

*UNDESCRIBED CRANE-FLIES IN THE PARIS MUSEUM (TIPULIDÆ, DIPTERA):
AFRICAN SPECIES OF THE SUBFAMILY LIMNOBIINÆ, TRIBE LIMNOBIINI,*

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Through the kindness of Dr. E.-L. Bouvier, Professor of Entomology, and Mons. Eugene Séguay, Custodian of the Diptera, the writer has been enabled to study the African Tipulidæ contained in the collection of the National Museum of Natural History. These extensive collections are of the very greatest importance in determining the range of many species of Ethiopian crane-flies. Several species proved to be new to science and are described herewith, the types being deposited in the Paris Museum.

SUBFAMILY **LIMNOBIINÆ.**

TRIBE **LIMNOBIINI.**

Genus **Geranomyia** Holiday.

Geranomyia (Geranomyia) macrops nov. sp.

Rostrum dark brown; eyes very large, the narrow vertex gray; general body coloration gray; femora with the tips yellow, a dark brown subterminal ring; wings grayish, stigma brown, vein *Sc* long, *Sc*₂ at the tip of *Sc*₁.

Male. — Length (excluding rostrum) about 6 mm.; wing, 6 mm.; rostrum alone, about 2 mm.

Rostrum moderately elongate, dark brown, the paraglossæ slender; palpi small, dark brown. Antennæ brown, the second scapal segment paler apically; flagellar segments covered with a dense white pubescence. Eyes of the male very large, the vertex restricted to a narrow dark gray strip.

Mesonotum gray pruinose, the three usual præscutal stripes dull brownish yellow, transversely irrorate with brown lines to produce an indistinct marmorate appearance; scutellum whitish; postnotum gray. Pleura gray pruinose, indistinctly clouded with darker. Halteres light yellow, the

knobs dark brown. Legs with the coxae and trochanters pale yellow; femora brownish yellow, the tips bright yellow, before the apices with a subequal dark brown ring; tibiae and tarsi brown. Wings grayish subhyaline, the stigma brown, oval; veins dark brown; costa dull yellow, incrassated, densely fringed with short dark hairs. Venation: *Sc* long, ending just beyond midlength of *Rs*, *Sc*₂ at the tip of *Sc*₁; *r* at the tip of *R*₁; basal deflection of *R*₄₊₅ long, more than half the length of the sector; cell 1st *M*₂ rather long and narrow, about as long as that section of *M*₁₊₂ beyond it; basal deflection of *Cu*₁ some distance beyond the fork of *M*.

Abdomen brownish yellow, the centers of the tergites darker. Hypopygium with the ventral pleural appendages long, greatly exceeding the pleurites or the dorsal appendages.

Habitat. — French Congo.

Holotype: ♂, N'goma, bas Ogooue, 1906 (E. Haug).

Type in the Paris Museum.

GENUS **Dicranomyia** Stephens.

Dicranomyia serandi nov. sp.

Antennae dark brown; general coloration fiery orange; wings fulvous yellow, *Sc* long, *Sc*₂ at the tip of *Sc*₁.

Male. — Length 4.5-5 mm.; wing. 5.5-6.1 mm.

Rostrum and palpi dark brown. Antennae dark brown throughout, the scapal segments somewhat darker, flagellar segments oval, becoming more elongate toward the end of the organ. Head fiery orange, the anterior part of the vertex more brownish.

Prothorax and mesothorax deep, intense orange without distinct markings of any sort. Pleura yellowish orange. Halteres rather long, the stem brown, the knobs darker. Legs with the coxae and trochanters dull yellow; femora pale brown, the tips broadly dark brown; tibiae and tarsi dark brown; claws elongate, with a slender basal tooth and a smaller tooth before midlength. Wings with a strong, uniform, fulvous yellow tinge; stigma small, indistinct, of a pale brown color; veins pale brown. Venation: *Sc* long, ending about opposite midlength the long *Rs*, *Sc*₂ at the tip of *Sc*₁; *r* very indistinct, at the tip of *R*₁; *Rs* long, gently arcuated; deflection of *R*₄₊₅ short, arcuated, about twice the length of *r-m*; cell 1st *M*₂ small, pentagonal, the veins issuing from it long; basal deflection of *Cu*₁ a short distance beyond the fork of *M*.

Abdomen brownish yellow, the caudal margins of the tergites indistinctly darker; lateral margins of the abdomen brown. Male hypopygium

with the ventral pleural appendage small, shorter than the pleurites, penis-guard stout, indistinctly bifid at the tip.

Habitat. — Los Islands, West Africa.

Holotype : ♂, Tamara, July 1913 (J. Serand).

Paratopotype : ♂.

Type in the Paris Museum.

***Dicranomyia tamaræ* nov. sp.**

Antennæ dark brown, the second segment more yellowish; thorax yellowish brown, the præscutum darker medially; legs dark brown, the tips of the femora narrowly yellowish; wings grayish subhyaline with indistinct darker clouds; Sc_2 at the extreme tip of Sc_1 ; r at the tip of R_1 .

Female. — Length 7.6-8.2 mm.; wing, 7.5-8.5 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the second scapal segment more yellowish, the distal flagellar segments elongate-oval. Head dark grayish brown; a distinct impressed brown longitudinal line on the vertex; vertex between the eyes very narrow.

Pronotum dull brownish yellow, darker brown medially. Mesonotum yellowish brown, the præscutum broadly brown medially. Pleura dull reddish yellow, indistinctly marked with darker. Halteres pale, the base of the stem more yellowish, the knobs dark brown. Legs with the coxæ reddish yellow; trochanters dull yellow; femora brown, paler at the base, becoming darker toward the tip which is abruptly light yellow; tibiæ and tarsi dark brown; claws with three teeth that gradually increase in size outwardly, the last about one-half the length of the apical point. Wings grayish subhyaline, cells C and Sc more yellowish; stigma oval, brown; large, indistinct brownish gray clouds at the origin of Rs , tip of Sc , extending down over the end of the sector, tip of the wing, along the cord and outer and of cell 1st M_2 and at the end of vein 2nd A ; cell 1st M_2 is largely subhyaline; veins brown. Venation : Sc long, extending almost to the end of Rs , Sc_2 near the extreme tip of Sc_1 so that Sc_2 is very much longer than Sc_1 alone; Rs long, slightly angulated or spurred at its origin; basal deflection of R_{4+5} short, only about one-half longer than $r-m$; r at the end of R_1 ; cell 1st M_2 rather long, a small spur from the outer deflection of M_3 close to m jutting into cell 1st M_2 ; basal deflection of Cu_1 at the fork of M .

Abdominal tergites brown, the caudal margins broadly more reddish brown; sternites dull yellow. In the paratype, the abdominal tergites are more uniformly reddish brown. Ovipositor with the tergal valves very slender, sternal valves very compressed, the tips acute, extending almost to the ends of the tergal valves.

Habitat. — Los Islands, West Africa.

Holotype : ♀, Tamara, August 1913 (J. Serand).

Paratopotype : ♀, September 1913.

Type in the Paris Museum.

The reference of this species to the genus *Dicranomyia* is provisional. The species seems to be on the direct border between *Limnobia* and *Dicranomyia* and might be referred to either of these groups with almost equal propriety.

***Dicranomyia recurvans* nov. sp.**

Antennæ dark brown, the second segment yellowish; general coloration dark brownish black; legs pale, claws simple; wings hyaline with a heavy dark brown pattern of broken crossbands and dots; *Sc* long, *Sc*₂ at the tip of *Sc*₁; *r* far removed from the tip of *R*₁; anal veins strongly recurved ad their tips.

Female. — Length, 5 mm.; wing, 6.8 mm.

Rostrum small, reddish brown; palpi dark brown. Antennæ with the first segment black, the second segment yellowish; flagellum dark brown, the segments with a short basal pedicel; basal flagellar segments subglo-bular, thense passing into oval and elongate oval, the last (fourteenth) segment elongate-subulate. Vertex between the eyes rather broad, brilliantly silvery white. Remainder of the head reddish brown, indistinctly silvery pruinose along the inner margin of the eyes.

Pronotum dark brown, the sides of the scutellum yellowish, the scu-tum large and prominent. Mesonotum brownish black, the præscutum with three indistinct deep reddish brown stripes that are nearly confluent, the lateral stripes sparsely gray pruinose, the median stripe split by a broad blackish line; scutum and postnotum indistinctly pruinose. Pleura blackish. Halteres black, the base of the stem conspicuously yellow. Legs with the coxæ blackish; remainder of the legs very pale yellowish brown, the apical tarsal segments darker brown; tarsal segments three and four a little enlarged; claws untoothed. Wings hyaline with a very heavy dark brown pattern that appears as about four broken crossbands, the first as a large blotch at the end of vein *2nd A*; the second as a similar blotch at the end of vein *1st A* and a similar area at the origin of *Rs*; the third, largest, along the cord; the fourth as a large blotch at the outer end of cell *1st M*₂ and at the radial crossvein, the latter confluent with the third band; besides these interrupted bands the remainder of the cells are filled with small black dots and spots that become confluent at the wing-base and before the apex; veins dark brown; pale longitudinal obliterative streaks in the cells *R*, *R*₅, *1st M*₂, *M* and *Cu*. Venation : *Sc* very long, ending opposite the fork of the long sector, *Sc*₂ at the tip of *Sc*₁; *r* very

far from the tip of R_1 , the distance beyond r being about one-half longer than the deflection of R_{4+5} ; cell $1st\ M_2$ large; basal deflection of Cu_1 just beyond the fork of M ; veins Cu_2 , $1st\ A$ and $2nd\ A$ very strongly recurved at their ends, the last named being bent at a right angle.

Abdomen dark brown, the last sternite yellow; tergal valves of the ovipositor very slender and strongly upcurved; sternal valves yellow, the bases black, the apices brown, flattened, tapering gradually to the acute tip; these latter, on the ventral outer face, have a prominent lateral tooth, the outer margin beyond it being minutely serrulate.

Habitat. — Los Islands, West Africa.

Holotype : ♀, Tamara, July 1913 (J. Serand).

Type in the Paris Museum.

The reference of this curious little fly to the genus *Dicranomyia* is provisional only; the recession of r from the tip of R_1 and the simple claws deviate strongly from the normal characters of the genus.

***Dicranomyia nairobi* nov. sp.**

Belong to the *tipulipes* group; thorax buffy, the præscutum with three brown stripes; antennæ dark brown throughout; fore femora dark brown, much darker than the posterior femora; wings grayish subhyaline; vein Sc_1 long; basal deflection of Cu_1 underneath cell $1st\ M_2$.

Female. — Length, 6.2 mm.; wing, 7.3 mm.

Rostrum moderately elongated, exceeding half the length of the rather long head, dark brown; palpi dark brown. Antennæ dark brown throughout. Head dark gray, the setigerous punctures more brownish; vertex narrow.

Mesonotal præscutum light buff with three dark brown stripes, the median stripe ending before the suture; scutum and scutellum grayish testaceous, pruinose medially; postnotum dark, gray pruinose. Pleura dark, sparsely gray pruinose. Halteres yellowish, the knobs large, dark brown. Legs with the fore coxæ dark, the hind coxæ paler brown; trochanters dull yellow; fore femora dark brown, with only the base pale; hind femora pale brownish yellow with only the tips darkened; tibiæ and tarsi dark brown; claws with a long basal tooth. Wings grayish subhyaline; stigma lacking; cell Sc more yellowish; veins dark brown; a dark spot formed by the brown Sc_2 . Venation : Sc ending just beyond the origin of Rs , Sc_2 far removed from the tip of Sc_1 , the latter alone being longer than the sector; Rs almost straight; r at the tip of R_1 ; basal deflection of R_{4+5} long, about three-fourths the length of the sector; $r-m$ correspondingly shortened; cell $1st\ M_2$ narrow but shorter than the veins issuing from it; basal deflection of Cu_1 at about one-third the length of cell $1st\ M_2$.

Abdomen dark brown, grayish pruinose; genital segment and ovipositor yellowish, the tergal valves of the latter slender, rather strongly upcurved.

Habitat. — British East Africa.

Holotype : ♀, Environs de Nairobi, June 1912 (Vicomte de Poncins et Comte de Lambertye).

Type in the Paris Museum.

Dicranomyia nairobi is very closely related to *D. tipulipes* Karsch from which it may most readily be distinguished by the unmarked wings.



Alexander, Charles P. 1919. "Undescribed Crane-Flies in the Paris Museum : Tipulidæ, Diptera : African species of the Subfamily Limnobiinæ, Tribe Limnobiini." *Bulletin du Muse*

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