; legs dark brown, the apices of the tibiae and the tarsi

obscure yellow; wings dark brown, the surface with abundant macrotrichiae; *Sc* long; *r* long, arcuated; male hypopygium with the rostral spine of the dististyle single.

*Male.* — Length about 8.5 mm.; wing 10.2 mm.

Rostrum very short, brown; palpi dark brown. Antennae dark brown throughout; basal flagellar segments subglobular, with short apical pedicels; subterminal segments passing into oval, the terminal segments elongate. Head brown, the posterior vertex more suffused with yellowish; anterior vertex relatively broad, wider than the first scapal segment.

Pronotum dark brown. Mesonotal praescutum dark brown with the usual stripes paler, light reddish brown; scutal lobes reddish brown, the remainder dark brown; scutellum and postnotum dark brown, the posterior half of the mediotergite of the latter passing into obscure yellow. Pleura shiny dark brown, indistinctly variegated with paler areas. Halteres dark brown, the extreme base of the stem indistinctly paler. Legs with the coxae and trochanters brown; femora dark brown, the bases narrowly obscure yellow; tibiae dark brown, the tips fading into obscure yellow, broadest and more brightly colored on the posterior tibiae where approximately the distal half is involved; tarsi obscure yellow, the terminal two segments infuscated; claws long, slender, each with an acute basal spine. Wings (Fig. 1) with a strong brown tinge, the costal and apical region in the radial field more suffused; stigma lacking; veins dark brown. Abundant conspicuous macrotrichiae in all the cells of the wing except the bases of cells *R*, *M*, *Cu*, 1*st A* and 2*nd A*, and the basal half of cell *Sc*. Venation : *Sc* elongate, *Sc*1 ending about opposite two-thirds *Rs*, *Sc*2 close to its tip ; *Rs* long, angulated and spurred at origin; *r* long, arcuated; basal deflection of *R*4 + 5 very short; cell 1*st M*2 elongate-rectangular, nearly as long as the longest vein issuing from it; *m-cu* gently sinuous, placed shortly beyond the fork of *M*.

Abdominal tergites dark brown, the basal sternites a little paler; hypopygium dark brown. Male hypopygium (Fig. 2) with the ninth tergite short and broad, the caudal margin subtransverse to feebly emarginate, on either side of the median area with a group of about 15 conspicuous setae. Basistyle (b) conspicuously setiferous, the ventro-mesal lobe large, densely setiferous. Ventral dististyle (vd) sub-

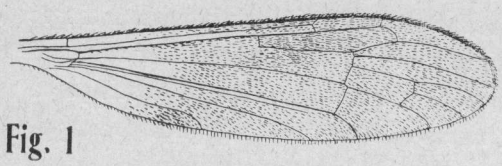

Fig. 1

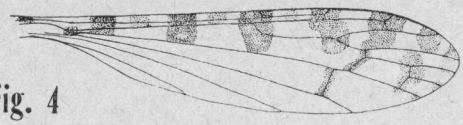

Fig. 4

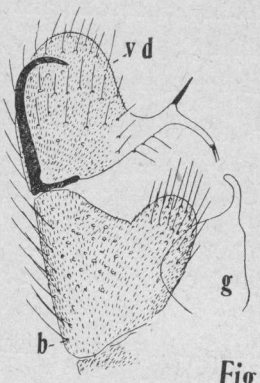


Fig. 2

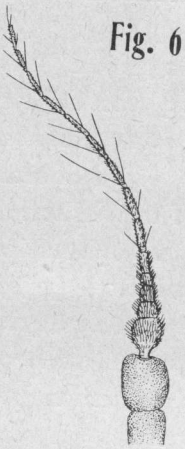

Fig. 6

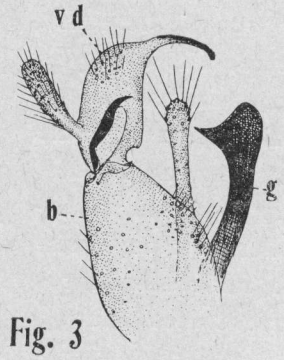


Fig. 3

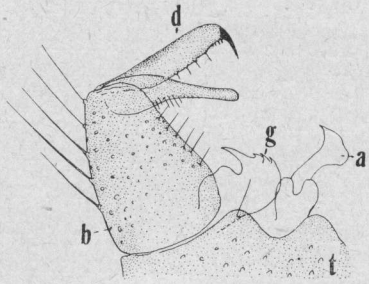


Fig. 8

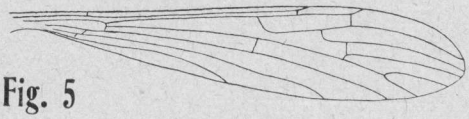

Fig. 5

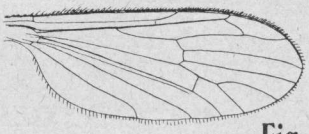

Fig. 7

Explication of Symbols : a = ædeagus; b = basistyle; d = outer dististyle; g = gonapophyse; t = 9 th tergite; v d = ventral distityle.

Fig. 1. — Wing of *Limonia holotricha*, sp. n.
Fig. 2. — Male hypogygium of *L. holotricha*.
Fig. 3. — Male hypogygium of *L. mendica* (Alexander).
Fig. 4. — Wing of *Geranomyia ornatrix*, sp. n.
Fig. 5. — Wing of *Orimarga monilis*, sp. n.
Fig. 6. — Antenna of *Xenolimnobia camerounensis*, g. et sp. n.
Fig. 7. — Wing of *X. camerounensis*.
Fig. 8. — Male hypogygium of *X. camerounensis*.

oval, fleshy, a little smaller than the basistyle, the mesal face produced into a long, yellow, glabrous rostrum, near midlength with a single powerful black spine from a slightly elevated base; apex of rostrum slightly curved, the tip with two or three setae. Dorsal dististyle a slender, curved rod, gradually narrowed to the acute tip. Gonapophyses (g) broadly flattened, the apex slender, gently curved.

*Hab.* Cameroun.

*Holotype*, ♂, Nsi-Monden, July 31, 1923 (J. A. REIS).

**Limonia mendica** (ALEXANDER).

1921 *Dicranomyia mendica* ALEXANDER; Ann. Mag. Nat. Hist., (9) 8 : 164.

A male and a female, Edea, Cameroun, May 20, 1924 (J. A. REIS). The male hypopygium is of very peculiar structure. The basistyles (Fig. 3, b) moderately stout, the setae sparse and comparatively short; on the mesal face with scattered groups of setae of different sizes; the lobe on the ventro-mesal face of the basistyle very long and slender, cylindrical, tipped with elongate setae. Dorsal dististyle a small, blackened rod, the tip acute. Ventral dististyle (vd) smaller than the basistyle, on the outer face near base with a pale clavate fleshy lobe that is covered with long setae; apex of the style produced mesad into a slender arm, narrowed to the apex which is blackened and microscopically roughened. Gonapophyses (g) very long and powerful, blackened, the stem slender, the apex expanded into a head, the lateral angle of which is further produced into an acute point.

## Genus **GERANOMYIA** HALIDAY.

**Geranomyia ornatrix**, sp. n.

General coloration dark brownish gray; legs brownish black; wings greyish subhyaline, with a handsome brown costal pattern, the major blotches alternating with small paler areas that are confined to the costal and subcostal cells; *Sc* long; cell 1*st M*2 lying far distad, the veins beyond it shorter than the cell; *m-cu* before the fork of *M*.

*Female.* — Length (excluding rostrum) about 4.8 mm.; wing 6 mm.; rostrum alone 2.4 mm.

Rostrum moderately long, brownish black throughout; palpi concolorous, apparently 2-segmented. Antennae black throughout; flagellar segments oval. Head dark grayish brown, the very narrow anterior vertex more silvery.

Pronotum brownish gray. Mesonotum dark brownish gray, without markings. Pleura conspicuously light gray pruinose, the sternopleurite and a vague more dorsal longitudinal stripe somewhat darker. Halteres with the knobs dark brown, the base of the knobs and apices of the stems a little paler, stems dark brown, the base obscure yellow. Legs with the coxae and trochanters light brown; femora brownish black, paler at extreme base; tibiae and tarsi brownish black. Wings (Fig. 4) grayish subhyaline, with a handsome brown pattern that is in part slightly ocelliform; a prearcular brown spot; six irregularly rectangular brown areas along the costal margin, the first immediately beyond *h*, the third at the origin of *Rs*, the second at mid-distance between these two; the above three areas extend from costa to media; a larger and more irregular blotch at end of *Sc*1, extending from costa across the fork of *Rs* into cell *R*; blotches two and three have vaguely pale centers that are confined to cell *R*; alternating with the four major markings described are paler grayish brown clouds that occupy cells *C* and *Sc* only; beyond the cord the brown pattern is more extensive and irregular; a conspicuous stigmal area at the end of *R*1 crosses cell *R*3 near its base and follows along the cord as a narrow seam; a blotch at end of vein *R*2+3 is barely connected with a slightly larger spot in cell *R*5 near mid-length and along the outer end of cell 1*st M*2; a subapical blotch, heavier in cell *R*3, becoming paler in cells *R*5 and 2*nd M*2; veins dark brown, the distal portion of costa more incrassated and colored yellow and dark brown, alternately. Venation: *Sc* long, *Sc*1 extending to shortly before the fork of *Rs*, *Sc*2 at its tip; *Rs* elongate, arcuated; cell 1*st M*2 very large, longer than any of the veins issuing from it; *m-cu* about one-half its length before the fork of *M*, subequal to the distal section of *Cu*1; cell 2*nd A* narrow.

Abdomen black, the basal segments a little variegated with paler. Ovipositor with the bases of the valves blackened, the valves themselves testaceous horn-color; sternal valves short and stout; tergal valves slender, the tips obtuse.

*Hab.* Cameroun.

*Holotype*, ♀, Mo Tyan, August 14, 1923 (J. A. Reis).

The only other Ethiopian *Geranomyia* with a wing-pattern of the nature of *G. ornatrix* is *G. sex-ocellata* Alexander of Cape Colony. In the latter species, the markings are much larger, with pale centers that encroach upon cells *Sc* and *C*; the alternate paler blotches are nearly obsolete, being represented only by vague clouds in cell *Sc* between the first and second and the second and third major areas; dark spots present at the ends of the Anal veins.

## Genus **ORIMARGA** Osten Sacken.

**Orimarga monilis**, sp. n.

General coloration reddish brown; antennae moniliform; wings subhyaline, the stigma lacking; *Sc* long; *Rs* strongly angulated at origin; *r* near tip of *R*1, lying slightly farther distad than *r-m*; *m-cu* opposite origin of *Rs*.

*Female.* — Length about 4 mm.; wing 4.7 mm.

Rostrum reddish brown, the palpi a little darker. Antennae pale brown throughout, moniliform, the segments subglobular, the terminal segment a trifle larger than the penultimate. Head dark brown.

Thorax reddish brown, discolored in the type. Halteres broken. Legs with the coxae and trochanters reddish brown; femora reddish brown, the remainder of the legs paler. Wings (Fig. 5) subhyaline, the stigma obsolete; veins pale brown. Venation : *Sc*1 ending shortly before the fork of *Rs*, *Sc*2 a short distance from its tip; *Rs* very strongly angulated at origin; *r* about its own length from the tip of *R*1 and on *R*2+3 at near one-fifth the length; terminal section of *R*2+3 bent gradually toward the wing-tip; basal deflection of *R*4+5 strongly angulated; *r-m* lying immediately proximad of the level of *r*; petiole of cell *M*3 a trifle shorter than the cell; *m-cu* opposite the origin of *Rs*.

Abdomen reddish brown, the pleural region narrowly darker. Ovipositor with the valves short and stout, the tergal valves gently upcurved to the acute tips.

*Hab.* Cameroun.

*Holotype*, ♀, Nsin Monden, July 31, 1923 (J. A. Reis).

*Orimarga monilis* is the first species of the genus to be described from the African continent. It differs from the Seychelles *O. scotti* Edwards and Aldabran *O. fryeri* Edwards in the venation, as the relative positions of cross-veins *r* and *r-m*, the length of the basal deflection of *R*4+5 and the length of cell *M*3 in relation to its petiole.

## XENOLIMNOBIA, g. n.

Antennae (Fig. 6) with the scapal segments enlarged, especially the second; flagellum abruptly smaller than the scape; basal four flagellar segments short and crowded, the first largest, narrowed at base, these basal flagellar segments densely covered with coarse white setae; beyond the fourth the flagellar segments pass into elongate-cylindrical and are provided with very long verticils in addition to the shorter and more sparse pale setae. Thorax without tuberculate pits or pseudosutural foveae. Middle and posterior coxae approximated, the meron small. Tibiae unspurred; tarsal claws long, slender. Wings (Fig. 7) broad; *Sc* of moderate length, *Sc*1 extending to about opposite the fork of *Rs*, *Sc*2 relatively indistinct, removed to a short distance from the tip of *Sc*1, the latter alone a little shorter than *m-cu*; *Rs* relatively short and straight, shorter than *R*2+3; *R*2+3 long, straight, much longer than *R*3 alone; what appears to be the composite *r* and base of *R*2 is a long, gently sinuous vein placed almost at the tip of *R*1, the caudal end of the vein lying slightly farther distad than the cephalic end; inner ends of cells *R*3, *R*5 and 1*st M*2 in alignment; cell *M*1 lacking; cell 1*st M*2 open by the atrophy of *m*; *m-cu* near mid-length of vein *M*3+4; cell *M*3 wide, more than twice the length of its petiole; the semiatrophied *Cu*2 distinct to opposite *m-cu*; Anal veins long, vein 2*nd A* nearly straight to near its outer end. Trichiation : Macrotrichiae of cells relatively large; macrotrichiae of veins occurring on all the longitudinal veins beyond the cord and on the following veins basad of the cord : on *Sc* for its whole length; distal fifth of *Rs*; distal two-thirds of *M*; extreme end of basal section of *Cu*1; entire length of 1*st A*; sub-distal third of vein 2*nd A*; on the sinuous oblique composite vein *r* plus base of *R*2 are four large trichiae, distributed over the whole length. Male hypopygium (Fig. 8) with the ninth tergite (t) deeply notched medially, the lateral lobes

thus formed conspicuous. Basistyles (b) stout, with conspicuous setae, some of those on outer face of unusual length. Outer dististyle (d) a relatively slender, nearly straight blade, the apex produced into a slightly curved spine, before the apex on inner margin with a few microscopic spinulae; inner margin of style with a few setae; inner dististyle broad-based, narrowed to the slender, cylindrical apex, the tip obtuse. Gonapophyses (g) appearing as flattened, blackened plates, the outer margin produced laterad into a conspicuous spine, the apex with about three appressed spinulae.

*Genotype.* — *Xenolimnobia camerounensis*, sp. n. (Western Ethiopian Region).

The tiny fly that has been described above still further complicates the already very involved classification of the Tipulidae. It should be placed in the Hexatomoid Eriopterini but the condition of the radial field of the wing is highly peculiar. The long, sinuous vein that appears to be the radial cross-vein is almost certainly a composite vein, the cephalic portion being *r*, the posterior portion the basal section of *R*2, the distal section of the latter vein being entirely obliterated. A somewhat comparable condition is found in the subgenera *Plesiomongoma* Brunetti and *Anchimongoma* Brunetti of the genus *Trentepohlia*. In *Xenolimnobia*, if the branch *R*2 was complete, cell *R*2 would necessarily be very tiny, as in *Rhabdomastix* and *Gonomyia*.

**Xenolimnobia camerounensis**, sp. n.

General coloration dark brown; wings broad.

*Male.* — Length about 2.5 mm.; wing 2.7 mm.

Rostrum and palpi dark brown. Antennae dark brown throughout, its structure as described under the genus. Head dark brown.

Mesonotum and pleura uniformly dark brown. Halteres short, dark brown, the base of the stem a very little paler. Legs with the coxae and trochanters brownish yellow; femora brownish yellow, the tips narrowly darkened, the segments with suberect setae; tibiae longer than the femora, with relatively long setae, pale brown throughout; tarsi pale brown, the basitarsi exceeding in length the combined remaining segments. Wings short and broad, strongly tinged with brown; stig-

ma lacking; veins darker brown. Venation as discussed under the generic characterization.

Abdomen dark brown, including the hypopygium, the structure of the latter as discussed under the genus.

*Hab.* Cameroun.

*Holotype*, ♂, Edea, September 13, 1923 (J. A.Reis).

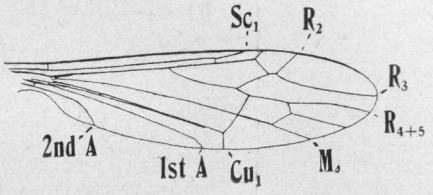


Fig. 9.

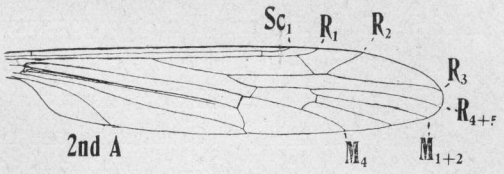


Fig. 10.

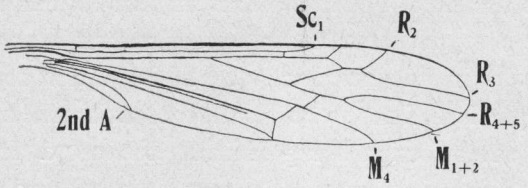


Fig. 11.

Figures to illustrate venation of subgenera of *Trentepohlia*. — Explanation of venational symbols : A = Anal veins; Cu = Cubitus; M = Media; R = Radius; Sc = Subcosta.

Fig. 9. — Venation of *Paramongoma* (*nigeriensis* Alex.).
Fig. 10. — Venation of *Mongoma* (*reisi* Alex.).
Fig. 11. — Venation of *Trentepohlia* (*hyalina* Alex.).

## Genus **TRENTEPOHLIA** Bigot.

The tropicopolitan genus *Trentepohlia* is one of the most common and omnipresent genera throughout tropical Africa. It has been sub-

divided into six subgenera. — *Neomongoma* ALEXANDER, *Paramongoma* BRUNETTI, *Mongoma* WESTWOOD, *Plesiomongoma* BRUNETTI, *Trentepohlia* BIGOT and *Anchimongoma* BRUNETTI. These occur in the tropics of all the geographical divisions of the World, the Oriental being richest with all the groups present except *Neomongoma*. The Ethiopian Region has three (*Paramongoma*, *Mongoma* and *Trentepohlia*), the Australasian two (*Mongoma* and *Trentepohlia*), the Neotropical two (*Neomongoma* and *Paramongoma*, the latter especially characteristic). The subgenus *Trentepohlia* has invaded the southern limits of the Palaearctic Region (*T. efflatouni* PIERRE in Egypt, *T. septentrionalis* ALEXANDER in Japan). Of the six groups, *Neomongoma* is the most generallized, *Paramongoma* next, which would indicate an American origin for the group despite its present very notable development in the tropics of the Old World.

The three African subgenera of *Trentepohlia* all show very distinct venational peculiarities. Of these three, *Paramongoma* is the most generallized in the wide separation of veins *Cu*1 and 1*st A* at the wing-margin. In the condition of the medial field, however, *Mongoma* (Figure 10) is more primitive in that it has retained the full complement of three branches. The reduction of the medial field in *Trentepohlia*, s.s. (Figure 11) is seen to result from the atrophy of cross-vein *m* with the further elimination of both sections of vein *M*3. In *Paramongoma* (Figure 9) the posterior element that closes cell 1*st M*2 would seem to be a composite vein, the anterior or cephalic portion representing *m*, the posterior portion of the same vein representing the first section of vein *M*3, the outer section being entirely eliminated. In interpreting the medial field in this manner, one must keep in mind an alternative view which may be correct, that is the fusion of veins *R*4 + 5 and *M*1 + 2 to the wing-margin, a view that is suggested by the condition in *Neomongoma*. If this latter view is correct, then of the three veins issuing from cell 1*st M*2 in *Paramongoma*, the upper or first would be the fused *R*4 + 5 plus *M*1 + 2, the second *M*3, the third *M*4.

*General characters of Trentepohlia* :

The legs are always long and slender. The armature to be found at the bases of the femora in the various species of *Trentepohlia* and *Mongoma* consists of a linear series of short, peg-like spines, appar-

ently most persistent on the fore femora but in some species occuring on all the legs. Correlated with this character is a remarkable ornamentation of the posterior tibiae, where, shortly before their tips, are found a linear series of long, curved bristles, varying in number from 1 to 4 in different species. These bristles occur in both sexes but, in certain species at least, may differ in number in the two sexes. There can be no question of the taxonomic value of these bristles in this involved genus but more data regarding the normal and sexual variation that occurs must be forthcoming before this can be safely used as a primary character.

The following tendencies of the venation are well-marked : *Sc* very long; *Sc*1 and *R*1 approximated at the margin; cell *R*2 large and sprawly, the anterior branch, *R*2, atrophied in the subgenera *Plesiomongoma* and *Anchimongoma*; vein *R*4+5 extensively fused with vein *M*1+2, eliminating *r-m* and appearing to issue from the outer cephalic end of cell 1*st M*2; cell 1*st M*2 closed, with four veins issuing from it in *Neomongoma, Mongoma* and *Plesiomongoma* (*R*4+5, *M*1+2, *M*3 and *M*4), closed, with three veins issuing from it in *Paramongoma*, or open in *Trentepohlia* and *Anchimongoma*; vein *Cu*1 with its outer section always deflected strongly caudad, forming a wide angle with *m-cu*, in the more speciallized groups fused back from the margin with vein 1*st A* to completely close cell *Cu*; this cell widely open in *Neomongoma*, less so in *Paramongoma*, very narrowly open in *Anchimongoma*, closed in the other groups, most extensively so in the *gracilis* group of *Trentepohlia*; vein 2*nd A* short to very short.

The crane-flies of this genus in the Ethiopian Region are as follows :

Subgenus **Paramongoma** :

*T.* (*P.*) *mera*, sp. n.

*T.* (*P.*) *nigeriensis* ALEXANDER; Ann. Mag. Nat. Hist., (9) 6 : 43; 1920.

*T.* (*P.*) *ramisiana* (RIEDEL); Voy. ALLUAD et JEANNEL en Afrique Orientale, Ins. Dipt., 3, Nemat. Polyneura, pp. 85-86, fig. 11 (*Mongoma*); 1914.

Subgenus **Mongoma** :

*T.* (*M.*) *albilata* ALEXANDER; Ann. Mag. Nat. Hist., (9) 5 : 56-58; 1920.

*T.* (*M.*) *albilatissima* ALEXANDER; ibid., (9) 6 : 42; 1920.

*T.* (*M.*) *dummeri* ALEXANDER; ibid., (9) 8 : 165-166; 1921.

*T.* (*M.*) *fragillima* (WESTWOOD); Trans. Ent. Soc. London, 1881 : 364-365, pl. 17, fig. 1 (*Mongoma*); 1881.

*T.* (*M.*) *madagascariensis* ALEXANDER; Ann. Mag. Nat. Hist., (9) 6 : 40-41; 1920.

*T.* (*M.*) *metatarsatra* ALEXANDER; ibid., (9) 6 : 41-42; 1920; ibid., (9) 8 : 312; 1921.

*T.* (*M.*) *niveipes* ALEXANDER; ibid., (9) 7 : 319-320; 1921.

*T.* (*M.*) *pennipes* (OSTEN SACKEN); Berl. Ent. Zeitschr., 31 : 204 (*Mongoma*); 1887.

*T.* (*M.*) *reisi* ALEXANDER; Ann. Mag. Nat. Hist., (9) 5 : 58-59; 1920.

Subgenus **Trentepohlia** :

*T.* (*T.*) *alluaudi* ALEXANDER; Bull. Mus. Hist. Nat., Paris, 1920 : 219, 1920.

*T.* (*T.*) *aurantia* ALEXANDER; Ann. Mag. Nat. Hist., (9)5 : 471; 1920.

*T.* (*T.*) *brevisector* ALEXANDER; Rev. Zool. Africaine, XI, fasc. 4 : 374-375; 1923.

*T.* (*T.*) *curtipennis* (SPEISER); Berl. Ent. Zeitschr., 52 : 135-136, (*Mongoma*); 1908.

*T.* (*T.*) *exornata* BERGROTH; Ent. Tidskrift, 1888 : 135-137, fig. 3; 1888.

*T.* (*T.*) *fuscoapicalis* ALEXANDER; Ann. Mag. Nat. Hist. (9) 5 : 348; 1920.

*T.* (*T.*) *gracilis* ENDERLEIN; Zool. Jahrb., Syst., 32 : 61-62, fig. M1; 1912.

*T.* (*T.*) *g. continentalis* ALEXANDER; Ann. So. Afr. Mus. 18 : 202-203; 1921.

*T.* (*T.*) *humeralis* ALEXANDER; ibid., 18 : 201-202; 1921.

*T.* (*T.*) *hyalina* ALEXANDER; Ann. Mag. Nat. Hist., (9) 8 : 168-169; 1921.

*T.* (*T.*) *inflata* ALEXANDER; ibid., (9) 6 : 43-44; 1920.

*T.* (*T.*) *nigricolor* ALEXANDER; ibid., (9) 8 : 166-167; 1921.

*T.* (*T.*) *nox* ALEXANDER; ibid., (9) 8 : 167-168; 1921.

*T.* (*T.*) *pallidipleura*, sp. n.

T. (*T.*) *pomeroyi* ALEXANDER; Ann. Mag. Nat. Hist., (9) 8 : 169-170; 1921.

*T.* (*T.*) *reversalis*, sp. n.

*T.* (*T.*) *speiseri* EDWARDS; Ann. Mag. Nat. Hist., (8) 12 : 204, fig.; 1913.

*T.* (*T.*) *ugandae* ALEXANDER; ibid., (9) 6 : 336-337; 1920.

*T.* (*T.*) *zambesiae* (ALEXANDER); Can. Ent., 44 : 86-88 (*Mongoma*); 1912.

Besides the above 30 species from the Ethiopian Region, *T.* (*T.*) *efflatouni* PIERRE (Bull. Soc. Roy. Ent. Egypte, 1922 : 83-85, figs.; 1923) has recently been described from Egypt. It is very closely allied to *T.* (*T.*) *zambesiae*, differing in slight details of size and coloration. The larvae were found in vegetable débris in earth by M. EFFLATOUN. The species is not included in the following key since it is extra-Ethiopian.

## A KEY TO THE AFRICAN SPECIES OF THE GENUS *TRENTEPOHLIA* BIGOT.

1. Three branches of *M* reach the wing-margin (Subgenus *Mongoma* WESTWOOD; text-figure 10). 2
   Two branches of *M* reach the wing-margin. 10
2. Wings heavily spotted with brown. (Madagascar). *madagascariensis* ALEX.
   Wings unspotted (except for the stigmal spot, when present). 3
3. Basitarsi with proximal ends black; wings and their veins yellowish. (Nigeria-East Africa). *metatarsatra* ALEX.
   Basitarsi white, concolorous with the remainder of tarsi. 4
4. Femora brown throughout; mid-tibiae slightly dilated at apex and here fringed with conspicuous white setae (Seychelles Is.— Oriental Region). *pennipes* (O. S.).
   Tips of the femora more or less whitened; mid-tibiae not ornamented as above. 5
5. Femoral tips narrowly and indistinctly pale; size small (wing under 7 mm.) (Cameroun). *niveipes* ALEX.
   Femoral tips abruptly and conspicuously white; size larger (wing over 7 and usually over 8 mm.). 6
6. Tibiae dark brown, only the narrow tips white. (Cameroun). *reisi* ALEX.
   Tibiae largely white; a brown band beyond the base followed by a broad white apex that includes approximately one-third or more of the segment. 7

7. General coloration piceous-black; (tibial brown ring occupying one-half the segment) (West Africa). *fragillima* (WESTW.)
General coloration pale brown to yellowish brown. 8

8. Pale tibial apices occupying a little less than one-third the length of the segment. (Uganda). *dummeri* ALEX.
Pale tibial apices occupying the terminal half or more of the segment. 9

9. Antennal scape largely dark brown; tibiae with the brown ring narrower than the pale base; pale tibial apices occupying about the distal two-thirds of the entire segment. (Gold Coast). *albilatissima* ALEX.
Antennal scape yellow; tibiae with the brown ring more extensive, being about twice the pale base; pale tibial apices occupying about the distal half of the entire segment. (Cameroun). *albilata* ALEX.

10. Veins $Cu_1$ and 1*st A* entirely separate at wing-margin; cell 1*st* $M_2$ closed (Subgenus *Paramongoma* Brunetti; text-figure 9). 11
Veins $Cu_1$ and 1*st A* fused for a varying distance back from the wing-margin; cell 1*st* $M_2$ open (Subgenus *Trentepohlia* Bigot; text-figure 11). 13

11. General coloration light yellow; (femora pale brown, the tips broadly white). (Cameroun). *mera*, sp. n.
General coloration brown; (femora pale brown in *nigeriensis*, or coloration unknown, in *ramisiana*). 12

12. General coloration brownish; pleura grayish; wings weakly tinged with yellowish. (British E. Africa, coastal). *ramisiana* (RIED).
General coloration uniform pale brown, the pleura more yellowish; wings pale grayish. (Nigeria, Cameroun). *nigeriensis* ALEX.

13. Wings with the costal region before mid-length of wing conspicuously expanded. (Nigeria). *inflata* ALEX.
Wings with the costal region normal, straight. 14

14. Wings subhyaline; fusion of veins $Cu_1$ and 1*st A* ex tensive, longer than the distal section of $Cu_1$ alone. 15
Wings subhyaline or (usually) variegated with brown; fusion of veins $Cu_1$ and 1*st A* slight, less than the distal section of $Cu_1$ alone. 17

15. Abdomen of normal length (about 5 mm.); wings broad. (Portuguese East Africa). *zambesiae* (ALEX).
Abdomen very long and slender (over 7 mm.); wings unusually narrow. 16.

16. Wings broader (♂, about 5. 8 by 1.1 mm.). (Madagascar) *gracilis* END.
Wings narrower (♂, about 6. 7 by 1.05 mm.). (Transvaal). *gracilis continentalis* ALEX.

17. Wings hyaline or approximately so, unmarked except for narrow vague seams along certain of the longitudinal veins, all the cells clear. 18
Wings with some of the cells suffused with brown or yellow. 19

18. Wings quite hyaline; *Rs* elongate, fully twice the basal deflection of *R*4+5; second section of vein *R*2+3 shorter than *r*; cell *2nd A* narrow. (Cameroun). *hyalina* ALEX.
Wings with a vague dark clouding along vein *Cu* and less evidently along vein *R*4+5; *Rs* short, about equal to the basal deflection of *R*4+5; second section of vein *R*2+3 long, only a little shorter than the first section and longer than *Rs*; cell *2nd A* broad. (Dahomey). *brevisector* ALEX.

19. Wings hyaline, cell *R*3 and the stigmal region yellowish. (Cameroun). *curtipennis* (SPEIS.).
Wings with distinct brownish markings. 20

20. Wing-markings virtually confined to the broad brown apex; (femoral tip paling into white). (Cameroun). *fuscoapicalis* ALEX.
Wings with a broad seam along the cord in addition to the apical area. 21

21. Tips of the femora abruptly black or dark brown. 22
Femora beyond base either uniformly colored or the tips paling into whitish. 24

22. Tips of the tibiae darkened; (wing-pattern very pale). (Madagascar). *alluaudi* ALEX.
Tips of the tibiae not darkened. 23

23. Thorax, including the pleura, shiny brownish black; *Rs* long, fully four times the length of the second section of *R*2+3; wing-pattern comparatively heavy, cell *R*2 being uniformly darkened. (Cameroun). *nox* ALEX.
Thoracic dorsum brown, the humeral region and pleura testaceous yellow; *Rs* relatively short, less than twice the length of the second section of *R*2+3; wing-pattern comparatively light, the center of cell *R*2 extensively paler. (Cameroun). *pallidipleura*, sp. n.

24. Tips of the femora narrowly and abruptly whitened. 25
Femora beyond the base uniformly colored. 26

25. Abdominal sternites yellowish, the apical third of the individual segments dark brown. (Nigeria). *pomeroyi* ALEX.
Abdominal sternites dark brown on basal half or less, the distal portion of the individual segments obscure yellow. (Cameroun). *reversalis*, sp. n.

26. Coloration of the body shiny black, the humeral region of praescutum not brightened. (Cameroun) *nigricolor* ALEX.
Coloration of the body varying from yellow to dark brown, in the latter case with the humeral region of praescutum further brigtened. 27

27. Size very large (♀, wing about 8.5 mm.); (mesonotal praescutum reddish brown with three darker brown stripes; posterior tibiae with 4 long bristles at tip). (Uganda). *ugandae* ALEX.
Size smaller (♀, wing under 7 mm.). 28

28. Brown marking at cord with a subhyaline center. (South-east and East Africa). *exornata* BERGR.
Brown marking at cord solid or virtually so. 29

29. Mesonotal praescutum light orange-yellow with a delicate reddish brown median line (Reunion). *aurantia* ALEX.
Mesonotal praescutum not colored as above. 30

30. Thoracic dorsum reddish brown; legs light yellow. (Cameroun, East Africa-Oriental Region). *speiseri* EDW.
Thoracic dorsum brownish black, the humeral regions of the praescutum reddish; legs dark brown. (Transvaal). *humeralis* ALEX.

Of the species included in the above key, the writer has seen the types or authentic specimens of all except the following : *T. fragillima* (WESTW.), *T. ramisiana* (RIED.) and *T. curtipennis* (SPEIS.). Their position in the key is based on the published descriptions alone, except in the case of *fragillima* where unpublished notes on the type are given, submitted to me through the kindness of Mr. EDWARDS.

**Trentepohlia (Paramongoma) mera,** sp. n.

General coloration light yellow; femora pale brownish testaceous, the tips white; tibiae and tarsi white; wings uniformly pale yellow, the veins a little darker.

*Female.* — Length about 5.2 mm.; wing 4.5 mm.

Rostrum and palpi brownish yellow. Antennae relatively short, brown, the flagellar segments oval. Head gray, more infuscated medially; vertex very narrow.

Pronotum obscure yellow. Mesonotal praescutum obscure yellowish fulvous, without markings, the pleura clearer yellow. Halteres pale brownish yellow. Legs with the coxae and trochanters yellow; femora brownish testaceous, becoming a little darker toward the tips,

the latter suddenly snowy white (about 0.6 mm. in length); tibiae and tarsi snowy white, only the terminal segments of the latter infuscated; no outstanding spines or setae on legs. Wings uniformly pale yellow, the veins a little darker than the ground-color. Venation : Very similar to *T.* (*P.*) *nigeriensis* (shown in text-figure); *m-cu* more than one half its length before the fork of *M*; distance between tips of veins *Cu*1 and 1*st A* along the wing-margin greater than the outer section of vein *Cu*1 alone.

Abdomen brownish yellow, the genital segment clearer yellow. Ovipositor with the valves long and slender, especially the gently upcurved tergal valves.

*Hab.* Cameroun.

*Holotype*, ♀, Edea, March 26, 1922 (J. A. Reis).

Type in the collection of the Carnegie Museum.

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

Allied to *T.* (*T.*) *nox*, Alexander; mesonotum dark brown, the anterior and lateral portions of the praescutum and the pleura yellowish testaceous; legs with the femora yellow, narrowly tipped with dark brown; posterior tibiae before apex with two long, slender setae; wing-pattern pale; *Rs* less than twice the length of the second section of *R*2+3.

*Female.* — Length 6 mm.; wing 5 mm.

Rostrum and palpi brown. Antennae brown, the terminal segments a little paler. Head light brown, the vertex narrow.

Pronotum yellow. Mesonotal praescutum dark brown, the broad humeral region and narrower lateral margins light yellow, the pale coloration including the anterior margin of the sclerite; remaining sclerites of mesonotum dark brown, except the postnotal pleurotergite which is concolorous with the testaceous yellow pleura. Halteres dark brown, the base of the stem light yellow. Legs with the coxae and trochanters pale testaceous yellow; femora yellow, the tips narrowly and abruptly dark brown; tibiae and tarsi obscure whitish, the terminal segments of the latter a trifle darkened; fore femora with a basal series of about five short spinous bristles that become larger outwardly;

posterior femora with a more diffuse group of nearly a dozen smaller subequal spines; posterior tibiae with two long, slender setae before apex, these separeted from one another by a distance about one-half longer than the length of one, the outer bristle about two and one-half times its length from the apex of the tibia. Wings whitish subhyaline, the stigma oval, brown; diffuse pale brown clouds along vein *Cu*1, at origin of *Rs*, along the cord and the wing-apex, the center of cell *R*2 remaining pale; the general effect produced is of a pale brown pattern; veins *C*, *Sc*, *R* and the second section of *R*2+3 yellow, the remaining veins dark brown. Venation : *Rs* arcuated; basal section of *R*2+3 shorter than the second section; basal deflection of *R*4+5 about equal to the petiole of cell *R*5 and a little more than one-half the second section of *R*2+3.

Abdominal tergites dark brown, the sternites conspicuously light yellow, the genital segment yellow; valves of ovipositor dark horn-color.

*Hab.* Cameroun.

*Holotype*, ♀, Edea, July 28, 1923 (J. A. Reis).

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

Allied to *T.* (*T.*) *pomeroyi* Alexander; mesonotum dark brown, the humeral region of the praescutum extensively obscure yellow; femora yellowish brown, the tips narrowly but conspicuously whitened; wings subhyaline, the pattern distinct but restricted; *Rs* one-half longer than the basal section of *R*2+3; abdominal sternites bicolorous, the basal half or less of each segment brown, the apical portion brownish yellow.

*Male.* — Length 8 mm.; wing 7.5 mm.

*Female.* — Length 8-9 mm.; wing 7-7.5 mm.

Rostrum and palpi dark brown. Antennae slender, dark brown. Head brown.

Pronotum dark brown. Mesonotum dark brown, the humeral region of the praescutum extensively obscure yellow. Pleura obscure yellow, the mesopleura more infuscated; pleurotergite with a row of three long setae. Halteres dark brown, the extreme base obscure yellow. Legs with the coxae and trochanters yellowish testaceous; femora

yellowish brown, the tips narrowly (on fore legs) to more broadly (on hind legs) obscure whitish; tibiae brownish white, the distal portion broadly whitened; terminal tarsal segments a trifle darkened; bases of all the femora with a longitudinal series of short, spinous setae; posterior tibiae with a row of three or four long, black, spinous setae (♂) or with two such setae (♀). Wings subhyaline, with a restricted but distinct brown pattern, this including clouds in the basal half of cell *M*; along vein *Cu*1; in bases of cells *Cu* and 1*st A*; along *Rs* and the basal section of *R*2+3 to the stigma; along the cord to the posterior margin; along the petiole of cell *R*5 and vein *R*4+5 to the wing-apex extensively infuscated, the center of cell *R*2 uniformly dark, in rare instances with the central portion paler; stigma oval, darker brown than the other brown markings; veins dark brown. Venation : *Rs* elongate, one-half longer than the basal section of *R*2+3 and about two and one-half times the length of the second section; petiole of cell *R*5 longer than the second section of *R*2+3 but only about two-thirds the first section.

Abdominal tergites dark brown, the hypopygium concolorous; sternites bicolorous, the basal half or less of each segment brown, the remaining apical portion brownish yellow.

*Hab.* Cameroun.

*Holotype*, ♂, Son Ngen, July 30, 1923 (J. A. Reis).

*Allotopotype*, ♀.

*Paratypes*, 3 ♀♀, Edea, June 22, 1922, October 8, 1924 (J. A. Reis).

## Genus **CLYDONODOZUS** Enderlein.

### **Clydonodozus fulvithorax**, sp. n.

General coloration fulvous, the mesonotum unstriped; femora yellow, the tips narrowly dark brown; wings broad, yellowish, sparsely variegated with brown.

*Male.* — Length 14.5 mm.; wing 10.5 mm.

Rostrum light fulvous brown, the reduced palpi brownish black. Antennae with the elongate basal segment light brown beneath, the upper surface almost black; second segment dark brown, paler api-

cally; flagellum black, the verticils elongate. Head dark brown, pollinose, especially anteriorly.

Pronotum light brown, darker medially. Mesonotum uniformly fulvous, unmarked; pseudosutural foveae semicircular, black. Pleura brownish yellow, the pteropleurite more infuscated. Halteres pale brown. Legs with the coxae infuscated externally; trochanters obscure brownish yellow; femora yellow, the tips narrowly but conspicuously dark brown, the posterior femora more brownish yellow but with the tips still conspicuously contrasting; subterminal region of femora indistinctly brightened; tibiae dark brown, the extreme base pale, the extreme tips blackened, with a faintly indicated paler subterminal ring; tarsal segments one to three light brown with dark tips, the terminal tarsal segments uniformly darkened. Wings broad, with a strong yellow tinge, the costal region more saturated; small brown clouds at origin of *Rs*; in cell *R* near mid-length of *R*; at *Sc*2; along the cord but not including the fork of *M*; a tiny cloud at fork of *M*1+2; veins brownish yellow, darker in the infuscated areas. Venation : *Rs* rather short, strongly arcuated at origin; cell 1*st* *M*2 short, as in *C. brevicellula* ALEXANDER.

Abdomen yellow, the extreme lateral margins and a median line on the sternites blackened, interrupted at the posterior margins of the segments; subterminal sternites infuscated.

*Hab.* Cameroun.

*Holotype*, ♂, Edea, March 27, 1922 (J. A. REIS).

Type in the collection of the Carnegie Museum.

By the author's key to the African species of *Clydonodozus* (Rev. Zool. Africaine, XI, fasc. I: 10-11; 1923), the present fly would run to *C. angustifasciatus* ALEXANDER, differing in the broad wings, immaculate mesonotum and sparse wing-pattern.