

Systematic review of Neotropical Lauxaniidae genera: *Cephalella* Malloch (Diptera, Schizophora)

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SUMMARY. *Cephalella* Malloch, 1926, a monotypic Neotropical Lauxaniidae genus, characterized by the presence of long antennae and a prominently convex face, is reviewed. The range of *C. fumipennis* is amplified.

KEY WORDS. *Cephalella*, Diptera, Lauxaniidae, Neotropical Region, systematic

The knowledge of the Neotropical Lauxaniidae is poorly developed. Many authors in a general way have pointed out the difficulty in tackle the lauxaniid systematics (MALLOCH 1926, 1929; STUCKENBERG 1971; SHEWELL 1986, among the modern authors). It is necessary to take into account the range of the family in the region, the wide variety of forms and the absence of a suprageneric classification of the Lauxaniidae. The descriptions of the new genera found during this study on the Neotropical Lauxaniidae began to be published in PAPP & SILVA (1995).

A group of genera was chosen as an initial approach to the systematics of the family in the Neotropical region. The group studied has long antennae, that is, the length of the first flagellomere is at least six times its basal width, and is close related to *Lauxania* Latreille, 1804. STUCKENBERG (1971: 519) considered that some genera seem to form a natural group, defined, at least partially, by the kind of frons (and associated characters) of *Lauxania*. The most common characters are a smooth tegument; bare, bulbous face; long antennae and sparse mesonotals hairs. It is composed by eight genera, including *Cephalella* Malloch, which one is revised here.

This study was done examining the material from the collections following listed: The National Museum of Natural History (USNM), Washington, D.C. (curators Dr. A.L. Norrbom and Dr. G.F. Hevel); The Entomological Museum, Department of Zoology, Utah State University (EMUS), Logan (curator Dr. W.J. Hanson); The Natural History Museum (BMNH), London (curator Mr J. Chaney).

Cephalella Malloch

Cephalella Malloch, 1926: 5. Type species *Cephalella fumipennis* Malloch (mon.).

Diagnosis. Face convex, with prominent rounded areas in the laterals; labrum exposed and almost so high as the face above the antenna; ocelli small and very close, ocellar seta absent; orbital seta reclined; scape approximately with the same length of pedicel, first flagellomere very long and slender, arista short plumose. Intralar seta absent. Female with four spermathecae.

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Cephalella fumipennis Malloch, 1926

Figs 1-6

Cephalella fumipennis Malloch, 1926: 5. Type locality: Costa Rica, San Mateo, Higuito.

Distribution. Mexico to Costa Rica.

Redescription. Head (Figs 1, 2) slender in the lower part; general color brownish yellow. Ocellar triangle dark brown, close to the vertex. Frons rectangular, longer than wide; shining yellow, without dark spots; approximately flat in profile; anterior margin not protruding over the antenna. Face short, its height no more than half the length of the frons; laterally with shining black humps. Parafacialia narrow, white pruinose near the antenna. Gena narrow. Labro exposed, well developed, almost so high as the face, shining black; palp well developed, dark brown. Occiput concave. Antenna: scape approximately with the same length of the pedicel, both brownish yellow; first flagellomere longer and slender, blackish brown; arista thickened at the base, shorter than the flagellomere, pectinated, with short hairs. Chaetotaxy: orbital anterior seta almost the same length of the posterior one, both reclined; inner vertical seta 2/3 of outer vertical, both strong; postocellar seta cruciated; ocellar seta absent.

Thorax. Slightly narrow, long; mesonotum arched anteriorly; anterior part, including postpronotum, proepisternum and proepimerum brownish yellow, all other parts brown with light white pruinosity; scutellum flat, triangular. Chaetotaxy: 1 postpronotal seta; 2 notopleural setae; dorsocentral setae arranged 0+3, all setae near the scutellum, not well developed and decreasing in size anteriorly; 1+1 supralar setae; 1 intralar seta; 1 postalar seta; 1 acrostichal seta; 5 rows of acrostichals hairs; 1 anepisternal seta; 1 katepisternal seta; anepimerum bare; 2 scutellar setae, short; 2 proepisternal setae.

Wing (Fig. 4) dark brown, paler posterior margin; r-m crossvein near the middle of the wing; R₄₊₅ and M describing a curve near the apex. Halteres brown.

Legs (Fig. 3) brownish yellow, but apex of fore femur and hind tibia, base of fore tibia brown; first fore tarsomeres and last two mid and hind tarsomeres black. All tibiae with at least one pre-apical bristle; fore femur with postero-ventral row of bristles and some posterior bristles; mid femur with antero-apical row of bristles.

Abdomen dark brown, with white pruinosity; margins of the tergites with longer bristles. Female terminalia (Figs 5, 7) short, tubiforme, dark brown; four spherical and smooth spermathecae (Fig. 6).

Material examined. Holotype female, COSTA RICA, *Higuito*: San Mateo, Pablo Schild, type no. 28439 (USNM). MEXICO: San Luis Potosí, 6 mi S. Cd. Valles, 1 female (EMUS). BELIZE: Toledo, 15 m n.w. of Punta Gorda, Big Fall., 30-VIII-1978, P.S. Broomfield *leg.*, BM, 1979-33, secondary forest and scrub, 1 female (BMNH). COSTA RICA: Ala 20 Km S. Upala, 1 female (EMUS).

Comments. The monotypic genus *Cephalella* was described by MALLOCH (1926) to include the species *C. fumipennis* Malloch, 1926. This is a rare species in collections. Its distribution area was widened with this study. One female from

Mexico, in a locality from the Nearctic Region, was found in the EMUS collection. Unfortunately, no male specimen was found.

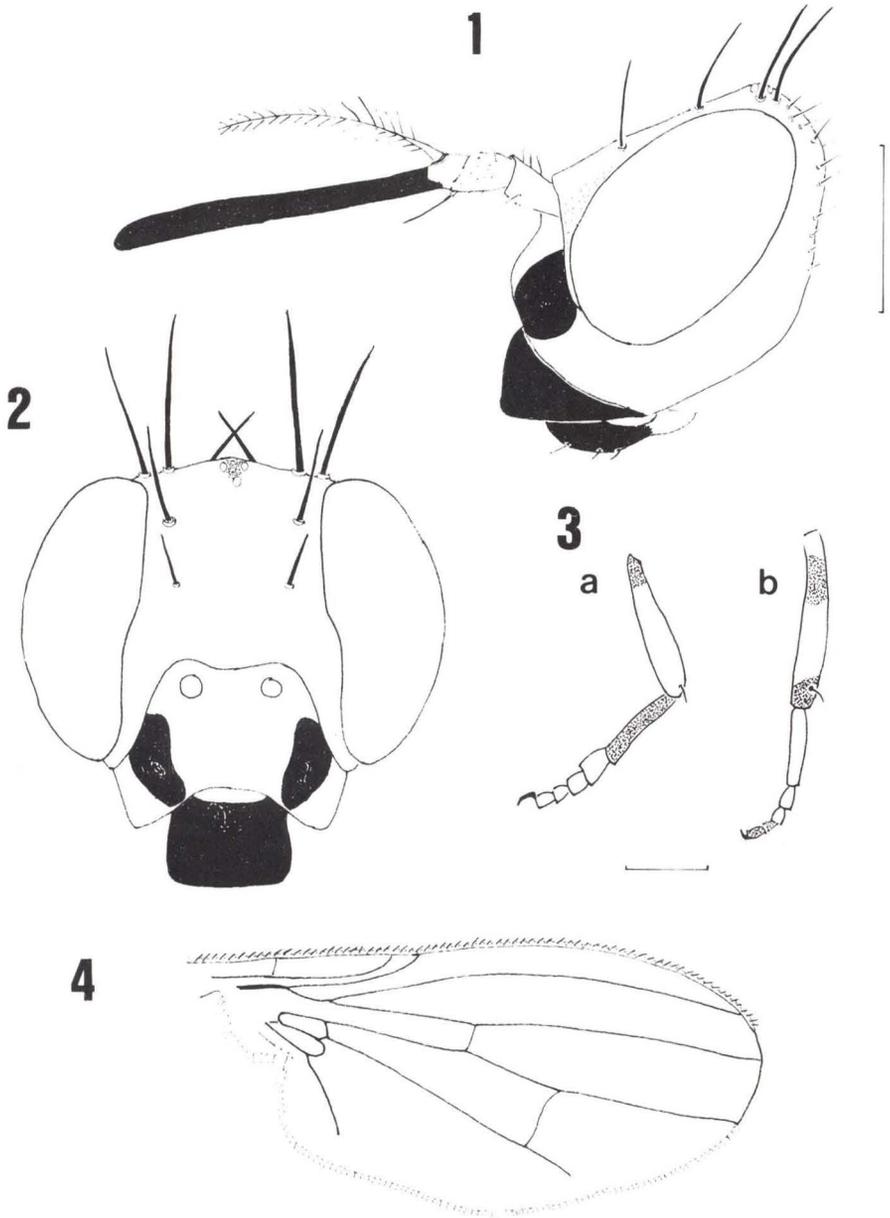
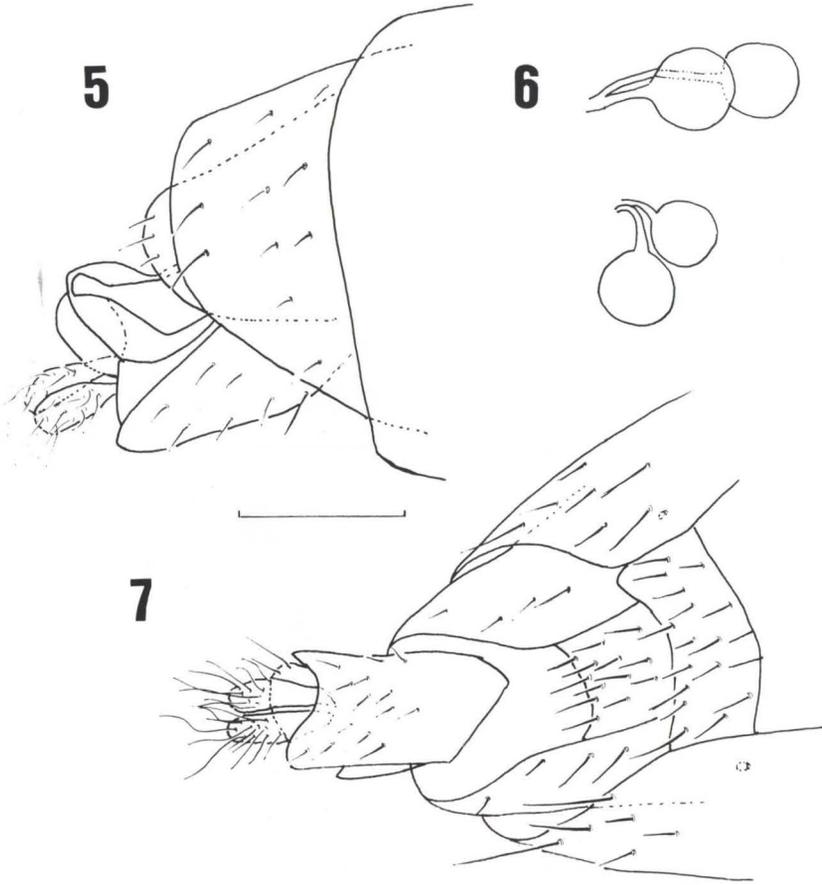


Fig 1-4. *Cephalella fumipennis*, Costa Rica, San Mateo, holotype. (1) Head, lateral view; (2) head, frontal view; (3) fore (a) and hind (b) right tibia and tarsi, anterior view; (4) right wing. Scales 0,5 mm.



Figs 5-7. *Cephaella fumipennis*, Costa Rica, Ala (EMUS) female terminalia. (5) Lateral view; (6) spermathecae; (7) ventral view. Scales 0,2 mm.

It was possible to study only the structure of the female terminalia. Three spermathecae, in Diptera, was considered by HENNIG (1958) as part of the basic plan of the Order. Therefore the founding of four spermathecae in the species studied is considered here an autapomorphie for the genus. MCALPINE (1981) indicated the presence of four spermathecae also in Chamaemyiidae. This last family is considered as part of the superfamily Lauxanioidea. In the point of view of GRIFFITHS (1972) and MCALPINE (1989) both families are in well-separated subgroups, and this character is considered as having arisen independently in both groups.

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