

UNDESCRIBED SPECIES OF NEMATOCEROUS DIPTERA. PART I.

By CHARLES P. ALEXANDER, Amherst, Mass.

In recent years a large number of species of Nematoceros Diptera, representing several families, have come to hand, mostly included in shipments of Tipulidae from many parts of the World. In this paper, and others proposed under the same general title, certain of the more interesting of these flies will be described. Acknowledgements will be found under the accounts of the individual species. Except where indicated to the contrary, the types of the various novelties will be preserved in my personal collection of Diptera.

TRICHO CERIDAE

Trichocera fattigiana n. sp.

General coloration gray or brownish gray, the praescutum with four pale brown stripes; legs dark brown; wings with a weak brownish tinge, the base more yellowed, the stigma slightly darker; R_{2+s+4} in almost direct alignment with R_s , a little longer than R_{2+s} ; cell 2nd *A* broad; male hypopygium with a small pale tubercle on dististyle; phallosome consisting of a central plate, the outer lateral angles produced laterad into slender spines; a narrow median structure in center of phallosome.

Male: Length about 5.5-6 mm.; wing 6-6.7 mm.; antenna about 3.2-3.4 mm.

Rostrum dark brown; palpi black. Antennae with the scape and pedicel testaceous brown, flagellum black. Head yellowish gray.

Pronotum brownish gray. Mesonotum brownish gray, the praescutum with four pale brown stripes that are relatively inconspicuous against the ground; scutal lobes somewhat similarly darkened; median region of scutum light gray; scutellum more ochreous yellow, especially at apex; postnotum, including pleurotergite, gray pruinose. Pleura brownish gray. Halteres whitened, the knobs dark brown. Legs with the coxae gray pruinose; trochanters obscure yellow; femora uniformly dark brown, tibiae and tarsi somewhat darker brown. Wings with a weak brownish tinge, the base more yellowed; stigma oval, slightly darker than the ground, lying entirely distad of R_2 ; no other dark pattern on wings; veins dark brown, more yellowed in the prearcular field. Macrotrichia of veins relatively short and inconspicuous. Venation: R_{2+s+4} almost in

direct longitudinal alignment with R_s , a little longer than R_{2+s} ; basal section of M_{1+2} a little more than one-half the second section; cell 2nd A broad, the vein very strongly arcuated to almost subangulate at near midlength.

Abdomen, including hypopygium, uniformly dark brown. Male hypopygium with the ventromesal lobes of basistyles barely contiguous at the midline, not forming a complete so-called coxal bridge. Dististyle subcylindrical, at base of its mesal face with a very small and weak pale tubercle; mesal face of style basad almost to the tubercle with abundant short pale setae. Phallosome consisting of a central plate, the outer lateral angles of which are produced laterad and very slightly caudad as slender spines; in the center of the phallosome there juts caudad a narrow median structure.

Habitat: Georgia, Tennessee, Illinois.

Holotype: ♂, Atlanta, Georgia, December 9, 1945 (P. W. Fattig). *Paratypes*: 1 ♂, Knoxville, Tennessee, December 4, 1938 (A. C. Cole); 1 ♂, University Woods, Urbana, Illinois (V. E. Shelford); Collector's No. H 3985.

I am very pleased to name this fly for Professor P. W. Fattig, who has added vastly to our knowledge of the insects of Georgia. By my key to the Eastern North American species of *Trichocera* (Diptera of Connecticut, 1: 189; 1942), the fly runs to what has been determined as being *Trichocera saltator* (Moses Harris, 1782), a very distinct fly having the phallosome quite different, appearing as elongate blades and not as lateral horns from a flattened central plate. The exact identities of certain of the flies that center about *saltator* remain much in doubt. The structure of the phallosome, as above described, while being quite different from that of other eastern species is found in certain Palaearctic and western Nearctic forms.

Trichocera brevicornis n. sp.

General coloration dark brownish gray, the praescutum with four ill-defined clearer brown stripes; antennae unusually short, only a little more than one-third as long as the wing, the first flagellar segment subequal in length to the ninth; wings with a strong dusky tinge, unpatterned except for the vaguely darker stigma; abdomen, including the hypopygium, uniformly darkened; male hypopygium with the coxal bridge stout, the lobes contiguous at the midline; dististyle simple; gonapophyses appearing as very long pale blades from a short narrow base.

Male: Length about 5.5–5.7 mm.; wing 5.5–6 mm.; antenna about 2–2.1 mm.

Female: Length about 6–6.2 mm.; wing 6.8–7 mm.

Rostrum and palpi brownish black. Antennae unusually short, black throughout; first flagellar segment about equal in length to the ninth, distinctly longer than the eighth; basal six flagellar segments relatively stout, the others becoming setaceous. Head brownish gray.

Pronotum brownish gray. Mesonotum dark brownish gray or plumbeous gray, the praescutum with four ill-defined clearer brown stripes. Pleura plumbeous gray. Halteres weakly infuscated, the knobs still darker brown, the base of stem restrictedly paler. Legs with the coxae plumbeous; trochanters testaceous brown; remainder of legs dark brown, the femoral bases vaguely more brightened. Wings with a strong dusky tinge, the stigmal region vaguely darker; prearcular field slightly more whitened; veins brown. Venation: R_{2+3+4} variable in length, in cases longer than R_{2+3} , in other specimens shorter; cell M_1 longer than its petiole; cell *2nd A* relatively narrow.

Abdomen dark brown, sparsely pruinose; hypopygium dark brown. Male hypopygium with the darkened portions of the ventromesal lobes of the basistyle (coxal bridge) broad, contiguous at the cephalic angle. Dististyle a relatively short simple structure, nearly cylindrical, without lobes; outer surface with long scattered pale setae, the longest only a little shorter than the diameter of the style; vestiture of mesal face of style short and pale, very abundant. Gonapophyses appearing as very long pale blades from a short narrow base.

Habitat: Georgia.

Holotype: ♂, Atlanta, November 25, 1945 (P. W. Fattig). *Allotype:* ♀, Dallas, December 9, 1945 (P. W. Fattig). *Paratopotypes:* 5 ♂♀, November 17, 1945–January 7, 1946; *paratypes*, 7 ♂♂, with the allotype, December 9, 1945.

The nearest described relative of this fly is the species commonly determined as being *Trichocera saltator* (Moses Harris, 1782), which differs in the coloration of the body and wings, and especially in the longer antennae and in the details of structure of the male hypopygium. By Edwards's last key to the British species of the genus (*Trans. Soc. British Ent.*, 5: 153; 1938), the fly runs to *saltator*. It should be noted that the venational character of relative proportions of veins R_{2+3+4} and R_{2+3} , stressed by Edwards as a major key character, breaks down in various species, including the one under consideration. By Osten Sacken's key (*Mon. Diptera N. Amer.*, 4: 236–237; 1869), the fly runs to *T. brumalis* Fitch, which is held as being a possible synonym of *T. saltator*.

BLEPHAROCERIDAE

Philorus sequoiarum n. sp.

General coloration black, heavily pruinose; face black; antennae with scape brown, flagellum black; praescutum with a pair of brown intermediate stripes; legs black, the femoral bases narrowly paler; wings with the basal section of vein R_s present; veins R_4 and R_5 strongly divergent on their outer third; vein Cu arched at near midlength, the cell widest at this point.

Female: Length about 5.8–6 mm.; wing 7.5–8 mm.

Mouthparts and palpi dark brown; face black, sparsely pruinose. Antennae with the scape brown, the flagellum black; segments gradually decreasing in diameter from the more basal ones outwardly, the terminal one reduced. Vertex reduced to a narrow strip, black, sparsely pruinose, narrowest before the ocelli; eyes large, bisected, the upper part more extensive, with larger ommatidia, setae of eyes short.

Thorax clear gray, the praescutum with a pair of brown intermediate stripes that are very narrowly separated medially; lateral stripes barely indicated as gray areas that are a little darker than the ground. Pleura clear light gray. Halteres with the stem yellow, the knob dark brown. Legs with the coxae and trochanters pale, sparsely pruinose; legs black, the femora narrowly brown basally; tibial spur formula 0–1–2; claws long and slender, glabrous on outer half. Wings hyaline, restrictedly more yellowed at base; outer half of costal cell more infuscated; veins brownish black, very distinct; a small blackened thickening in the axillary angle. Venation: Basal section of vein R_s short but indicated, approximately one-third $r-m$; veins R_4 and R_5 strongly divergent on outer third, cell R_2 about one-half as extensive as cell R_4 ; vein Cu arched at near midlength, the cell widest at this point.

Abdomen blackened, light gray pruinose, the lateral borders of the segments narrowly pale. Valves of ovipositor small, yellow.

Habitat: California.

Holotype: ♀, Sequoia National Park, along small stream at Dorst Camp Ground, altitude 6500 feet, July 3, 1950 (C. P. Alexander). *Paratopotype*: ♀, pinned with type.

The most similar described regional species is *Philorus cheaini* Garrett, of the Canadian Rockies, which is still known only from the short and insufficient description. From this latter, the present fly differs in coloration and apparently in the venational details.

***Blepharocera apoensis* n. sp.**

Mesonotum brownish black, gray pruinose, abdomen bicolored; eyes (female) relatively small, very unequally divided, the upper part very reduced; last tarsal segment with a conspicuous hairy protuberance at base, claws long and slender, each with two long spines and long black setae; wings with radial branches extending generally parallel to one another for almost their whole lengths.

Male: Length about 7 mm.; wing 8.5 mm.

Female: Length about 6.5 mm.; wing 8 mm.

Mouthparts produced, longer than the remainder of head, yellowish brown; maxillary palpi dark brown. Antennae black throughout; flagellar segments oval, gradually reduced in size, the last about one-half the penultimate. Eyes relatively small, the vertex correspondingly broad, only a little less than the exposed visible part of the eye when viewed from above; anterior vertex and front subequal in width. Eyes very unequally divided, the major lower part with large ommatidia and a short but dense white pubescence; the upper part reduced to a narrow section opposite the median ocellus, this area only about as wide as the diameter of a flagellar segment, with small ommatidia. Darkened facial areas linear, glabrous, on either side of base of clypeus. Head above black, sparsely pruinose.

Mesonotum brownish black, gray pruinose, the base of scutellum a little brightened. Pleura and pleurotergite dark brown, more yellowed beneath the wing root. Halteres with stem obscure yellow, knob brownish black. Legs with the coxae and trochanters brownish yellow, the tips of both on lower faces with dense brushes of black setae; remainder of legs brown, the outer tarsal segments brownish black; a conspicuous hairy protuberance at base of last tarsal segment; claws long and slender, simple, each with two long spines and several long black setae. Wings subhyaline, veins brownish black. Venation: Branches of R_s long, extending generally parallel to one another for almost their whole length, cell R_2 at margin being about two and one-half to three times as extensive as cell R_4 .

Abdominal tergites bicolored, the bases of the more proximal segments yellow, pruinose, the broader apices black; outer segments more uniformly darkened; sternites more uniformly yellow.

Habitat: Philippines (Mindanao).

Holotype: ♂, with a question, Mainit River, Mount Apo, September 14, 1930 (C. F. Clagg); Museum of Comparative Zoology.

Allotopotype: ♀, September 10, 1930; Alexander Collection.

The most similar regional species is *Blepharocera tetrophthalmia*

Edwards, from low altitudes on Mount Kinabalu, North Borneo. This is entirely distinct in color and especially in the structure of the eyes. The type specimen of the present fly is believed to be a male but without dissection this cannot be fully determined. This is the first species of Blepharoceridae to be found in the Philippines.

Curupira chilena n. sp.

General coloration of body blue-gray, the praescutum with four brown stripes; antennae black throughout, pedicel elongate; eyes conspicuously bisected; fore and middle legs black, the femoral bases yellowed, posterior femora brownish yellow, the tips narrowly blackened; tibial spur formula 0-2-2; basitarsi simple and unmodified in both sexes; claws not swollen basally; veins of cephalic part of wing black, the remainder abruptly yellow; abdominal tergites tricolored; male hypopygium with the outer dististyle very complex in structure.

Male: Length about 6.5-7 mm.; wing 6.5-7 mm.

Female: Length about 6.5 mm.; wing 6.8 mm.

Mouthparts, including the palpi, black; maxillary palpi 4-segmented, excluding the palpiger, extending beyond the other mouthparts. Antennae black throughout, 15-segmented; pedicel elongate; flagellar segments short-cylindrical, crowded, especially so in the males, the antennae feebly clavate, the outer segments being slightly broader than the more proximal ones. Eyes of male conspicuously bisected, the larger upper half with larger ommatidia, the setae very short; head broadly holoptic above, forcing the ocellar triangle posteriorly. In the female, eyes much smaller and unequally bisected, the upper part much smaller; head dichoptic, the posterior vertex nearly as wide as the exposed part of the eye when viewed from above. Clypeus light gray; vertex gray, patterned with darker.

Thorax blue-gray, the praescutum with four brown stripes, the long intermediate pair narrowly separated by a ground line, in cases the darkened pattern much less distinct; postnotum more or less broadly yellowed behind. Pleura blue-gray, more infuscated surrounding the wing root. Halteres black, the base of stem more infuscated. Legs with the coxae gray pruinose; trochanters brownish yellow, the fore pair elongate; fore and middle legs black, the fore femora narrowly obscure yellow basally; posterior femora elongate, obscure brownish yellow, the tips narrowly brownish black; remainder of legs black; tibial spur formula 0-2-2; basitarsi of both sexes simple and unmodified; claws long and nearly straight, not swollen basally, hairy except on about the outer fourth; legs

densely covered with linear scale-like setae. Wings hyaline, the prearcular region more yellowed, the color due to the approximation of veins; anterior veins, including *C*, *R*, *r-m*, stem of *M* and base of *A* black, the remaining veins abruptly yellow. Venation: *Rs* very short; cell *R*₃ conspicuous, more than five times as extensive at margin as cell *R*₂; vein *A* atrophied beyond base.

Abdominal tergites handsomely tricolored, the sides broadly light bluish gray, the median area of the individual segments beyond the first with a blackened triangle, its point directed cephalad; in cases with the median line of the latter paler, obscure orange; posterior borders of tergites two to four inclusive, narrowly orange; sternites uniformly gray; hypopygium black. Male hypopygium with the caudal margin very deeply and acutely notched. Outer dististyle very complex, appearing as an expanded outer pale blade, subtended by a stouter setiferous arm that terminates in a decurved head; mesal edge near base produced into a stout lobe that is tipped with several setae, the more cephalic ones unusually long. Inner style a broadly flattened obtuse blade. Gonapophyses very long and slender, slightly exceeding in length the three more slender penis filaments.

Habitat: Chile (Santiago).

Holotype: ♂, Macul, altitude 1500 meters, March 11, 1949 (L. E. Pena). *Allotopotype*: ♀, pinned with type. *Paratopotypes*: ♂ ♀.

The only genus of Blepharoceridae hitherto recorded from Chile is *Edwardsina* Alexander, with approximately half a dozen species. The discovery of a member of the Paltostominae in the Republic is of unusual interest. The most similar species include *Curupira brevicornis* Edwards and *C. elnorae* Edwards, both of northeastern Argentina, which differ in the structure of the antenna, maxillary palpi and male hypopygium, and in all details of coloration. The simple basitarsi in both sexes of the present fly is more as in *elnorae* but there are two spurs on the posterior tibiae, the common condition in the Brazilian members of the genus. The very complex dististyle of the male hypopygium is very different from the condition found in other members of the genus.