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Redescription of *Lutzomyia (Lutzomyia) renei* Martins, Falcão & Silva, 1957 (Diptera: Psychodidae: Phlebotominae)

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Abstract

The male genitalia of *Lutzomyia (Lutzomyia) renei* (Martins, Falcão & Silva, 1957) have four bristles, three fine and one semi-foliaceous, inserted basomesally on the gonocoxite. Nonetheless, in the original description and in other taxonomic studies, these bristles have been illustrated and described in varying formats. In order to clarify the morphology of this species, both sexes are here redescribed based on three males and one female from the type series. A lectotype and two paralectotypes are here designated.

Key words: American sand flies, Brazil, morphology, taxonomy

Introduction

Lutzomyia (Lutzomyia) renei (Martins, Falcão & Silva, 1957) (Psychodidae, Phlebotominae, Phlebotomini, Lutzomyiina) is one of 21 species in the subgenus (Galati 2015). Martins *et al.* (1957) described the male of this species based on six specimens and designated them as "cotypes". Lapinha Cave, Lagoa Santa municipality, Minas Gerais state, Brazil was listed as the type locality. In the same year, Sherlock (1957) obtained males of *Lu. renei* reared in the laboratory from eggs laid by females collected in the type locality. He described the female based on one specimen. In addition, the immature stages were described and details of the life cycle, phenology, anthropophilic behavior and hourly activity, as observed under experimental and natural conditions, were provided (Sherlock 1957).

Males of species included in subgenus *Lutzomyia* sensu stricto (Galati 2003, 2015) have a cluster of two to five bristles on the mesal surface of each gonocoxite near its base. These bristles may be fine (as wide as the genital filaments), semi-foliaceous (twice as wide as the fine bristles) or foliaceous (three or more times as wide as the fine bristles). *Lutzomyia renei*, as well as eleven other species: *Lu. alencari*, *Lu. battistinii*, *Lu. bicornuta*, *Lu. cavernicola*, *Lu. cruzi*, *Lu. dispar*, *Lu. gaminarai*, *Lu. ischnacantha*, *Lu. ischyracantha*, *Lu. longipalpis*, *Lu. pseudolongipalpis* and *Lu. souzalopesi* have four bristles in this cluster. Martins *et al.* (1957) illustrated the four bristles of *Lu. renei* as one fine one and three semi-foliaceous. Forattini (1973) maintained the same arrangement. Theodor (1965), in his proposal for classification of the American Phlebotominae, illustrated only the gonostylus and Young & Duncan (1994) drew all bristles as semi-foliaceous. Despite various descriptions of this species, the exact morphology of the gonocoxal bristles in *Lu. renei* has not yet been described and illustrated. For the female of this species, some structures of the cibarium have not been accurately reproduced.

Inadequate descriptions and illustrations may lead to the misidentification of species; thus, the present study aims to present a detailed morphological and morphometric description of both sexes of *Lu. renei* in order to provide a greater number of characteristics for its differentiation from other closely-related species.