

MÉMOIRES DE L'INSTITUT SCIENTIFIQUE DE MADAGASCAR

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A NEW GENUS
AND SPECIES OF NET-WINGED MIDGE
FROM MADAGASCAR

(DIPTERA BLEPHAROCERIDAE)

by

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Among some Tipulid flies sent to me for identification by Dr. Renaud Paulian, Deputy Director of the Institut Scientifique de Madagascar, there was included a single specimen of a net-winged midge that evidently represents a new and most interesting genus. To the present time, the only members of the family known from the Ethiopian Region were a few species belonging to the subfamily *Paltostominae* and to the genus *Curupira* Lutz (*Elporia* Edwards), described by EDWARDS and BARNARD, all restricted to South Africa. The fly described herewith is evidently a member of the subfamily *Edwardsininae*, the most primitive of the three recognized subfamilies in the *Blepharoceridae*.

The *Edwardsininae* to this date has included the single genus *Edwardsina* Alexander, described from South Chile but later found in Argentina, Tasmania and southeastern Australia. Besides the typical subgenus *Edwardsina* Alexander, of Chile and Argentina, there are two others, *Tonnoirina* Edwards, of Chile and Patagonia in South America and Tasmania and southeastern Australia in Australia, and *Alexina* Edwards, likewise from Australia. The present genus, which I am most pleased to name *Paulianina*, in honor of the distinguished Deputy Director of the Institut Scientifique, differs in one regard from *Edwardsina*, that is, the broken base of vein M_3 of the wings, but the nature of this break and the direction of the vein is quite different from the condition found in the various genera referred to the subfamily *Blepharocerinae*. In all other essential respects, the fly agrees with *Edwardsina*, including the venation, with ten veins reaching the margin and a long spur on *Rs*, the short fore trochanters, and other characters.

Paulianina, gen. n.

Characters generally as in *Edwardsina* Alexander, differing otherwise in the atrophy of the basal section of vein M_3 of the wings.

Maxillary palpi 4-segmented, the terminal two segments very small, subequal. Antennae 15-segmented; scape very short, scarcely longer than the pedicel; basal eight or nine flagellar segments flattened, about twice as long as broad, the outer segments becoming longer and more slender; verticils very short and inconspicuous. V-shaped suture between the praescutum and scutum deep and well-defined, virtually as in the *Tipulidae*. Legs with the fore trochanters short; all tibiae with a single spur; last tarsal segment with about a dozen very long spines at base of ventral surface; claws very conspicuously toothed. Wings (figure) with Sc very reduced, Sc_2 projecting some distance beyond the level of Sc_1 ; vein R 4-branched, with three branches of Rs reaching the margin; Rs short and nearly transverse; a long spur on basal section of vein R_5 , close to its union with Rs ; R_{2+3+4} long, only a little less than the anterior branch of Rs , the latter forming the posterior border of the stigma and lying close to vein R_{1+2} at margin; $r-m$ in transverse alignment with the long basal section of M_{3+4} ; base of distal section of vein M_3 narrowly atrophied, the vein showing no tendency to be deflected caudad toward M_4 , as in *Edwardsina*, the posterior half of the vein M_{3+4} thus evidently comprised of vein M_4 alone; a short fusion of veins M_4 and Cu_1 beyond the level of the cord. Longitudinal rows of strong macrotrichia in centers of cell R_3 ; outer end of R_5 ; two in cell M_2 near the upward deflection of M_{1+2} ; a long series in cell M_3 , forking near outer end of cell; a comparable more shallow fork near outer end of cell M_4 . Further abundant macrotrichia in outer ends of cells R_3 , R_4 and R_5 , with fewer in cells M_2 , M_3 and M_4 , in the latter cells lying within the forks of the longitudinal rows above described. Two short rows of trichia in cell A . Abundant macrotrichia on all veins. Microtrichia very small but abundant and generally distributed over the wing surface. Secondary net venation well shown by dusky lines. Anal angle of wings moderately developed.

GENOTYPE : *Paulianina hova*, sp. n. (Malagasian Subregion).

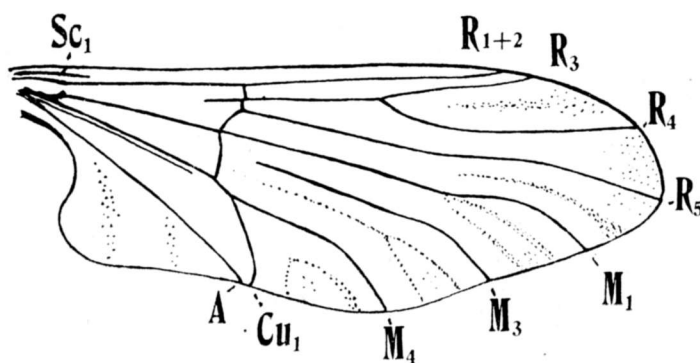
The relationships with *Edwardsina* have been discussed above. Particular attention is directed to the strong longitudinal rows of macrotrichia in the outer cells of the wing. Not only is there a marked concentration of trichia at these points but there is an indication of a thickening of the chitin, appearing almost as a weak vein. If these rows actually represent vein remnants, as appears to be the case, an entirely new arrangement of veins in the most primitive *Diptera* is suggested. It may be noted here

that the *m-cu* crossvein, as discussed by EDWARDS in the *Blepharoceridae* (as being present in certain genera, as *Bibiocephala*, while being lost in other groups, as *Blepharocera* and *Liponeura*) actually does not refer to this vein but rather to the basal section of vein M_{3+4} .

Paulianina hova, sp. n.

General coloration black and silvery, the mesonotal praescutum with six black stripes on a silvery ground; femora black, with a broad obscure yellow subterminal ring; wings glassy hyaline, the stigma distinct; abdominal tergites dark brown, ringed at midlength with orange yellow.

Length about 5 mm.; wing about 8 mm.



Paulianina hova, sp. n.; venation.

Symbols : A, Anal vein; Cu, Cubitus; M, Media; R, Radius; Sc, Subcosta.

Rostrum relatively long, black; palpi black. Eyes small, simple, densely hairy. Head velvety black, with patches of silvery pollen, forming lines on the orbits, areas on either side of the ocellar tubercle, and as isolated lateral marks on the sides of the posterior vertex; head cephalad of the ocellar tubercle with three low tubercles, one median, the others lateral in position.

Pronotum black, patterned with silvery gray. Mesonotal praescutum with the silvery ground restricted, the surface being largely covered by six black stripes, the broad intermediate pair very narrowly divided by a capillary dull gray line; lateral praescutal stripes joined before the suture, sending two arms forward, the interspaces being of the silvery ground; scutal lobes darkened, the median area gray; scutellum gray pruinose, its posterior border darkened; postnotum dark. Pleura handsomely patterned with gray and black, the former more extensive, the latter best-indicated on the dorsal mesepisternum; dorsopleural region extensive, dusky, with a conspicuous velvety black area behind the anterior spiracle. Halteres with stem yellow, knob black. Legs with the coxae brownish black, pruinose; trochanters brownish yellow, hairy beneath; femora

yellowed basally, passing into black, with a broad obscure yellow subterminal ring, more extensive than the blackened tip; tibiae and tarsi brown to dark brown. Wings (figure) glassy hyaline; stigma dark brown; veins dark brown. Venation and trichiation of wings as discussed under the genus; spur on basal section of vein R_5 exceeding twice the length of R_s .

Abdomen dark brown, the more basal and intermediate tergites with a transverse obscure orange yellow band at midlength, the darkened bases of the segments a little more extensive than the apices; outer segments and sternites more uniformly darkened. Genitalia very small, uniformly darkened. Due to the condition of the unique type I hesitate to remove the genitalia for study; from what is visible it appears that the specimen is a female.

HOLOTYPE, presumably a ♀, Mont Tsaratanana, altitude 1500 meters, october 1949 (Paulian); Institut Scientifique de Madagascar.

RESUME

Description de *Paulianina hova*, n. gen., n. sp., Blépharocéride appartenant à la sous-famille des *Edwardsininae*, connue jusqu'ici seulement d'Amérique du Sud, d'Australie orientale et de Tasmanie.