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EXTRAIT

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Entomologie IV (1).

CRANE-FLIES FROM THE GULF OF GUINEA

[DIPT. TIPULIDAE] (2).

by Charles P. ALEXANDER.

I am greatly indebted to Pierre E. L. VIETTE, of the Muséum National d'Histoire Naturelle, Paris, for the privilege of examining the crane-flies that he secured on a recent trip to the various islands in the Gulf of Guinea, West Africa. The collection, while small, includes no fewer than four novelties and eight additional species, thus adding materially to our hitherto scanty knowledge of the subject.

In the only previous paper devoted to this subject, EDWARDS (3) records 19 species of *Tipulidae*, of which eight were described as new, there being three in the *Tipulinae* and the remaining 16 in the *Limoniinae*. The materials available to EDWARDS were collected chiefly by W. H. T. TAMS and H. P. THOMASSET.

The specimens sent by P. VIETTE were taken chiefly on São Tomé, at altitudes between 450 and 1500 meters, with fewer specimens from Annobon and Principe. All materials recorded herewith were taken in June and July 1956. The types and representatives of the various species will be preserved in the Muséum National d'Histoire Naturelle, Paris.

TIPULINAE.

1. *Ctenacroscelis Viettei*, n. sp.

Size small (wing about 20 mm.) ; mesonotal praescutum brownish yellow with four brown stripes that are bordered by more or less darker brown ; thoracic pleura striped longitudinally with brown ; tips of femora broadly blackened, claws of male toothed ; wings tinged with brown, restrictedly patterned with darker brown and paler areas ; male hypopygium with the apical lobe of basistyle fingerlike ; inner dististyle moderately dilated at base, thence very slender for a short distance, the outer half strongly expanded.

(1) Entomologie III. — *Bull. Soc. ent. France*, 62, n° 5-6, 1957.

(2) Contribution No. 1272 from the Department of Entomology, University of Massachusetts.

(3) EDWARDS (F. W.). — The Percy Sladen and Godman Trusts Expedition to the Islands in the Gulf of Guinea, October 1932 — March 1933. II. Diptera Nematocera. (*Ann. Mag. Nat. Hist.*, (10) 14 : 321-336 ; 1934).

Male. — Length, about 17-18 mm. ; wing, 19,5-20 mm. ; antenna, about 2,8-2,9 mm.

Female. — Length, about 19 mm. ; wing, 20 mm.

Frontal prolongation of head brown ; nasus very long ; palpi brownish black. Antennae short, about one-half longer than the prolongation ; basal segments light brown, outer ones slightly darker ; flagellar segments moderately long, much exceeding the verticils. Head brown, the sides of front, vertex and orbits narrowly more yellowed ; a conspicuous black spot on side of vertical tubercle, being the external manifestation of the tambourine organ.

Pronotum dark brown above, sides broadly pale yellow. Mesonotal praescutum brownish yellow, with four conspicuous brown stripes, the inner anterior margins of intermediate stripes and outer border of lateral stripes slightly more darkened, in cases the darkened borders more extensive and continuous ; lateral margin darkened, especially at the suture ; scutum light brown, each lobe with two confluent darker grayish brown areas, immediately behind the suture with a brown to brownish black central sunken area ; scutellum brownish gray, parascutella pale yellow ; mediotergite light brown, broadly whitened on sides, with indications of a capillary brown central vitta, pleurotergite pale brown above, the katapleurotergite dark brown posteriorly, more whitened at ventral anterior end. Pleura light gray to almost white, with a conspicuous brownish black dorsal stripe, with paler brown longitudinal marks on the ventral pleurites and across the faces of the coxae ; dorsopleural membrane buffy. Halteres with stem brown, paler basally, knob brownish black. Legs with coxae pale, patterned as described above ; trochanters pale yellow ; femora brownish yellow, tips broadly blackened, the amount subequal on all legs ; tibiae yellowish brown, tips narrowly darker brown ; tarsi brownish yellow, outer two segments darker ; claws long, each with two teeth. Wing (fig. 1) tinged with brown, the prearcular and costal fields more strongly darkened ; stigma oval, darker brown ; a narrow obliterative streak from before the stigma extending backward along the anterior cord ; beyond the anterior cord and over posterior end of *m-cu* with narrow brown seams ; vague brightenings near outer ends of cells *R* and *M*, base of cell *R*₃, cell *M*₁, and marginally in cell 1st *A* ; veins brown. Venation : Vein *R*₁ at or just beyond fork of *R*₂₊₃, vein *R*₃ strongly sinuous on outer third ; *m-cu* at near mid-length to opposite two-thirds *M*₃₊₄ ; cell *M*₁ variable in length, in cases subequal to its petiole.

Abdominal tergites dark brown basally, more reddish brown beyond, sublaterally dark brown, the actual borders light gray ; subterminal segments more uniformly darkened ; sternites paler brown, the posterior borders narrowly pale ; hypopygium brown. Male hypopygium (fig. 7) with the tergal lobes, *t*, obtuse at tips, the median notch narrow. Basistyle, *b*, with the apical lobe fingerlike, conspicuously tipped with long bristles. Outer dististyle, *d*, nearly three

times as long as broad, the tip obtuse ; inner style distinctive, as figured, moderately dilated at base, thence very slender for a short distance, the outer half expanded, narrowed into a semipendant outer part, the outer setae very small. The most evident point of difference from *albovittatus* lies in the conformation of the inner dististyle, the two species being illustrated for comparison (*albovittatus*, fig. 7 A).

HOLOTYPE, ♂, Roça de Traz-os-Montes, Bombaim, São Tomé, altitude 450 meters, June 6-8, 1956. ALLOTOPOTYPE, ♀. PARATYPE, ♂, Roça Porto Real, dépendance cõtière, Principe, altitude 60 meters, June 29-30, 1956.

I take unusual pleasure in naming this fly for the collector, Pierre E. L. VIETTE. As indicated above, the species is most similar to *Ctenacroscelis albovittatus* (Macquart), differing in the small size and especially in the structure of the male hypopygium, particularly the inner dististyle, as compared and figured herewith. This is presumably the species recorded by EDWARDS as *albovittatus*, based on a single female from São Tomé.

2. *Nephrotoma angustifrons* Edwards.

Nephrotoma angustifrons Edwards ; *Ann. Mag. Nat. Hist.*, (10) 14 : 335-336 ; 1934.

The types were from São Tomé, without more exact data. São Tomé : Roça de Monte Café, altitude 1500 meters, June 10-11 ; a single ♀. The venation is shown (fig. 2).

LIMONIINAE.

LIMONINI.

3. *Limonia (Limonia) subapicalis* Alexander, var.

Limonia subapicalis Alexander ; *Rept. Harvard Afr. Exped.*, 2 : 1007 ; 1930. (Re-naming of *Limonia capensis* Alexander, preoccupied.

Limonia (Limonia) rhizosema var. ; Edwards, *Ann. Mag. Nat. Hist.*, (10) 14 : 331 ; 1934.

São Tomé : Roça de Diogo Vaz, Monte das Quinas, altitude 1500 meters, June 15, 1956 ; one ♂.

What evidently is this same fly was reported by EDWARDS as being *Limonia rhizosema* Speiser, as cited above, his material being from São Tomé, without further data. In all recent papers I have restricted the name *rhizosema*, as used by EDWARDS, to the continental species having terminal black femoral rings, giving to the present fly the name *subapicalis*. The reasons for this action are given in the ALEXANDER 1930 reference cited above (page 1007).

4. *Limonia (Dicranomyia) Snelli* Edwards.

Limonia (Dicranomyia) snelli Edwards ; *Ann. Mag. Nat. Hist.*, (10) 14 : 330, fig. 2 (♂ hypopygium) ; 1934.

The types were from São Tomé, collected in 1919-1921 and again in October and November 1932, the latter by H. J. SNELL. The venation is shown (fig. 3).

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meters, June 6-8, 1956. Roça de Monte Café, Esperança, altitude 1300 meters, June 12, 1956.

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

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

Dicranomyia tipulipes Bergroth ; *Entomol. Tidskr.*, 9 : 127 ; 1888.

Dicranomyia consimilis Bergroth ; *Entomol. Tidskr.*, 9 : 127 ; 1888.

Dicranomyia confinis Bergroth ; *Wien. Entomol. Zeitung*, 8 : 116 ; 1889 (Re-naming of *consimilis*, preoccupied)

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meters, June 6-8, 1956 ; one ♀.

Annobon : SW, lambeau de forêt, July 4, 1956 ; one ♀.

Although no males are available I regard the identification as being correct.

HEXATOMINI.

6. *Elephantomyia (Elephantomyia) tomicola*, n. sp.

Size medium (wing of female 6.8 mm.) ; mesonotum fulvous, unpatterned ; head whitish gray ; rostrum a little more than one-half the wing ; antennae black throughout ; legs yellow, tips of femora and tibiae abruptly black ; wings light yellow, the prearcular and costal regions more saturated ; stigma subcircular, dark brown, veins light yellow ; basal section of R_5 present, in longitudinal alignment with R_s ; cell $1st M_2$ small ; abdominal tergites fulvous, with a median row of brown spots.

Female. — Length, excluding rostrum, about 8 mm. ; wing, 6,8 mm. ; rostrum, about 3,5 mm.

Rostrum yellowish brown, a little more than one-half the wing ; palpi light brown. Antennae black ; flagellar segments oval ; verticils of outer segments long. Head clear whitish gray ; anterior vertex narrow, about one-half wider than the diameter of the scape.

Cervical region light brown. Pronotum pale yellow. Mesonotum fulvous, without pattern ; humeral region of praescutum and the pre-

tergites pale yellow. Pleura yellowish fulvous. Halteres broken. Legs with coxae and trochanters fulvous yellow; femora yellow, the tips abruptly and very conspicuously blackened, the amount subequal on all legs; tibiae yellow, the tips more narrowly blackened; tarsi yellow; tibial spurs present. Wings (fig. 4) light yellow, the prearcular and costal regions more saturated yellow; stigma subcircular, dark brown; veins conspicuously light yellow; macrotrichia dark brown, the veins of outer half of wing with almost complete series of macrotrichia. Venation: R_s in virtual longitudinal alignment with R_5 , the basal section of the latter present; anterior branch of R_s arcuated at origin, thence extending parallel to the posterior branch; cell

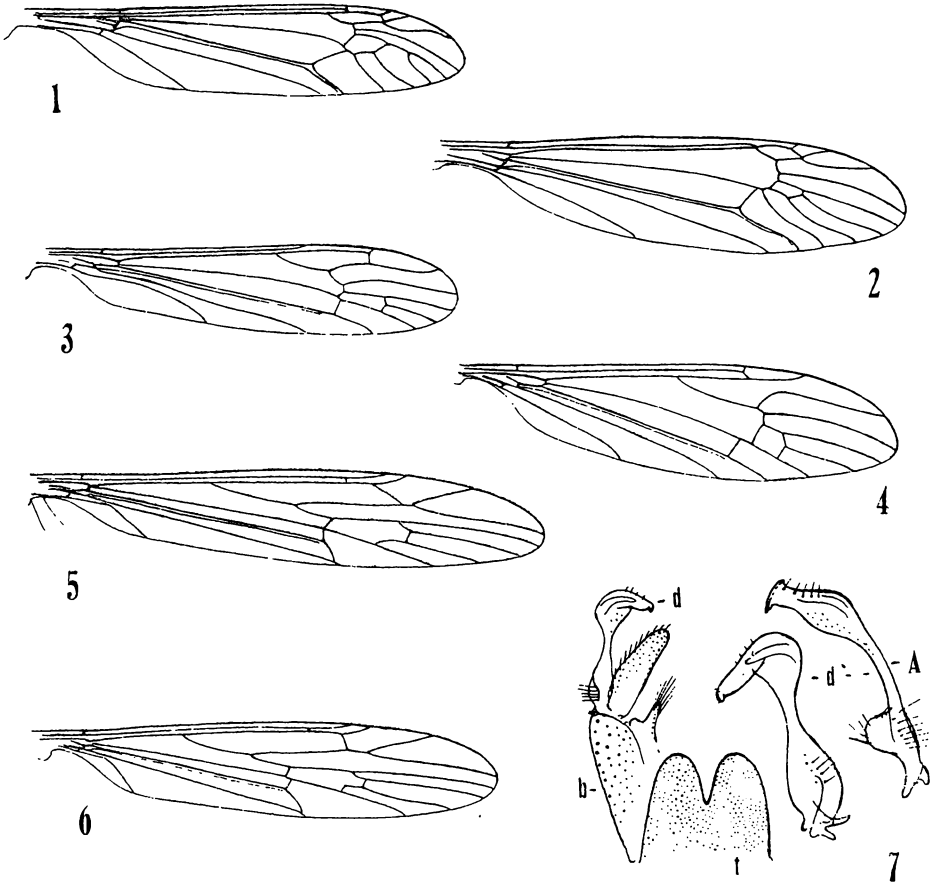


FIG. 1. *Ctenacroscelis Viettei*, n. sp.; venation. — FIG. 2. *Nephrotoma angustifrons* Edwards; venation. — FIG. 3. *Limonia (Dicranomyia) snelli* Edwards; venation. — FIG. 4. *Elephantomyia (Elephantomyia) tomicola*, n. sp.; venation. — FIG. 5. *Trentepohlia (Mongoma) tomensis*, n. sp.; venation. — FIG. 6. *Trentepohlia (Mongoma) principalis*, n. sp.; venation. — FIG. 7. *Ctenacroscelis Viettei*, n. sp.; male hypopygium. — FIG. 7 A. *Ctenacroscelis albovittatus* (Macquart); male hypopygium. (Symbols: *b*, basistyle; *d*, dististyle; *t*, ninth tergite).

1st M_2 small, pentagonal, M_{3+4} the longest element, the cell much shorter than the distal section of vein M_3 ; $m-cu$ about one-third its length before the fork of M .

Abdominal tergites fulvous, each with a darkened central area, the base and all margins being of the ground color; sternites fulvous. Ovipositor with both cerci and hypovalvae very long and slender.

HOLOTYPE, ♀, Roça de Traz-os-Montes, Bombaim, São Tomé, altitude 450 meters, June 6-8, 1956.

The most similar described regional species is *Elephantomyia* (*Elephantomyia*) *flaveola* Pierre, described from the Ivory Coast, French West Africa. This is still known only from the unique type, figured and described briefly by PIERRE. From the available information, the present fly differs in the length of the rostrum, unpatterned thorax, venation, and pattern of the abdomen. PIERRE's figure indicates that the legs of the type specimen were present but unfortunately these were not described. The leg-pattern of the present fly is distinctive.

ERIOPTERINI.

7. *Conosia angustissima* Alexander.

Conosia angustissima Alexander; *Philip. Journ. Sci.*, 33 : 306, pl. 2, fig. 17 (venation); 1927.

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meters, June 6-8, 1956; a single ♀.

Widespread in Southern Africa and Madagascar. I can see no differences between this specimen and others authentically named. The fly is quite distinct from either of the two species described from Principe and São Tomé by EDWARDS as *Conosia principalis* and *C. thomensis*.

8. *Trentepohlia* (*Mongoma*) *principalis*, n. sp.

Size medium (wing of female 8 mm.); general coloration dark brown; head with anterior vertex yellowish white, posterior vertex dark brown, orbits pale; femora dark brown throughout, tibiae brownish black, the tips, with the tarsi, white; wings slightly tinged with brown, prearcular and costal fields darker brown; cell 1st M_2 long, widened outwardly, basal section of M_3 angulated and weakly spurred; abdominal tergites dark brown, sternites obscure yellow.

Female. — Length, about 11 mm.; wing, 8 mm.

Rostrum very reduced, obscure brownish yellow; palpi black. Antennae with scape brown, its extreme base pale, remainder of organ black; flagellar segments long-cylindrical, much exceeding the verticils; terminal segment a trifle longer than the penultimate. Head with anterior vertex yellowish white, posterior vertex dark brown, the

posterior orbits vaguely pale ; anterior vertex carinate, narrow, less than two rows of ommatidia.

Cervical region and pronotum dark brown, the latter with a group of unusually long erect pale setae. Mesonotum almost uniform medium brown, unpatterned, all but the postnotum with relatively short but conspicuous erect setae. Pleura somewhat paler brown, somewhat lighter beneath the wing root. Halteres brownish black, base of stem testaceous. Legs with all coxae and trochanters yellowish brown ; femora dark brown throughout ; tibiae brownish black, the outer end narrowly whitened, more extensive on hind legs ; tarsi white, basitarsi with a concentration of stronger yellow setae at proximal end ; what appears to represent the fore femur (detached) has several erect bristles in a longitudinal row at base. Wings (fig. 6) slightly tinged with brown, the prearcular and costal fields darker brown ; stigma very reduced and inconspicuous ; veins brown. Venation : Sc_1 ending opposite anterior end of vein R_2 , Sc_1 about one-half R_s ; R_{3+4} subequal to R_2 ; vein R_3 long, oblique, longer than R_s ; cell 1st M_2 long, widened outwardly, basal section of M_1 long, angulated and weakly spurred ; $m-cu$ about one-third its length beyond the fork of M ; apical fusion of veins Cu_1 and 1st A short.

Abdominal tergites dark brown, particularly the basal ones ; sternites obscure yellow. Ovipositor with cerci relatively long, strongly upcurved.

HOLOTYPE, ♀, Roça Infante dom Henrique, Principe, altitude 150 meters, June 26-27, 1956.

By my latest key to the African species of the genus (Ruwenzori Expedition, 1934-35, 1, N° 7, *Tipulidae*, pp. 311-314 ; 1956), the present fly runs to couplet 5 and to *Trentepohlia (Mongoma) pennipes* (Osten Sacken) in the unbrightened femora. It is more like *T. (M.) niveipes* Alexander, a smaller fly which has the tips of the femora narrowly pale and with the venation, especially of the radial field, distinct.

9. *Trentepohlia (Mongoma), tomensis*, n. sp.

Size large (wing of male 10 mm.) ; mesonotal praescutum with four light brown stripes, the restricted ground darker brown ; posterior vertex dull black, sparsely pruinose ; legs dark brown, the femoral tips and tibial bases white, the amount subequal, tips of tibiae and the tarsi white ; wings narrow, slightly infuscated, costal region still darker ; veins black, very narrowly bordered by brown ; cell R_2 at margin about three-fourths as extensive as cell R_3 ; cell 2nd A broad.

Male. — Length, about 12 mm. ; wing, 10 mm.

Rostrum and labial palpi obscure yellow ; maxillary palpi black. Antennae with the scape obscure yellow, pedicel and flagellum black ; flagellar segments elongate, a trifle longer than the verticils. Head

with front and anterior vertex pale, silvery; posterior vertex dull black, sparsely pruinose, conspicuously carinate.

Cervical sclerites brownish black. Pronotum brown. Mesonotal praescutum chiefly covered by four light brown stripes, the very restricted interspaces darker; scutal lobes light brown, narrowly patterned with darker; posterior sclerites of notum somewhat paler brown. Pleura chiefly light brown, polished, the dorsal region darker, sternopleurite paler; a group of strong setae on the dorsal pteropleurite beneath the blackened squama, with a few others on the dorsal sternopleurite. Halteres blackened, base of stem restrictedly pale. Legs with the coxae and trochanters testaceous yellow, fore coxae darker; femora dark brown, narrowly brightened basally, tips conspicuously white; tibiae dark brown, the bases white, subequal in degree to the femoral tips, the apex more extensively whitened (4 mm. or less); tarsi white; a linear row of about six strong bristles near base of fore femur, the outermost longer; posterior basitarsus with a concentration of reddish setae at proximal end. Wings (fig. 5) slightly infuscated, the costal region still darker; wing tip narrowly suffused; stigma narrow, still darker brown; veins of anterior half of wing black, very narrowly seamed with brown, the posterior veins less evidently so. Axillary border of wing with two very long setae; wings narrower than in *dummeri*. Venation: Sc_1 subequal to or shorter than R_2 ; R_{3+4} preserved as a short element, shorter in one wing of type than the other; vein R_3 straighter and less arched than in *dummeri*; cell R_2 at margin about three-fourths as extensive as cell R_3 , in *dummeri* vein R_3 more arcuated and cell R_2 approximately two-thirds cell R_3 at margin; $m-cu$ and basal section of M_{1+2} in transverse alignment; cell 2nd A broader at midlength than in *dummeri*.

Abdominal tergites, including the hypopygium, dark brown; basal sternites light yellow, the outer ones more darkened.

HOLOTYPE, ♂, Roça de Traz-os-Montes, Bombaim, São Tomé, altitude 450 meters, June 6-8, 1956.

By my key to the African species of the genus, as cited under the preceding species, the present fly runs to *Trentepohlia* (*Monqoma*) *dummeri* Alexander, still known only from Uganda. This differs in the still broader tibial tips and in the details of venation, as compared above.

10. *Trentepohlia* (*Trentepohlia*) *tripunctata* Edwards.

Trentepohlia (*Trentepohlia*) *tripunctata* Edwards; *Ann. Mag. Nat. Hist.*, (10) 14 : 332; 1934.

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meter, June 6-8, 1956; one female.

EDWARDS'S type, a female, was from São Tomé, collected by W. H. T. TAMS, without more exact data. The present fly while agreeing

sufficiently well with EDWARDS description differs in a few regards. Head only weakly darkened; anterior vertex very narrow, carinate. Mesonotal scutellum and mediotergite weakly darkened. Wings with the dark pattern heavier than indicated by EDWARDS, with a broad dark seam over the cord and with the wing tip distinctly clouded. EDWARDS compares the species with the Oriental *Trentepohlia* (*Trentepohlia*) *mcgregori* Alexander, which differs in the smaller size, much fainter wing pattern and in details of venation, as the more nearly erect vein R_3 .

11. *Toxorhina* (*Ceratocheilus*) *seychellarum* (Edwards), var.

Ceratocheilus seychellarum Edwards; *Trans. Linn. Soc. London* (2, Zool.) 15 : 203-204; 1912.

Ceratocheilus seychellarum Edwards; *Ann. Mag. Nat. Hist.*, (10) 15 : 332; 1934.

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meters, June 6-8, 1956; one male.

This evidently is the species earlier recorded by EDWARDS from Lagôa Amélia, São Tomé, collected November 18, 1932. I cannot restrict the name further on the basis of the available material.

12. *Styringomyia* *Schoutedeni* Alexander.

Styringomyia Schoutedeni Alexander; *Rev. Zool. Bot. afr.*, 19 : 364-365, figs. 12-13 (♂ hypophygium); 1930.

São Tomé : Roça de Traz-os-Montes, Bombaim, altitude 450 meters, June 6-8, 1956; one male.

The types were from Banana, Belgian Congo, taken in August 1920 by SCHOUTEDEN.
